TO: **ADA COUNTY PLANNING & ZONING COMMISSION**

HEARING DATE: June 12, 2025

STAFF: Brent Moore, MCMP, AICP, Senior Regional Planner

PROJECT NO.: 202402701-PC-CPA

APPLICANT: SVP LLC

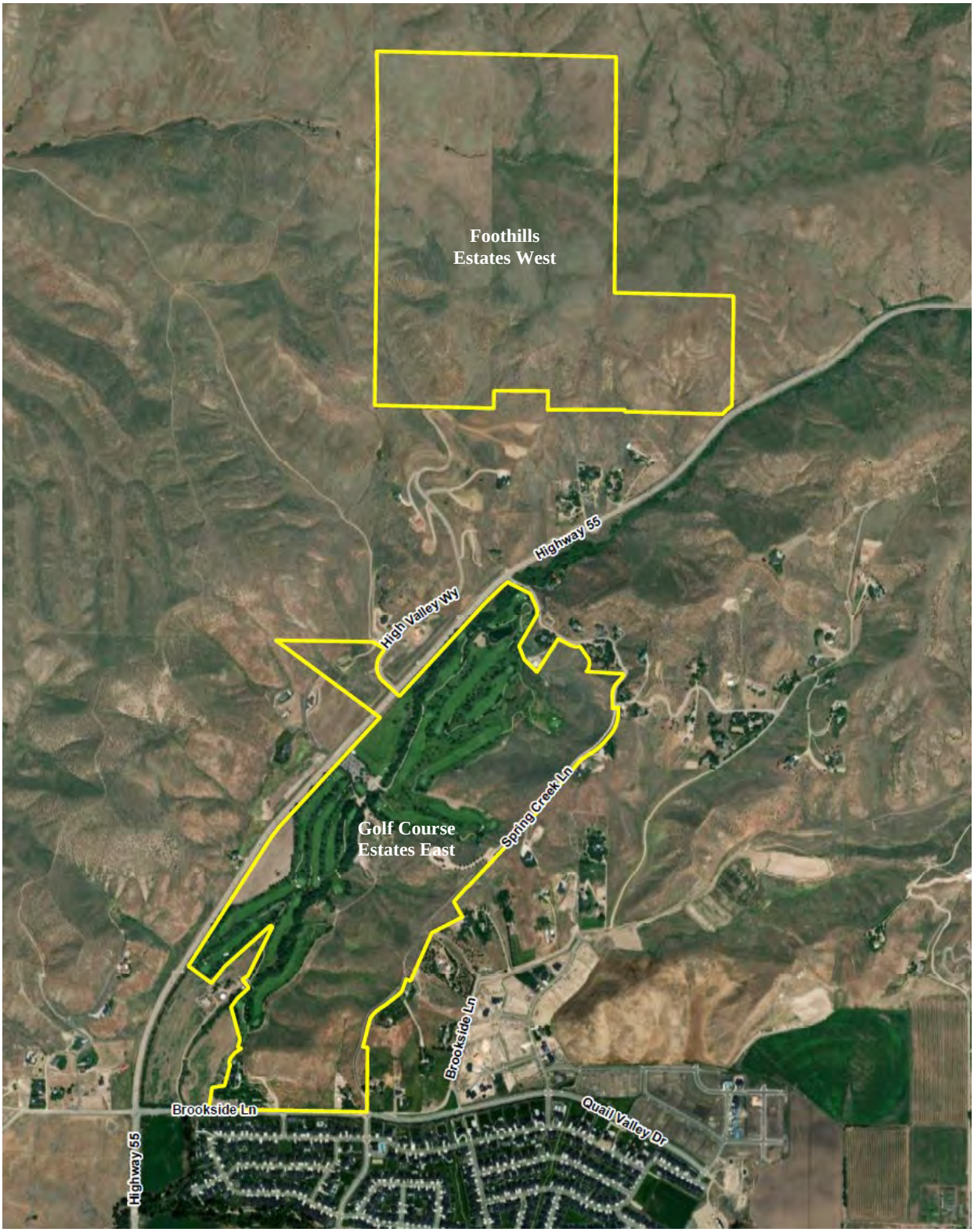
INTRODUCTION

A Comprehensive Plan Map and Text Amendment to establish the Shadow Valley Planned Community Subarea. The Comprehensive Plan Map Amendment will designate the subject property as Planned Community on the Ada County Future Land Use Map, and the Comprehensive Plan Text Amendment will adopt the Shadow Valley Planned Community Sub-Area Comprehensive Plan as the applicable Comprehensive Plan for the property. The proposed Comprehensive Plan Map and Text Amendment are the first step of a two-step process for establishing a Planned Community through Ada County. If approved, a subsequent Planned Community Implementation Plan application would be required, which would include a zoning ordinance specific to the community, and more detailed information regarding financing, phasing and design.

EXECUTIVE SUMMARY

SVP LLC requests a Comprehensive Plan Map and Text Amendment to establish the Shadow Valley Planned Community Subarea, and adopt the Shadow Valley Planned Community Sub-Area Comprehensive Plan as the applicable Comprehensive Plan for the subject property. The proposed planned community would consist of approximately 395 homes on 560 acres of land generally located east of Highway 55 between Spring Creek Way and Brookside Lane, and west of Highway 55 north of High Valley Way, within the Rural Residential (RR) and Rural Preservation (RP) Districts.

The Shadow Valley Planned Community would include a variety of housing, commercial, recreational and open space land uses along the east and west side of Highway 55, between the Dry Creek Ranch and Avimor Planned Communities. The Foothills Estates West portion of the development would include approximately 89 detached single-family homes, seven acres of developed open space, and 118 acres of dedicated natural open space. The Golf Course Estates East portion would include the existing Shadow Valley Golf Course, approximately 20 acres of additional developed open space, 306 housing units comprised of attached and detached single-family homes, and 12.5 acres of commercial land uses. In addition to the existing food and beverage options provided within the Shadow Valley Golf Course Clubhouse, an outdoor food court, with a beverage service building, outdoor seating, and food truck parking is proposed to provide additional dining options for residents of the community. An expansion is also proposed to the Stone Crossing Event Center, and additional uses such as a restaurant, coffee shop, bed and breakfast, boutique hotel, and meal pickup and delivery service are envisioned for the site.



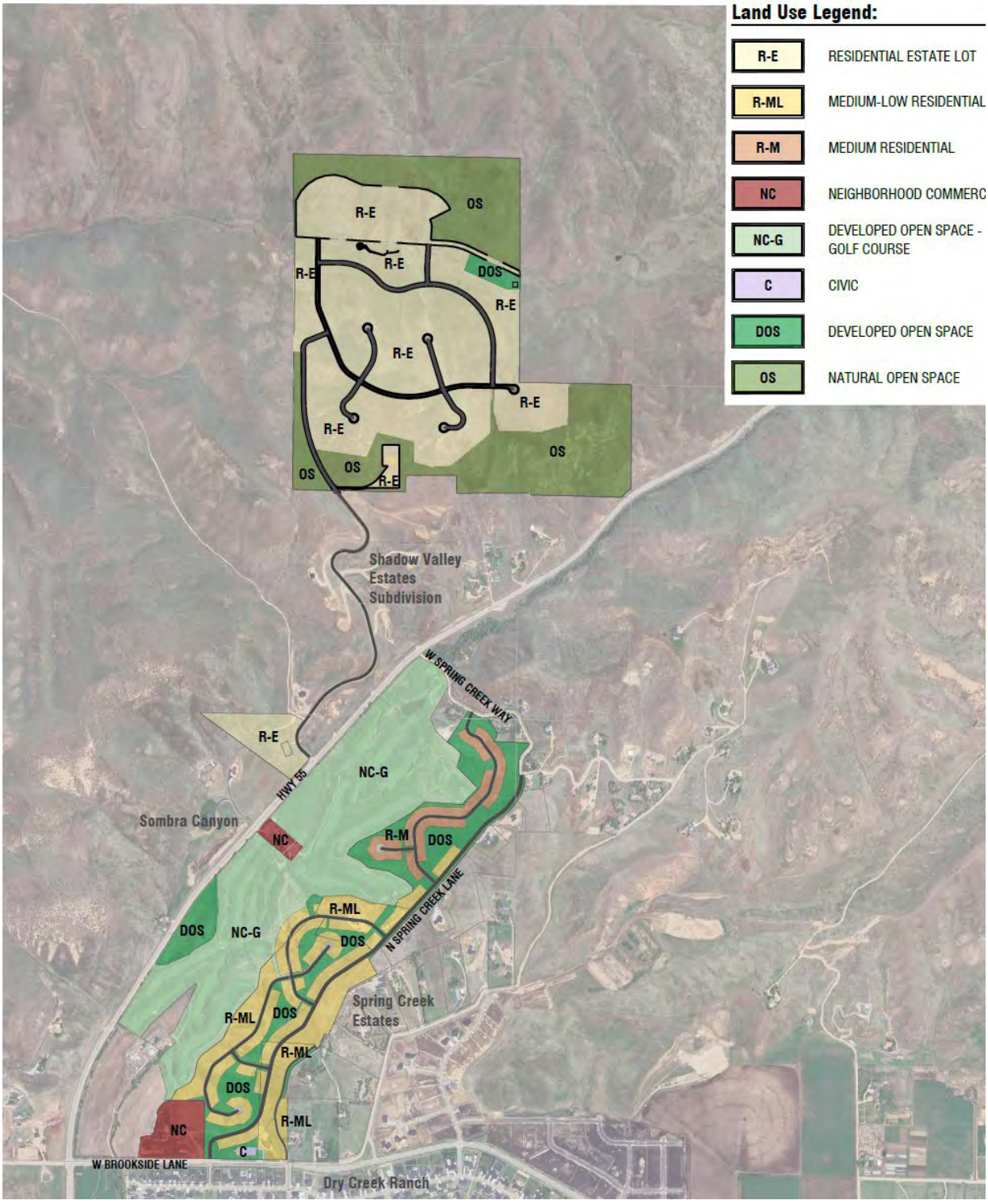
Vicinity map

As only 109 school-aged children are projected to live within the development at full buildout, the construction of a new school building was not deemed to be necessary by the West Ada School District. The District has instead requested a school bus parking and storage area be provided to assist with the transportation of students, which will be provided on the southern end of the development along Brookside Lane. In order to improve library access for the community, an Ada Community Library book drop-off location is proposed near the bus parking area. Recreational amenities will include the existing Shadow Valley Golf Course, encompassing approximately 134 acres, approximately 27 acres of developed open space, and 118 acres of natural open space within the foothills of the Foothills Estates West portion of the development that will include a recreational trail system available for public use.

Potable water will be provided to the development through a stand-alone public water system utilizing on-site wells, which will require approval from the Idaho Department of Water Resources. If unable to secure adequate groundwater rights to serve the development, the applicant proposes to connect to the Veolia Water system through the extension of water transmission lines. A community wastewater treatment facility will provide water treatment for the Golf Course Estates East portion of the development, which will require approval from the Idaho Department of Environmental Quality, and individual septic systems are proposed for the Foothills Estates West area, which will require approval from Central District Health. Pressurized irrigation water will be provided by a combination of groundwater and reused water from the wastewater treatment facility. Natural gas will be provided by Intermountain Gas, electricity will be provided by Idaho Power, and telecommunications and broadband will be provided by Sparklight and TDS Fiber.

Law enforcement will be provided by the Ada County Sheriff, and a remote sheriff's office building is proposed on the southern end of the development near Brookside Lane to assist with service in the area. Fire protection will be provided by the Eagle Fire Department, and paramedic service will be provided by Ada County Paramedics.

A traffic impact study was developed in coordination with ITD and ACHD that outlines off-site roadway improvements that will be required to mitigate the impact of the development on surrounding roadways. According to the study, mitigations will include the addition of a two-way left-turn lane on Highway 55 at the Spring Creek Way intersection, the addition of a northbound right-turn lane and southbound left-turn lane on Highway 55 onto Spring Creek Way, and the addition of a northbound left-turn lane on Highway 55 onto High Valley Way. Additionally, traffic in the area will be improved by the addition of a new signalized intersection at the Dry Creek Road and Highway 55 intersection, and additional lanes that will be added to Highway 55 as part of previous development approvals. A new roadway connection will also be provided between Brookside Lane and Spring Creek Lane east of the Shadow Valley Golf Course, which will improve connectivity in the area. New street sections within the community will be designed to ACHD Policy Manual Specifications and Guidelines in order to promote safety for all modes of transportation. As the current application is for a Comprehensive Plan Amendment, and does not include a preliminary plat, no improvements are required by ITD or ACHD at this time.



Future Land Use Map

As detailed in the Findings of Fact, Shadow Valley has submitted detailed reports and analyses demonstrating the development will adequately address the Ada County Planned Community requirements and standards regarding population, school facilities, economic development, land use, natural resources, hazardous areas, urban public facilities, transportation, recreation, special areas or sites, housing, and community design. Additionally, the Shadow Valley Planned Community Sub-Area Comprehensive Plan has been found to meet the required findings regarding housing, population, economic development, land use, fish and wildlife, recreation, water and air pollution, environmental features, natural hazards, natural resources, natural features, urban public services, transportation, and regional compatibility.

Additionally, Development Services hired an outside consultant (Jacobs) with expertise in transportation planning, environmental planning and ecomomic development to review the Traffic Impact Study, Wildlife Habitat Inventory & Assessment, and Economic Development Analysis submitted by the applicant to ensure accuracy and compliance with the Ada County Code. The review found general compliance with the requirements of Code, but did identify several areas in which additional information and explanation was requested. Shadow Valley provided a response addressing the additional information requested, and noted the items that would be covered as part of the second phase of the application.

At the time the staff report was written, the following agencies and political subdivisions have provided comments:

- The U.S. Fish & Wildlife Services (USFWS) noted in Exhibit #36 there was a possibility of Slickspot Peppergrass, a plant listed as threatened under the Endangered Species Act, being located on the site. A Slickspot Peppergrass Habitat Assessment (Exhibit #64) has since been performed for the site which found there to be no suitable habitat for Slickspot Peppergrass present on the property.

- The Eagle Fire Department responded in Exhibit #40 with their roadway access, fire hydrant and addressing requirements, and provided additional comments in Exhibit #54 regarding their preliminary approval of the proposed secondary access for the portion of the development west of Highway 55.

- The Ada County Paramedics (Exhibit #51) and Ada County Sheriff's Office (Exhibit #52) both responded that the secondary access proposed for the portion of the development west of Highway 55 would be acceptable for them if approved by the Eagle Fire Department.

- The City of Boise responded in Exhibit #42 that they were not supportive of the application as they feel development of this intensity should be limited to existing cities where the necessary infrastructure to serve it already exists. The city also cited concerns regarding traffic, emergency services, wildlife, wildfires, and water quality.

  As detailed within this report, all required services will be provided to the development. The application was transmitted to all applicable service providers, and to date, none

have submitted comments in opposition, or indicated they would be unable to serve the development. Emergency services will be provided by the Eagle Fire Department, Ada County Sheriff and Ada County Paramedics. Regarding traffic, ACHD and ITD have both accepted and approved the Traffic Impact Study submitted by Shadow Valley identifying the improvements to surrounding roadways and intersections which would be needed to mitigate the impacts of the development.

Regarding wildlife, Idaho Fish & Game has no records of any federally listed threatened or endangered species or critical habitat within or immediately adjacent to the proposed property, and found that natural and developed open space within the planned community would support continued movement of existing wildlife through the development. The Comprehensive Plan also notes that negative impacts to wildlife will be mitigated through community guidelines that will include measures such as requiring fencing to be wildlife-friendly, and prohibiting the feeding of wildlife and planting of yew species. Regarding wildfire risks, the Ada County Building Official will require a fire protection plan be submitted, and require new structures to comply with the 2018 Wildland Urban Interface Code.

Regarding water quality, the applicant proposes to provide potable water to the development through a stand-alone public water system utilizing on-site wells. New wells will require approval from the Idaho Department of Water Resources, and treatment measures will require approval from the Idaho Department of Environmental Quality. If unable to secure adequate groundwater rights for the development, the development will connect to the Veolia Water system through the extension of water transmission lines. The wastewater treatment facility which is proposed to serve the Golf Course Estates East portion of the development will require approval from the Idaho Department of Environmental Quality, and the septic systems proposed to serve the Foothill Estates West portion of the development will require approval from Central District Health.

- The Ada County Building Official noted (Exhibit #41) the subject property was within the Wildland Urban Interface, that a fire protection plan would be required for the development, and that all new structures would be required to comply with the 2018 Wildland Urban Interface Code.

- The Golden Eagle Audubon Society noted (Exhibit #44) they would like the Slickspot Peppergrass and Aase's Onion site surveys, and wetlands analyses to be complete prior to the application being approved. A Slickspot Peppergrass Habitat Assessment has since been performed which found there to be no suitable habitat for Slickspot Peppergrass present on the property. An Aase's Onion Survey was also performed which found Aase's Onion, an Idaho sensitive species, to be present on parts of the Foothills Estates West portion of the development. Idaho Fish & Game has indicated that information obtained from the survey can be used to design the project in a way that avoids or minimizes impacts to the plant. Adjustments to the site design in areas where Aase's Onion is present can be made as part of the second phase of the application, the Planned Community Implementation Plan.

Regarding wetlands, there is a potential wetland, approximately 0.15 acres size within a portion of Woods Gulch in the Foothills Estates West portion of the development. While not anticipated to be a jurisdictional wetland, the applicant is currently in the process of verifying this with the U.S. Army Corp of Engineers. Regardless of the determination, no disturbance to the potential wetland is proposed as part of the development. The Golden Eagle Audubon Society also asked that existing riparian areas remain intact, and that open spaces be protected to the extent possible, due to their importance as bird habitat. They also requested the development be planned to minimize wildfire risk and water usage, and to reduce the impacts of lighting, buildings and household pets on birds.

- The Ada County Engineer noted in Exhibit #53 that the Department of Environmental Quality will likely require a Nutrient Pathogen Evaluation for one acre lots using septic systems, and that lots of this size are typically not able to meet the required criteria without the utilization of a secondary treatment system that can be costly to maintain. As the Future Land Use designation in which septic systems are proposed allows for one to five acre lots, lot sizes can be increased as needed to accommodate the necessary requirements. The Engineer also provided a recommended condition of approval for the second phase of the planned community application, requiring an addendum to the Water Facility Plan identifying groundwater level drawdown and horizontal distance of the influence zone at full buildout.

- ITD responded in Exhibit #61 with roadway improvements they would require to be made as part of the development. This will include the addition of a northbound left turn lane at Highway 55 and High Valley Way, a southbound left turn lane and northbound right turn lane at Highway 55 and Spring Creek Way, and a two-way left turn lane on Highway 55 at its intersection with Spring Creek Way.

- ACHD responded in Exhibit #64 that they had accepted the traffic impact study, and agreed with the mitigations proposed along Highway 55. They noted that their Master Street Map shows a future collector roadway crossing through the northern portion of the Foothills Estates West portion of the development for which a corridor should be preserved in order to accommodate it in the future. The applicant is aware of this and has included this in their site design. ACHD also provided an overview of roadway improvements that would be required for the internal street network as part of the preliminary plat process.

At the time the staff report was written, seven public comments were received. Several of the comments expressed concern with the proposal to designate the Stone Crossing property located on the north side of Brookside Lane as Neighborhood Commercial due to potential adverse impacts the associated traffic, lighting, and noise could have on the residential properties to the south, and some cited the current noise, lighting and visual impacts of the Stone Crossing Event Center as a concern. It was suggested that hours of operation be limited for new commercial development on the site, that lighting be limited, that amplified music be prohibited, and that adequate off-street parking be provided. Some residents also expressed concern with the

proposed school bus parking and storage area to be provided for the West Ada School District north of Brookside Lane, due to potential noise, exhaust, and traffic impacts.

Concern was also expressed regarding the proposal to allow lots between one and five acres in size on the property located on the west side of Highway 55, across from the Shadow Valley Golf Course. It was requested this property retain its current ten-acre minimum lot size. It was also requested that the existing lighting for the Shadow Valley Golf Course be reduced, and that safety improvements be made to the entrance of the Shadow Valley Golf Course onto Highway 55. Other comments expressed concern with the overall traffic impact of the development on surrounding roadways, the loss of natural open space and wildlife habitat, and the potential for wildfire.

Concerns regarding adverse impacts associated with the commercial designation of the Stone Crossing property, and the West Ada School District bus parking and storage area located on Brookside Lane can be addressed as part of the second phase of the planned community application process, the Implementation Plan, through zoning ordinance restrictions regarding noise, lighting, parking, and hours of operations that would ensure compatibility with the residential properties to the south. Concerns regarding the traffic impacts of the development have been addressed by the traffic impact study and proposed mitigations reviewed and approved by ACHD and ITD. Concerns regarding wildlife protection and wildfire risks are addressed above in response to the City of Boise's comments. Regarding the preservation of natural open space, 118 acres of land will be dedicated as natural open space within the Foothills Estates West portion of the development, which the public will be able to access via trail system that will be developed by Shadow Valley.

RECOMMENDATION

Based upon Staff's review of the application, staff concludes that this application complies with Idaho State Statute and the Ada County Code and recommends approval to the Commission as set out in the proposed Findings of Fact and Conclusions of Law attached hereto.

The Commission should consider the evidence and testimony presented during the public hearing prior to rendering its decision concerning this application.

EXHIBIT LIST – PROJECT NO. 202402701-PC-CPA

1 Master Application Form (2 pages)

2 Comprehensive Plan Map & Text Amendment Checklist (1 page)

3 Planned Community Comprehensive Plan Amendment Checklist (4 pages)

4 Detailed Letter (16 pages)

5 Legal Description (9 pages)

6 Pre-Application Meeting (5 pages)

7 Public involvement Meetings (13 pages)

8 Service Provider & Transportation Agency Scoping Sessions (2 pages)
9 Comprehensive Plan (25 pages)
10 Future Land Use Map (1 page)
11 School Analysis (4 pages)
12 Residential & Retail Market Analysis (104 pages)
13 Natural / Wildlife Resources Analysis (4 pages)
14 Resource Inventory (131 pages)
15 Idaho Fish & Game Letter (5 pages)
16 Hazardous Areas Analysis (3 pages)
17 Shadow Valley East Wildfire Safety Plan (18 pages)
18 Shadow Valley Estates Wildfire Safety Plan (19 pages)
19 Urban Public Services Analysis (7 pages)
20 Idaho Power Letter (8 pages)
21 Water Facility Plan (95 pages)
22 IDEQ Letters Regarding Drinking Water & Wastewater (2 pages)
23 IDEQ Comments Regarding Wastewater (7 pages)
24 Keller Associates Letter Regarding Wastewater (2 pages)
25 Traffic Impact Study (34 pages)
26 Recreation Analysis (19 pages)
27 Special Areas Analysis (27 pages)
28 Housing Analysis (5 pages)
29 Community Design Analysis (14 pages)
30 Submittal Letter (1 page)
31 Transmittal (3 pages)
32 Radius Notice (7 pages)
33 Public Service Announcement (1 page)
34 Legal Notices of Hearing (3 pages)
35 Memo Requesting Item be Tabled to April 10, 2025 P&Z Hearing (1 page)
36 US Fish & Wildlife Comments from January 28, 2025 (1 page)
37 ITD Comments from January 29, 2025 (1 page)
38 Boise Public Works Comments from February 3, 2025 (1 page)
39 IDEQ Comments from February 5, 2025 (4 pages)

40 Eagle Fire Department Comments from February 4, 2025 (2 pages)
41 Ada County Building Official Comments from February 4, 2025 (1 page)
42 City of Boise Comments from February 13, 2025 (2 pages)
43 Debbie & Stephen Chrysler Comments from February 16, 2025 (9 pages)
44 Golden Eagle Audubon Society Comments from February 24, 2025 (2 pages)
45 Ben Schultz Comments from February 27, 2025 (1 page)
46 Denise Wingett Comments from March 3, 2025 (1 page)
47 Paul Neville Comments from March 4, 2025 (1 page)
48 Gail Skersick Comments from March 4, 2025 (2 pages)
49 Blake & Linda Watson Comments from March 5, 2025 (2 pages)
50 Emmett Burney Comments from March 5, 2025 (1 page)
51 Ada County Paramedics Comments from March 10, 2025 (1 page)
52 Ada County Sheriff Comments from March 10, 2025 (1 page)
53 Ada County Engineer Comments from March 31, 2025 (1 page)
54 Eagle Fire Department Comments from April 3, 2025 (1 page)
55 Memo Requesting Item be Tabled to May 8, 2025 P&Z Hearing (1 page)
56 Consultant Review of Technical Documents (19 pages)
57 Ada County Historic Preservation Council Comments from April 4, 2025 (1 page)
58 Applicant Response to Consultant Review (9 pages)
59 Memo Requesting Item be Tabled to June 12, 2025 P&Z Hearing (1 page)
60 Sign Posting Certification (5 pages)
61 ITD Comments from May 19, 2025 (2 pages)
62 Aase's Onion Survey (48 pages)
63 Slickspot Peppergrass Habitat Assessment (20 pages)
64 ACHD Comments from June 2, 2025 (17 pages)

+5/87214Ã,4903560Ã.+'Ã)(+)""*"Ä%$(,Ä""$+Ä&$("Ä!-(*!#%" - -

MASTER APPLICATION/PETITION

ADA COUNTY DEVELOPMENT SERVICES
Mailing: 200 W. Front Street, Boise, ID 83702 **Website:** adacounty.id.gov **Phone:** 208-287-7900 **Fax:** 208-287-7909

PROJECT #	PLANNING/GIS FES:	ENGINEERING FES:
RECEIVED BY:	DATE:	☐ DATE STAMPED:

REQUIRED SUBMITTALS FOR ALL APPLICATIONS:

- ☑ **DEED** or evidence of proprietary interest
- ☑ **APPLICATION SPECIFIC CHECKLIST(S)**
- ☑ **One (1) electronic copy** of all required application submittal documents.

ADMINISTRATIVE APPLICATIONS:

- ☐ ACCESSORY USE
- ☐ DRAINAGE PLAN
- ☐ EXPANSION NONCONFORMING USE
- ☐ FARM DEVELOPMENT RIGHT
- ☐ FLOODPLAIN PERMIT
- ☐ HILLSIDE DEVELOPMENT
- ☐ HIDDEN SPRINGS ADMINISTRATIVE
- ☐ HIDDEN SPRINGS SPECIAL EVENT
- ☐ LANDSCAPE PLAN
- ☐ LIGHTING PLAN
- ☐ MASTER SITE PLAN
- ☐ ONE-TIME DIVISION
- ☐ PLANNED UNIT DEVELOPMENT (PUD)
- ☐ PRIVATE ROAD
- ☐ PROPERTY BOUNDARY ADJUSTMENT
- ☐ SIGN PLAN
- ☐ TEMPORARY USE

HEARING LEVEL APPLICATIONS:

- ☐ CONDITIONAL USE
- ☐ DEVELOPMENT AGREEMENT
- ☐ PLANNED COMMUNITIES
- ☐ SUBDIVISION, PRELIMINARY
- ☐ SUBDIVISION, SKETCH PLAT
- ☐ VACATION
- ☐ VARIANCE
- ☑ ZONING MAP AMENDMENT
- ☑ ZONING TEXT AMENDMENT

HEARING LEVEL PETITION:

- ☑ COMPREHENSIVE PLAN MAP OR TEXT AMENDMENT PETITION CHECKLIST

ADDENDA ITEMS:

- ☐ ADMINISTRATIVE MODIFICATION
- ☐ APPEAL
- ☐ DEVELOPMENT AGREEMENT MODIFICATION
- ☐ REVIEW REQUEST
- ☐ FINAL PLAT
- ☐ TIME EXTENSION (ADMINISTRATIVE)
- ☐ TIME EXTENSION (HEARING)

OVERLAY DISTRICTS: Some Overlays require a separate checklist. **All** require additional information:

- ☐ BOISE AIR TERMINAL AIRPORT INFLUENCE AREAS (ACC 8-3A)
- ☐ BOISE RIVER GREENWAY (ACC 8-3G)
- ☐ FLOOD HAZARD (ACC 8-3F)
- ☑ HILLSIDE DEVELOPMENT (ACC 8-3H)
- ☐ PLANNED UNIT DEVELOPMENT (ACC 8-3D)
- ☐ SOUTHWEST PLANNING AREA (ACC 8-3D)
- ☑ WILDLAND-URBAN FIRE INTERFACE (ACC 8-3B)

SITE INFORMATION: Refer to Parcel List and Legal Description provided for detail.

Section: _____ Township: _____ Range: _____ Total Acres: _____

Subdivision Name: Shadow Valley Planned Community Lot: _____ Block: _____

Site Address: _____ City: _____

Tax Parcel Number(s): Refer to Parcel List and Legal Description provided for detail.

Existing Zoning: _____ Proposed Zoning: _____ Area of City Impact: _____

PLEASE PRINT **ALL** INFORMATION **CLEARLY & LEGIBLY!**

Exhibit 1
Page 1 of 2
202402701-PC-CPA

+5/87214Ã,4903560Ã.+'Ã)(+)""*"Ä%$(,Ä""$+Ä&$("Ä!-(*!#%" - -

APPLICANT/AGENT:	ADDITIONAL CONTACT, *if applicable*:
Company Name (*if applicable*): SVP LLC	**Company Name** (*if applicable*): Camber Services LLC
Applicant Name: Larry Kine	**Applicant Name**: Kerstin Dettrich (Entitlement Representative)
Address: 250 NW Franklin Ave, Ste 401	**Address**:
City: Bend **State**: OR **Zip**: 97703	**City**: **State**: **Zip**:
Telephone: 541-617-1999 **Fax**:	**Telephone**: (208) 985-4358 **Fax**:
Email: larrykine@gmail.com	**Email**: kerstin@camberservices.com
I certify this information is correct to the best of my knowledge.	**ENGINEER/SURVEYOR**, *if applicable*:
	Company Name (*If applicable*): The Land Group Inc.
	Name: Jim Washburn
	Address: 462 E Shore Drive, Suite 100
	City: Eagle **State**: ID **Zip**: 83616
	Telephone: 208-939-4041 **Fax**:
	Email: jim@thelandgroupinc.com, cc: alex@thelandgroupinc.com
DocuSigned by: Larry Kine C7456E668C7B417... 12/6/2024	
Signature: (Applicant) **Date**:	

OWNER(S) OF RECORD:	OWNER(S) OF RECORD:
Company Name (*if applicable*): Stone Crossing LLC	**Company Name** (*if applicable*): Horse Shoe Bend Hills Tic, LLC
Owner Name (*or authorized representative/agent, see below**): Mark Fitzpatrick	**Owner Name** (*or authorized representative/agent, see below**): Ryan Minert
Address: [redacted]	**Address**: 13833 W Meadowdale Dr
City: Eagle **State**: ID **Zip**: 83616	**City**: Boise **State**: ID **Zip**: 83713
Telephone: [redacted] **Fax**:	**Telephone**: 208-283-5456 **Fax**:
Email: [redacted]	**Email**: ryan@iagroupllc.com
I consent to this application, I certify this information is correct, and allow Development Services staff to enter the property for related site inspections. I understand that as the property owner of record I will be required to enter into a Development Agreement with Ada County, either personally or on behalf of the entity owning the property, in the event this application includes a request for a Zoning Map Amendment. I agree to indemnify, defend and hold Ada County and its employees harmless from any claim or liability resulting from any dispute as to the statements contained in this application or as to the ownership of the property, which is the	I consent to this application, I certify this information is correct, and allow Development Services staff to enter the property for related site inspections. I understand that as the property owner of record I will be required to enter into a Development Agreement with Ada County, either personally or on behalf of the entity owning the property, in the event this application includes a request for a Zoning Map Amendment. I agree to indemnify, defend and hold Ada County and its employees harmless from any claim or liability resulting from any dispute as to the statements contained in this application or as to the ownership of the property, which is the s ion.
Signed by: Mark Fitzpatrick 27E7B8230239436... 12/6/2024	DocuSigned by: Ryan Minert 862B150A2CB54AF... 12/9/2024
Signature: All Owner(s) of Record **Date**	**Signature: All Owner(s) of Record** **Date**

ALL OWNER(S) OF RECORD (ON THE CURRENT DEED) MUST SIGN
(Additional signature pages are Available Online, if needed)

***If the property owner(s) are a business entity, include business entity documents, including those that indicate the person(s) who are eligible to sign documents.**

COMPREHENSIVE PLAN TEXT AND/OR MAP AMENDMENT PETITION CHECKLIST

A Comprehensive Plan Text or Map Amendment Petition requires a **public** hearing.

GENERAL INFORMATION:

Applicant:	DESCRIPTION	Staff:
✔	**MASTER APPLICATION FORM**	
✔	**DETAILED LETTER** by the applicant fully describing the request or project and addressing the following:	
	✔ Identify the proposed change(s) to the text and/or map of the Comprehensive Plan	
	✔ Reason for requested change(s)	
✔	**METES & BOUNDS LEGAL DESCRIPTION**. One (1) Microsoft Word electronic word document	
✔	**PRE-APPLICATION CONFERENCE NOTES**	
✔	**NEIGHBORHOOD MEETING CERTIFICATION -** (*if applicable*)	
✔	**MUST COMPLY WITH SIGN POSTING REGULATIONS** (ACC 8-7A-5) – (*if applicable*)	

	APPLICATION FEES: Comprehensive Plan **Map** Amendment: **$1500 + $40/acre** Comprehensive Plan **Text** Amendment: **$800** ***NOTE**: Building, Engineering, and Surveying applications and fees may be required and are **separate** from Planning & Zoning Applications and Fees.*	

Application will not be accepted unless all applicable items on the form are submitted. This application shall not be considered complete until staff has received all required information.

ADA COUNTY DEVELOPMENT SERVICES- **Mailing:** 200 W. Front Street, Boise, ID 83702 **Website:** adacounty.id.gov **Phone:** 208-287-7900 **Fax:** 208-287-7909

PLANNED COMMUNITY CHECKLIST (ACC 8-8)

COMPREHENSIVE PLAN AMENDMENT APPLICATION

A Planned Community request is a **hearing level** application, and requires two (2) public hearings.

GENERAL INFORMATION:

Applicant:	DESCRIPTION	Staff:
✓	**MASTER APPLICATION FORM**	
✓	**PUBLIC SERVICES SCOPING SESSION DATES & SUMMARIES**	
✓	**TRANSPORTATION SCOPING SESSION DATES & SUMMARIES**	
✓	**PUBLIC INVOLVEMENT SESSION DATES & SUMMARIES** *in accordance with ACC 8-8-7.B.3*	
✓	**DETAILED LETTER** by the applicant fully describing the request or project	
	QUALIFICATIONS: *ALL Technical Reports and recommendations shall be prepared under the supervision of and signed by a qualified expert in each relevant field in accordance with* ***ACC 8-8-6.***	
✓	**POPULATION ANALYSIS:** *Analysis of pertinent historical and future trends of the Boise Metropolitan Area & Ada County as context for the proposed planned community.*	
	Written assessment shall include the following:	
✓	Population & household demographic trends as a determinant of planned community design.	
✓	Population and household growth projections including consideration of established regional or state projections utilized for public planning purposes.	
✓	Demonstrate the adequacy of the location & proposed land uses of the planned community in accommodating demographic growth trends in the Boise Metropolitan Area & Ada County.	
	SCHOOL FACILITIES & TRANSPORTATION ANALYSIS: *Analysis of public school capacity and associated transportation considerations for the proposed planned community developed in coordination with the applicable school district(s) and shall include the following:*	
✓	Map depicting existing school facilities within one (1) mile of the planned community boundary, including any school district boundary lines.	
✓	Determination of the specific school district(s) that will provide public education services to planned community residents.	
	Written assessment to include the following:	
✓	Potential school enrollment generated by the planned community including detail of elementary, middle and high school enrollment consistent with enrollment projection standards of the affected school district(s).	
✓	Public school facility needs, if any, within the planned community as a result of anticipated enrollment generated by the planned community consistent with capital facilities planning standards of the affected school district.	
✓	Public school student transportation needs (if any) from the planned community to school facilities off-site consistent with student transportation standards of the affected school district(s).	
✓	**ECONOMIC DEVELOPMENT ANALYSIS:** *Analysis of the economic base of the area, including, employment, industries, economies, jobs, & income levels*	
	Written assessment demonstrating that the planned community is reasonably supported by economic & market conditions in Ada County & the Boise Metropolitan Area to include the following:	
✓	Projected dwelling unit counts, build out/absorption and occupancy in the context of regional growth trends.	
✓	Likely residential product types and price ranges in current dollars suitable for location, market conditions, and demographics.	
✓	Planned commercial buildings/gross space, if any, and anticipated build out/absorption in the	

	✓	context of regional growth trends, residential development, and locational features including transportation and access.	
	n/a	Planned industrial building/ gross space, if any, and anticipated build out/ absorption.	
		Written assessment of current dollar costs associated with both private & public infrastructure and facility improvements required to provide urban public services to the site. Include an analysis of unique conditions of the site consistent with the natural resources inventory, which may contribute to an increased cost in providing urban public facilities & urban public services.	
✓		**LAND USE ANALYSIS:** *Analysis of natural land types, existing land covers and uses, and the intrinsic suitability of lands for uses such as agriculture, forestry, mineral exploration and extraction, preservation, recreations, housing, commerce, industry, and public facilities to include the following.*	
	✓	Map depicting existing land use and zoning within one (1) mile of the proposed planned community boundary (including interior boundaries, if any).	
	✓	Written assessment describing the general categories of existing land uses and zoning within one mile of the proposed planned community boundary.	
	✓	Map depicting proposed general land uses and densities within the proposed planned community and within one mile of the proposed planned community boundary, including intensity of nonresidential uses, and developed and natural open space.	
	✓	Written assessment describing the general categories of proposed land uses within the proposed planned community boundary including conceptual intensity of nonresidential uses, net density and potential impacts to adjacent properties as a result of the proposed land uses.	
✓		**NATURAL RESOURCES AND WILDLIFE INVENTORY:** *Analysis of the uses of rivers and other waters, forests, range, soils, harbors, fisheries, minerals, thermal water, beaches, watersheds, and shorelines, and existing wildlife & habitat conditions to include the following:*	
		Natural Resources Inventory:	
	✓	Map depicting and a written assessment of the following: topography, wetlands, soils, prime agricultural land, mineral resources, and rivers and other bodies of water.	
	✓	Written assessment of the effect the planned community will have on the source, quantity and quality of ground and surface water in the area.	
		Wildlife Habitat Inventory:	
	✓	Aerial photography showing land unit boundaries, geological features, vegetation types, creeks, riparian areas and wetlands, roads, trails, and other landscape features.	
	✓	Map prepared in consultation with the Idaho Department of Fish and Game depicting along with a written assessment of the following:	
	✓	Site resources: vegetation/ habitat types and wildlife.	
	✓	Existing vegetation condition based on the latest version of the "Indicators of Rangeland Health."	
	✓	Special status species and threatened and endangered species based on Idaho Fish and Game conservation data, and US Department of Interior Fish and Wildlife Service information.	
	✓	Current and potential use of big game winter range.	
	✓	Structure and function of existing wildlife habitats.	
	✓	Priority habitat based upon the Idaho comprehensive wildlife conservation strategy.	
	✓	Existing human disturbance to wildlife and habitat as a result of livestock, transportation, recreation, agriculture, and development within a minimum of one mile of the planned community boundary.	
✓		**HAZARDOUS AREAS ANALYSIS:** *Analysis of known hazards as may result from susceptibility to surface ruptures from faulting, ground shaking, ground failure, landslides or mudslides; avalanche hazards resulting from development in the known or probable path of snow slides and avalanches, floodplain and wildfire hazards to include the following:*	
	✓	Written assessment of known hazards.	
	✓	Map of hazardous areas.	

✓	**URBAN PUBLIC SERVICES and URBAN PUBLIC FACILITIES ANALYSIS:** *Analysis showing general plans for urban public services and facilities, locations of civic centers, and public buildings. The plan shall be developed in coordination with the affected public service providers and regulatory agencies to include the following:*	
	✓ Map depicting existing urban public services and urban public facilities within one mile of the proposed planned community boundary.	
	✓ Map depicting proposed urban public services and urban public facilities to serve the proposed planned community.	
	✓ Written assessment to include the following:	
	✓ Existing urban public services and urban public facilities within one (1) mile of the proposed planned community boundary.	
	✓ Proposed urban public services and urban public facilities including availability and adequacy to serve the proposed land uses and population.	
	✓ Water rights.	
	✓ Determination of reasonable access, per Idaho Department of Environmental Quality.	
✓	**TRANSPORTATION ANALYSIS:** *Analysis of the impacts to the regional transportation system prepared in coordination with, as applicable, Idaho Transportation Department, Ada County Highway District, Community Planning Association of Southwest Idaho, and Valley Regional Transit, and any other jurisdiction(s) having authority over the public highways and streets materially affected by the planned community.*	
	✓ Copy of Traffic Impact Study submitted to ITD and ACHD (submittal to these agencies shall occur a minimum of 30-days prior to submission of this application.	
✓	**RECREATION ANALYSIS:** *Analysis showing the existing system of recreation and natural and developed open space areas, including parks, parkways, trailways, riverbank greenbelts, beaches, playgrounds, and other recreation areas and programs within one (1) mile of the boundaries of the proposed planned community subarea comprehensive plan area to include the following:*	
	✓ Map depicting existing public recreation, open space areas, parks and trails.	
	✓ Map of proposed conceptual, natural and developed open space, or a reference to the land use section of the planned community comprehensive plan.	
	✓ Written assessment to include the following:	
	✓ Existing public recreation, open space areas, parks, trails, and programs.	
	✓ Proposed conceptual natural and developed open space and programs, or a reference to the land use section of the planned community comprehensive plan.	
✓	**SPECIAL AREAS OR SITES ANALYSIS:** *Analysis of areas, to include the following:*	
	✓ Written assessment of areas, sites, or structures of historical, archeological, architectural, ecological, wildlife, or scenic significance.	
✓	**HOUSING ANALYSIS:** *Analysis of areas, to include the following:*	
	Written assessment including:	
	✓ Housing conditions and needs within the region.	
	✓ Housing options, including single-family, multi-family, condominiums, apartments, live/work, mixed use units and affordable and low cost conventional housing.	
	✓ Discussion for how the planned community will provide for the housing needs of the project population.	
✓	**COMMUNITY DESIGN:** Sub-Area Comprehensive Plan Clearly defines Community Design *Analysis of areas developed in consideration of the vision of the planned community comprehensive plan to include the following:*	
	✓ Written assessment to include the following:	
	✓ Clear description of the vision of the desired future state of the planned community that provides direction for strategic planning. Sub-Area Comp. Pages 5-6, 12-15	

	✓ General description of the regulations that will be created and utilized for the control of landscaping, building design, tree planting, signs, and suggested patterns and standards of community design. Sub-Area Comp. Page 15	
	✓ Illustrative examples of the proposed vision for the community. Sub-Area Comp. Pages 12-15	
	PLANNED COMMUNITY SUBAREA COMPREHENSIVE PLAN GOALS AND POLICIES: *Goals and policies of areas, to include the following elements:*	
	✓ Population	
	✓ School Facilities and Transportation	
	✓ Economic Development	
	✓ Land Use	
	✓ Natural Resources	
	✓ Hazardous Areas	
	✓ Urban Public Services	
	✓ Transportation	
	✓ Recreation	
	✓ Special Areas or Sites	
	✓ Housing	
	✓ Community Design	
	SUPPLEMENTAL DATA (required by County Engineer)	
✓	**MUST COMPLY WITH SIGN POSTING REGULATIONS** (ACC 8-7A-5)	
ASSOCIATED CHECKLISTS:		
✓	✓ Comprehensive Plan Map Amendment - *required*	
	✓ Comprehensive Plan Text Amendment – *required*	
	APPLICATION FEES ***NOTE**: Building, Engineering, and Surveying applications and fees may be required and are **separate** from Planning & Zoning Applications and Fees.*	

Supplementary information at the discretion of the Director or County Engineer may be required to sufficiently detail the proposed development within any special development area, including but not limited to hillside, planned unit development, floodplain, southwest, WUFI, Boise River Greenway, airport influence, and/or hazardous or unique areas of development.

Application will not be accepted unless all applicable items on the form are submitted. This application shall not be considered complete until staff has received all required information.

SHADOW VALLEY PLANNED COMMUNITY

December 20, 2024

Ada County Planning Division – Development Services
Attn: Brent Moore, Brent Danielson & Staff
Ada County Development Services
200 W. Front St.,
Boise, ID 83702

SHADOW VALLEY PLANNED COMMUNITY | COMPREHENSIVE PLAN & TEXT AMENDMENT & PHASE 1 PLANNED COMMUNITY: DETAILED LETTER

Dear Ada County,

On behalf of the Shadow Valley Planned Community Development Team, Camber Services (planning consultant) is pleased to submit this application letter paired with a complete 'Comprehensive Plan & Text Amendment Application' and 'Phase 1 – Planned Community' application information for the Shadow Valley Planned Community, as the first step in the planned community process.

It is of significance to note that the development team was provided the Spring Rock Planned Community Sub-Area Comprehensive Plan Application #202202476-PC-CPA, dated September 30, 2022, prepared by Anna Canning, AICP, as a guide. The structure of the Spring Rock Planned Community application was utilized in the effort to develop the Shadow Valley Planned Community application with sources cited frequently.

SUMMARY

The Shadow Valley Planned Community Development Team has taken considerable care to coordinate openly and transparently with all agencies referenced within this application as well as public and private providers and members of the public through public scoping sessions and public involvement sessions as required by county code[1].

Given the approvals of Spring Creek Subdivision, Avimor Planned Community and Dry Creek Planned Community, all of which are adjacent to this development, the proposed Shadow Valley Planned Community is consistent with surrounding uses which will infill undeveloped and underutilized remnant ranch land. The land mass has been reviewed for historical significance with no significant findings, nor has the land been utilized as prime farm or agricultural land, resulting in the area being very suitable for residential development. With this planned community infill is conceived to occur between the Shadow

[1] (County, Title 8-Ada County Zoning Code, 2000)

Valley Golf Course, Dry Creek Ranch and Spring Creek Subdivision on the east side of Highway-55 as well as extending development behind the existing Shadow Valley Estates Subdivision on the west side of Highway-55.

In general, the Shadow Valley Planned Community proposes development in two distinct zones in Ada County.

1. Foothill Estates West Subdivision: west side of HWY 55, and
2. Golf Course Estates East Subdivision: east side of HWY 55

Please refer to the parcel list below and complete parcel list with detail included as an enclosure.

The development land mass encompasses the following ten (10) parcels across a total of 560 acres.

Count	**County**	**Parcel**	**Primary Owner**	**Property Address**
West Zone				
1	Ada	R7824100100	KINE & KINE PROPERTIES 401K	4811 E RONALD REAGAN DR
2	Ada	S0213330000	SVP LLC	N WILLOW CREEK RD
3	Ada	S0224212450	HORSESHOE BEND HILLS TIC LLC	N HORSESHOE BEND RD
4	Ada	S0224220000	SVP LLC	N WILLOW CREEK RD
5	Ada	S0224230000	SVP LLC	N WILLOW CREEK RD
East Zone				
6	Ada	S0225212500	SVP LLC	N SPRING CREEK LN
7	Ada	S0225233110	HILLTOP HOMES IDAHO LLC	15387 N SPRING CREEK LN
8	Ada	S0226141900	SV GOLF LLC	15001 N HORSESHOE BEND RD
9	Ada	S0226449067	STONE CROSSING LLC	9600 W BROOKSIDE LN
10	Ada	S0226449825	SVP LLC	9070 W BROOKSIDE LN

Conceptual Phasing: Planning phases commencing in 2026. Construction beginning in 2026/2027. Complete build-out by 2034, with construction of approximately twenty (20) homes per year on the west side and thirty (30) homes on the east side for a total of 40 to 60 homes per phase, per year.

Primary Utilities: Idaho Power Electricity & Joint Trench Telecommunications, Intermountain Gas Service, Potable Community Well Water, Individual Residential Septic in the Foothill Estates West Subdivision, and Sanitary Sewer with Wastewater Treatment in the Golf Course Estates East Subdivision.

Transportation & Access: Roadway infrastructure is in the process of being carefully coordinated between agencies of Idaho Transportation Department (ITD) and Ada County Highway District (ACHD) and the development team is in communication with COMPASS regarding future long-range planning.

The Shadow Valley Planned Community will be a small scale planned community of approximately 395 total units. It is important to note the overall small scale of the community as residents will naturally utilize neighboring larger planned community amenities given close proximity to those public services. This will be discussed in more detail later in this application letter.

HISTORY

To elaborate on the existing and previous uses of the land, the development team has and will continue to reach out to and communicate with legacy landowners and ranchers in the area. The land throughout post settlement history has served as ranch land for cattle grazing on a minor scale.
The areas in the Shadow Valley Development are contiguous with light or under-utilized dryland ranching areas that have transferred to developers for the purposes of subdivision housing development. Several small wells at low elevation locations were drilled to support dryland cattle grazing. However, the land has predominantly been under-utilized for critical or active agricultural uses. Google Aerial imagery as far back as 1985 shows varying unimproved ranch roads weaving through rolling foothill high desert pastureland. Through the years, agricultural livestock irrigation ponds have been added and removed for livestock grazing as well as unimproved parking, cattle loading, and ranch management areas that created erosive activities in high traffic livestock holding areas. It is anticipated that development of the subject parcels will benefit agencies and the public by management of defined municipal infrastructure, established zoning, wildland urban interface principles, improved roadway connectivity and residential infill development providing much needed housing units to a growing market. For further reporting on historical significance, please refer to the Frontier Historical Consultants SHIPO report included.

COMPREHENSIVE PLAN & TEXT AMENDMENT

The developer requests a Comprehensive Plan Map & Text Amendment for the Shadow Valley Planned Community. Outlined below is a summary of how the project achieves the fifteen required findings for amendment for a planned community[2]:

1. *The comprehensive plan text amendment demonstrates that the planned community subarea comprehensive plan adequately addresses the future housing needs of the Boise metropolitan area and Ada County population growth;*

The Shadow Valley Planned Community aims to create a community that embodies the characteristics of healthy, productive and active lifestyles centered in the southern Idaho foothills with core elements of recreation being the Shadow Valley Golf Course and new community pickle ball courts connected by community trail systems and pedestrian pathways. The community design will address shifts in various aspects of modern living, including: home office hybrid work environments, mobility and recreation availability, and housing product styles marketed to target demographic home buyers identified in economic market analysis.

[2] (County, 2025)

Connected-Yet-Secluded Location[3]: The community seeks to offer a balance between connectivity and seclusion, providing residents with access to necessary amenities and services while maintaining a sense of privacy and tranquility with abundant access to recreational touchpoints in the rolling foothills of southern Idaho.

Independent-Yet-Shared Economy[4]: Shadow Valley aims to foster an economy where residents have independence in their endeavors and private residences while also promoting collaboration and sharing of amenities between neighboring planned communities through nearby schools, libraries, neighborhood commercial and recreational offerings within a five-minute drive.

Corridor Separation: It is important to note that Idaho State Highway 55 creates a clear separation between the Shadow Valley Community east and west zones but also between Shadow Valley Planned Community, Shadow Valley Golf Course, Avimor and Dry Creek Ranch. Therefore, recreational amenities can and will be provided with some limitations on connectivity between communities given Idaho Transportation Department Standards.

Environmentally Sensitive Design: Sustainability is a core principle of the community, with an emphasis on minimizing environmental impact through green building practices, energy-efficient infrastructure, and a considerable measure of natural open space and community recreational open space defining the wildland urban interface.

Affordability Across Income Levels: Shadow Valley is committed to providing housing options that are accessible to households with varying income levels. This includes accommodating working households, as well as catering to more upscale properties providing panoramic views and/or premier access to the Shadow Valley Golf Course.

Proximity to Employment Centers: By offering housing close to the major employment centers of Boise, Eagle and Meridian, Shadow Valley aims to provide residents with convenient access to job opportunities, reducing commute times and enhancing overall quality of life. Consideration will also be given to housing product types with ample options for post-pandemic shifts to 'work from home'.

By integrating these elements into its design and development, Shadow Valley Planned Community seeks to create a vibrant and sustainable neighborhood that meets the evolving needs and preferences of contemporary society, while also contributing positively to the broader Ada County community.

Shadow Valley Planned Community commissioned an economic, real estate and market study consultant (THK & Associates, Inc.) for the planned community. "Based on historical growth in the area, the economic forecast for the Seven-County market area and the number of residential projects planned, it is possible to project future population levels in the primary trade area. It is projected that the trade area will

[3] (Canning, 2022)
[4] (Canning, 2022)

experience annual average population growth of 2,557 and household growth of 1,066 over the next decade. Thus, the population in the primary trade area will increase to 152,645 by 2034. The study found that the proposed development can be supported in the Treasure Valley area. More specifically, the annual average demand for single-family detached units in the Dry Creek, Avimor, Cartwright Ranch area is 751 units. 20% of demand is from homes priced under $699,999, 20.0% is from homes priced $700,000 - $799,999, 25% is from homes priced $800,000 – $999,999, and the remaining 35% is from homes priced $1,000,000 & above. (THK Associates, 2024, September 4)[5]

The housing market continues to be plagued by a shortage of housing units for rent and for sale. Freddie Mac estimates the national housing shortage is 3.7 million units as of Q3 2024.[6] Shadow Valley Planned Community will provide housing products to fill the shortage. Further detail is provided in the THK Associates – Shadow Valley Residential and Retail Market Analysis report included with this application and defined through the Housing Analysis.

2. *The comprehensive plan text amendment demonstrates that the planned community subarea comprehensive plan adequately addresses the educational needs of the proposed population;*

Shadow Valley Planned Community is located in the 'North Region' of the West Ada School District boundaries. The school district's 2022 facility plan indicated available capacity, and a future high school site already identified in the north region to support population increase provided communities such as the Shadow Valley Planned Community. The development team will continue to work through detail with West Ada School District as final unit counts are determined through the Planned Community Application process.

Through Avimor's previously coordinated planned community application, the school district identified the Idaho Novus Classical Academy which accepted students in August 2024 and opened their new facility in the Avimor community (1 mile north of Shadow Valley) in November of 2024.

Early conversations with West Ada School District resulted in a transparent need for remote bus parking that the planned community is anticipating providing. The planned community has identified a future civic parcel for the use of bus parking, where other civic uses can be co-located. [7]

3. *The comprehensive plan text amendment demonstrates that the planned community subarea comprehensive plan is reasonably supported by economic and market conditions in Ada County and the Boise metropolitan area;*

Shadow Valley Planned Community commissioned an economic, real estate and market study consultant (THK & Associates, Inc.) for the planned community. The study found that the proposed development can be supported in the Treasure Valley area. More specifically, the annual average demand for single-family

[5] (THK Associates, 2024, September 4)
[6] (Mac, 2024)
[7] (Marci Horner, 2022)

detached units in the Dry Creek, Avimor, Cartwright Ranch area is 751 units. 20% of demand is from homes priced under $699,999, 20.0% is from homes priced $700,000 - $799,999, 25% is from homes priced $800,000 – $999,999, and the remaining 35% is from homes priced $1,000,000 & above.

4. *The comprehensive plan text amendment demonstrates that the planned community subarea comprehensive plan adequately provides for a mixture of land uses including, but not limited to, low cost housing;*

Shadow Valley planned community will adequately provide a mixture of land uses in the form of varying housing product types, parks, recreational, neighborhood commercial amenities, civic support spaces as well as extensive preserved natural open space and common area open space within the community. Please refer to the public service standards table included for further detail outlining the percentage mixture of land uses. The Sub-Area Comprehensive Plan also addresses preservation of rental options through homeowner's association CCR's, allowing for a rental market to exist in the planned community providing product options for people that need single family homes for which purchasing is not an option.

5. *The comprehensive plan text amendment demonstrates that the planned community subarea comprehensive plan adequately protects fish, wildlife, and recreation resources;*

The lowlands of the Shadow Valley area have been used for grazing for many years. The upper areas are non-irrigated natural high desert pasture. Shadow Valley Planned Community has commissioned Bowen Collins, an environmental engineer and wildlife habitat consultant for the planned community. We anticipate that the study will find that the proposed development can be integrated into existing development without negative impact. The percentage of natural open space and common open space adjacent to Bureau of Land Management Public Land is anticipated to encourage continued free-range movement of wildlife habitat. Early review has also indicated that visual natural drainage patterns are likely not to be defined as 'Waters of the US'. Initial environmental reporting is included with supplemental field reporting and jurisdictional wetland delineation available in 2025.
Lastly, the project proposes to create new recreation resources via new foothills trail systems and connecting them to existing foothills trail systems when possible.

6. *The comprehensive plan text amendment demonstrates that the planned community subarea comprehensive plan adequately avoids undue water and air pollution;*

Shadow Valley is within a 30-minute drive of Boise, Eagle, and Meridian, easing Hwy-55 traffic and reducing air pollution. It complements the nearby Avimor development, infilling residential housing between already approved planned communities of Avimor and Dry Creek Ranch.
Potable water will come from private wells, managed by a municipal association. Treated wastewater will be reused for irrigation where possible, and the landscape plan will feature dryland and native plants with large areas of natural open space.

7. *The comprehensive plan text amendment demonstrates that the planned community subarea comprehensive plan ensures that important environmental features are protected;*

The most important environmental feature of the Shadow Valley Planned Community is Spring Creek channel existing within the Shadow Valley Golf Course. No change is proposed to the Shadow Valley Golf Course and routing of Spring Creek at this time. One other important natural feature is a lowland drainage area within the west subdivision that is being currently evaluated by the environmental engineer. At this time, the characteristics of the drainage are not indicating that the area is a 'jurisdictional wetland' and the environmental engineer will address this area within the final engineering report, after spring field work.

8. *The comprehensive plan text amendment demonstrates that the planned community subarea comprehensive plan adequately protects life and property in areas subject to natural hazards and disasters;*

Shadow Valley Planned Community faces minimal natural hazards. Three natural hazards identifiable are steep slopes with potentially sluffing soils and wildfire. A geotechnical engineer will identify and address unsuitable soils. The commissioned fire consultant developed a Fire Safety Plan for the planned community specific to each side of Highway-55. The fire plans include recommendations for design and maintenance standards in the CCRs, municipal water with fire hydrants, landscape irrigation to reduce fire fuel, and establishment of fire lines via trails.

9. *The comprehensive plan text amendment demonstrates that the planned community subarea comprehensive plan encourages the protection of prime agricultural, forestry, and mining lands for production of food, fiber, and minerals;*

The Shadow Valley property is not prime agricultural, forestry or mining property. This area primarily consists of remnant undeveloped grazing ranch land that has not been utilized for such purposes in over 50 years of recent documentation. Utilizing the Shadow Valley property for planned community development appropriately positions commensurate residential development next to like type residential development.

10. *The comprehensive plan text amendment demonstrates that the planned community subarea comprehensive plan ensures that the development is consistent with the physical characteristics of the land;*

Shadow Valley's civil engineering design will efficiently connect new roadways to existing roadways, allowing natural view sheds, drainage patterns, and avoiding rock outcrops and steep slopes. Unique land characteristics such as these will be defined within natural open spaces areas.

11. *The comprehensive plan text amendment demonstrates that the planned community subarea comprehensive plan adequately addresses urban public services;*

All urban services will be available to Shadow Valley residents, including sewer, water, gas, electric, telecommunications connectivity, cellular service, and irrigation water. The team also plans to have treated wastewater approved for use as irrigation water in the east subdivision where the wastewater treatment facility will be located.

12. *The comprehensive plan text amendment demonstrates that the planned community subarea comprehensive plan ensures that adequate transportation facilities and services are provided for the proposed planned community subarea;*

Shadow Valley commissioned a traffic impact study (TIS) for the planned community and transportation improvements are anticipated to be completed as required to support the proposed development. The sub-area plan outlines vehicular roadways, pedestrian pathways and trail systems based on Ada County Highway District Level of Stress standards.

13. *The comprehensive plan text amendment demonstrates that the planned community subarea comprehensive plan adequately addresses the needs of the regional transportation network;*

Shadow Valley commissioned a traffic impact study (TIS) for the planned community and transportation improvements are anticipated to be completed as required to support the proposed development. Currently, Valley Rapid Transit (VRT) does not extend services to this area of Ada County.

14. *Growth in the proposed planned community subarea will not adversely impact existing regional conditions; and*

Growth within the Shadow Valley community will improve existing regional conditions by providing housing near employment hubs of Boise, Eagle and Meridian as well as support and greatly improve community and recreational access and amenities in this subarea of Ada County.

15. *The planned community subarea comprehensive plan text amendment contains the comprehensive plan components required by subsection D of this section. (Ord. 738, 2-23-2010; amd. Ord. 812, 8-14-2013)*

Shadow Valley Planned Community Sub-Area Comprehensive Plan Phase 1 (draft) is included with required components per Ada County code.

LAND USE ANALYSIS

Visioning for Shadow Valley Planned Community is to provide 21st century modern and home-based recreational-focused community living to less than 1,000 people. As southern Idaho attracts new residents at a rapid rate, the need for additional housing units increases. The 560-acre Shadow Valley Planned Community is well-situated to provide housing near the economic and employment cores of the Treasure Valley, while preserving natural and developed open space in an unmatched format. The THK Associates Residential and Retail Market Analysis referenced in this letter and included, provides detailed analysis to further describe the housing need. Please refer to page 11, which illustrates a conceptual land use plan exhibit for the purposes of this Comprehensive Plan and Text Amendment Application.

The Shadow Valley Planned Community master plan appropriately sites a variety of residential product types throughout the communities east and west zones, taking advantage of the natural slopes and landforms to create neighborhood boundaries. Neighborhood Commercial use is sited at the existing Shadow Valley Golf Course clubhouse facility accessed from Highway-55 and the existing Stone Crossing Wedding Venue accessed from North Brookside Lane. Both commercial operations conceive of future expansion. There is a small civic zone conceived accessed via North Brookside Lane to provide school district bus parking, a remote sheriff office and potentially other civic requirements such as a library book drop and future transit bus stop. The civic area will be designed further through the planned community application process.

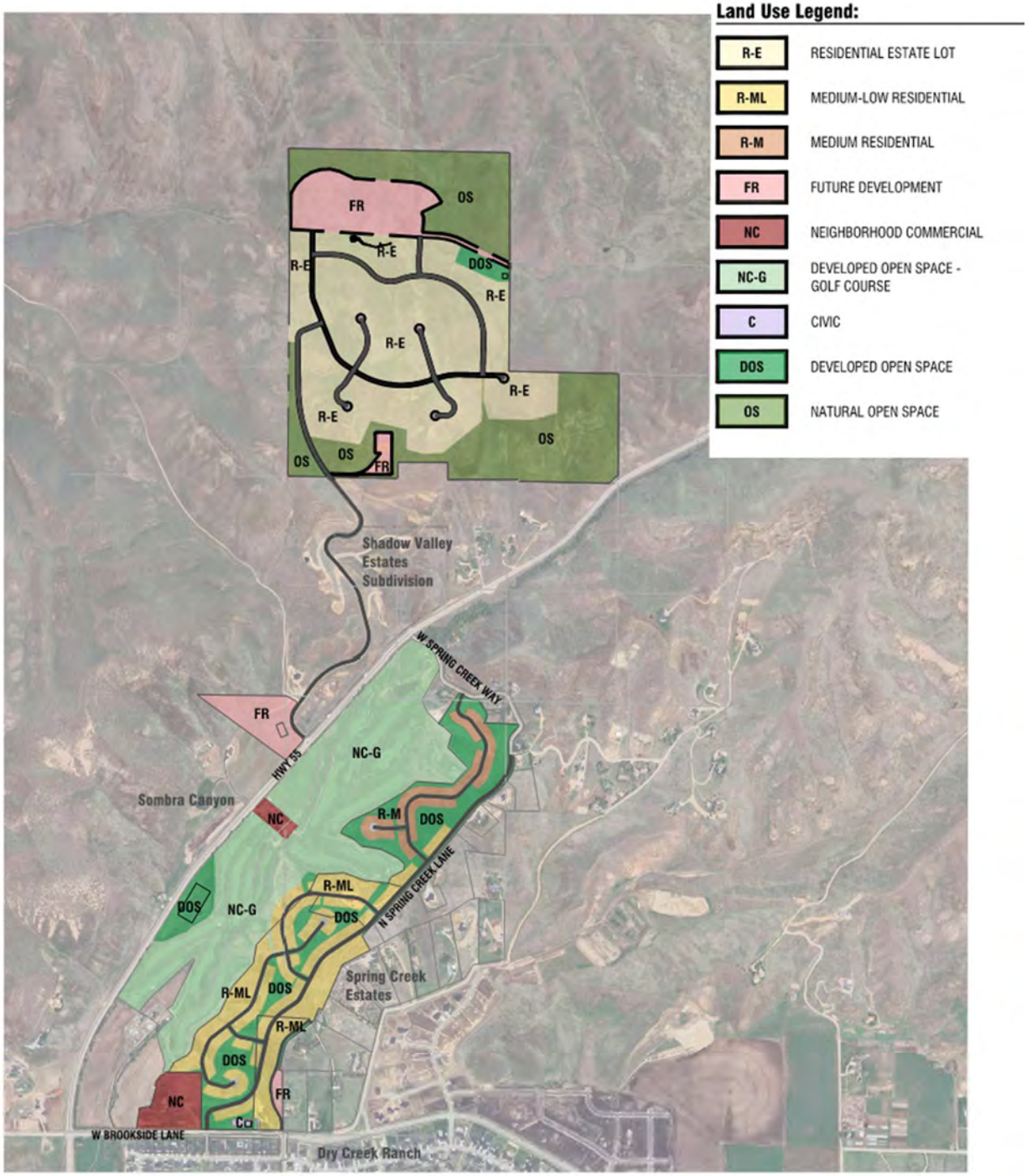
Although the planned community master plan encompasses subdivisions on both west and east sides of Highway 55, it is important to note that each subdivision will have individual community recreation areas connected by community pathway systems and natural foothill trail systems. Due to the highway's existing alignment, it is important for the development not to draw pedestrians down to the highway, but to encourage recreational opportunities within each subdivision area.



Notice the proximity of the Southwest Boise homes in the above aerial photo. The Shadow Valley Planned Community site is situated between the communities of Spring Creek Subdivision, Shadow Valley Golf Course, Dry Creek Ranch and adjacent to Shadow Valley Estates subdivision.

Location [Drive Time Review]

Avimor Exxon Fuel Station: 2.8 Miles, 4 minutes
Hidden Springs Library: 3.8 miles, 7 minutes
Eagle Fire Station #2 (Floating Feather): 3.4 miles, 5 minutes
City of Boise Downtown:15-miles, 30 minutes
City of Eagle Downtown: 5.8 miles, 10 minutes
City of Meridian Downtown: 14.1 miles, 30 minutes
City of Emmett: 21 miles, 30 minutes
City of Caldwell Downtown: 26 miles, 44 minutes
City of Nampa Downtown: 24 miles, 47 minutes
Boise Airport: 12 miles, 35 minutes
Bogus Basin Recreational Area: 26 miles, 47 minutes
Lucky Peak State Park: 32 miles, 54 minutes



Land Use Plan
Horizontal Scale: 1" = 1600'

SHADOW VALLEY PLANNED COMMUNITY
Highway 55, ADA County, Idaho

CAMBER
Land planning & development services

The following table provides conceptual land use plan massing information from the Shadow Valley Planned Community Phase 1 - Sub Area Comprehensive Plan.[8]

Shadow Valley Planned Community		Acres	Percentage
	total acres	**559.1**	
	Neighborhood Commercial	12.5	2%
	Residential Housing	218.5	39%
	Right of Way	24	4%
	Future Development	25	4%
	Developed Open Space	161.03	29%
	Natural Open Space	118.07	21%
West Zone	**total acres**	**290.7**	
	Neighborhood Commercial	0	0%
	Residential Housing	132	45%
	Right of Way	9	3%
	Future development	25	9%
Community Amenities	Developed Open Space	6.63	2%
	Natural Open Space	118.07	41%
East Zone	**total acres**	**268.4**	
Stone Crossing	Neighborhood Commercial	10	4%
Shadow Valley Golf Course	Neighborhood Commercial	2.5	1%
	Residential Housing	86.5	32%
	Right of Way	15	6%
Shadow Valley Golf Course	Developed Open Space	134.36	50%
Community Amenities	Developed Open Space	20.04	7%
	Natural Open Space	0	0%

PUBLIC SERVICE STANDARDS

Ada County Code 8-8-4 requires that planned communities meet minimum public facility standards. Shadow Valley Planned Community complies with those minimum standards, except two, a library and school site. Given the small size of the planned community and partnership with agencies to provide alternative smaller scale solutions such as school district bus parking, a remote sheriff's station and library book drop, the community is providing services that meet the unique size and shape of the proposed community's needs.

[8] (Camber Services, 2024)

Urban Public Service Requirements				
	Service	**Provider**	**Standard Requirement**	**Response**
General Standards				
	Community Conservation	Shadow Valley Planned Community	Director	Yes
	Transportation	Shadow Valley Planned Community	Conform to ACHD policies and studies	Yes, may include private roadways
	Trails and Pathways	Shadow Valley Planned Community	Conform to Ada County pathway plans	Yes
Minimum Standards				
	Electricity	Idaho Power	Each buildable property	Yes
	Telephone	Sparklight, TDS	Each buildable property	Yes
	Water	Shadow Valley Planned Community	Each buildable property	Yes
	Irrigation Water	Shadow Valley Planned Community	Each buildable property	Yes
	Wastewater (East Zone)	Shadow Valley Planned Community	Each buildable property	Yes
	Wastewater (West Zone)	Individual Residential Septic	Each buildable property	Yes
	Law Enforcement	Ada County Sheriff	1 = 1 officer per 1,200 population	Yes, 'civic' land provided for 1 (one) remote sheriff office
	Fire Protection	Eagle Fire Department	5 minutes or less	Yes, Eagle Fire Station #2
	Paramedic	Ada County Paramedic	5 minutes or less EMS, 9 minutes or less ALS	Yes
	Schools	West Ada School District	School Site	No, 'civic' land bus parking area provided/school site likely not needed
	Transportation	Ada County Highway District	At least 15.75 percent internal trip capture	Yes, pending final TIS
	Natural Open Space	Land Use Map	A minimum of 10 acres per 1,000 population of developed open space based on 2.5 persons per dwelling unit.	Yes, 161 acres per 1,000 population
	Developed Open Space	Land Use Map	A minimum of 10 acres per 1,000 population of developed open space based on 2.5 persons per dwelling unit.	Yes, 118 acres per 1,000 population
	Library	Ada County Library	Sufficient space shall be incorporated into the land use plan for library services to serve the planned community.	No-not needed, Hidden Springs Library 8min. Drive/ 3.9 miles, bookdrop location under discussion
	Each planned community shall provide all of the above referenced categories of urban public services in accordance with the stated minimum standard for each.per Ada County Code 8-8-4.B. Waiver: The board may waive or alter one or more of the public service standards in this section on a case by case basis. The applicant shall submit the request and justification for such waiver as part of subsection 8-8-7C7 of this chapter. (Ord. 738, 2-23-2010)			

1. *The anticipated population of Shadow Valley Planned Community at full build out is approximately 395 homes. With an average of 2.5 persons per household which results in a total population of 987.5 Shadow Valley residents.*
2. *Minimum ninety percent (90%) of dwelling units located within 0.6-mile mile walking distance to neighborhood shops/services and/or developed open space.*
3. *Minimum 11.7 acres developed open space.*
   975 residents x 12 acres per 1,000 residents = 11.7 acres[9]

[9] (Camber Services, 2024)

REQUEST FOR WAIVER[10]

Ada County Code 8-8-4[11] requires that planned communities meet a minimum of six additional levels of service standards. As listed in the table below, Shadow Valley Community meets what we see as 6.5 additional level of service standards: developed open space, natural open space, green community, employment, walkability, and trip capture. The half point is identified for schools; while the community is not planning for a school site as that is not known to be needed by the district, the community will provide much needed bus parking.

Shadow Valley Planned Community requests waivers for a school site, library site, mixed-use district and multi-family housing for the following reasons:

1. Shadow Valley Planned Community is constrained by topography which allows an extensive quantity of natural and developed open space with connected trail systems benefiting neighboring communities via access to trail systems and preservation of foothill views.
2. The vision of the community provides and 'infill' solution, delivering commensurate housing products that fit within the constraints of surrounding approved land uses and planned communities.
3. Neighboring planned communities are providing public services within a few miles radius of the Shadow Valley Planned Community, including school sites, a library, commercial services, and other various recreational amenities.
4. Given the generally size and shape of the Shadow Valley land mass, requiring additional public service offerings may negatively impact the over-arching land use pattern of the sub-Area region that includes Shadow Valley Planned Community, Dry Creek Ranch and Spring Creek Subdivision.

Additional Service Standards Table[12]

Additional Service Standards				
1	Developed Open Space	Land Use Map	12 acres per 1,000 population based on 2.5 persons per dwelling unit	161 acres
1	Natural Open Space	Land Use Map	16.5 percent of the total gross area of the planned community shall be dedicated to natural open space.	Yes
0	Multi-Family Housing	n/a	10 percent of the total number of dwelling units	No
0	Library	n/a	n/a	No
0.5	Schools	Land Use Map 'Civic'	bus parking in lieu of school site	Yes/No
1	Green Community	Shadow Valley Planned Community	Water efficiency (e.g., low water plumbing fixtures in homes and buildings; primarily low water or xeric landscaping; limited turf). Energy efficiency (e.g., energy star homes or comparable standard). Materials efficiency (e.g., using less building materials than standard). Green infrastructure/design (e.g., application of reclaimed wastewater; groundwater recharge; less impermeable surface).	Yes
0	Mixed use district	n/a	n/a	No
1	Employment	Land Use Map 'Neighborhood Comm	Employment Centers: Shadow Valley Golf Course, Stone Crossing	Yes
1	Walkability	Land Use Map	(90%) of dwelling units located within 0.6-mile mile walking distance to neighborhood shops/services and/or developed open space.	Yes, 100% of units are within 0.5 miles of developed open space.
1	Trip capture	Ada County Highway District	At least 15.75 percent internal trip capture	Yes, pending final TIS
6.5	Total	*Each planned community must provide a minimum of six (6) of the following categories of additional services per Ada County Code 8-8-4.B.*		

[10] (County, Title 8-Ada County Zoning Code, 2000)
[11] (County, Title 8-Ada County Zoning Code, 2000)
[12] (Camber Services, 2024)

We appreciate the opportunity to introduce the Shadow Valley Planned Community to Ada County. We are eager to continue collaborating with our neighbors, service providers, and your team on this great project. Additionally, we look forward to sharing and discussing the Shadow Valley Planned Community vision with the Ada County Planning and Zoning Commissioners and the Ada County Board of County Commissioners.

ENCLOSURES

0. Planned Community Checklist
1. THK Associates, Inc. Shadow Valley Residential and Retail Market Analysis, dated 09/04/2024
2. Master Application Form
3. Comprehensive Plan & Text Amendment Checklist
4. Parcel List
5. Sign Posting Certification

5.1 Sign Posting Map

6. Pre-Application Report
7. Neighborhood Meeting Certification
8. Legal Description, dated 12/06/2024
9. Public Involvement Session Summary

9.1 Public Involvement Session 1

9.2 Public Involvement Session 2

10. School Analysis
11. Hazard Areas Analysis
12. Wild Fire Safety Plan East
13. Wild Fire Safety Plan West
14. Land Use Exhibit
15. Urban Public Services Analysis

15.1 Keller & Associates Wastewater Treatment Facility Plan, dated 11/01/2024

15.2 CDH-DEQ Septic Review

15.3 Keller Septic Letter

15.4 HDR Water Facility Plan, dated 08/02/2024

15.5 Water System Facility Plan Approval

15.6 Water System Facility Plan Cover Page

15.7 Idaho Power Will Serve, dated 6/11/2024

16. Kittelson Traffic Impact Study, dated 12/17/2024

16.1 TIS Submittal History Correspondence

17. Recreation Analysis
18. Natural Resources Analysis

18.1 Bowen Collins Environmental Wildlife Resource Inventory Draft

18.2 Idaho Fish & Game Letter, dated 09/01/2024

19. Special Areas Analysis

19.1 SHIPO Report-Frontier Historical Consultants, dated 08/11/2017

20. Housing Analysis
21. Sub-area Comprehensive Plan & Community Design
22. Application Narrative

Deeds of Ownership

WORKS CITED

Camber Services, K. D. (2024). *Shadow Valley Planned Community Phase 1 - Sub-Area Comprehensive Plan.* McCall, Idaho: Camber Services LLC.

Canning, A. B. (2022, September). Spring Rock Planned Community Sub-Area Comprehensive Plan. Ada County, Idaho.

County, A. (2000). Title 8-Ada County Zoning Code. Dans A. County, *Ada County Zoning Code* (pp. (Ord. 389, 6-14-2000)). Ada County: Ada County.

County, A. (2025). *Ada County 2025 Comprehensive Plan.* Ada County: Ada County.

Mac, F. (2024, December). *Freddie Mac Research & Forecasting*. Récupéré sur www.freddiemac.com: https://www.freddiemac.com/research/forecast/20241126-us-economy-remains-resilient-with-strong-q3-growth

Marci Horner, P. a. (2022). *West Ada School District Facility Plan Presentation.* Boise.

THK Associates, I. (2024, September 4). *Residential & Retail Market Analysis - Shadow Valley - Ada County, Idaho.* THK Associates, Inc.

Thank you,

Kerstin Dettrich

Kerstin Dettrich,
kerstin@camberservices.com
Camber Services LLC

On behalf of Shadow Valley Planned Community

Cc: Larry Kine larrykine@gmail.com
Ryan Minert ryan@iagroupllc.com
Brady Lasher brady@lasherenterprises.com
[Counsel] Chris Koback chriskoback@hkcllp.com

December 6, 2024
Project No.: 120142

EXHIBIT "A"

SHADOW VALLEY
COMPREHENSIVE PLAN BOUNDARY DESCRIPTION
West Parcel No. 1 Description

A parcel of land being Lot 1, Block 1 of Shadow Valley Estates Subdivision No. 1, as same is recorded in Book 119 of Plats, at Page 18429 of Ada County Records, located in Sections 25 and 26, Township 5 North, Range 1 East, Boise Meridian, Ada County, Idaho, being more particularly described as follows:

Commencing at the Northeast Corner of Section 26 of said Township 5 North, Range 1 East, (from which the North One Quarter corner of Section 26 bears North 89°18'20" West, 2645.76 feet distant), said Northeast Corner of Section 26 being the POINT OF BEGINNING;

Thence South 61° 58' 45" East, a distance of 143.82 feet on the southerly right of way line of West Ronald Reagan Drive;
Thence on the westerly right of way line of North High Valley Way the following courses and distances:
Thence South 13° 05' 01" East, a distance of 26.30 feet;
Thence South 35° 48' 43" West, a distance of 65.38 feet to a point of curve;
Thence 174.00 feet on the arc of a curve to the left, having a radius of 225.00 feet, a central angle of 44° 18' 35", and whose chord bears South 13° 39' 26" West, 169.70 feet to a point of compound curve;
Thence 31.18 feet on the arc of a curve to the left, having a radius of 225.00 feet, a central angle of 07° 56' 28", and whose chord bears South 12° 28' 02" East, 31.16 feet to a point of compound curve;
Thence 122.29 feet on the arc of a curve to the left, having a radius of 225.00 feet, a central angle of 31° 08' 27", and whose chord bears South 32° 00' 28" East, 120.79 feet;
Thence South 47° 34' 44" East, a distance of 106.56 feet;
Thence South 02° 45' 37" East, a distance of 28.34 feet to a point on the northerly right of way line of State Highway 55;
Thence South 42° 25' 22" West, a distance of 312.50 feet on said northerly right of way line;
Thence leaving said northerly right of way, North 53° 45' 58" West, a distance of 1333.03 feet to a point on the North boundary line of said Section 26;
Thence South 89° 18' 20" East, a distance of 1080.76 feet on said north boundary line to the POINT OF BEGINNING.

EXCEPTING THERE FROM

Lot 2, Block 1 of Shadow Valley Estates Subdivision No. 1, as same is recorded in Book 119 of Plats, at Page 18429 of Ada County Records.

Said Lot 1, Block 1 of Shadow Valley Estates Subdivision No. 1 contains 11.07 acres more or less.

TOGETHER WITH:

West Parcel No. 2 Description

A parcel of land being located in Sections 13 and 24, Township 5 North, Range 1 East, Boise Meridian, Ada County, Idaho, being more particularly described as follows:

Commencing at the Northwest Corner of Section 24 of said Township 5 North, Range 1 East, (from which the West One Quarter corner of Section 24 bears South 00°27'46" West, 2656.94 feet distant), said point being the **POINT OF BEGINNING**;

Thence from said Northwest Corner of Section 24, North 00° 30' 31" West, a distance of 1314.93 feet on the west line of Section 13 of said Township 5 North, Range 1 East to the South 1/16th corner common to Sections 13 and 14 of said Township 5 North, Range 1 East;
Thence South 88° 51' 48" East, a distance of 1341.49 feet on the east-west 1/16th line of said Section 13 to the SW 1/16th corner of said Section 13;
Thence South 88° 51' 43" East, a distance of 1341.22 feet on said east-west 1/16th line, to the C-S 1/16th corner of said Section 13;
Thence South 00° 02' 03" East, a distance of 1319.21 feet on the north-south mid-section line of said Section 13 to the South One Quarter corner of said Section 13;
Thence South 00° 29' 09" West, a distance of 1330.06 feet on the north-south mid-section line of said Section 24 to the C-N 1/16th corner of said Section 24;
Thence South 88° 43' 58" East, a distance of 1335.19 feet on the east-west one sixteenth line of the NE Quarter of said Section 24;
Thence South 00° 30' 53" West, a distance of 1231.42 feet on the north-south 1/16th line of the NE Quarter of said Section 24 to a point on a curve on the westerly right of way line of State Highway 55;
Thence 126.49 feet on the arc of a curve to the left, having a radius of 442.00 feet, a central angle of 16° 23' 49", and whose chord bears South 48° 27' 12" West, a distance of 126.06 feet;
Thence South 40° 14' 32" West, a distance of 17.77 feet to a point on the east-west mid-section line of said Section 24;
Thence North 88° 41' 49" West, a distance of 1096.60 feet on the east-west mid-section line of said Section 24;
Thence North 00° 00' 38" East, a distance of 21.49 feet;
Thence South 89° 31' 28" West, a distance of 200.54 feet;
Thence South 89° 56' 24" West, a distance of 454.74 feet;
Thence South 89° 46' 43" West, a distance of 207.50 feet to a point on the east boundary line of Shadow Valley Estates Subdivision No. 2, same as shown in Book 128 of Plats, at Page 20827 of Ada County Records;
Thence North 00° 06' 22" East, a distance of 210.65 feet on the east line of said subdivision;
Thence North 89° 55' 57" West, a distance of 604.10 feet on the north line of said subdivision;
Thence South 00° 28' 06" West, a distance of 196.44 feet on the west line of said subdivision to the C-W 1/16th corner of said Section 24;
Thence North 88° 41' 42" West, a distance of 1335.39 feet on the east-west mid-section line to the West One Quarter corner of said Section 24;
Thence North 00° 27' 46" East, a distance of 2656.94 feet on the west line of said Section 24 to the POINT OF BEGINNING.

Said parcel contains 281.58 acres more or less.

TOGETHER WITH:

East Parcel Description

A parcel of land located in Sections 24, 25 and 26 of Township 5 North, Range 1 East, Boise Meridian, Ada County, Idaho, being more particularly described as follows:

Commencing at the Northwest Corner of Section 25 of said Township 5 North, Range 1 East, (from which the West One Quarter corner of Section 25 bears South 00°24'21" West, 2660.22 feet distant);
Thence North 65°55'10" East, a distance of 1669.18 feet to a point on a curve on the easterly right of way line of State Highway 55 and being the Westerly most corner of Spring Creek Estates No. 2 Subdivision, as same is recorded in Book 36 of Plats, at Page 3070 of Ada County Records, said point being on the easterly right of way line of State Hwy. 55, at the intersection with the southerly right of way line of North Spring Creek Way, said point also being the POINT OF BEGINNING;

Thence on the southerly right of way line of North Spring Creek Way for the following courses and distances:
Thence 47.12 feet on the arc of a curve to the left, having a radius of 143.12 feet, a central angle of 18° 51' 53", and whose chord bears South 55° 59' 53" East, 46.91 feet;
Thence South 65° 26' 12" East, a distance of 198.92 feet to a point of curve;
Thence 47.54 feet on the arc of a curve to the right, having a radius of 70.73 feet, a central angle of 38° 30' 37", and whose chord bears South 45° 50' 07" East, 46.65 feet;
Thence South 26° 55' 30" East, a distance of 144.09 feet to a point of curve;
Thence 66.79 feet on the arc of a curve to the right, having a radius of 140.00 feet, a central angle of 27° 20' 05", and whose chord bears South 13° 15' 24" East, 66.16 feet;
Thence South 00° 24' 42" West, a distance of 30.36 feet;
Thence leaving the southerly right of way line of North Spring Creek Way,
South 29° 59' 36"West, a distance of 417.71 feet;
Thence South 21° 27' 31" East, a distance of 160.22 feet;
Thence South 45° 30' 47" East, a distance of 200.71 feet;
Thence North 33° 28' 17" East, a distance of 447.33 feet to a point on the southerly right of way line of North Spring Creek Way;
Thence South 61° 43' 44" East, a distance of 131.71 feet on said southerly right of way line to a point of curve;
Thence 119.83 feet on the arc of a curve to the left, having a radius of 180.00 feet, a central angle of 38° 08' 36", and whose chord bears South 80° 48' 02" East, 117.63 feet;
Thence leaving said southerly right of way line, South 33° 31' 19" East, a distance of 150.30 feet to a point of curve;
Thence 171.81 feet on the arc of a curve to the right, having a radius of 125.00 feet, a central angle of 78° 45' 04", and whose chord bears South 05° 45' 18" West, 158.60 feet;
Thence South 87° 18' 47" East, a distance of 420.05 feet to a point of curve on the westerly right of way line of North Spring Creek Way;
Thence on the westerly right of way line of North Spring Creek Way for the following courses and distances:

Thence 35.84 feet on the arc of a curve to the right, having a radius of 30.00 feet, a central angle of 68° 27' 28", and whose chord bears South 08° 08' 05" West, 33.75 feet;
Thence South 42° 20' 34" West, a distance of 108.94 feet to a point of curve;
Thence 116.14 feet on the arc of a curve to the left, having a radius of 155.00 feet, a central angle of 42° 55' 49", and whose chord bears South 21° 00' 58" West, 113.44 feet;
Thence South 00° 47' 02" East, a distance of 170.64 feet;
Thence leaving the westerly right of way line of North Spring Creek Way, North 75° 28' 25" East, a distance of 61.77 feet;
Thence South 00° 47' 45" East, a distance of 76.71 feet to a point of curve;
Thence 250.25 feet on the arc of a curve to the right, having a radius of 350.00 feet, a central angle of 40° 57' 57", and whose chord bears South 19° 43' 14" West, 244.95 feet to a point on the westerly boundary line of Spring Creek Estates No. 3, as same is shown in Book 78 of Plats, at Page 8270 of Ada County Records;
Thence on the westerly boundary line of said Spring Creek Estates No. 3 for the following courses and distances:
Thence South 40° 09' 27" West, a distance of 116.21 feet to a point of curve;
Thence 156.91 feet on the arc of a curve to the right, having a radius of 530.00 feet, a central angle of 16° 57' 47", and whose chord bears South 48° 39' 59" West, 156.34 feet;
Thence South 57° 10' 15" West, a distance of 90.08 feet to a point of curve;
Thence 154.07 feet on the arc of a curve to the left, having a radius of 495.00 feet, a central angle of 17° 50' 01", and whose chord bears South 48° 16' 02" West, 153.45 feet;
Thence South 39° 19' 49" West, a distance of 651.33 feet to a point of curve;
Thence 201.74 feet on the arc of a curve to the right, having a radius of 3277.80 feet, a central angle of 03° 31' 35", and whose chord bears South 41° 04' 19" West, 201.71 feet;
Thence South 42° 51' 17" West, a distance of 966.01 feet;
Thence South 57° 50' 06" West, a distance of 34.88 feet to the southwest corner of said Spring Creek Estates No. 3;
Thence South 42° 41' 03" West, a distance of 207.73 feet;
Thence South 29° 21' 53" East, a distance of 196.48 feet to a point on the northerly boundary of Spring Creek Estates as same is shown in Book 26 of Plats, at Page 1638 of Ada County Records;
Thence on the westerly boundary line of said Spring Creek Estates for the following courses and distances:
Thence South 62° 18' 19" West, a distance of 382.88 feet;
Thence South 23° 42' 36" West, a distance of 404.48 feet;
Thence South 23° 44' 45" West, a distance of 190.01 feet;
Thence North 66° 53' 06" West, a distance of 49.94 feet;
Thence South 20° 34' 28" West, a distance of 143.69 feet;
Thence South 39° 16' 47" West, a distance of 49.68 feet;
Thence South 52° 19' 02" West, a distance of 213.85 feet;
Thence South 55° 31' 52" West, a distance of 92.79 feet to a point of curve;
Thence 161.45 feet on the arc of a curve to the left, having a radius of 213.79 feet, a central angle of 43° 16' 06", and whose chord bears South 33° 53' 45" West, 157.64 feet;
Thence South 12° 15' 42" West, a distance of 198.32 feet to a point of curve;
Thence 83.89 feet on the arc of a curve to the right, having a radius of 579.72 feet, a central angle of 08° 17' 29", and whose chord bears South 16° 25' 06" West, 83.82 feet;

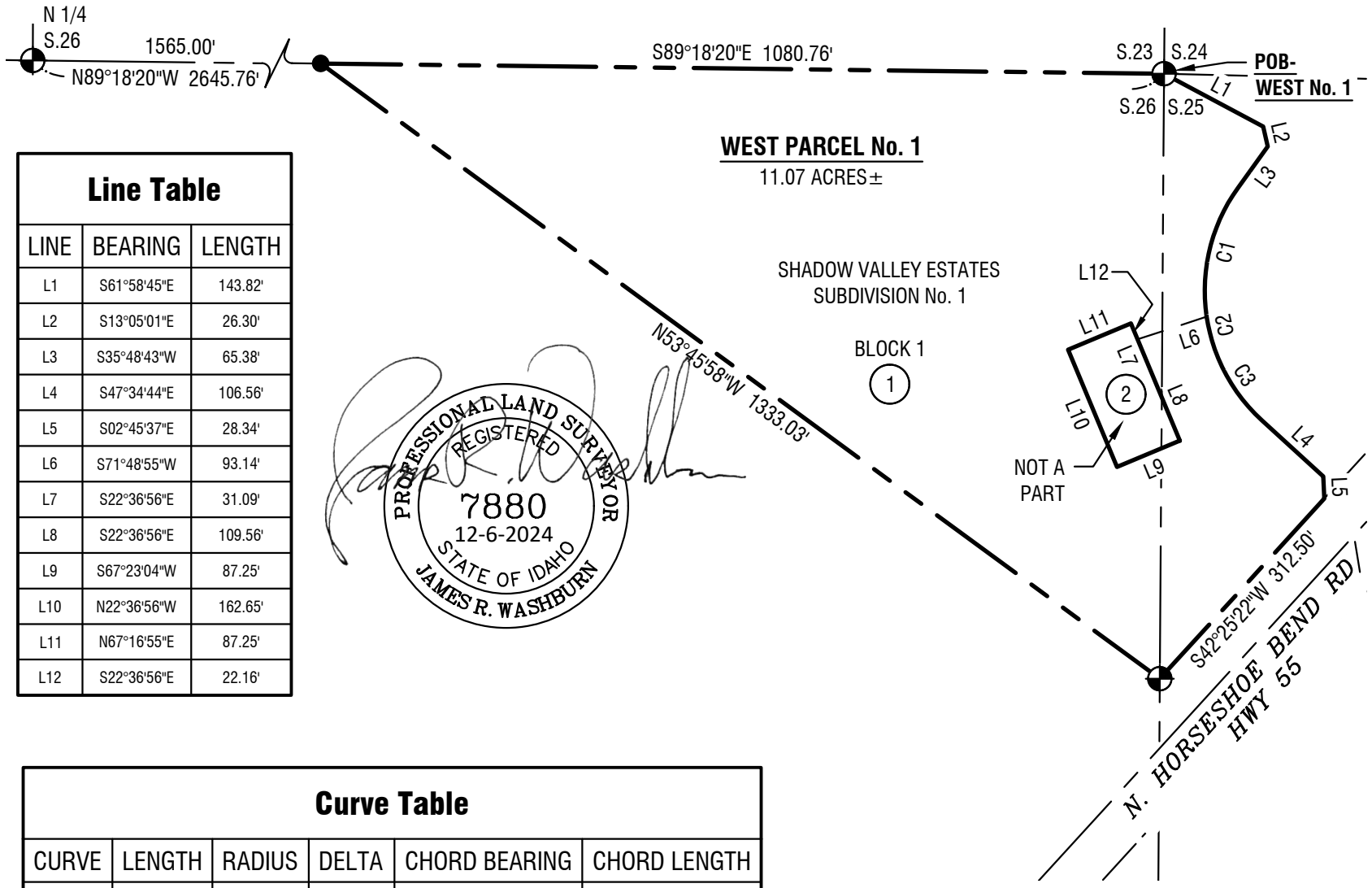
Thence South 89° 36' 14" East, a distance of 42.48 feet;
Thence South 00° 29' 14" East, a distance of 728.22 feet to the southwest corner of said Spring Creek Estates, said point being on the northerly right of way line of West Brookside Lane;
Thence North 89° 19' 08" West, a distance of 1774.57 feet on the north right of way line of North Brookside Lane to the southeast corner of Rubble Subdivision as same is shown in Book 64 of Plats, at Page 6586 of Ada County Records;
Thence on the boundary line of said Rubble Subdivision for the following courses and distances:
Thence North 00° 40' 52" East, a distance of 2.61 feet;
Thence North 08° 13' 55" East, a distance of 247.05 feet;
Thence North 81° 37' 56" East, a distance of 141.76 feet;
Thence North 14° 57' 03" East, a distance of 240.50 feet;
Thence North 23° 08' 19" West, a distance of 29.90 feet;
Thence North 15° 16' 53" East, a distance of 44.34 feet;
Thence North 37° 01' 54" East, a distance of 81.97 feet;
Thence North 56° 57' 58" East, a distance of 85.76 feet;
Thence North 69° 24' 07" West, a distance of 39.37 feet;
Thence North 14° 08' 25" East, a distance of 92.45 feet;
Thence North 15° 45' 33" West, a distance of 376.85 feet;
Thence North 35° 06' 35" East, a distance of 111.35 feet;
Thence North 47° 28' 38" East, a distance of 188.39 feet;
Thence North 39° 16' 11" West, a distance of 120.19 feet;
Thence North 57° 15' 19" East, a distance of 77.17 feet;
Thence North 26° 07' 12" East, a distance of 610.33 feet;
Thence North 51° 42' 33" West, a distance of 27.17 feet;
Thence South 47° 52' 58" West, a distance of 683.59 feet;
Thence South 38° 20' 24" West, a distance of 239.86 feet;
Thence North 54° 39' 40" West, a distance of 318.15 feet to a point on the easterly right of way line of State Highway 55 and the northwest corner of said Rubble Subdivision;
Thence leaving the boundary line of said Rubble Subdivision and on the easterly right of way line of State Highway 55 for the following courses and distances:
Thence North 32° 23' 47" East, a distance of 1613.86 feet to a point of curve;
Thence 324.53 feet on the arc of a curve to the right, having a radius of 1854.58 feet, a central angle of 10° 01' 34", and whose chord bears North 37° 24' 34" East, 324.12 feet;
Thence North 42° 25' 22" East, a distance of 3375.68 feet to a point of curve;
Thence 315.74 feet on the arc of a curve to the right, having a radius of 1849.86 feet, a central angle of 09° 46' 46", and whose chord bears North 47° 17' 46" East, 315.36 feet to the POINT OF BEGINNING.

Said parcel contains 278.01 acres more or less.

PREPARED BY:
The Land Group, Inc.

James R. Washburn





Line Table		
LINE	BEARING	LENGTH
L1	S61°58'45"E	143.82'
L2	S13°05'01"E	26.30'
L3	S35°48'43"W	65.38'
L4	S47°34'44"E	106.56'
L5	S02°45'37"E	28.34'
L6	S71°48'55"W	93.14'
L7	S22°36'56"E	31.09'
L8	S22°36'56"E	109.56'
L9	S67°23'04"W	87.25'
L10	N22°36'56"W	162.65'
L11	N67°16'55"E	87.25'
L12	S22°36'56"E	22.16'

PROFESSIONAL LAND SURVEYOR
REGISTERED
7880
12-6-2024
STATE OF IDAHO
JAMES R. WASHBURN

Curve Table					
CURVE	LENGTH	RADIUS	DELTA	CHORD BEARING	CHORD LENGTH
C1	174.00'	225.00'	44°18'35"	S13°39'26"W	169.70'
C2	31.18'	225.00'	7°56'28"	S12°28'02"E	31.16'
C3	122.29'	225.00'	31°08'27"	S32°00'28"E	120.79'

Exhibit "B"

Horizontal Scale: 1" = 200'

0 200' 400'

Project No.: 120142
Date of Issuance: December 6, 2024

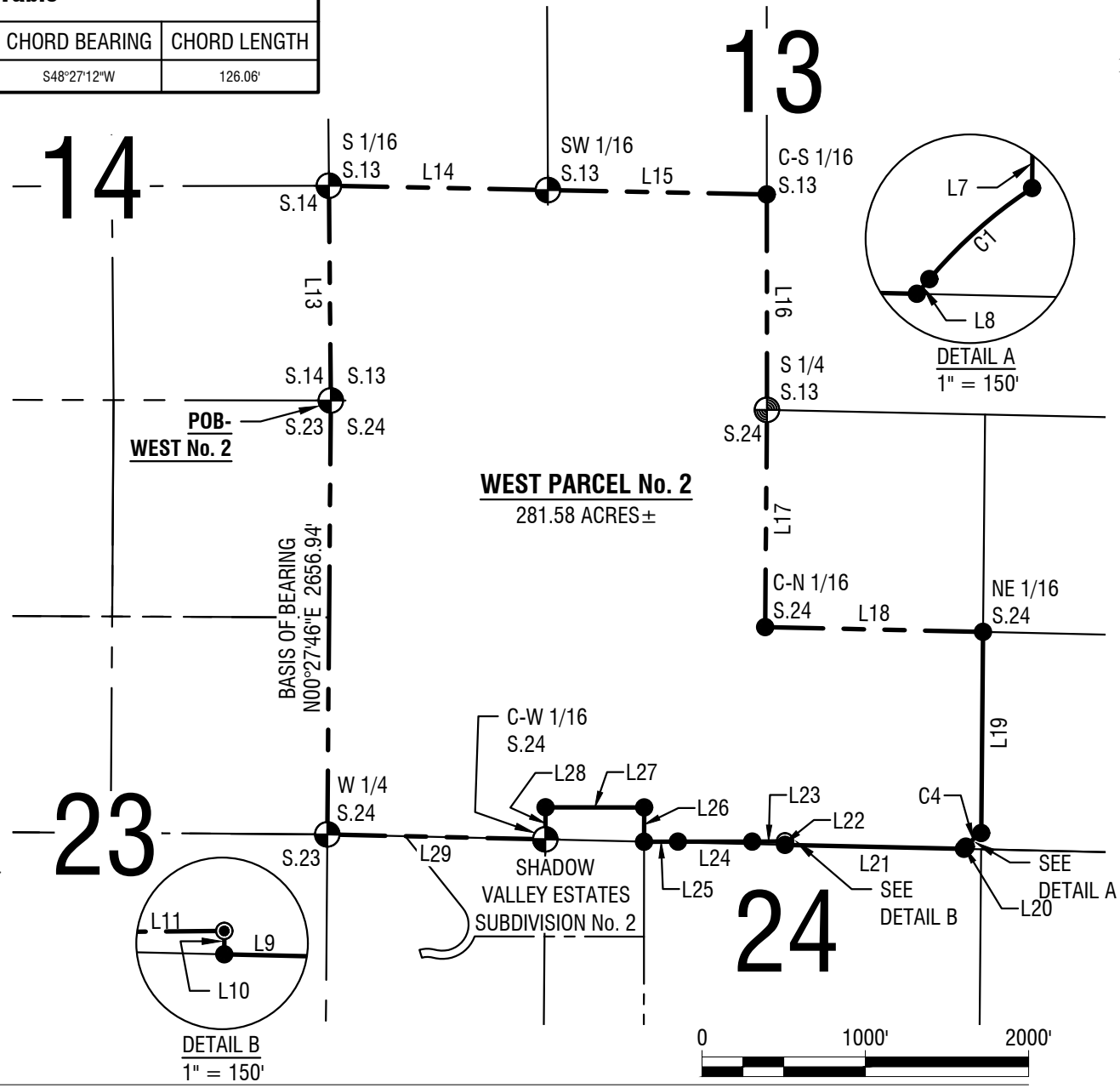
THE LAND GROUP

Shadow Valley West
Comprehensive Plan Boundary
Ada County

File Location: g:\2020\120142\cad\survey\exhibits\120142 boundary comp plan sht2.dwg
Last Plotted By: alex major
Date Plotted: Friday, December 6 2024 at 11:29 AM

Curve Table					
CURVE	LENGTH	RADIUS	DELTA	CHORD BEARING	CHORD LENGTH
C4	126.49'	442.00'	16°23'49"	S48°27'12"W	126.06'

Line Table		
LINE	BEARING	LENGTH
L13	N00°30'31"W	1314.93'
L14	S88°51'48"E	1341.49'
L15	S88°51'43"E	1341.22'
L16	S00°02'03"E	1319.21'
L17	S00°29'09"W	1330.06'
L18	S88°43'58"E	1335.19'
L19	S00°30'53"W	1231.42'
L20	S40°14'32"W	17.77'
L21	N88°41'49"W	1096.60'
L22	N00°00'38"E	21.49'
L23	S89°31'28"W	200.54'
L24	S89°56'24"W	454.74'
L25	S89°46'43"W	207.50'
L26	N00°06'22"E	210.65'
L27	N89°55'57"W	604.10'
L28	S00°28'06"W	196.44'
L29	N88°41'42"W	1335.39'



PROFESSIONAL LAND SURVEYOR
REGISTERED
7880
12-6-2024
STATE OF IDAHO
JAMES R. WASHBURN

Exhibit "B"

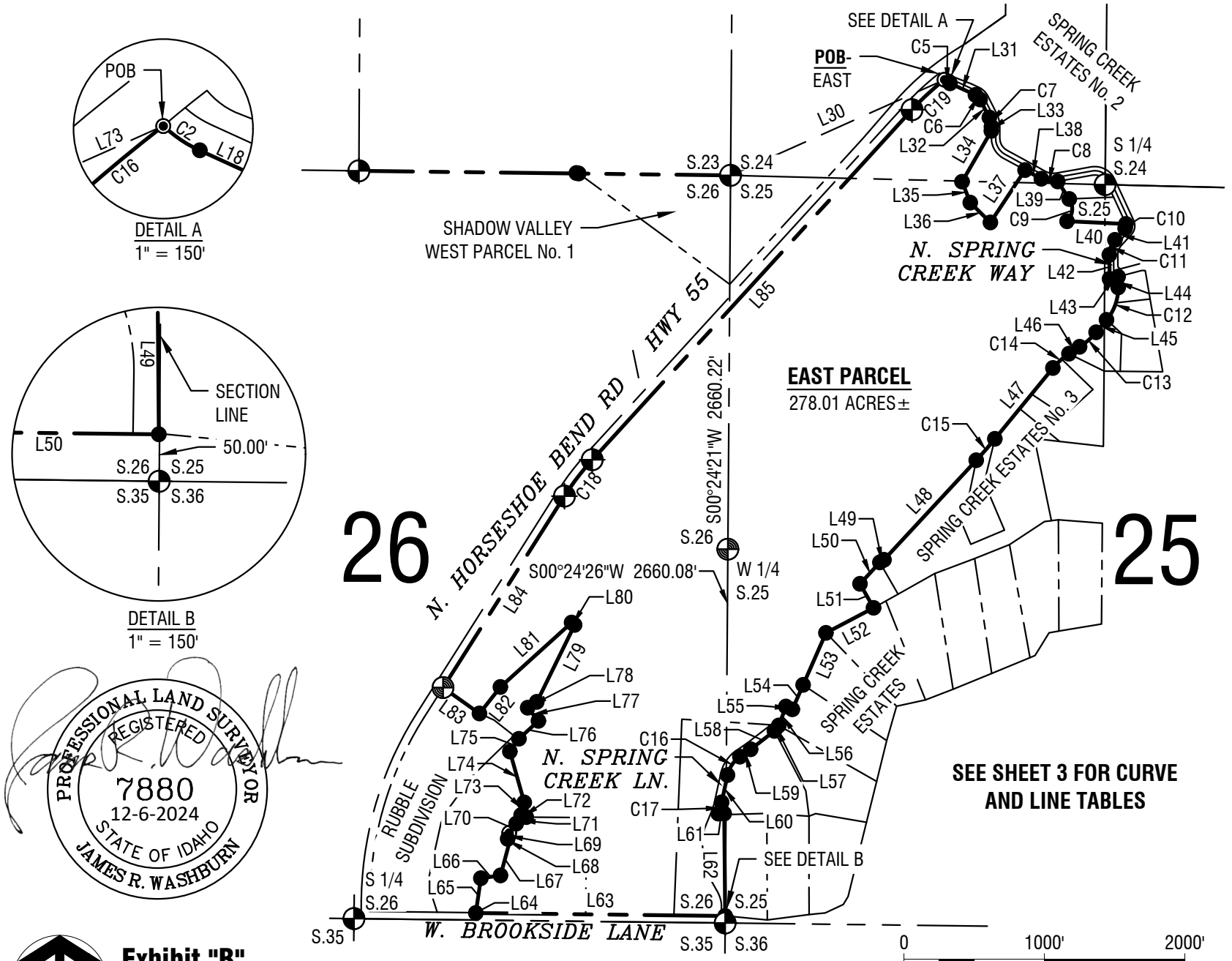
Horizontal Scale: 1:1000

THE LAND GROUP

Shadow Valley West
Comprehensive Plan Boundary
Ada County

Project No.: 120142
Date of Issuance: December 6, 2024

File Location: g:\2020\120142\cad\survey\exhibits\120142 boundary comp plan 2411112.dwg
Last Plotted By: alex major
Date Plotted: Friday, December 6 2024 at 11:32 AM



PROFESSIONAL LAND SURVEYOR
REGISTERED
7880
12-6-2024
STATE OF IDAHO
JAMES R. WASHBURN

Exhibit "B"

Horizontal Scale: 1:1000

THE LAND GROUP

Shadow Valley East
Comprehensive Plan Boundary
Ada County

3 of 4

Project No.: 120142
Date of Issuance: December 6, 2024

File Location: g:\2020\120142\cad\survey\exhibits\120142 boundary comp plan 2411112.dwg
Last Plotted By: alex major
Date Plotted: Friday, December 6 2024 at 11:39 AM

CURVE AND LINE TABLES
FOR
EAST PARCEL

Line Table		
LINE	BEARING	LENGTH
L30	N65°55'10"E	1669.18'
L31	S65°26'12"E	198.92'
L32	S26°55'30"E	144.09'
L33	S00°24'42"W	30.36'
L34	S29°59'36"W	417.71'
L35	S21°27'31"E	160.22'
L36	S45°30'47"E	200.71'
L37	N33°28'17"E	447.33'
L38	S61°43'44"E	131.71'
L39	S33°31'19"E	150.30'
L40	S87°18'47"E	420.05'
L41	S42°20'34"W	108.94'
L42	S00°47'02"E	170.64'
L43	N75°28'25"E	61.77'
L44	S00°47'45"E	76.71'
L45	S40°09'27"W	116.21'
L46	S57°10'15"W	90.08'
L47	S39°19'49"W	651.33'
L48	S42°51'17"W	966.01'

Line Table		
LINE	BEARING	LENGTH
L49	S57°50'06"W	34.88'
L50	S42°41'03"W	207.73'
L51	S29°21'53"E	196.48'
L52	S62°18'19"W	382.88'
L53	S23°42'36"W	404.48'
L54	S23°44'45"W	190.01'
L55	N66°53'06"W	49.94'
L56	S20°34'28"W	143.69'
L57	S39°16'47"W	49.68'
L58	S52°19'02"W	213.85'
L59	S55°31'52"W	92.79'
L60	S12°15'42"W	198.32'
L61	S89°36'14"E	42.48'
L62	S00°29'14"E	728.22'
L63	N89°19'08"W	1774.57'
L64	N00°40'52"E	2.61'
L65	N08°13'55"E	247.05'
L66	N81°37'56"E	141.76'
L67	N14°57'03"E	240.50'

Line Table		
LINE	BEARING	LENGTH
L68	N23°08'19"W	29.90'
L69	N15°16'53"E	44.34'
L70	N37°01'54"E	81.97'
L71	N56°57'58"E	85.76'
L72	N69°24'07"W	39.37'
L73	N14°08'25"E	92.45'
L74	N15°45'33"W	376.85'
L75	N35°06'35"E	111.35'
L76	N47°28'38"E	188.39'
L77	N39°16'11"W	120.19'
L78	N57°15'19"E	77.17'
L79	N26°07'12"E	610.33'
L80	N51°42'33"W	27.17'
L81	S47°52'58"W	683.59'
L82	S38°20'24"W	239.86'
L83	N54°39'40"W	318.15'
L84	N32°23'47"E	1613.86'
L85	N42°25'22"E	3375.68'

Curve Table					
CURVE	LENGTH	RADIUS	DELTA	CHORD BEARING	CHORD LENGTH
C5	47.12'	143.12'	18°51'53"	S55°59'53"E	46.91'
C6	47.54'	70.73'	38°30'37"	S45°50'07"E	46.65'
C7	66.79'	140.00'	27°20'05"	S13°15'24"E	66.16'
C8	119.83'	180.00'	38°08'36"	S80°48'02"E	117.63'
C9	171.81'	125.00'	78°45'04"	S05°45'18"W	158.60'
C10	35.84'	30.00'	68°27'28"	S08°08'05"W	33.75'
C11	116.14'	155.00'	42°55'49"	S21°00'58"W	113.44'
C12	250.25'	350.00'	40°57'57"	S19°43'14"W	244.95'
C13	156.91'	530.00'	16°57'47"	S48°39'59"W	156.34'
C14	154.07'	495.00'	17°50'01"	S48°16'02"W	153.45'
C15	201.74'	3,277.80'	3°31'35"	S41°04'19"W	201.71'
C16	161.45'	213.79'	43°16'06"	S33°53'45"W	157.64'
C17	83.89'	579.72'	8°17'29"	S16°25'06"W	83.82'
C18	324.53'	1,854.58'	10°01'34"	N37°24'34"E	324.12'
C19	315.74'	1,849.86'	9°46'46"	N47°17'46"E	315.36'

PROFESSIONAL LAND SURVEYOR
REGISTERED
7880
12-6-2024
STATE OF IDAHO
JAMES R. WASHBURN

THE LAND GROUP

Shadow Valley East
Comprehensive Plan Boundary
Ada County

4 of 4

Exhibit "B"

Horizontal Scale: 1:1000

0 1000' 2000'

Project No.: 120142
Date of Issuance: December 6, 2024

File Location: g:\2020\120142\cad\survey\exhibits\120142 boundary comp plan 2411112.dwg
Last Plotted By: alex major
Date Plotted: Friday, December 6 2024 at 11:40 AM

ADA COUNTY DEVELOPMENT SERVICES BUILDING DIVISION
200 W. Front Street, Boise, ID 83702 Phone: (208) 287-7900 Fax: (208) 287-7909

Pre-Application Conference Notes
202400064-PREAP A

Status	Received	Project Description	Property Location	Total Acres	Closed
Active	05/24/2024	Proposed Shadow Valley Planned Community	Highway 55, Shadow Valley Golf Course	548.06	

Meeting(s)

Meeting	Assigned	Applicant	Staff	Attended
05/24/2024		THE LAND GROUP INC	STACEY YARRINGTON	☐
			BRENT DANIELSON	☐
			BRENT MOORE	☐
			Leon LETSON	☐

Parcel(s)

Parcel	Address
S0213330000	N WILLOW CREEK RD, Eagle ID 83616-0000
S0224212450	N HORSESHOE BEND RD, Eagle ID 83616-0000
S0224220000	N WILLOW CREEK RD, Eagle ID 83616-0000
S0224230000	N WILLOW CREEK RD, Eagle ID 83616-0000
S0225212500	N SPRING CREEK LN, Boise ID 83714-0000
S0225233110	15387 N SPRING CREEK LN, Boise ID 83714-0000
S0226141900	15001 N HORSESHOE BEND RD, Boise ID 83714-0000
S0226449067	9600 W BROOKSIDE LN, Boise ID 83714-0000
S0226449825	9070 W BROOKSIDE LN, Boise ID 83714-0000

Twn/Rng/Sec

Twn	Rng	Sec	Qtr
5N	1E	13	
5N	1E	24	
5N	1E	25	
5N	1E	26	

Zone

Zone Type	Zone
Existing Zone	RP
Existing Zone	RR

Overlay Area(s)

Area	Value	Code Reference	Comments
HillSide	15 % Slope or More	Article 8-3H	
Flood	A Zone Unnumbered	Article 8-3F	
WUFI	Yes	Article 8-3B	
Fire District	Eagle Fire District		

Comp Plan:

Agency

Agency	Contact Person	Phone
IDAHO POWER COMPANY	MURRAY ALLISON	(208) 388-2402
CENTRAL DISTRICT HEALTH DEPARTMENT	BADIGIAN LORI	(208) 327-8517
ADA COUNTY HIGHWAY DISTRICT/ PLANNING DEPT	FEES IMPACT	(208) 387-6170

Exhibit 6
Page 1 of 5
202402701-PC-CPA

ADA COUNTY DEVELOPMENT SERVICES BUILDING DIVISION
200 W. Front Street, Boise, ID 83702 Phone: (208) 287-7900 Fax: (208) 287-7909

Pre-Application Conference Notes
202400064-PREAP A

Proposed Allowed Use(s)

Required Applications

File Type	Description
CPA	COMPREHENSIVE PLAN AMENDMEN
PC	PLANNED COMMUNITY
ZC	ZONING ORDINANCE MAP AMENDMI

Additional Preap Conference: Required

Neighborhood Meeting Required: Yes

Cross Reference:

ADA COUNTY DEVELOPMENT SERVICES BUILDING DIVISION
200 W. Front Street, Boise, ID 83702 Phone: (208) 287-7900 Fax: (208) 287-7909

Pre-Application Conference Notes
202400064-PREAP A

Notes

See Chapter 8-8 of the Ada County Code for Planned Community Subarea Development Regulations

Planned Communities have a two (2) step application process.

The first step is the Comprehensive Plan Amendment Application. The purpose of this step is to analyze the existing conditions of the site and regional impacts from the proposed development to determine the appropriateness of the location and the feasibility of the development's success; to plan for and ensure the availability of urban public services, and to create a planned community subarea comprehensive plan.

Prior to submitting the applicaiton you will need to hold a public services scoping session with Ada County Development Services and affected public service providers and regulatory agencies, including, but not limited to, Idaho Department of Environmental Quality, Idaho Department of Water Resources, Central District Health Department, and U.S. Army Corps of Engineers.

A transportation scoping session is required to be held with Ada County Development Services, ACHD, ITD, COMPASS, and VRT prior to application submission.

Prior to application submission you will also need to hold a minimum of two (2) public involvement sessions. This includes all cities in Ada County, all registered neighborhood associations in Ada County, and all property owners within one mile of the proposed planned community subarea comprehensive plan boundaries.

The second step is the Implementation Plan Application. The purpose of this step is to develop a plan that specifies future implementation strategies of a planned community; to create a plan that includes mitigation measures, phasing, actions, programs, budgets, ordinance(s), and timing of infrastructure improvements; and to demonstrate how the development of the planned community will comply with the planned community subarea comprehensive plan.

Prior to submitting this application you will need to hold a public services scoping session with Ada County Development Services and affected public service providers and regulatory agencies, including, but not limited to, Idaho Department of Environmental Quality, Idaho Department of Water Resources, Central District Health Department, and U.S. Army Corps of Engineers.

A transportation scoping session is required to be held with Ada County Development Services, ACHD, ITD, COMPASS, and VRT prior to application submission.

Prior to application submission you will also need to hold a minimum of two (2) public involvement sessions. This includes all cities in Ada County, all registered neighborhood associations in Ada County, and all property owners within one mile of the proposed planned community subarea comprehensive plan boundaries.

A preliminary plat can be submitted at the Implementation Plan Application. During the public hearing process the preliminary plat would be heard by the Board of County Commissioners at a subsequent public hearing following the adoption of the Implementation Plan.

See Chapter 8-6 of the Ada County Code for information on Subdivision Regulations.

See Article 8-6A of the Ada County Code for information on Subdivision Design Standards.

See Article 8-6B of the Ada County Code for information on Subdivision Required Improvements.

The planned community will need to comply with the Urban Public Service Level Standards in Section 8-8-4 of the Ada County Code.

The property is located within the Wildland-Urban Fire Interface (WUFI) Overlay District. See Article 8-3B of the Ada County Code for

Pre-Application Conference Notes
202400064-PREAP A

Notes

more information on the WUFI Overlay District. A fire protection plan for the development will need to be completed.

The property is located within the Hillside Overlay District. See Article 8-3H of the Ada County Code for more information on the Hillside Overlay District. A hillside application is required if there is any grading, filling, clearing, or excavation of any kind where either of the following is present:
1. Slopes that exceed fifteen percent (15%); or
2. Adverse conditions associated with slope stability, erosion, or sedimentation are present, as determined by the County Engineer.

The property is also located in the Flood Hazard Overlay District. There is an unnumbered 'A' Zone floodplain that runs through the golf course. See Article 8-3F of the Ada County Code for information on floodplains.

The applicant is also responsible for posting the public hearing notice sign on the property. See Subsection 8-7A-5 F of the Ada County Code for more information on the public hearing notice sign posting.
- The sign will need to be posted at least ten (10) days before the public hearing.
- A sign posting certification form along with photos of the sign need to submitted at least seven (7) days prior to the public hearing.

CODE REFERENCES:
Article 8-3B ~ Wildland-Urban Fire Interface Overlay District
Article 8-3F ~ Flood Hazard Overlay District
Article 8-3H ~ Hillside Overlay District
Chapter 8-6 ~ Subdivision Regulations
Article 8-6A ~ Subdivision Design Standards
Article 8-6B ~ Subdivision Required Improvements
Subsection 8-7A-5F ~ Public Hearing Notice Signposting Requirements
Chapter 8-8 ~ Planned Community Subarea Development Regulations
Section 8-8-4 ~ Planned Community Urban Public Service Level Standards
Section 8-8-7 ~ Planned Community Comprehensive Plan Amendment Application
Section 8-8-8 ~ Planned Community Implementation Plan Application

MEETING NOTES:

Meeting Attendees included Brent Danielson, Brent Moore, Stacey Yarrington, Leon Letson, and Luke Roberts for Ada County Development Services. The applicant's team included Kerstin Dettrich, Tamara Thompson, Larry Kline, Brady Lasher, Gabe Welz, Maggie Colwell, Michael Schulz, and Sonia Daleidan.

Introductions were made and Kerstin gave a 10,000 foot overview of the project and solicited feedback from Development Services staff on the concept.

Staff mentioned that they like the variety in residential product type though they noted that the proposal is light on commercial. Staff also mentioned that the biggest challenge will be traffic. They recommended for the applicant team to talk to ITD and ACHD. Staff also asked about water for the portion of the community on the west side of Highway 55. The applicant mentioned that water will come from the east side of the highway.

The applicant mentioned that they are proposing individual septic systems for the portion of the development on the west side of the highway. It was suggested they talk to the Central District Health Department regarding the use of individual septic systems. The applicant's preference is individual septic system, but they could do a commuinty septic system as a backup.

Larry mentioned that they are planning to have a deed restriction on the golf course.

ADA COUNTY DEVELOPMENT SERVICES BUILDING DIVISION
200 W. Front Street, Boise, ID 83702 Phone: (208) 287-7900 Fax: (208) 287-7909

Pre-Application Conference Notes
202400064-PREAP A

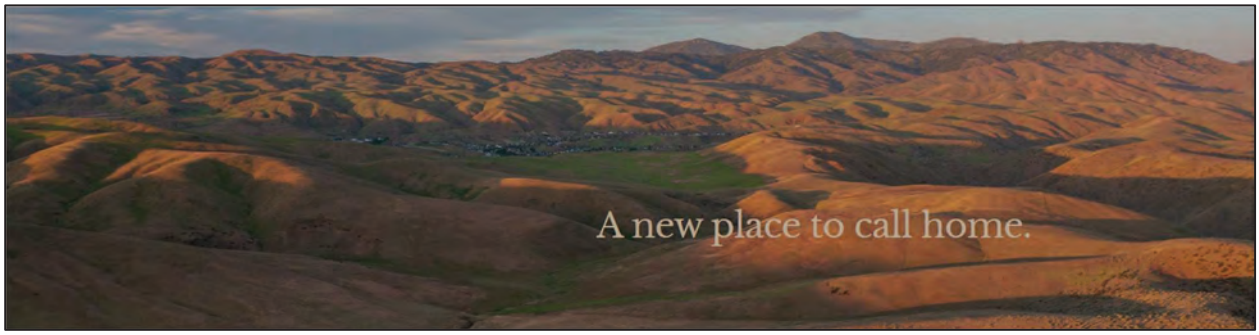
Notes

Staff also went over the Planned Community Urban Public Service Level Standards. They is a list of standards that the planned community must comply with and a list of additional standards where the planned community must adopt six (6) of those standards.

Brent Moore went over the application process.

After the applicant completes their scoping sessions they can submit their application. The applicant asked if it is okay to reach out to service providers before hand. Yes, it is highly recommended for them to reach out to the service providers before hand.

SHADOW VALLEY PLANNED COMMUNITY PUBLIC INVOLVEMENT SUMMARY



Version: December 20, 2024, Planned Community Application Phase 1

INTRODUCTION

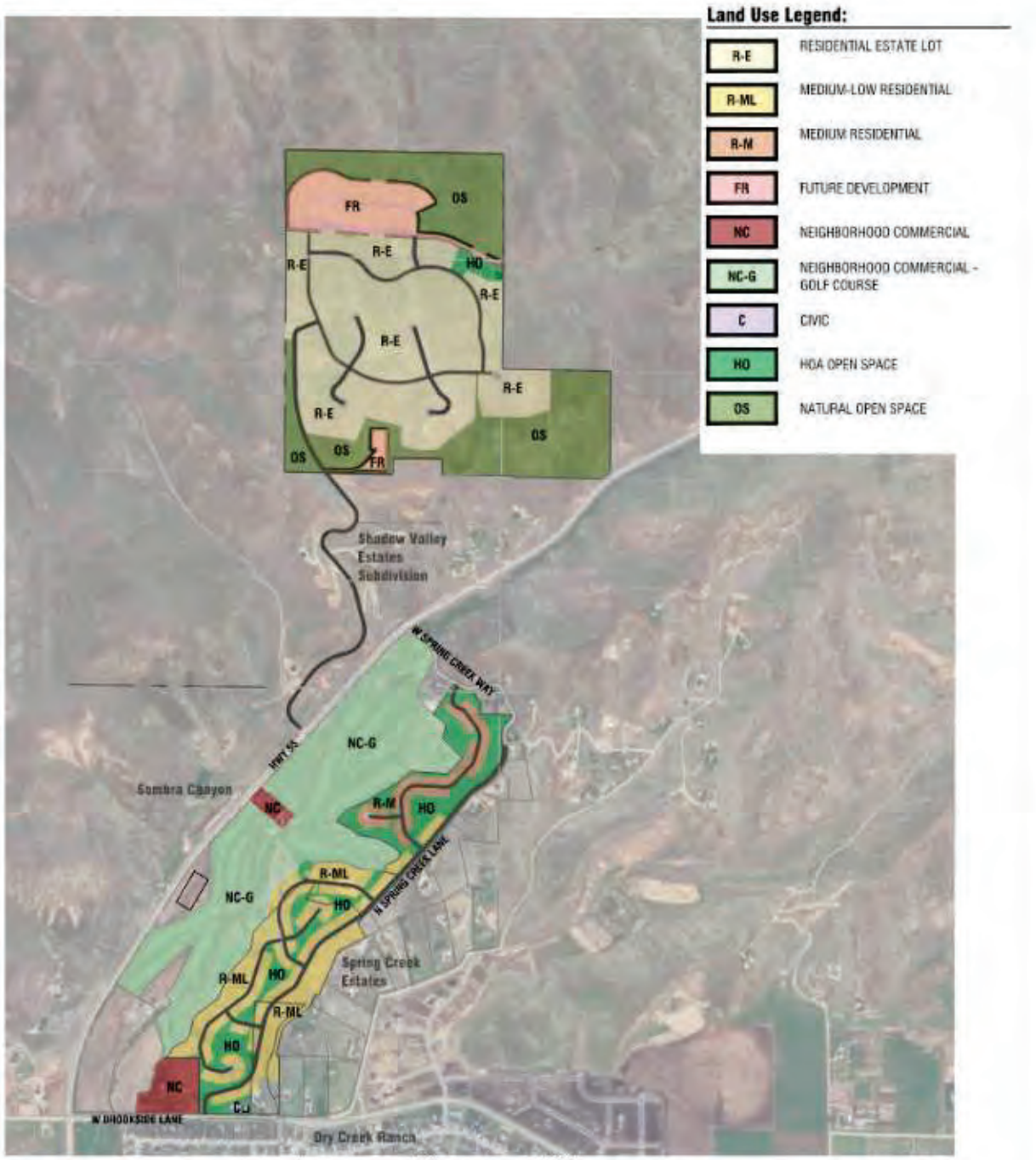
The Shadow Valley Planned Community Development Team publicly noticed neighbors within the required radius per Ada County Code,and hosted two (2) public involvement sessions at the Shadow Valley Golf Course Clubhouse, located on Highway-55 at address 15711 Highway 55, Boise, ID 83703. Two public scoping sessions occurred; one on November 13, 2024 and the second December 03, 2024 from 6:00pm to approximately 7:00pm in the evening. The development team shared the land use map depicted on page 2 of this summary letter.

The development team answered questions from the community about the development size and prospective land uses. The development team also provided information to the public regarding how to submit public comments to government agencies including Ada County, ACHD, ITD, IDWR and other authorities having jurisdiction. The development team managed a sign in sheet and gathered contact information from public participants which are included in this application.

In good faith, and to foster positive neighbor coordination, the Shadow Valley Development team set up the following means of communications where the Shadow Valley will reach out to neighbors moving forward with updated information. The development team intends to post milestone updates regarding the project on and update master plans and/or land use plans as they evolve through the Ada County Development Services planning process.

www.shadowvalleyplannedcommunity.com
shadowvalleypc@gmail.com
(208) 994-4658

Thank you,
Shadow Valley Development Team



SHADOW VALLEY PLANNED COMMUNITY

Highway 55, ADA County, Idaho

NEIGHBORHOOD CERTIFICATION (ACC 8-7A-3)

GENERAL INFORMATION:

You must conduct a neighborhood meeting prior to application for conditional use, expansion or extension of a nonconforming use, subdivision, variance, and/or zoning ordinance map amendment. All registered Neighborhood Associations and property owners within the required buffer area (**300'/1000'/2640'**) need to be invited to your meeting. See ACC 8-7A-5C (1), (2) & (3) for uses and districts requiring the 1000' and 2640' notification.

According to Ada County Code, the neighborhood meeting must be held either:

- On a weekend between the hours of 10 a.m. and 7 p.m.,
- Or a weekday between 6 p.m. and 8p.m.

**Meetings cannot be conducted on holidays, holiday weekends, or the day before or after a holiday or holiday weekend.*

The meeting must be held at one of the following locations:

- The Subject Property;
- The nearest available public meeting place (Examples: fire stations, libraries, community center, etc.)
- An office space within a 1-mile radius of the subject property

The meeting cannot take place more than six (6) months prior to the acceptance of the application and the application will not be accepted before the neighborhood meeting is conducted.

***Contacting and/or meeting individually with residents will NOT fulfill Neighborhood Meeting requirements.**

Description of the Proposed Project: Shadow Valley Planned Community (Comprehensive Plan & Text Amendment)

Date & Time of Neighborhood Meeting: November 13 & December 03, 2024 at 6:00pm

Location of Neighborhood Meeting: Shadow Valley Golf Course Clubhouse 15001 N HORSESHOE BEND RD Boise, ID 83714

SITE INFORMATION: Refer to parcel list and legal description included for detail on all parcels

SITE ADDRESS: Generally located east & west of Hwy 55 at 15001 N HORSESHOE BEND RD **CITY:** Boise, Idaho 83714

SECTION: _____ **TOWNSHIP:** _____ **RANGE:** _____

SUBDIVISION NAME: _____ **LOT(S):** _____ **BLOCK(S):** _____

TAX PARCEL NUMBER(s): Refer to parcel list included **CURRENT ZONING DISTRICT:** RR/RP

APPLICANT (Please Print):

NAME: Kerstin Dettrich on behalf of Larry Kine

ADDRESS: 250 NW Franklin Ave, Ste 401

CITY: Bend **STATE:** OR **ZIP:** 97703

TELEPHONE: 208-985-4358 **FAX:** _____

EMAIL: kerstin@camberservices.com

I certify that a neighborhood meeting was conducted at the time and location noted on this form and in accord with Section 8-7A-3 of the Ada county Code:

Kerstin Dettrich

Signature (Applicant)

12/10/2024

Date

OFFICE USE ONLY			
PROJECT #:		RECIEVED BY:	
DATE:		DATE STAMPED:	☐

Shadow Valley Planned Community – Comprehensive Plan & Text Amendment Application

PUBLIC INVOLVEMENT SESSION
DATE: 11/13/2024

NAME	ADDRESS	EMAIL	PHONE
EMMETT BURNEY	[redacted]		[redacted]
Ralph Lowe	[redacted]	[redacted]	[redacted]
Eric CARR	[redacted]	[redacted]	[redacted]
Sara Carr	[redacted]	[redacted]	[redacted]
RANDY AMIRSD	[redacted]	[redacted]	[redacted]
Martha & Gary Lyle	[redacted]	[redacted]	[redacted]
* Horse J & Cathy Jordan	[redacted]	[redacted]	
Brandy Sieaff	[redacted]	[redacted]	[redacted]
Paula Everett	[redacted]	[redacted]	[redacted]
Ken Everett	[redacted]		
BRADY LASHER	[redacted]	[redacted]	
Brayden Sale	[redacted]	[redacted]	[redacted]
Chad Buchert	[redacted]	[redacted]	[redacted]
Teresa Troy	[redacted]		[redacted]
Celeste Maese	[redacted]	[redacted]	[redacted]
KERSTIN DETTRICH			
Amy Espy			[redacted]

Shadow Valley Planned Community – Comprehensive Plan & Text Amendment Application

PUBLIC INVOLVEMENT SESSION
DATE: 11/13/2024

NAME	ADDRESS	EMAIL	PHONE
Shery Tarantino	[redacted]	[redacted]	[redacted]
	[redacted]	[redacted]	[redacted]
Need to understand their parcel & zoning			

PLEASE INCLUDE INFO ABOUT

- WATER - PRIVATE WELLS VS COMMUNITY WATER FROM EAGLE/BOISE.

- ~~[redacted]~~ HOW, HARM, IF ANY, TO CURRENT WELLS/OWNERS WILL BE DEALT WITH. WOULD HARM TO WATER AVAILABILITY BE MADE WHOLE TO CURRENT WELL OWNERS?

- WILL ~~[redacted]~~ SPRING CREEK RD BE UPGRADED/STABILIZED?
- HOW WILL OWNERS ALONG SPRING CR RD BE IMPACTED

WHICH AQUIFER WILL YOU BE DRAWING FROM

We are very concerned about water

please bring it in from somewhere else

[redacted]

Basin Way Should connect to Brookside

J Jordan

Shadow Valley Planned Community

Sign -In December 3rd, 2024

Name	Phone	Email	Address
Travis Hunter	[redacted]		
Gail Eberle (mailbox ☆ key)	[redacted]		
RICK MASONI	[redacted]		
Kyle Taylor	[redacted]		
Karin Bobzien (vest green)	[redacted]		[redacted]
JERRY TROY	[redacted]		[redacted]
Shay Tarantino	[redacted]		
Ralph Lowe	[redacted]		
Stephen Chrysler	[redacted]		
MARK FITZPATRICK (light issue)	[redacted]	[redacted]	
TIM BEITTOU	[redacted]		
JACK BYRNAM	[redacted]		

Shadow Valley Planned Community

Sign -In December 3rd, 2024

Name	Phone	Email	Address
Charlotte Brifton		[redacted]	
Name	Phone	Email	Address
Name	Phone	Email	Address
Name	Phone	Email	Address
Name	Phone	Email	Address
Name	Phone	Email	Address
Name	Phone	Email	Address
Name	Phone	Email	Address
Name	Phone	Email	Address
Name	Phone	Email	Address
Name	Phone	Email	Address
Name	Phone	Email	Address

Stone Crossing is not suitable
for a high end development
like shadow Valley Planned
Community.

1) It never finishes projects
it undertakes like sidewalks
paving ~~[illegible]~~ drive way.
2) Lighting at stone crossing
looks like a supermarket
and not a ~~[illegible]~~ residential
area. - light polution
3) Stone Crossing is not
suitable for a residential
~~[illegible]~~ ~~[illegible]~~ neighborhood.

[illegible]

Stephen Chrysler

by [redacted]

SIGN POSTING CERTIFICATION (ACC 8-7A-5)

GENERAL INFORMATION:

You must post the property:

- At least **ten (10) days** prior to the public hearing.

The sign certification form must be submitted:

- At least **seven (7) days** prior to the scheduled public hearing.

Please review Section 8-7A-5 of the Ada County Code for all sign posting requirements.

Please attach dated photographs of each sign with the sign posting certification.

PROJECT INFORMATION:

SITE ADDRESS: see map provided for mult. locations **CITY:** Garden City

SECTION: _____ **TOWNSHIP:** _____ **RANGE:** _____

SUBDIVISION NAME: Shadow Valley Planned Community **LOT(S):** _____ **BLOCK(S):** _____

TAX PARCEL NUMBER(s): See sign posting information **CURRENT ZONING DISTRICT:** RR/RP

FILE NUMBER: _____ **DATE POSTED:** _____

APPLICANT (Please Print):

NAME: Kerstin Dettrich on behalf of Larry Kine

ADDRESS: 250 NW Franklin Ave, Ste 401

CITY: Bend **STATE:** OR **ZIP:** 97703

TELEPHONE: 541-617-1999 **FAX:** _____

EMAIL: kerstin@camberservices.com, larrykine@gmail.com

n/a per comp. plan amendment criteria

I certify that the property was posted at least ten (10) days prior to the scheduled public hearing and have attached dated photographs of each sign in accordance with Section 8-7A-5 of the Ada County Code:

_____ _____

Signature (Applicant) **Date**

Please draw a diagram of sign location(s) on the property:

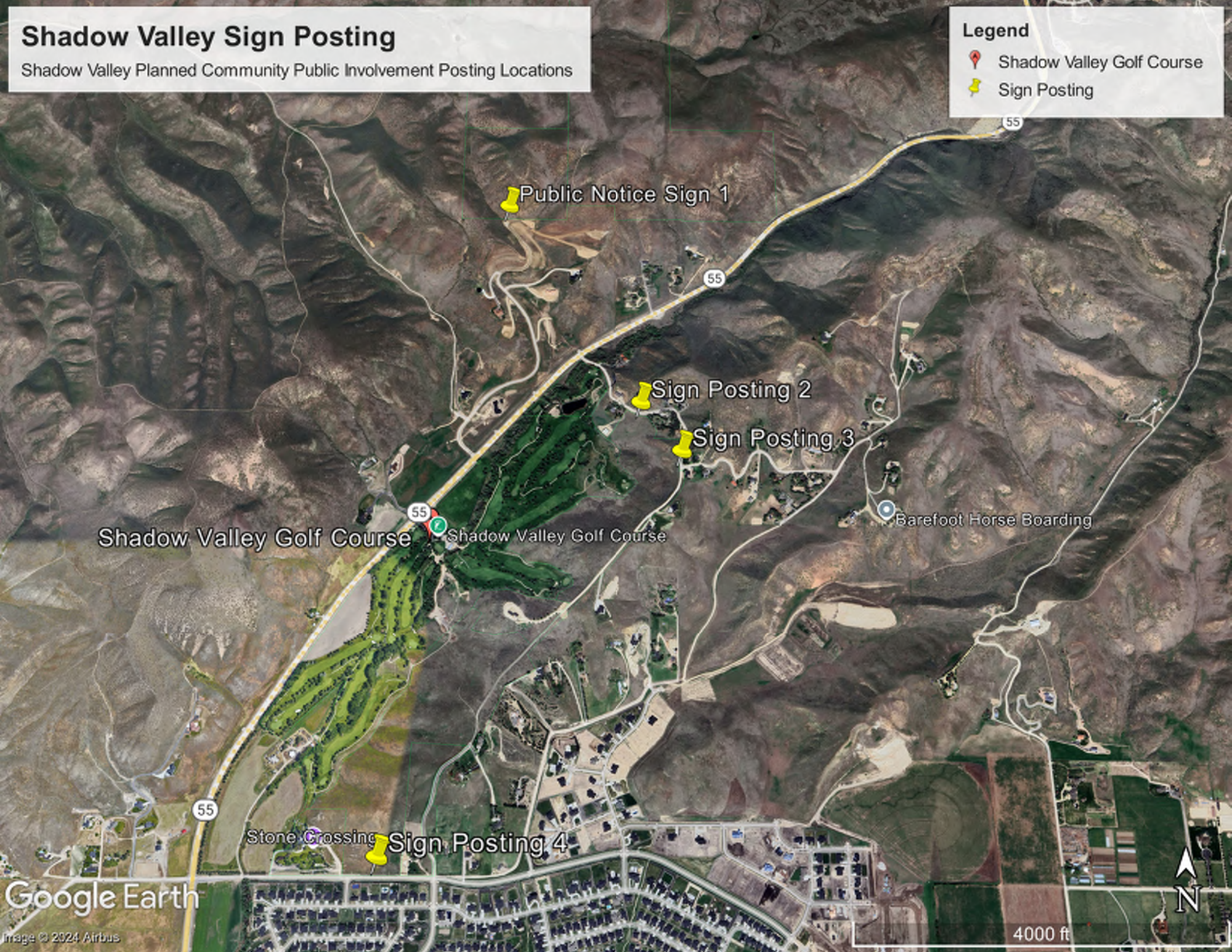
N

See map included.

OFFICE USE ONLY			
PROJECT #:		RECIEVED BY:	
DATE:		DATE STAMPED:	☐

Shadow Valley Sign Posting

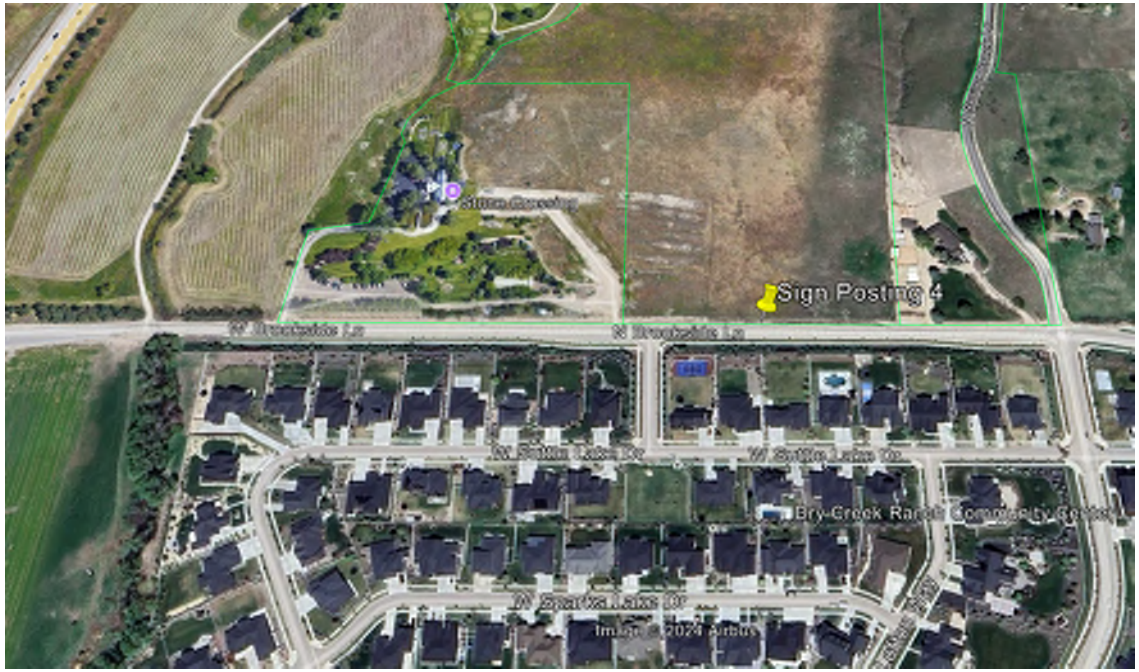
Shadow Valley Planned Community Public Involvement Posting Locations





The owners of the new development developed this neighborhood so it is acceptable to place a public hearing sign in the ROW close to the parcel line and next to the roadway extension barricade.





Shadow Valley Planned Community
Agency & Service Provider Scoping Session

Minutes
November 8, 2024, 1:30 PM

Attendees

Ada County Staff
- ☒ Leon Letson
- ☒ Brent Moore
- ☒ Brent Danielson
- ☒ Stacey DuPuis

Shadow Valley Team
- ☒ Kerstin Dettrich
- ☒ Larry Kine
- ☒ Brady Lasher

Agencies/Service Providers
- ☒ Mary DeWalt, Ada Community Libraries
- ☒ Shawn Rayne, Ada County Paramedics
- ☒ John Francesconi, Eagle Fire
- ☒ Chuck Vertrees, Parks & Waterways
- ☒ Kevin Kostka, Parks & Waterways

Discussion

Shadow Valley provided an overview of their project. The development will encompass approximately 560 acres, with 89 dwelling units proposed for the portion of the development located west of Highway 55, while the number of units on the eastern portion was still to be determined, but could end up being around 300.

The Ada Community Library said they would comment later after they had a chance to review the proposed population of the development. It was noted that the closest library to the site at this time is located within the Hidden Springs Planned Community.

Eagle Fire noted a secondary access would need to be provided to the portion of the development located west of Highway 55, and that it could be an emergency-access only roadway. Ada County Paramedics also agreed with the need for a second access. Shadow Valley is aware of this requirement and is still in the process of securing this access. It is not yet known if the second access will ultimately connect to Highway 55 or Willow Creek Road.

Shadow Valley Planned Community
Transportation Scoping Session

Minutes
November 13, 2024, 1:30 PM

Attendees

Ada County Staff
- ☒ Leon Letson
- ☒ Brent Moore
- ☒ Brent Danielson
- ☒ Stacey DuPuis

Shadow Valley Team
- ☒ Kerstin Dettrich
- ☒ Liz Kaniecki
- ☒ Brady Lasher

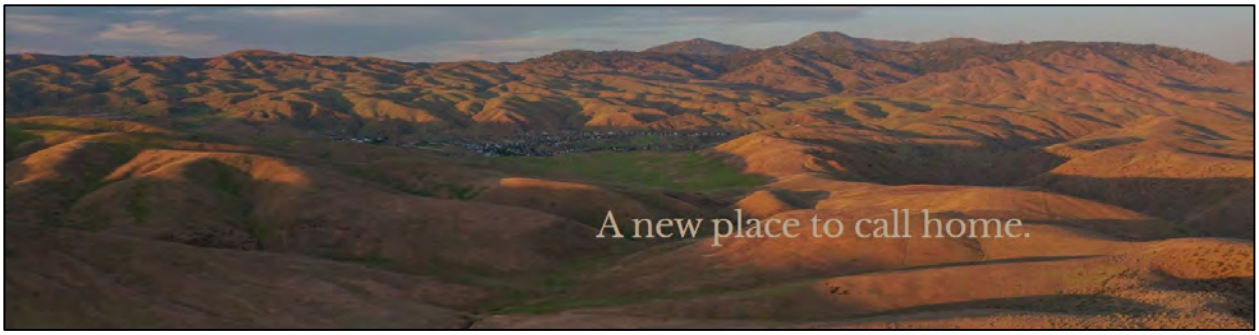
Transportation Agencies
- ☒ Christy Little, ACHD
- ☒ Mindy Wallace, ACHD
- ☒ Kate Dahl, VRT
- ☒ Stephen Hunt, VRT

Discussion

ACHD expressed some concern with the roads on the west side of Highway 55 being public, as they had had problems in the past with roads in the foothills cracking and deteriorating due to underlying sandy soils. ACHD will require additional analysis of the soils and proposed roadways for the portions of the development within the foothills. The applicant noted the Eagle Fire Department preferred the roads be public in order to provide better access for emergency vehicles. ACHD and the applicant will hold an additional meeting to talk about the proposed roadways in more detail.

Valley Regional Transit said they currently had no plans for a fixed-route bus line so serve this area, but that they would soon be starting the process of updating their long-range plan, Valley Connect. Because no bus service was planned for the area, it was suggested that the applicant instead consider setting up vanpool service for the community, through ACHD.

10



Shadow Valley
Planned Community
Sub-Area Comprehensive Plan

Exhibit 9
Page 1 of 25
202402701-PC-CPA

Version: March 10, 2025, Planned Community Application Phase 1

Prepared by Kerstin Dettrich, Camber Services LLC



1. Table of Contents

1. TABLE OF CONTENTS 3
VISION STATEMENT 5
CHAPTER 1: COMMUNITY LAND USES 6
Introduction to the Property 6
Golf Course Estates East Subdivision 6
Foothill Estates West Subdivision 6
History 7
Natural Features 7
Demographic Analysis of Area 7
Existing Roadways and Infrastructure 9
Neighboring Properties 10
Proposed Land Uses 11
Land Use Summary Table 11
Goal and Policies for Community Land Uses 13
Recreation 13
Residential 14
R-E Residential Estate 14
R-ML Residential 14
R-M Residential 14
Neighborhood Commercial (NC) 15
Civic Zone 16
Community Design 16
CHAPTER 2: COMMUNITY CONNECTIONS 17
Goal and Policies for Community Connections 17
Isolated Connectivity 17
Meeting the needs of vehicles 17
Meeting the needs of bicycles 17
Meeting the needs of transit 17
Meeting the needs of remote workers 17
Roadway Design 17
Pedestrian and Bicycle Pathways & Connected Open Space 17
Open Space Management 18
Utilities 18
Water 18
Electricity & Telecommunications 18
Gas 18
Wastewater 18
Pressurized Irrigation & Water Reuse 18
Implementation Strategies 18
CHAPTER 3: COORDINATED GROWTH 19
Coordinated Growth Comprehensive Plan Alignment 19
Transportation 19
Ada County Development Services 20
Schools | West Ada School District 20
Places of Worship 20
Emergency Services 20
Ada County Weed & Pest Control 20
(BLM) Bureau of Land Management 20
(COMPASS) Community Planning Association of Southwest Idaho 20
Annexations 20
Goals and Policies for Coordinated Growth 21
CHAPTER 4: SUSTAINABLE PRACTICES & RESILIENCY 23

Ada County 2025 Comprehensive Plan– Sustainable Practices & Resiliency 23
Affordable Housing 23
Broadband Services 23
Smart Technology 23
Electric Vehicle Charging & Solar 23
Wastewater Treatment 23
Pressurized Irrigation & Water Reuse 23
Landscaping 24
Sustainable Practice & Resiliency Goal 24
Housing 24
Future Transportation Options 24
Potable Water & Water Reuse 24
Wildfire 24
Private Property Rights 24
CHAPTER 5: IDAHO CODE MINIMUM PLAN STANDARDS 24
Sources 26
Works Cited 26

Vision Statement

The vision for Shadow Valley Planned Community is to create a recreation-focused foothills community that offers a unique blend of connectivity and seclusion. Shadow Valley Planned Community will speak to growing trends providing ample pickle ball court amenities amidst greenbelts and community parks with direct access to the Shadow Valley Golf Course. The Shadow Valley Planned Community aims to provide new public services and leverage those available in neighboring communities, while featuring extensive recreational spaces, both natural and developed. Set in an unparalleled foothills environment Shadow Valley Planned Community will provide a variety of residential housing product clearly defined by purchasing trends in unincorporated Ada County and southern Idaho.



Figure 1 Shadow Valley Planned Community Project Location

A comprehensive plan is an essential feature of long-term planning for cities and counties all over the United States, as both the process and the documentation for creating a broad, long-term vision for future land uses and the built environment of communities. A comprehensive plan lays the foundation for zoning codes, the legal tool for implementing the vision of the future contained in the comprehensive plan.[1]

This Shadow Valley Sub-Area Comprehensive Plan serves as a roadmap for growth and development. It outlines the guiding principles for designing the Shadow Valley Planned Community, with planning methodology structured into four chapters: Community Land Uses, Community Connections, Coordinated Growth, and Sustainable Practices & Resiliency. A fifth chapter details how the plan complies with the requirements of Idaho Code.[2]

[1] (Planetizen, 2024)
[2] (Canning, 2022) Sub-Area Comprehensive Plan 'Blueprint' from Spring Rock Planned Community, September 2022.

Chapter 1: Community Land Uses

Introduction to the Property

The Shadow Valley Community is situated on the east and west sides of ITD State Route Highway-55 (hereinafter referred to as Highway-55) generally located near the Shadow Valley Golf Course. Approximately one mile north when traveling on Highway-55 is the Avimor Planned Community and Dry Creek Ranch Planned Community sits across W Brookside Lane, just south of Shadow Valley Planned Communities east subdivision. The planned community west subdivision sits as an extension of the existing Shadow Valley Estates.

Golf Course Estates East Subdivision

The planned community east subdivision infills undeveloped land on the east side of the Shadow Valley Golf Course with housing and roadways tying into and finalizing development adjacent to the Dry Creek Ranch Planned Community to the south and Spring Creek Sudivisions to the north and east.

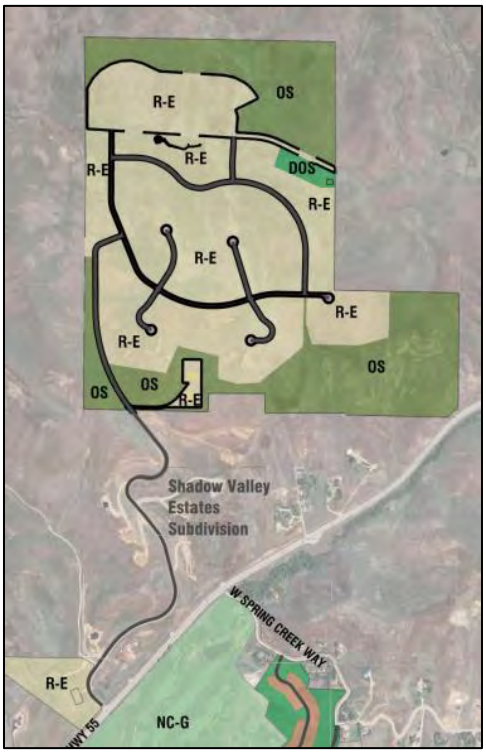




Foothill Estates West Subdivision

The planned community west subdivision provides a new access point to a new branch of community development with a mix of product types and community amenities, creating miles of new trails and providing unobstructed foothill views. In total, the Shadow Valley Planned Community are anticipated to book-ended by the Avimor Planned Community and Dry Creek Ranch Planned Community.





History

The land areas in the Shadow Valley Development are contiguous with lightly or under-utilized dryland ranching areas that have transferred to developers for the purposes of subdivision housing development. Several small wells at low elevation locations were drilled to support dryland cattle grazing. However, the land has predominantly not been utilized for any 'prime' or extensive agricultural uses. Google Aerial imagery as far back as 1985 shows varying unimproved ranch roads weaving through rolling foothill high desert pastureland. Through the years, agricultural livestock irrigation ponds have been added and removed for livestock grazing as well as unimproved parking and ranch management areas that are impacted by erosive activities in high use vehicle traffic and livestock holding areas.

Natural Features

Environmental engineering reporting is included in progress. The project area is located in northern Ada County, Idaho, north of the City of Boise and City of Eagle, in the lowlands and foothills along Highway-55. Elevations of the Foothills range from about 2,800 to 5,000 feet. The topography of the project area is moderately to steep slopes (20 to 60%). The rolling foothills have many small, unnamed ephemeral, intermittent streams and isolated springs. Dry Creek is the only perennial stream in the vicinity of the project area. Located between the Boise Front and the Owyhee Mountains the Treasure Valley is the broad valley of the western Snake River Plain.
While geologists debate the details of its origin, evidence indicates that the Plain began as a rift about 12 million years a go. A rift is a large valley bordered by faults, or fractures in the earth's crust.[3]

According to the Bureau of Land Management Geology of Southwest Idaho Booklet, "*Along the Upper Hulls Gulch Trailhead you'll see exposures of granitic rocks of the Idaho Batholith, which forms the geologic backbone of west-central Idaho. Batholiths are large areas of rock that have intruded into an existing rock formation. The Idaho Batholith intruded into the existing bedrock during the late Cretaceous Period (approximately 64 to 100 million years ago). At that time, Idaho's western border was ocean front property. The ocean floor, called the Pacific Plate, was being subducted beneath the continental land mass, called the North American Plate. During subduction, the Pacific Plate was driven deep into the earth's crust until heat and pressure melted the plate material. The molten material formed chambers of magma, and the relatively lighter and buoyant magma rose up through the crust. As it rose, the super-hot magma liquefied and incorporated the surrounding rock. This large lake of magma stopped rising as much as 10 miles below the surface, slowly cooled, and crystallized into the granitic rocks of the Idaho Batholith.*
Uplift and erosion, over millions of years, have exposed the granitic rocks that are now seen along the upper trail. Rounded outcrops of granite are produced by spheroidal weathering, a form of erosion where grains of decayed rock flake off in a concentric pattern due to the penetration of water from all sides."[4]

Demographic Analysis of Area

The Development Team commissioned a demographic study for the Shadow Valley Planned Community in preparation to complete this Sub-area Comprehensive Plan. The immediate area has no current population base and so THK Associates analysis references U.S. Bureau of the Census and Sitewise Analytics, which are shown in the table below.

[3] (Management, unknown)
[4] (Management, unknown)

Table V-4: Population by Age at the Shadow Valley Planned Development, 2034

Age	Total Population	% of Total Population	Male Population	% of Total Population	Female Population	% of Total Population
4 or younger	43	5.0%	19	2.2%	24	2.8%
5 to 13	73	8.3%	34	3.9%	39	4.4%
14 to 17	36	4.1%	18	2.1%	17	2.0%
18 to 21	41	4.7%	21	2.4%	20	2.3%
22 to 24	33	3.8%	16	1.9%	17	1.9%
25 to 29	55	6.3%	24	2.7%	31	3.6%
30 to 34	46	5.2%	18	2.1%	27	3.1%
35 to 39	40	4.6%	19	2.2%	21	2.4%
40 to 44	45	5.1%	23	2.6%	22	2.5%
45 to 49	52	5.9%	26	2.9%	26	3.0%
50 to 54	54	6.2%	25	2.9%	29	3.3%
55 to 59	55	6.3%	26	3.0%	28	3.3%
60 to 64	56	6.5%	27	3.1%	30	3.4%
65 to 69	60	6.8%	29	3.3%	31	3.5%
70 to 74	59	6.8%	28	3.2%	31	3.6%
75 to 79	51	5.9%	22	2.6%	29	3.3%
80 to 84	39	4.4%	16	1.9%	22	2.5%
85 and older	36	4.2%	15	1.7%	22	2.5%
	873	100.0%	407	46.6%	466	53.3%

- The THK Associates Analysis, prepared an economic base analysis of the surrounding Seven-County Boise market area (Ada, Boise, Canyon, Elmore, Gem, Owyhee, and Payette counties).
- The Counties have added 13,696 jobs per year on average, for an average annual growth rate of 3.7%, despite economic setback and job growth slowdown from COVID in 2020.
- According to the THK Economic Analysis completed for the Shadow Valley Planned Community application, only 12.4%; 109 of an anticipated 873-person population will be of school age by 2034. For the next ten years, the Boise seven-county area is projected to add 15,990 full- and part-time jobs per year on average. This growth will likely be fueled by Transportation and Warehousing, Professional Services and Real Estate.
- Over the last three-year period, this ratio has lowered to 64.3%, indicating a market shift towards more attached and multi-family housing.
- Out of the total housing unit demand, 90% is projected to be for single-family detached unit ownership.
- The Boise seven-county area has experienced positive annual increases in per capita personal income for the almost all of the past 34 years. As the economy continues to grow over the next decade, per capita personal incomes are expected to continue to rise at a steady pace.
- Based on the median household income of $95,937, residents in the Shadow Valley Residential Primary Trade Area could likely afford a $455,400 home or monthly rental payments of $2,400. This is shown in Table IV-5 below.
- Annual average demand for single-family detached units is 751 units. 20% of demand is from homes priced under $699,999, 20.0% is from homes priced $700,000 - $799,999, 25% is from homes priced $800,000 – $999,999, and the remaining 35% is from homes priced $1,000,000 & above.

Shadow Valley Planned Community provides suitable residential housing products and partnering civic and neighborhood commercial services to meet the demand outlined in the THK Associates report.

Table IV-5: Residential Purchasing and Rental Capacity in the Shadow Valley Residential PTA, 2024

Income Range	Percent of Households	Number of Households	Home Purchasing Capacity	Estimated Monthly Payment (PITI)*	Monthly Rental Capacity**
Under $24,999	9.25%	4,628	Under & $123,600	$620	Under $625
$25,000 - $39,999	7.68%	3,843	$123,600 - $197,800	$1,000	$625 - $999
$40,000 - $49,999	6.33%	3,169	$197,800 - $247,200	$1,250	$1,000 - $1,249
$50,000 - $59,999	6.73%	3,370	$247,200 - $296,600	$1,500	$1,250 - $1,499
$60,000 - $74,999	8.96%	4,487	$296,600 - $370,800	$1,870	$1,500 - $1,874
$75,000 - $99,999	12.82%	6,419	$370,800 - $494,400	$2,500	$1,875 - $2,499
$100,000 - $124,999	10.65%	5,332	$494,400 - $618,000	$3,120	$2,500 - $3,124
$125,000 - $199,999	20.74%	10,383	$618,000 $988,800	$5,000	$3,125 - $4,999
$200,000 - $249,999	9.45%	4,729	$988,800 $1,236,000	$6,250	$5,000 - $6,249
$250,000 & Above	7.38%	3,692	$1,236,000 & Above	$7,812	$6,250 & Above
Median Income* $95,937	**100%**	**50,052**	**$455,400**		**$2,400**

* Assumes 30% of income used for housing (before taxes and insurance), 20% down payment, 30 yr term, 6.5% interest rate

** Assumes 30% of income used for rental payment

Source: Sitewise and THK Associates, Inc.

Existing Roadways and Infrastructure

In coordination with Idaho Transportation Department and Ada County Highway District, Kittelson & Associates Transportation Engineers completed a traffic impact study to outline off-site roadway improvements required by agencies to support planned community development. Anticipated improvements defined by preliminary traffic impact study include the following which also predominantly anticipates other neighboring planned community off-site improvements forthcoming.

Dry Creek / SH 55 Intersection

Intersection doesn't meet standards in existing conditions.

Dry Creek Ranch development is conditioned to construct a signalized Green-T at this intersection, which would mitigate the intersection.

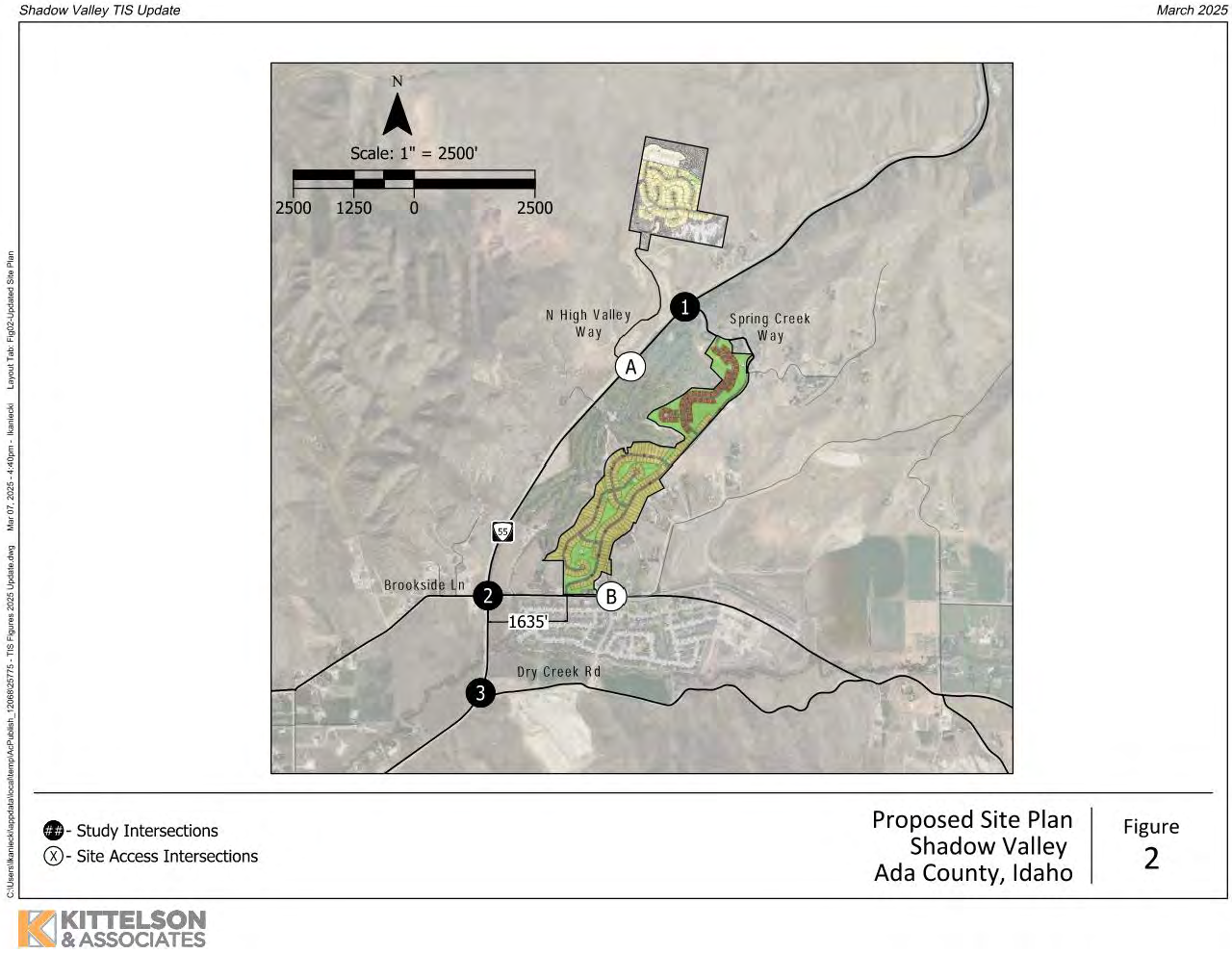
Brookside / SH 55 Intersection

Intersection doesn't meet standards in 2030 background (without the Shadow Valley PC Development)

ITD has plans to widen SH-55 southbound with a two (2) through lane configuration, which will be constructed as part of the ultimate configuration of the Green-T intersection at Dy Creek Road/SH-55. This would mitigate this intersection.

Spring Creek / SH 55 Intersection

Intersection is well under capacity but has a high delay (LOS E/F) in 2030 background (without the Shadow Valley PC Development). Constructing a two-way left-turn lane would allow a two-stage left turn onto SH-55, which would mitigate this intersection.



5

Neighboring Properties

Foothills Estate West Subdivision
North: Dual Beneficiary Trust No 8562 (Assumed Avimor Future Development Area-Undetermined)
South: Highway-55 & Shadow Valley Estates
East: Highway-55, Bureau of Land Management & privately owned parcels over 30-acres.
West: America First Federal Credit Union (Assumed Future Development Area-Undetermined)

Golf Course Estates East Subdivision
North: Spring Creek Estates #2 Subdivision
South: Dry Creek Ranch Planned Community
East: Spring Creek Ranch Subdivision & Dry Creek Ranch Planned Community
West: Shadow Valley Golf Course & Stone Crossing LLC, and two select private residential properties

[5] Figure 2, Kittelson & Associates, SVPC Traffic Impact Study

Proposed Land Uses

Shadow Valley Planned Community will be home to approximately eighty-nine (89) foothill estate residences at the Foothills Estate West Subdivision and 306 golf estate residences on the Golf Course Estates East Subdivision, with three specific parcels of supporting neighborhood commercial and civic uses located only in the Golf Course Estates East Subdivision. The community is planned over a land mass of approximately 560 acres defined by the following land uses.

Land Use Summary Table

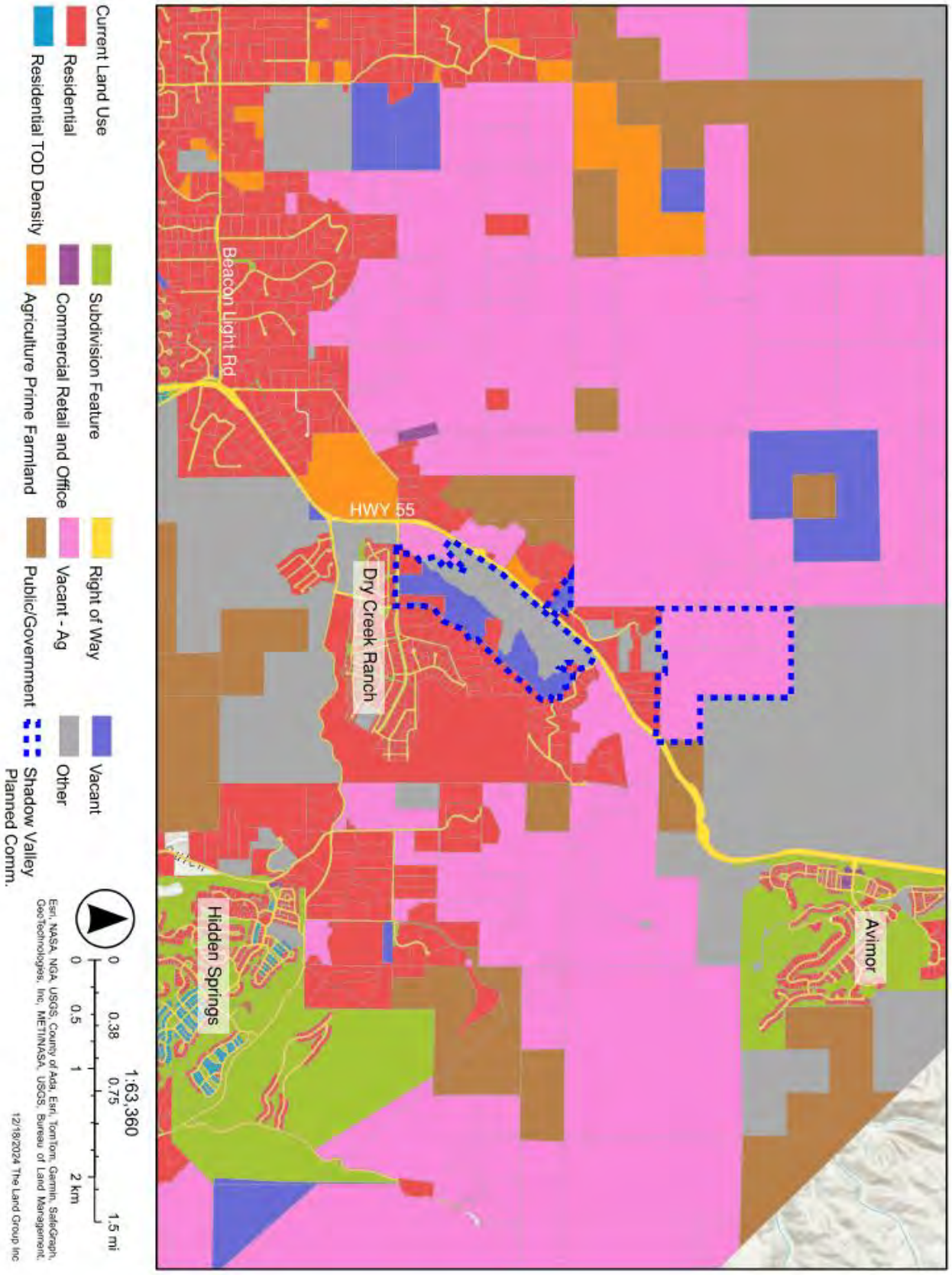
Description	**Acres**	**% of Community**
Neighborhood Commercial	12.5	2%
Residential Housing	243.5	44%
Right of Way	24	4%
Developed Open Space	161.03	29%
Natural Open Space	118.07	21%
Total Acres	**559.1**	
Foothills Estates West Subdivision		
Neighborhood Commercial	0	0%
Residential Housing [Detached Single Family]	157	54%
Right of Way	9	3%
Developed Open Space [New Amenities]	6.63	2%
Natural Open Space	118.07	41%
Total Acres	**290.7**	
Golf Course Estates East Subdivision		
Neighborhood Commercial [Stone Crossing]	10	4%
Neighborhood Commercial [SV Golf Course]	2.5	1%
Residential Housing		
[Detached Single Family]	71.8	27%
[Attached Townhomes]	14.7	5%
Right of Way	15	6%
Developed Open Space [SV Golf Course]	134.36	50%
Developed Open Space [New Amenities]	20.04	7%
Total Acres	**268.4**	

(Acreages defined above are approximate in nature.)

The plan appropriately sites a variety of residential product types throughout the community, taking advantage of the natural slopes and existing conditions to create neighborhood boundaries.
The Shadow Valley Planned Community will provide clear land use boundaries in the sub-region. The planned community uniquely provides unmatched quantities of developed and natural open space, preserving large quantities of acreage within unincorporated Ada County for recreation purposes.

Reference existing land use mapping in the sub-region within one-mile of the project location on the next page.

Shadow Valley Adjacent Land Use Exhibit



Goal and Policies for Community Land Uses

Recreation

The development plans to provide walkable neighborhoods with attached and detached sidewalks connected to multi-purpose foothills hiking, biking and walking trails. Trail systems provide connectivity to site planned community natural and developed open space amenities.
The Foothills Estates West Subdivision is somewhat isolated by topography making it less ideal for recreational connectivity; therefore, an abundance of Natural Open Space amenity is provided.



Shadow Valley Planned Community's Recreational Goals

Goal 1: Provide connectivity through Shadow Valley Planned Community by a variety of trail and pathway systems to neighboring planned communities, subdivisions and civic spaces.
Goal 2: Improve access and availability of recreational amenities within Shadow Valley Planned Community and also the region.

Goal 3: Provide modern active and passive recreational amenities that speak to demographic and market demands anticipated for Shadow Valley Planned Community.

Task 1: Include a network of safe community pathways and trail systems that provide access to natural open space, developed open space and community amenity areas within short walking distance from every lot.

Task 2: Provide community managed developed, natural open space and parks in the planned community greatly exceeding minimum requirements provided by Ada County Code, greatly increasing recreational opportunities in the sub-area.

Task 3: Manage community open space utilizing fire-wise and wildland urban interface policies to help mitigate future wildfire risk in the sub-area.

Task 4: Provide new and improved developed open space amenities meeting the needs of the two identified most popular recreational sports in the United States; golf[6] and pickle ball[7].

Shadow Valley Planned Community has a major natural open space recreation anchor on the West Foothills side. The west subdivision provides expansive views south of the Treasure Valley, intermittent views of Bogus Basin and territorial views within the development of the natural foothills. The west subdivision will provide housing intermingled on foothill bench slopes with detached sidewalks on local roadways leading to over 13-miles of unimproved pathways on recreational open space common lots through undulating foothills terrain. The open space trail systems provide multi-use (biking, walking, running) trails for community use and as a possible future link to future neighboring community land uses. The area of dryland open space integrated with natural decomposed granite multi-use trail systems provide a secondary benefit at Wildland Urban Interface and assist in creating third tier defensible space and fire line separation from undisturbed wildland areas adjacent.[8] The trail systems conceived of in this planned community also demonstrate alignment with the Ada County 2025 Comprehensive Plan goal of preservation and maintenance of future trails and trailheads. [9] [10]



[6] (Digest, 2021)
[7] (Ball, 2023)
[8] (McAdams, 2024)
[9] (County, Ada County Comprehensive Plan (2025), 2025)
[10] (Images, istockphoto) Golfers at Sunset-Image

Residential

Residential base district zoning refers to the classification of land within the planned community reserved for residential use. These districts are designed to regulate the density and type of housing that can be built in a specific area, ensuring that development aligns with the community's Sub-Area Comprehensive Plan and available public facilities. The below listed zoning regulations will manage growth, protect property values, and ensure that infrastructure can support the population.[11]



Figure 2Residential Vision

R-E Residential Estate

Average lot size: 1 to 5 acres lots
Average square footage: 2800 – 3000-sf
The R-L zone is intended to provide predominantly residential uses on larger lots as and supportive community common space and open space. Panoramic view lots, larger estate lots, golf course view estate lots.



R-ML Residential

Medium Low Density
Average lot size: Less than 1 acre lots
Average residence square footage: 1500 – 1900-sf
The R-ML zone is intended to provide a flexible mix of compact detached residential uses on slightly smaller-sized lots (in contract to the R-L District) as well as supportive community uses and open space within the Golf Course Estates East Subdivision providing foothill, golf course view lots and neighborhood view lots.

R-M Residential

Residential Medium Density
Average lot size: 0.16-0.2 acre lots
Average residence square footage: 1900 – 2000-sf
The R-M zone is intended to provide a compact attached 'townhome-style' residential uses on smaller-sized lots, providing commensurate foothill and golf view lots to single family detach product type. The R-M district will be a gated sub-community of the Golf Estates East Subdivision, where residents can rely on additional community maintenance and operational support to manage seasonal and rental properties in addition to full-time residences. [12]



[11] (County, Title 8-Ada County Zoning Code, 2000) Title 8-Ada County Zoning Code
[12] Townhome Image courtesy of https://www.familyhomeplans.com/plan-80887

Neighborhood Commercial (NC)

Gross Area: 12.5-Acres

Retail and dining at Shadow Valley Golf Course Club House

The Neighborhood Commercial Zone anticipates limited retail stores, restaurants, office space and special use housing at the Shadow Valley Golf Course and Stone Crossing Event Center. The Neighborhood Commercial Zone encompasses two parcels with an area of 12.5-acres. Specific uses within the Neighborhood Commercial Zone are further described below.





Figure 3 Food Truck Court Vision (above two images).

Food Truck Court & Clubhouse
(Shadow Valley Golf Course Expansion)
Clubhouse Gross Square Footage: 30,000-sf
Outbuilding Gross Square Footage: 5,000-sf

To supplement the food and beverage options at the Shadow Valley Golf Course Clubhouse, the Planned Community envisions an outdoor foot court with outdoor seating, multiple temporary/interchangeable food truck parking spaces, with a common permanent and centrally located beverage service outbuilding.

Stone Crossing Event Center
(Stone Crossing Expansion)
Gross Square Footage: 35,000-sf

Stone Crossing LLC provides a multi-purpose event center location within the planned community. The community envisions expansion of the event center to include expanded and/or new event center building/s. Services could include bed and breakfast, a boutique hotel, restaurant, and ancillary supporting maintenance and operations buildings, including a small caretaker's residence or staff housing.



Figure 4 Image courtesy of Stone Crossing LLC.

Retail/Restaurant/Coffee Shop
(Stone Crossing Expansion)
Gross Square Footage: 10,000-sf

Stone Crossing Retail/Neighborhood Commercial Building provides a small takeaway bistro restaurant, coffee shop and/or restaurant dining option. The building will provide various options for online ordering and prepared meal pickup and outsourced delivery. Primary parking need will be for 15-30 minute pickup.



Figure 5 Retail/Restaurant Storefront Vision.

Civic Zone[13]

Parcel Acreage:

Multi-purpose Civic Building
Remote Ada County Sheriff Office
Gross Square footage: 5,000 sf
Provide intermittent check in office facility for Ada County Sheriff operating in the planned community area.

West Ada School District Bus Parking Lot
(Building Square Footage-n/a)
Provide parking lot for bus parking to service bus transport of West Ada School District students to schools in the North Region of the district, and outside of the Planned Community.

Ada County Library Book Drop Location
Gross Square footage: 50 sf
Provide a drive through book drop location/pedestal for Ada County Library book return for Hidden Springs Library Branch. Also provide future elongated drop off lane for future bus stop.



Figure 6 Civic Building Vision.

Developed & Natural Open Space

Developed Open Space
Provide well designed easily accessible open space and supporting structures that enhance the use of the dedicated open space including, but not limited to: structures related to outdoor recreational use; structures of historic and/or cultural significance, educational buildings; way-finding or informational signage; parking facilities; well houses; and utility infrastructure and facilities.[14]



Natural Open Space
Provide undisturbed and native open space easily accessible for a natural/unimproved trail network. Supporting structures that enhance the use of the natural open space shall be limited to: structures related areas of respite for trail users such as benches; structures of historic and/or cultural significance, educational way-finding or informational signage.



Community Design

The following notations from consultants, agency partners, Ada County Code and Ada County Comprehensive Plan (2025) shall be carried into Shadow Valley Planned Community Design Guidelines and CCR's.

- Prohibit chain link fencing.
- Prohibit perimeter fencing to encourage wildlife movement.
- Encourage fencing on the project to be wildlife friendly, per IDFG recommendations.
- Residents should control pets at all times.
- Prohibit the feeding of wildlife and require that potential wildlife attractants (pet food, garbage, gardens, etc.) be maintained in a way to reduce attraction of wildlife species (skunks, foxes, raccoons, magpies, etc.). Eliminating or minimizing the potential for wildlife depredations is the responsibility of the property owner.
- Prohibit Non-Native Yew species plants.
- Prohibit livestock.
- Landscaping for individual lots should encourage "Fire Wise" methodology.
- Require Dark Sky initiative Ada County restrictions.

Typical Street Sections
The planned community will provide typical street section diagrams to guide planning for community typology and parking.

Typical Developed Amenities
The planned community will provide architectural renderings or imagery to guide planning for recreational structures.

[13] (Ma, n.d.) The Brokery Image Reference
[14] (County, Title 8-Ada County Zoning Code, 2000) Ada County Code section 8-3N-9 Open Space

Chapter 2: Community Connections

Goal and Policies for Community Connections

We have evaluated existing trail systems, although sparsely available. The development team has made efforts to contact neighboring landowners, Avimor Planned Community and Ridge to Rivers to understand future trails mapping. Ridge to Rivers does not currently consider the Shadow Valley Planned Community land mass as in their current area of management. Avimor does not yet have a trail master plan that has been published. The Shadow Valley development team is working to understand trail connectivity when possible. The planned community process requests review of established recreational opportunities within a one-mile radius of the project area. Unfortunately, within a one-mile radius of the project area, the only recreational opportunity is the Shadow Valley Golf Course and one unimproved/informal multi-use trail called the 'Red Tail Trail' according to online mountain bike mapping available through MTB Project.

Currently, there also is not connectivity to or through the undeveloped east and west parcels for walking or mountain biking without trespassing on private land or walking down the existing rural road section 'Broken Horn Road'.

Shadow Valley Planned Community development will provide much needed connectivity to existing home sites through the planned community, infilling undeveloped remnant ranch land with housing and right of way improvements that include improved sidewalks and a natural 'unimproved' foothills trail systems within Natural Open Space zones for recreationalists.

Isolated Connectivity

Provide safe and walkable options for connectivity between residential and community amenities and open space individually defined by east and west subdivisions.

Meeting the needs of vehicles

Provide ample community parking spaces at amenity areas and on-street parking at the east subdivision. Provide electrical vehicle charging at specific community amenity locations if possible.

Meeting the needs of bicycles

Provide bikeways primarily in the east subdivisions according to ACHD policy manual street typology. If possible, also provide natural open space mountain biking opportunities.

Meeting the needs of transit

Currently, Valley Regional Transit does not serve the Shadow Valley Planned Community region. If needed in the future, the planned community can provide a bus stop in the civic space, co-located with Ada County Sheriff Remote Office and the Ada County Library book drop location.

Meeting the needs of remote workers

Housing product types as a baseline will provide broadband internet access for remote workers and in many cases, houses will provide a multitude of varying in-home office options for post-pandemic shifts to hybrid or full-time remote work.

Roadway Design

Golf Course Estates East Subdivision

The east zone will provide a connection Spring Creek Way north/south to Brookside Lane. A local street section designed to Ada County Highway District Policy Manual will be provided and the street will be maintained as a 'Private' street by the Shadow Valley Municipal Association, assumed to be called Spring Creek Lane. Additional local streets will spur off from Spring Creek Lane also designed as ACHD local streets. The east zone will provide detached sidewalks and on-street parking. Detached sidewalks will provide connectivity to community amenity areas which will also co-locate with a school bus stop location and turn-out lane for school bus loading and unloading.

Foothills Estates West Subdivision

The west side of the community will receive a rural local street designed to Ada County Highway District policy manual standard and extend the typical roadway section provided at N High Valley Way up into the new subdivision. Adequate space will be provided for future roadway at the 'Collector' identified location through the west one in the ACHD future roadway map. Where functional the addition of an asphalt pathway extension will be provided on the rural section to allow walkability to community amenities whenever feasible given topographical constraints given the unique foothills character of the planned community location. The community amenity area will also co-locate a school bus stop location with an attached sidewalk and turn-out lane for school bus loading and unloading.

Pedestrian and Bicycle Pathways & Connected Open Space

Shadow Valley will include a network of safe community pathways. Open space corridors and unimproved natural pathways providing access to neighborhood and community amenity areas, developed and natural open space within a short walking distance from every lot.

Open Space Management

With the exception of sites controlled by Stone Crossing, Shadow Valley Golf Course and civic partners, the developed open space, natural open space areas, pathways and other amenities within the Shadow Valley Development will be owned and maintained by a community association in compliance with the open space standards defined in the Specific Plan and Ada County code. All lot owners will be members of their corresponding association and will be subject to assessments to fund related maintenance responsibilities and other operations. The community association may also have maintenance responsibility for landscaping within ACHD rights of way pursuant to a license agreement.

Utilities

Water

Shadow Valley Planned Community will provide Private Municipal Potable Water to the entire residential housing development and also the Shadow Valley Golf Course Neighborhood Commercial Zone and Civic Zone.
Reference: HDR Water Facility Plan, dated 08/02/2024

Electricity & Telecommunications

Preliminary development scoping is underway by Idaho Power Company. A 'Will Serve' letter has been provided to Shadow Valley Planned Community. The development team is working with Idaho Power Company to ensure that power capacity needs are met in all areas of the development including Residential, Neighborhood Commercial and Civic Zones. With mainline power extensions, telecommunications and broadband connectivity will be provided via joint trench coordination. Duplicity of at least two broadband providers is anticipated.
Reference: Idaho Power Will Serve, dated 6/11/2024

Gas

Mainline natural gas service is intended to feed Residential, Neighborhood Commercial and Civic Zone fireplaces, hot water, furnaces and appliances. The Foothills Estate West Subdivision will be fed by 4-inch plastic mainline extension via North High Valley Way. The Golf Course Estates East Subdivision will be fed by 8-inch steel mainline extension via West Brookside Lane.
Reference: Intermountain Gas Mapping, dated 3/2/2024

Wastewater

The approach to wastewater management is split into two different service types for the east and west subdivisions. The Foothills Estates West Subdivision will be served by Individual residential septic systems, with compliance overseen by the Central District Health Department.

The Golf Course Estates East Subdivision will be served by a community wastewater treatment facility (WWTP) connected to gravity sanitary sewer mainline extensions to Residential Housing Zones. The WWTP will also provide much needed sanitary sewer to the Neighborhood Commercial Zone-Stone Crossing Event Center and the Civic Zone.
Reference: Keller & Associates Wastewater Treatment Facility Plan, dated 11/01/2024

Pressurized Irrigation & Water Reuse

There are two approaches to pressurized irrigation. The West Foothills Subdivision will utilize well ground-sourced irrigation for landscape irrigation needs. The Golf Course Estates East Subdivision is planned to rely on Type 2 water reuse from wastewater treatment for pressurized irrigation to support irrigation landscape areas wherever possible.

Implementation Strategies

Implementation strategies will include phasing extension of mainline utilities and municipal infrastructure after initial comprehensive plan agency public hearings and approvals through the implementation planning phase.

Chapter 3: Coordinated Growth

Shadow Valley Planned Community is a 'partner' planned community within unincorporated Ada County. Therefore, it is essential that the community remains in coordination of Ada County by support of common goals and policies outlined in the Ada County 2025 Comprehensive Plan.

Coordinated Growth Comprehensive Plan Alignment

4.5a-Cross-section standards. Work with ACHD and local jurisdictions to develop, implement, and apply street cross-sectional standards that convey existing and projected traffic in accordance with established levels-of-service while promoting safety for all modes, integrating the street design with adjacent land uses and improving visual appearance.

Shadow Valley Planned Community will provide street sections designed to ACHD Policy Manual Specifications and Guidelines, connecting to and extending existing ROW to new ROW and private streets to convey existing and projected traffic in accordance with ACHD established level-of-service while promoting safety for all modes of transportation.

4.5b-Corridor preservation. Work with ACHD, ITD, and COMPASS to identify major transportation corridors (existing or new) and preserve them for future needs.

Shadow Valley Planned Community will work with ACHD, ITD, and COMPASS to identify major transportation corridors (existing or new) and preserve them for future needs. Future corridors within the Shadow Valley Development include ITD Highway-55, ACHD Master Street Map identified future connection 'West Woods Gulch Road' and the 'North Spring Creek Lane' connection.

4.6b-Transportation improvements. Transportation improvements, such as streets, curbs, gutters, or drainage, if required, must be approved by and meet the standards of ACHD and/or ITD (as applicable). Such improvements should be funded by the developer.

Shadow Valley Planned Community will provide transportation improvements within the planned community, such as streets, curbs, gutters, or drainage designed to meet the governing authorities jurisdictional standards and paid for by the developer.

4.7a-Pedestrian and bicycle pathways. Support creation of a safe network of pedestrian, equestrian, and bicycle pathways and trailheads to provide connections within neighborhoods, and between parks, schools, open spaces, commercial areas, and transit facilities.

Shadow Valley Planned Community will support creation of a safe network of pathways and trailheads to provide connection within neighborhoods, and between parks, open spaces, neighborhood commercial areas, future transit facilities, civic facilities and other neighboring planned communities.

Transportation

In coordination with Idaho Transportation Department and Ada County Highway District, Kittelson & Associates Transportation Engineers completed a traffic impact study to outline off-site roadway improvements required by agencies to support planned community development. Anticipated improvements defined by preliminary traffic impact study include the following which also predominantly anticipates other neighboring planned community off-site improvements forthcoming.

Dry Creek / SH 55 Intersection

Intersection doesn't meet standards in existing conditions.

Dry Creek Ranch development is conditioned to construct a signalized Green-T at this intersection, which would mitigate the intersection.

Brookside / SH 55 Intersection

Intersection doesn't meet standards in 2030 background (without the Shadow Valley PC Development)

ITD has plans to widen SH-55 southbound with a two (2) through lane configuration, which will be constructed as part of the ultimate configuration of the Green-T intersection at Dy Creek Road/SH-55. This would mitigate this intersection.

Spring Creek / SH 55 Intersection

Intersection is well under capacity but has a high delay (LOS E/F) in 2030 background (without the Shadow Valley PC Development). Constructing a two-way left-turn lane would allow a two-stage left turn onto SH-55, which would mitigate this intersection.

Ada County Development Services

Shadow Valley Planned Community endeavors to be a partner to Ada County Development Services. Through clear communication and coordination with agency staff, Shadow Valley planned Community will achieve alignment with the Ada County Comprehensive Plan (2025) and agency vision and goals for growth in unincorporated Ada County. The Shadow Valley Team completed a transportation scoping session and provided scoping session in coordination with representatives of Ada County Development services, transportation and service providers. The development team continues to receive written, in person and in writing input from agency partners and continues to incorporate input into the Shadow Valley Planned Community.

Schools | West Ada School District

Shadow Valley and the West Ada School District reviewed the school district's ability to serve the 'North Region' of the school district where the planned community is located. There is currently school capacity in the north region as well as new schools actively planned for in neighboring planned community decisions. Early conversations with West Ada School District indicated the need for a remote school bus parking facility and Shadow Valley has identified a civic parcel as the future bus parking location for the school district to support bus transport of students to neighboring school locations.

Places of Worship

There is no religious venue currently identified within the Shadow Valley Planned Community. There is ample community meeting space and access to outdoor meditation spaces within the planned communities west and east subdivisions. If an organization speaks out desiring a place of worship within the planned community, the development team will consider such a request.

Emergency Services

Emergency Services for Shadow Valley Planned Community will include Ada County Sheriff's Department law enforcement with a remote sheriff's office located in the identified Civic Zone. Through a written agreement, fire protection services will be provided by Eagle Fire District serving the community. The Development Team is currently working on a secondary fire access route to the community's Foothills West Subdivision through partnership with neighboring landowners. Paramedic Services and Advanced Life Support Services will be provided by Ada County Paramedics (EMS & ALS).
The development team is actively working with neighboring landowners to provide a secondary emergency services access to the Foothills Estates West Subdivision.

Ada County Weed & Pest Control

Shadow Valley Planned Community will provide weed and pest control through Homeowner's Association Maintenance, Operations and Municipal Association Agreements and as defined in Covenants, Conditions, and Restrictions (CCR's). Weed and pest control management policies within HOA and CCR's will provide detailed sequence for weed and pest mitigation, corresponding to policy outlined by Ada County Weed & Pest Control Staff.

(BLM) Bureau of Land Management

The Shadow Valley Planned Community does not propose connection to or right of way through Bureau of Land Management land at this time. There is one Bureau of Land Management parcel adjacent to the planned community with extreme steep slopes, located between the planned community and ITD SH-55. Given the highway corridor and the slopes, the Development Team does not see any planning benefit to draw community members to the BLM parcel, given steep slopes at that parcel boundary.

(COMPASS) Community Planning Association of Southwest Idaho

COMPASS serves as the metropolitan planning organization, or MPO, for Ada and Canyon Counties. An MPO is a regional planning entity for transportation planning and distribution of federal transportation funds for designated urbanized areas. All urbanized areas over 50,000 in population must have an MPO if local or state transportation agencies spend federal money on transportation improvements. The development team is working with COMPASS to ensure that ITD and ACHD recommendations for roadway improvements are coordinated and that all other transportation related items are understood by COMPASS for future planning.

Annexations

Shadow Valley Planned Community will have municipal facilities for potable water and wastewater treatment and reuse, therefore, surrounding landowners may want to and may have the opportunity to annex into the Shadow Valley Municipal Association for water, wastewater or other maintenance services. The Development Team will consider annexations to meet Ada County 2025 Comprehensive Plan Policy 5.7b that calls for coordinated planning to help ensure that wastewater

treatment and collection facilities can be provided cost effectively and efficiently over the long term (beyond 20 years) as areas outside of Areas of City Impact are urbanized.
If property owners petition to annex into the Shadow Valley Planned Community, the annexation proposals must prove alignment with the Shadow Valley Sub-Area Comprehensive Plan. Prior to seeking approval from Ada County, requests or petitions to annex will first be evaluated by the Shadow Valley Planned Community Municipal Association to consider the functional and fiscal viability of providing service. The petitioning property owners must demonstrate that the annexation will not place additional financial burdens on current and future residents and business owners within the initial planned community boundaries.

Goals and Policies for Coordinated Growth

Goal: Provide community development matching the size and scale of the need assessed through market analysis to support growth in southern Idaho and unincorporated Ada County and provide recreational support around the Shadow Valley Golf Course and the sub-area region.

Coordinated Policy 1: The Development team will provide a civic zone for the shared use of Ada County Sheriff's remote office location, West Ada School District Bus Parking and Storage Location, and a shared use Ada County Library Drop Box.
Coordinated Policy 2: Improve access to developed and natural open space in unincorporated Ada County around the area of the Shadow Valley Golf Course.
Coordinated Policy 3: In coordination with ACHD, provide connectivity through Shadow Valley Planned Community Golf Course Estates East Subdivision to provide enhanced roadway and pedestrian connectivity in between adjacent subdivisions and planned communities.
Coordinated Policy 4: Coordinate with law enforcement and emergency service providers (fire and paramedics) to meet the needs of the Shadow Valley Planned Community.[15]
Coordinated Policy 5: Provide future corridor space for the Shadow Valley Planned Community and through the Shadow Valley Planned Community Foothills Estates West Subdivision at the future 'W Woods Gulch' roadway location.[16]

Shadow Valley is a planned community amongst other larger planned communities. The proximity to other planned communities is easily visible when viewing the location from the one-mile radius Urban Public Services Map on the next page. Given size and scale of the Shadow Valley Planned Community and its infill nature, it is critical for Shadow Valley to support the sub-region by providing solutions that other planned communities cannot and also avoid providing services that are not needed given planning considerations that have already occurred in the area.

[15] (Canning, 2022) Growth Policy adopted from Spring Rock Planned Community Coordinated Growth Plan, September 2022.
[16] (Team, 2024) Shadow Valley Planned Community Land Use Plan, December 2024

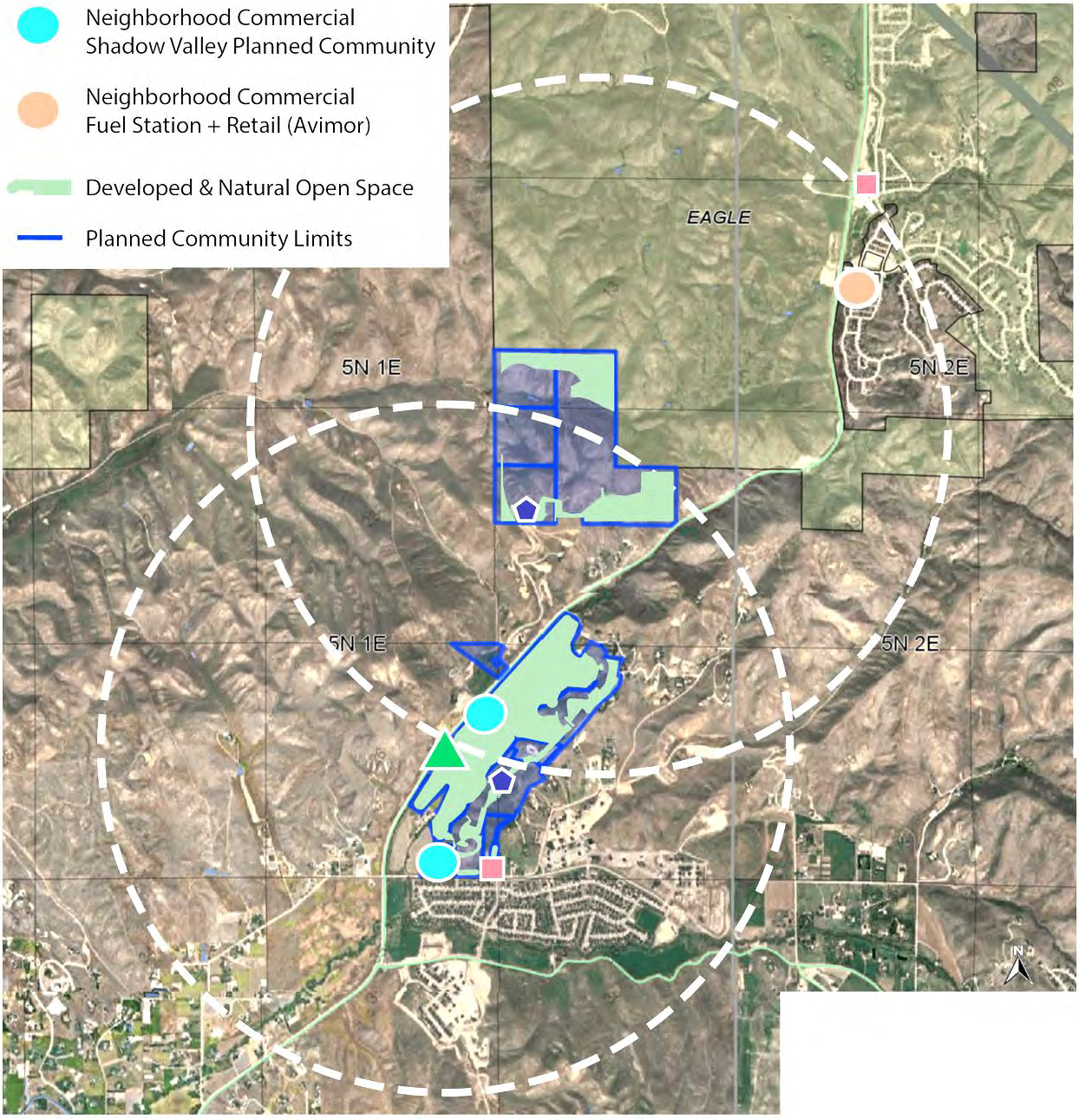
Shadow Valley Planned Community - Urban Public Services Map

Legend:

- Potable Water
  (Symbol does indicate well location)
- Wastewater Treatment
- Civic Zone
- Neighborhood Commercial
  Shadow Valley Planned Community
- Neighborhood Commercial
  Fuel Station + Retail (Avimor)
- Developed & Natural Open Space
- Planned Community Limits

1 to 5-Mile Distance:

Hidden Springs Library: 3.8 miles, 7 minutes
Eagle Fire Station #2 (Floating Feather): 3.4 miles, 5 minutes
Treasure Valley Chevron: 2.3 miles, 3 minutes



Chapter 4: Sustainable Practices & Resiliency

Ada County 2025 Comprehensive Plan— Sustainable Practices & Resiliency

Affordable Housing

The Ada County 2025 Comprehensive Plan defines 'Affordable Housing' as "housing units that do not cost more than 30% of a family's household income for families that earn 80% or less than the Boise Metropolitan Statistical Area median income." Given the following constraints, the THK Associates Residential and Retail Market Analysis did not identify the Shadow Valley Planned Community as an ideal location for 'Affordable Housing':

1. Topographical/steep slope constraints.
2. Geographical constraints against existing operating Neighborhood Commercial Uses and Developed Open Space. The Shadow Valley Planned Community is meeting needs and providing new amenities among other existing land uses that must be considered.
3. Inconsistent land uses: Shadow Valley Planned Community provides infill development where the new planned community should provide commensurate product type to existing residential subdivision developments.
4. Overall small scale of the planned community and total units based on the above list factors 1 and 2.
5. Distance to 'downtown' employment cores.
6. Lack of Valley Regional Transit or alternative transit service options.

Shadow Valley Planned Community will provide a denser housing option within the east subdivision where an attached townhome 'duplex' style unit is planned.
Shadow Valley Planned Community will also have provisions within Homeowners Association CCR's allowing for renting of residential units within all areas of the community.

Broadband Services

Shadow Valley Planned Community telecommunications extensions will provide 'Broadband' highspeed and high-bandwidth infrastructure to the planned community. Through early coordination will Idaho Power and per the terms outlined in Idaho State Statute, any provider of telecommunications services is allowed in joint utility extensions within right of way. At this time two providers; Sparklight and CTC Telecommunications provide services in the planned community area of unincorporated Ada County.

Smart Technology

Smart technology includes devices and systems that leverage advanced tech like AI, sensors, and internet connectivity to automate and improve tasks. These devices can interact with other connected devices, enabling remote control and adaptive features. Examples are smart home gadgets (such as thermostats and security cameras), smart vehicles, wearable technology, and smart health devices.
Shadow Valley Planned Community plans for smart technology through housing product solutions such as smart thermostats, media connectivity with options of smarthub technology, options for electric vehicle charging within residential units and WIFI Smarthub connectivity at community centers and amenities.

Electric Vehicle Charging & Solar

As mentioned above, through residential product offerings with sufficient electrical capacity, solar ready options and/or electrical vehicle charging will be available at home sites.
Public electrical vehicle charging may be available at community amenity areas in partnership with Smarthub WIFI service. The operation, maintenance and service of electric vehicle charging will likely be outsourced to a private provider.

Wastewater Treatment

The Golf Course Estates East Subdivision will be served by a community wastewater treatment facility (WWTP) connected to gravity sanitary sewer mainline extensions to Residential Housing Zones. The WWTP will also provide much needed sanitary sewer to the Neighborhood Commercial Zone-Stone Crossing Event Center and the Civic Zone.

Pressurized Irrigation & Water Reuse

The Golf Course Estates East Subdivision is planned to rely on Type 2 water reuse from wastewater treatment for pressurized irrigation to support irrigation landscape areas wherever possible.

Landscaping

Shadow Valley Planned Community will establish and encourage native dryland landscaping design methodology and also provide native 'Natural Open Space' areas with trail systems providing non-irrigated and preserved rangeland.

Sustainable Practice & Resiliency Goal

Sustainable Goal: Develop a community that fosters both active and passive recreational lifestyles through thoughtful housing and community design, providing extensive recreational access, promoting healthy, active living while investing in advanced water and wastewater management practices to preserve natural resources in the community.

Housing

Provide a variety of housing options. Ensure that renting is a viable option throughout the community without restrictions minimizing housing options of individuals not seeking or able to purchase single family homes.

Future Transportation Options

Provide a future transportation bus stop location at the civic zone.

Potable Water & Water Reuse

Provide water conserving fixtures with housing product units and provide water reuse whenever possible for pressurized irrigation.

Wildfire

Provide Firewise landscaping, improve wild fire protection by adding municipal water service and hydrants and provide effective wildland urban interface at the planned community developed perimeters.

Private Property Rights

Provide a friendly community that fosters private property rights honoring Idaho State Statute, while promoting the above referenced items as keys to resiliency.

Chapter 5: Idaho Code Minimum Plan Standards

Idaho Code §67-6508 sets minimum standards for writing comprehensive plans to guide growth and development.[17] Demonstration that minimum standards are met in the Sub-Area Comprehensive Plan are below:

AGRICULTURE
Chapter 1 Community Land Uses – Natural Features

COMMUNITY DESIGN
Chapter 1 Community Land Uses – Proposed Land Uses, Goals and Policies
Chapter 2 Community Connections–Goals and Policies
Chapter 4 Sustainable Practices & Resiliency – Goals and Policies

ECONOMIC DEVELOPMENT
Chapter 1 Community Land Uses – Proposed Land Uses
Chapter 4 Sustainable Practices & Resiliency– Smart Technology, Electric Vehicle Charging

HAZARDOUS AREAS
Chapter 1 Community Land Uses – Natural Hazards
Chapter 4 Sustainable Practices & Resiliency

HOUSING
Chapter 1 Community Land Uses – Urban Village, Residential Homes, Townhomes, Apartment Housing, Goals and Policies
Chapter 4 Sustainable Practices & Resiliency – Affordable Housing, Goals and Policies

LAND USE
Chapter 1 Community Land Uses – Proposed Land Uses
Chapter 3 Coordinated Growth

NATURAL RESOURCES
Chapter 1 Community Land Uses – Natural Features
Chapter 4 Sustainable Practices & Resiliency –Goals and Policies

NATIONAL INTEREST ELECTRIC TRANSMISSION CORRIDORS Not applicable

[17] (Canning, 2022)

PUBLIC AIRPORT FACILITIES Not applicable

POPULATION
Chapter 1 Community Land Uses – Demographic Analysis of Area, Land Use Summary Table
Chapter 4 Sustainable Practices & Resiliency – Affordable Housing

PRIVATE PROPERTY RIGHTS
Chapter 4 Sustainable Practices & Resiliency – Goals and Policies

PUBLIC SERVICES, FACILITIES, AND UTILITIES
Chapter 1 Community Land Uses – Semi-Public Spaces
Chapter 2 Community Connections– Utilities and Services
Chapter 3 Coordinated Growth
Chapter 4 Sustainable Practices & Resiliency – Broadband Services, Wastewater Treatment, Water Supply, Goals and Policies

SCHOOL FACILITIES AND TRANSPORTATION
Chapter 3 Coordinated Growth – West Ada School District

SPECIAL AREAS OR SITES
Chapter 1 Community Land Uses – Historic Resources

TRANSPORTATION
Chapter 2 Community Connections – Roadway Design
Chapter 3 Coordinated Growth – Ada County Highway District
Chapter 4 Sustainable Practices & Resiliency – Smart Technology, Trip Capture, Electric Vehicle Charging, and Future Transportation Options

Sources

1. Ada County 2025 Comprehensive Plan, Ada County, Idaho, November 2016.
2. Ada County Long Range Highway & Street Map 2040 Functional Street Classification System, Ada County Highway District, August 19, 2020.
3. Department of Interior, Bureau of Land Management, Boise District, June 1983.
4. Livable Streets Performance Measures, Ada County Highway District, June 23, 2021.
5. Spring Rock Planned Community Sub-Area Comprehensive Plan #202202476-PC-CPA, dated September 30, 2022
6. Avimor Planned Community Sub-Area Comprehensive Plan
7. Dry Creek Planned Community Sub-Area Comprehensive Plan
8. Shadow Valley Planned Community THK Associates Residential and Retail Market Analysis, dated September 2024.
9. Shadow Valley Planned Community Urban Public & Additional Services Table
10. Shadow Valley Planned Community Keller & Associates Wastewater Treatment Facility Plan, dated 11/01/2024
11. Shadow Valley Planned Community HDR Water Facility Plan, dated 08/02/2024
12. Intermountain Gas Area Mapping, dated 3/2/2024
13. Shadow Valley Planned Community Idaho Power Will Serve, dated 6/11/2024
14. Shadow Valley Estates Wildfire Safety Plan, dated September 2024
15. West Ada School District Facility Plan Presentation, dated 2022
16. Shadow Valley Planned Community Kittelson Traffic Impact Study, dated 12/17/2024
17. Shadow Valley Planned Community Bowen Collins Environmental Wildlife Resource Inventory Draft
18. Shadow Valley Planned Community Idaho Fish & Game Letter, dated 09/01/2024
19. Shadow Valley Estates SHIPO Report-Frontier Historical Consultants, dated 08/11/2017

Works Cited

Ball, U. P. (2023). *USA Pickle Ball*. Retrieved from Annual Growth Report: https://usapickleball.org/about-us/organizational-docs/pickleball-annual-growth-report/#:~:text=Pickleball%20grew%20in%202023%20to%2013.6

Canning, A. B. (2022, September). Spring Rock Planned Community Sub-Area Comprehensive Plan. Ada County, Idaho.

County, A. (2000). Title 8-Ada County Zoning Code. In A. County, *Ada County Zoning Code* (pp. (Ord. 389, 6-14-2000)). Ada County: Ada County.

County, A. (2025). *Ada County Comprehensive Plan (2025).* Ada County: Ada County.

Digest, G. (2021, April 7). *Golf Digest News*. Retrieved from Golf Digest: https://www.golfdigest.com/story/national-golf-foundation-reports-numbers-for-2020-were-record-se

Images, I. b. (istockphoto). *Istock by Getty Images*. (1. 2. File ID: 1702025958, Producer, & Stock Photos) Retrieved 2024, from istockphoto: Istock by Getty Images

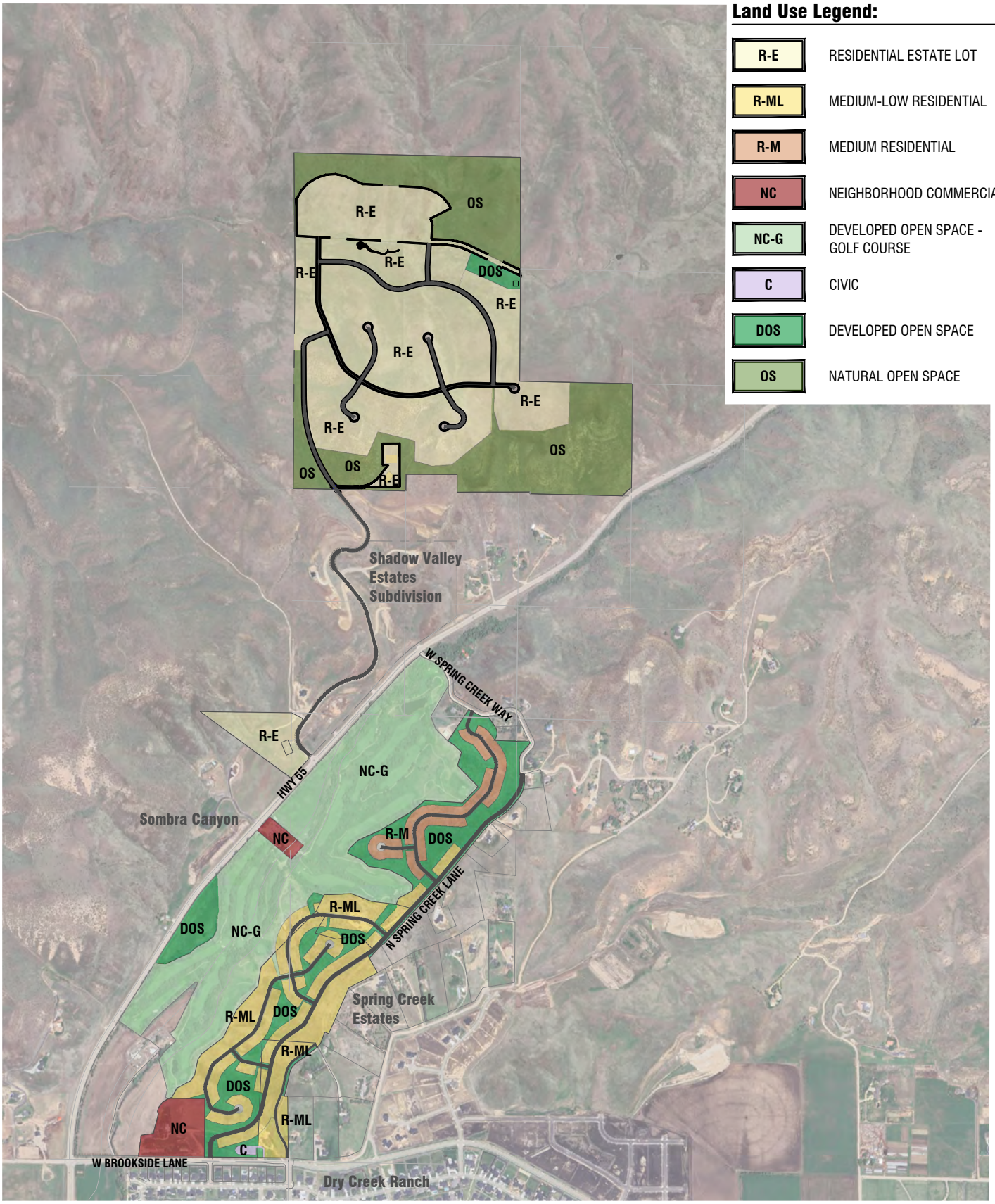
Ma, S. (n.d.). *Studio Ma Architecture*. Retrieved from https://studioma.com/projects/an-office-merged-with-a-community-hub/

Management, B. o. (unknown). *Bureau of Land Management Geology of Southwest Idaho.* Retrieved from Bureau of Land Management Publication Room: Ref: https://www.blm.gov/sites/blm.gov/files/documents/files/MediaCenter_PublicRoom_Idaho_Geology-of-%20SouthwestIdaho.pdf

McAdams, J. (2024). *Shadow Valley Planned Wildfire Safety Plan (East & West.* Boise: Jerry McAdams.

Planetizen. (2024, December). *Planopedia/definition/comprehensive-plans*. Retrieved from www.Planetizen.com: https://www.planetizen.com/definition/comprehensive-plans

Team, S. V. (2024, December). Shadow Valley Planned Community Land Use Plan. *Shadow Valley Planned Community Land Use Plan*. Ada County, Idaho.



Land Use Plan

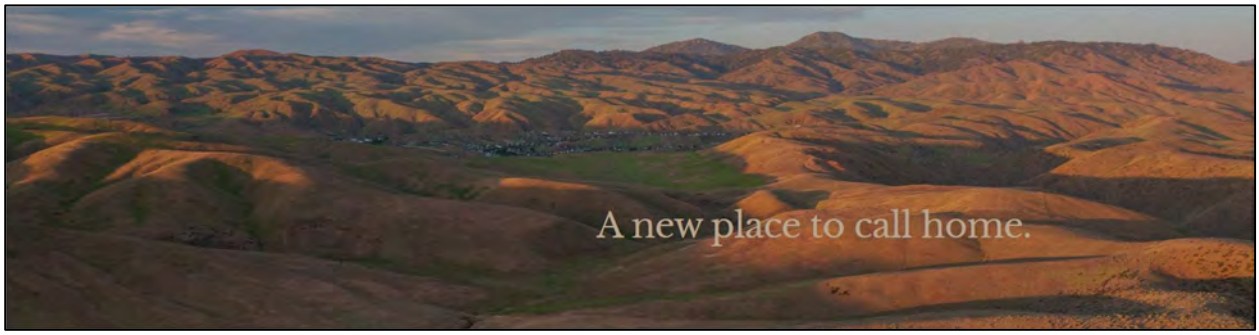
Horizontal Scale: 1" = 1600'

SHADOW VALLEY PLANNED COMMUNITY

Highway 55, ADA County, Idaho

File Location: g:\2020\120142\cad\120142 zoning plan.dwg
Last Plotted By: chad lorenzen
Date Plotted: Tuesday, March 4 2025 at 11:45 AM

Exhibit 10
Page 1 of 1
202402701-PC-CPA



Version: December 20, 2024, Planned Community Application Phase 1

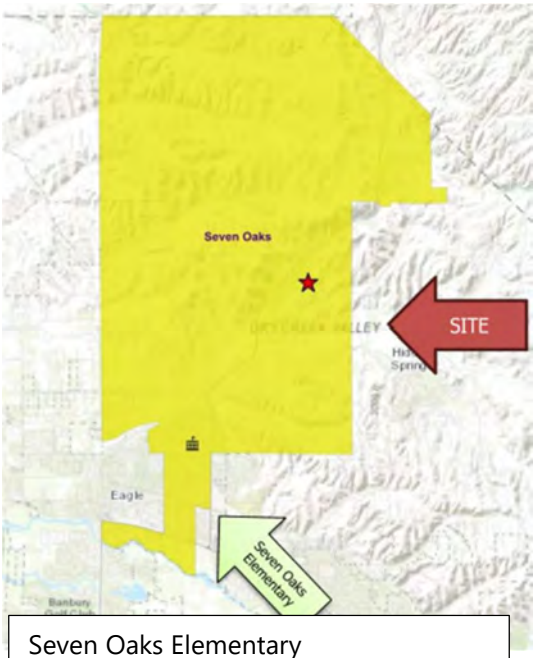
INTRODUCTION

Shadow Valley Planned Community is a 560-acre community envisioned as a small-scale but modern and efficient planned community located in unincorporated Ada County. This recreation-focused community is proposed to be home to a maximum of 395 housing units by 2034. As southern Idaho and specifically the Treasure Valley attracts new residents, the need for additional residential housing units increases. The community is ideally situated to allow access to the employment cores of the Treasure Valley while co-locating with other planned communities already underway to minimize public service impacts overall.

According to the THK Economic Analysis completed for the Shadow Valley Planned Community, only 12.4%; 109 of an anticipated 873 person population will be of school age by 2034[1]. These population numbers and demographic projects, based on early discussions with the school district, are not anticipated to impact school demand in the school district 'North Region' to a degree where an additional school site is required.

West Ada School District has indicated a need for bus parking facilities to bus students to the neighboring school sites in the north region. Shadow Valley Planned Community will provide bus parking facilities in the form of 0.36-acres of bus parking (assumed to park approximately 16 +/- school busses) co-located in a 'Civic Zone' with an Ada County Sheriff Remote Office location and a Ada County Library Book drop location.
The Shadow Valley development team will continue to reach out to West Ada School District to understand the district's evolving needs in the changing market.
Thank you,
Shadow Valley Development Team

[1] (Elzi, 2024)



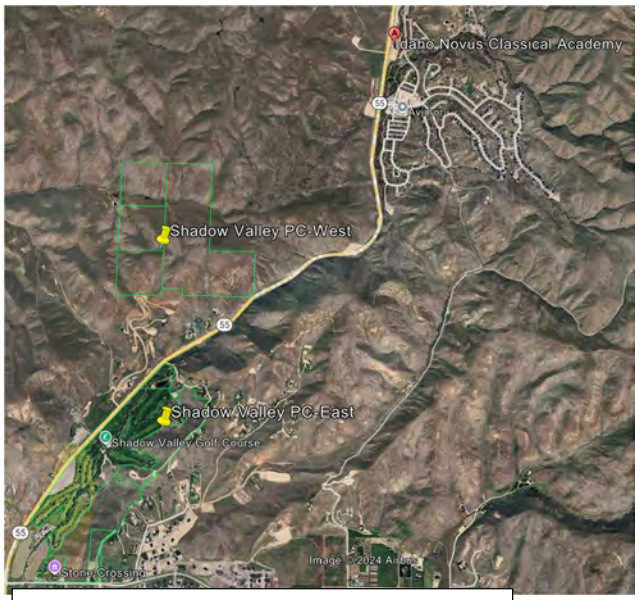
Seven Oaks Elementary



Eagle Middle School



Eagle High School



Idaho Novus Academy

WEST ADA SCHOOL DISTRICT SITES & BOUNDARIES

Shadow Valley Planned Community is located in the 'North Region' of the West Ada School District boundaries.[2] Through previously coordinated planned community applications, the school district is anticipating future school sites to support enrollment increases in the northern region, particularly by Avimor planned community and future school site: Idaho Novus Classical Academy[3] which is not addressed in the THK Economic reporting but has since opened within 1-mile of the Shadow Valley Planned Community location.

EXISTING SCHOOLS & CAPACITY

West Ada School District Facility Plan Presentation 2022 Data[4]

Seven Oaks Elementary

- Enrollment: 546
- Capacity: 675
- Projected students: 267
- Estimated to reach full capacity in 3 years

Eagle Middle School

- Enrollment: 878
- Capacity: 1000
- Projected students: 268

Eagle High School

- Enrollment: 1780
- Capacity: 1800
- Projected students: 1052

Identified Need

Elementary

Region	Schools Needed	Schools Planned	Sites owned
North	1.21	2	2
West	1.03	1	2
South	.93	1	2

Middle School

Region	Schools Needed	Sites owned
North	1	1
South	1	1

High School

Region	Schools Needed	Sites owned
North	1	1
South	1	1

Ref: West Ada School District Facility Plan Presentation illustrated an 'Identified Need' in 2022, where the school district identified future school sites (capacity) already planned for.[1]

Idaho Novus Classical Academy

INCA is a tuition-free K-6 public charter school coming to Avimor in August of 2024. They will provide an American classical education emphasizing virtuous living, traditional learning, and civic responsibility. Idaho Novus Classical Academy is governed by the board of American Classical Schools of Idaho (ACSI). ACSI is a new, non-profit charter support organization created to assist with the development of American classical schools in Idaho and form future citizens.

[2] (Marci Horner, 2022)
[3] (Idaho, n.d.)
[4] (Marci Horner, 2022)

[FUTURE] HIGH SCHOOL SITE

West Ada School District has indicated that a future high school site has been identified in the North Region to provide additional capacity able to support the Shadow Valley Planned Community and other planned communities.[5]

REMOTE LEARNING

Although remote learning can be a hard metric to identify in a future planned community, remote learning will be planned for via power and telecommunications infrastructure to the development, providing high speed internet service capable of supporting remote learning options.

Shadow Valley Planned Community telecommunications extensions will provide 'Broadband' highspeed and high-bandwidth infrastructure to the planned community. Through early coordination will Idaho Power and per the terms outlined in Idaho State Statute, any provider of telecommunications services is allowed in joint utility extensions within right of way. At this time two providers; Sparklight and CTC Telecommunications provide services in the planned community area of unincorporated Ada County.

SOURCES

Bureau of Economic Analysis-Outdoor Recreation Satellite Account. (2022). Retrieved from US Department of Commerce-Bureau of Economic Analysis: https://apps.bea.gov/data/special-topics/orsa/summary-sheets/ORSA%20-%20Idaho.pdf

County, A. (2016). *Ada County 2025 Comprehensive Plan.* Ada County: Ada County.

Elzi, P. (2024). *Shadow Valley Planned Community Economic Analysis Report.* Greenwood Village: THK & Associates Inc.

Idaho, A. C. (n.d.). *Idaho Novus Classical Acadmy Brochure*. Retrieved from Idaho Novus Classical Acadmy Brochure: https://s3.amazonaws.com/buildercloud/9d4d36547c340021e89ff9417cdae896.pdf

Images, I. b. (istockphoto). *Istock by Getty Images*. (1. 2. File ID: 1702025958, Producer, & Stock Photos) Retrieved 2024, from istockphoto: Istock by Getty Images

Marci Horner, P. a. (2022). *West Ada School District Facility Plan Presentation.* Meridian: West Ada School District.

[5] (Marci Horner, 2022)

Residential and Retail Market Analysis



Shadow Valley
Ada County, Idaho

September 4, 2024

Prepared For:
Kine and Kine Properties

HK associates, inc

Economic & Market Research / Land & Development Planning
Landscape Architecture / Community Planning & Design
Golf Feasibility Analysis

TABLE OF CONTENTS

Executive Summary 2

I. Introduction 2

II. Site Description 4

III. Seven-County Economic Base Analysis 13

A. Employment 13

B. Boise Seven-County Market Area Top Employers by County 18

C. Personal Income 23

D. Population and Households 25

E. Residential Construction Trends 28

F. Economic Base Conclusions 34

IV. Residential Market Analysis 37

A. Projected Residential Demand by Unit Type 37

B. Residential Purchasing Capacity, Rental Capacity and Demand by Price Range 42

C. Home Sales in Dry Creek, Avimor, and Cartwright Ranch 43

D. Locationally and Conceptually Competitive Planned Communities in the Boise Regional Environs 46

E. Single Family Detached Residential Potentials on the Shadow Valley Property 48

V. School Enrollment, School Facilities and Transportation Analysis 51

A. General Information 51

B. Potential West Ada School District Enrollment Generated by the Shadow Valley Planned Development 57

C. Potential West Ada School District Facility Needs within the Shadow Valley Planned Development 64

D. Potential West Ada School District Transportation Needs Generated from the Shadow Valley Planned Development 64

VI. RETAIL MARKET ANALYSIS 66

A. Seven-County Market Area, Ada-County Market Area and The Shadow Valley Retail PTA Retail Characteristics 66

B. Shadow Valley Retail Primary Trade Area Household Growth Trends 72

C. Traffic Counts in the Shadow Valley Retail PTA 74

D. Commercial/Retail Purchasing Potential of the Shadow Valley Retail Site Environs Households 75

E. Commercial/Retail and Development Trends 77

F. Estimates for Commercial/Retail Space Demand by Store Type 79

G. Commercial/Retail Establishment within the Shadow Valley Retail PTA 81

H. Additional Commercial/Retail Square Footage Demand within the Shadow Valley Retail PTA 84

I. Commercial/retail square footage demand at Shadow Valley Retail Site 86

J. Commercial/retail Space Recommendations at the Shadow Valley Retail Subject Site 88

VII. RECOMMENDED LAND USE PLAN 90

VIII. FISCAL IMPACT ANALYSIS 92

A. Taxing Authorities and Mill Levies 92

B. Property Taxes 93

C. Retain Shadow Valley Golf Course and Stone Crossing Event Center 95

D. Employment and Wages 96

End of Report **97**

TABLE OF FIGURES

FIGURE 1- **SHADOW VALLEY REGIONAL LOCATION** 5
FIGURE 2- **SHADOW VALLEY SITE VICINITY** 6
FIGURE 3 – **SHADOW VALLEY SITE AERIAL** 7
FIGURE 4- **SHADOW VALLEY DEVELOPMENT AREA MAP** 8
FIGURE 5- **SHADOW VALLEY SITE PHOTOGRAPHS** 9
FIGURE 6- **SEVEN COUNTY MARKET AREA** 35
FIGURE 7- **SHADOW VALLEY RESIDENTIAL PTA** 40
FIGURE 8- **SHADOW VALLEY ONE MILE RADIUS EXISTING SCHOOL INVENTORY** 52
FIGURE 9- **WEST ADA SCHOOL DISTRICT BOUNDARY MAP** 53
FIGURE 10- **SHADOW VALLEY SUBJECT SITE - ELEMENTARY SCHOOL BOUNDARY** 54
FIGURE 11- **SHADOW VALLEY SUBJECT SITE - MIDDLE SCHOOL BOUNDARY** 55
FIGURE 12- **SHADOW VALLEY SUBJECT SITE - HIGH SCHOOL BOUNDARY** 56
FIGURE 13- **SHADOW VALLEY RETAIL PRIMARY TRADE AREA (PTA)** 67

EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

In the following market analysis, THK Associates, Inc. has been able to provide recommendations and projections for the Shadow Valley property, as well as determined the demand for residential and retail/commercial development on the site.

Based on our physical inspection of the Shadow Valley site, and the subsequent market study findings, THK has developed the following recommendations. In addition, the findings from our analysis of the residential and retail/commercial markets have been summarized.

RECOMMENDED LAND USE PLAN

Based on our market research and projected absorption potentials at Shadow Valley the following table details our recommended land uses for the 560-acre site. Given the site location and competitive market THK recommends approximately 89 estate large lots be considered on 89 acres along with 255 low/medium density lots be considered on 63.9 acres. Based on this demand, and the entitlement and planning process there will be a range of lot sizes and prices that will comprise these 344 lots. Based on the market demand the Shadow Valley site could absorb these 344 lots in eight years, or by 2032.

While there is significant demand for an additional 88,657 square feet of retail space at the Shadow Valley subject site, tenant uses considered appropriate and compatible for the site would indicate that the site is best suited for an additional 21,000 square feet. This would nearly double the existing square footage of retail space at the Shadow Valley subject site.

Likely tenants that would be considered appropriate and compatible for the site would be additional restaurant space, specialty food, and spa, along with expanded restaurant, catering and banquet offerings at the already existing retail spaces.

Based upon THK's analyses, THK recommends that the Shadow Valley subject site encompass an additional 21,000 square feet of retail space, which THK projects the 21,000 square feet be fully absorbed by 2029. The retail/commercial space would encompass 12.7-acres of land.

Shadow Valley Recommended Land Use

Use/ Location	Lots/ Units	Density/ FAR	Sq.Ft.	Acres	Average Base Price	Average Total Price with Upgrade and Add On's
Foothills Estates West Zone						
Estate Lots (1-acre)	89	1	--	89.0	$2,500,000	$2,750,000
Golf Course Estates East Zone						
Low/Medium Density ($700,000-$799,999)	88	4	--	22.0	$750,000	$900,000
Low/Medium Density ($800,000-$999,999)	167	4	--	41.9	$899,999	$1,080,000
Residential Subtotal	**344**	**--**	**--**	**152.9**	**--**	
Retail/ Commercial						
Retail/ Commercial (New)	--	--	21,000	--	--	
Exisitng Shadow Valley Golf Course Club House	--	--	11,000	--	--	
Exisitng Stone Crossing Event Center	--	--	10,759	--	--	
Retail/ Commercial Subtotal	--	--	42,759	**12.7**	--	
Open Space/ Golf Course	--	--	--	353.8		
ROW	--	--	--	32.7		
TOTAL	**344**	**--**	**42,759**	**552.1**		

Source: Kine and Kine Properties and THK Associates, Inc.

I. INTRODUCTION

I. INTRODUCTION

The purpose of this market analysis has been to assess the potentials for residential and retail/commercial uses on the Shadow Valley site. To position the proposed residential and retail/commercial uses in the marketplace and at the subject site, THK has undertaken the following research:

- Prepared an economic base analysis of the surrounding Seven-County Boise market area (Ada, Boise, Canyon, Elmore, Gem, Owyhee, and Payette counties).
- Profiled submarkets within the regional environs including population and household growth, employment growth, income and age characteristics, permit data, housing supply, and other relevant statistics.
- Examined residential development and demand trends within the Shadow Valley Primary Trade Area and determined absorption and pricing potentials at the Shadow Valley site.
- Examined retail/commercial development and demand trends within the Shadow Valley Primary Trade Area and determined absorption potentials at the Shadow Valley site.
- Developed a recommended land use plan for residential and retail/commercial uses at the Shadow Valley site.
- Developed a fiscal impact assessment of projected revenues that will be realized by Ada County from the development of the Shadow Valley site at full build out.

II. SITE DESCRIPTION

II. SITE DESCRIPTION

The Shadow Valley property is an approximately 560-acre site that lies on the northern side of the greater Boise metro area. The site is nestled in the foothills that rise out of Boise. The site features grasslands, mature vegetation, rock outcroppings and expansive views. The land is quite suitable for the anticipated residential and retail uses as a portion of the site could yield excellent large lot parcels and the remainder could yield excellent low/medium density lot parcels. The subject site is adjacent to the Shadow Valley Golf Course, a 18 hole golf course with superb amenities. Additionally, the Stone Crossing Event Center is also adjacent to the subject property, offering a events ranging from corporate events to weddings. The Golf Course and Event Center will be included in the annexation along with the subject property. Despite the rural setting the subject is quickly accessed from downtown Boise (20 minutes) and other points nearby. The subject site is surrounded by the Shadow Valley Golf Course. Hiking trails and open space are in abundance in the area.

Regional area maps, aerials and site photographs are shown below and on the following pages.

Figure 1- Shadow Valley Regional Location

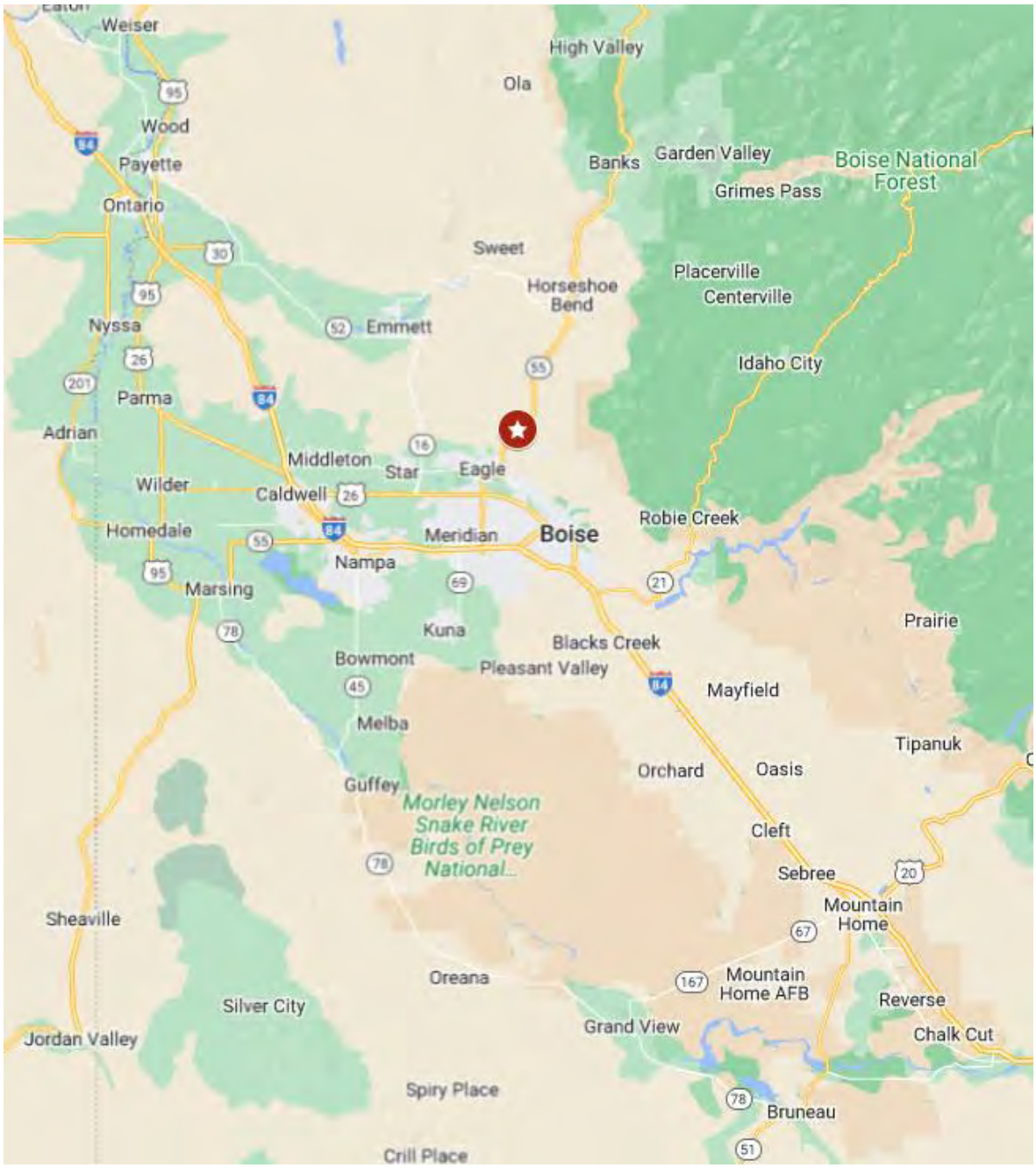


Figure 2- Shadow Valley Site Vicinity

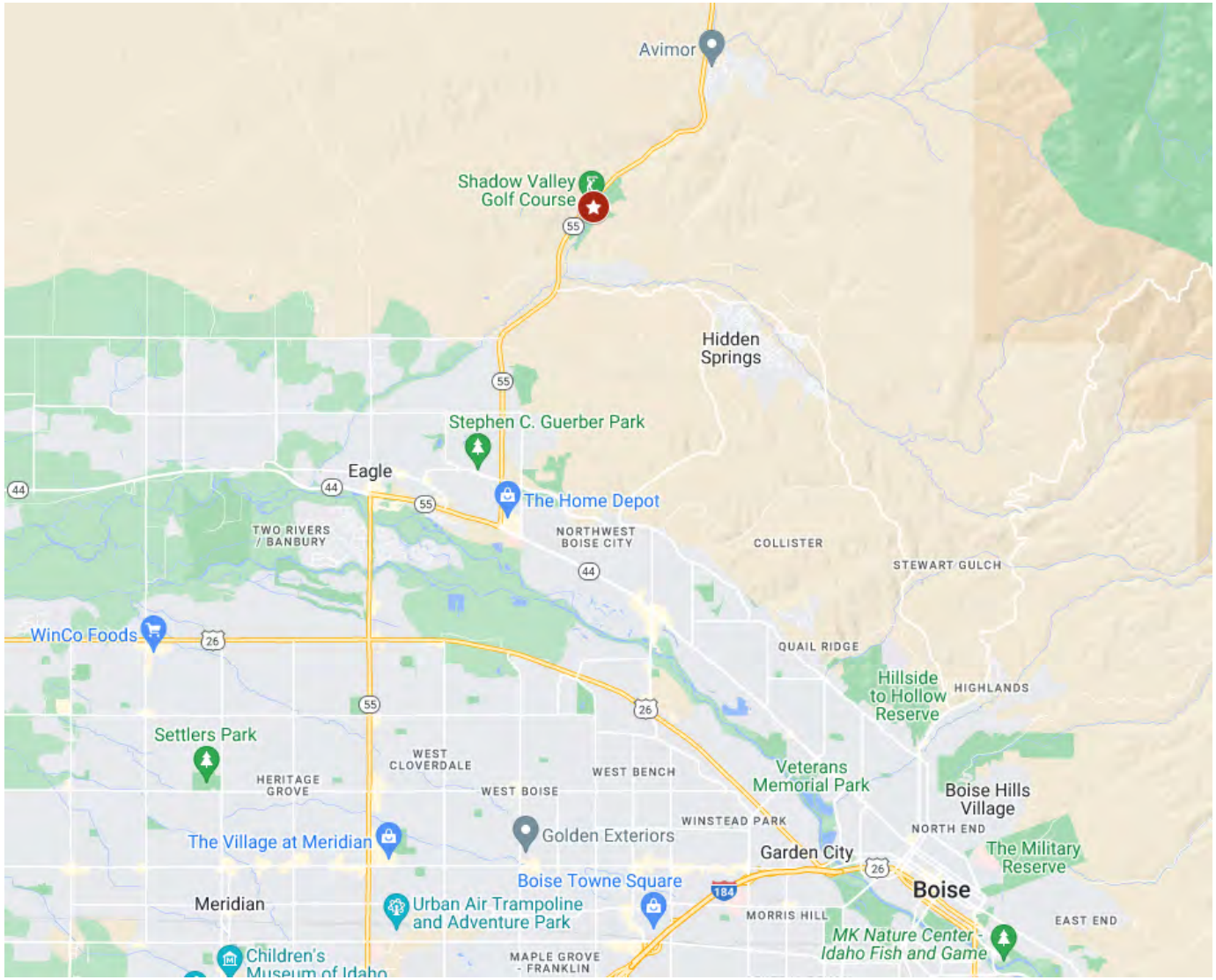


Figure 3 – Shadow Valley Site Aerial

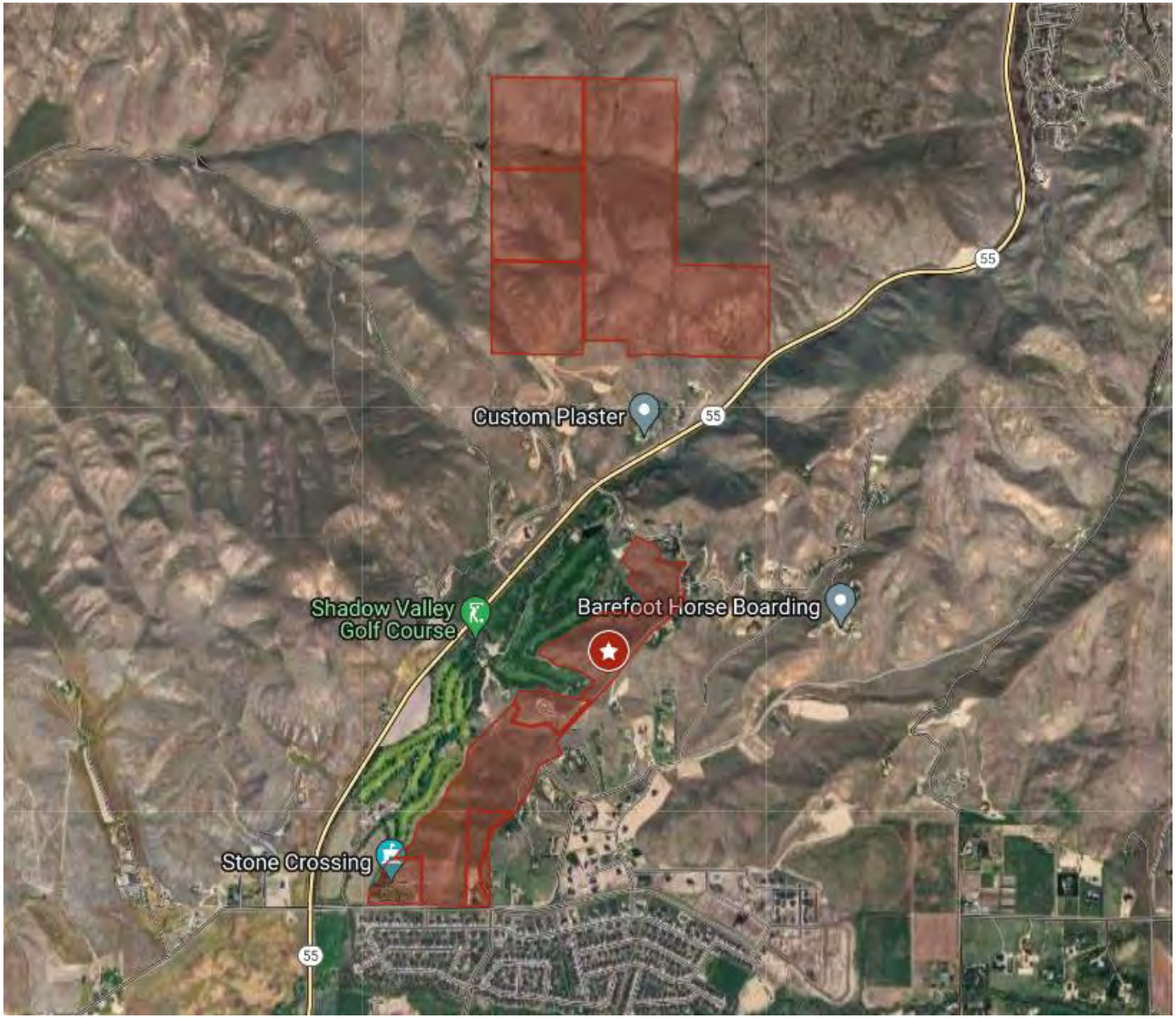


Figure 4- Shadow Valley Development Area Map

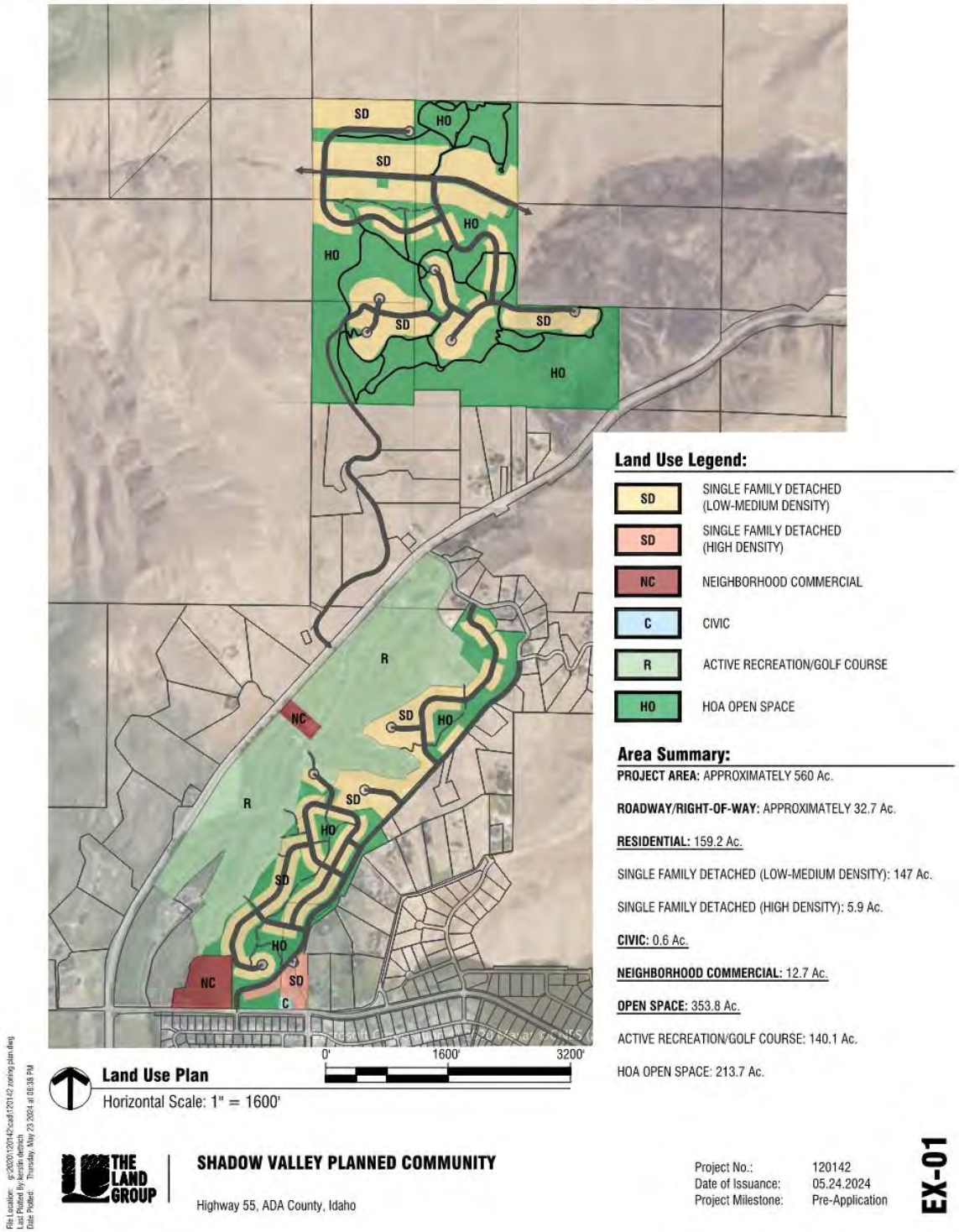


Figure 5- Shadow Valley Site Photographs













III. SEVEN-COUNTY ECONOMIC BASE ANALYSIS

III. SEVEN-COUNTY ECONOMIC BASE ANALYSIS

The following is an economic overview of the Boise seven-county market area consisting of Ada, Boise, Canyon, Elmore, Gem, Owyhee, and Payette counties. The subject site is in Ada County. The seven-county market area is illustrated in Figure 6.

A. EMPLOYMENT

Tables III-1 and III-2 illustrate employment trends in the seven-county area (the Boise Seven-County Market Area). Employment trends are prime indicators of the economic growth of an area. Increases in employment generate growth for most sectors of the local economy and dictate the rate at which it will expand. Total full- and part-time employment in the Boise seven-county area grew from 171,175 in 1980 to 588,930 in 2024, for an average annual increase of 9,494 jobs. Over the last decade, 17,724 jobs per year were added annually, for an average annual growth rate of 3.7%. Since 2014, employment levels have exceeded the pre-recession high mark in 2007 and appear poised to continue this current trend for the next several years. In 2007, the region had a total employment base of 409,961 workers. In 2010, the counties lost a total of 4,029 employees. However, this trend was reversed and in 2011 employment grew by 5,747 employees. Since 2021, the Counties have added 13,696 jobs per year on average, for an average annual growth rate of 3.7%, despite economic setback and job growth slowdown from COVID in 2020.

For the next ten years, the Boise seven-county area is projected to add 15,990 full- and part-time jobs per year on average. This growth will likely be fueled by Transportation and Warehousing, Professional Services and Real Estate. These projections are detailed in Table III-3.

Table III-1: Boise Seven County Market Area Employment Trends, 1980-2024

Year	Total Employment	Annual Change	
		Numerical	Percent
1980	171,175	5,855	4.3%
1981	169,094	-2,081	-1.2%
1982	168,033	-1,061	-0.6%
1983	171,690	3,657	2.2%
1984	176,833	5,143	3.0%
1985	179,015	2,182	1.2%
1986	181,085	2,070	1.2%
1987	186,579	5,494	3.0%
1988	196,208	9,629	5.2%
1989	204,984	8,776	4.5%
1990	213,691	8,707	4.2%
1991	221,500	7,809	3.7%
1992	231,251	9,751	4.4%
1993	244,673	13,422	5.8%
1994	261,226	16,553	6.8%
1995	271,772	10,546	4.0%
1996	282,354	10,582	3.9%
1997	294,362	12,008	4.3%
1998	308,154	13,792	4.7%
1999	316,304	8,150	2.6%
2000	333,387	17,083	5.4%
2001	339,945	6,558	2.0%
2002	342,123	2,178	0.6%
2003	346,009	3,886	1.1%
2004	357,672	11,663	3.4%
2005	375,831	18,159	5.1%
2006	397,638	21,807	5.8%
2007	409,961	12,323	3.1%
2008	404,088	-5,873	-1.4%
2009	383,395	-20,693	-5.1%
2010	379,366	-4,029	-1.1%
2011	385,113	5,747	1.5%
2012	389,875	4,762	1.2%
2013	400,771	10,896	2.8%
2014	411,687	10,916	2.7%
2015	424,213	12,526	3.0%
2016	439,815	15,602	3.7%
2017	456,966	17,151	3.9%
2018	478,828	21,862	4.8%
2019	494,131	15,303	3.2%
2020	503,313	9,182	1.9%
2021	534,238	30,925	6.1%
2022	561,538	27,300	5.1%
2023 Estimate	575,015	13,477	2.4%
2024 Estimate	588,930	13,915	2.4%
Annual Change			
1980-2024		9,494	2.9%
2014-2024		17,724	3.7%
2019-2024		21,404	3.9%
2021-2024		13,696	3.7%

Source: Bureau of Economic Analysis, and THK Associates, Inc.

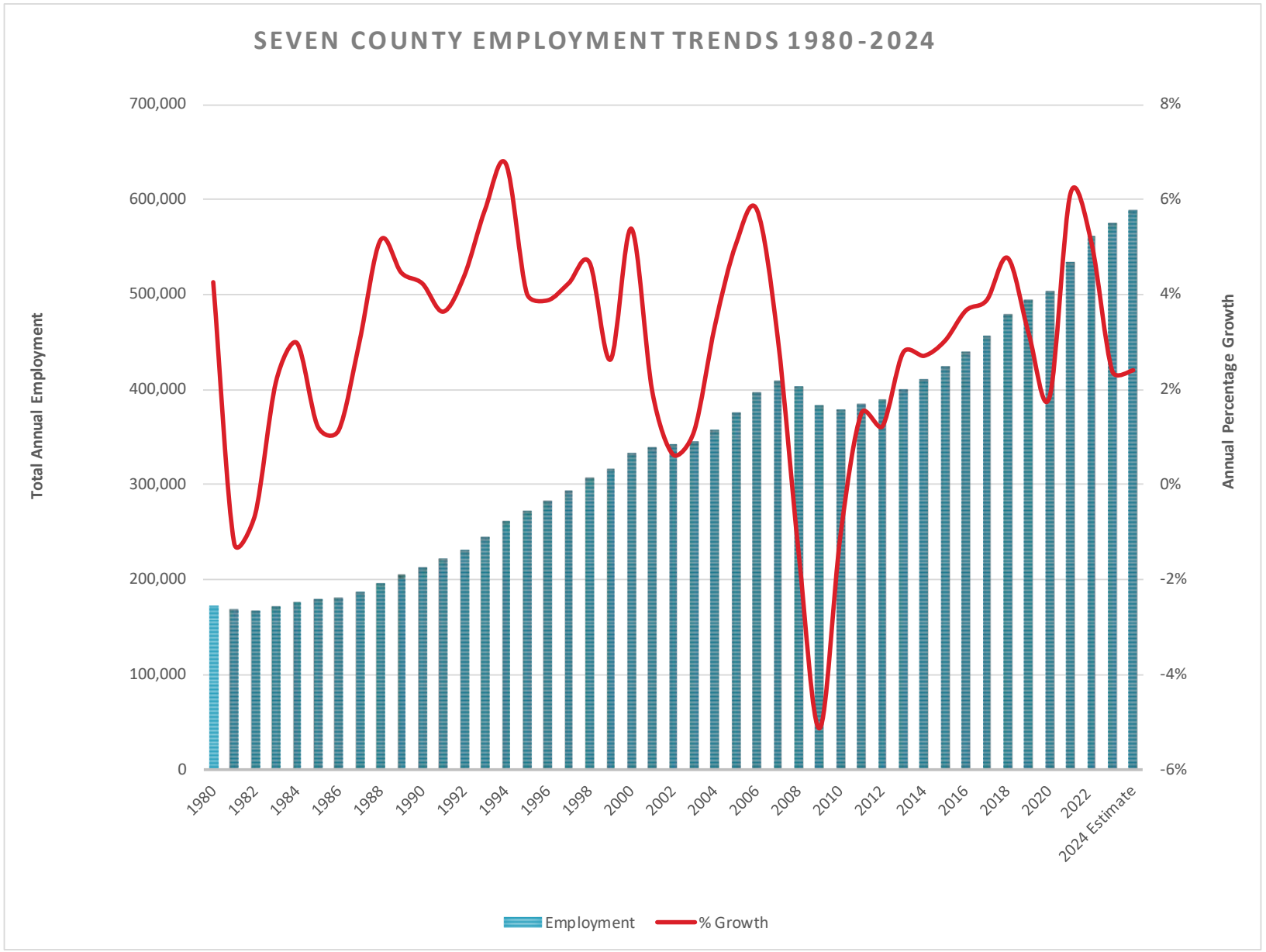

SEVEN COUNTY EMPLOYMENT TRENDS 1980-2024
Total Annual Employment
Annual Percentage Growth
700,000
600,000
500,000
400,000
300,000
200,000
100,000
0
8%
6%
4%
2%
0%
-2%
-4%
-6%
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008
2010
2012
2014
2016
2018
2020
2022
2024 Estimate
Employment
% Growth

Table III-2: Boise Seven County Market Employment by Industry, 1970-2024

Industry	1970	1980	1985	1990	1995	2000
Total Non-Farm (By Place of Work)	95,796	154,322	163,461	199,053	256,616	316,899
Agricultural Services, Forestry, & Fisheries	1,291	2,507	3,055	3,950	4,747	5,405
Mining, Oil & Gas	185	819	924	610	591	511
Construction	5,526	10,769	10,266	12,346	19,861	24,180
Manufacturing	12,722	17,931	20,238	27,354	36,089	41,293
Transportation & Utilities	5,579	8,539	9,277	10,276	11,634	15,462
Wholesale Trade	4,635	8,974	8,448	10,233	12,376	15,748
Retail Trade	16,571	26,072	27,751	33,610	44,121	54,870
Finance, Insurance, Real Estate	7,639	14,818	15,075	16,581	19,880	24,532
Services	18,280	32,442	38,022	49,820	68,560	89,440
Government	23,368	31,451	30,405	34,273	38,757	45,458
Military	6,118	6,397	6,147	6,250	6,338	5,922
Farm	10,709	10,456	9,576	8,809	9,378	10,237
Total Employment	112,623	171,175	179,015	213,691	271,772	333,387

Industry	Sector Code	2005	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	Average Annual Change 10	5	3
Total Non-Farm (By Place of Work)		360,225	363,871	369,401	374,212	385,141	395,906	408,742	424,373	440,628	462,833	477,892	487,248	518,710	545,718	558,839	573,062	17,716	21,453	13,672
Forestry, fishing, and related activities	11	2,518	2,487	2,477	2,638	2,648	2,877	2,978	2,919	3,042	3,133	3,133	3,190	3,338	3,519	3,526	3,545	67	89	13
Mining	21	574	873	874	1,424	1,189	1,246	1,349	1,262	1,195	966	865	916	920	999	961	954	-29	10	-22
Utilities	22	705	1,243	1,278	1,240	1,245	1,363	1,433	1,466	1,394	1,409	1,404	1,391	1,425	1,505	1,512	1,529	17	34	12
Construction	23	31,631	21,535	20,946	21,406	23,622	24,921	25,953	28,825	31,110	34,301	36,632	39,511	41,533	45,020	45,264	46,908	2,199	1,849	944
Manufacturing	31-33	33,694	25,628	26,466	27,398	28,289	28,487	29,383	30,411	32,076	33,626	33,612	33,100	33,508	35,065	34,971	34,726	624	406	-170
Wholesale trade	42	12,992	12,725	13,202	13,494	14,563	15,597	16,021	15,879	15,928	16,557	17,341	17,723	19,243	20,910	20,991	21,789	619	1,017	440
Retail Trade	44-45	41,693	40,797	41,552	42,322	43,439	44,639	46,563	46,897	48,789	49,325	49,783	50,373	52,620	54,827	55,785	56,235	1,160	1,466	704
Transportation and warehousing	48-49	9,485	10,019	10,280	10,491	10,436	10,725	11,951	12,585	14,098	16,116	17,738	20,002	26,882	28,536	31,537	35,205	2,448	3,801	3,334
Information	51	5,824	6,083	5,970	5,842	5,867	6,028	6,004	6,277	6,214	6,140	5,966	5,224	5,828	6,396	6,252	6,381	35	289	-7
Finance and insurance	52	14,960	18,311	19,741	18,942	19,097	18,856	19,600	21,101	21,471	22,593	23,271	26,069	28,237	31,128	31,261	32,944	1,409	1,719	908
Real estate and rental and leasing	53	18,213	19,668	19,921	19,486	20,173	21,047	21,757	22,646	23,696	24,832	24,461	27,789	30,784	34,259	34,284	36,331	1,528	2,136	1,036
Professional and technical services	54	19,511	22,090	22,553	22,675	23,407	24,553	26,035	27,072	28,795	31,245	32,938	34,424	37,295	39,323	40,729	42,324	1,777	1,975	1,501
Management of companies and enterprises	55	6,033	4,774	4,712	4,754	4,521	4,471	4,385	4,402	4,615	5,537	5,694	6,071	6,367	6,767	6,842	7,006	254	234	120
Administrative and waste services	56	26,655	28,220	27,910	28,571	28,869	28,937	28,509	30,896	32,615	32,621	32,555	33,415	34,671	35,737	36,721	37,013	808	899	638
Educational services	61	5,680	7,394	7,471	7,576	7,543	7,809	8,023	7,909	8,325	9,166	10,655	10,483	11,307	11,870	12,334	12,814	500	583	472
Health care and social assistance	62	35,216	42,230	43,474	43,867	45,840	47,207	49,004	49,941	49,976	52,418	55,446	56,397	58,303	59,804	62,015	62,755	1,555	1,590	1,476
Arts, entertainment, and recreation	71	6,017	7,283	7,539	7,957	8,361	8,904	8,448	9,088	9,569	10,903	11,266	10,612	11,362	11,540	12,123	12,306	340	423	383
Accommodation and food services	2000-2010	21,793	21,891	22,899	23,507	24,667	25,965	27,155	29,132	30,508	32,328	33,470	30,545	33,579	35,970	36,288	37,276	1,131	1,683	653
Other services, except public administration	81	17,494	17,628	18,125	18,274	18,755	19,500	20,438	20,896	21,328	22,753	23,739	23,098	24,313	25,311	25,850	26,144	664	761	416
Government and government enterprises	90	49,537	52,992	52,011	52,348	52,610	52,774	53,753	54,769	55,884	56,864	57,923	56,915	57,195	57,232	59,593	58,877	610	491	823
Military	--	6,416	6,409	6,072	6,096	6,091	5,911	5,738	5,646	5,720	5,857	6,011	6,145	6,075	5,953	6,469	6,405	49	65	226
Farm employment	--	9,190	9,086	9,640	9,567	9,539	9,870	9,733	9,796	10,618	10,138	10,228	9,920	9,453	9,867	9,707	9,463	-41	-114	-202
Total Employment		375,831	379,366	385,113	389,875	400,771	411,687	424,213	439,815	456,966	478,828	494,131	503,313	534,238	561,538	575,015	588,930	17,724	21,404	13,696

Source: Bureau of Economic Analysis and THK Associates, Inc.

Table III-3: Boise Seven County Employment Projections, 2024-2034

Industry	Annual Rate of Change	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	Average Annual Change
Total Non Farm (By Place of Work)	2.5%	573,062	587,331	602,026	617,089	632,532	648,362	664,590	681,226	698,278	715,756	733,672	15,692
Forestry, fishing, and related activities	1.3%	3,545	3,593	3,641	3,690	3,738	3,787	3,836	3,885	3,934	3,984	4,033	46
Mining	-1.2%	954	944	933	922	911	901	890	879	868	857	846	-10
Utilities	1.1%	1,529	1,546	1,564	1,581	1,599	1,617	1,634	1,652	1,670	1,688	1,705	18
Construction	2.7%	46,908	48,235	49,593	50,977	52,386	53,820	55,280	56,766	58,276	59,812	61,373	1,455
Manufacturing	0.8%	34,726	35,014	35,303	35,592	35,881	36,169	36,457	36,744	37,031	37,317	37,603	235
Wholesale trade	2.2%	21,789	22,279	22,778	23,284	23,796	24,314	24,839	25,370	25,907	26,450	26,999	546
Retail Trade	1.6%	56,235	57,175	58,125	59,083	60,047	61,018	61,995	62,978	63,968	64,963	65,964	918
Transportation and warehousing	7.1%	35,205	37,807	40,590	43,550	46,696	50,038	53,586	57,349	61,338	65,563	70,034	3,403
Information	0.7%	6,381	6,427	6,473	6,519	6,565	6,611	6,656	6,702	6,747	6,792	6,837	54
Finance and insurance	3.5%	32,944	34,152	35,399	36,680	37,994	39,344	40,728	42,147	43,601	45,091	46,617	1,383
Real estate and rental and leasing	3.5%	36,331	37,634	38,978	40,357	41,771	43,222	44,708	46,231	47,791	49,388	51,022	1,510
Professional and technical services	3.3%	42,324	43,758	45,234	46,746	48,294	49,878	51,499	53,157	54,851	56,583	58,351	1,585
Management of companies and enterprises	2.2%	7,006	7,170	7,336	7,505	7,675	7,849	8,024	8,202	8,382	8,564	8,748	172
Administrative and waste services	1.6%	37,013	37,615	38,224	38,837	39,455	40,076	40,702	41,331	41,964	42,600	43,239	588
Educational services	3.1%	12,814	13,230	13,657	14,094	14,541	14,998	15,465	15,942	16,429	16,925	17,432	459
Health care and social assistance	1.8%	62,755	63,938	65,138	66,349	67,571	68,804	70,048	71,303	72,567	73,841	75,126	1,183
Arts, entertainment, and recreation	2.1%	12,306	12,576	12,850	13,128	13,410	13,695	13,983	14,274	14,569	14,866	15,167	274
Accommodation and food services	2.3%	37,276	38,153	39,047	39,953	40,872	41,803	42,747	43,703	44,670	45,650	46,641	936
Other services, except public administration	1.8%	26,144	26,641	27,145	27,654	28,168	28,687	29,210	29,738	30,270	30,806	31,347	496
Government and government enterprises	0.9%	58,877	59,446	60,017	60,588	61,160	61,732	62,303	62,874	63,445	64,016	64,586	442
Military	0.1%	6,405	6,469	6,469	6,469	6,469	6,469	6,469	6,469	6,469	6,469	6,469	0
Farm employment	-0.8%	9,463	9,388	9,313	9,237	9,161	9,084	9,006	8,929	8,850	8,771	8,692	-94
Total employment	2.4%	588,930	603,189	617,808	632,795	648,162	663,915	680,066	696,623	713,597	730,997	748,833	
Job growth/(losses)		13,915	14,258	14,619	14,988	15,366	15,754	16,151	16,557	16,974	17,400	17,836	15,990
Job growth rate		2.42%	2.42%	2.42%	2.43%	2.43%	2.43%	2.43%	2.43%	2.44%	2.44%	2.44%	2.4%

Source: BEA, BLS, and THK Associates, Inc.

B. BOISE SEVEN-COUNTY MARKET AREA TOP EMPLOYERS BY COUNTY

The following seven tables illustrate the top 10 employers by county in the Boise Seven-County market area. Ada County has approximately 56,450 employees within the top ten employers making up 14.5% of the workforce in 2022. The majority of the jobs within Ada County can be found in Government, Healthcare and Education.

Table III-4: Largest Employers in Ada County, 2022

	Employer	Industry	Employees
1	State of Idaho (Inclusive of BSU)	Government	13,500
2	St. Luke's Health Systems	Healthcare	11,500
3	Micron Technology Inc	Technology	5,500
4	Federal Government	Government	5,500
5	West Ada School District #2	Education	4,500
6	St Alphonsus Regional Medical Center	Healthcare	4,500
7	Independent School District of Boise City #1	Education	3,500
8	Albertsons Inc	Retail Trade	3,500
9	City of Boise	Government	2,500
10	Ada County	Government	1,950
		Top 10 Employers Total Employment	56,450
		Total Employment in Ada County in 2022	389,819
		Top 10 Employers as % of Total Employment	14.5%

Source: Ada County Annual Financial Report

Table III-4: Largest Employers in Boise County, 2022

	Employer	Industry	Employees
1	Bogus Basin Recreation	Recreation	375
2	U.S. Forest Service	Government	175
3	Boise County	Government	175
4	Basin School District	Education	75
5	Garden Valley School Distrct	Education	75
6	Horseshoe Bend School District	Education	75
7	Terrace Lakes Resort	Hospitality	25
8	Project Patch	Social Assistance	25
9	Crouch Merc	Building Supply	25
10	Loching Horns Restaurant	Food Services	25
		Top 10 Employers Total Employment	1,050
		Total Employment in Boise County in 2022	3,309
		Top 10 Employers as % of Total Employment	31.7%

Source: Boise County Annual Financial Report

Table III-4: Largest Employers in Canyon County, 2023

	Employer	Industry	Employees
1	Wal-Mart Associates Inc	Retail Trade	1,625
2	Nampa School District	Education	1,625
3	Vallivue School District	Education	1,125
4	St Alphonsus Health System	Healthcare	1,125
5	St Luke Nampa Medical Center	Healthcare	875
6	Canyon County	Government	875
7	College of Western Idaho	Education	875
8	JR Simplot Company	Agriculture	875
9	Sorrento Lactalis	Agriculture	875
10	Caldwell School District	Education	625
		Top 10 Employers Total Employment	10,500
		Total Employment in Canyon County in 2023	124,210
		Top 10 Employers as % of Total Employment	8.5%

Source: Canyon County Annual Financial Report

Table III-4: Largest Employers in Elmore County, 2022

	Employer	Industry	Employees
1	Marathon Cheese Company	Retail Trade	750
2	Mountain Home School District	Education	275
3	U.S. Civilian Department of Defense	Government	275
4	St. Luke Regional Medical Center	Healthcare	275
5	Wal-mart	Retail Trade	275
6	Elmore County	Government	175
7	City of Mountain Home	Government	175
8	Mountain Home AFB	Military	175
9	PKL Services	Aerospace	175
10	Pioneer Federal Credit Union	Financial	75
		Top 10 Employers Total Employment	2,625
		Total Employment in Elmore County in 2022	14,516
		Top 10 Employers as % of Total Employment	18.1%

Source: Elmore County Annual Financial Report

Table III-4: Largest Employers in Gem County, 2023

	Employer	Industry	Employees
1	Emmet Joint School District	Education	375
2	Valor Health	Healthcare	175
3	Albertsons	Retail Trade	175
4	Gem County	Government	175
5	Woodgrain Millwork	Construction	75
6	Cherry Gulch Boarding School	Education	75
7	City of Emmit	Government	75
8	RMD Management	Technology	75
9	Gem County Fire Protection Distirct 1	Government	75
10	D and B Supply	Retail Trade	25

Top 10 Employers Total Employment	1,300
Total Employment in Gem County in 2023	8,405
Top 10 Employers as % of Total Employment	15.5%

Source: Gem County Annual Financial Report

Table III-4: Largest Employers in Owyhee County, 2022

	Employer	Industry	Employees
1	J R Simplot	Agriculture	375
2	Homedale Joint School District	Education	175
3	Marsing Joint School District	Education	175
4	Owyhee County	Government	75
5	Owyhee Health & Rehabilitation Center	Healthcare	75
6	Albertsons	Retail Trade	75
7	Bruneau-Grandview Joint School District	Education	75
8	U.S. Ecology Idaho	Trash Service	25
9	Savory Layne BBQ	Food Service	25
10	Delamar Silver Mine	Mining	25

Top 10 Employers Total Employment	1,100
Total Employment in Owyhee County in 2022	5,535
Top 10 Employers as % of Total Employment	19.9%

Source: Owyhee County Annual Financial Report

Table III-4: Largest Employers in Payette County, 2022

	Employer	Industry	Employees
1	Woodgrain Millwork	Construction	375
2	Dickinson Frozen Foods	Retail Trade	375
3	Fruitland School District	Education	175
4	Payette School District	Education	175
5	Western Idaho Community Action	Social Assistance	175
6	American Staffing	Social Assistance	175
7	New Plymouth School Distirct	Education	175
8	Payette County	Government	175
9	St. Luke's Regional Medical Center	Healthcare	175
10	Swire Pacific Holdings (Holding of Coca Cola)	Retail Trade	175
		Top 10 Employers Total Employment	2,150
		Total Employment in Payette County in 2022	11,512
		Top 10 Employers as % of Total Employment	18.7%

Source: Payette County Annual Financial Report

C. PERSONAL INCOME

The Boise seven-county area has experienced positive annual increases in per capita personal income for the almost all of the past 34 years. As the economy continues to grow over the next decade, per capita personal incomes are expected to continue rise at a steady pace.

Table III-5: Per Capita Personal Income by County for the Boise Seven County, 1990-2024

	Ada County		Boise County		Canyon County		Elmore County		Gem County		Owyhee County		Payette County		United States	
Year	Income	Annual Change	Income	Annual Change	Income	Annual Change	Income	Annual Change	Income	Annual Change	Income	Annual Change	Income	Annual Change	Income	Annual Change
1990	$20,025	--	$14,873	--	$13,970	--	$18,355	--	$13,812	--	$13,057	--	$12,903	--	$19,621	--
1991	$20,751	3.6%	$15,312	3.0%	$14,308	2.4%	$17,766	-3.2%	$14,250	3.2%	$13,290	1.8%	$13,331	3.3%	$20,030	2.1%
1992	$22,541	8.6%	$16,558	8.1%	$15,135	5.8%	$17,644	-0.7%	$15,274	7.2%	$13,876	4.4%	$13,823	3.7%	$21,090	5.3%
1993	$24,021	6.6%	$17,118	3.4%	$16,199	7.0%	$17,868	1.3%	$15,908	4.2%	$15,211	9.6%	$14,786	7.0%	$21,733	3.0%
1994	$25,904	7.8%	$18,890	10.4%	$16,443	1.5%	$16,905	-5.4%	$16,431	3.3%	$14,926	-1.9%	$15,074	1.9%	$22,575	3.9%
1995	$27,194	5.0%	$18,902	0.1%	$17,095	4.0%	$17,871	5.7%	$16,997	3.4%	$15,312	2.6%	$15,543	3.1%	$23,607	4.6%
1996	$27,650	1.7%	$19,242	1.8%	$17,564	2.7%	$18,604	4.1%	$17,669	4.0%	$16,111	5.2%	$16,583	6.7%	$24,771	4.9%
1997	$28,340	2.5%	$18,980	-1.4%	$17,898	1.9%	$18,956	1.9%	$17,837	1.0%	$16,624	3.2%	$16,581	0.0%	$25,993	4.9%
1998	$29,900	5.5%	$20,123	6.0%	$19,039	6.4%	$19,461	2.7%	$18,519	3.8%	$17,383	4.6%	$18,065	9.0%	$27,557	6.0%
1999	$31,597	5.7%	$20,351	1.1%	$19,726	3.6%	$20,393	4.8%	$18,761	1.3%	$17,776	2.3%	$18,780	4.0%	$28,675	4.1%
2000	$34,680	9.8%	$21,788	7.1%	$20,411	3.5%	$22,008	7.9%	$19,888	6.0%	$18,152	2.1%	$19,900	6.0%	$30,657	6.9%
2001	$33,761	-2.6%	$23,517	7.9%	$20,903	2.4%	$23,309	5.9%	$20,154	1.3%	$21,027	15.8%	$21,743	9.3%	$31,589	3.0%
2002	$34,393	1.9%	$22,812	-3.0%	$20,928	0.1%	$25,330	8.7%	$20,167	0.1%	$20,978	-0.2%	$22,439	3.2%	$31,832	0.8%
2003	$34,900	1.5%	$22,219	-2.6%	$21,057	0.6%	$26,760	5.6%	$20,532	1.8%	$20,212	-3.7%	$23,600	5.2%	$32,681	2.7%
2004	$36,820	5.5%	$25,704	15.7%	$21,560	2.4%	$27,193	1.6%	$21,900	6.7%	$22,736	12.5%	$25,615	8.5%	$34,251	4.8%
2005	$37,535	1.9%	$28,222	9.8%	$22,411	3.9%	$27,681	1.8%	$22,794	4.1%	$22,948	0.9%	$26,352	2.9%	$35,849	4.7%
2006	$40,355	7.5%	$30,208	7.0%	$24,199	8.0%	$28,820	4.1%	$24,625	8.0%	$23,954	4.4%	$27,797	5.5%	$38,114	6.3%
2007	$40,364	0.0%	$31,171	3.2%	$25,521	5.5%	$28,931	0.4%	$26,124	6.1%	$26,330	9.9%	$29,224	5.1%	$39,844	4.5%
2008	$39,494	-2.2%	$32,010	2.7%	$25,559	0.1%	$29,859	3.2%	$27,909	6.8%	$25,277	-4.0%	$29,908	2.3%	$40,904	2.7%
2009	$37,857	-4.1%	$30,083	-6.0%	$24,493	-4.2%	$28,283	-5.3%	$27,007	-3.2%	$19,485	-22.9%	$28,578	-4.4%	$39,284	-4.0%
2010	$38,394	1.4%	$31,120	3.4%	$24,852	1.5%	$28,496	0.8%	$27,164	0.6%	$25,527	31.0%	$30,348	6.2%	$40,547	3.2%
2011	$39,720	3.5%	$32,313	3.8%	$25,827	3.9%	$29,973	5.2%	$27,860	2.6%	$28,329	11.0%	$31,762	4.7%	$42,739	5.4%
2012	$41,148	3.6%	$33,218	2.8%	$27,047	4.7%	$30,588	2.1%	$29,206	4.8%	$28,953	2.2%	$33,439	5.3%	$44,605	4.4%
2013	$42,501	3.3%	$34,854	4.9%	$27,412	1.3%	$32,103	5.0%	$31,120	6.6%	$30,260	4.5%	$34,053	1.8%	$44,860	0.6%
2014	$44,555	4.8%	$36,355	4.3%	$28,124	2.6%	$33,710	5.0%	$31,637	1.7%	$33,215	9.8%	$34,400	1.0%	$47,071	4.9%
2015	$46,574	4.5%	$37,776	3.9%	$29,312	4.2%	$35,304	4.7%	$33,130	4.7%	$33,969	2.3%	$36,059	4.8%	$49,019	4.1%
2016	$47,337	1.6%	$42,496	12.5%	$30,187	3.0%	$35,125	-0.5%	$33,867	2.2%	$34,764	2.3%	$35,941	-0.3%	$50,015	2.0%
2017	$49,404	4.4%	$42,077	-1.0%	$31,609	4.7%	$34,801	-0.9%	$35,022	3.4%	$32,991	-5.1%	$36,722	2.2%	$52,118	4.2%
2018	$51,798	4.8%	$41,960	-0.3%	$33,664	6.5%	$34,910	0.3%	$36,878	5.3%	$35,566	7.8%	$38,306	4.3%	$54,606	4.8%
2019	$54,268	4.8%	$46,592	11.0%	$35,668	6.0%	$37,037	6.1%	$39,367	6.7%	$39,115	10.0%	$40,602	6.0%	$56,490	3.5%
2020	$58,150	7.2%	$50,622	8.6%	$39,271	10.1%	$38,790	4.7%	$42,200	7.2%	$41,576	6.3%	$43,140	6.3%	$59,510	5.3%
2021	$64,113	10.3%	$51,106	1.0%	$43,676	11.2%	$42,575	9.8%	$45,380	7.5%	$44,735	7.6%	$46,224	7.1%	$61,556	3.4%
2022	$67,555	5.4%	$53,627	4.9%	$45,412	4.0%	$43,302	1.7%	$46,896	3.3%	$48,250	7.9%	$48,642	5.2%	$63,990	4.0%
2023 Estimate	$71,585	6.0%	$57,136	6.5%	$48,989	7.9%	$46,019	6.3%	$49,959	6.5%	$51,145	6.0%	$51,271	5.4%	$66,381	3.7%
2024 Estimate	$75,720	5.8%	$59,921	4.9%	$52,140	6.4%	$48,252	4.9%	$52,564	5.2%	$54,244	6.1%	$53,900	5.1%	$68,765	3.6%
1990-2023	$1,638	4.0%	$1,325	4.2%	$1,123	3.9%	-	-	$1,140	4.0%	$1,211	4.3%	$1,206	4.3%	$1,445	3.8%
2014-2024	$3,117	5.4%	$2,357	5.1%	$2,402	6.4%	$1,454	3.7%	$2,093	5.2%	$2,103	5.0%	$1,950	4.6%	$2,169	3.9%
2020-2024	$4,393	6.8%	$2,325	4.3%	$3,217	7.3%	$2,365	5.6%	$2,591	5.6%	$3,167	6.9%	$2,690	5.7%	$2,314	3.7%

Source: U.S. Dept. of Commerce, Bureau of Economic Analysis, & THK Associates, Inc.

D. POPULATION AND HOUSEHOLDS

Population and household growth drive demand for residential real estate development and future retail demand. In the Boise Seven-county area, population and households have increased annually since 1990 by 3.0% and 3.0%, respectively. Since 2010, population has increased by 21,067 people per year to 961,167 in 2024, for an average annual growth rate of 2.7%. The population of Ada County, where the subject site is located, has grown from 205,775 people in 1990 to 578,615 people in 2024.

Similar to population growth, households in the seven-county area have grown by 2.6% per year over the last fourteen years. Since 2010, households in the region have increased by 7,648 annually to 351,064 in 2024.

Based on historical trends and projected employment growth, population for the area is forecast to reach 1,182,637 by 2034, with the population increasing by 22,147 people per year on average, or by 2.1%. The number of households is expected to climb to 446,774 by 2034, with the number of households growing by 9,571 annually on average, or by 2.4%.

Table III-6: Estimates of Population and Households in the Boise Seven County Market Area, 1980-2024

	Ada County		Boise County		Canyon County		Elmore County		Gem County		Owyhee County		Payette County		Boise Seven County Total	
Year	Pop	HH	Pop	HH	Pop	HH	Pop	HH	Pop	HH	Pop	HH	Pop	HH	Pop	HH
1990	205,775	77,471	3,509	1,357	90,076	31,288	21,205	7,185	11,844	4,424	8,392	1,159	16,436	6,145	357,237	129,029
2000	300,904	113,408	6,670	2,616	131,441	45,018	29,130	9,092	15,181	5,539	10,624	3,710	20,578	7,371	514,528	186,754
2010	392,365	148,445	7,028	2,974	188,923	63,604	27,038	10,140	16,719	6,495	11,526	4,076	22,623	8,262	666,222	243,996
2020	494,967	186,708	7,610	3,251	231,105	77,796	28,666	10,663	19,123	7,522	11,913	4,229	25,386	9,223	818,770	299,392
2024	578,615	218,261	8,775	3,749	282,219	95,002	30,017	11,166	21,101	8,300	12,681	4,502	27,758	10,085	961,167	351,064
(1990-2024):																
Numerical	10,970	4,141	150	70	5,650	1,874	260	117	270	114	130	98	330	116	17,763	6,530
Percent	3.1%	3.1%	2.7%	3.0%	3.4%	3.3%	1.0%	1.3%	1.7%	1.9%	1.2%	4.1%	1.6%	1.5%	3.0%	3.0%
Percent of 7-County Total	61.8%	63.4%	0.8%	1.1%	31.8%	28.7%	1.5%	1.8%	1.5%	1.7%	0.7%	1.5%	1.9%	1.8%	100.0%	100.0%
(2000-2024):																
Numerical	11,571	4,369	88	47	6,282	2,083	37	86	247	115	86	33	299	113	18,610	6,846
Percent	2.8%	2.8%	1.1%	1.5%	3.2%	3.2%	0.1%	0.9%	1.4%	1.7%	0.7%	0.8%	1.3%	1.3%	2.6%	2.7%
Percent of 7-County Total	62.2%	63.8%	0.5%	0.7%	33.8%	30.4%	0.2%	1.3%	1.3%	1.7%	0.5%	0.5%	1.6%	1.7%	100.0%	100.0%
(2010-2024)																
Numerical	13,304	4,987	125	55	6,664	2,243	213	73	313	129	83	30	367	130	21,067	7,648
Percent	2.8%	2.8%	1.6%	1.7%	2.9%	2.9%	0.7%	0.7%	1.7%	1.8%	0.7%	0.7%	1.5%	1.4%	2.7%	2.6%
Percent of 7-County Total	63.1%	65.2%	0.6%	0.7%	31.6%	29.3%	1.0%	1.0%	1.5%	1.7%	0.4%	0.4%	1.7%	1.7%	100.0%	100.0%

Source: Bureau of Census and THK Associates, Inc.

Table III-7: Projected Permanent Population and Households in Boise Seven County Market Area, 2024-2034

Year	Total Employment	Employment Participation Ratio	Permanent January 1, Population	Annual Population Change	Population in Group Quarters	Permanent Population In Households	Permanent Population Per Household	Households	Annual Household Change
1990	213,691	0.598	357,237	-	10,126	347,111	2.6902	129,029	-
2000	333,387	0.648	514,528	15,730	14,584	499,944	2.6770	186,754	5,770
2010	379,366	0.569	666,222	15,170	14,120	652,102	2.6726	243,996	5,720
2020	503,313	0.615	818,770	15,250	11,575	807,195	2.6961	299,392	5,540
2024	588,930	0.613	961,167	31,999	11,578	949,589	2.7049	351,064	11,483
2025	603,189	0.615	981,208	20,041	11,581	969,627	2.6964	359,603	8,538
2026	617,808	0.617	1,001,692	20,484	11,584	990,109	2.6879	368,356	8,753
2027	632,795	0.619	1,022,628	20,936	11,587	1,011,041	2.6795	377,330	8,973
2028	648,162	0.621	1,044,025	21,397	11,589	1,032,435	2.6710	386,529	9,199
2029	663,915	0.623	1,065,892	21,867	11,592	1,054,300	2.6627	395,959	9,430
2030	680,066	0.625	1,088,240	22,348	11,595	1,076,645	2.6543	405,625	9,667
2031	696,623	0.627	1,111,079	22,839	11,598	1,099,480	2.6459	415,534	9,909
2032	713,597	0.629	1,134,418	23,339	11,601	1,122,817	2.6376	425,692	10,157
2033	730,997	0.631	1,158,267	23,849	11,604	1,146,663	2.6293	436,103	10,411
2034	748,833	0.633	1,182,637	24,370	11,607	1,171,030	2.6211	446,774	10,671
Average Annual Change (2024-2034)									
Numerical:	15,990		22,147		3	22,144		9,571	
Percent:	2.4%		2.1%		0.0%	2.1%		2.4%	

Source: Dept of Commerce, Bureau of the Census and THK Associates, Inc.

E. RESIDENTIAL CONSTRUCTION TRENDS

The number of building permits being issued in the area slowed with the economic downturn in the mid-2000s but has since rebounded to record levels. Permits issued within the seven counties over the last 44-, ten- and five-year periods have averaged 5,551, 8,534, and 11,172 respectively. From 1980 to 2023, single family permits accounted for 79.8% of the total permits issued. Over the last three-year period, this ratio has lowered to 64.3%, indicating a market shift towards more attached and multi-family housing.

Table III-10 Compares data among the 2010 and 2020 U.S. Census regarding total housing units in the Seven County market areas. The table also includes an estimate for the housing stock in 2024. The total housing units are separated into total occupied housing units and of those housing units which are occupied by renters. There is also a break down based on unit type.

Total housing units in the Boise seven-county market area increased from 263,931 to 367,837 during the 2010-to-2024-time frame, while simultaneously owner-occupied units increased from 70% to 71%. About 78% of the Boise seven-county area was made up of single-family residences in 2010, 8% of the housing was multi-family and 14% is miscellaneous. In 2024, it is estimated that 71% of the housing stock is single-family, 25% is multi-family, and 4% is miscellaneous. Additionally, in 2024, it is estimated that the Boise seven county area has 6,052 seasonal units.

Table III-8: Residential Building Permits Issued by County in the Boise Seven County, 1980 - 2024

Single Family

	Ada		Boise		Canyon		Elmore		Gem		Owyhee		Payette		Boise Seven County Total
Year	Permits	Percent of Total	Permits	Percent of Total	Permits	Percent of Total	Permits	Percent of Total	Permits	Percent of Total	Permits	Percent of Total	Permits	Percent of Total	Permits
1980	1,349	71.5%	0	0.0%	338	17.9%	77	4.1%	62	3.3%	12	0.6%	48	2.5%	1,886
1981	426	62.7%	0	0.0%	149	21.9%	47	6.9%	28	4.1%	8	1.2%	21	3.1%	679
1982	771	80.8%	0	0.0%	100	10.5%	42	4.4%	19	2.0%	8	0.8%	14	1.5%	954
1983	1,262	77.1%	0	0.0%	229	14.0%	74	4.5%	34	2.1%	5	0.3%	32	2.0%	1,636
1984	1,259	79.6%	0	0.0%	227	14.3%	50	3.2%	22	1.4%	1	0.1%	23	1.5%	1,582
1985	1,033	77.7%	0	0.0%	225	16.9%	50	3.8%	7	0.5%	1	0.1%	13	1.0%	1,329
1986	1,088	79.4%	0	0.0%	182	13.3%	63	4.6%	16	1.2%	5	0.4%	17	1.2%	1,371
1987	968	78.2%	0	0.0%	173	14.0%	75	6.1%	8	0.6%	3	0.2%	11	0.9%	1,238
1988	1,198	81.3%	0	0.0%	204	13.8%	53	3.6%	6	0.4%	1	0.1%	12	0.8%	1,474
1989	1,585	80.5%	1	0.1%	286	14.5%	63	3.2%	14	0.7%	4	0.2%	17	0.9%	1,970
1990	1,840	79.3%	0	0.0%	376	16.2%	47	2.0%	26	1.1%	1	0.0%	30	1.3%	2,320
1991	2,050	75.4%	0	0.0%	533	19.6%	30	1.1%	47	1.7%	5	0.2%	54	2.0%	2,719
1992	2,994	73.2%	81	2.0%	822	20.1%	77	1.9%	48	1.2%	12	0.3%	58	1.4%	4,092
1993	3,556	73.1%	86	1.8%	975	20.0%	63	1.3%	79	1.6%	11	0.2%	93	1.9%	4,863
1994	3,139	66.3%	145	3.1%	1,102	23.3%	62	1.3%	107	2.3%	32	0.7%	150	3.2%	4,737
1995	2,729	65.3%	134	3.2%	1,023	24.5%	79	1.9%	94	2.2%	25	0.6%	95	2.3%	4,179
1996	2,943	60.9%	102	2.1%	1,294	26.8%	279	5.8%	90	1.9%	30	0.6%	96	2.0%	4,834
1997	3,076	61.1%	123	2.4%	1,462	29.0%	138	2.7%	82	1.6%	32	0.6%	124	2.5%	5,037
1998	3,699	61.0%	109	1.8%	1,846	30.4%	161	2.7%	79	1.3%	40	0.7%	132	2.2%	6,066
1999	3,766	59.7%	134	2.1%	2,028	32.1%	134	2.1%	83	1.3%	40	0.6%	123	1.9%	6,308
2000	3,625	60.7%	88	1.5%	1,895	31.7%	137	2.3%	77	1.3%	42	0.7%	105	1.8%	5,969
2001	3,181	55.3%	67	1.2%	2,183	38.0%	135	2.3%	60	1.0%	38	0.7%	88	1.5%	5,752
2002	3,275	51.8%	78	1.2%	2,595	41.0%	113	1.8%	100	1.6%	41	0.6%	123	1.9%	6,325
2003	4,074	57.9%	113	1.6%	2,464	35.0%	111	1.6%	107	1.5%	56	0.8%	111	1.6%	7,036
2004	5,204	63.4%	103	1.3%	2,349	28.6%	232	2.8%	131	1.6%	56	0.7%	132	1.6%	8,207
2005	7,386	65.3%	151	1.3%	3,114	27.5%	204	1.8%	213	1.9%	84	0.7%	156	1.4%	11,308
2006	4,104	52.1%	141	1.8%	2,963	37.6%	230	2.9%	165	2.1%	67	0.9%	205	2.6%	7,875
2007	2,331	57.4%	101	2.5%	1,192	29.3%	166	4.1%	72	1.8%	66	1.6%	135	3.3%	4,063
2008	1,537	61.2%	51	2.0%	745	29.7%	95	3.8%	21	0.8%	23	0.9%	39	1.6%	2,511
2009	1,306	68.9%	38	2.0%	386	20.4%	95	5.0%	19	1.0%	20	1.1%	32	1.7%	1,896
2010	1,273	74.7%	24	1.4%	309	18.1%	37	2.2%	13	0.8%	11	0.6%	38	2.2%	1,705
2011	1,338	82.3%	28	1.7%	187	11.5%	15	0.9%	14	0.9%	11	0.7%	32	2.0%	1,625
2012	2,250	75.5%	25	0.8%	578	19.4%	49	1.6%	18	0.6%	16	0.5%	45	1.5%	2,981
2013	2,540	69.7%	21	0.6%	913	25.0%	56	1.5%	34	0.9%	14	0.4%	68	1.9%	3,646
2014	2,353	65.6%	32	0.9%	1,043	29.1%	45	1.3%	37	1.0%	16	0.4%	60	1.7%	3,586
2015	3,055	69.6%	51	1.2%	1,130	25.7%	52	1.2%	38	0.9%	21	0.5%	42	1.0%	4,389
2016	3,798	68.7%	57	1.0%	1,442	26.1%	58	1.0%	61	1.1%	25	0.5%	86	1.6%	5,527
2017	4,474	69.7%	70	1.1%	1,637	25.5%	38	0.6%	61	1.0%	33	0.5%	102	1.6%	6,415
2018	4,770	67.8%	93	1.3%	1,935	27.5%	38	0.5%	87	1.2%	38	0.5%	77	1.1%	7,038
2019	4,828	62.6%	80	1.0%	2,486	32.3%	75	1.0%	132	1.7%	44	0.6%	62	0.8%	7,707
2020	5,029	59.5%	119	1.4%	2,827	33.4%	86	1.0%	146	1.7%	37	0.4%	212	2.5%	8,456
2021	4,904	56.7%	105	1.2%	3,018	34.9%	97	1.1%	251	2.9%	64	0.7%	209	2.4%	8,648
2022	3,393	55.6%	127	2.1%	2,194	36.0%	61	1.0%	157	2.6%	54	0.9%	114	1.9%	6,100
2023	3,767	55.3%	90	1.3%	2,489	36.6%	118	1.7%	110	1.6%	52	0.8%	182	2.7%	6,808
2024 Estimate	1,952	55.5%	33	0.9%	1,278	36.3%	57	1.6%	91	2.6%	15	0.4%	93	2.6%	3,519
*2024 Permits are through May															
44-Year Average															
1980-2023	2,830	63.9%	63	1.4%	1,265	28.6%	91	2.1%	70	1.6%	27	0.6%	82	1.9%	4,428
10-Year Average															
2013-2023	3,901	62.8%	77	1.2%	1,919	30.9%	66	1.1%	101	1.6%	36	0.6%	110	1.8%	6,211
5-Year Average															
2019-2023	4,384	58.1%	104	1.4%	2,603	34.5%	87	1.2%	159	2.1%	50	0.7%	156	2.1%	7,544
3-Year Average															
2021-2023	4,021	56.0%	107	1.5%	2,567	35.7%	92	1.3%	173	2.4%	57	0.8%	168	2.3%	7,185

Table III-8: Residential Building Permits Issued by County in the Boise Seven County, 1980 - 2024

Multi-Family

	Ada		Boise		Canyon		Elmore		Gem		Owyhee		Payette		Boise Seven County Total
Year	Permits	Percent of Total	Permits	Percent of Total	Permits	Percent of Total	Permits	Percent of Total	Permits	Percent of Total	Permits	Percent of Total	Permits	Percent of Total	Permits
1980	188	37.5%	0	0.0%	234	46.6%	0	0.0%	12	2.4%	0	0.0%	68	13.5%	502
1981	173	77.6%	0	0.0%	45	20.2%	3	1.3%	0	0.0%	0	0.0%	2	0.9%	223
1982	58	58.0%	0	0.0%	38	38.0%	2	2.0%	0	0.0%	0	0.0%	2	2.0%	100
1983	443	98.2%	0	0.0%	4	0.9%	0	0.0%	2	0.4%	0	0.0%	2	0.4%	451
1984	164	68.3%	0	0.0%	40	16.7%	22	9.2%	0	0.0%	0	0.0%	14	5.8%	240
1985	736	96.0%	0	0.0%	2	0.3%	14	1.8%	2	0.3%	0	0.0%	13	1.7%	767
1986	489	91.4%	0	0.0%	8	1.5%	0	0.0%	0	0.0%	0	0.0%	38	7.1%	535
1987	348	91.6%	0	0.0%	20	5.3%	6	1.6%	0	0.0%	0	0.0%	6	1.6%	380
1988	225	97.4%	0	0.0%	6	2.6%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	231
1989	677	82.0%	0	0.0%	143	17.3%	2	0.2%	0	0.0%	0	0.0%	4	0.5%	826
1990	730	94.6%	0	0.0%	38	4.9%	0	0.0%	0	0.0%	0	0.0%	4	0.5%	772
1991	551	91.2%	0	0.0%	30	5.0%	0	0.0%	10	1.7%	0	0.0%	13	2.2%	604
1992	741	78.9%	0	0.0%	192	20.4%	0	0.0%	4	0.4%	0	0.0%	2	0.2%	939
1993	1,384	86.1%	4	0.2%	188	11.7%	2	0.1%	18	1.1%	0	0.0%	11	0.7%	1,607
1994	2,127	90.7%	6	0.3%	175	7.5%	12	0.5%	8	0.3%	0	0.0%	18	0.8%	2,346
1995	731	73.5%	0	0.0%	192	19.3%	12	1.2%	24	2.4%	0	0.0%	36	3.6%	995
1996	208	38.2%	0	0.0%	93	17.1%	213	39.2%	10	1.8%	0	0.0%	20	3.7%	544
1997	509	71.8%	0	0.0%	127	17.9%	66	9.3%	0	0.0%	0	0.0%	7	1.0%	709
1998	404	56.7%	0	0.0%	291	40.8%	12	1.7%	2	0.3%	0	0.0%	4	0.6%	713
1999	714	81.6%	0	0.0%	89	10.2%	14	1.6%	4	0.5%	4	0.5%	50	5.7%	875
2000	374	59.6%	0	0.0%	148	23.6%	58	9.3%	36	5.7%	4	0.6%	7	1.1%	627
2001	1,059	86.7%	0	0.0%	94	7.7%	10	0.8%	32	2.6%	3	0.2%	24	2.0%	1,222
2002	757	75.4%	0	0.0%	170	16.9%	16	1.6%	23	2.3%	3	0.3%	35	3.5%	1,004
2003	711	66.8%	0	0.0%	302	28.4%	20	1.9%	0	0.0%	3	0.3%	28	2.6%	1,064
2004	584	52.9%	0	0.0%	468	42.4%	48	4.4%	0	0.0%	0	0.0%	3	0.3%	1,103
2005	468	66.7%	0	0.0%	131	18.7%	101	14.4%	2	0.3%	0	0.0%	0	0.0%	702
2006	722	72.9%	0	0.0%	183	18.5%	78	7.9%	7	0.7%	0	0.0%	0	0.0%	990
2007	682	58.1%	0	0.0%	416	35.4%	72	6.1%	4	0.3%	0	0.0%	0	0.0%	1,174
2008	263	56.6%	0	0.0%	151	32.5%	43	9.2%	6	1.3%	0	0.0%	2	0.4%	465
2009	132	97.8%	0	0.0%	3	2.2%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	135
2010	12	19.0%	0	0.0%	51	81.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	63
2011	115	43.9%	0	0.0%	144	55.0%	0	0.0%	0	0.0%	3	1.1%	0	0.0%	262
2012	381	56.6%	0	0.0%	288	42.8%	0	0.0%	0	0.0%	0	0.0%	4	0.6%	673
2013	741	82.7%	0	0.0%	102	11.4%	0	0.0%	0	0.0%	0	0.0%	53	5.9%	896
2014	1,615	91.6%	0	0.0%	87	4.9%	12	0.7%	0	0.0%	0	0.0%	50	2.8%	1,764
2015	1,186	98.3%	0	0.0%	18	1.5%	0	0.0%	0	0.0%	0	0.0%	2	0.2%	1,206
2016	899	65.2%	0	0.0%	440	31.9%	0	0.0%	36	2.6%	0	0.0%	4	0.3%	1,379
2017	1,468	89.5%	0	0.0%	164	10.0%	0	0.0%	0	0.0%	2	0.1%	6	0.4%	1,640
2018	1,636	82.0%	2	0.1%	344	17.2%	0	0.0%	8	0.4%	4	0.2%	2	0.1%	1,996
2019	2,220	72.3%	0	0.0%	834	27.2%	0	0.0%	6	0.2%	2	0.1%	8	0.3%	3,070
2020	1,031	62.8%	3	0.2%	568	34.6%	0	0.0%	2	0.1%	0	0.0%	38	2.3%	1,642
2021	2,583	66.5%	0	0.0%	1,239	31.9%	8	0.2%	0	0.0%	32	0.8%	20	0.5%	3,882
2022	3,137	68.6%	0	0.0%	1,396	30.5%	0	0.0%	15	0.3%	2	0.0%	24	0.5%	4,574
2023 Estimate	2,322	66.2%	0	0.0%	1,061	30.3%	84	2.4%	0	0.0%	0	0.0%	38	1.1%	3,505
2024 Estimate	212	63.7%	0	0.0%	96	28.8%	0	0.0%	0	0.0%	0	0.0%	25	7.5%	333
*2024 Permits are through May															
44-Year Average															
1980-2023	834	74.3%	0	0.0%	244	21.8%	21	1.9%	6	0.6%	1	0.1%	15	1.3%	1,123
10-Year Average															
2013-2023	1,713	73.7%	0	0.0%	568	24.5%	9	0.4%	6	0.3%	4	0.2%	22	1.0%	2,323
5-Year Average															
2019-2023	2,259	67.7%	1	0.0%	1,020	30.6%	18	0.6%	5	0.1%	7	0.2%	26	0.8%	3,335
3-Year Average															
2021-2023	2,681	67.2%	0	0.0%	1,232	30.9%	31	0.8%	5	0.1%	11	0.3%	27	0.7%	3,987

Table III-8: Residential Building Permits Issued by County in the Boise Seven County, 1980 - 2024

Total

Year	Ada Permits	Ada Percent of Total	Boise Permits	Boise Percent of Total	Canyon Permits	Canyon Percent of Total	Elmore Permits	Elmore Percent of Total	Gem Permits	Gem Percent of Total	Owyhee Permits	Owyhee Percent of Total	Payette Permits	Payette Percent of Total	Boise Seven County Total Permits
1980	1,537	64.4%	0	0.0%	572	24.0%	77	3.2%	74	3.1%	12	0.5%	116	4.9%	2,388
1981	599	66.4%	0	0.0%	194	21.5%	50	5.5%	28	3.1%	8	0.9%	23	2.5%	902
1982	829	78.7%	0	0.0%	138	13.1%	44	4.2%	19	1.8%	8	0.8%	16	1.5%	1,054
1983	1,705	81.7%	0	0.0%	233	11.2%	74	3.5%	36	1.7%	5	0.2%	34	1.6%	2,087
1984	1,423	78.1%	0	0.0%	267	14.7%	72	4.0%	22	1.2%	1	0.1%	37	2.0%	1,822
1985	1,769	84.4%	0	0.0%	227	10.8%	64	3.1%	9	0.4%	1	0.0%	26	1.2%	2,096
1986	1,577	82.7%	0	0.0%	190	10.0%	63	3.3%	16	0.8%	5	0.3%	55	2.9%	1,906
1987	1,316	81.3%	0	0.0%	193	11.9%	81	5.0%	8	0.5%	3	0.2%	17	1.1%	1,618
1988	1,423	83.5%	0	0.0%	210	12.3%	53	3.1%	6	0.4%	1	0.1%	12	0.7%	1,705
1989	2,262	80.9%	1	0.0%	429	15.3%	65	2.3%	14	0.5%	4	0.1%	21	0.8%	2,796
1990	2,570	83.1%	0	0.0%	414	13.4%	47	1.5%	26	0.8%	1	0.0%	34	1.1%	3,092
1991	2,601	78.3%	0	0.0%	563	16.9%	30	0.9%	57	1.7%	5	0.2%	67	2.0%	3,323
1992	3,735	74.2%	81	1.6%	1,014	20.2%	77	1.5%	52	1.0%	12	0.2%	60	1.2%	5,031
1993	4,940	76.4%	90	1.4%	1,163	18.0%	65	1.0%	97	1.5%	11	0.2%	104	1.6%	6,470
1994	5,266	74.3%	151	2.1%	1,277	18.0%	74	1.0%	115	1.6%	32	0.5%	168	2.4%	7,083
1995	3,460	66.9%	134	2.6%	1,215	23.5%	91	1.8%	118	2.3%	25	0.5%	131	2.5%	5,174
1996	3,151	58.6%	102	1.9%	1,387	25.8%	492	9.1%	100	1.9%	30	0.6%	116	2.2%	5,378
1997	3,585	62.4%	123	2.1%	1,589	27.7%	204	3.6%	82	1.4%	32	0.6%	131	2.3%	5,746
1998	4,103	60.5%	109	1.6%	2,137	31.5%	173	2.6%	81	1.2%	40	0.6%	136	2.0%	6,779
1999	4,480	62.4%	134	1.9%	2,117	29.5%	148	2.1%	87	1.2%	44	0.6%	173	2.4%	7,183
2000	3,999	60.6%	88	1.3%	2,043	31.0%	195	3.0%	113	1.7%	46	0.7%	112	1.7%	6,596
2001	4,240	60.8%	67	1.0%	2,277	32.6%	145	2.1%	92	1.3%	41	0.6%	112	1.6%	6,974
2002	4,032	55.0%	78	1.1%	2,765	37.7%	129	1.8%	123	1.7%	44	0.6%	158	2.2%	7,329
2003	4,785	59.1%	113	1.4%	2,766	34.1%	131	1.6%	107	1.3%	59	0.7%	139	1.7%	8,100
2004	5,788	62.2%	103	1.1%	2,817	30.3%	280	3.0%	131	1.4%	56	0.6%	135	1.5%	9,310
2005	7,854	65.4%	151	1.3%	3,245	27.0%	305	2.5%	215	1.8%	84	0.7%	156	1.3%	12,010
2006	4,826	54.4%	141	1.6%	3,146	35.5%	308	3.5%	172	1.9%	67	0.8%	205	2.3%	8,865
2007	3,013	57.5%	101	1.9%	1,608	30.7%	238	4.5%	76	1.5%	66	1.3%	135	2.6%	5,237
2008	1,800	60.5%	51	1.7%	896	30.1%	138	4.6%	27	0.9%	23	0.8%	41	1.4%	2,976
2009	1,438	70.8%	38	1.9%	389	19.2%	95	4.7%	19	0.9%	20	1.0%	32	1.6%	2,031
2010	1,285	72.7%	24	1.4%	360	20.4%	37	2.1%	13	0.7%	11	0.6%	38	2.1%	1,768
2011	1,453	77.0%	28	1.5%	331	17.5%	15	0.8%	14	0.7%	14	0.7%	32	1.7%	1,887
2012	2,631	72.0%	25	0.7%	866	23.7%	49	1.3%	18	0.5%	16	0.4%	49	1.3%	3,654
2013	3,281	72.2%	21	0.5%	1,015	22.3%	56	1.2%	34	0.7%	14	0.3%	121	2.7%	4,542
2014	3,968	74.2%	32	0.6%	1,130	21.1%	57	1.1%	37	0.7%	16	0.3%	110	2.1%	5,350
2015	4,241	75.8%	51	0.9%	1,148	20.5%	52	0.9%	38	0.7%	21	0.4%	44	0.8%	5,595
2016	4,697	68.0%	57	0.8%	1,882	27.3%	58	0.8%	97	1.4%	25	0.4%	90	1.3%	6,906
2017	5,942	73.8%	70	0.9%	1,801	22.4%	38	0.5%	61	0.8%	35	0.4%	108	1.3%	8,055
2018	6,406	70.9%	95	1.1%	2,279	25.2%	38	0.4%	95	1.1%	42	0.5%	79	0.9%	9,034
2019	7,048	65.4%	80	0.7%	3,320	30.8%	75	0.7%	138	1.3%	46	0.4%	70	0.6%	10,777
2020	6,060	60.0%	122	1.2%	3,395	33.6%	86	0.9%	148	1.5%	37	0.4%	250	2.5%	10,098
2021	7,487	59.8%	105	0.8%	4,257	34.0%	105	0.8%	251	2.0%	96	0.8%	229	1.8%	12,530
2022	6,530	61.2%	127	1.2%	3,590	33.6%	61	0.6%	172	1.6%	56	0.5%	138	1.3%	10,674
2023 Estimate	6,089	59.0%	90	0.9%	3,550	34.4%	202	2.0%	110	1.1%	52	0.5%	220	2.1%	10,313
2024 Estimate	2,164	56.2%	33	0.9%	1,374	35.7%	57	1.5%	91	2.4%	15	0.4%	118	3.1%	3,852
*2024 Permits are through May															
44-Year Average 1980-2023	3,664	66.0%	63	1.1%	1,509	27.2%	112	2.0%	76	1.4%	29	0.5%	97	1.8%	5,551
10-Year Average 2013-2023	5,614	65.8%	77	0.9%	2,488	29.2%	75	0.9%	107	1.3%	40	0.5%	133	1.6%	8,534
5-Year Average 2019-2023	6,643	61.1%	105	1.0%	3,622	33.3%	106	1.0%	164	1.5%	57	0.5%	181	1.7%	10,878
3-Year Average 2021-2023	6,702	60.0%	107	1.0%	3,799	34.0%	123	1.1%	178	1.6%	68	0.6%	196	1.8%	11,172

Source: U.S. Department of Commerce, HUD, C-40 Reports and THK Associates, Inc.

Table III-9: Residential Building Permits Issued by Type and Tenure in the Boise Seven County, 1980-2024

Year	Single Family Units	Percent of Total	Multi-Family Units	Percent of Total	Total	Percent of Total
1980	1,886	79.0%	502	21.0%	2,388	100.0%
1981	679	75.3%	223	24.7%	902	100.0%
1982	954	90.5%	100	9.5%	1,054	100.0%
1983	1,636	78.4%	451	21.6%	2,087	100.0%
1984	1,582	86.8%	240	13.2%	1,822	100.0%
1985	1,329	63.4%	767	36.6%	2,096	100.0%
1986	1,371	71.9%	535	28.1%	1,906	100.0%
1987	1,238	76.5%	380	23.5%	1,618	100.0%
1988	1,474	86.5%	231	13.5%	1,705	100.0%
1989	1,970	70.5%	826	29.5%	2,796	100.0%
1990	2,320	75.0%	772	25.0%	3,092	100.0%
1991	2,719	81.8%	604	18.2%	3,323	100.0%
1992	4,092	81.3%	939	18.7%	5,031	100.0%
1993	4,863	75.2%	1,607	24.8%	6,470	100.0%
1994	4,737	66.9%	2,346	33.1%	7,083	100.0%
1995	4,179	80.8%	995	19.2%	5,174	100.0%
1996	4,834	89.9%	544	10.1%	5,378	100.0%
1997	5,037	87.7%	709	12.3%	5,746	100.0%
1998	6,066	89.5%	713	10.5%	6,779	100.0%
1999	6,308	87.8%	875	12.2%	7,183	100.0%
2000	5,969	90.5%	627	9.5%	6,596	100.0%
2001	5,752	82.5%	1,222	17.5%	6,974	100.0%
2002	6,325	86.3%	1,004	13.7%	7,329	100.0%
2003	7,036	86.9%	1,064	13.1%	8,100	100.0%
2004	8,207	88.2%	1,103	11.8%	9,310	100.0%
2005	11,308	94.2%	702	5.8%	12,010	100.0%
2006	7,875	88.8%	990	11.2%	8,865	100.0%
2007	4,063	77.6%	1,174	22.4%	5,237	100.0%
2008	2,511	84.4%	465	15.6%	2,976	100.0%
2009	1,896	93.4%	135	6.6%	2,031	100.0%
2010	1,705	96.4%	63	3.6%	1,768	100.0%
2011	1,625	86.1%	262	13.9%	1,887	100.0%
2012	2,981	81.6%	673	18.4%	3,654	100.0%
2013	3,646	80.3%	896	19.7%	4,542	100.0%
2014	3,586	67.0%	1,764	33.0%	5,350	100.0%
2015	4,389	78.4%	1,206	21.6%	5,595	100.0%
2016	5,527	80.0%	1,379	20.0%	6,906	100.0%
2017	6,415	79.6%	1,640	20.4%	8,055	100.0%
2018	7,038	77.9%	1,996	22.1%	9,034	100.0%
2019	7,707	71.5%	3,070	28.5%	10,777	100.0%
2020	8,456	83.7%	1,642	16.3%	10,098	100.0%
2021	8,648	69.0%	3,882	31.0%	12,530	100.0%
2022	6,100	57.1%	4,574	42.9%	10,674	100.0%
2023	6,808	66.0%	3,505	34.0%	10,313	100.0%
2024	3,519	91.4%	333	8.6%	3,852	100.0%
**2024 Permits are through May*						
44-Year Average 1980-2023	4,428	79.8%	1,123	20.2%	5,551	100.0%
10-Year Average 2013-2023	6,211	72.8%	2,323	27.2%	8,534	100.0%
5-Year Average 2019-2023	7,544	69.3%	3,335	30.7%	10,878	100.0%
3-Year Average 2021-2023	7,185	64.3%	3,987	35.7%	11,172	100.0%

Source: U.S. Department of Commerce C-40 Reports and THK Associates, Inc.

Table III-10: Total Housing Units and Type, 2010 US Census & 2020 US Census, 2024 Estimate, in the Boise Seven County Market Area

	2010 US Census					2020 US Census					2024 Estimate			
	Ada County	% of Total	Boise Seven County Total	% of Total		Ada County	% of Total	Boise Seven County Total	% of Total		Ada County	% of Total	Boise Seven County Total	% of Total
Total # of Housing Units	158,138	60%	263,931	100%	Total # of Housing Units	194,176	53%	313,881	100%	Total # of Housing Units	226,992	62%	367,837	100%
Occupied Units	148,445	94%	243,996	92%	Occupied Units	186,708	96%	299,392	95%	Occupied Units	218,261	96%	351,064	95%
Owner Occupied	103,376	70%	172,009	70%	Owner Occupied	131,051	70%	211,552	71%	Owner Occupied	153,199	70%	248,212	71%
Renter Occupied	45,069	30%	71,987	30%	Renter Occupied	55,657	30%	87,840	29%	Renter Occupied	65,063	30%	102,853	29%
Seasonal Units	865	9%	4,581	23%	Seasonal Units	1,850	25%	5,612	39%	Seasonal Units	2,254	26%	6,052	36%
Unit Type Breakdown					Unit Type Breakdown					Unit Type Breakdown				
Single-Family	117,580	79%	190,101	78%	Single-Family	148,920	80%	249,502	83%	Single-Family	159,066	73%	249,502	71%
Multi-Family	25,141	17%	19,695	8%	Multi-Family	31,722	17%	86,077	29%	Multi-Family	46,822	21%	86,077	25%
Miscellaneous*	5,724	4%	34,201	14%	Miscellaneous*	6,065	3%	15,470	5%	Miscellaneous*	12,373	6%	15,470	4%
1 Unit - Detached	109,996	74%	183,499	75%	1 Unit - Detached	140,212	75%	221,687	74%	1 Unit - Detached	141,902	65%	221,687	63%
1 Unit - Attached	7,584	5%	6,602	3%	1 Unit - Attached	8,708	5%	27,815	9%	1 Unit - Attached	17,164	8%	27,815	8%
2 Units	3,257	2%	4,193	2%	2 Units	3,070	2%	2,974	1%	2 Units	878	0%	2,974	1%
3-4 Units	6,639	4%	6,941	3%	3-4 Units	8,778	5%	8,715	3%	3-4 Units	4,561	2%	8,715	2%
5-9 Units	4,339	3%	3,461	1%	5-9 Units	5,193	3%	17,665	6%	5-9 Units	9,892	5%	17,665	5%
10-19 Units	3,494	2%	2,008	1%	10-19 Units	4,770	3%	22,228	7%	10-19 Units	13,145	6%	22,228	6%
20+ Units	7,412	5%	3,092	1%	20+ Units	3,796	2%	16,641	6%	20+ Units	18,346	8%	16,641	5%
Mobile Homes	5,571	4%	33,638	14%	Mobile Homes	6,115	3%	17,854	6%	Mobile Homes	12,373	6%	17,854	5%
Boat, RV, Van, etc.	153	0%	563	0%	Boat, RV, Van, etc.	5,943	3%	15,425	5%	Boat, RV, Van, etc.	0	0%	15,425	4%

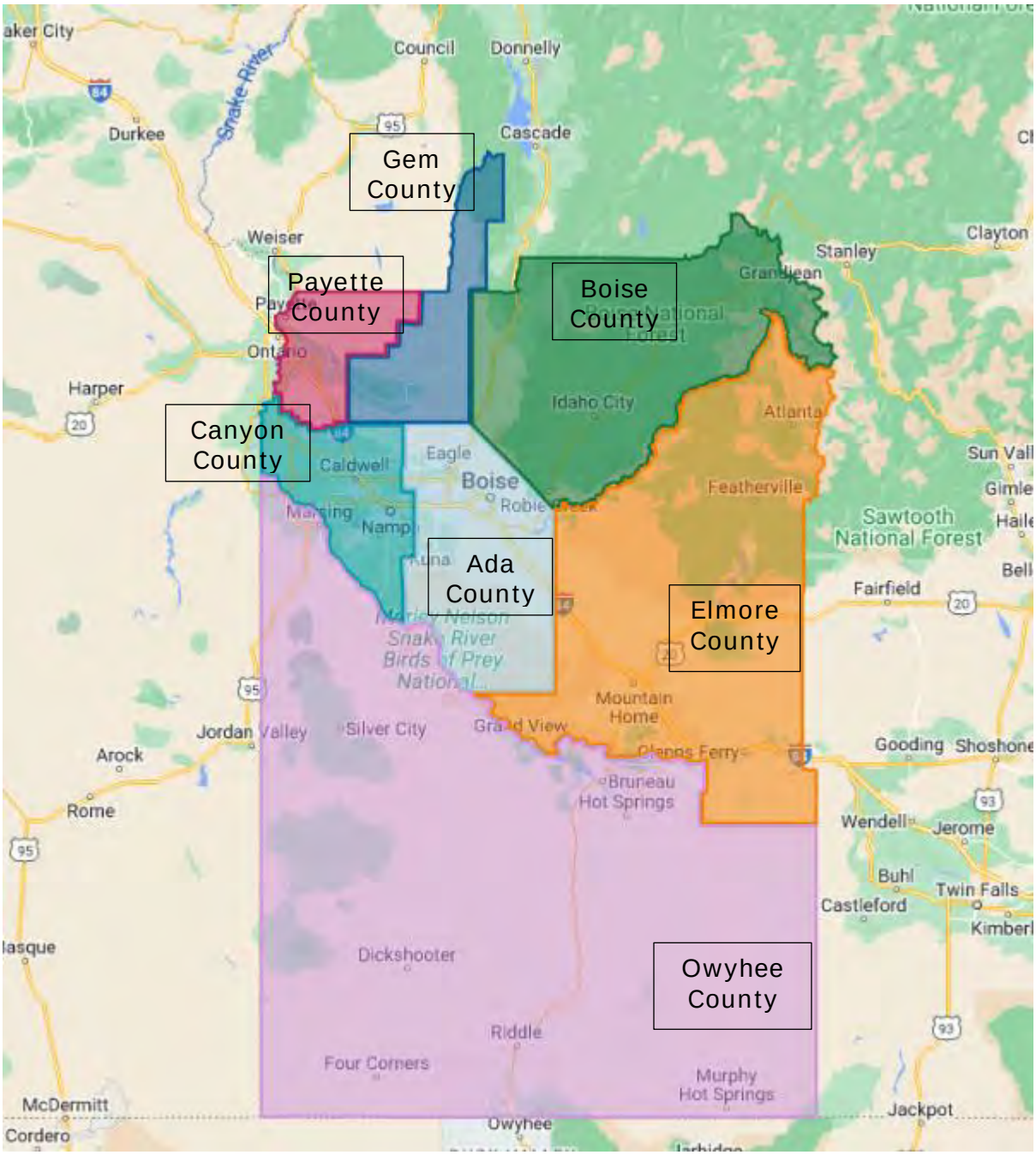
*Miscellaneous housing includes mobile homes, RV's, vans, boats, etc.

Source: US Census Bureau and THK Associates, Inc.

F. ECONOMIC BASE CONCLUSIONS

Similar to most national markets, the seven-county real estate markets and economy were negatively affected by the national economic downturn from 2008 and 2009, and during the height of the pandemic in 2020, but the economy has experienced renewed growth over the past couple of years and employment has surpassed pre-recession levels. THK Associates, Inc. expects job and population growth to continue at a strong pace. Idaho, and particularly Boise, has seen a surge of in-migration, especially from California. This is not expected to abate in the near term. Therefore, the overall outlook for seven-county environs is very positive. In summary it is projected that the Boise regional market area will grow annually by 15,990 jobs and this will generate population growth of 22,147 people per year in 9,571 households.

Figure 6- Seven County Market Area



IV. RESIDENTIAL MARKET ANALYSIS

IV. Residential Market Analysis

A. Projected Residential Demand by Unit Type

The potentials for new residential development are subject to a variety of pressures including interest rates, inflation, and social, political, and other economic influences. Earlier, Section III of this report projected the overall growth in population and household formations for the Seven-County Boise market area. Those projections create the aggregate demand for new housing. Historical trends and housing permits for new housing construction were also examined to show how past construction levels have coincided with population, demographic changes, and economic conditions. Table IV-1 and IV-2 detail the population and household growth for both the Seven-County Area as well as the Shadow Valley Residential Primary Trade Area. In the analysis to determine demand for real estate development, it is necessary to identify the primary area in which the subject site typically will compete. The trade area is a function of population density, natural barriers, accessibility of the site, and the location of competitive projects. A distinctive trade area for demand at the site has been applied. The trade area is a region comprising an approximately 20-minute drive from the subject site. It is predominantly this market area in which the Shadow Valley site will compete for residential demand. The Shadow Valley Residential Primary Trade Area is illustrated in Figure 7.

The historical growth pattern in the primary trade area has shown the following characteristics. In 1990, there were 57,405 people living in the trade area, or approximately 16% of the population of the Seven-County Boise MSA. Today about 13% of the market area's population resides in the trade area. Since 1990, the Shadow Valley Residential trade area has grown by 2,049 people and 862 households annually. Currently, it is estimated that 127,079 persons in 50,052 households occupy the residential primary trade area. Additionally, there is a substantial number of seasonal units in Boise Seven-County market area and the trade area. Today there are just under 700 second homes in the trade area.

Based on historical growth in the area, the economic forecast for the Seven-County market area and the number of residential projects planned, it is possible to project future population levels in the primary trade area. It is projected that the trade area will experience annual average population growth of 2,557 and household growth of 1,066 over the next decade. Thus, the population in the primary trade area will increase to 152,645 by 2034. Table IV-2 shows these projected growth trends.

Table IV-3 summarizes the projected demand for specific residential housing types for the Seven-County market area based on annual household growth from 2024 to 2034. Table IV-3 highlights that the Seven-County market will annually demand an estimated total of 9,956 residential housing units of which 7,069 will be for ownership housing units and 2,887 units will be for rental housing units. Of the total ownership demand 83% will be for single family detached.

Table IV-4 summarizes the projected demand for specific residential housing types for the Shadow Valley Residential PTA based on annual household growth from 2024 to 2034 which was shown in IV-2. Table IV-4 highlights that the Shadow Valley Residential PTA will demand an estimated total of 10,577 ownership housing units and 4,320 rental housing units over 2024 to 2034. Out of the total housing unit demand, 90% is projected to be for single-family detached unit ownership.

Table IV-1: Population and Household Trends in the Boise Seven County Market Area and Shadow Valley Residential PTA, 1990-2024

						Annual Average 1990-2024		Annual Average 2000-2024		Annual Average 2010-2024	
Boise Seven County Market	1990	2000	2010	2020	2024	Numerical	%	Numerical	%	Numerical	%
Population	357,237	514,528	666,222	818,770	961,167	17,763	3.0%	18,610	2.6%	21,067	2.7%
Households	129,029	186,754	243,996	299,392	351,064	6,530	3.0%	6,846	2.7%	7,648	2.6%
Seasonal Units	1,567	3,068	4,581	5,612	6,052	132	4.1%	124	2.9%	105	2.0%
Shadow Valley Residential PTA											
Population	57,405	84,314	99,115	118,368	127,079	2,049	2.4%	1,782	1.7%	1,997	1.8%
Households	20,737	31,240	38,457	46,422	50,052	862	2.6%	784	2.0%	828	1.9%
Seasonal Units	249	375	461	557	680	13	3.0%	13	2.5%	16	2.8%
					2.54						
Shadow Valley Residential PTA as a Percent of the Boise Seven County Market Area											
Population	16.1%	16.4%	14.9%	14.5%	13.2%	11.5%		9.6%		9.5%	
Households	16.1%	16.7%	15.8%	15.5%	14.3%	13.2%		11.4%		10.8%	
Seasonal Units	15.9%	12.2%	10.1%	9.9%	11.2%	9.6%		10.2%		14.8%	

Source: U.S. Bureau of the Census and THK Associates, Inc.

Table IV-2: Population and Household Trends in the Boise Seven County Market Area and Shadow Valley Residential PTA, 2024 -2034

				Annual Average 2024-2029		Annual Average 2024-2034	
Boise Seven County Market	2024	2029	2034	Numerical	%	Numerical	%
Population	961,167	1,065,892	1,182,637	20,945	2.1%	22,147	2.1%
Households	351,064	395,959	446,774	8,979	2.4%	9,571	2.4%
Seasonal Units	6,052	6,520	7,024	94	1.5%	97	1.5%
Shadow Valley Residential PTA							
Population	127,079	139,276	152,645	2,440	1.9%	2,557	1.9%
Households	50,052	55,126	60,715	1,015	2.0%	1,066	2.0%
Seasonal Units	680	760	849	16	2.3%	17	2.2%
Shadow Valley Residential PTA as a Percent of the Boise Seven County Market Area							
Population	13.2%	13.1%	12.9%	11.6%		11.5%	
Households	14.3%	13.9%	13.6%	11.3%		11.1%	
Seasonal Units	11.2%	11.7%	12.1%	17.1%		17.4%	

Source: U.S. Bureau of the Census, Sitewise, & THK Associates, Inc.

Figure 7- Shadow Valley Residential PTA

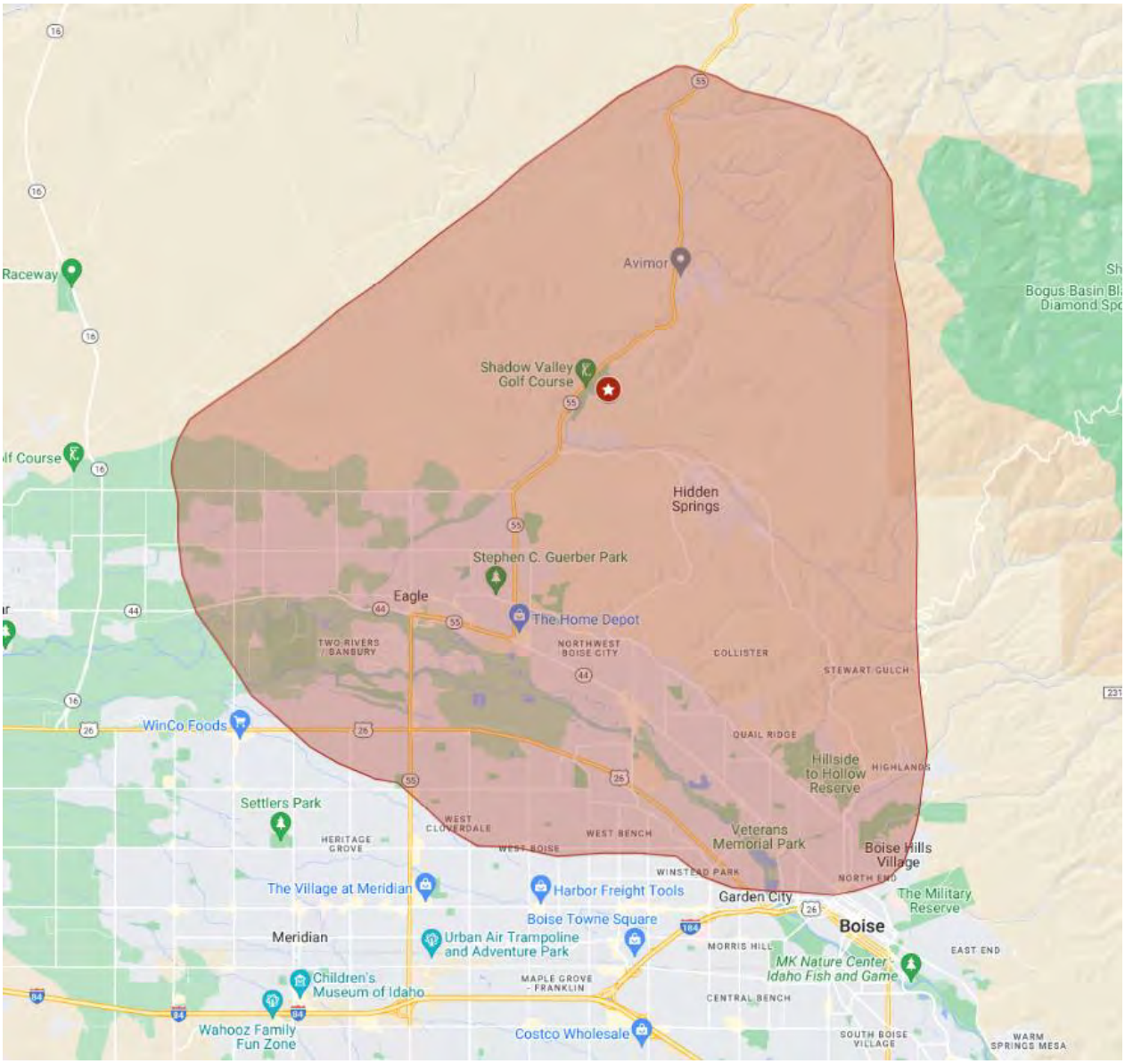


Table IV-3: Boise Seven County Market Projected Residential Demand, 2024-2034

Year	Households	Annual Household Growth	Total Permanent Housing Unit Demand*	Seasonal Households	Seasonal Household Unit Demand	Total Housing Unit Demand	Total Owner-ship	Detached Single Family	Attached Single Family	Rental Housing
2024	351,064	8,328	8,766	6,052	90	8,766	6,575	5,698	877	2,192
2025	359,603	8,538	8,988	6,143	91	8,988	6,741	5,842	899	2,247
2026	368,356	8,753	9,214	6,235	92	9,214	6,911	5,989	921	2,304
2027	377,330	8,973	9,446	6,329	94	9,446	7,084	6,140	945	2,361
2028	386,529	9,199	9,683	6,424	95	9,683	7,262	6,294	968	2,421
2029	395,959	9,430	9,926	6,520	96	9,926	7,445	6,452	993	2,482
2030	405,625	9,667	10,176	6,618	98	10,176	7,632	6,614	1,018	2,544
2031	415,534	9,909	10,431	6,717	99	10,431	7,823	6,780	1,043	2,608
2032	425,692	10,157	10,692	6,818	101	10,692	8,019	6,950	1,069	2,673
2033	436,103	10,411	10,959	6,920	102	10,959	8,219	7,124	1,096	2,740
2034	446,774	10,671	11,233	7,024	104	11,233	8,425	7,301	1,123	2,808
Average Annual Demand (2024-2034)	397,143	9,458	9,956	6,527	97	9,956	7,467	6,471	996	2,489
						100.0%	75.0%	65.0%	10.0%	25.0%
Total Demand (2024-2034)			109,514	71,799	1,062	109,514	82,135	71,184	10,951	27,378

*Assumes 95% Occupancy

Source: THK Associates, Inc.

Table IV-4: Shadow Valley Residential PTA Projected Residential Demand, 2024-2034

Year	Households	Annual Household Growth	Total Housing Unit Demand*	Seasonal Households	Seasonal Household Unit Demand	Total Housing Unit Demand	Ownership Units: Total Owner-ship	Ownership Units: Detached Single Family	Ownership Units: Attached Single Family	Rental Housing
2024	50,052	957	1,007	680	15	1,007	755	680	76	252
2025	51,028	976	1,027	695	15	1,027	771	693	77	257
2026	52,023	995	1,047	711	16	1,047	786	707	79	262
2027	53,038	1,014	1,068	727	16	1,068	801	721	80	267
2028	54,072	1,034	1,089	743	16	1,089	817	735	82	272
2029	55,126	1,054	1,110	760	17	1,110	832	749	83	277
2030	56,201	1,075	1,132	777	17	1,132	849	764	85	283
2031	57,297	1,096	1,154	794	17	1,154	865	779	87	288
2032	58,415	1,117	1,176	812	18	1,176	882	794	88	294
2033	59,554	1,139	1,199	830	18	1,199	899	809	90	300
2034	60,715	1,161	1,222	849	19	1,222	917	825	92	306
Average Annual Demand (2024-2034)	55,229					1,112	834	751	83	278
			% of Total			100.0%	75.0%	67.5%	7.5%	25.0%
Total Demand (2024-2034)						12,231	9,173	8,256	917	3,058

*Assumes 95% Occupancy

Source: THK Associates, Inc.

B. Residential Purchasing Capacity, Rental Capacity and Demand by Price Range

To better quantify the demand for new residential units in the Shadow Valley Residential Primary Trade Area, THK breaks down the existing households by income range and then converts those income ranges into monthly purchasing and rental capacity. In determining housing affordability, it's assumed that households that purchase a home will spend approximately 30% of their gross income on housing on average, and renter households will also spend approximately 30% of their gross income on housing. Based on the median household income of $95,937, residents in the Shadow Valley Residential Primary Trade Area could likely afford a $455,400 home or monthly rental payments of $2,400. This is shown in Table IV-5 below.

Table IV-5: Residential Purchasing and Rental Capacity in the Shadow Valley Residential PTA, 2024

Income Range	Percent of Households	Number of Households	Home Purchasing Capacity	Estimated Monthly Payment (PITI)*	Monthly Rental Capacity**
Under $24,999	9.25%	4,628	Under & $123,600	$620	Under $625
$25,000 - $39,999	7.68%	3,843	$123,600 - $197,800	$1,000	$625 - $999
$40,000 - $49,999	6.33%	3,169	$197,800 - $247,200	$1,250	$1,000 - $1,249
$50,000 - $59,999	6.73%	3,370	$247,200 - $296,600	$1,500	$1,250 - $1,499
$60,000 - $74,999	8.96%	4,487	$296,600 - $370,800	$1,870	$1,500 - $1,874
$75,000 - $99,999	12.82%	6,419	$370,800 - $494,400	$2,500	$1,875 - $2,499
$100,000 - $124,999	10.65%	5,332	$494,400 - $618,000	$3,120	$2,500 - $3,124
$125,000 - $199,999	20.74%	10,383	$618,000 $988,800	$5,000	$3,125 - $4,999
$200,000 - $249,999	9.45%	4,729	$988,800 $1,236,000	$6,250	$5,000 - $6,249
$250,000 & Above	7.38%	3,692	$1,236,000 & Above	$7,812	$6,250 & Above
Median Income* $95,937	100%	50,052	$455,400		$2,400

* Assumes 30% of income used for housing (before taxes and insurance), 20% down payment, 30 yr term, 6.5% interest rate

** Assumes 30% of income used for rental payment

Source: Sitewise and THK Associates, Inc.

C. Home Sales in Dry Creek, Avimor, and Cartwright Ranch

Table VI-6 illustrates all single-family detached sales within the Dry Creek community, Avimor community and Cartwright Ranch from January 1, 2021, to August 5, 2024, which shows a total of 754 sales. Roughly 25.2% of all sales during the period were for homes priced below $699,999, with the $700,000 to $799,999 price range comprising a further 19.0% of total sales. Homes in the $800,000 to $999,999 price range comprised 26.8% of total sales, whereas homes priced above $1,000,000 comprised 29.0% of total sales.

Typically, THK utilizes the PTA's income to further refine demand by income, however, due to the significant influx of relocation to Boise and within the PTA, it is typically seen that these families have very high incomes, which are not represented within the existing household income, therefore THK has utilized single-family detached sales over the past four years to better calculate housing demand by sales price range.

Table IV-7 further refines demand by historical sales and income as it relates to single-family detached housing.

Annual average demand for single-family detached units is 751 units. 20% of demand is from homes priced under $699,999, 20.0% is from homes priced $700,000 - $799,999, 25% is from homes priced $800,000 – $999,999, and the remaining 35% is from homes priced $1,000,000 & above.

Table IV-6: Detached And Attached Single Family Home Sales by Price in Dry Creek, Avimor & Cartwright Ranch, 2021-2024 YTD

Detached Single Family

Year	Under $699,999	Percent of Total	$700,000 $799,999	Percent of Total	$800,000 $999,999	Percent of Total	$1,000,000 & Above	Percent of Total	Total Sales
2021	118	41.1%	72	25.1%	67	23.3%	30	10.5%	287
2022	37	14.6%	35	13.8%	81	32.0%	100	39.5%	253
2023	25	18.0%	30	21.6%	34	24.5%	50	19.8%	139
2024 YTD*	10	13.3%	6	8.0%	20	26.7%	39	15.4%	75
TOTAL	190	25.2%	143	19.0%	202	26.8%	219	29.0%	754

* 2024 YTD as of 8/5/2024

Source: Brady Lasher / Lasher Enterprises and THK Associates, Inc.

Table IV-7: Demand by Price Range Based on Residential Sales in the Shadow Valley Residential PTA

Price Range			Number of Units	Percentage
Detached Single-Family / Duplex				
Under	-	$699,999	150	20.0%
$700,000	-	$799,999	150	20.0%
$800,000	-	$999,999	188	25.0%
$1,000,000	&	Above	263	35.0%
Total Annual Average SF-Detached Demand			751	100%
10-Year Total SF-Detached Demand			8,256	

Source: THK Associates, Inc

D. Locationally and Conceptually Competitive Planned Communities in the Boise Regional Environs

The Boise MSA housing market has been red hot in recent years, with record price appreciation. However, there are indications that the market is cooling as inventories rise and prices stabilize. The median price in the Boise MSA did increase by 6.03%, to $535,500, over the last 12 months.

There are several newer residential communities near the Shadow Valley site and the greater Boise environs that Shadow Valley will compete with for buyers. These communities have similar pricing, amenities, features and settings to that which Shadow Valley is expected to offer. Several of these communities are in the foothills of northwest Boise where Shadow Valley is located, while the others are north and east of downtown Boise.

The following is a description of each of these communities, and their products and offerings.

Avimor

Avimor is a master planned community located along Highway 55, a few miles north of the Shadow Valley site and approximately 10 miles northwest of downtown Boise. It is currently entitled as an 840-acre site, with just over 22,000 additional acres included in a Trust for future expansion. The development is surrounded by thousands of acres of this open space with access to miles of walking trails. Shadow Valley golf course lies just to the south. Avimor includes shops, offices, dining as well as a community pool, 12,000 square foot community center and park. There are 650 lots in the community, ranging from 0.11-1.0 acres. Further, Avimor which is located a few miles north of the subject, has been selling at a lower more competitive price point in the overall market, however, this is whole heartly due to community's overall goal to provide a less expensive product type resulting in the need to provide production housing with mass production quantities to allow this to happen. This is quite the opposite of what is proposed at Shadow Valley.

Cartwright Ranch

Cartwright Ranch is located just to the west of the Shadow Valley site and a couple of miles south of Avimor. It is also nestled in the Boise foothills with over 810 acres of open space and trails. There are community pools and a clubhouse with a fitness center. The adjacent Hidden Springs has recreational, educational and retail amenities. The two communities together will have over 1,400 homes at completion.

Dry Creek Ranch

Dry Creek Ranch is located west of Shadow Valley and is situated between Avimor and Cartwright Ranch. Set on 1,400 acres, Dry Creek Ranch has expansive open space and a trail system as well as a community farm. There are a total of 1,821 lots with an average lot size of 0.34 acres. There are 1-acre sites for luxury custom homes. The first homes were built in 2019.

Harris Ranch

Nestled between the foothills, the Boise River and Lucky Peak Reservoir, Harris Ranch is a 1,300-acre master planned community in east Boise. Upon buildout Harris Ranch will feature 2,800 homes in over a dozen neighborhoods. The community lies just ten minutes from downtown Boise and the Boise Airport.

Amenities and features include miles of foothill trails for walking, biking and running, pocket parks throughout the community, access to the Boise River for fishing and rafting, two community pools, fitness center, as well as the Idaho Shakespeare Festival being located on-site.

Other Conceptual Competition

There are several other projects similar in nature to what is being proposed at Shadow Valley that can help enable a further understanding of the current pricing in the area market.

Wildhorse Ranch is an exclusive gated community with custom homes on large acreage properties. The project began a little over 20 years ago. Located in the foothills east of and above the valley and downtown Boise, and near Harris Ranch, Wildhorse Ranch offers homesites ranging from 1.62 acres to 54.2 acres.

Echenove, aka Broken Horn, is another large lot development that sits right between Dry Creek Ranch and Cartwright Ranch in the foothills just a bit west of Shadow Valley. The 157-acre site has 15 ten-acre homesites.

Hackberry Ranch is located just off Bogus Basin Road about 3 to 4 miles due north of downtown Boise and is planned for 29 homesites on 66.63 acres. Homesites here will range from .25 acres to 1 acre. Hackberry Ridge is an extension of Hackberry Ranch and sits on 173 acres of foothill land with 20 homesites. Lots are around an acre in size with 42 acres dedicated to open space and an additional 69 acres reserved for a future phase.

E. Single Family Detached Residential Potentials on the Shadow Valley Property

Based on the preceding analysis of residential supply and demand in the Shadow Valley Residential Primary Trade Area, the following table illustrates the recommendations for single family detached uses at the Shadow Valley property.

The following table illustrates annual demand for residential uses on the Shadow Valley property from 2022 to 2032.

The Shadow Valley site is proposed for Golf Couse Estates East Zone – (around 63.9 acres with a density of 4 dwelling units per 1 acre) and Foothills Estates West Zone - (around 89 acres with a density of 1 dwelling unit per 1 acre).

It is estimated that the Golf Course Estates East Zone lots to capture approximately 10% of the $700,000 - $799,999 price segment and 15% of the $800,000 - $999,999 price segment of overall market demand. These two segments are estimated to capture an annual average of 43 homes per year between 2026 and 2031. This results in the proposed 255 Golf Course Estates East Zone to be fully absorbed by the market by year end 2031. THK estimates that there will be an average upgrade/add on of 20% for homes in the Golf Course Estates East Zone, equating to an average total home price of $900,000 and $1,080,000, for the price ranges listed above.

Further, it is estimated that the Foothills Estates West Zone lots to capture approximately 5% of the higher end price segment of $1,000,000 and above, of the overall market demand. This segment is estimated to capture an annual average of 13 homes per year between 2026 and 2032. This results in the proposed 89 Foothills Estates West Zone to be fully absorbed by the market by year end 2032. THK estimates that there will be an average upgrade/add on of 10% for homes in the Foothills Estates West Zone, equating to an average total home price of $2,750,000.

Overall, the 344 total lots at the Shadow Valley Planned Development are estimated to be fully absorbed by the market by year end 2032.

Table V-14: Projected Single-Family Detached Ownership Unit Demand and Absorption, 2024-2032

	Golf Course Estates East Zone					Foothills Estates West Zone		
Unit Prices:	Under $699,999	$700,000 $799,999	$800,000 $999,999	Annual Total	Cumulative Total	$1,000,000 Above	Annual Total	Cumulative Total
Annual Avg. Demand in the Primary Trade Area	150	150	188	488	488	263	263	263
Number of Competitors:	5	5	5	--	5	5		5
Generic Site Capture Rate:	16.7%	16.7%	16.7%	--	--	16.7%	--	--
Projected Site Capture Rate:	N/A	10.0%	15.0%	--	--	5.0%	--	--
Annual Absorption (Units)								
2024				***** Planning and Development *****				
2025				***** Planning and Development *****				
2026	N/A	14	27	41	41	12	12	12
2027	N/A	14	27	41	82	13	13	25
2028	N/A	15	28	42	124	13	13	38
2029	N/A	15	28	43	167	13	13	51
2030	N/A	15	29	44	211	13	13	64
2031	N/A	15	29	44	255	14	14	78
2032	N/A	-	-	-	-	11	11	89
Total	N/A	88	167	255	255	89	--	89
Average	N/A	15	28	43	--	13	13	--
Average Net Density*	N/A	4.0	4.0	4.0	--	1.0	1.0	--
Net Acres (Annual Avg.)	N/A	3.7	7.0	10.6	--	12.7	12.7	--
Net Acres	N/A	22.0	41.8	63.8	--	88.8	88.8	--
Average Monthly Sales	N/A	1.2	2.3	3.5	--	1.1	1.1	--

* N/A. Not Applicable at the Shadow Valley site.

V. School Enrollment, School Facilities and Transportation Analysis

V. School Enrollment, School Facilities and Transportation Analysis

A. General Information

The Shadow Valley Planned Development is located within the West Ada School District. The following analysis illustrates the potential school enrollment, potential demand, if any, for any additional school facilities, and potential transportation needs, if any, created from the Shadow Valley Planned Development.

The Shadow Valley subject site has no schools within a one-mile radius. The closest school is Hidden Springs Elementary School, which is 3.5-miles to the southeast, however this school is not within the West Ada School District, which the subject site falls into. Figure 8 illustrates a one-mile radius from the Shadow Valley subject site.

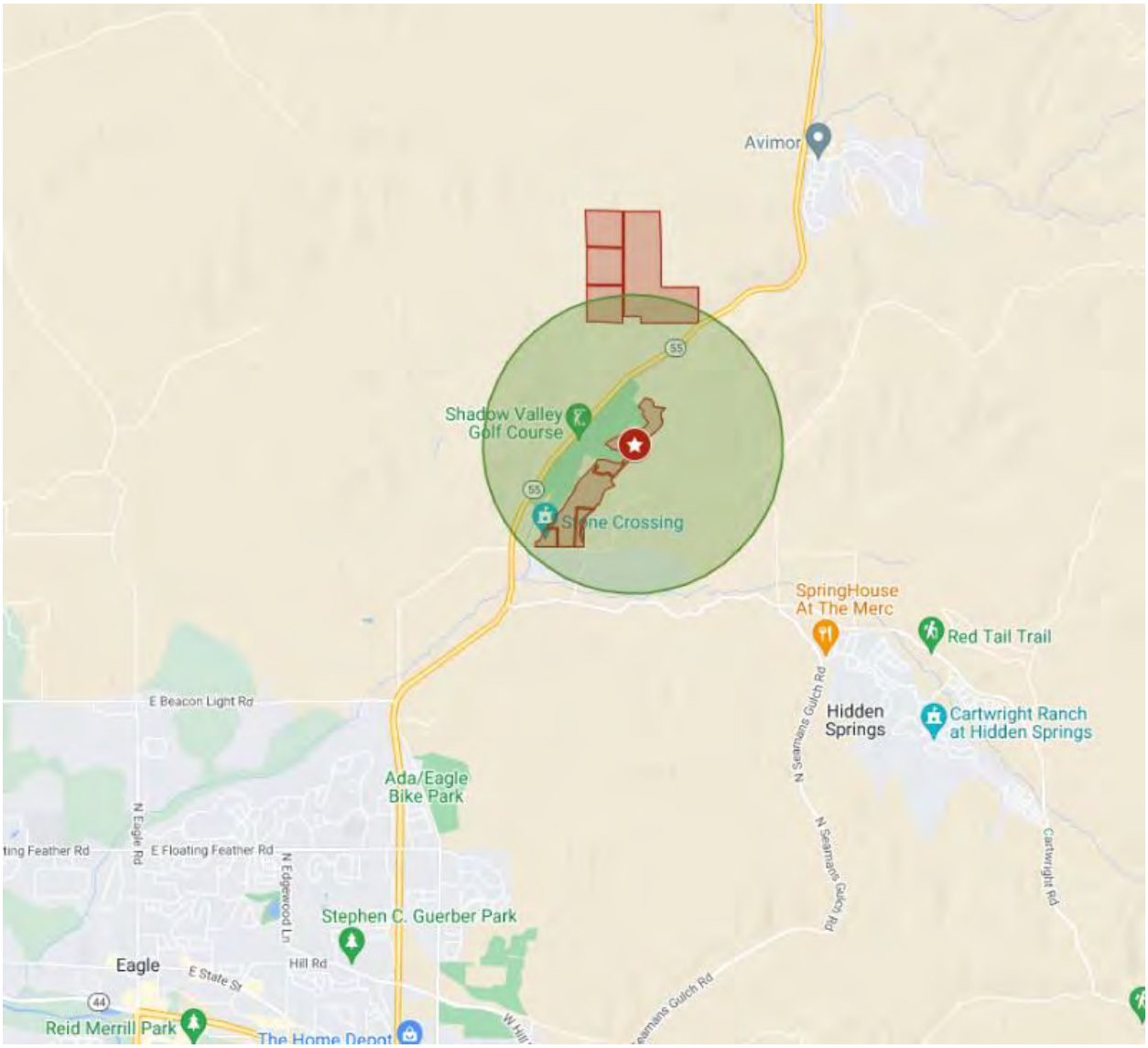
As stated above, the Shadow Valley Planned Development is located within the West Ada Schol District. The West Ada School District Boundary Map is illustrated in Figure 9.

Figure 10 illustrates the enrollment boundary for Elementary School that applies to the future residents at Shadow Valley. The Shadow Valley residents would attend Seven Oaks Elementary School, which is located approximately 3.6-miles southwest of the subject site.

Figure 11 illustrates the enrollment boundary for Middle School that is applicable to the future residents at Shadow Valley. The residents would attend Eagle Middle School, which is approximately 5.7-miles southwest of the subject site.

Figure 12 illustrates the enrollment boundary for High School that applies to the future residents of Shadow Valley. The residents would attend Eagle High School, which is approximately 7.9-miles southwest of the subject site.

Figure 8- Shadow Valley One Mile Radius Existing School Inventory



Note: There are no schools within a one-mile radius of the Shadow Valley subject site.

Figure 9- West Ada School District Boundary Map

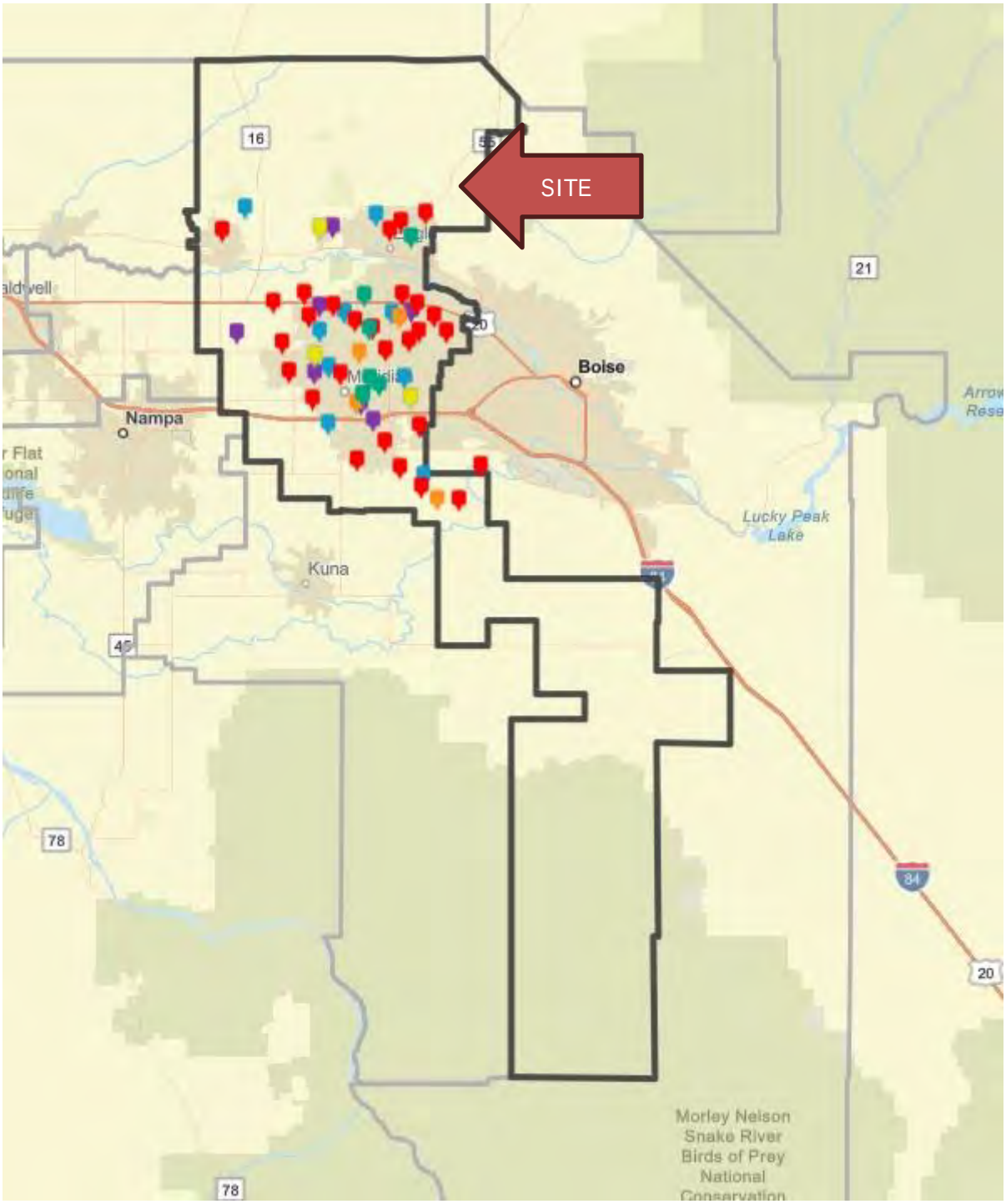


Figure 10- Shadow Valley Subject Site - Elementary School Boundary

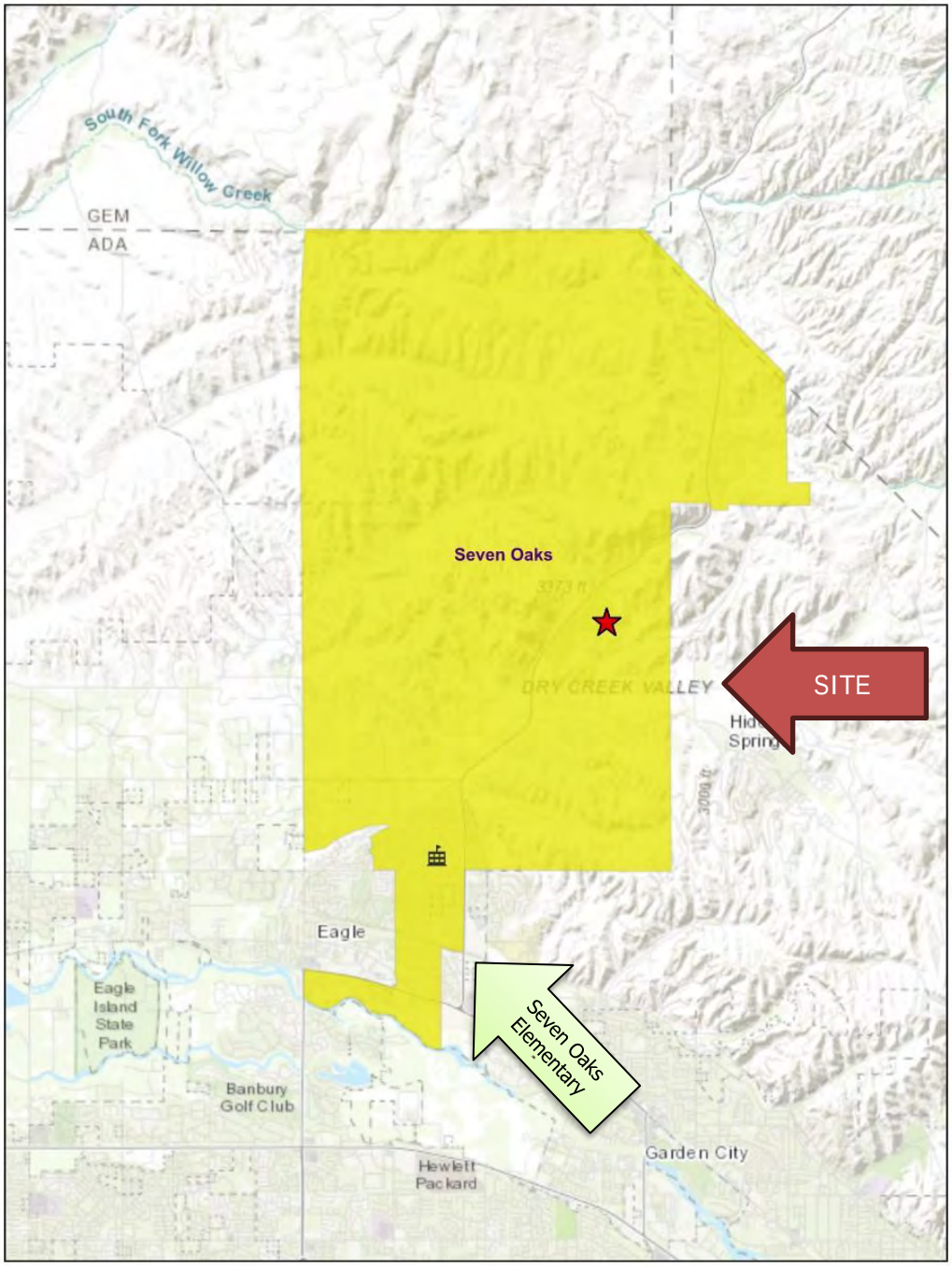


Figure 11- Shadow Valley Subject Site - Middle School Boundary

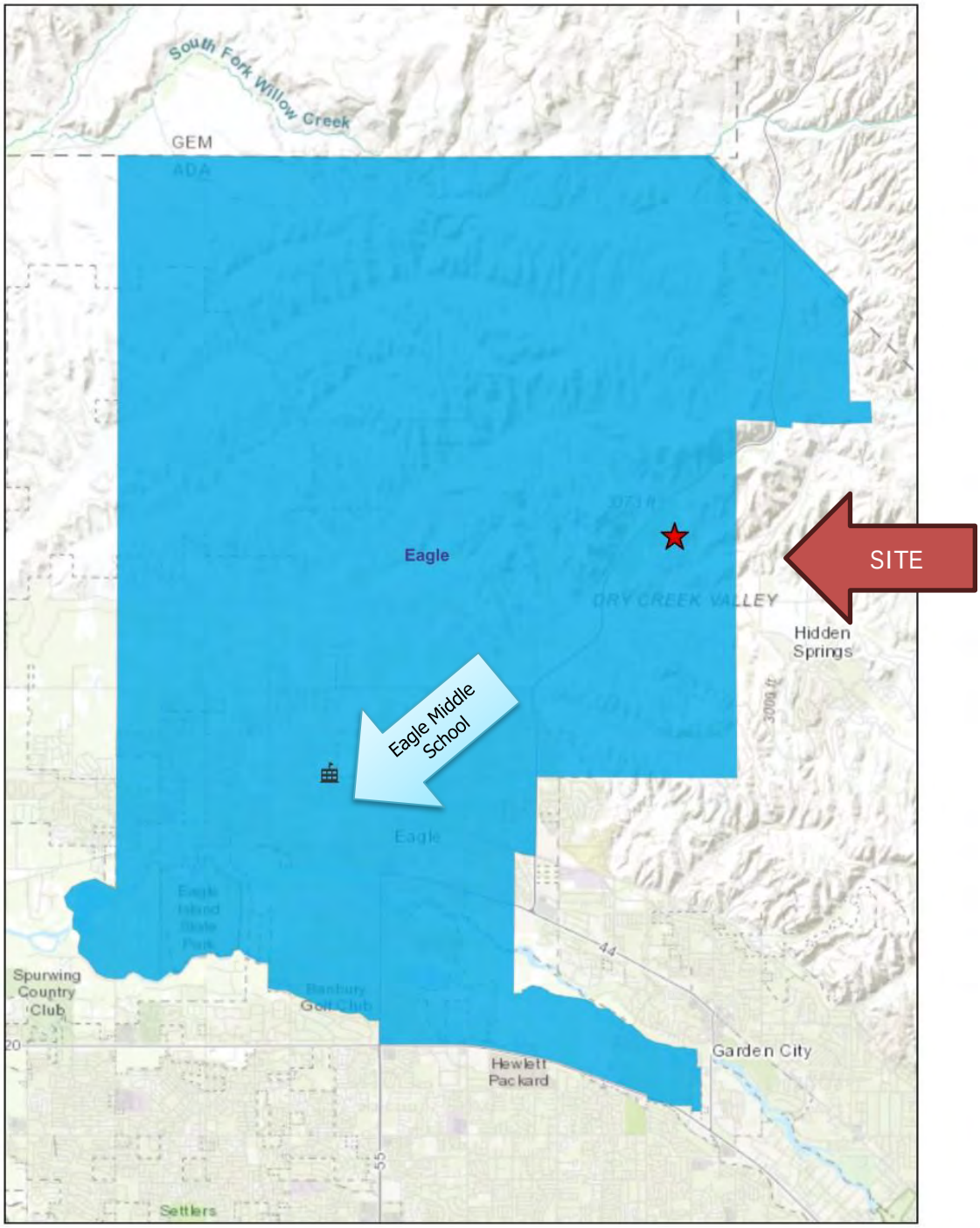
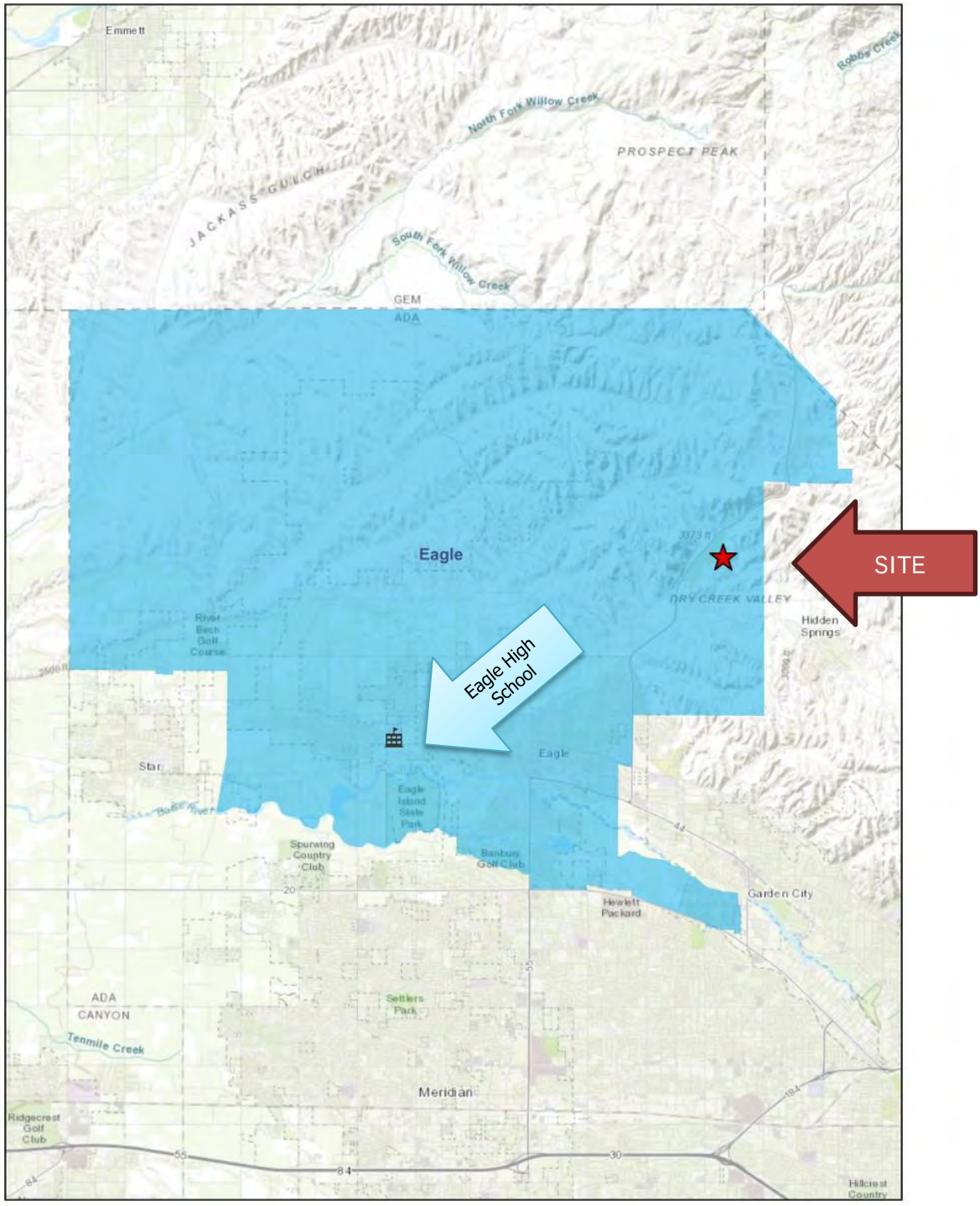


Figure 12- Shadow Valley Subject Site - High School Boundary



B. Potential West Ada School District Enrollment Generated by the Shadow Valley Planned Development

Utilizing the project absorption schedule of the 344 planned units at the Shadow Valley Planned Development in conjunction with Bureau of the Census data regarding school enrollment, THK has arrived at a potential West Ada School District Enrollment generated by the Shadow Valley Planned Development.

Table V-1 illustrates the potential population and households generated by the Shadow Valley PD. THK has assumed that units will come online in 2026, therefore there are no households at the Shadow Valley PD in 2024. THK estimates that by 2029, there will be 218 households which equates to approximately 555 residents. THK expects population and households to increase to full build out potentials by 2034, having 344 households containing 874 residents. THK has utilized a 2.54 persons per household ratio to arrive at the estimated number of residents, the ratio utilized at the subject site is that which is seen in the Shadow Valley Residential PTA today.

Table V-2 to V-4 further refines the projected population by age range and gender in the Shadow Valley Planned Development in 2024, 2029, and 2034. As mentioned above, there are no residences in 2024 therefore, Table V-2 will show all zeros.

Table V-1: Population and Household Projections in the Boise Seven-County Market and at the Shadow Valley Planned Development Community, 2024-2034

				Annual Average			
				2024-2029		2024-2034	
Boise Seven-County Market Area	2024	2029	2034	Numerical	Percent	Numerical	Percent
Population	961,167	1,065,892	1,182,637	20,945	2.1%	22,147	2.1%
Households	351,064	395,959	446,774	8,979	2.4%	9,571	2.4%
Shadow Valley Planned Development Community							
Population	0	555	874	111	--	87	--
Households	0	218	344	44	--	34	--
Shadow Valley Planned Development Community as a percent of Boise Seven-County Market Area							
Population	--	0.1%	0.1%	0.5%	--	0.4%	--
Households	--	0.1%	0.1%	0.5%	--	0.4%	--

* Assumes 2.54 People per Household

Source: U.S. Bureau of the Census and THK Associates, Inc.

Table V-2: Population by Age at Shadow Valley Planned Development, 2024

Age	Total Population	% of Total Population	Male Population	% of Total Population	Female Population	% of Total Population
4 or younger	0	-	0	-	0	-
5 to 13	0	-	0	-	0	-
14 to 17	0	-	0	-	0	-
18 to 21	0	-	0	-	0	-
22 to 24	0	-	0	-	0	-
25 to 29	0	-	0	-	0	-
30 to 34	0	-	0	-	0	-
35 to 39	0	-	0	-	0	-
40 to 44	0	-	0	-	0	-
45 to 49	0	-	0	-	0	-
50 to 54	0	-	0	-	0	-
55 to 59	0	-	0	-	0	-
60 to 64	0	-	0	-	0	-
65 to 69	0	-	0	-	0	-
70 to 74	0	-	0	-	0	-
75 to 79	0	-	0	-	0	-
80 to 84	0	-	0	-	0	-
85 and older	0	-	0	-	0	-
	0	-	0	-	0	-

Source: U.S. Bureau of the Census, Sitewise and THK Associates, Inc.

Table V-3: Population by Age at the Shadow Valley Planned Development, 2029

Age	Total Population	% of Total Population	Male Population	% of Total Population	Female Population	% of Total Population
4 or younger	30	5.4%	13	2.4%	17	3.0%
5 to 13	50	9.1%	24	4.3%	27	4.8%
14 to 17	25	4.6%	13	2.4%	12	2.2%
18 to 21	29	5.2%	15	2.6%	14	2.5%
22 to 24	23	4.2%	12	2.1%	12	2.1%
25 to 29	39	7.0%	17	3.1%	22	4.0%
30 to 34	32	5.8%	13	2.3%	20	3.5%
35 to 39	27	5.0%	13	2.3%	15	2.6%
40 to 44	29	5.2%	14	2.5%	15	2.6%
45 to 49	32	5.7%	16	2.9%	16	2.9%
50 to 54	34	6.1%	16	2.9%	18	3.2%
55 to 59	34	6.2%	17	3.0%	18	3.2%
60 to 64	35	6.3%	17	3.0%	18	3.3%
65 to 69	36	6.4%	17	3.1%	19	3.4%
70 to 74	34	6.1%	16	2.9%	18	3.3%
75 to 79	29	5.2%	13	2.3%	16	2.9%
80 to 84	21	3.7%	9	1.6%	12	2.1%
85 and older	15	2.7%	6	1.1%	9	1.7%
	554	100.0%	260	46.9%	296	53.4%

Source: U.S. Bureau of the Census, Sitewise and THK Associates, Inc.

Table V-4: Population by Age at the Shadow Valley Planned Development, 2034

Age	Total Population	% of Total Population	Male Population	% of Total Population	Female Population	% of Total Population
4 or younger	43	5.0%	19	2.2%	24	2.8%
5 to 13	73	8.3%	34	3.9%	39	4.4%
14 to 17	36	4.1%	18	2.1%	17	2.0%
18 to 21	41	4.7%	21	2.4%	20	2.3%
22 to 24	33	3.8%	16	1.9%	17	1.9%
25 to 29	55	6.3%	24	2.7%	31	3.6%
30 to 34	46	5.2%	18	2.1%	27	3.1%
35 to 39	40	4.6%	19	2.2%	21	2.4%
40 to 44	45	5.1%	23	2.6%	22	2.5%
45 to 49	52	5.9%	26	2.9%	26	3.0%
50 to 54	54	6.2%	25	2.9%	29	3.3%
55 to 59	55	6.3%	26	3.0%	28	3.3%
60 to 64	56	6.5%	27	3.1%	30	3.4%
65 to 69	60	6.8%	29	3.3%	31	3.5%
70 to 74	59	6.8%	28	3.2%	31	3.6%
75 to 79	51	5.9%	22	2.6%	29	3.3%
80 to 84	39	4.4%	16	1.9%	22	2.5%
85 and older	36	4.2%	15	1.7%	22	2.5%
	873	100.0%	407	46.6%	466	53.3%

Source: U.S. Bureau of the Census, Sitewise and THK Associates, Inc.

Table V-5 takes the population by age range from Tables V-2, V-3, and V-4 to illustrate overall potential school enrollment generated by the Shadow Valley Planned Development. These numbers include all school-aged children, whether they are in public schools or private schools or not in school. THK has estimated that by 2029, there will be 93 school aged children, of which 74 of those would typically be enrolled in a K-12 program. By 2034, the Shadow Valley PD would have 136 school age children, of which 109 of those would be typically enrolled in a K-12 program.

Table V-6 looks at United States Bureau of the Census data regarding the percentage of school-aged students enrolled in schools along with public versus private school enrollment in Ada County, Idaho. This allows THK to better refine the school enrollment projections to better determine the number of students that would attend a West Ada School District School.

Table V-7 utilizes the overall projected number of school aged students from Table V-5 along with the percentage of students enrolled in school and further, in public schools (Table V-6), to refine the potentials of West Ada School District enrollment generated by the Shadow Valley PD. THK estimates that in 2029, there could be 61 students who are eligible to be enrolled in a K-12 program via West Ada School District. This number is set to increase to 90 eligible students by 2034.

Table V-5: School Age Children at the Shadow Valley Planned Development, 2024 - 2034

		2024		2029		2034		Average Annual Change (2024 - 2034)
Grade	Typical Age	Population	% of Total Population	Population	% of Total Population	Population	% of Total Population	Population
Preschool	2 - 4	0	0.0%	19	3.4%	27	3.1%	3
K	5	0	0.0%	5	1.0%	8	0.9%	1
1	6	0	0.0%	5	0.9%	7	0.8%	1
2	7	0	0.0%	5	0.9%	8	0.9%	1
3	8	0	0.0%	5	1.0%	8	0.9%	1
4	9	0	0.0%	5	1.0%	8	0.9%	1
5	10	0	0.0%	6	1.0%	8	0.9%	1
6	11	0	0.0%	6	1.0%	8	1.0%	1
7	12	0	0.0%	6	1.1%	9	1.0%	1
8	13	0	0.0%	6	1.1%	9	1.0%	1
9	14	0	0.0%	6	1.1%	9	1.0%	1
10	15	0	0.0%	7	1.2%	9	1.1%	1
11	16	0	0.0%	6	1.1%	9	1.0%	1
12	17	0	0.0%	6	1.1%	9	1.0%	1
Total School Age Children		0	0.0%	93	17.0%	136	15.5%	14
Total Elementary School Age Children Kindergarten - 5th Grade		0	0.0%	31	9.2%	47	8.4%	5
Total Middle School Age Children 6th - 8th Grade		0	0.0%	18	3.3%	26	3.0%	3
Total High School Age Children 9th - 12th Grade		0	0.0%	25	4.6%	36	4.1%	4
Total Potential Enrollment for West Ada School District Kindergarten - 12th Grade		0	0.0%	74	13.6%	109	12.4%	11
Total Population		0	100.0%	554	100.0%	873	100.0%	87

Source: U.S. Bureau of the Census, Sitewise and THK Associates, Inc.

Table V-6: Public vs. Private School Enrollment in the Ada County Market

			Enrolled Students	
Grade	Typical Age	% Enrolled in School	% Enrolled in Public School	% Enrolled in Private School
Pre-K	3-4	56.9%	33.8%	66.2%
K	5	94.6%	82.9%	17.1%
1	6	94.6%	82.9%	17.1%
2	7	94.6%	82.9%	17.1%
3	8	94.6%	82.9%	17.1%
4	9	94.6%	82.9%	17.1%
5	10	98.1%	86.7%	13.3%
6	11	98.1%	86.7%	13.3%
7	12	98.1%	86.7%	13.3%
8	13	98.1%	86.7%	13.3%
9	14	98.1%	86.7%	13.3%
10	15	97.5%	85.0%	15.0%
11	16	97.5%	85.0%	15.0%
12	17	97.5%	85.0%	15.0%

Source: U.S. Bureau of the Census and THK Associates, Inc

Table V-7: School Age Children at the Shadow Valley Planned Development to be Enrolled in the West Ada School District Public Schools, 2024-2034

		2024		2029		2034		Average Annual Change (2024 - 2034)
Grade	Typical Age	Population	% of Total Population	Population	% of Total Population	Population	% of Total Population	Population
Preschool	2 - 4	0	-	4	0.7%	5	0.6%	3
K	5	0	-	4	0.7%	6	0.7%	1
1	6	0	-	4	0.7%	5	0.6%	1
2	7	0	-	4	0.7%	6	0.7%	1
3	8	0	-	4	0.7%	6	0.7%	1
4	9	0	-	4	0.7%	6	0.7%	1
5	10	0	-	5	0.9%	7	0.8%	1
6	11	0	-	5	0.9%	7	0.8%	1
7	12	0	-	5	0.9%	8	0.9%	1
8	13	0	-	5	0.9%	8	0.9%	1
9	14	0	-	5	0.9%	8	0.9%	1
10	15	0	-	6	1.0%	7	0.9%	1
11	16	0	-	5	0.9%	7	0.9%	1
12	17	0	-	5	0.9%	7	0.9%	1
Total School Age Children		0	0.0%	65	11.6%	95	10.8%	9
Total Elementary School Age Children Kindergarten - 5th Grade		0	0.0%	25	5.1%	37	4.9%	4
Total Middle School Age Children 6th - 8th Grade		0	0.0%	15	2.8%	22	2.5%	2
Total High School Age Children 9th - 12th Grade		0	0.0%	21	3.8%	30	3.4%	3
Total Potential Enrollment for West Ada School District Kindergarten - 12th Grade		0	0.0%	61	11.0%	90	10.3%	9
Total Population		0	100.0%	554	100.0%	873	100.0%	87

* See Table V-6 for Capture Rates

Source: U.S. Bureau of the Census, Sitewise and THK Associates, Inc.

C. Potential West Ada School District Facility Needs within the Shadow Valley Planned Development

It is THK's understanding that West Ada School District might have facilities needs within the Shadow Valley Planned Development. The development team is committed to working with West Ada School District to ensure their needs are met. This needs to be verified by the Development Team in coordination with West Ada School District.

D. Potential West Ada School District Transportation Needs Generated from the Shadow Valley Planned Development

The Shadow Valley Planned Development falls into West Ada School District's bus zone, and the students who reside in Shadow Valley will need transportation to and from school. The development team is committed to working with West Ada School District to ensure their needs are met. Specifics of this to be verified by the development team in cooperation with West Ada School District.

VI. RETAIL MARKET ANALYSIS

VI. RETAIL MARKET ANALYSIS

A. SEVEN-COUNTY MARKET AREA, ADA-COUNTY MARKET AREA AND THE SHADOW VALLEY RETAIL PTA RETAIL CHARACTERISTICS

In the analysis to determine demand for real estate development, it is necessary to identify the primary trade area (PTA) in which the subject will compete in. The PTA is a function of population density, natural barriers, accessibility of the sites, and the location of the competitive projects. The Shadow Valley Retail PTA is illustrated in Figure 13. This area is predominantly the market environment from which the Shadow Valley site will draw much of its demand, for retail/commercial use.

The report indicates that the Seven County market area and the Ada County market area contains 46,042,622 square feet and 30,746,828 square feet, respectively of retail space. The Shadow Valley Retail PTA has 89,326 square feet of retail space or 0.2% of the total retail space within the Seven-County market area.

As shown in Table VI-1, the Seven-County market area and the Ada County market area have a vacancy of 3.0% and 2.7%, respectively, while the Shadow Valley Retail PTA does not have a reported vacancy, however, when inventorying the PTA, THK has calculated that there is a 26.7% vacancy, which is illustrated in Table VI-12. The Seven-County market area and the Ada County market area are demanding a $20.11 triple net lease and an $20.87 triple net lease, respectively, while the Shadow Valley Retail PTA is demanding a $26.35 triple net rent.

Tables VI-2, VI-3 and VI-4 detail historical trends for the Seven-County Market Area, Ada County Market Area and the Shadow Valley Retail PTA.

Figure 13- Shadow Valley Retail Primary Trade Area (PTA)

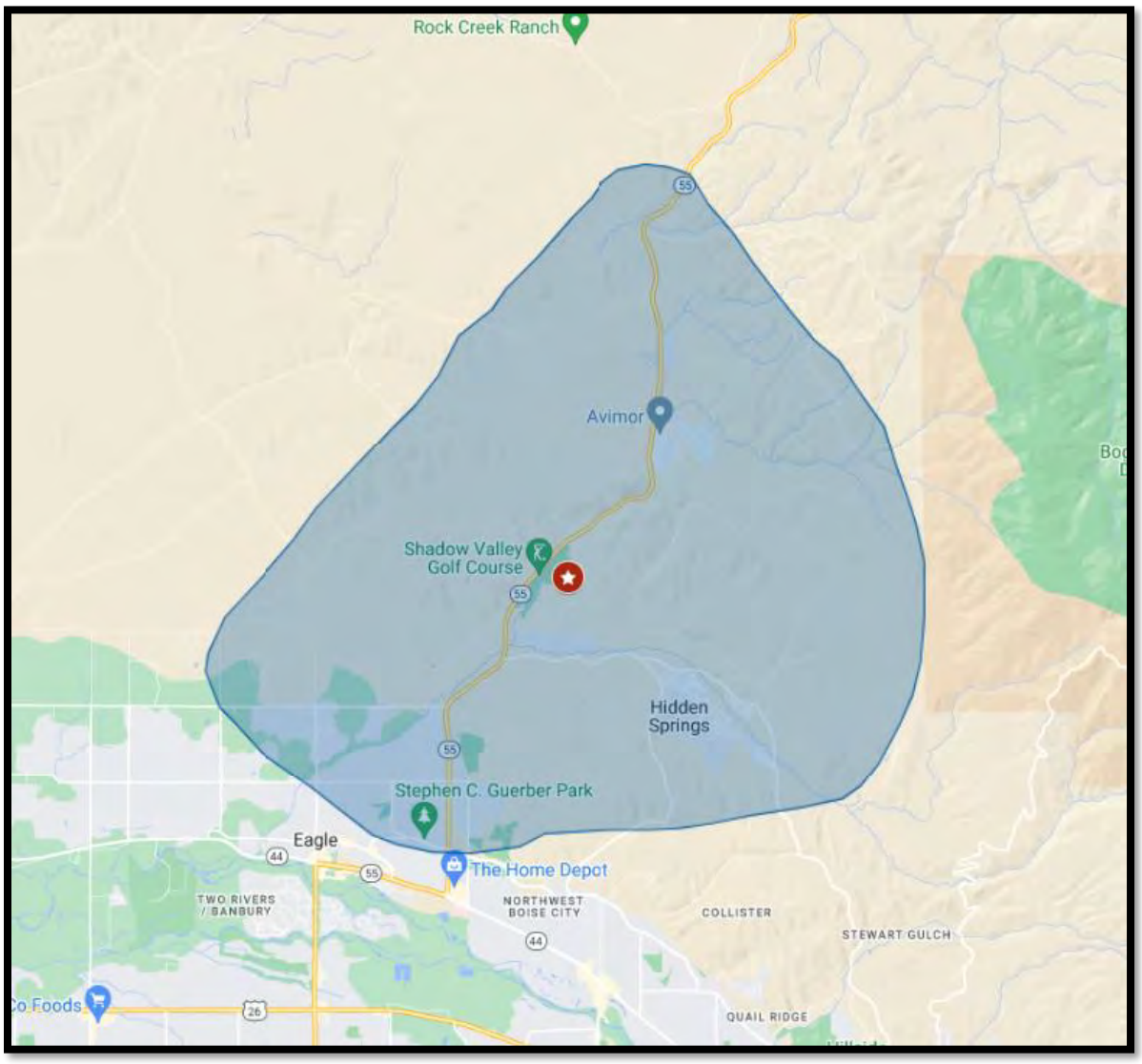


Table VI-1: Retail Trends For the Boise Seven County, Ada-County Market Area and Shadow Valley Retail PTA, 2024

	Existing Inventory							
Markets	# of Buildings	Total RBA	Total SF	Vacant %	Net Absorption	Deliveries (Bldgs)	Under Construction SF	Quoted Rates
Seven County Market Area	4,953	46,024,622	1,402,129	3.0%	434,643	18	-	$20.11
Ada County Market Area	2,843	30,746,828	829,663	2.7%	373,288	16	-	$20.87
Shadow Valley Retail PTA	16	89,326	-	-	3,855	-	-	$26.35
Shadow Valley Retail PTA as a % of Seven-County Market Area	0.3%	0.2%	-	-	0.9%	0.0%	0.0%	131.0%

Source: CoStar and THK Associates, Inc.

Table VI-2: Seven County Market Area Area Trends, 2014-2024

Year	Inventory Bldgs	Inventory SF	Vacant SF Total	Vacant Percent % Total	Net Absorption SF Total	Gross Absorption SF Total	Deliveries Bldgs	Deliveries SF	Under Construction Bldgs	Under Construction SF	NNN Rent Overall
2024 YTD	4,953	46,024,622	1,402,129	3.0%	434,643	1,005,704	18	379,633	-	-	$20.11
2023	4,935	45,644,989	1,457,139	3.2%	328,612	1,121,612	27	284,761	18	379,633	$19.82
2022	4,908	45,360,228	1,500,990	3.3%	257,620	1,058,732	23	202,522	20	254,672	$18.30
2021	4,885	45,157,706	1,556,088	3.4%	1,120,079	1,640,386	26	677,148	15	162,241	$17.40
2020	4,859	44,480,558	1,999,019	4.5%	353,315	993,562	31	471,742	16	489,043	$13.76
2019	4,825	44,002,816	1,880,019	4.3%	(36,789)	1,148,569	24	214,460	19	375,692	$15.45
2018	4,801	43,788,356	1,627,576	3.7%	807,985	1,829,576	46	401,998	12	141,786	$12.68
2017	4,755	43,386,358	2,033,563	4.7%	211,313	1,619,454	46	370,147	24	231,091	$12.54
2016	4,709	43,016,211	1,874,729	4.4%	226,285	1,394,674	35	319,122	28	203,896	$12.63
2015	4,674	42,697,089	1,781,892	4.2%	837,038	1,209,946	39	244,747	19	182,178	$12.13
2014	4,635	42,452,342	2,374,183	5.6%	1,133,417	1,758,915	35	732,448	23	127,591	$11.84
Average	4,813	44,182,843	1,771,575	4.0%	515,774	1,343,739	31.8	390,793	19.4	254,782	$15.15

*2024 YTD is through June

Source: THK Associates Inc., CoStar

Table VI-3: Ada County Market Area Trends 2014-2024

Year	Inventory Bldgs	Inventory SF	Vacant SF Total	Vacant Percent % Total	Net Absorption SF Total	Gross Absorption SF Total	Deliveries Bldgs	Deliveries SF	Under Construction Bldgs	Under Construction SF	NNN Rent Overall
2024 YTD	2,843	30,746,828	829,663	2.7%	373,288	772,414	16	326,588	-	-	$20.87
2023	2,827	30,420,240	876,363	2.9%	394,295	901,130	20	248,655	16	326,588	$20.41
2022	2,807	30,171,585	1,022,003	3.4%	112,851	770,972	20	180,642	16	230,378	$18.74
2021	2,787	29,990,943	954,212	3.2%	779,345	1,198,646	21	635,932	13	142,375	$17.87
2020	2,766	29,355,011	1,097,625	3.7%	305,871	633,183	24	408,540	16	489,043	$14.50
2019	2,739	28,940,471	994,383	3.4%	134,634	818,164	19	186,808	15	348,698	$15.22
2018	2,720	28,753,663	941,015	3.3%	673,510	1,428,584	30	261,070	10	134,440	$13.24
2017	2,690	28,492,593	1,353,455	4.8%	214,352	1,190,080	33	302,737	15	162,630	$12.88
2016	2,657	28,189,856	1,265,070	4.5%	113,131	968,789	25	186,749	19	168,337	$13.00
2015	2,632	28,003,107	1,191,452	4.3%	562,157	816,878	22	98,821	14	83,249	$12.60
2014	2,610	27,904,286	1,654,788	5.9%	749,299	1,209,829	23	510,436	14	71,165	$12.37
Average	2,734	29,178,962	1,107,275	3.8%	401,158	973,515	23.0	304,271	14.8	215,690	$15.61

*2024 YTD is through June

Source: THK Associates Inc., CoStar

Table VI-4: Shadow Valley Retail PTA Market Trends, 2014-2024

Year	Inventory Bldgs	Inventory SF	Vacant SF Total	Vacant Percent % Total	Net Absorption SF Total	Gross Absorption SF Total	Deliveries Bldgs	Deliveries SF	Under Construction Bldgs	Under Construction SF	NNN Rent Overall
2024 YTD	16	89,326	-	-	3,855	3,855	-	-	-	-	$26.35
2023	16	89,326	3,855	4.3%	(2,930)	3,805	-	-	-	-	$26.35
2022	16	89,326	925	1.0%	5,021	8,876	1	5,946	-	-	$28.48
2021	15	83,380	-	-	11,720	5,720	2	11,720	1	5,946	$24.01
2020	13	71,660	-	-	12,733	12,733	1	12,733	-	-	$15.50
2019	12	58,927	-	-	-	-	-	-	1	12,733	-
2018	12	58,927	-	-	4,050	4,050	1	4,050	-	-	-
2017	11	54,877	-	-	-	-	-	-	-	-	-
2016	11	54,877	-	-	-	-	-	-	-	-	-
2015	11	54,877	-	-	-	-	-	-	-	-	-
2014	11	54,877	-	-	-	-	-	-	-	-	-
Average	13	69,125	2,390	2.7%	5,742	6,507	1.3	8,612	1.0	9,340	$24.14

*2024 YTD is through June

Source: THK Associates Inc., CoStar

B. SHADOW VALLEY RETAIL PRIMARY TRADE AREA HOUSEHOLD GROWTH TRENDS

In the analysis to determine demand for real estate development, it is necessary to identify the primary area in which the subject site typically will compete. The trade area is a function of population density, natural barriers, accessibility of the site, and the location of competitive projects. The Shadow Valley Retail Primary Trade Area is predominantly the market environment in which the Shadow Valley retail site will draw much of its demand.

The historical growth pattern in the trade area has shown the following characteristics, as seen in Table VI-5. In 1990, there were approximately 3,717 people living in the primary trade area representing 1.0% of the Seven-County area's total population. Since 1990, the primary trade area has increased by 472 people and added 170 households annually. In 2024, approximately 19,762 people in 7,099 permanent households occupy the primary trade area.

As the employment base in the site' environs expand, a corresponding increase in population growth will result. Increased population and household growth will have positive impacts on retail sales and demand for commercial space.

Based on historical growth in the area, the economic forecast for the market area and the number of residential projects planned, it is possible to project future population levels in the primary trade area. As employment centers continue to expand in the region, the trade area will likely grow correspondingly as residents at these facilities prefer to live near their place of employment.

It is projected that the primary trade area will experience an annual average permanent population growth of 492 and household growth of 194 over the next decade. The population in the primary trade area is estimated to be 22,088 by 2029 and 24,687 by 2034. The households in the primary trade area are estimated to be 8,012 by 2029 and 9,043 by 2034. Table VI-6 shows these projected growth trends.

Table VI-5: Population and Household Trends in Seven-County Market Area and Shadow Valley Retail PTA, 1990-2024

						Annual Average					
						1990-2024		2000-2024		2010-2024	
Seven County Market Area	1990	2000	2010	2020	2024	Numerical	%	Numerical	%	Numerical	%
Population	357,237	514,528	666,222	818,770	961,167	17,763	3.0%	18,610	2.6%	21,067	2.7%
Households	129,029	186,754	243,996	299,392	351,064	6,530	3.0%	6,846	2.7%	7,648	2.6%
Ada County											
Population	205,775	300,904	392,365	494,967	578,615	10,966	3.1%	11,571	2.8%	13,304	2.8%
Households	77,471	113,408	148,445	186,708	218,261	4,141	3.1%	4,369	2.8%	4,987	2.8%
Shadow Valley Retail PTA											
Population	3,717	8,280	13,639	16,258	19,762	472	5.0%	478	3.7%	437	2.7%
Households	1,306	2,699	4,616	5,840	7,099	170	5.1%	183	4.1%	177	3.1%
Shadow Valley Retail PTA as a % of the Seven-County Market Area											
Population	1.0%	1.6%	2.0%	2.0%	2.1%	2.7%		2.6%		2.1%	
Households	1.0%	1.4%	1.9%	2.0%	2.0%	2.6%		2.7%		2.3%	

Source: U.S. Bureau of the Census and THK Associates, Inc.

Table VI-6: Population and Household Trends in the Seven-County Market Area and Shadow Valley Retail PTA, 2024-2034

				Annual Average			
				2024-2029		2024-2034	
Seven County Market Area	2024	2029	2034	Numerical	%	Numerical	%
Population	961,167	1,065,892	1,182,637	20,945	2.1%	22,147	2.1%
Households	351,064	395,959	446,774	8,979	2.4%	9,571	2.4%
Ada County	2024	2029	2034				
Population	578,615	649,880	729,921	14,253	2.4%	15,131	2.4%
Households	218,261	244,780	274,520	5,304	2.3%	5,626	2.3%
Shadow Valley Retail PTA							
Population	19,762	22,088	24,687	465	2.3%	492	2.3%
Households	7,099	8,012	9,043	183	2.5%	194	2.5%
Shadow Valley Retail PTA as a % of the Seven-County Market Area							
Population	2.1%	2.1%	2.1%	2.2%		2.2%	
Households	2.0%	2.0%	2.0%	2.0%		2.0%	

Source: U.S. Bureau of the Census, Sitewise, & THK Associates, Inc.

C. TRAFFIC COUNTS IN THE SHADOW VALLEY RETAIL PTA

Regarding traffic counts, State Highway 55 from Hill Road to Floating Feather Road has an estimated Annual Average Daily Traffic (AADT) count of 16,000 cars, as illustrated in Table VI-7. Additionally, in front of the subject site on State Highway 55, from West Dry Creek Drive to Brookside Lane has an estimated AADT count of 13,500 cars. Therefore, this shows significant demand for retail expenditure potential in the Shadow Valley Retail PTA and subject site.

Table VI-7: Vehicular Traffic Counts in the Shadow Valley Retail PTA, 2023

Route	Total Vehicles
On State Hwy 55, Hill Rd--> Floating Feather Rd	16,000
On State Hwy 55, Floating Feather Rd --> Beacon Light Rd	12,500
On State Hwy 55, W Dry Creek Rd--> Brookside Lane	13,500
On State Hwy 55, Brookside Lane --> Peark Rd	10,500

Source: Idaho Department of Transportation and THK Associates, Inc.

D. COMMERCIAL/RETAIL PURCHASING POTENTIAL OF THE SHADOW VALLEY RETAIL SITE ENVIRONS HOUSEHOLDS

Realizing these metro Boise wide trends impacting the commercial/retail markets, it is even more important to understand commercial/retail commercial development trends in the Shadow Valley PTA and environs that makes up the environs of the subject site under study in this report. Table VI-8 shows the average household income in the Shadow Valley Retail PTA, and it is a very significant $122,830 as compared to the US average household income of just $68,765. This table also shows how the Shadow Valley Retail area average household spends its income. Today, the Shadow Valley retail area's average household spends $37,832 on commercial/retail and related items and $2,681 are with e-trade as opposed to at "brick and mortar" commercial/retail stores. Of note is the fact that 46.8% of electronic and appliance purchases today are by e-trade, 46.8% of furniture and home furnishing products are purchased by e-trade, and 14.9% of personal care purchases are by e-trade. This change in commercial/retail sales to e-trade means that the average household needs 2.64 less sq. ft. of commercial/retail space today at "bricks and mortar" stores than it did prior to the internet. This factor of less of demand for "bricks and mortar" commercial/retail square footage is very evident when the performance of the subject site's surrounding environs is studied relative to trends in its commercial/retail commercial space.

Table VI-8: Estimated Household Expenditure Patterns in the Shadow Valley Retail PTA, 2024

	Median Household Amount	Percent			
Median Gross Income	$122,830				
Taxes	$32,968	26.8%	of Gross		
Disposable Income	$89,862	73.2%	of Gross		
Housing	$26,959	30.0%	of Disposable		
Transportation	$13,479	15.0%			
Savings / Pensions	$1,797	2.0%			
Medical / Insurance	$8,896	9.9%			
Education	$899	1.0%			
Total Available for Retail	$37,832	42.1%	of Disposable		
Retail Type				Percent E-Trade	Brick & Mortar Amount
Motor Vehicle & Auto Parts	$6,999	18.5%			
Auto Parts, Accessories, & Tires	$6,999	18.5%		3.5%	$6,754
Electronics & Home Décor and Appliance Stores	$1,513	4.0%		46.8%	$805
Appliances & Electronics					
Furniture & Home Décor	$1,135	3.0%		46.8%	$604
Lawn & Garden	$473	1.3%		46.8%	$252
Building Materials/ Improvemnts/ Nurseries	$2,194	5.8%		6.1%	$2,060
Building Materials & Hardware					
Food & Beverage Stores	$12,068	31.9%			
Grocery Stores*	$2,648	7.0%		4.7%	$2,524
Convenience Stores	$1,097	2.9%		4.7%	$1,046
Restaurant	$1,892	5.0%		6.2%	$1,774
Fast Food	$1,324	3.5%		4.8%	$1,261
Beer, Wine, & Liquor	$946	2.5%		4.8%	$900
Gas Stations	$1,892	5.0%		0.0%	$1,892
Specialty Food	$946	2.5%		5.2%	$897
Department Store	$1,324	3.5%		9.8%	$1,194
Health/ Personal Care Stores	$5,656	15.0%			
Health & Personal Care	$1,286	3.4%		14.9%	$1,095
Fitness Center	$473	1.3%		114.9%	$402
Nail, Hair Salon and Spa	$1,135	3.0%		4.5%	$1,084
Hobby, Toy, & Games	$757	2.0%		15.7%	$638
Pet & Pet Supplies	$567	1.5%		37.9%	$352
Child & Adult Day Care	$719	1.9%		45.4%	$392
Clothing & Shoes	$719	1.9%		45.4%	$1,111
Retail Storefront	$700	1.9%			
Jewelry & Luggage & Leather Goods	$303	0.8%		0.0%	$303
Gifts, Souvenir, & Books	$76	0.2%		0.0%	$76
Sporting Goods	$322	0.9%		0.0%	$322
Bank/Money/Tax Services	$378	1.0%		35.0%	$132
Education Institution	$340	0.9%		32.5%	$230
Car/Motorcycle Dealerships	$1,040	2.8%		32.5%	$702
Church/Community Center	$757	2.0%		32.5%	$511
Post Office	$132	0.4%		32.5%	$89
Insurance	$378	1.0%		32.5%	$378
Entertainment	$1,324	3.5%		15.0%	$1,126
Arts, Entertainment, & Recreation	$1,324				
MISC	$2,743	7.3%			
Miscellaneous Retail*	$1,778	4.7%		6.1%	$2,576
Miscellaneous Services	$965	2.6%		6.1%	$1,670
Total Retail	$37,832	100.00%			$35,151

Source: Urban Land Institute Dollars & Sense of Shopping Centers, Bureau of Labor Statistics; & THK Associates, Inc.

E. COMMERCIAL/RETAIL AND DEVELOPMENT TRENDS

Table VI-9 shows characteristics of selected store types found in neighborhood shopping centers. This information is later synthesized with the primary trade area analysis to make site-specific demand projections. The table shows the operating characteristics of the select commercial/retail establishments that would be suitable tenants for the Shadow Valley commercial property. By comparing these performance characteristics with the expenditure patterns in the primary trade area for the subject, the total dollar volume support and square footage support that will be generated for each commercial/retail use can be estimated.

The second column of Table VI-9 shows the sales per sq. ft. GLA that the median store achieves based upon the performance characteristics of community shopping centers surveyed in the Urban Land Institute's Dollars and Cents of Shopping Centers. The next column shows the estimated store size in sq. ft. of a potential Shadow Valley Commercial Property tenant. For the purposes of this analysis, this is an indication of the threshold size given that the anticipated sales per sq. ft. Performance as shown in the second column would have to be supported to make their introduction onto the subject feasible. The column labeled Minimum Expenditure Support shows the annual sales of each category – Restaurants & Drinking Places would support $1.7 million and so on.

The column labeled Median Household Expenditure illustrates the median household expenditure in the commercial/retail primary trade area by store type as shown previously in Table VI-9 – Restaurants and Drinking Places household expenditure is estimated to be $1,774 and so on. Finally, based upon the expenditure patterns of households in the PTA as shown in the column labeled Threshold Household Support – the minimum number of households required to support each type of establishment can be estimated.

Table Vi-9: Characteristics of Selected Store Types Found in Community Shopping Centers, 2024

Store Type	Sales Per Square Foot GLA	Average Store Size (Sq. Ft.)	Minimum Expenditure Support	Median Household Expenditure	Threshold Household Support
Motor Vehicle & Auto Parts					
Auto Parts, Accessories, & Tires	$1,405	0	$0	$6,754	0
Electronics & Home Décor and Appliance Stores	$154	0	$0	$805	0
Appliances & Electronics					
Furniture & Home Décor	$360	0	$0	$604	0
Lawn & Garden	$318	0	$0	$252	0
Building Materials/ Improvemnts/ Nurseries	$832	0	$0	$2,060	0
Building Materials & Hardware					
Food & Beverage Stores					
Grocery Stores*	$660	0	$0	$2,524	0
Convenience Stores	$265	1,948	$516,088	$1,046	494
Restaurants & Drinking Places*	$493	3,597	$1,772,797	$1,774	999
Fast Food	$196	1,250	$245,125	$1,261	194
Beer, Wine, & Liquor	$138	1,088	$149,926	$900	167
Gas Stations	$904	773	$698,479	$1,892	369
Specialty Food	$122	1,170	$142,664	$897	159
Department Store	$568	0	$0	$1,194	0
Health/ Personal Care Stores					
Health & Personal Care	$117	2,191	$255,500	$1,095	233
Fitness Center	$101	0	$0	$402	0
Nail, Hair Salon and Spa	$114	2,000	$228,914	$1,084	211
Hobby, Toy, & Games	$54	0	$0	$638	0
Pet & Pet Supplies	$87	1,898	$164,974	$352	468
Child & Adult Day Care	$121	0	$0	$392	0
Clothing & Shoes	$443	1,273	$564,041	$1,111	508
Retail Storefront					
Jewelry & Luggage & Leather Goods	$111	0	$0	$303	0
Gifts, Souvenir, & Books	$101	6,838	$688,587	$76	9,101
Sporting Goods	$212	2,982	$632,184	$322	1,966
Bank/Money/Tax Services	$75	1,496	$112,589	$132	850
Education Institution	$159	1,435	$228,165	$230	993
Car/Motorcycle Dealerships	$620	0	$0	$702	0
Church/Community Center	$106	0	$0	$511	0
Post Office	$12	1,088	$12,686	$89	142
Insurance	$234	1,273	$298,283	$378	788
Entertainment					
Arts, Entertainment, & Recreation	$162	0	$0	$1,126	0
MISC					
Miscellaneous Retail*	$146	0	$0	$2,576	0
Miscellaneous Services	$133	0	$0	$1,670	0
Total Retail				$35,151	17,642

Source: Urban Land Institute Dollars & Sense of Shopping Centers, Bureau of Labor Statistics; & THK Associates, Inc.

F. ESTIMATES FOR COMMERCIAL/RETAIL SPACE DEMAND BY STORE TYPE

As shown in Table VI-10 on the following page, after adjustments for secondary support for purchasers that live outside of the trade area indicate there are over $291 million available for annual commercial/retail expenditures within the PTA, which will support approximately 1,253,190 million sq. ft. of commercial/retail space in 2024. Based on household growth and secondary support over the next ten years, commercial/retail dollar support will grow to $371 million by 2034, supporting approximately 1,315,349 million sq. ft. of commercial/retail space. THK anticipates relatively moderate secondary support in the retail PTA for the majority of commercial/retail store types due to the concentrations of retail center along the Highway 44 corridor through Eagle, and the lack of adequate developable property in the retail PTA for traditional retail/commercial uses, especially large format or big box tenants. Commercial/retail space per person in the primary trade area is estimated at 4.52 per square foot, while that in Ada-County is estimated at 53.0 per square foot; this is 91.4% lower than the supply in the Ada-County Market Area. This indicates that there is significant retail expenditure leakage from the Shadow Valley Retail PTA into other parts of Ada County, Eagle and the surrounding environs. Additionally, there are currently 19,762 people within the Shadow Valley Retail PTA and when applying the 53 square feet of existing retail space per person as seen in Ada County, this would indicate that there is a total demand for 1,047,386 square feet of retail space within the PTA, emphasizing the significant amount of retail sales leakage.

Table VI-10: Estimated Retail Sales & Square Footage Support in the Shadow Valley Retail PTA, 2024 - 2034

Store Type	Estimated Annual Household Support	% Support from Secondary Trade Area	Annual Sales PSF	2024 Support		2029 Support		2034 Support	
				$MM	SqFt	$MM	SqFt	$MM	SqFt
Households				7,099		8,012		9,043	
Motor Vehicle & Auto Parts									
Auto Parts, Accessories, & Tires	$6,754	0%	$1,405	$47.95	34,138	$54.11	34,974	$61.08	35,831
Electronics & Home Décor and Appliance Stores	$805	0%	$154	$5.72	37,184	$6.45	38,095	$7.28	39,028
Appliances & Electronics									
Furniture & Home Décor	$604	20%	$360	$5.36	14,867	$6.05	15,231	$6.83	15,604
Lawn & Garden	$252	0%	$318	$1.79	5,616	$2.02	5,754	$2.28	5,895
Building Materials/ Improvemnts/ Nurseries									
Building Materials & Hardware	$2,060	0%	$832	$14.63	17,578	$16.51	18,009	$18.63	18,450
Food & Beverage Stores									
Grocery Stores*	$2,524	40%	$660	$29.86	45,217	$33.70	46,325	$38.04	47,460
Convenience Stores	$1,046	40%	$265	$12.37	46,682	$13.96	47,826	$15.76	48,998
Restaurants & Drinking Places*	$1,774	40%	$493	$20.99	42,591	$23.69	43,635	$26.74	44,704
Fast Food	$1,261	25%	$196	$11.93	60,845	$13.47	62,336	$15.20	63,863
Beer, Wine, & Liquor	$900	25%	$138	$8.52	61,848	$9.62	63,363	$10.86	64,915
Gas Stations	$1,892	10%	$904	$14.92	16,502	$16.84	16,906	$19.01	17,320
Specialty Food	$897	25%	$122	$8.49	69,621	$9.58	71,327	$10.81	73,074
Department Store	$1,194	0%	$568	$8.48	14,923	$9.57	15,289	$10.80	15,663
Health/ Personal Care Stores									
Health & Personal Care	$1,095	5%	$117	$8.18	70,153	$9.23	71,871	$10.42	73,632
Fitness Center	$402	0%	$101	$2.86	28,371	$3.22	29,066	$3.64	29,778
Nail, Hair Salon and Spa	$1,084	5%	$114	$8.10	70,750	$9.14	72,484	$10.32	74,260
Hobby, Toy, & Games	$638	0%	$54	$4.53	83,760	$5.11	85,813	$5.77	87,915
Pet & Pet Supplies	$352	0%	$87	$2.50	28,782	$2.82	29,487	$3.19	30,210
Child & Adult Day Care	$392	0%	$121	$2.79	23,056	$3.14	23,621	$3.55	24,200
Clothing & Shoes	$1,111	0%	$443	$7.89	17,805	$8.90	18,241	$10.05	18,688
Retail Storefront									
Jewelry & Luggage & Leather Goods	$303	0%	$111	$2.15	19,304	$2.42	19,777	$2.74	20,262
Gifts, Souvenir, & Books	$76	0%	$101	$0.54	5,334	$0.61	5,465	$0.68	5,599
Sporting Goods	$322	0%	$212	$2.28	10,768	$2.58	11,032	$2.91	11,302
Bank/Money/Tax Services	$132	0%	$75	$0.94	12,490	$1.06	12,796	$1.20	13,109
Education Institution	$230	0%	$159	$1.63	10,261	$1.84	10,513	$2.08	10,770
Car/Motorcycle Dealerships	$702	0%	$620	$4.99	8,040	$5.63	8,237	$6.35	8,438
Church/Community Center	$511	0%	$106	$3.63	34,205	$4.09	35,043	$4.62	35,901
Post Office	$89	0%	$12	$0.63	54,417	$0.72	55,750	$0.81	57,116
Insurance	$378	0%	$234	$2.69	11,465	$3.03	11,745	$3.42	12,033
Entertainment									
Arts, Entertainment, & Recreation	$1,126	25%	$162	$10.65	65,688	$12.02	67,297	$13.57	68,946
MISC									
Miscellaneous Retail & Services	$4,245	10%	$145	$33.48	230,930	$37.79	236,588	$42.65	242,384
		-	$9,389	$291	1,253,190	$329	1,283,894	$371	1,315,349

Source: U.S. Department of Labor, Bureau of Labor Statistics; Sitewise & THK Associates, Inc.

G. COMMERCIAL/RETAIL ESTABLISHMENT WITHIN THE SHADOW VALLEY RETAIL PTA

Table VI-11 lists the competitive commercial/retail establishments that currently exist within the Shadow Valley Retail PTA. Within the PTA, THK identified a total of 16 commercial/retail building stores containing approximately 62,117 sq. ft. of occupied commercial/retail space. Table VI-12 lists the existing commercial/retail stores in the Shadow Valley Retail PTA.

Table VI-11: Existing Retail by Store Type in the Shadow Valley Retail PTA, 2024

Store Type	Estimated Number of Stores	Estimated Retail Space (SqFt)
Motor Vehicle & Auto Parts		0
Auto Parts, Accessories, & Tires	0	0
Electronics & Home Décor and Appliance Stores		0
Appliances & Electronics	0	0
Furniture & Home Décor	0	0
Lawn & Garden	0	0
Building Materials/ Improvemnts/ Nurseries		0
Building Materials & Hardware	0	0
Food & Beverage Stores		22,079
Grocery Stores*	0	0
Convenience Stores	2	3,895
Restaurant	3	10,790
Fast Food	1	1,250
Beer, Wine, & Liquor	1	1,088
Gas Stations	2	1,545
Specialty Food	3	3,511
Department Store	0	0
Health/ Personal Care Stores		21,934
Health & Personal Care	4	8,765
Fitness Center	0	0
Nail, Hair Salon and Spa	5	9,998
Hobby, Toy, & Games	0	0
Pet & Pet Supplies	1	1,898
Child & Adult Day Care	0	0
Clothing & Shoes	1	1,273
Retail Storefront		9,820
Jewelry & Luggage & Leather Goods	0	0
Gifts, Souvenir, & Books	1	6,838
Sporting Goods	1	2,982
Bank/Money/Tax Services	3	4,488
Education Institution	1	1,435
Car/Motorcycle Dealerships	0	0
Church/Community Center	0	0
Post Office	1	1,088
Insurance	1	1,273
Entertainment Arts, Entertainment, & Recreation	0	0
MISC		0
Miscellaneous Retail*	0	0
Miscellaneous Services	0	0
Total Occupied Retail Space	31	62,117
Vacant Retail Space		27,209
Total Retail Space	43	89,326
Retail Space Vacancy Rate in PTA	26.7%	
Retail Per Capita (Sq Ft)		4.5

Source: CoStar, & THK Associates, Inc.

Table VI-12: Existing Retail by Store Type with Shopping Centers in the Shadow Valley Retail PTA, 2024

Store type	Sq.Ft Occupied	Average Sq.Ft per Store	Total Number of Stores
Auto Parts, Accessories, & Tires	0	-	0
Appliances & Electronics	0	-	0
Building Materials & Hardware	0	-	0
Lawn & Garden	0	-	0
Grocery Stores*	0	-	0
Convenience Stores	3,895	1,948	2
Furniture & Home Décor	0	-	0
Specialty Food	3,511	1,170	3
Car/Motorcycle Dealerships	0	-	0
Beer, Wine, & Liquor	1,088	1,088	1
Department Store	0	-	0
Health & Personal Care	8,765	2,191	4
Post Office	1,088	1,088	1
Child & Adult Day Care	0	-	0
Clothing & Shoes	1,273	1,273	1
Education Institution	1,435	1,435	1
Pet & Pet Supplies	1,898	1,898	1
Sporting Goods	2,982	2,982	1
Gas Stations	1,545	773	2
Hobby, Toy, & Games	0	-	0
Gifts, Souvenir, & Books	6,838	6,838	1
Fitness Center	0	-	0
Insurance	1,273	1,273	1
Miscellaneous Retail*	0	-	0
Jewelry & Luggage & Leather Goods	0	-	0
Arts, Entertainment, & Recreation	0	-	0
Restaurants & Drinking Places*	10,790	3,597	3
Fast Food	1,250	1,250	1
Miscellaneous Services	0	-	0
Bank/Money/Tax Services	4,488	1,496	3
Nail, Hair Salon and Spa	9,998	2,000	5
Church/Community Center	0	-	0
Other & Non-Retail Uses	3,353	1,118	3
Total Occupied Retail Space	65,470	33,451	34
Vacant Retail Space	23,856	8,933	9
Total Retail Space	89,326	42,384	43
Retail Space Vacancy Rate in PTA	26.7%		

Source: CoStar and THK Associates, Inc

H. ADDITIONAL COMMERCIAL/RETAIL SQUARE FOOTAGE DEMAND WITHIN THE SHADOW VALLEY RETAIL PTA

As shown in Table VI-13, the Shadow Valley Retail PTA currently supports approximately 1,253,190 sq. ft. of commercial/retail space. There are certain store types that are underrepresented within the trade area and as such there is unmet demand for commercial/retail space. Total pent-up demand or need for additional space today is 1,192,577 sq. ft. By 2034 there will be a demand for an additional 1,254,471 million sq. ft. of commercial/retail space.

Table VI-13: Supportable Retail Space in the Shadow Valley Retail PTA, 2024-2034

Store Type	Estimated Existing Square Footage	2024 Supportable Sq. Ft.	2024 Sq. Ft. Requirements in PTA	2029 Supportable Sq. Ft.	2029 Sq. Ft. Requirements in PTA	2034 Supportable Sq. Ft.	2034 Sq. Ft. Requirements in PTA
Motor Vehicle & Auto Parts							
Auto Parts, Accessories, & Tires	0	34,138	34,138	34,974	34,974	35,831	35,831
Electronics & Home Décor and Appliance Stores	0	37,184	37,184	38,095	38,095	39,028	39,028
Appliances & Electronics							
Furniture & Home Décor	0	14,867	14,867	15,231	15,231	15,604	15,604
Lawn & Garden	0	5,616	5,616	5,754	5,754	5,895	5,895
Building Materials/ Improvemnts/ Nurseries							
Building Materials & Hardware	0	17,578	17,578	18,009	18,009	18,450	18,450
Food & Beverage Stores							
Grocery Stores*	0	45,217	45,217	46,325	46,325	47,460	47,460
Convenience Stores	3,895	46,682	42,787	47,826	43,931	48,998	45,103
Restaurants & Drinking Places*	10,790	42,591	31,801	43,635	32,845	44,704	33,914
Fast Food	1,250	60,845	59,595	62,336	61,086	63,863	62,613
Beer, Wine, & Liquor	1,088	61,848	60,760	63,363	62,275	64,915	63,827
Gas Stations	1,545	16,502	14,957	16,906	15,361	17,320	15,775
Specialty Food	3,511	69,621	66,110	71,327	67,816	73,074	69,563
Department Store	0	14,923	14,923	15,289	15,289	15,663	15,663
Health/ Personal Care Stores							
Health & Personal Care	8,765	70,153	61,388	71,871	63,106	73,632	64,867
Fitness Center	0	28,371	28,371	29,066	29,066	29,778	29,778
Nail, Hair Salon and Spa	9,998	70,750	60,752	72,484	62,486	74,260	64,262
Hobby, Toy, & Games	0	83,760	83,760	85,813	85,813	87,915	87,915
Pet & Pet Supplies	1,898	28,782	26,884	29,487	27,589	30,210	28,312
Child & Adult Day Care	0	23,056	23,056	23,621	23,621	24,200	24,200
Clothing & Shoes	1,273	17,805	16,532	18,241	16,968	18,688	17,415
Retail Storefront							
Jewelry & Luggage & Leather Goods	0	19,304	19,304	19,777	19,777	20,262	20,262
Gifts, Souvenir, & Books	6,838	5,334	0	5,465	0	5,599	0
Sporting Goods	2,982	10,768	7,786	11,032	8,050	11,302	8,320
Bank/Money/Tax Services	4,488	12,490	8,002	12,796	8,308	13,109	8,621
Education Institution	1,435	10,261	8,826	10,513	9,078	10,770	9,335
Car/Motorcycle Dealerships	0	8,040	8,040	8,237	8,237	8,438	8,438
Church/Community Center	0	34,205	34,205	35,043	35,043	35,901	35,901
Post Office	1,088	54,417	53,329	55,750	54,662	57,116	56,028
Insurance	1,273	11,465	10,191	11,745	10,472	12,033	10,760
Entertainment							
Arts, Entertainment, & Recreation	0	65,688	65,688	67,297	67,297	68,946	68,946
MISC							
Miscellaneous Retail & Services	0	230,930	230,930	236,588	236,588	242,384	242,384
Total Retail	62,117 *	1,253,190	1,192,577	1,283,894	1,223,150	1,315,349	1,254,471

* Exclusive of Shadow Valley Club House and Stone Crossing Event Center

Source: THK Associates, Inc.

I. COMMERCIAL/RETAIL SQUARE FOOTAGE DEMAND AT SHADOW VALLEY RETAIL SITE

As shown in Table VI-14, the Shadow Valley subject site will support approximately 84,202 sq. ft., in 2024 and most commercial/retailers will construct in anticipation of this demand. There are certain store types that are underrepresented within the trade area and as such there is substantial unmet demand for commercial/retail space by 2029. By 2034 there will be a demand for an additional 4,455 sq. ft. of commercial/retail space at the Shadow Valley retail site. It should be noted that there is a pent-up demand for commercial/retail space to meet the demand by 2024 and the subject site, because of its excellent location and the dynamics of the trade area, is projected to capture a portion of this pent-up commercial/retail demand. Given the identified commercial/retail development potentials presented in Table VI-14.

Table VI-14: Retail Development Potentials at the Shadow Valley Retail Site, 2024-2034

Store Type	Subject Site Capture Rate	2024 PTA Sq. Ft. Requirements	2024 Sq. Ft. Requirements at Site	2029 PTA Sq. Ft. Requirements	2029 Sq. Ft. Requirements at Site	2034 PTA Sq. Ft. Requirements	2034 Sq. Ft. Requirements at Site
Motor Vehicle & Auto Parts							
Auto Parts, Accessories, & Tires	0.0%	34,138	0	34,974	0	35,831	0
Electronics & Home Décor and Appliance Stores	0.0%	37,184	0	38,095	0	39,028	0
Appliances & Electronics							
Furniture & Home Décor	20.0%	14,867	2,973	15,231	3,046	15,604	3,121
Lawn & Garden	0.0%	5,616	0	5,754	0	5,895	0
Building Materials/ Improvemnts/ Nurseries							
Building Materials & Hardware	0.0%	17,578	0	18,009	0	18,450	0
Food & Beverage Stores							
Grocery Stores*	20.0%	45,217	9,043	46,325	9,265	47,460	9,492
Convenience Stores	20.0%	42,787	8,557	43,931	8,786	45,103	9,021
Restaurant	20.0%	31,801	6,360	32,845	6,569	33,914	6,783
Fast Food	15.0%	59,595	8,939	61,086	9,163	62,613	9,392
Beer, Wine, & Liquor	7.5%	60,760	4,557	62,275	4,671	63,827	4,787
Gas Stations	0.0%	14,957	0	15,361	0	15,775	0
Specialty Food	10.0%	66,110	6,611	67,816	6,782	69,563	6,956
Department Store	0.0%	14,923	0	15,289	0	15,663	0
Health/ Personal Care Stores							
Health & Personal Care	10.0%	61,388	6,139	63,106	6,311	64,867	6,487
Fitness Center	10.0%	28,371	2,837	29,066	2,907	29,778	2,978
Nail, Hair Salon and Spa	10.0%	60,752	6,075	62,486	6,249	64,262	6,426
Hobby, Toy, & Games	0.0%	83,760	0	85,813	0	87,915	0
Pet & Pet Supplies	0.0%	26,884	0	27,589	0	28,312	0
Child & Adult Day Care	0.0%	23,056	0	23,621	0	24,200	0
Clothing & Shoes	15.0%	16,532	2,480	16,968	2,545	17,415	2,612
Retail Storefront							
Jewelry & Luggage & Leather Goods	0.0%	19,304	0	19,777	0	20,262	0
Gifts, Souvenir, & Books	0.0%	0	0	0	0	0	0
Sporting Goods	0.0%	7,786	0	8,050	0	8,320	0
Bank/Tax Services	0.0%	8,002	0	8,308	0	8,621	0
Education Institutions	0.0%	8,826	0	9,078	0	9,335	0
Car/Motorcycle Dealerships	0.0%	8,040	0	8,237	0	8,438	0
Church/Community Center	0.0%	34,205	0	35,043	0	35,901	0
Post Office	0.0%	53,329	0	54,662	0	56,028	0
Insurance	0.0%	10,191	0	10,472	0	10,760	0
Entertainment	0.0%	65,688	0	67,297	0	68,946	0
Arts, Entertainment, & Recreation							
MISC	8.5%	230,930	19,629	236,588	20,110	242,384	20,603
Miscellaneous Retail & Services							
TOTAL RETAIL		1,192,577	84,202	1,223,150	86,402	1,254,471	88,657
Retail Space	9.67 Acreage	421,008 Sq. Ft					
Developable Retail Sapce	20% Coverage	84,202 Sq. Ft					

Source: THK Associates, Inc.

J. COMMERCIAL/RETAIL SPACE RECOMMENDATIONS AT THE SHADOW VALLEY RETAIL SUBJECT SITE

Table VI-15 summarizes THK's recommended development program for the Shadow Valley site as follows. It is important to note that there is 21,756 square feet of existing commercial/retail space within the Shadow Valley subject site. These two commercial/retail spaces are the Shadow Valley Golf Course Club House of 11,000 square feet and the Stone Crossing Event Center of 10,756 square feet.

While there is significant demand for an additional 88,657 square feet of retail space at the Shadow Valley subject site, tenant uses considered appropriate and compatible for the site would indicate that the site is best suited for an additional 21,000 square feet. This would nearly double the existing square footage of retail space at the Shadow Valley subject site.

Likely tenants that would be considered appropriate and compatible for the site would be additional restaurant space, specialty food, and spa, along with expanded restaurant, catering and banquet offerings at the already existing retail spaces.

Based upon THK's analyses, THK recommends that the Shadow Valley subject site encompass an additional 21,000 square feet of retail space, which THK projects the 21,000 square feet be fully absorbed by 2029. The retail space will encompass 12.7-acres of land.

Table VI-15: Recommended Retail Tenant/Store Type Mix

Tenant	Shopping Center Sq. Ft Recommended	
New Retail		
Restaurant	7,000 Sq. Ft	
Specialty Food/ Catering/Event	7,000 Sq. Ft	
Nail, Hair Salon and Spa	7,000 Sq. Ft	
	21,000 Sq. Ft	
Existing Retail		
Shadow Valley Golf Course Club House	11,000 Sq. Ft	
Stone Crossing Event Center	10,756 Sq. Ft	
	21,756 Sq. Ft	
Total Retail	42,756 Sq. Ft	12.70 Acres

Source: THK Associates, Inc.

VII. RECOMMENDED LAND USE PLAN

VII. RECOMMENDED LAND USE PLAN

Based on our market research and projected absorption potentials at Shadow Valley the following table details our recommended land uses for the 560-acre site. Given the site location and competitive market THK recommends approximately 89 estate large lots be considered on 89 acres along with 255 low/medium density lots be considered on 63.9 acres. Based on this demand, and the entitlement and planning process there will be a range of lot sizes and prices that will comprise these 344 lots. Based on the market demand the Shadow Valley site could absorb these 344 lots in eight years, or by 2032.

While there is significant demand for an additional 88,657 square feet of retail space at the Shadow Valley subject site, tenant uses considered appropriate and compatible for the site would indicate that the site is best suited for an additional 21,000 square feet. This would nearly double the existing square footage of retail space at the Shadow Valley subject site.

Likely tenants that would be considered appropriate and compatible for the site would be additional restaurant space, specialty food, and spa, along with expanded restaurant, catering and banquet offerings at the already existing retail spaces.

Based upon THK's analyses, THK recommends that the Shadow Valley subject site encompass an additional 21,000 square feet of retail space, which THK projects the 21,000 square feet be fully absorbed by 2029. The retail/commercial space would encompass 12.7-acres of land.

Table VII-1: Shadow Valley Recommended Land Use

Use/ Location	Lots/ Units	Density/FAR	Sq.Ft.	Acres	Average Base Price	Average Total Price with Upgrade and Add On's
Foothills Estates West Zone						
Estate Lots (1-acre)	89	1	--	89.0	$2,500,000	$2,750,000
Golf Course Estates East Zone						
Low/Medium Density ($700,000-$799,999)	88	4	--	22.0	$750,000	$900,000
Low/Medium Density ($800,000-$999,999)	167	4	--	41.9	$899,999	$1,080,000
Residential Subtotal	**344**	**--**	**--**	**152.9**	**--**	
Retail/Commercial						
Retail/Commercial (New)	--	--	21,000	--	--	
Exisitng Shadow Valley Golf Course Club House	--	--	11,000	--	--	
Exisitng Stone Crossing Event Center	--	--	10,759	--	--	
Retail/Commercial Subtotal	--	--	42,759	**12.7**	--	
Open Space/ Golf Course	--	--	--	353.8		
ROW	--	--	--	32.7		
TOTAL	**344**	**--**	**42,759**	**552.1**		

Source: Kine and Kine Properties and THK Associates, Inc.

VIII. FISCAL IMPACT ANALYSIS

VIII. FISCAL IMPACT ANALYSIS

A. TAXING AUTHORITIES AND MILL LEVIES

THK analyzed the mill levies issued by Ada County. Ada County has a mill levy of 0.001610248. This mill levy will be applicable at the Shadow Valley Planned Development. The fiscal impacts of these taxing authorities are analyzed later in this report.

Table VIII-1: Taxing Authorities and Coinciding Rates at the Shadow Valley Site

Taxing Authority	Mill Levy
Ada County	0.001610248
Pest Extermination	0.000069712
Emergency Medical	0.000087279
Ada County Highway Dist	0.000490927
School District No. 2	0.000599341
Ada Community Library	0.000300835
Dry Creek Cemetery	0.000021842
Ealge Fire	0.001055369
Mosquito Abatement	0.000015543
College of Western Idaho	0.000087502
Total:	**0.004338598**

Source: Adams County Assessor and THK Associates, Inc.

B. PROPERTY TAXES

Property taxes are a major source of revenue to area service providers, including Ada County. The estimated property taxes to Ada County are detailed below. These annually recurring costs have been estimated based on the market assessed values at build out, which are shown below. Tax revenue has been calculated based on full build out of the Shadow Valley Planned Development in 2034.

Ada County is estimated to receive an estimated $34,625 in property tax from the 21,000 square feet of retail space in 2032, however full build out will be in 2029.

Ada County is estimated to receive an estimated $2,407,525 in property taxes from the 344 proposed residential units at full build out in 2034.

Ada County is estimated to receive an estimated $16,782 in property taxes from the existing Shadow Valley Golf Course at full build out in 2034.

Ada County is estimated to receive an estimated $16,993 in property taxes from the existing Stone Crossing Event Center at full build out in 2034.

Table VIII-2: Estimated Property Tax Revenue For Additional Taxing Authorities, 2032

21,000 Square Feet Retail/Commercial Space	
	Retail
Estimated Market Value	$7,980,652

21,000 Square Feet Retail/Commercial Space Revenues		
Taxing Authority	**Mill Levy**	**Revenues at Build Out**
Ada County	**0.001610248**	**$12,851**
Pest Extermination	0.000069712	$556
Emergency Medical	0.000087279	$697
Ada County Highway Dist	0.000490927	$3,918
School District No. 2	0.000599341	$4,783
Ada Community Library	0.000300835	$2,401
Dry Creek Cemetery	0.000021842	$174
Ealge Fire	0.001055369	$8,423
Mosquito Abatement	0.000015543	$124
College of Western Idaho	0.000087502	$698
	Total	***$34,625***

344 Residential Units	
Estimated Market Value	$554,908,423

344 Residential Units Revenues		
Taxing Authority	**Mill Levy**	**Revenues at Build Out**
Ada County	**0.001610248**	**$893,540**
Pest Extermination	0.000069712	$38,684
Emergency Medical	0.000087279	$48,432
Ada County Highway Dist	0.000490927	$272,420
School District No. 2	0.000599341	$332,579
Ada Community Library	0.000300835	$166,936
Dry Creek Cemetery	0.000021842	$12,120
Ealge Fire	0.001055369	$585,633
Mosquito Abatement	0.000015543	$8,625
College of Western Idaho	0.000087502	$48,556
	Total	***$2,407,525***

Shadow Valley Golf Course	
Estimated Market Value	$3,868,082

Shadow Valley Golf Course Revenues		
Taxing Authority	**Mill Levy**	**Revenues at Build Out**
Ada County	**0.001610248**	**$6,229**
Pest Extermination	0.000069712	$270
Emergency Medical	0.000087279	$338
Ada County Highway Dist	0.000490927	$1,899
School District No. 2	0.000599341	$2,318
Ada Community Library	0.000300835	$1,164
Dry Creek Cemetery	0.000021842	$84
Ealge Fire	0.001055369	$4,082
Mosquito Abatement	0.000015543	$60
College of Western Idaho	0.000087502	$338
	Total	***$16,782***

Stone Crossing Event Center	
Estimated Market Value	$3,916,600

Stone Crossing Event Center Revenues		
Taxing Authority	**Mill Levy**	**Revenues at Build Out**
Ada County	**0.001610248**	**$6,307**
Pest Extermination	0.000069712	$273
Emergency Medical	0.000087279	$342
Ada County Highway Dist	0.000490927	$1,923
School District No. 2	0.000599341	$2,347
Ada Community Library	0.000300835	$1,178
Dry Creek Cemetery	0.000021842	$86
Ealge Fire	0.001055369	$4,133
Mosquito Abatement	0.000015543	$61
College of Western Idaho	0.000087502	$343
	Total	***$16,993***

Source: Ada County & THK Associates, Inc

C. RETAIN SHADOW VALLEY GOLF COURSE AND STONE CROSSING EVENT CENTER

As part of the Shadow Valley Planned Development in Ada County, there is an assurance of retention of the Shadow Valley Golf Course and Stone Crossing Event Center.

The Shadow Valley Golf Course had a revenue of approximately $2.7 million in 2023, and it is estimated that they employ 8 to 10 full time employes for the maintenance of the facility along with an additional 5 full time employees to work the Pro Shop and F&B options. The Shadow Valley Golf Course provides an excellent source of revenue and income to the surrounding area, is a community focal point and tremendous open space asset.

Stone Crossing Event Center currently provides spaces for events, weddings, parties, and services and related activities to the public. There are plans to expand the event center to include a pick-up or delivery of chef prepared foods for the residents in the general vicinity. Income and employment data was not available.

D. EMPLOYMENT AND WAGES

Following the development of Shadow Valley, 60 permanent jobs are expected to be added from the 344 residential units and 47 permanent jobs are expected to be added from the proposed new 21,000 square feet of commercial space.

According to the Bureau of Labor Statistics (BLS), average hourly wages in Ada County for likely jobs to be generated from Shadow Valley average $21.95 per hour for those servicing the 344 residential units and $20.90 per hour for people working in the commercial spaces. Applying these average wages to the projected added permanent employment would generate $4,777,185 in total annual wages, as illustrated in Table VIII-3.

Table VIII-3: Estimated New Permanent Employment and Wage Generation

Property	Estimated Full-Time Equivalent (FTE) Employees	Estimated Average Hourly Wages	Estimated Annual Average Wages
Residential	60	$21.95	$2,748,491
Commercial	47	$20.90	$2,028,693
Total:	107	$21.43	**$4,777,185**

Source: THK Associates, Inc, Bureau of Labor Statistics and the Urban Land Institute

In addition to permanent employment, the proposed development is also expected to create approximately 496 temporary construction jobs, 458 attributable to the construction of residential units and 38 attributable to the commercial uses. Temporary constriction jobs for the residences are estimated to last twelve months on average. Temporary construction jobs for the commercial facilities are estimated to last twenty-four months. Temporary construction employment is based on approximately 1.3 employees per residential unit and 38 construction workers for the commercial facilities. With an average annual wage of $69,264 per construction worker, the Shadow Valley development would generate $36,957,038 in wages from temporary employment.

Table VIII-4: Estimated Temporary Employment and Wage Generation

Property Type	Estimated Full-Time Equivalent (FTE) Employees	Estimated Annual Average Wages	Average Construction Time Period per Employee (Months)	Estimated Total Wages
Residential (1.33 per unit)	458	$69,264	12	$31,689,665
Commercial	38	$69,264	24	$5,267,373
Estimated Total Construction Jobs	**496**			**$36,957,038**

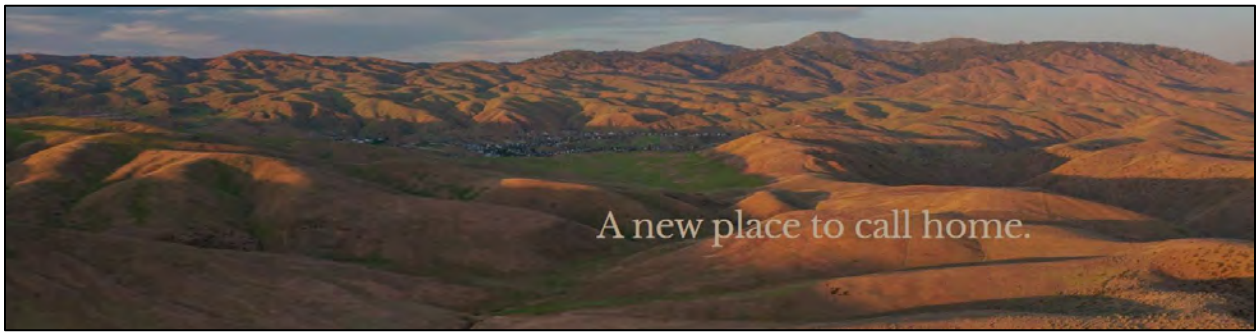
Source: THK Associates, Inc, Bureau of Labor Statistics and the Urban Land Institute

End of Report

Prepared by:



2953 South Peoria Street, Suite 101
Aurora, Colorado 80014
(303) 770-7201 phone
(303) 770-7132 fax
info@THKassoc.com



Version: February 3, 2025, Planned Community Application Phase 1, prepared by Camber Services LLC.

INTRODUCTION

The Shadow Valley Planned Community subject parcels encompass 560 acres, zoned Rural Residential (RR) and Rural Preservation (RP) and located in Ada County jurisdiction. This recreation focused community plans to be home to a population of approximately 990 people by 2034. The 560-acre Planned Community is ideally situated on both the east and west side of Highway-55 at the existing Shadow Valley Golf Course. The planned community will be split by Highway-55 into two subdivision areas. The east side provides bench view estate lots and attached townhome style units overlooking the Shadow Valley Golf Course. The west side provides foothill estate lots in a pastureland setting with unmatched sunset and mountain views. The neighboring properties include rural estate homes and undeveloped private land. The land mass is located approximately five miles from Boise National Forest.

The development team and consultants (in good faith) have not encountered the following items on the Shadow Valley Planned Community subject parcels: Forests, Harbors, Fisheries, Known thermal water, Beaches or Shoreline.

CONCLUSIONS & DETERMINATION OF EFFECTS

Per the Resource Inventory for the Shadow Valley Planned Community Project prepared by environmental engineer Bowen Collins, "The Shadow Valley Planned Community will change the current function of the landscape and is expected to have mixed impacts to the natural resources and wildlife in the area. There will be no effect to prime agricultural lands, North American wolverine, and monarch butterfly. There will be both beneficial and less desirable effects to big game and other wildlife species as habitat is both being conserved and converted into residences. The increase in residents will also increase the likelihood of car strikes leading to roadkill. More information is needed to determine affects to wetlands and streams, Aases' onion, and slickspot peppergrass."[1] Additional field reporting on wetlands and streams and plan material will be completed in spring 2025.

[1] (Associates, January 2025) Section 4.0

PRIME AGRICULTURAL LAND

"The Natural Resources Conservation Service (NRCS) defines prime farmland as "land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and that is available for these uses" (NRCS, 2015). These tracts of land are identified in the Custom Soil Resource Report for Ada County, Idaho (see Appendix B). The project site includes fertile valleys that have the potential to be prime farmland if irrigated. Approximately 67 acres or 12 percent of the area is classified as prime farmland if irrigated, and 92 acres or 17 percent is classified as farmland of statewide importance, if irrigated (see Figure 4: Prime Farmland, Appendix A). The prime farmland areas identified in the upper property are along the south facing mountainside north of Woods Gulch. The NRCS has classified this portion as farmland or statewide importance, if irrigated. As it is not irrigated, it is not prime farmland. The areas classified as prime farmland in the lower section of the project area mostly correlate with what is currently being managed as irrigated golf green. Due to their irrigated status, these areas are classified as prime farmland or farmland of statewide importance. However, these areas will continue to be managed in the same way, so there will be no effect to prime farmland."[2]

MINERAL RESOURCES

"The area surrounding the site is known as the Boise Foothills. Deposited sediments are from the Idaho Batholith (Cretaceous intrusive granodiorite), located north and east of the Boise Front. Sediments deposited within the valley are of Tertiary (T) and Quaternary (Q) age and generally consist of arkosic sands, sandstones, claystones and siltstones. At the valley margins near the site, Tertiary age sand and mudstone of stream and lake sediments dominate the foothills. These sediments include interbedded fine gravel, siltstones, and are also locally cemented. Referenced geologic maps do not indicate faulting or folding in the immediate area of the proposed site. The nearest faults are identified approximately 12 miles to the southwest of the site.

Substitution of the word 'Agriculture' for 'Farmland' assumes management of livestock, where again, the subject parcels, in modern history have not been utilized for farm or agriculture, nor do the parcels comply with the slope range description outlined above.

Some natural resources inventory and investigation is seasonal and will not be completed until spring of 2025 (after application submittal in winter 2024). These studies potentially include geotechnical test pits, jurisdictional wetland delineation of the West Foothills 'Woods Gulch' drainage, and field survey for Aase's Onion and Slickspot peppergrass."[3]

AQUATIC RESOURCES

"Several aquatic resources are present on the site in a mixture of natural and modified states. The following discussion reviews conclusions drawn based on cursory field observations of hydrology and hydrophytic vegetation present during the dry season. A wetland delineation was not conducted according to U.S. Army

[2] (Associates, January 2025) Section 2.2.2
[3] (Associates, January 2025) Section 2.2.3

Corps of Engineers (USACE) standards. As such, descriptions of aquatic resources present within the planned community should only be used to describe the site and not used in place of an official wetland delineation. However, an official wetland delineation will be performed in the spring of 2025, and final descriptions of wetlands will be recorded in the aquatic resources report that will follow."[4]

GROUNDWATER

"The recommended water service is a stand-alone public water system due to the preference for a single entity to serve the entire development, and the time, administrative challenges, and infrastructure requirements and costs associated with connecting to a further away municipal provider. The source of supply for the proposed public water system will be at least two on-site groundwater wells. There are two existing wells on the property that are currently used for irrigation and will continue to be used for irrigation of the golf course and development open space. It is assumed that storage will be provided for fire protection and peak demand, so each well will need to produce the maximum day demand of the development. Water quality data from on-site wells suggests that aquifers in the area as deep as 350 feet
have elevated arsenic, requiring treatment. It might be possible to drill wells deeper than 600
feet and target aquifers producing water meeting primary drinking water standards, but low
temperature geothermal water must be avoided."[5]

WILDLIFE HABITAT INVENTORY

Per the IDFG letter provided by Brandon Flack on September 10, 2024, included in application, "IDFG has no records of any federally listed threatened or endangered species or critical habitat within or immediately adjacent to the proposed project property, and therefore no mapping to share at this time." Regarding 'Big Game' and 'Rangeland', the natural and developed open space within the planned community will support the continued movement of existing wildlife through the development. The planned community will also avoid negative impact on wildlife through Homeowner's Association design guidelines and CCR's by defining the use of fencing to be 'wildlife friendly', prohibiting the feeding of wildlife, prohibiting the planting of yew species and controlling management of pets and potential wildlife attractants.
Additional wildlife inventory details are provided in Section 3.0 of the resource Inventory for the Shadow Valley Planned Community Project prepared by environmental engineer Bowen Collins, included with this application.

SOURCES

Agriculture, U. S. (2024). *USDA Publications*. Retrieved from Natural Resources Conservation Service - US Department of Agriculture: https://www.nrcs.usda.gov/publications/Legend%20and%20Prime%20Farmland%20-%20Query%20by%20Soil%20Survey%20Area.html

Associates, B. C. (January 2025). *Shadow Valley Planned Community Project - Resource Inventory.* Salt Lake City, Utah: Bowen Collins & Associates.

County, A. (2000). Title 8-Ada County Zoning Code. In A. County, *Ada County Zoning Code* (pp. (Ord. 389, 6-14-2000)). Ada County: Ada County.

[4] (Associates, January 2025) Section 2.3
[5] (Thompson, August 02, 2024)

Management, B. o. (2024). *Bureau of Land Management Media Center: Geology of Southwest Idaho*. Retrieved from Bureau of Land Management: Ref: https://www.blm.gov/sites/blm.gov/files/documents/files/MediaCenter_PublicRoom_Idaho_Geology-of-%20SouthwestIdaho.pdf

McAdams, J. (2024). *Shadow Valley Planned Wildfire Safety Plan (East & West.* Boise: Jerry McAdams.

Thompson, J. (August 02, 2024). *Shadow Valley Planned Community Water Facility Plan.* Boise, Idaho: HDR Engineering.

USGS. (2024, October 17). *USGS Landslide Hazards Program*. Retrieved from USGS: https://www.usgs.gov/programs/landslide-hazards/what-a-landslide

RESOURCE INVENTORY FOR THE SHADOW VALLEY PLANNED COMMUNITY PROJECT

ADA COUNTY, IDAHO

Prepared for:

SVP, LLC
250 NW Franklin Ave. #401
Bend, OR 97703
(541) 280-4937

Prepared for Submission to:

Ada County Development Services
200 West Front Street,
Boise, ID 83702
(208) 287-7998

Prepared by:

BOWEN COLLINS & ASSOCIATES

154 East 14075 South
Draper, UT 84020
801-495-2224

January 2025

TABLE OF CONTENTS

Page

TABLE OF CONTENTS ..... **i**
1.0 INTRODUCTION **1**
1.1 Qualifications 1
2.0 NATURAL RESOURCES INVENTORY **1**
2.1 Topography 2
2.2 Soils & Geology 2
2.2.1 Soils 2
2.2.2 Prime Agricultural Land 2
2.2.3 Mineral Resources 3
2.3 Aquatic Resources 3
2.3.1 Streams 3
2.3.2 Wetlands and Riparian 3
2.3.3 Ponds 4
2.3.4 Affect to Ground and Surface Water 4
3.0 WILDLIFE HABITAT INVENTORY **4**
3.1 Vegetation 4
3.1.1 Vegetation Types 4
3.1.2 Existing Vegetation Conditions 6
3.2 Sensitive Species 7
3.2.1 State Special Status Species 7
3.2.2 Federally Listed Threatened and Endangered Species 7
3.3 Wildlife Habitat 8
3.3.1 Big Game Winter Range 8
3.3.2 Wildlife Habitat Function 8
3.3.3 Priority Wildlife Habitat 9
3.4 Existing Human Disturbance on Surroundings 10
3.4.1 Livestock 11
3.4.2 Agriculture 11
3.4.3 Development 11
3.4.4 Transportation 11
3.4.5 Recreation 11
4.0 CONCLUSIONS & DETERMINATION OF EFFECTS **12**
5.0 LITERATURE CITED **13**

TABLE OF CONTENTS
(continued)

LIST OF APPENDICES

APPENDIX A Resource Figures
APPENDIX B Soils Figure and NRCS Custom Soils Resource Report
APPENDIX C Photo Locations Figure and Site Photos
APPENDIX D Official USFWS Information for Planning and Consultation (IPaC) Report

LIST OF TABLES

Table 1 ESA-Listed Species & Critical Habitat
Table 2 Priority Species & Preferred Habitat

ACRONYMS & ABBREVIATIONS

BC&A - Bowen Collins & Associates
FEMA – Federal Emergency Management Agency
IDFG – Idaho Fish and Game
IFWIS – Idaho Fish and Wildlife Information System
IPaC – Information for Planning and Consultation
NRCS - Natural Resources Conservation Service
TES – Threatened and Endangered Species
USACE – U.S. Army Corps of Engineers
USFWS/Service - U.S. Fish & Wildlife Service

1.0 INTRODUCTION

Chapter 8 of Ada County Code reviews the regulations regarding planned community subarea development. The comprehensive plan amendment application outlined in Section 8-8-7 requires a natural resources and wildlife inventory which includes "the uses of rivers and other waters, forests, range, soils, harbors, fisheries, minerals, thermal water, beaches, watersheds, and shorelines, and an analysis of existing wildlife and habitat conditions" (Ada County, 2024). The following report addresses all of the requirements listed in Ada County Code § 8-8-7 paragraph C, under "Natural Resources And Wildlife Inventory."

1.1 Qualifications

This Natural Resources and Wildlife Inventory has been prepared by Bowen Collins & Associates (BC&A), on behalf of the Shadow Valley Planned Community (Shadow Valley) in Eagle, Idaho (see Figure 1: Site Location Map, Appendix A). The required resources were analyzed by the following qualified personnel:

Merissa Davis – Senior Biologist

- Bachelor's degree in Conservation Biology, Wildlife Emphasis, from Brigham Young University
- 22 years of experience in wildlife biology, wetland science, and environmental consulting including threatened and endangered species, GIS data collection/mapping, environmental assessments, biological assessments, raptor biology, reclamation, environmental permitting, wetland delineations, wetlands restoration, and project management.

Elena Capson – Biologist

- Bachelor's degree in Wildlife and Wildlands Conservation from Brigham Young University
- 3 years of experience in various aspects of wildlife biology involving native and invasive species identification, biomass and density measuring, biological assessments, baseline assessments, wetland delineations, riparian and rangeland health assessments, GIS data collection/mapping, and animal presence and habitat suitability surveys with an emphasis in threatened and endangered species including.

Christopher DeKorver – Hydrogeologist

- Professionally Licensed Engineer in Idaho and Utah
- Bachelor's degree in Geological Engineering from the University of Utah
- 19 years of experience in field management for geotechnical, environmental, and deep water well drilling operations including planning, permitting, and design.
- Experience with numerous groundwater and solute transport computer models, including MODFLOW, MODPATH, MT3D, and GWVistas.

2.0 NATURAL RESOURCES INVENTORY

The following is a written discussion of topography, wetlands, soils, prime farmland, mineral resources, rivers and other bodies of water, and the effect that the planned community will have on the source, quantity, and quality of ground and surface water in the area. To aid with the flow of the report, these topics have been organized into the categories of topography, soils and geology, and aquatic resources. The section on soils and geology contains subsections for discussions of soils, prime farmland, and mineral resources. The section on aquatic resources contains subsections for discussion of streams, wetlands, ponds, and affects to ground and surface water.

2.1 Topography

The Shadow Valley Planned Community will be located northeast of the city of Eagle in Ada County, about five miles from the Boise National Forest. The 550 acre site is divided into two sections roughly equal in size (see Figure 2: Topography, Appendix A).

The northern section is about 281 acres of undeveloped foothills with a maximum elevation around 3,480 feet and a minimum elevation of 2,950 feet for a total elevation change of approximately 530 feet. The steepest slopes occur on the south portion of this section where slopes are interspersed with rocky outcrops. These slopes peak and decline to the north to form a valley where the north side of this section rises again to an elevation of about 3,450 feet. Both hillsides convey storm water and runoff towards the upper third of the property where it collects in Woods Gulch which may flow towards the lower elevations to the west during storm events.

The southern section is about 268 acres and includes the valley bottom on the northwestern portion of this section and gently sloping, undeveloped foothills on the southeastern portion. The maximum elevation of the foothills is about 3,030 feet on the northeast side, and the lowest elevation of the valley bottom is about 2,730 feet near the southwest corner for a total elevation change of approximately 300 feet. The Shadow Valley Golf Course is located along Spring Valley Creek in the valley bottom.

2.2 Soils & Geology

The variety in topography at the planned community site gives rise to diverse soils and the underlying geologic features. These features change the productivity of the vegetation and the suitable uses for the land.

2.2.1 Soils

Soils on the property are mostly mixed alluvium or lacustrine deposits. The north half of the property is predominantly alluvium derived from igneous rock or colluvium derived from granite with surface textures of loam to sandy loam. The soils grow coarser towards the southeast where the steep slopes are present. The south half of the property is predominantly silty alluvium over silty lacustrine deposits on the slopes and loamy alluvium in the valley. The surface textures are coarser by Spring Valley Creek with loam or sandy loam textures and the foothills are finer with either a silt loam or silty clay loam texture. These textures are resultant from the development of the western plain of the Snake River that covers most of Ada County. A figure showing the names of the soil types within the planned community site along with a Custom Soil Resource Report for Ada County, Idaho (NRCS, 2024) is available in Appendix B.

2.2.2 Prime Agricultural Land

The Natural Resources Conservation Service (NRCS) defines prime farmland as "land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and that is available for these uses" (NRCS, 2015). These tracts of land are identified in the Custom Soil Resource Report for Ada County, Idaho (see Appendix B). The project site includes fertile valleys that have the potential to be prime farmland if irrigated. Approximately 67 acres or 12 percent of the area is classified as prime farmland if irrigated, and 92 acres or 17 percent is classified as farmland of statewide importance, if irrigated (see Figure 4: Prime Farmland, Appendix A). The prime farmland areas identified in the upper property are along the south facing mountainside north of Woods Gulch. The NRCS has classified this portion as farmland or statewide importance, if irrigated. As it is not irrigated, it is not prime farmland. The areas classified as prime farmland in the lower section of the project area mostly correlate with what is currently being managed as irrigated

golf green. Due to their irrigated status, these areas are classified as prime farmland or farmland of statewide importance. However, these areas will continue to be managed in the same way, so there will be no effect to prime farmland.

2.2.3 Mineral Resources

The area surrounding the site is known as the Boise Foothills. Deposited sediments are from the Idaho Batholith (Cretaceous intrusive granodiorite), located north and east of the Boise Front. Sediments deposited within the valley are of Tertiary (T) and Quaternary (Q) age and generally consist of arkosic sands, sandstones, claystones and siltstones. At the valley margins near the site, Tertiary age sand and mudstone of stream and lake sediments dominate the foothills. These sediments include interbedded fine gravel, siltstones, and are also locally cemented.

Referenced geologic maps do not indicate faulting or folding in the immediate area of the proposed site. The nearest faults are identified approximately 12 miles to the southwest of the site.

2.3 Aquatic Resources

Several aquatic resources are present on the site in a mixture of natural and modified states. The following discussion reviews conclusions drawn based on cursory field observations of hydrology and hydrophytic vegetation present during the dry season. A wetland delineation was not conducted according to U.S. Army Corps of Engineers (USACE) standards. As such, descriptions of aquatic resources present within the planned community should only be used to describe the site and not used in place of an official wetland delineation. However, an official wetland delineation will be performed in the spring of 2025, and final descriptions of wetlands will be recorded in the aquatic resources report that will follow. A preliminary Aquatic Resources Figure shows the features described below and is available in Appendix A.

2.3.1 Streams

The northern section of the property has ephemeral drainages that flow from the hillsides into Woods Gulch in the valley bottom. Woods Gulch may periodically flow during storm events, at which time it may flow approximately 3.5 miles beyond the planned community boundary to the west where it dissipates near residential development before it has the chance to join with any other resources. As such, it is an isolated storm drain channel and not a tributary of any jurisdictional Waters of the United States that are regulated by the U.S. Army Corps of Engineers. As such, the channel and any adjacent resources are not expected to be jurisdictional.

The southern section of the property contains Spring Valley Creek. It flows through the Shadow Valley Golf Course and has a Zone A flood zone designated by the Federal Emergency Management Agency (FEMA). The creek is crossed multiple times throughout the property by golf cart paths. Spring Valley Creek joins with Dry Creek south of the property, and then flows southwest to join with the Boise River, a jurisdictional Water of the United States. Due to these downstream connections, Spring Valley Creek is expected to be jurisdictional.

2.3.2 Wetlands and Riparian

One potential wetland is located within the property. A portion of Woods Gulch is deep and ponds long enough to support wetland vegetation. This potential wetland is only about 0.15 acres. As Woods Gulch does not have any connections to jurisdictional waters, the potential wetland is also not anticipated to be jurisdictional.

Spring Valley Creek supports a riparian corridor within the Shadow Valley Golf Course. Although the corridor is about 9 acres, it is narrow, averaging about 80 feet in width with the narrowest points at about 35 feet and widest points at about 165 feet. The corridor is also broken up by golf cart crossings

and other landscaping choices made by the golf course. No wetlands were observed along Spring Valley Creek but the 2025 delineation may identify additional resources.

2.3.3 Ponds

Two ponds are located within the planned community boundary. The wetland on the north side of the property drains water into a small irrigation pond – about 0.07 acres – that has historically been used to water livestock. It is not expected to be within the jurisdiction of the USACE as it does not have any connection to downstream jurisdictional waters. Within the golf course, a man-made water hazard pond is present on the southernmost point of the property. The water hazard is about 0.23 acres and may be jurisdictional due to a potential connection to Spring Valley Creek.

2.3.4 Affect to Ground and Surface Water

Groundwater within the surrounding areas has been shown to be between 4-14 feet below ground surface, specifically in the valley bottoms. Borings within the surrounding foothills have not shown groundwater present shallower than 14 feet (depth of test pits). Direct infiltration from precipitation (rain, snow, etc.), irrigation and seepage from canals, creeks/streams are forms of recharge to the groundwater. The amount of infiltration on the planned development is currently unknown and impacts to the groundwater from the planned community have not been calculated at this time.

As the land is being repurposed, drainages on the northern portion of the property may be rerouted into a storm drain system. The current development plans will have no direct impact on the pond or the wetland, but a storm drain system may either drain runoff into or away from these resources. Additional water would cause them to persist or develop further, and lack of water could cause them to disappear over time. The planned proposed development will not alter the management of the golf course. Therefore, Spring Valley Creek, the riparian corridor, and the water hazard pond will remain unaffected. Impacts to ground and surface water will be further understood as plans continue to develop and once the geotechnical fieldwork is completed in the spring of 2025.

3.0 WILDLIFE HABITAT INVENTORY

The following is a written discussion of all site resources required for review in Ada County Code § 8-8-7 paragraph C (Ada County, 2024). To aid with the flow of the report, these topics have been organized into the subcategories of vegetation, sensitive species, wildlife habitat, and existing human disturbance.

3.1 Vegetation

This section addresses vegetation and habitat types (including the presence of noxious weeds) and the existing vegetation condition based on ecological site descriptions and the latest version of Interpreting Indicators of Rangeland Health (Pellant et. al, 2020) as they pertain to the proposed planned community site.

3.1.1 Vegetation Types

The landscape can be classified as one of ten vegetation types described below. These communities are mapped in Figure 5: Vegetation Types (see Appendix A), and photos of the site are found in Appendix C. General presence of invasive or noxious species was much higher in the northern section of the property than in the southern.

Bitterbrush Slopes: About 22 acres of the southwest facing slopes on the north section of the property were identified by mid-story dominance of antelope bitterbrush (*Purshia tridentata*). These hillsides also included species such as big sagebrush (*Artemisia tridentata*) and bluebunch

wheatgrass (*Pseudoroegnaria spicata*). The understory was dominated by cheatgrass (*Bromus tectorum*), an invasive species, to the extent that very little bare ground is present.

Shrubby Hillside: The south central 19 acres of the north section of the property are characterized by the mixture of big sagebrush, antelope bitterbrush, and rubber rabbitbrush (*Ericameria nauseosa*) found in the mid-story. Some forbs and bluebunch wheatgrass are present, but they are not as prevalent as cheatgrass.

Sagebrush Foothills: Similar to the bitterbrush slopes and the shrubby hillside, the sagebrush foothills have cheatgrass and bluebunch wheatgrass in the understory. This community is unique as it also includes common sunflower (*Helianthus annuus*), and the mid-story is dominated by sagebrush interspersed with rabbitbrush. About 50 acres of west-facing slopes are covered by this vegetation type.

Dry Meadow: Both the north and south sections of the property include dry meadows which are the most prevalent vegetation type as they take up about 318 acres. These meadows have few shrubs and are vegetated with species like bluebunch wheatgrass, cheatgrass, arrowleaf balsamroot (*Balsamorhiza sagittata*), needle and thread grass (*Hesperostipa comata*), Fendler threeawn (*Aristida purpurea*), and rush skeletonweed (*Chondrilla juncea*). Rush skeletonweed is a noxious weed listed on the Idaho noxious weeds list, and it is mostly confined to the northern section of the property.

Non-irrigated Golf Green: About five acres along the edges of the Shadow Valley Golf Course are a transition zone from the manicured golf course green to the dry meadow or sagebrush foothills vegetation types. The non-irrigated golf green is characterized by domestic species generally found within the golf course that are located out of the reach of the irrigation system. This area is green in the rainy season and dries up during the heat of the summer.

Golf Course Green: The Shadow Valley Golf Course is an 18-hole course with manicured golf greens, a driving range, and holes separated by trees. Vegetation is managed typical of most golf courses and aesthetics include rock formations, flowerbeds, and a waterfall. The green incorporates about 104 acres.

Manicured Landscape: The southern end of the south section of the site includes a residence and a wedding venue. These two locations are surrounded by about four acres of manicured lawns and gardens. Various ornamental species exist here.

Riparian Corridor: Within the planned community area, Spring Valley Creek is lined with about nine acres of deciduous tree species typical of a riparian corridor including cottonwoods (*Populus spp.*). As it passes through the golf course, the understory is maintained by golf course personnel and does not exist in a natural state.

Wetland Drainage: As described above in section 2.3.2, Woods Gulch crosses through the northern section of the property and ponds in one portion of the gulch long enough to support wetland vegetation. This 0.14 acre wetland has not been officially delineated but includes various hydrophytic species such as Baltic rush (*Juncus balticus*), barnyard grass (*Echinochloa crus-galli*), rough cocklebur (*Xanthium strumarium*), and peachleaf willow (*Salix amygdaloides*).

Pond: The wetland drains into an irrigation pond that is surrounded with many of the same species described above. The other pond is a part of the golf course and is surrounded with species managed by the golf course. Together, both ponds cover about 0.3 acres.

Developed or Cleared Land: Some of the ground cover within the property has been paved over or cleared for roads, buildings, parking lots, and staging or storage areas. Little natural vegetation exists in these sections of the property, and species that are present are weedy species exist in small quantities. This land classification includes about 18 acres.

3.1.2 Existing Vegetation Conditions

Vegetation conditions that currently exist on the planned community property were assessed based on the ecological sites associated with the area (see Figure 6: Ecological Sites, Appendix A). The most prominent ecological sites found on the property are described below. Descriptions for ecological sites were gathered from New Mexico State University's Ecosystem Dynamics Interpretive Tool (EDIT) (NMSU and NRCS, 2025).

R010XY007ID — Loamy 12-16 PZ: Predominantly grassland with some sagebrush, these sites generally have deep soils and are suited for use by both wildlife and livestock as slopes rarely exceed 35 percent.

R011XA009ID — Loamy 8-12 PZ ARTRT/PSSPS: Dominance of sagebrush and bunchgrasses on these gentle slopes make this site well suited for mule deer winter range. Well drained soils offer few opportunities to provide water to livestock or wildlife.

R011XY008ID — South Slope 10-12 PZ: Strongly sloping to steep foothills with primarily south facing aspects characterize this site. Big sagebrush and bunchgrasses are the most prominent vegetation types. Due to the steep nature of this site, it is not suited for livestock and is occasionally used by wildlife.

R011XY015ID — Loamy Bottom 8-14 PZ ARTRT/LECI4: These gently rolling slopes never exceed five percent and are usually in a floodplain. While grasses usually dominate these areas, shrubs are generally present, and the site provides good cover for wildlife.

Indicators of Rangeland Health were used to determine vegetative health within all prominent ecological sites except R011XY015ID as it is entirely disturbed and covered by the golf course green. Interpreting Indicators of Rangeland Health is a technical manual created through extensive research and inter agency coordination from the Bureau of Land Management, U.S. Forest Service, USGS, USDA, and NRCS (Pellant et. al., 2020). The Interpreting Indicators of Rangeland Health Version 5 Evaluation Form includes seventeen different indicators to assess the soil and site stability, hydrologic function, and biotic integrity of the analysis site. Nine of those seventeen indicators relate to biotic integrity and compare it to the reference state, a comparable site that has been determined to exist in a healthy, natural state.

The current evaluation is based on the site visit conducted on September 11, 2024. As many of the forbs and grasses had gone dormant, conclusions about the biotic integrity of the site may not be accurate and will be revised when the site is visited again in the spring of 2025. The current biotic integrity of the site has a moderate variation from the reference state. The greatest variation exists in the species expected at the site. Many expected species were less dominant than anticipated or lacking altogether, and there was a higher presence of cheatgrass or other invasive species. The functional groups have also shifted in dominance as shrubs or bunch grasses have increased in some locations and decreased in others across the site. Spring observations will provide a more informed understanding of the biotic integrity within the property.

3.2 Sensitive Species

This section addresses state special status species and threatened and endangered species based on Idaho Fish and Game (IDFG) conservation data and U.S. Fish and Wildlife Service (USFWS) information as they pertain to the proposed planned community site.

3.2.1 State Special Status Species

IDFG was consulted to determine which state sensitive species could be present within the planned community. Only Aase's onion (*Allium aaseae*) was determined to potentially exist on the property. While there is currently no record of this species within the planned development area, there are recorded occurrences of it between the north and south sections of the development area. Due to its proximity to and the presence of potential sagebrush steppe habitat, surveys will need to be conducted for this species in spring of 2025.

3.2.2 Federally Listed Threatened and Endangered Species

The USFWS Information for Planning and Consultation (IPaC) Report created a list of federally listed Threatened and Endangered Species (TES) with the potential to occur in the area (see IPaC Report, Appendix D). This list includes North American wolverine (*Gulo gulo luscus*), monarch butterfly (*Danaus plexippus*), Suckley's cuckoo bumble bee (*Bombus suckleyi*), and slickspot peppergrass (*Lepidium papilliferum*) as described with habitat requirements in Table 1 on the next page.

Table 1
ESA-Listed Species & Critical Habitat

Species	Status	Habitat Requirements	Habitat in Action Area	Critical Habitat in Action Area
Mammals				
North American Wolverine *Gulo gulo luscus*	Threatened	Inhabit high elevation forests or tundra characterized by cold conditions that have extended periods of snowpack	None	Not Designated
Insects				
Monarch Butterfly *Danaus plexippus*	Proposed Threatened	Open fields and meadows with abundant milkweed plants for breeding and egg laying.	Marginal	Not Present
Suckley's Cuckoo Bumble Bee *Bombus suckleyi*	Proposed Endangered	Relies on other bees to survive and is typically found in places like prairies, grasslands, and urban areas with rich floral resources throughout the nesting season.	Marginal	Not Designated
Plants				
Slickspot Peppergrass *Lepidium papilliferum*	Threatened	Exclusively inhabit slick spots within sagebrush steppe in the Snake River Plains of southwestern Idaho.	Yes	Not Present

While the project area is within the known range for the above species, the presence of suitable habitat within the project area varies by species as further explained below. Photos of the site are available in Appendix C.

North American Wolverine: There is no suitable habitat for North American wolverine within the project area. North American wolverine prefer alpine tundra habitat and require deep snowpack for natal denning through mid-April or mid-May. In addition to the project area not containing alpine tundra, it also lacks the extent of overstory cover required for this species. As this species is not expected to be present, the proposed development should have no effect on wolverine.

Monarch Butterfly: Breeding habitat is not present for monarch butterfly, a species that relies on abundant milkweed for reproduction. However, foraging habitat is present as the dry meadows have rabbitbrush and balsamroot plants that could provide nectar. While some of these plants will be removed, native vegetation will be encouraged within the community and other flowering plants will likely be planted in residential parcels, thus there should be no effects to available habitat and monarch butterfly.

Suckley's Cuckoo Bumble Bee: Suckley's cuckoo bumblebee is an obligate parasite of other bumble bees and cannot care for their own offspring without taking over the nests of other bees. Flowering plants within the project area may support bumble bees, but micro-sites such as logs and stumps are lacking for over-wintering nests. As with monarch habitat, the availability of flowing plants should remain consistent and thus are not expected to affect the species.

Slickspot Peppergrass: Potential habitat may exist for slickspot peppergrass. While IDFG has no historical record of slickspot peppergrass within the project area, spring surveys by a qualified biologist will be needed to determine species presence. Species effects will be determined after presence surveys have been conducted in spring of 2025.

3.3 Wildlife Habitat

This section addresses both current and potential use of big game winter range, the structure and function of existing wildlife habitats (including connectivity, habitat fragmentation, and wildlife corridors), and priority habitat based upon the Idaho comprehensive wildlife conservation strategy.

3.3.1 Big Game Winter Range

In the winter when snow covers the dormant grasses and forbs, big game species primarily forage on shrubs. Brandon Flack of IDFG identified this area as winter range for mule deer and potential winter habitat for other species (Flack, 2024). Wildlife migration corridors are not specifically identified for this area but based on roadkill data available online from IDFG's publicly available Roadkill Observations dataset (IDFG, 2024a), it is clear that wildlife movement occurs frequently. Most car strikes involving mule deer and elk occur in the fall and early winter and again in April and May which means that big game tend to be in the area during those times (IDFG, 2024a).

3.3.2 Wildlife Habitat Function

Various species of wildlife inhabit the area surrounding the Shadow Valley Planned Community. The Idaho Fish and Wildlife Information System (IFWIS) does not have record of many species within the property, which is most likely due to a lack of data collection within the area and does not mean that wildlife is not present. Similarly, although no big game migration areas have been mapped nearby, the extensive roadkill data indicates that they tend to use this area as they move between foraging ranges. This roadkill data also includes record of species in the area such as mule deer, elk, white-tailed deer, pronghorn, American badger, common raccoon, coyote, red fox, northern saw-whet owl,

and other unidentified species (IDFG, 2024a). The roadkill data set likely does not include smaller species like rodents that would not be of note.

All the species noted above are common in open areas with varying degrees of shrub cover and little to no overstory cover. The location in the foothills provides low-elevation, varying topography with nearby forage and shelter from cold, winter winds even if the wind were to change direction. The north section of the property is secluded and allows wildlife to persist without much human contact.

Despite the proposed development, wildlife habitat is being preserved as a result of the limited building space allowed for each large acre lot. Additionally, fencing may only be constructed around these buildable areas and must be wildlife friendly. Finally, the layout of lots is also specifically designed to connect open space and accommodate wildlife usage and movement.

3.3.3 Priority Wildlife Habitat

Seven species have been identified as priority species either due to federal or state conservation status or their cultural importance as a big game species (USFWS, 2024; Flack, 2024). These species and their preferred habitat vegetation types are listed in Table 2 on the next page. North American wolverine is included in the table despite no suitable habitat being present. As such, none of the habitat types are identified as wolverine habitat. The habitat preference determination is based on the Idaho State Wildlife Action Plan (IDFG, 2024b) and the IDFG Management Plans for mule deer and elk (IDFG, 2019, 2014).

Table 2
Priority Species & Preferred Habitat

Vegetation Type / Group/Species Name	Bitterbrush Slopes	Shrubby Hillside	Sagebrush Foothills	Dry Meadow	Non-irrigated Golf Green	Golf Course Green	Manicured Landscape	Riparian Corridor	Wetland Drainage	Pond	Developed/Cleared
Insects											
Monarch Butterfly[2] *Danaus plexippus*	A	A	A	A	A	A	A				
Mammals											
Elk *Cervus canadensis*	A	A	A	A							
Pronghorn[3] *Antilocapra americana*	A	A	A	A	A						
Mule Deer *Odocoileus hemionus*	D	D	D	A	A		A				
North American Wolverine[1] *Gulo gulo luscus*											
Plants											
Slickspot Peppergrass[1] *Lepidium papilliferum*	A	A	A	A							
Aase's Onion[3] *Allium aaseae*	A	A	A	A							

[1] Federally listed as threatened
[2] Proposed to be federally listed as threatened
[3] State sensitive species listed in the Idaho Wildlife Action Plan

D=Dependent. Dependent species are defined as having seasonal distributions in a variety of habitats including a specific habitat, but there is a strong overlap with the distribution of that habitat. Where ranges overlap, the specific habitat provides an important seasonal habitat.

A=Associated. Associated species are defined as those that occur in other communities but may also breed and forage or meet other habitat requirements in a specific habitat.

3.4 Existing Human Disturbance on Surroundings

This section addresses existing human disturbance to wildlife and habitat as a result of livestock, transportation, recreation, agriculture, and development within a minimum of one mile of the planned community boundary as they pertain to the proposed planned community site. A map including a one mile analysis buffer is included in Figure 7: Existing Human Disturbance (see Appendix A).

Much of Ada County's unincorporated land is urbanizing. Just over a mile away is the City of Eagle and the communities of Hidden Springs and Avimor. Thirty-five years ago, development within a mile of the proposed Shadow Valley Community was limited to the Shadow Valley Golf Course and a few

homes in the foothills. Several roads and dirt trails allowed for transportation to this rural farming community, but aside from a few cultivated fields south of the property, the land existed as natural rangelands that were likely used to graze cattle. Over the last decade, the area surrounding the proposed planned community has steadily developed which introduced new disturbances to wildlife and their habitat.

3.4.1 Livestock

The north portion of the property is within the Carpenter Herd District that was designated in 1918 (Ada County, 2014). Areas outside the herd district are considered open range. It is detrimental to the health of the plants if over fifty percent of above-ground plant biomass is grazed. Irresponsible grazing practices may include livestock taking fifty percent and not considering the additional impact that wildlife will have after the grazing season is over. Improper grazing practices in the past have likely contributed to the influx of invasive plants seen in the dry meadows. The planned community will develop part of the grazing district removing it from livestock use but based on the layout and lot building area restrictions for the planned community, much of this area will remain available for wildlife.

Keeping livestock on the land also includes having options for water. The pond on the north side of the property was likely created to allow livestock to have access to water which gives wildlife access to water as well. Another stock watering pond is available due west of the development boundary.

3.4.2 Agriculture

No areas within the planned community are actively farmed, so the community will not impact any farmland. There is an increasing trend in the surrounding area where farmland is being converted into housing developments as further explained below. The agricultural land surrounding the community provides open space for wildlife movement. As these areas disappear, wildlife will rely more heavily on the open spaces intentionally placed into the design of the planned community.

3.4.3 Development

Development of the surrounding area really began around 2018 when the agricultural lands south of the property began to transition into the housing communities that make up Dry Creek Ranch. This conversion of agricultural fields to housing developments continues south of the project area with minimal development occurring north of the golf course. While the agricultural fields were not ideal foraging habitat, wildlife likely traveled through them as they were open spaces within the valley bottom. With the development of Dry Creek Ranch just south of proposed community, wildlife are more likely to travel even further south of the development on the other side of Dry Creek, or just north of Dry Creek Ranch through the foothills within the proposed planned community area.

3.4.4 Transportation

While very few roads will be added to the landscape, increased residences also lead to an increase in traffic and potential wildlife related car accidents. Highway 55 is already a hotspot for these car strikes, with most involving mule deer. Elk strikes are becoming increasingly more common south of the project area near Dry Creek. All accidents have increased correlating with the increased amount of development in the area and will likely continue to increase as the area continues to develop.

3.4.5 Recreation

The only recreational feature within a mile of the planned community is the Shadow Valley Golf Course. This golf course is not fenced, which allows for wildlife movement and gives them access to water at Spring Valley Creek. The riparian corridor along the creek and the trees throughout the golf course are the only sources of tree cover within the planned community and are an important part

of the tree cover for the surrounding area. Maintaining the tree cover within the golf course will provide this unique habitat type that may be used by various species of wildlife including tree-nesting birds.

4.0 CONCLUSIONS & DETERMINATION OF EFFECTS

The Shadow Valley Planned Community will change the current function of the landscape and is expected to have mixed impacts to the natural resources and wildlife in the area. There will be no effect to prime agricultural lands, North American wolverine, and monarch butterfly. There will be both beneficial and less desirable effects to big game and other wildlife species as habitat is both being conserved and converted into residences. The increase in residents will also increase the likelihood of car strikes leading to roadkill. More information is needed to determine affects to wetlands and streams, Aases' onion, and slickspot peppergrass.

5.0 LITERATURE CITED

Ada County. 2014. *Herd Districts and Open Range Within Ada County.* https://idrange.org/wp-content/uploads/2018/02/AdaCounty.pdf

Ada County. 2024. *Ada County Code § 8-8-7.* Ada County, ID Code of Ordinances. Passed 9-26-2024. https://codelibrary.amlegal.com/codes/adacountyid/latest/adacounty_id/0-0-0-8557#JD_8-8-7. Accessed online on January 15, 2025.

Flack, Brandon. 2024. *Email regarding big game and sensitive species*. September 10, 2024.

IDFG. 2014. Idaho Elk Management Plan 2014-2024. Idaho Department of Fish and Game, Boise, USA. https://idfg.idaho.gov/old-web/docs/wildlife/planElk.pdf. Accessed online January 15, 2025.

IDFG. 2019. Idaho Mule Deer Management Plan 2020–2025. Idaho Department of Fish and Game, Boise, USA. https://idfg.idaho.gov/sites/default/files/plan-deer-mule-2020-25.pdf. Accessed online January 15, 2025.

IDFG. 2024a. *Roadkill Observations*. Idaho Department of Fish and Game ArcGIS Online Dataset. https://data-idfggis.opendata.arcgis.com/datasets/roadkill-observations/explore?location=44.112542%2C-114.579300%2C5.83. Last updated April 17, 2024. Accessed online January 15, 2025.

IDFG. 2024b. *Idaho State Wildlife Action Plan*. 2023 rev. ed. Boise (ID): Idaho Department of Fish and Game. https://idfg.idaho.gov/. Accessed online January 15, 2025.

NMSU and NRCS. 2025. *Ecosystem Dynamics Interpretive Tool (EDIT)*. National Resources Conservation Service (NRCS), USDA Agricultural Research Service (ARS) Jornada Experimental Range, and New Mexico State University (NMSU). https://edit.jornada.nmsu.edu/. Accessed online January 16, 2025.

NRCS. 2015. *Prime Farmland Definition*. NRCS Field Office Technical Guide. https://efotg.sc.egov.usda.gov/references/public/CO/5a_Prime_Farmland_Definition.pdf. March 2015.

NRCS. 2024. Custom Soil Resource Report for Ada County, Idaho. National Resources Conservation Services and Forest Service, in Cooperation with the Utah Agricultural Experiment Station.

Pellant, M., P.L. Shaver, D.A. Pyke, J.E. Herrick, N. Lepak, G. Riegel, E. Kachergis, B.A. Newingham, D. Toledo, and F.E. Busby. 2020. Interpreting Indicators of Rangeland Health, Version 5. Tech Ref 1734-6. U.S. Department of the Interior, Bureau of Land Management, National Operations Center, Denver, CO. https://www.nrcs.usda.gov/sites/default/files/2022-06/Interpreting_Indicators_1734-6_ver5_08272020%20%281%29.pdf. Accessed online January 16, 2025.

St. John, L. and D.G. Ogle. Plant Guide for Slickspot Peppergrass (Lepidium papilliferum). USDA Natural Resources Conservation Service, Plant Materials Center, Aberdeen, ID. https://www.nrcs.usda.gov/plantmaterials/idpmcpg11466.pdf. Accessed online January 16, 2025.

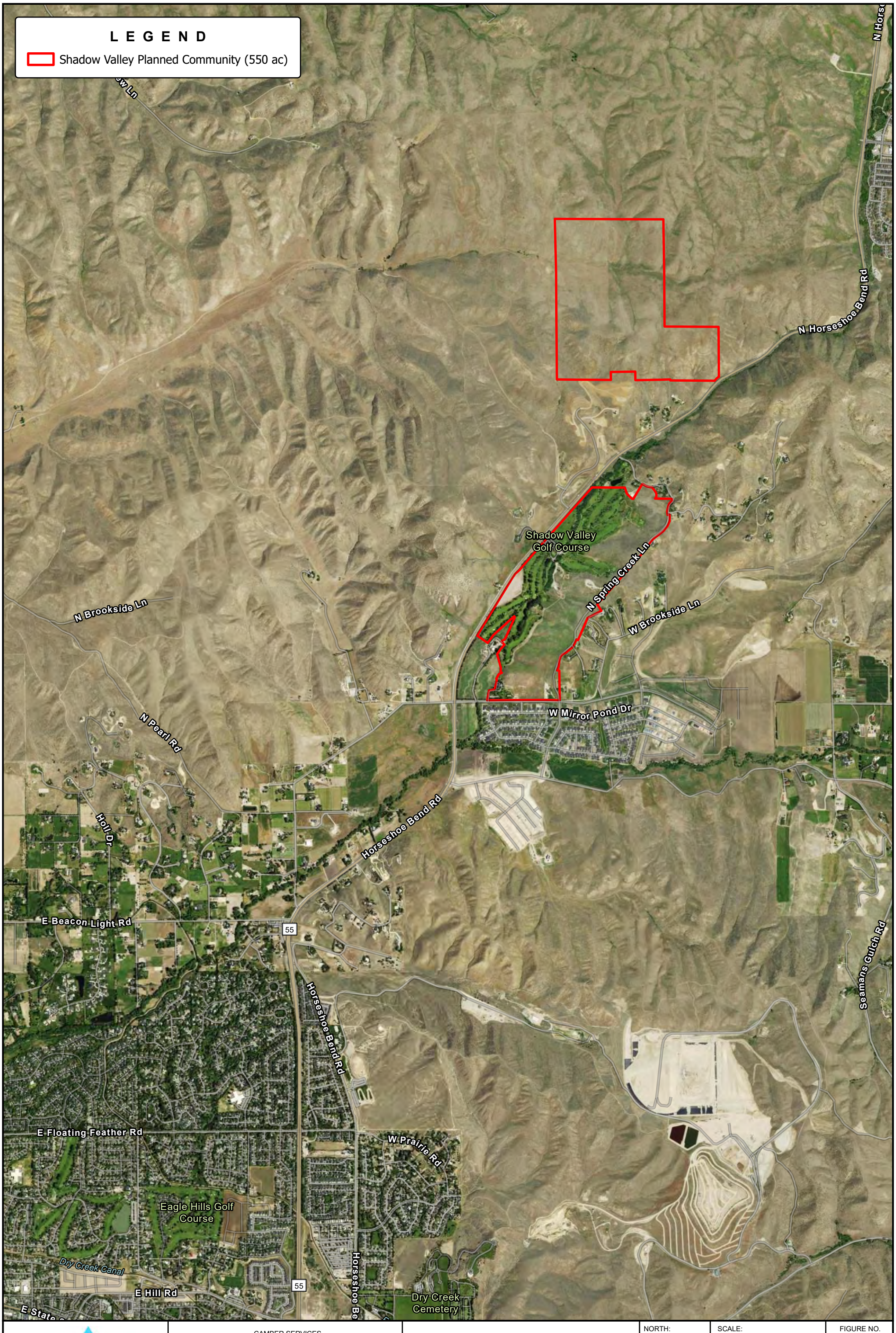
USFWS. 2025a. *List of TES that may occur in proposed project location, and/or may be affected by your proposed project*. Project Code: 2025-0039236. Accessed online January 8, 2025.

USFWS. 2025b. *Information, Planning, and Conservation System (IPAC).* https://ecos.fws.gov/ipac/location/index. Accessed online January 8, 2025.

APPENDIX A

Resource Figures

Figure 1: Site Location
Figure 2: Topography
Figure 3: Prime Farmland
Figure 4: Preliminary Aquatic Resources
Figure 5: Vegetation Types
Figure 6: Ecological Sites
Figure 7: Existing Human Disturbance



BOWEN COLLINS & ASSOCIATES	CAMBER SERVICES SHADOW VALLEY PLANNED COMMUNITY	SITE LOCATION	NORTH: NORTH	SCALE: 0 1,000 2,000 Feet	FIGURE NO. 1

P:\Shadow Valley\834-24-01 Shadow Valley Planned Community\3.0 GIS\3.4 APRX\Shadow Valley Baseline.aprx ECAPSON 1/16/2025

L E G E N D

Shadow Valley Planned Community (550 ac)

3400
3400
3200
3200
3000
3000
HORSESHO
55
3000
N BASIN WAY
3300
3100
3200
3000
W STACK ROCK DR
3000
2900
2800
BASIN WAY
3000
2900
2900
2800
2900
2800
N MOUNT SHADOW LN
Spring Valley Creek
N SPRING CREEK LN
W BROOKSIDE LN
Dry Creek

Imagery: USGS Eagle ID, Quad
USGS Pearl ID, Quad

BOWEN COLLINS & ASSOCIATES

CAMBER SERVICES

SHADOW VALLEY PLANNED COMMUNITY

TOPOGRAPHY

NORTH:

NORTH

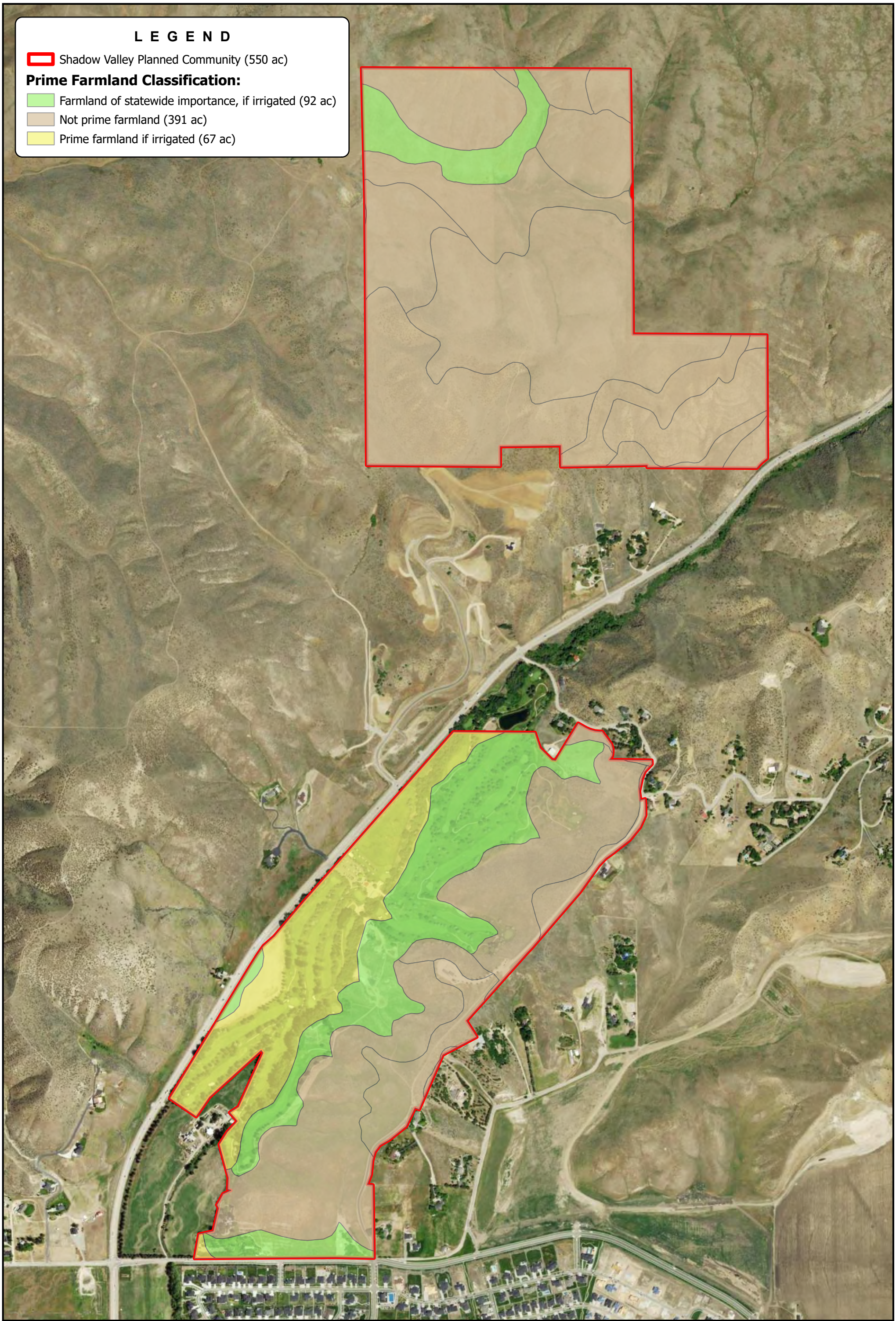
SCALE:

0 420 840 Feet

FIGURE NO.

2

P:\Shadow Valley\834-24-01 Shadow Valley Planned Community\3.0 GIS\3.4 APRX\Shadow Valley Baseline.aprx ECAPSON 1/16/2025



BOWEN COLLINS & ASSOCIATES

CAMBER SERVICES

SHADOW VALLEY
PLANNED COMMUNITY

PRIME FARMLAND

NORTH:

NORTH

SCALE:

0 250 500
Feet

FIGURE NO.

3

P:\Shadow Valley\834-24-01 Shadow Valley Planned Community\3.0 GIS\3.4 APRX\Shadow Valley Baseline.aprx ECAPSON 1/16/2025

L E G E N D

- Shadow Valley Planned Community (550 ac)

Potential Aquatic Resources*:

- Potential Pond Boundary
- Potential Wetland Drainage Boundary
- Riparian Corridor
- Drainage Pattern
- Woods Gulch Drainage Channel
- Spring Valley Creek

*Boundaries shown have not been delineated according to the standards set by the U.S. Army Corps of Engineers. As such, they are only representative of potential wetlands and should not be used in place of a wetland delineation.

BOWEN COLLINS & ASSOCIATES

CAMBER SERVICES

SHADOW VALLEY PLANNED COMMUNITY

POTENTIAL AQUATIC RESOURCES

NORTH:

SCALE: 0 250 500 Feet

FIGURE NO. 4

P:\Shadow Valley\834-24-01 Shadow Valley Planned Community\3.0 GIS\3.4 APRX\Shadow Valley Baseline.aprx ECAPSON 1/16/2025

L E G E N D

Shadow Valley Planned Community (550 ac)

Vegetation Types:

- B - Bitterbrush Slopes (22 ac)
- H - Shrubby Hillside (19 ac)
- S - Sagebrush Foothills (50 ac)
- M - Dry Meadow (318 ac)
- N - Non-irrigated Golf Green (5 ac)
- G - Golf Course Green (104 ac)
- L - Manicured Landscape (4 ac)
- R - Riparian Corridor (9 ac)
- W - Wetland Drainage (0.14 ac)
- P - Pond (0.30 ac)
- C - Developed/Cleared (18 ac)

P W M B S B M B H M B N S M S G R G M N S S C M C R S C S R N M C R P L C L C L L

BOWEN COLLINS & ASSOCIATES	CAMBER SERVICES SHADOW VALLEY PLANNED COMMUNITY	VEGETATION TYPES	NORTH: NORTH	SCALE: 0 250 500 Feet	FIGURE NO. 5

P:\Shadow Valley\834-24-01 Shadow Valley Planned Community\3.0 GIS\3.4 APRX\Shadow Valley Baseline.aprx ECAPSON 1/16/2025

L E G E N D

Shadow Valley Planned Community (550 ac)

Ecological Sites:

- R010XY001ID — North Slope Loamy 12-16 PZ FEID-PSSPS
- R010XY007ID — Loamy 12-16 PZ
- R010XY011ID — South Slope Stony 12-16 PZ ARTRT/PSSPS
- R011XA009ID — Loamy 8-12 PZ ARTRT/PSSPS
- R011XA014ID — Sandy 8-14 PZ ARTRT/HECOC8-ACHY
- R011XY008ID — South Slope 10-12 PZ
- R011XY011ID — Sand 8-12 PZ ARTRT/ACHY
- R011XY015ID — Loamy Bottom 8-14 PZ ARTRT/LECI4
- R011XY018ID — South Slope Granitic 8-12 PZ ARTRT/PSSPS

BOWEN COLLINS & ASSOCIATES

CAMBER SERVICES

SHADOW VALLEY PLANNED COMMUNITY

ECOLOGICAL SITES

NORTH:

SCALE: 0 250 500 Feet

FIGURE NO. 6

P:\Shadow Valley\834-24-01 Shadow Valley Planned Community\3.0 GIS\3.4 APRX\Shadow Valley Baseline.aprx ECAPSON 1/16/2025

Avimor

N Horseshoe Bend Rd

Shadow Valley
Golf Course

Spring Valley Creek

N Spring Creek Ln

W Brookside Ln

N Broken Horn Rd

W Quail Valley Dr

W Mirror Pond Dr

Dry Creek Ranch

W Suttle Lake Dr

Dry Creek

Hidden
Springs

L E G E N D

- Shadow Valley Planned Community (550 ac)
- Other Planned Community Boundaries
- 1-mi Human Disturbance Analysis Buffer

IDFG Roadkill Data*:

- Elk (Cervus canadensis)
- Mule Deer (Odocoileus hemionus)
- White-tailed Deer (Odocoileus virginianus)
- Pronghorn (Antilocapra americana)
- Other

*IDFG provided the following disclaimer with this data set, "This page (ArcGIS Online) allows downloads of raw data of reported roadkill either by the public, Idaho Fish and Game, or Idaho Transportation Department. There is the potential for the same roadkill to be reported in more than one observation....This dataset displays all the roadkill observations that were reported in Idaho from 1977 to the current date." This data set does not include reports of animals that were hit and lived or animals too small to report.

BOWEN COLLINS & ASSOCIATES

CAMBER SERVICES

SHADOW VALLEY PLANNED COMMUNITY

EXISTING HUMAN DISTURBANCE

NORTH:

SCALE: 0 1,000 2,000 Feet

FIGURE NO. 7

P:\Shadow Valley\834-24-01 Shadow Valley Planned Community\3.0 GIS\3.4 APRX\Shadow Valley Baseline.aprx ECAPSON 1/16/2025

APPENDIX B

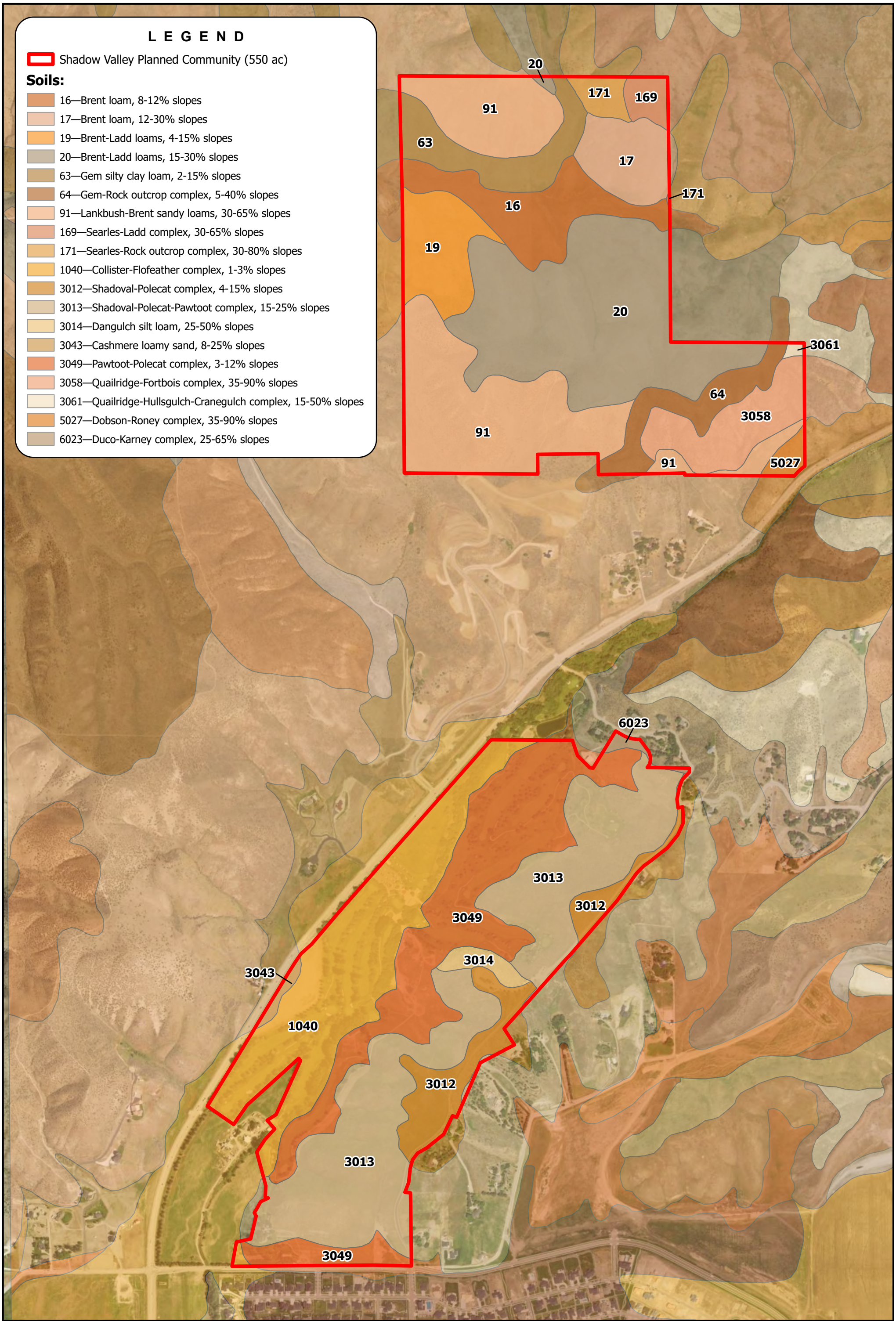
Soils Figure and NRCS Custom Soils Resource Report

L E G E N D

Shadow Valley Planned Community (550 ac)

Soils:

- 16—Brent loam, 8-12% slopes
- 17—Brent loam, 12-30% slopes
- 19—Brent-Ladd loams, 4-15% slopes
- 20—Brent-Ladd loams, 15-30% slopes
- 63—Gem silty clay loam, 2-15% slopes
- 64—Gem-Rock outcrop complex, 5-40% slopes
- 91—Lankbush-Brent sandy loams, 30-65% slopes
- 169—Searles-Ladd complex, 30-65% slopes
- 171—Searles-Rock outcrop complex, 30-80% slopes
- 1040—Collister-Flofeather complex, 1-3% slopes
- 3012—Shadoval-Polecat complex, 4-15% slopes
- 3013—Shadoval-Polecat-Pawtoot complex, 15-25% slopes
- 3014—Dangulch silt loam, 25-50% slopes
- 3043—Cashmere loamy sand, 8-25% slopes
- 3049—Pawtoot-Polecat complex, 3-12% slopes
- 3058—Quailridge-Fortbois complex, 35-90% slopes
- 3061—Quailridge-Hullsgulch-Cranegulch complex, 15-50% slopes
- 5027—Dobson-Roney complex, 35-90% slopes
- 6023—Duco-Karney complex, 25-65% slopes



BOWEN COLLINS & ASSOCIATES

CAMBER SERVICES

SHADOW VALLEY PLANNED COMMUNITY

SOILS

NORTH:

SCALE: 0 250 500 Feet

FIGURE NO. 8

P:\Shadow Valley\834-24-01 Shadow Valley Planned Community\3.0 GIS\3.4 APRX\Shadow Valley Baseline.aprx ECAPSON 1/16/2025

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Ada County, Idaho



October 29, 2024

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

Contents

Preface.....2
How Soil Surveys Are Made.....5
Soil Map.....8
Soil Map.....9
Legend.....10
Map Unit Legend.....11
Map Unit Descriptions.....12
Ada County, Idaho.....14
16—Brent loam, 8 to 12 percent slopes.....14
17—Brent loam, 12 to 30 percent slopes.....15
19—Brent-Ladd loams, 4 to 15 percent slopes.....16
20—Brent-Ladd loams, 15 to 30 percent slopes.....17
63—Gem silty clay loam, 2 to 15 percent slopes.....19
64—Gem-Rock outcrop complex, 5 to 40 percent slopes.....20
91—Lankbush-Brent sandy loams, 30 to 65 percent slopes.....21
169—Searles-Ladd complex, 30 to 65 percent slopes.....22
171—Searles-Rock outcrop complex, 30 to 80 percent slopes.....24
1040—Collister-Flofeather complex, 1 to 3 percent slopes.....25
3012—Shadoval-Polecat complex, 4 to 15 percent slopes.....27
3013—Shadoval-Polecat-Pawtoot complex, 15 to 25 percent slopes.....29
3014—Dangulch silt loam, 25 to 50 percent slopes.....31
3043—Cashmere loamy sand, 8 to 25 percent slopes.....32
3049—Pawtoot-Polecat complex, 3 to 12 percent slopes.....33
3058—Quailridge-Fortbois complex, 35 to 90 percent slopes.....35
3061—Quailridge-Hullsgulch-Cranegulch complex, 15 to 50 percent slopes.....37
5027—Dobson-Roney complex, 35 to 90 percent slopes.....39
6023—Duco-Karney complex, 25 to 65 percent slopes.....40
References.....43

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

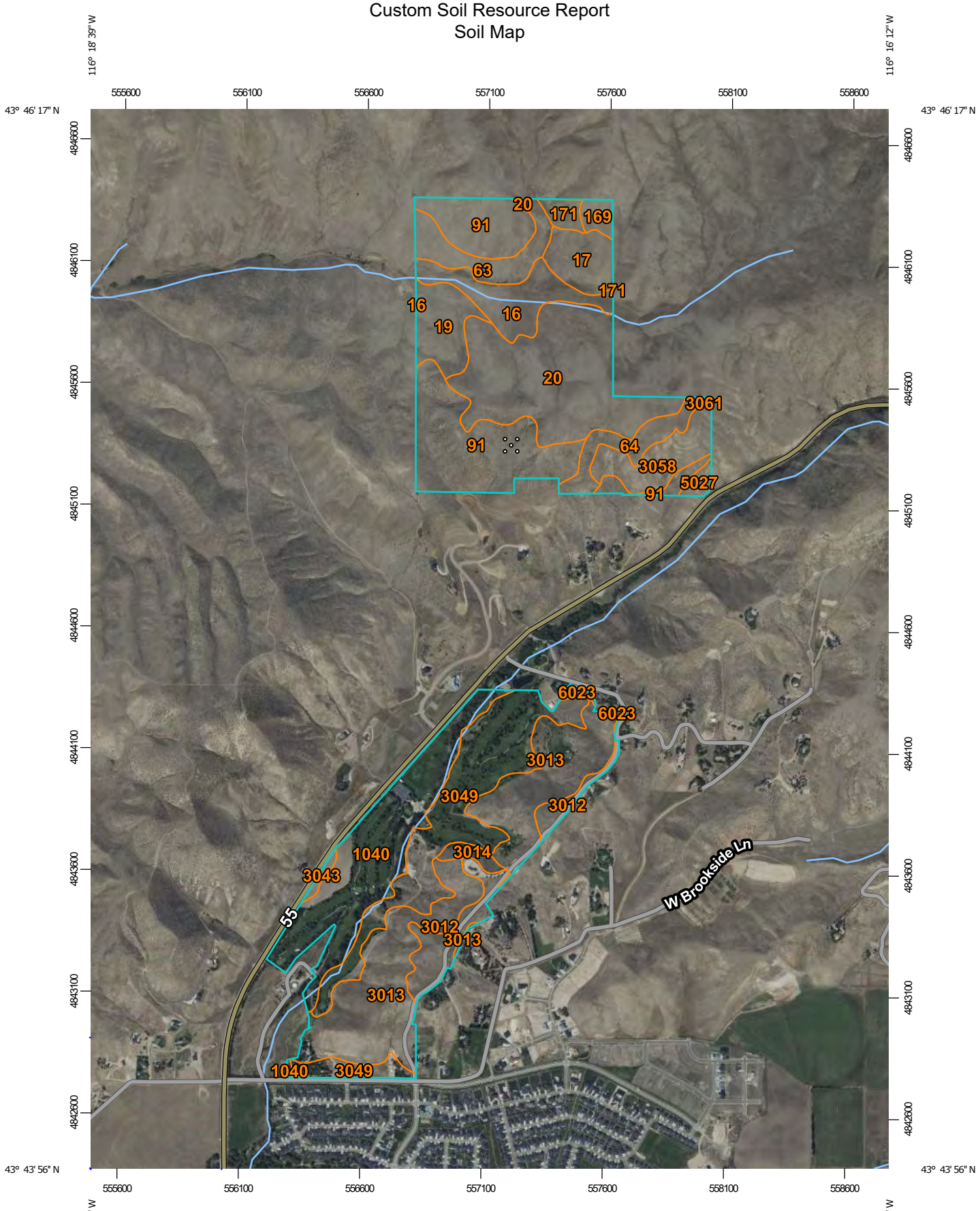
After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map



Map Scale: 1:21,200 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 300 600 1200 1800

Feet: 0 1000 2000 4000 6000

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Ada County, Idaho
Survey Area Data: Version 12, Aug 23, 2024

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Sep 9, 2023—Sep 14, 2023

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
16	Brent loam, 8 to 12 percent slopes	25.2	4.6%
17	Brent loam, 12 to 30 percent slopes	15.3	2.8%
19	Brent-Ladd loams, 4 to 15 percent slopes	18.7	3.4%
20	Brent-Ladd loams, 15 to 30 percent slopes	80.4	14.6%
63	Gem silty clay loam, 2 to 15 percent slopes	18.2	3.3%
64	Gem-Rock outcrop complex, 5 to 40 percent slopes	13.9	2.5%
91	Lankbush-Brent sandy loams, 30 to 65 percent slopes	77.5	14.1%
169	Searles-Ladd complex, 30 to 65 percent slopes	4.4	0.8%
171	Searles-Rock outcrop complex, 30 to 80 percent slopes	4.5	0.8%
1040	Collister-Flofeather complex, 1 to 3 percent slopes	66.6	12.1%
3012	Shadoval-Polecat complex, 4 to 15 percent slopes	22.1	4.0%
3013	Shadoval-Polecat-Pawtoot complex, 15 to 25 percent slopes	100.1	18.2%
3014	Dangulch silt loam, 25 to 50 percent slopes	3.9	0.7%
3043	Cashmere loamy sand, 8 to 25 percent slopes	1.6	0.3%
3049	Pawtoot-Polecat complex, 3 to 12 percent slopes	72.6	13.2%
3058	Quailridge-Fortbois complex, 35 to 90 percent slopes	19.8	3.6%
3061	Quailridge-Hullsgulch-Cranegulch complex, 15 to 50 percent slopes	0.6	0.1%
5027	Dobson-Roney complex, 35 to 90 percent slopes	2.8	0.5%
6023	Duco-Karney complex, 25 to 65 percent slopes	1.4	0.3%
Totals for Area of Interest		**549.7**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas

shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Ada County, Idaho

16—Brent loam, 8 to 12 percent slopes

Map Unit Setting

National map unit symbol: 2q7n
Elevation: 2,700 to 4,000 feet
Mean annual precipitation: 12 to 15 inches
Mean annual air temperature: 48 to 52 degrees F
Frost-free period: 140 to 155 days
Farmland classification: Not prime farmland

Map Unit Composition

Brent and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Brent

Setting

Landform: Terraces
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from igneous rock

Typical profile

A - 0 to 18 inches: loam
Bt - 18 to 29 inches: clay
Btk - 29 to 40 inches: clay
2Bk - 40 to 46 inches: gravelly clay loam
3C - 46 to 64 inches: gravelly loamy coarse sand

Properties and qualities

Slope: 8 to 12 percent
Depth to restrictive feature: 12 to 19 inches to abrupt textural change
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 3.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4s
Hydrologic Soil Group: D
Ecological site: R010XY007ID - Loamy 12-16 PZ
Hydric soil rating: No

17—Brent loam, 12 to 30 percent slopes

Map Unit Setting

National map unit symbol: 2q80
Elevation: 2,700 to 4,000 feet
Mean annual precipitation: 12 to 15 inches
Mean annual air temperature: 48 to 52 degrees F
Frost-free period: 140 to 155 days
Farmland classification: Not prime farmland

Map Unit Composition

Brent and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Brent

Setting

Landform: Terraces
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from igneous rock

Typical profile

A - 0 to 18 inches: loam
Bt - 18 to 29 inches: clay
Btk - 29 to 40 inches: clay
2Bk - 40 to 46 inches: gravelly clay loam
3C - 46 to 64 inches: gravelly loamy coarse sand

Properties and qualities

Slope: 12 to 30 percent
Depth to restrictive feature: 12 to 19 inches to abrupt textural change
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 3.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: D
Ecological site: R010XY007ID - Loamy 12-16 PZ
Hydric soil rating: No

19—Brent-Ladd loams, 4 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2q8q
Elevation: 2,700 to 5,050 feet
Mean annual precipitation: 12 to 18 inches
Mean annual air temperature: 45 to 52 degrees F
Frost-free period: 100 to 155 days
Farmland classification: Not prime farmland

Map Unit Composition

Brent and similar soils: 50 percent
Ladd and similar soils: 30 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Brent

Setting

Landform: Terraces
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from igneous rock

Typical profile

A - 0 to 18 inches: loam
Bt - 18 to 29 inches: clay
Btk - 29 to 40 inches: clay
2Bk - 40 to 46 inches: gravelly clay loam
3C - 46 to 64 inches: gravelly loamy coarse sand

Properties and qualities

Slope: 4 to 15 percent
Depth to restrictive feature: 12 to 19 inches to abrupt textural change
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 3.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4s
Hydrologic Soil Group: D
Ecological site: R010XY007ID - Loamy 12-16 PZ
Hydric soil rating: No

Description of Ladd

Setting

Landform: Mountains
Landform position (two-dimensional): Footslope
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Colluvium derived from granite

Typical profile

A - 0 to 14 inches: loam
Bt - 14 to 72 inches: sandy clay loam

Properties and qualities

Slope: 4 to 15 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: High (about 10.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: C
Ecological site: R010XY007ID - Loamy 12-16 PZ
Hydric soil rating: No

20—Brent-Ladd loams, 15 to 30 percent slopes

Map Unit Setting

National map unit symbol: 2q93
Elevation: 2,700 to 5,050 feet
Mean annual precipitation: 12 to 18 inches
Mean annual air temperature: 45 to 52 degrees F
Frost-free period: 100 to 155 days
Farmland classification: Not prime farmland

Map Unit Composition

Brent and similar soils: 50 percent
Ladd and similar soils: 30 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Brent

Setting

Landform: Terraces

Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from igneous rock

Typical profile

A - 0 to 18 inches: loam
Bt - 18 to 29 inches: clay
Btk - 29 to 40 inches: clay
2Bk - 40 to 46 inches: gravelly clay loam
3C - 46 to 64 inches: gravelly loamy coarse sand

Properties and qualities

Slope: 15 to 30 percent
Depth to restrictive feature: 12 to 19 inches to abrupt textural change
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 3.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: D
Ecological site: R010XY007ID - Loamy 12-16 PZ
Hydric soil rating: No

Description of Ladd

Setting

Landform: Mountains
Landform position (two-dimensional): Footslope
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Colluvium derived from granite

Typical profile

A - 0 to 14 inches: loam
Bt - 14 to 72 inches: sandy clay loam

Properties and qualities

Slope: 15 to 30 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: High (about 10.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e

Hydrologic Soil Group: C
Ecological site: R010XY007ID - Loamy 12-16 PZ
Hydric soil rating: No

63—Gem silty clay loam, 2 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2qbm
Elevation: 2,500 to 5,000 feet
Mean annual precipitation: 12 to 17 inches
Mean annual air temperature: 45 to 50 degrees F
Frost-free period: 110 to 140 days
Farmland classification: Farmland of statewide importance, if irrigated

Map Unit Composition

Gem and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Gem

Setting

Landform: Lava flows, lava plains
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loess over bedrock derived from tuff and/or basalt

Typical profile

A - 0 to 7 inches: silty clay loam
Bt - 7 to 18 inches: clay
Bk - 18 to 23 inches: gravelly loam
R - 23 to 33 inches: bedrock

Properties and qualities

Slope: 2 to 15 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 10 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 4.2 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 4s
Hydrologic Soil Group: D
Ecological site: R010XY007ID - Loamy 12-16 PZ
Hydric soil rating: No

64—Gem-Rock outcrop complex, 5 to 40 percent slopes

Map Unit Setting

National map unit symbol: 2qbn
Elevation: 2,500 to 5,000 feet
Mean annual precipitation: 12 to 17 inches
Mean annual air temperature: 45 to 50 degrees F
Frost-free period: 110 to 140 days
Farmland classification: Not prime farmland

Map Unit Composition

Gem and similar soils: 75 percent
Rock outcrop: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Gem

Setting

Landform: Lava flows, lava plains
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loess over bedrock derived from tuff and/or basalt

Typical profile

A - 0 to 7 inches: gravelly clay loam
Bt - 7 to 18 inches: clay
Bk - 18 to 23 inches: gravelly loam
R - 23 to 33 inches: bedrock

Properties and qualities

Slope: 5 to 40 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 10 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 4.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: D
Ecological site: R010XY007ID - Loamy 12-16 PZ
Hydric soil rating: No

Description of Rock Outcrop

Typical profile

R - 0 to 60 inches: bedrock

Properties and qualities

Slope: 5 to 40 percent
Depth to restrictive feature: 0 inches to lithic bedrock

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8
Hydrologic Soil Group: D
Hydric soil rating: Unranked

91—Lankbush-Brent sandy loams, 30 to 65 percent slopes

Map Unit Setting

National map unit symbol: 2qcm
Elevation: 2,000 to 5,500 feet
Mean annual precipitation: 8 to 15 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 100 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Lankbush and similar soils: 40 percent
Brent, south aspect, and similar soils: 30 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Lankbush

Setting

Landform: Stream terraces, fan remnants
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Mixed alluvium and/or lacustrine deposits and/or loess

Typical profile

A - 0 to 11 inches: sandy loam
Bt - 11 to 30 inches: loam
Bk - 30 to 60 inches: sandy loam

Properties and qualities

Slope: 30 to 65 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None

Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 5.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: A
Ecological site: R011XY008ID - South Slope 10-12 PZ
Hydric soil rating: No

Description of Brent, South Aspect

Setting

Landform: Stream terraces, fan remnants
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from igneous rock

Typical profile

A - 0 to 18 inches: loam
Bt - 18 to 29 inches: clay
Btk - 29 to 40 inches: clay
2Bk - 40 to 46 inches: gravelly clay loam
3C - 46 to 64 inches: gravelly loamy coarse sand

Properties and qualities

Slope: 30 to 65 percent
Depth to restrictive feature: 12 to 19 inches to abrupt textural change
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 3.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: D
Ecological site: R011XY008ID - South Slope 10-12 PZ
Hydric soil rating: No

169—Searles-Ladd complex, 30 to 65 percent slopes

Map Unit Setting

National map unit symbol: 2q7z

Elevation: 2,700 to 5,500 feet
Mean annual precipitation: 9 to 18 inches
Mean annual air temperature: 45 to 52 degrees F
Frost-free period: 100 to 140 days
Farmland classification: Not prime farmland

Map Unit Composition

Searles and similar soils: 45 percent
Ladd and similar soils: 40 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Searles

Setting

Landform: Mountain slopes
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Colluvium over bedrock derived from granite and/or basalt and/or rhyolite

Typical profile

A - 0 to 9 inches: gravelly loam
Bt1 - 9 to 14 inches: gravelly sandy clay loam
Bt2 - 14 to 30 inches: very gravelly sandy clay loam
R - 30 to 40 inches: bedrock

Properties and qualities

Slope: 30 to 65 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 3.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: C
Ecological site: R010XY001ID - North Slope Loamy 12-16 PZ FEID-PSSPS
Hydric soil rating: No

Description of Ladd

Setting

Landform: Mountain slopes
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Colluvium derived from granite

Typical profile

A - 0 to 14 inches: loam
Bt - 14 to 72 inches: sandy clay loam

Properties and qualities

Slope: 30 to 65 percent

Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: High (about 10.9 inches)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: C
Ecological site: R010XY001ID - North Slope Loamy 12-16 PZ FEID-PSSPS
Hydric soil rating: No

171—Searles-Rock outcrop complex, 30 to 80 percent slopes

Map Unit Setting
National map unit symbol: 2q82
Elevation: 2,700 to 6,200 feet
Mean annual precipitation: 9 to 14 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 50 to 100 days
Farmland classification: Not prime farmland

Map Unit Composition
Searles, stony surface, and similar soils: 55 percent
Rock outcrop: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Searles, Stony Surface

Setting
Landform: Mountain slopes
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Colluvium over bedrock derived from granite and/or basalt and/or rhyolite

Typical profile
A - 0 to 9 inches: gravelly loam
Bt1 - 9 to 14 inches: gravelly sandy clay loam
Bt2 - 14 to 30 inches: very gravelly sandy clay loam
R - 30 to 40 inches: bedrock

Properties and qualities
Slope: 30 to 80 percent
Surface area covered with cobbles, stones or boulders: 0.1 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 3.7 inches)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: C
Ecological site: R010XY001ID - North Slope Loamy 12-16 PZ FEID-PSSPS
Hydric soil rating: No

Description of Rock Outcrop

Typical profile
R - 0 to 60 inches: bedrock

Properties and qualities
Slope: 30 to 80 percent
Depth to restrictive feature: 0 inches to lithic bedrock

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8
Hydrologic Soil Group: D
Hydric soil rating: Unranked

1040—Collister-Flofeather complex, 1 to 3 percent slopes

Map Unit Setting
National map unit symbol: 2183p
Elevation: 2,600 to 3,730 feet
Mean annual precipitation: 12 to 15 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 135 to 155 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition
Collister and similar soils: 65 percent
Flofeather and similar soils: 25 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Collister

Setting
Landform: Stream terraces
Down-slope shape: Linear
Across-slope shape: Linear

Parent material: Loamy alluvium

Typical profile

Ap1 - 0 to 4 inches: loam
Ap2 - 4 to 10 inches: loam
A1 - 10 to 19 inches: loam
A2 - 19 to 23 inches: loam
Bw1 - 23 to 28 inches: clay loam
Bw2 - 28 to 36 inches: silty clay loam
Bw3 - 36 to 42 inches: silt loam
Bw4 - 42 to 58 inches: sandy clay loam
C - 58 to 66 inches: sandy loam

Properties and qualities

Slope: 1 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: About 40 to 60 inches
Frequency of flooding: Rare
Frequency of ponding: None
Available water supply, 0 to 60 inches: High (about 10.2 inches)

Interpretive groups

Land capability classification (irrigated): 2e
Land capability classification (nonirrigated): 3c
Hydrologic Soil Group: B
Ecological site: R011XY015ID - Loamy Bottom 8-14 PZ ARTRT/LECI4
Hydric soil rating: No

Description of Flofeather

Setting

Landform: Stream terraces
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Coarse-loamy alluvium

Typical profile

A1 - 0 to 7 inches: sandy loam
A2 - 7 to 22 inches: sandy loam
Bw1 - 22 to 30 inches: sandy loam
Bw2 - 30 to 41 inches: sandy loam
BC - 41 to 48 inches: fine gravelly sandy loam
C - 48 to 60 inches: fine gravelly sandy loam

Properties and qualities

Slope: 1 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Rare
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 6.0 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: A
Ecological site: R011XY015ID - Loamy Bottom 8-14 PZ ARTRT/LECI4
Hydric soil rating: No

Minor Components

Cumulic endoaquolls

Percent of map unit: 5 percent
Landform: Channels
Ecological site: R011XY027ID - Wet Meadow Carex-Juncus
Hydric soil rating: Yes

3012—Shadoval-Polecat complex, 4 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2183r
Elevation: 2,680 to 3,310 feet
Mean annual precipitation: 12 to 15 inches
Mean annual air temperature: 50 to 52 degrees F
Frost-free period: 140 to 155 days
Farmland classification: Not prime farmland

Map Unit Composition

Shadoval and similar soils: 60 percent
Polecat and similar soils: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Shadoval

Setting

Landform: Hillslopes
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Silty alluvium and/or residuum over silty lacustrine deposits

Typical profile

A - 0 to 2 inches: silt loam
BA - 2 to 4 inches: clay loam
Btn - 4 to 10 inches: clay
Btkn - 10 to 15 inches: silty clay loam
Bkn - 15 to 20 inches: silty clay loam
Bkny1 - 20 to 32 inches: silt loam
Bkny2 - 32 to 39 inches: silt loam
Crky - 39 to 49 inches: bedrock

Properties and qualities

Slope: 4 to 15 percent
Depth to restrictive feature: 4 to 12 inches to natric; 20 to 40 inches to paralithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Gypsum, maximum content: 10 percent
Maximum salinity: Slightly saline to moderately saline (4.0 to 12.0 mmhos/cm)
Sodium adsorption ratio, maximum: 20.0
Available water supply, 0 to 60 inches: Very low (about 0.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: D
Ecological site: R011XA009ID - Loamy 8-12 PZ ARTRT/PSSPS
Hydric soil rating: No

Description of Polecat

Setting

Landform: Hillslopes
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Silty alluvium and/or colluvium over silty lacustrine deposits

Typical profile

A - 0 to 1 inches: silt loam
BA - 1 to 4 inches: silt loam
Bt - 4 to 7 inches: silty clay loam
Btk - 7 to 14 inches: silt loam
Bk1 - 14 to 24 inches: silt loam
Bk2 - 24 to 35 inches: silt loam
BCk - 35 to 51 inches: very fine sandy loam
Crk - 51 to 61 inches: bedrock

Properties and qualities

Slope: 4 to 15 percent
Depth to restrictive feature: 40 to 60 inches to paralithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Gypsum, maximum content: 3 percent
Maximum salinity: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)
Sodium adsorption ratio, maximum: 10.0
Available water supply, 0 to 60 inches: High (about 9.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: C
Ecological site: R011XA009ID - Loamy 8-12 PZ ARTRT/PSSPS
Hydric soil rating: No

3013—Shadoval-Polecat-Pawtoot complex, 15 to 25 percent slopes

Map Unit Setting

National map unit symbol: 2183s
Elevation: 2,680 to 3,180 feet
Mean annual precipitation: 12 to 15 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 130 to 155 days
Farmland classification: Not prime farmland

Map Unit Composition

Shadoval and similar soils: 35 percent
Polecat and similar soils: 30 percent
Pawtoot and similar soils: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Shadoval

Setting

Landform: Hillslopes
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Silty alluvium and/or residuum over silty lacustrine deposits

Typical profile

A - 0 to 2 inches: silt loam
BA - 2 to 4 inches: clay loam
Btn - 4 to 10 inches: clay
Btkn - 10 to 15 inches: silty clay loam
Bkn - 15 to 20 inches: silty clay loam
Bkny1 - 20 to 32 inches: silt loam
Bkny2 - 32 to 39 inches: silt loam
Crky - 39 to 49 inches: bedrock

Properties and qualities

Slope: 15 to 25 percent
Depth to restrictive feature: 4 to 12 inches to natric; 20 to 40 inches to paralithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None

Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Gypsum, maximum content: 10 percent
Maximum salinity: Slightly saline to moderately saline (4.0 to 12.0 mmhos/cm)
Sodium adsorption ratio, maximum: 20.0
Available water supply, 0 to 60 inches: Very low (about 0.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: D
Ecological site: R011XA009ID - Loamy 8-12 PZ ARTRT/PSSPS
Hydric soil rating: No

Description of Polecat

Setting

Landform: Hillslopes
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Silty alluvium and/or colluvium over silty lacustrine deposits

Typical profile

A - 0 to 1 inches: silt loam
BA - 1 to 4 inches: silt loam
Bt - 4 to 7 inches: silty clay loam
Btk - 7 to 14 inches: silt loam
Bk1 - 14 to 24 inches: silt loam
Bk2 - 24 to 35 inches: silt loam
BCk - 35 to 51 inches: very fine sandy loam
Crk - 51 to 61 inches: bedrock

Properties and qualities

Slope: 15 to 25 percent
Depth to restrictive feature: 40 to 60 inches to paralithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Gypsum, maximum content: 3 percent
Maximum salinity: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)
Sodium adsorption ratio, maximum: 10.0
Available water supply, 0 to 60 inches: High (about 9.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: C
Ecological site: R011XA009ID - Loamy 8-12 PZ ARTRT/PSSPS
Hydric soil rating: No

Description of Pawtoot

Setting

Landform: Draws
Down-slope shape: Linear
Across-slope shape: Concave
Parent material: Silty and clayey alluvium over silty lacustrine deposits

Typical profile

A - 0 to 2 inches: silt loam
BA - 2 to 6 inches: silt loam
E - 6 to 7 inches: silt loam
Btn1 - 7 to 13 inches: clay
Btn2 - 13 to 32 inches: silty clay loam
Btkn - 32 to 41 inches: silty clay loam
Bkny1 - 41 to 56 inches: silt loam
Bkny2 - 56 to 67 inches: silt loam
Crky - 67 to 77 inches: bedrock

Properties and qualities

Slope: 15 to 25 percent
Depth to restrictive feature: 4 to 10 inches to natric
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Gypsum, maximum content: 5 percent
Maximum salinity: Slightly saline to moderately saline (4.0 to 12.0 mmhos/cm)
Sodium adsorption ratio, maximum: 20.0
Available water supply, 0 to 60 inches: Very low (about 1.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: D
Ecological site: R011XA009ID - Loamy 8-12 PZ ARTRT/PSSPS
Hydric soil rating: No

3014—Dangulch silt loam, 25 to 50 percent slopes

Map Unit Setting

National map unit symbol: 2183t
Elevation: 2,800 to 3,280 feet
Mean annual precipitation: 14 to 17 inches
Mean annual air temperature: 47 to 49 degrees F
Frost-free period: 115 to 135 days

Farmland classification: Not prime farmland

Map Unit Composition

Dangulch and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Dangulch

Setting

Landform: Hillslopes
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Silty lacustrine deposits

Typical profile

A - 0 to 5 inches: silt loam
Bt1 - 5 to 7 inches: silty clay loam
Bt2 - 7 to 15 inches: clay
Btk - 15 to 21 inches: silty clay loam
Bk1 - 21 to 29 inches: silt loam
Bk2 - 29 to 48 inches: loam
Cr - 48 to 58 inches: bedrock

Properties and qualities

Slope: 25 to 50 percent
Depth to restrictive feature: 40 to 60 inches to paralithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Gypsum, maximum content: 5 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 5.0
Available water supply, 0 to 60 inches: Moderate (about 8.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: C
Ecological site: R010XY001ID - North Slope Loamy 12-16 PZ FEID-PSSPS
Hydric soil rating: No

3043—Cashmere loamy sand, 8 to 25 percent slopes

Map Unit Setting

National map unit symbol: 2185b
Elevation: 2,660 to 3,480 feet
Mean annual precipitation: 13 to 14 inches
Mean annual air temperature: 49 to 52 degrees F

Frost-free period: 135 to 155 days
Farmland classification: Farmland of statewide importance, if irrigated

Map Unit Composition
Cashmere, sandy surface, and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Cashmere, Sandy Surface

Setting
Landform: Hillslopes
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Sandy alluvium

Typical profile
A1 - 0 to 2 inches: loamy sand
A2 - 2 to 10 inches: loamy sand
Bw1 - 10 to 17 inches: sandy loam
Bw2 - 17 to 29 inches: sandy loam
C1 - 29 to 46 inches: sandy loam
C2 - 46 to 60 inches: loamy sand

Properties and qualities
Slope: 8 to 25 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 4.8 inches)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: A
Ecological site: R011XY011ID - Sand 8-12 PZ ARTRT/ACHY
Hydric soil rating: No

3049—Pawtoot-Polecat complex, 3 to 12 percent slopes

Map Unit Setting
National map unit symbol: 2185c
Elevation: 2,710 to 3,160 feet
Mean annual precipitation: 13 to 15 inches
Mean annual air temperature: 50 to 51 degrees F
Frost-free period: 140 to 150 days
Farmland classification: Farmland of statewide importance, if irrigated

Map Unit Composition

Pawtoot and similar soils: 45 percent
Polecat and similar soils: 35 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Pawtoot

Setting

Landform: Draws
Down-slope shape: Linear
Across-slope shape: Concave
Parent material: Silty and clayey alluvium over silty lacustrine deposits

Typical profile

A - 0 to 2 inches: silt loam
BA - 2 to 6 inches: silt loam
E - 6 to 7 inches: silt loam
Btn1 - 7 to 13 inches: clay
Btn2 - 13 to 32 inches: silty clay loam
Btkn - 32 to 41 inches: silty clay loam
Bkny1 - 41 to 56 inches: silt loam
Bkny2 - 56 to 67 inches: silt loam
Crky - 67 to 77 inches: bedrock

Properties and qualities

Slope: 3 to 12 percent
Depth to restrictive feature: 4 to 10 inches to natric
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Gypsum, maximum content: 5 percent
Maximum salinity: Slightly saline to moderately saline (4.0 to 12.0 mmhos/cm)
Sodium adsorption ratio, maximum: 20.0
Available water supply, 0 to 60 inches: Very low (about 1.5 inches)

Interpretive groups

Land capability classification (irrigated): 6s
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: D
Ecological site: R011XA009ID - Loamy 8-12 PZ ARTRT/PSSPS
Hydric soil rating: No

Description of Polecat

Setting

Landform: Draws
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Silty alluvium and/or colluvium over silty lacustrine deposits

Typical profile

A - 0 to 1 inches: silt loam

BA - 1 to 4 inches: silt loam
Bt - 4 to 7 inches: silty clay loam
Btk - 7 to 14 inches: silt loam
Bk1 - 14 to 24 inches: silt loam
Bk2 - 24 to 35 inches: silt loam
BCk - 35 to 51 inches: very fine sandy loam
Crk - 51 to 61 inches: bedrock

Properties and qualities

Slope: 3 to 12 percent
Depth to restrictive feature: 40 to 60 inches to paralithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Gypsum, maximum content: 3 percent
Maximum salinity: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)
Sodium adsorption ratio, maximum: 10.0
Available water supply, 0 to 60 inches: High (about 9.4 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: C
Ecological site: R011XA009ID - Loamy 8-12 PZ ARTRT/PSSPS
Hydric soil rating: No

3058—Quailridge-Fortbois complex, 35 to 90 percent slopes

Map Unit Setting

National map unit symbol: 2185h
Elevation: 2,720 to 3,830 feet
Mean annual precipitation: 12 to 15 inches
Mean annual air temperature: 48 to 52 degrees F
Frost-free period: 120 to 155 days
Farmland classification: Not prime farmland

Map Unit Composition

Quailridge and similar soils: 50 percent
Fortbois and similar soils: 30 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Quailridge

Setting

Landform: Hillslopes
Down-slope shape: Convex

Across-slope shape: Convex
Parent material: Sandy lacustrine deposits

Typical profile

A - 0 to 4 inches: loamy coarse sand
Bt1 - 4 to 8 inches: sandy clay loam
Bt2 - 8 to 19 inches: coarse sandy loam
E and Bt - 19 to 46 inches: stratified loamy coarse sand to sandy clay loam
C - 46 to 60 inches: fine gravelly coarse sand

Properties and qualities

Slope: 35 to 65 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 3.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: A
Ecological site: R011XA014ID - Sandy 8-14 PZ ARTRT/HECOC8-ACHY
Hydric soil rating: No

Description of Fortbois

Setting

Landform: Hillslopes
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Sandy lacustrine deposits

Typical profile

A1 - 0 to 2 inches: loamy sand
A2 - 2 to 7 inches: loamy sand
Bw - 7 to 11 inches: sandy loam
BC - 11 to 17 inches: loamy sand
C - 17 to 60 inches: sand

Properties and qualities

Slope: 50 to 90 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Available water supply, 0 to 60 inches: Very low (about 3.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e

Hydrologic Soil Group: A
Ecological site: R011XY011ID - Sand 8-12 PZ ARTRT/ACHY
Hydric soil rating: No

3061—Quailridge-Hullsgulch-Cranegulch complex, 15 to 50 percent slopes

Map Unit Setting

National map unit symbol: 2185l
Elevation: 2,680 to 3,960 feet
Mean annual precipitation: 13 to 16 inches
Mean annual air temperature: 48 to 52 degrees F
Frost-free period: 120 to 155 days
Farmland classification: Not prime farmland

Map Unit Composition

Quailridge and similar soils: 35 percent
Hullsgulch and similar soils: 30 percent
Cranegulch and similar soils: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Quailridge

Setting

Landform: Hillslopes
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Sandy lacustrine deposits

Typical profile

A - 0 to 4 inches: loamy coarse sand
Bt1 - 4 to 8 inches: sandy clay loam
Bt2 - 8 to 19 inches: coarse sandy loam
E and Bt - 19 to 46 inches: stratified loamy coarse sand to sandy clay loam
C - 46 to 60 inches: fine gravelly coarse sand

Properties and qualities

Slope: 25 to 50 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 3.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: A

Ecological site: R011XA014ID - Sandy 8-14 PZ ARTRT/HECOC8-ACHY
Hydric soil rating: No

Description of Hullsgulch

Setting

Landform: Hillslopes
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Sandy lacustrine deposits

Typical profile

A - 0 to 5 inches: loamy coarse sand
BA - 5 to 12 inches: coarse sandy loam
Bt1 - 12 to 19 inches: sandy clay loam
Bt2 - 19 to 25 inches: coarse sandy loam
Bt3 - 25 to 38 inches: coarse sandy loam
E/Bt1 - 38 to 53 inches: stratified loamy coarse sand to sandy clay loam
E/Bt2 - 53 to 60 inches: stratified fine gravelly coarse sand to fine gravelly sandy clay loam

Properties and qualities

Slope: 15 to 50 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 4.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: B
Ecological site: R011XA014ID - Sandy 8-14 PZ ARTRT/HECOC8-ACHY
Hydric soil rating: No

Description of Cranegulch

Setting

Landform: Hillslopes
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loamy lacustrine deposits

Typical profile

A1 - 0 to 3 inches: loam
A2 - 3 to 11 inches: loam
Bt1 - 11 to 14 inches: sandy clay loam
Bt2 - 14 to 22 inches: sandy clay
Bt3 - 22 to 33 inches: clay
Bt4 - 33 to 50 inches: sandy clay
Bt5 - 50 to 60 inches: clay loam

Properties and qualities

Slope: 15 to 50 percent

Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 2 percent
Available water supply, 0 to 60 inches: High (about 9.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: C
Ecological site: R010XY007ID - Loamy 12-16 PZ
Hydric soil rating: No

5027—Dobson-Roney complex, 35 to 90 percent slopes

Map Unit Setting

National map unit symbol: 2162r
Elevation: 2,660 to 5,490 feet
Mean annual precipitation: 13 to 17 inches
Mean annual air temperature: 46 to 51 degrees F
Frost-free period: 90 to 150 days
Farmland classification: Not prime farmland

Map Unit Composition

Dobson and similar soils: 50 percent
Roney, dry, and similar soils: 35 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Dobson

Setting

Landform: Hillslopes, canyons
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Colluvium derived from granodiorite over granodiorite

Typical profile

A - 0 to 2 inches: fine gravelly coarse sandy loam
Bw - 2 to 12 inches: fine gravelly coarse sandy loam
BC - 12 to 14 inches: fine gravelly loamy coarse sand
R - 14 to 24 inches: bedrock

Properties and qualities

Slope: 35 to 90 percent
Depth to restrictive feature: 10 to 20 inches to lithic bedrock
Drainage class: Somewhat excessively drained

Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 1.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8
Hydrologic Soil Group: D
Ecological site: R011XY018ID - South Slope Granitic 8-12 PZ ARTRT/PSSPS
Hydric soil rating: No

Description of Roney, Dry

Setting

Landform: Hillslopes
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Colluvium derived from granodiorite over granodiorite

Typical profile

A1 - 0 to 2 inches: fine gravelly coarse sandy loam
A2 - 2 to 12 inches: fine gravelly coarse sandy loam
AB - 12 to 17 inches: fine gravelly coarse sandy loam
Bw - 17 to 30 inches: fine gravelly coarse sandy loam
R - 30 to 40 inches: bedrock

Properties and qualities

Slope: 35 to 90 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 2.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: B
Ecological site: R010XY008ID - South Slope Granitic 12-16 PZ PUTR2/PSSPS
Hydric soil rating: No

6023—Duco-Karney complex, 25 to 65 percent slopes

Map Unit Setting

National map unit symbol: 21670

Elevation: 2,810 to 4,440 feet
Mean annual precipitation: 13 to 16 inches
Mean annual air temperature: 47 to 51 degrees F
Frost-free period: 110 to 150 days
Farmland classification: Not prime farmland

Map Unit Composition

Duco and similar soils: 55 percent
Karney and similar soils: 35 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Duco

Setting

Landform: Hillslopes
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Colluvium derived from andesite and/or basalt over basalt and/or andesite

Typical profile

A - 0 to 3 inches: stony loam
Bt - 3 to 15 inches: extremely stony clay loam
R - 15 to 25 inches: bedrock

Properties and qualities

Slope: 25 to 65 percent
Depth to restrictive feature: 10 to 20 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 1.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: D
Ecological site: R010XY011ID - South Slope Stony 12-16 PZ ARTRT/PSSPS
Hydric soil rating: No

Description of Karney

Setting

Landform: Hillslopes
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Clayey alluvium and/or colluvium derived from welded tuff and/or granodiorite and/or interbedded sedimentary rock over grus

Typical profile

A - 0 to 3 inches: loam
Bt1 - 3 to 6 inches: clay loam
Bt2 - 6 to 12 inches: clay
Bt3 - 12 to 20 inches: clay

Bt4 - 20 to 31 inches: clay
2Cr - 31 to 55 inches: bedrock
2R - 55 to 65 inches: bedrock

Properties and qualities

Slope: 25 to 65 percent
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock; 40 to 60 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 4.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: D
Ecological site: R010XY007ID - Loamy 12-16 PZ
Hydric soil rating: No

References

American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.

American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

National Research Council. 1995. Wetlands: Characteristics and boundaries.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_054262

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577

Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053580

Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.

United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.

United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374

United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf

APPENDIX C

Photo Locations Figure and Site Photos

L E G E N D

- Shadow Valley Planned Community (550 ac)
- Photo Points

PP1
PP2
PP3
PP4
PP5
PP6
PP7
PP8
PP9
PP10
PP11
PP12
PP13
PP14
PP15
PP16
PP17
PP18
PP19
PP20
PP21
PP22
PP23
PP24
PP25
PP26
PP27

CAMBER SERVICES

SHADOW VALLEY PLANNED COMMUNITY

PHOTO POINTS

NORTH:

SCALE: 0 250 500 Feet

FIGURE NO. 9

BOWEN COLLINS & ASSOCIATES

P:\Shadow Valley\834-24-01 Shadow Valley Planned Community\3.0 GIS\3.4 APRX\Shadow Valley Baseline.aprx ECAPSON 1/16/2025



Photo Point 1



Photo Point 1



Photo Point 1



Photo Point 1

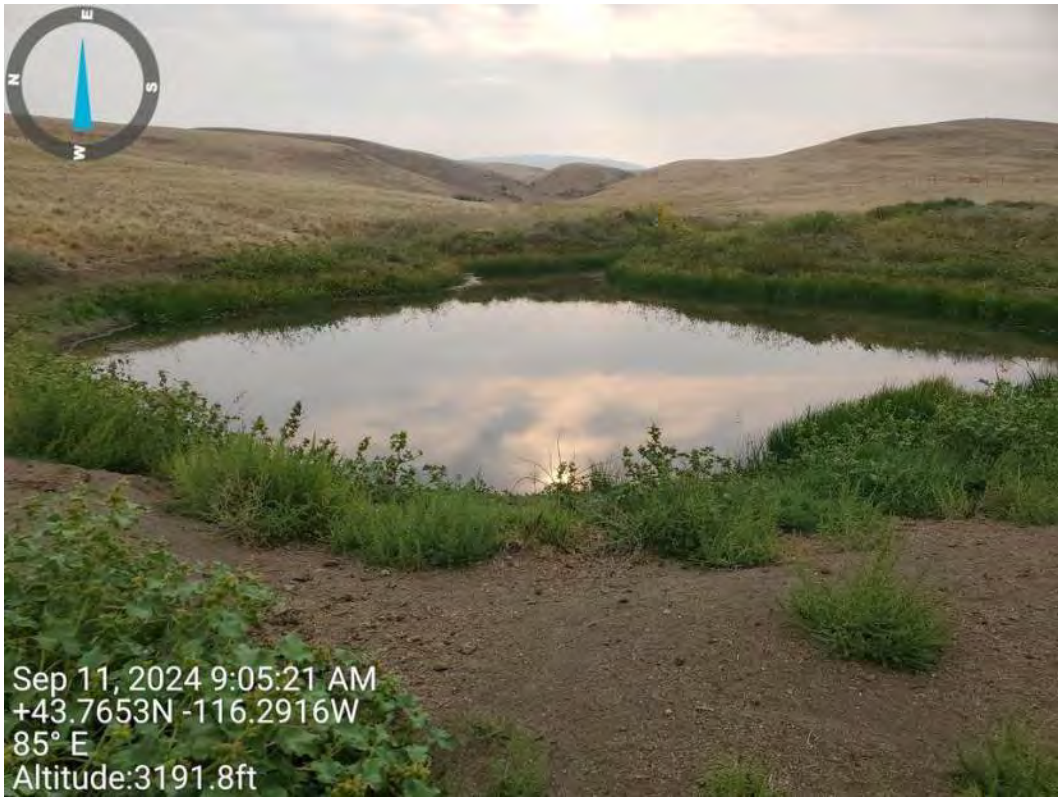


Photo Point 2



Photo Point 2



Photo Point 2



Photo Point 2



Photo Point 3



Photo Point 3



Photo Point 4



Photo Point 4



Photo Point 4



Photo Point 4

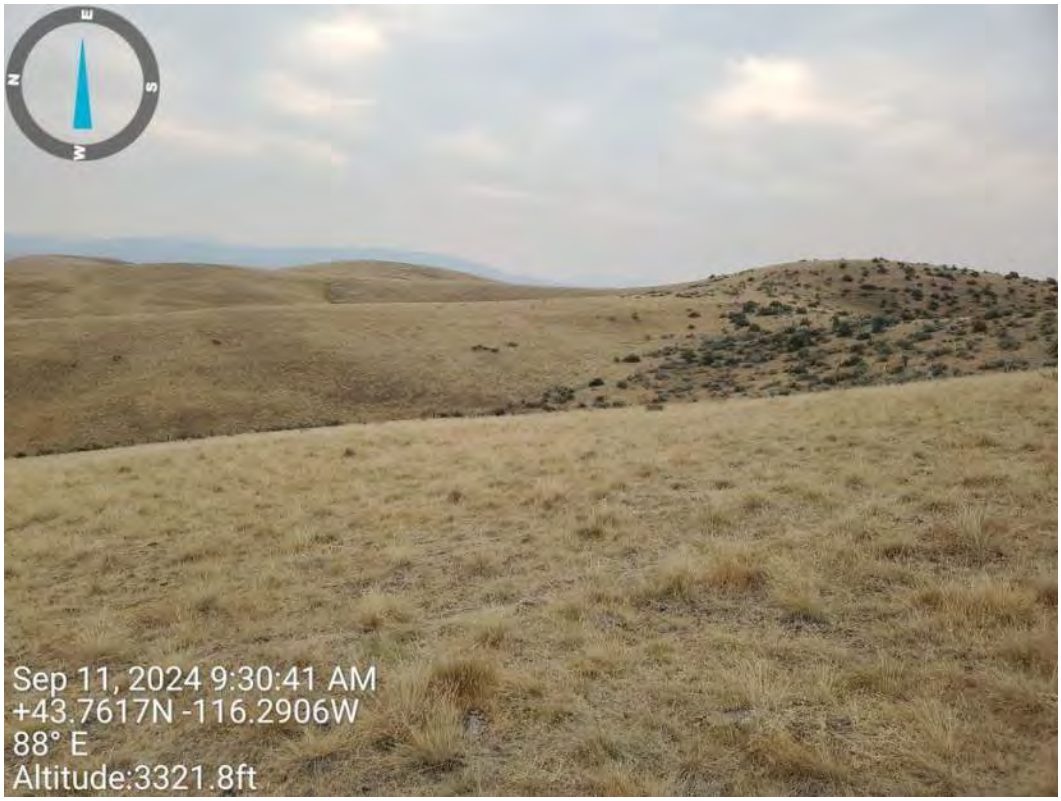


Photo Point 5



Photo Point 5



Photo Point 5



Photo Point 5



Photo Point 6



Photo Point 6



Photo Point 6



Photo Point 6



Photo Point 7



Photo Point 7



Photo Point 8



Photo Point 8

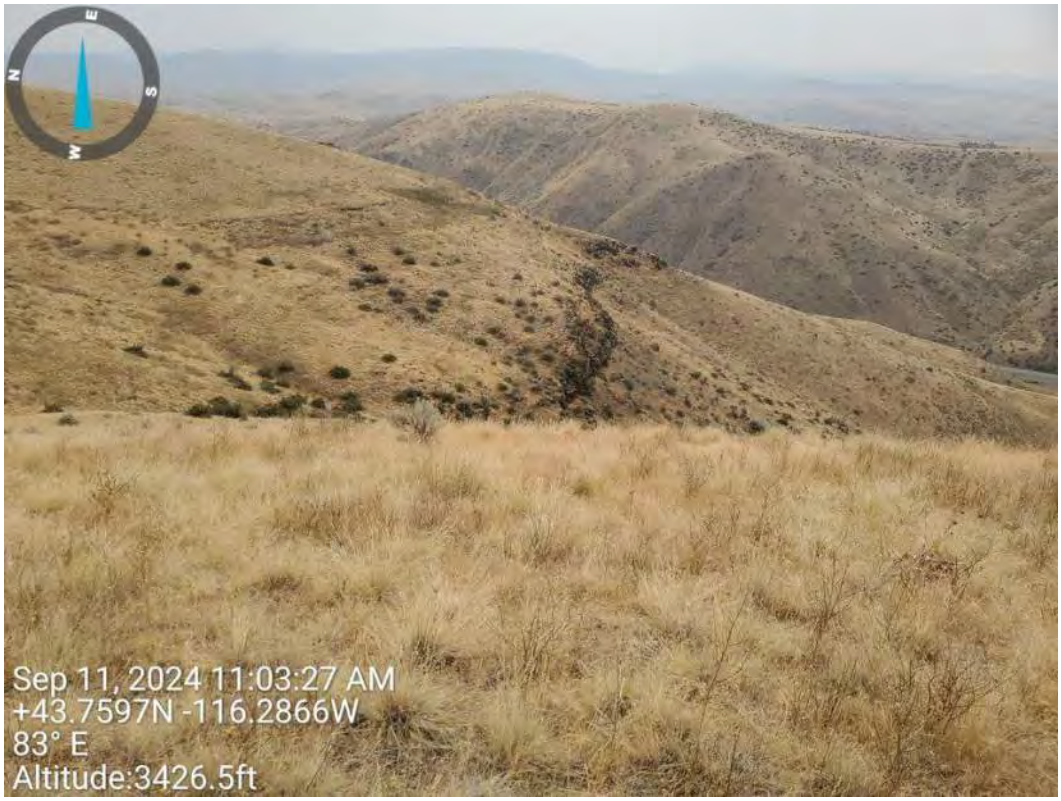


Photo Point 9



Photo Point 9



Photo Point 9



Photo Point 9



Photo Point 10



Photo Point 10



Photo Point 10



Photo Point 10



Photo Point 11



Photo Point 11



Photo Point 11



Photo Point 11



Photo Point 12



Photo Point 12



Photo Point 12



Photo Point 12



Photo Point 13



Photo Point 13



Photo Point 13



Photo Point 13



Photo Point 14



Photo Point 14



Photo Point 14



Photo Point 14



Photo Point 15



Photo Point 15



Photo Point 16



Photo Point 16



Photo Point 17



Photo Point 17



Photo Point 17



Photo Point 18



Photo Point 18



Photo Point 18



Photo Point 18



Photo Point 19



Photo Point 19



Photo Point 19



Photo Point 20



Photo Point 20

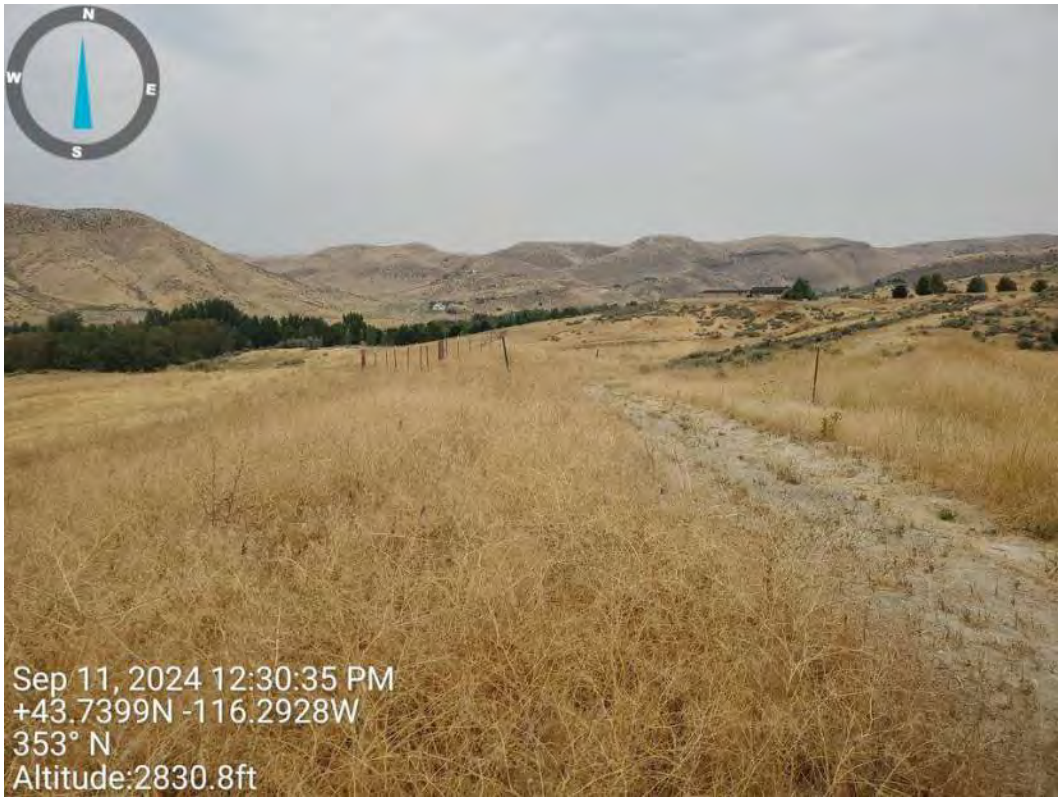


Photo Point 21

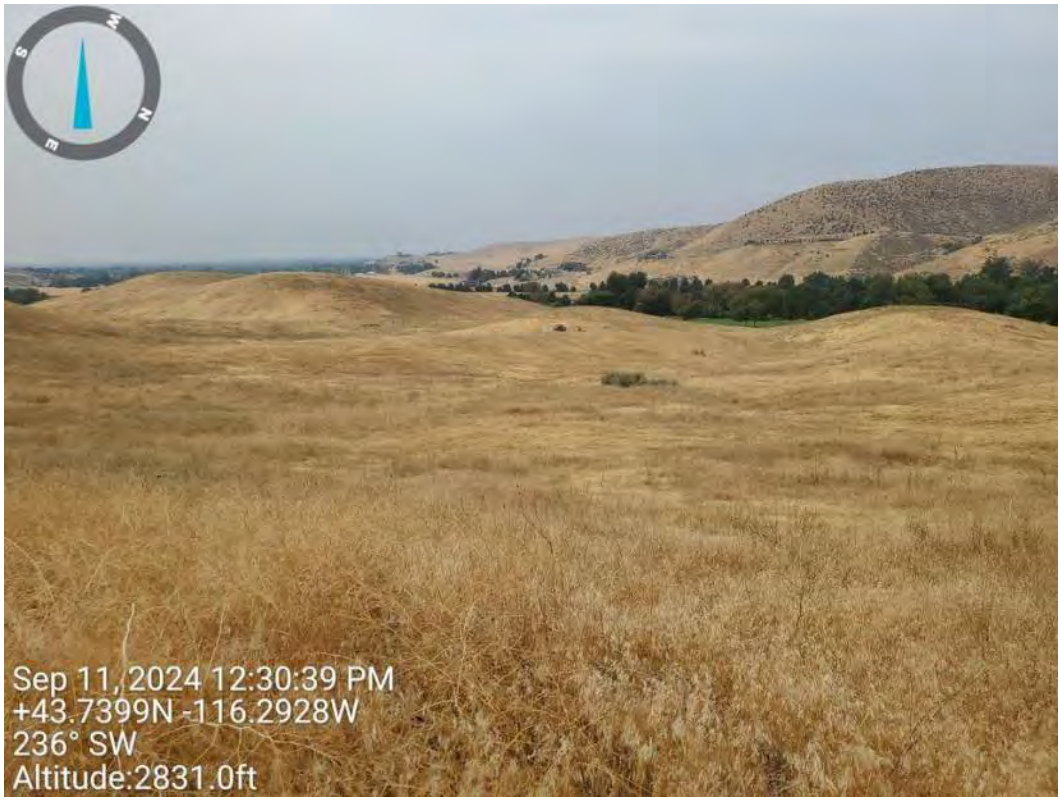


Photo Point 21



Photo Point 21

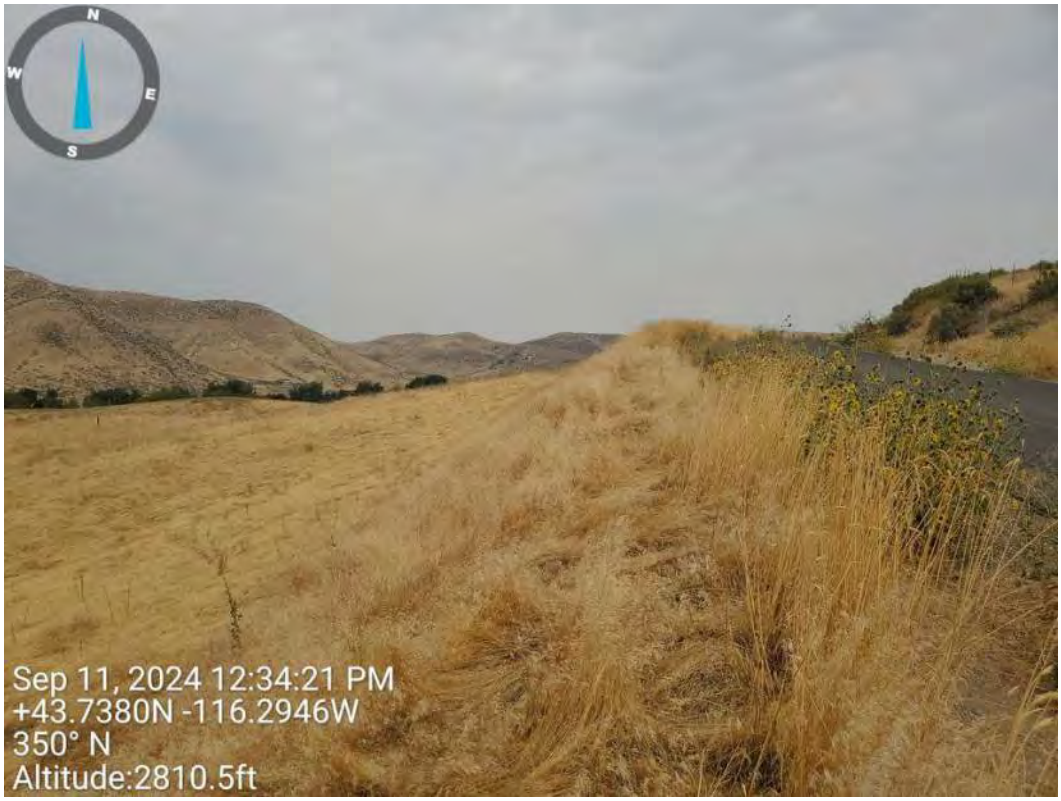


Photo Point 22



Photo Point 22

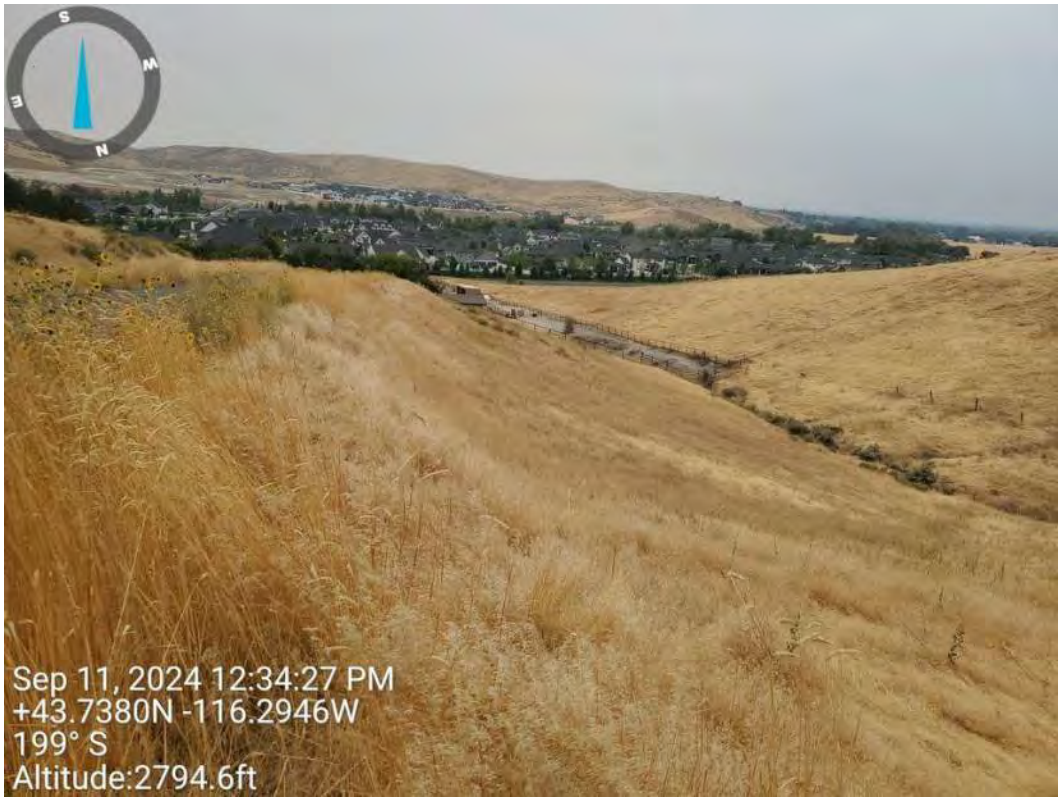


Photo Point 22



Photo Point 23



Photo Point 24



Photo Point 24



Photo Point 25



Photo Point 25



Photo Point 25



Photo Point 25

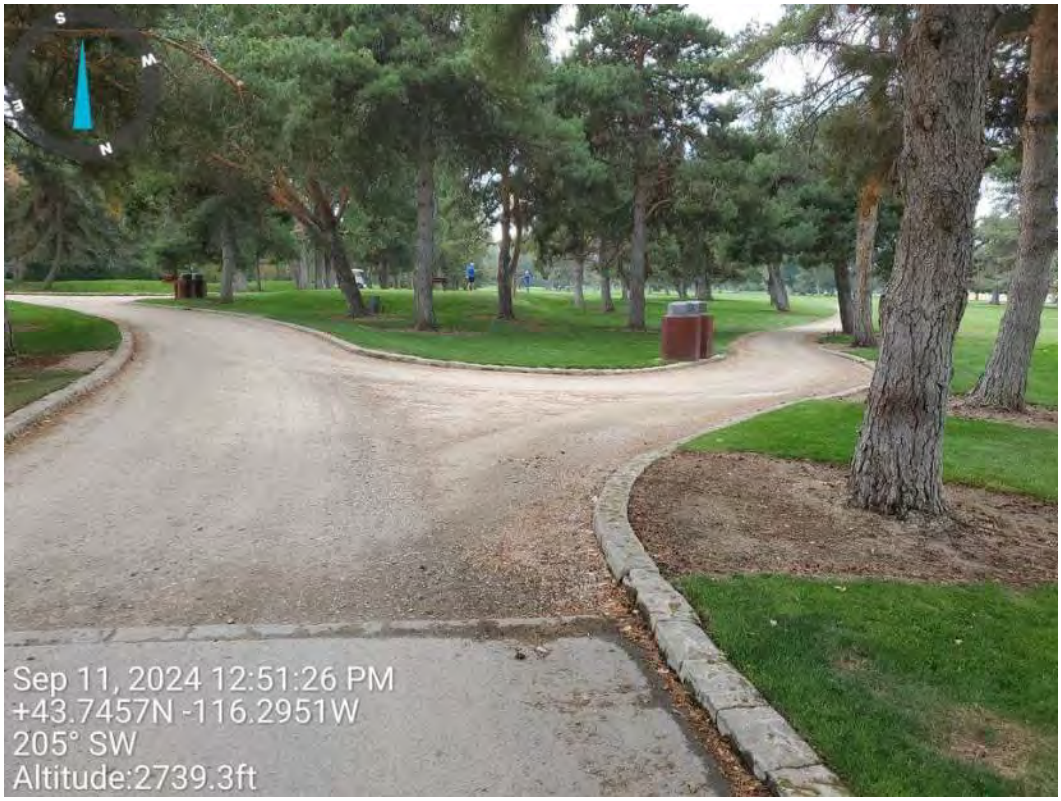


Photo Point 26



Photo Point 26



Photo Point 26



Photo Point 26



Photo Point 27



Photo Point 27

APPENDIX D

Official USFWS Information for Planning and Consultation (IPaC) Report

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Idaho Fish And Wildlife Office
1387 South Vinnell Way, Suite 368
Boise, ID 83709-1657
Phone: (208) 378-5243 Fax: (208) 378-5262

In Reply Refer To: 01/15/2025 22:46:07 UTC
Project Code: 2025-0039236
Project Name: Shadow Valley Planned Community

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological

evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see https://www.fws.gov/program/migratory-bird-permit/what-we-do.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see https://www.fws.gov/library/collections/threats-birds.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/partner/council-conservation-migratory-birds.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Bald & Golden Eagles
- Migratory Birds
- Wetlands

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Idaho Fish And Wildlife Office
1387 South Vinnell Way, Suite 368
Boise, ID 83709-1657
(208) 378-5243

PROJECT SUMMARY

Project Code: 2025-0039236
Project Name: Shadow Valley Planned Community
Project Type: Mixed-Use Construction
Project Description: Proposed residential development in Ada County, Idaho.
Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@43.762678050000005,-116.2892164061546,14z



Counties: Ada County, Idaho

ENDANGERED SPECIES ACT SPECIES

There is a total of 4 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Note that 1 of these species should be considered only under certain conditions.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

---

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
North American Wolverine *Gulo gulo luscus*	Threatened

No critical habitat has been designated for this species.
This species only needs to be considered under the following conditions:

- Species may be present based on transient occurrence as it moves through or too suitable habitat. Effects should be considered to species and projects should consult with the Service, however, depending on the project, consultation may not be necessary.

Species profile: https://ecos.fws.gov/ecp/species/5123
General project design guidelines:
https://ipac.ecosphere.fws.gov/project/BXKGPT7VJFC7JDV4SCO5BLWBHI/documents/generated/7151.pdf

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus*	Proposed Threatened

There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/9743

Suckley"s Cuckoo Bumble Bee *Bombus suckleyi*	Proposed Endangered

Population:
No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/10885

FLOWERING PLANTS

NAME	STATUS
Slickspot Peppergrass *Lepidium papilliferum*	Threatened

Population:
There is **final** critical habitat for this species. Your location does not overlap the critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/4027
General project design guidelines:
https://ipac.ecosphere.fws.gov/project/BXKGPT7VJFC7JDV4SCO5BLWBHI/documents/generated/7151.pdf

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

USFWS NATIONAL WILDLIFE REFUGE LANDS AND FISH HATCHERIES

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

BALD & GOLDEN EAGLES

Bald and Golden Eagles are protected under the Bald and Golden Eagle Protection Act [2] and the Migratory Bird Treaty Act (MBTA) [1]. Any person or organization who plans or conducts activities that may result in impacts to Bald or Golden Eagles, or their habitats, should follow appropriate regulations and consider implementing appropriate avoidance and minimization measures, as described in the various links on this page.

---

1. The Bald and Golden Eagle Protection Act of 1940.
2. The Migratory Birds Treaty Act of 1918.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

There are Bald Eagles and/or Golden Eagles in your project area.

Measures for Proactively Minimizing Eagle Impacts
For information on how to best avoid and minimize disturbance to nesting bald eagles, please review the National Bald Eagle Management Guidelines. You may employ the timing and activity-specific distance recommendations in this document when designing your project/ activity to avoid and minimize eagle impacts. For bald eagle information specific to Alaska, please refer to Bald Eagle Nesting and Sensitivity to Human Activity.

The FWS does not currently have guidelines for avoiding and minimizing disturbance to nesting Golden Eagles. For site-specific recommendations regarding nesting Golden Eagles, please consult with the appropriate Regional Migratory Bird Office or Ecological Services Field Office.

If disturbance or take of eagles cannot be avoided, an incidental take permit may be available to authorize any take that results from, but is not the purpose of, an otherwise lawful activity. For assistance making this determination for Bald Eagles, visit the Do I Need A Permit Tool. For assistance making this determination for golden eagles, please consult with the appropriate Regional Migratory Bird Office or Ecological Services Field Office.

Ensure Your Eagle List is Accurate and Complete
If your project area is in a poorly surveyed area in IPaC, your list may not be complete and you may need to rely on other resources to determine what species may be present (e.g. your local FWS field office, state surveys, your own surveys). Please review the Supplemental Information

on Migratory Birds and Eagles, to help you properly interpret the report for your specified location, including determining if there is sufficient data to ensure your list is accurate.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to bald or golden eagles on your list, see the "Probability of Presence Summary" below to see when these bald or golden eagles are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Dec 1 to Aug 31
Golden Eagle *Aquila chrysaetos* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds Jan 1 to Aug 31

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

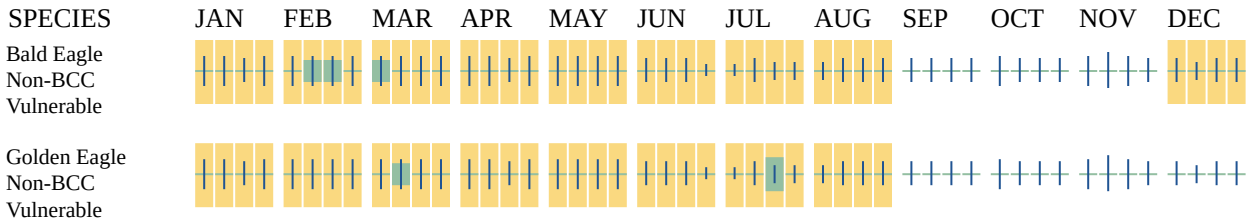
Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

Breeding Season (■)
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

Survey Effort (|)
Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

■ probability of presence ■ breeding season | survey effort – no data



Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide avoidance and minimization measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

MIGRATORY BIRDS

The Migratory Bird Treaty Act (MBTA) [1] prohibits the take (including killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by the Department of Interior U.S. Fish and Wildlife Service (Service). The incidental take of migratory birds is the injury or death of birds that results from, but is not the purpose, of an activity. The Service interprets the MBTA to prohibit incidental take.

---

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the "Probability of Presence Summary" below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Dec 1 to Aug 31

NAME	BREEDING SEASON
California Gull *Larus californicus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/10955	Breeds Mar 1 to Jul 31
Calliope Hummingbird *Selasphorus calliope* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9526	Breeds May 1 to Aug 15
Cassin's Finch *Haemorhous cassinii* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9462	Breeds May 15 to Jul 15
Clark's Grebe *Aechmophorus clarkii* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/10575	Breeds Jun 1 to Aug 31
Evening Grosbeak *Coccothraustes vespertinus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9465	Breeds May 15 to Aug 10
Golden Eagle *Aquila chrysaetos* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds Jan 1 to Aug 31
Lewis's Woodpecker *Melanerpes lewis* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9408	Breeds Apr 20 to Sep 30
Long-eared Owl *asio otus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3631	Breeds Mar 1 to Jul 15
Northern Harrier *Circus hudsonius* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/8350	Breeds Apr 1 to Sep 15
Olive-sided Flycatcher *Contopus cooperi* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3914	Breeds May 20 to Aug 31

NAME	BREEDING SEASON
Rufous Hummingbird *Selasphorus rufus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8002	Breeds Apr 15 to Jul 15

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

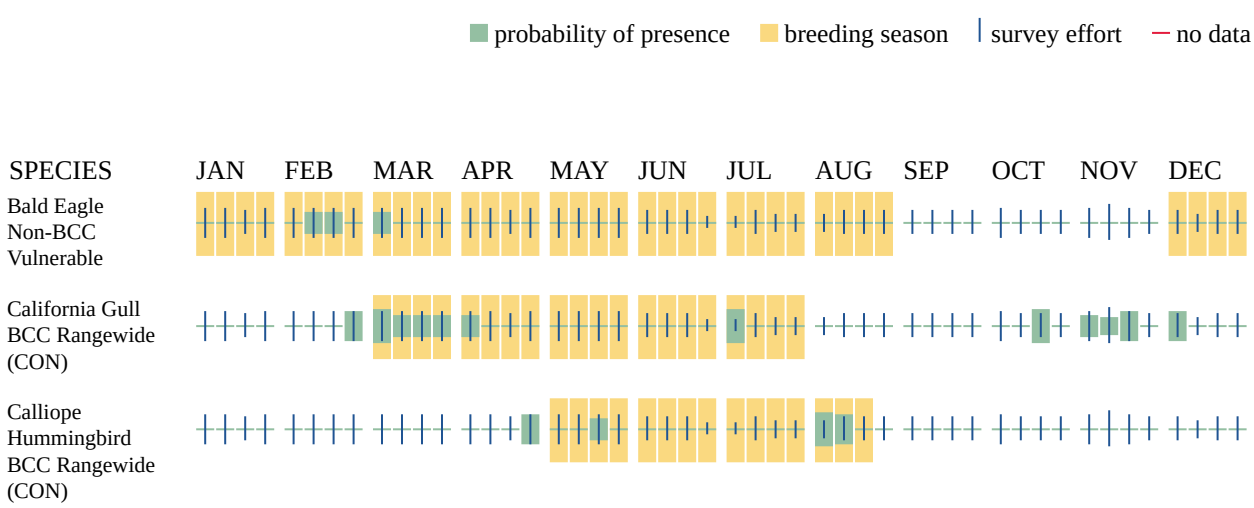
Probability of Presence (■)

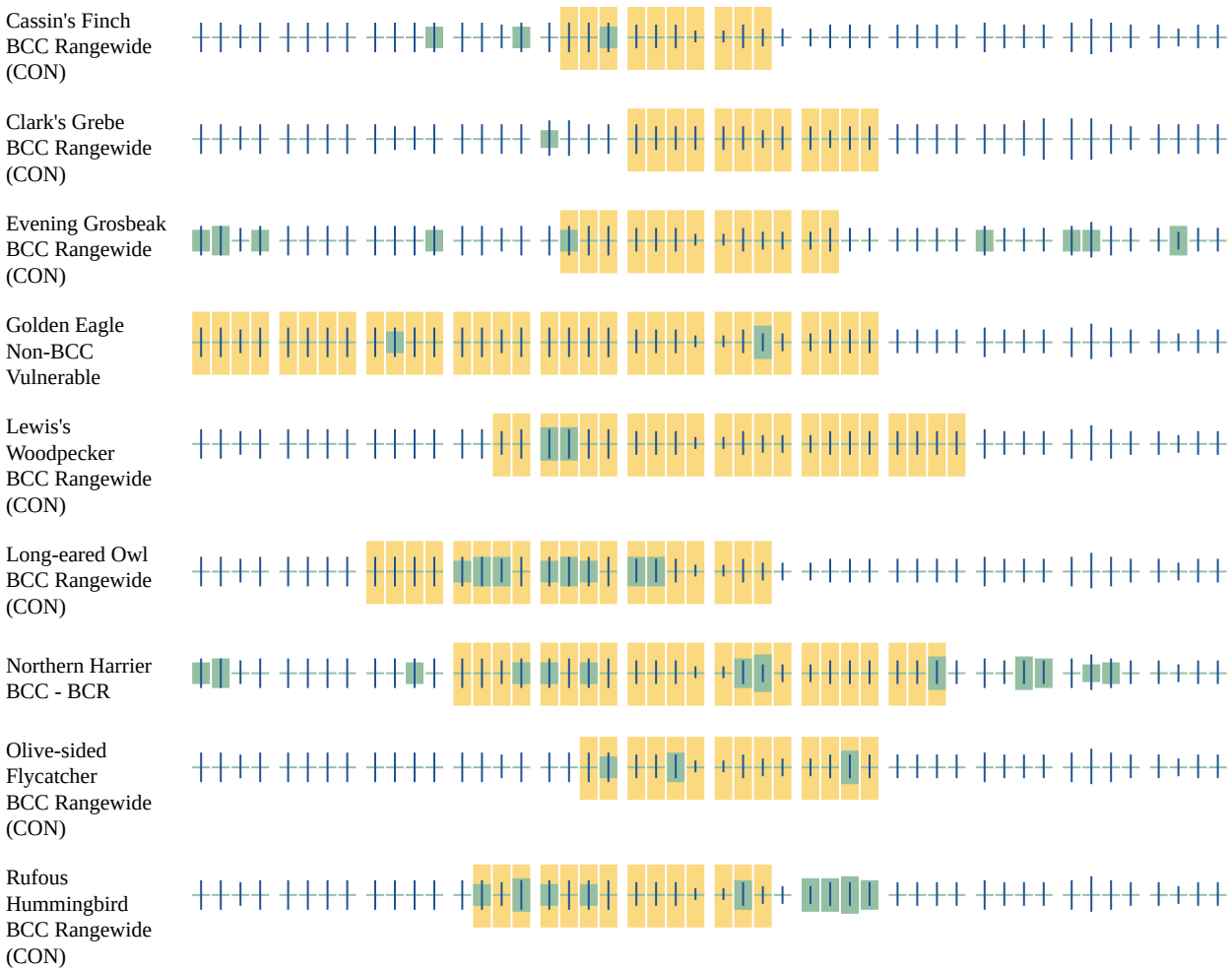
Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

Breeding Season (■)
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

Survey Effort (|)
Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data (–)
A week is marked as having no data if there were no survey events for that week.





Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide avoidance and minimization measures for birds
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

WETLANDS

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

FRESHWATER FORESTED/SHRUB WETLAND

- PFO1A
- PSS1C

FRESHWATER POND

- PUSA
- PUSCh

RIVERINE

- R4SBC
- R4SBA
- R3UBH
- R4SBJ

FRESHWATER EMERGENT WETLAND

- PEM1D

IPAC USER CONTACT INFORMATION

Agency: Private Entity
Name: Elena Capson
Address: 154 East 14075 South
City: Draper
State: UT
Zip: 84020
Email ecapson@bowencollins.com
Phone: 8014952224

Merissa Davis

From: Flack,Brandon <brandon.flack@idfg.idaho.gov>
Sent: Tuesday, September 10, 2024 10:21 AM
To: Merissa Davis
Cc: Elena Capson
Subject: Re: Shadow Valley Planned Community

Follow Up Flag: Follow up
Flag Status: Flagged

Hi Merissa,

Thanks for providing the project locations and preliminary land use plan. I read through the letter related to this project that IDFG provided back on July 25, 2017. The information in that letter is still relevant today.

T&E Species: IDFG has no records of any federally listed threatened or endangered species or critical habitat within or immediately adjacent to the proposed project property. However, there are records of slickspot peppergrass and critical habitat for slickspot peppergrass within a few miles of the project property so we recommend that surveys are performed to determine if there are any plants or suitable habitat on the project property. T&E species and critical habitat designations are the responsibility of the U.S. Fish and Wildlife Service. We recommend consulting with the USFWS Boise Office at (208) 510-5246 to develop BMPs to avoid or minimize project effects on slickspot peppergrass.

Big Game: Although IDFG does not currently have mapped migration areas for elk, mule deer, or pronghorn in this area (primarily due to lack of data). IDFG big game range models identify this area as big game habitat for mule deer and pronghorn. The property is also identified as winter range for mule deer. Based on road kill information collected along HWY 55 adjacent to the property, the area is used frequently by resident and migrating mule deer and pronghorn. The specific area around the Shadow Valley Golf Course seems to be a roadkill hotspot during the winter. There were even several elk killed on Hwy 55 last winter indicating that elk have also started using the area for winter range. Roadkill data is publicly available here: https://data-idfggis.opendata.arcgis.com/datasets/roadkill-observations/explore?location=44.686052%2C-114.579300%2C5.83

Other Idaho Sensitive Species: IDFG does have records of Aase's onion to the east of the project area. Surveys for Aase's onion should be performed to determine if suitable habitat or individual plants are present on the project property. This information can then be used in designing the project to avoid or minimize effects on Aase's onion.

We also suggest submitting a formal data request to the Idaho Fish and Wildlife Information System database. This will provide you with the location data and known information about fish and wildlife resources in the area. You can fill out the form and submit your request here: https://idfg.idaho.gov/species-request/data

To assist in the planning and design process and to help maintain intact wildlife habitat, IDFG offers the following general guidelines and practices for your consideration:

- A survey of habitat/vegetation types should be performed.
- A development analysis should be performed to determine undevelopable areas due to slope, soil type, etc.
- Consider cluster development to avoid habitat fragmentation and to retain large areas of contiguous habitat for wildlife.
- Residents should control pets, including cats, at all times (fenced yard, keep indoors, kenneled, leashed, etc.). Pets, at-large, dramatically increase a residential subdivision's negative effects on wildlife.

- Prohibit the feeding of wildlife and require that potential wildlife attractants (pet food, garbage, gardens, etc.) be maintained in a way to reduce attraction of wildlife species (skunks, foxes, raccoons, magpies, etc.). Eliminating or minimizing the potential for wildlife depredations is the responsibility of the property owner.
- Native vegetation should be retained to the extent possible during project implementation to support birds, small mammals, and pollinator species.
- Yew species should not be used as landscaping plants as they are highly toxic to wildlife, pets, and humans.
- Retain buffers of riparian vegetation that surround any wetland resources on the property.
- Because of the frequent winter use by big game in the area, consider no perimeter fencing around the property. If fencing is used on the project, all fencing within and around the development should be wildlife friendly. IDFG can provide additional details upon request.

Thank you for engaging IDFG early in this process. We appreciate the consideration for wildlife and wildlife habitats as the project plans are developed further. We are happy to participate in any pre-application meetings if the developer and the county think it would be helpful.

Thanks,

Brandon Flack
Regional Technical Assistance Manager
Idaho Dept. of Fish and Game
Southwest Region
15950 N. Gate Blvd.
Nampa, ID 83687
Ph: (208) 854-8947

From: Merissa Davis <mdavis@bowencollins.com>
Sent: Monday, September 9, 2024 5:02 PM
To: Flack,Brandon <brandon.flack@idfg.idaho.gov>
Cc: Elena Capson <ecapson@bowencollins.com>
Subject: Shadow Valley Planned Community

CAUTION: This email originated outside the State of Idaho network. Verify links and attachments BEFORE you click or open, even if you recognize and/or trust the sender. Contact your agency service desk with any concerns.

Hi Brandon,

Thanks for the call today and going over the process. As mentioned, we are assisting the Shadow Valley Planned Community complete their required natural resource and wildlife inventories as part of their upcoming comprehensive plan review with Ada County. This is a more in-depth process than typical, smaller subdivisions.

Attached are two KMZs outlining their development area as well as the preliminary land use plan. The upper area is mostly undeveloped rangeland including Woods Gulch crossing the upper end and the original Shadow Valley

Estates subdivision adjacent to the south end. The lower area is couched between the Shadow Valley Golf Course and another large acre developed site.

I've also attached the IPAC report for this area. I would not expect suitable wolverine or monarch habitat, but possibly slickspot (let us know if you have data or insights). We also wanted to check in about any potential state sensitive species (ie: Aese's onion) or game migration corridors we need to be aware of for this area.

We are planning to complete an initial site visit this Wednesday so if you have any quick feedback on what we should keep an eye out for that would be great, but we'll also be working on this for a few months so there is plenty of time for something more thorough and official as needed.

Many thanks,

Merissa W. Davis
Senior Biologist

BOWEN COLLINS & ASSOCIATES

801.495.2224 Office
801.495.2225 Fax
154 E. 14075 South
Draper, Utah 84020
www.bowencollins.com

IDAHO DEPARTMENT OF FISH AND GAME
SOUTHWEST REGION
3101 South Powerline Road
Nampa, Idaho 83686

C.L. "Butch" Otter / Governor
Virgil Moore / Director

July 25, 2017

Kristi Watkins
JUB Engineers, Inc.
250 S. Beechwood Ave Suite 201
Boise, ID 83709
kwatkins@jub.com

RE: Proposed Shadow Valley Estates Subdivision

Dear Kristi,

The Idaho Department of Fish and Game (Department) has reviewed your request for the identification of fish and wildlife resources for the proposed Shadow Valley Estates Subdivision located on approximately 274 acres of private land in Ada County, ID and generally located in Section 24, T5N, R1E, BM.

Section 8-4E-4 of Ada County Code requires applicants to include a Natural Features Analysis as part of the Conditional Use Permit application. Subsection 8-4E-4D5 states:

Sensitive Plant and Wildlife Species: Analysis of sensitive plant and wildlife species of the site including, but not limited to, those species listed in the Idaho conservation data center (state of Idaho department of fish and game).

The Department has no records of any federally listed threatened or endangered species or critical habitat within or immediately adjacent to the proposed project area.

The Department identifies this property as big game habitat for mule deer and pronghorn. The property is also identified as winter range for mule deer. Based on road kill information collected along HWY 55 adjacent to the property, the area is a known migration corridor for resident and migrating mule deer and pronghorn.

The property may have Aase's onion, a sensitive plant species. Aase's onion is endemic to southwestern Idaho, occurring in the foothills around Boise. Mule deer have been observed feeding on Aase's onion in early spring and chukars are known to eat bulbs later in the spring. Aase's onion is associated with sparsely vegetated bitterbrush/sagebrush communities and is closely associated with bunchgrasses. A survey for Aase's onion is warranted.

Subsection 8-4E-4D8 of the Natural Features Analysis states:

> Impact On Natural Features: The applicant shall provide a written statement explaining how the design of the plan protects or mitigates impacts on the natural features of the site.

Ada County staff has indicated that wildlife is one component of the natural features of a site. The Applicant has not provided any additional information pertaining to subdivision design, layout or mitigation features. To help maintain important wildlife habitat the Department recommends the following:

- A survey of habitat/vegetation types of the property;
- A GIS analysis to determine areas that are undevelopable due to steep slopes;
- The developer should consider cluster development with ample open space (e.g. 70% open space);
- Because of the frequency of road kill in the area the developer should consider no perimeter fencing.

The Department is available to review the layout of the subdivision at your convenience.

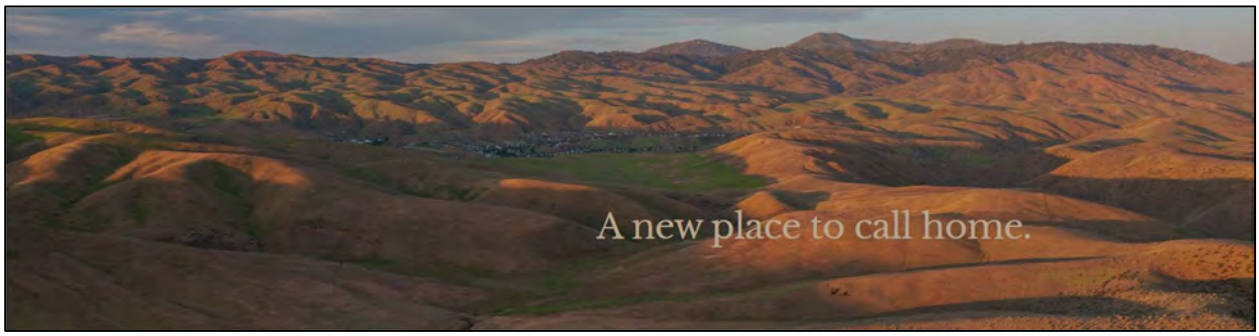
Thank you. Please contact Tom Bassista in the Southwest Regional Office at (208)465-8465 or tom.bassista@idfg.idaho.gov if you have any questions or need additional assistance.

Sincerely,



Bradley B. Compton
Southwest Regional Supervisor

BC/tpb
ecc: Vecellio/ HQ
cc: Gold file



Version: December 20, 2024, Planned Community Application Phase 1

INTRODUCTION

The Shadow Valley Planned Community subject parcels encompass 560 acres, zoned Rural Residential (RR) and Rural Preservation (RP) and located in Ada County jurisdiction. This recreation focused community plans to be home to a population of approximately 990 people by 2034. The 560-acre Planned Community is ideally situated on both the east and west side of Highway-55 at the existing Shadow Valley Golf Course. The planned community will be split by Highway-55 into two subdivision areas. The east side provides bench view estate lots and attached townhome style units overlooking the Shadow Valley Golf Course. The west side provides foothill estate lots in a pastureland setting with unmatched sunset and mountain views. The neighboring properties include rural estate homes and undeveloped private land.

Shadow Valley Planned Community faces similar natural hazards to other planned communities in the region. The three natural hazards identifiable are 1. steep slopes with potentially 2. sluffing soils (unsuitable soils) and 3. wildfire.

STEEP SLOPES

The Shadow Valley Planned Community is located at foothill elevations ranging from 2,800 to 5,000 feet. The topography of the project area offers moderate to steep slopes (steep slopes defined as 20% to 60%). According the USGS, landslides occur in all 50 states and (United States) territories, and they affect lives, property, infrastructure, and the environment. Landslides are the downslope movement of earth materials (rock, debris, and soil) at rates that range from inches per year to tens of miles per hour.[1] To mitigate this potential natural hazard, Shadow Valley Planned Community will complete geotechnical engineering investigations and reporting which is then reviewed by a civil engineering team to guide engineering on slopes, stormwater management and infiltration design for the community. These measures will mitigate

[1] (USGS, 2024)

the risks of slope failure. Civil engineering design in underway and is responding to natural topography by allowing natural drainage patterns to remain and locating new entry roadways in the most efficient route whenever possible around steep slopes. The steepest slopes are avoided and preserved in Natural Open Space Areas.

UNSUITABLE SOILS

Sluffing soils and other unsuitable soils are a potential hazard associated with hillside development. Geotechnical engineering will identify sluffing soils and unsuitable soils for avoidance or replacement. Unsuitable soil is a possible risk on most undeveloped land. Geotechnical reporting will guide the civil and structural engineers in making recommendations for unsuitable soil replacement at roadways, homesites and stormwater infiltration areas (if required).

WILDFIRE

There is a potential risk of wildfire traveling from undeveloped open space and up steeper slopes. The east subdivision will infill undeveloped land surrounded by existing subdivisions and planned communities. The west subdivision is an extension of Shadow Valley Estates Subdivision.

The Shadow Valley Planned Community will provide fire hydrants throughout the community (both east and west communities) at a sequence required by local, state and federal standards. Development at the edge of the community will provide 'Firewise' specifications recommended by the commissioned fire consultant in the Shadow Valley Wildfire Safety Plan to establish a satisfactory 'Wildland-Urban Interface'. See Figure 8 (below) for NFPA Home Ignition Zone Graphic which will guide community design.[2]



Figure 8 - NFPA Home Ignition Zone (HIZ) graphic, by NFPA.

[2] (McAdams, 2024)

Other methods of Firewise Management Include:

1. Ignition-Resistant Construction
2. Access Roads And Turnarounds
3. Water Supply For Fire Suppression
4. Recreational And Multi-Use Paths As Access And Fire Lines
5. Ignition-Resistant Landscaping And Maintenance
6. Defensible Space
7. Ignition-Resistant Construction

SOURCES

Management, B. o. (2024). *Bureau of Land Management Media Center: Geology of Southwest Idaho*. Retrieved from Bureau of Land Management: Ref: https://www.blm.gov/sites/blm.gov/files/documents/files/MediaCenter_PublicRoom_Idaho_Geology-of-%20SouthwestIdaho.pdf

McAdams, J. (2024). *Shadow Valley Planned Wildfire Safety Plan (East & West.* Boise: Jerry McAdams.

USGS. (2024, October 17). *USGS Landslide Hazards Program*. Retrieved from USGS: https://www.usgs.gov/programs/landslide-hazards/what-a-landslide

Shadow Valley East Wildfire Safety Plan

Prepared by Jerry McAdams, CWMS
Certified Wildfire Mitigation Specialist
MC Fire, LLC
PO Box 50392
Boise, Idaho 83705
www.mcfirellc.com

©MC FIRE, LLC. ALL RIGHTS RESERVED.

Exhibit 17
Page 1 of 18
202402701-PC-CPA

TABLE OF CONTENTS

SECTION	PAGE(S)
Preface	3
Plan Intent	3 – 4
Project Description	4 – 5
Area Ecology and Fuel Model	6
Topography	6
Fire History and Fire Weather	7 – 8
Utilities	8
Access Roads and Turnarounds	8
Water Supply for Fire Suppression	8 – 9
Recreational and Multi-Use Paths	9
Ignition-Resistant Landscaping and Maintenance	9 – 10
Structure Ignition Zones	10 – 12
Setbacks	13
Ignition-Resistant Construction	13
Ignition Source Control	13 – 14
Perpetual Funding Requirement	14
Firewise Certification	14
APPENDIX A – Resources	15
APPENDIX B – Class 2 Ignition-Resistant Construction (IR2)	16 – 18

©MC FIRE, LLC. ALL RIGHTS RESERVED.

PREFACE

While this plan is intended to meet best-practices for wildfire-prone areas, there are no guarantees that homes and other structures will survive a wildfire event, as there are always extraneous factors that can lead to loss. The requirements of this plan can help make the community safer from the threat of low-intensity surface fires, as well as wind-blown embers from nearby wildfires.

PLAN INTENT

The intent of the Shadow Valley East Wildfire Safety Plan is to minimize the spread of fire from wildland areas to structures, and from structures to wildland areas, as well as to minimize ignition vulnerabilities from embers and low-intensity surface fire to structures and landscaping within this development. The overall goal is to reduce the possibility of loss of life and property from wildfire, and to protect other nearby values-at-risk, such as wildlife and wildlife habitat, watersheds, and endangered plant species.

A copy of this plan shall be provided to Ada County Development Services, the Eagle Fire Department, the developer(s), subdeveloper(s), Shadow Valley East Design Review Committee, builders, architects, landscape architects, homeowners, Shadow Valley East Homeowners' Association, and owners' association Board of Directors, to ensure compliance and long-term maintenance with the provisions of this plan, keeping the protection of the community in mind.

The Shadow Valley East Wildfire Safety Plan shall be incorporated as a reference document into the CC&Rs for the subdivision and shall cover all phases of the development. Long-term adherence to the provisions of this plan shall be the responsibility of the individual owners, owners' association Board of Directors, and Architectural or Design Review Committee. Any lots or parcels that are added to this development after the writing of this plan shall meet the requirements in this plan.

The Shadow Valley East Homeowners' Association and/or Shadow Valley East Design Review Committee shall compile an electronic database of all detailed landscaping plans for the development, which shall be legible/readable and used as a baseline for future audits/inspections.

Upon completion of initial landscaping on any lot, the Shadow Valley East Homeowners' Association or Shadow Valley East Design Review Committee shall have a member, or contractor, inspect each property to ensure initial landscaping meets the requirements of this plan. The subsequent inspection report shall remain on file with the Shadow Valley East Homeowners' Association to be used as a reference document for future audits/inspections.

Owners, tenants, or persons in control of each property, shall allow access onto the property for wildfire safety evaluations/audits upon the completion of initial landscaping, and at least every five (5) years thereafter, to assure compliance with the requirements and intent of the Shadow Valley East Wildfire Safety Plan.

©MC FIRE, LLC. ALL RIGHTS RESERVED.

This plan does not require owners, tenants, or persons in control of a property to maintain adjacent properties that they do not have control over, or that fall outside of the Shadow Valley East development.

If any part of this plan conflicts with any other required code provision or legal requirement, the more restrictive shall apply. If there is a conflict between a general requirement and a specific requirement, the specific requirement shall apply. Any compliance alternatives shall be reviewed and approved at the discretion of Ada County Development Services and the Eagle Fire Department.

PROJECT DESCRIPTION

The Shadow Valley East development is located in a portion of Sections 25 and 26 of Township 5N, Range 1E, B.M. Ada County, Idaho. The proposed development is approximately 268 acres, located within the Ada County Wildland-Urban Interface Overlay District. The development lies generally to the north of W Brookside Ln, to the south and east of Highway 55, to the north and west of N Spring Creek Ln, and sits adjacent to the Shadow Valley Golf Course. The development has numerous open-space areas nearby including Department of Interior – Bureau of Land Management (DOI-BLM) lands, as well as private parcels. The DOI-BLM lands, and many of the surrounding private properties, consist of natural open-space with highly combustible vegetative fuels common to the Great Basin Region.



Figure 1 - Shadow Valley East Conceptual Land Use Plan, by The Land Group.

The total lot count for Shadow Valley East is 218, which consists of 1 existing residential lot, seventy-eight (78) single-family, residential townhome lots, and 139 single-family, residential detached home lots. The development also has several common lots, right-of-way lots, and

©MC FIRE, LLC. ALL RIGHTS RESERVED.

commercial golf course lots. All structures for this development will conform with ordinances and requirements of Ada County and the Eagle Fire Department, and the provisions of the Shadow Valley East Wildfire Safety Plan, as well as all other relevant codes, ordinances, and standards.

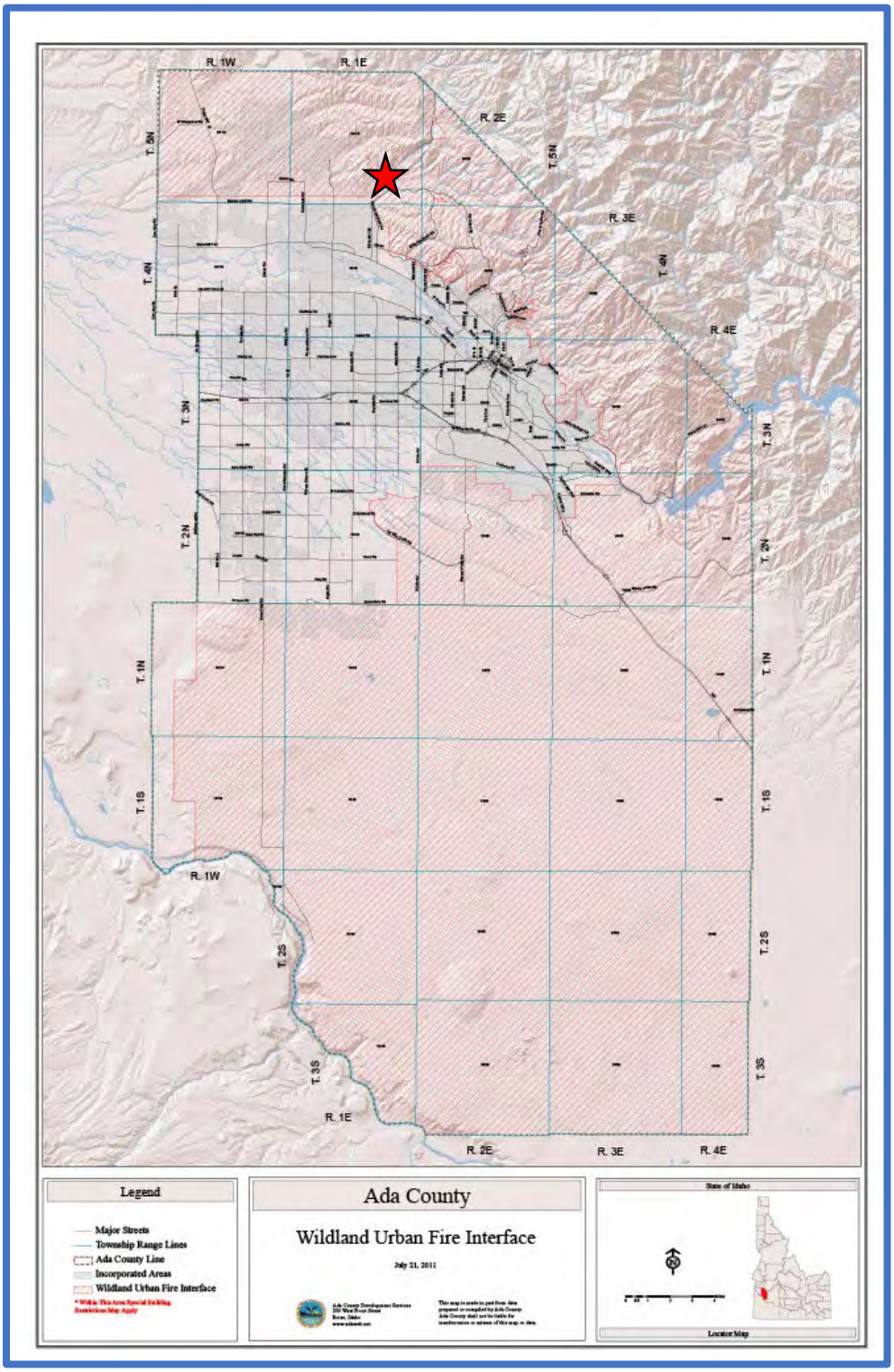


Figure 2 - Ada County Wildland-Urban Fire Interface (WUFI) Map from 2011.

©MC FIRE, LLC. ALL RIGHTS RESERVED.

AREA ECOLOGY AND FUEL MODEL

This proposed development is in a historical shrub steppe ecosystem, with nearby irrigated and non-irrigated agricultural lands, and natural open space areas.

The predominant vegetation in the nearby open-space areas is composed of light, flashy fuels (e.g., grasses) that are easily ignitable and able to spread fire quickly, in addition to highly combustible shrubs such as Sagebrush and Rabbitbrush.

The fuel model for the nearby open-space areas is a mix of Fuel Model A, Fuel Model L, and Fuel Model T (2024 IWUIC). Fuel Model A includes sagebrush-grass types common in the Great Basin Region, characterized by shrubs that burn easily and are not dense enough to shade out native and invasive grasses and other herbaceous vegetation, and where shrubs occupy less than 1/3 of the site. Fuel Model L is characterized by coarser and heavier western grasses than those in Fuel Model A, and where shrubs also occupy less than 1/3 of the site. Fuel Model T is characterized by shrubs that burn easily, occupy more than 1/3 of these areas, and are dense enough to shade out grass and other herbaceous plants. This information was formulated through an onsite assessment of the property and utilizing information from Appendix D of the 2024 International Wildland-Urban Interface Code® as a general guide.



Figure 3 - Fuel Type and Topography, by MC Fire, LLC.

TOPOGRAPHY

This site ranges between approximately 2,740 – 3,025 feet in elevation, consisting of valleys with surrounding hills and rolling terrain, and gets ample sun from the south and west in the afternoon. Adjacent properties are similar in terrain and elevation.

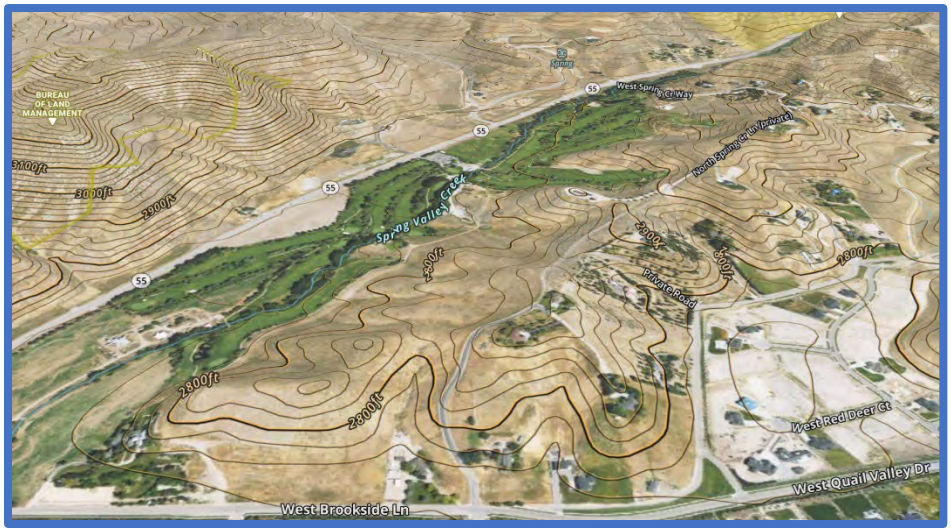


Figure 4 - Shadow Valley East Aerial 3D Topo.

©MC FIRE, LLC. ALL RIGHTS RESERVED.

FIRE HISTORY AND FIRE WEATHER

The "Willow Fire" in July 2013, burned over 247 acres, and burned approximately 1.2 miles away from this proposed development. Several other notable, recent, historic fires have occurred in this general area, including the RA 7 ADA CO Fire in July 2018 (276+) acres, and the "Goose Fire" in October 2021 (440+ acres). Numerous other smaller, unnamed fires have occurred in this general area as well.

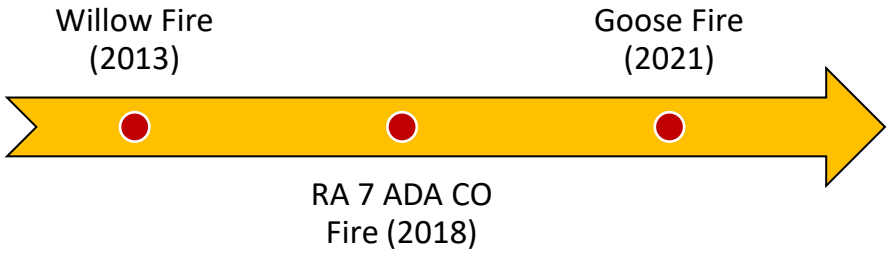


Figure 5 - Timeline of Historic Fires Near the Shadow Valley East Proposed Development.

Fire protection for this development is provided by the Eagle Fire Department (Eagle Fire Protection District).

Note: The need to purposefully attempt to restore our ecosystems back to native and more fire-resistant plant communities is an important consideration in development within, and near, these areas. This will be especially important during post-disturbance restoration and revegetation.

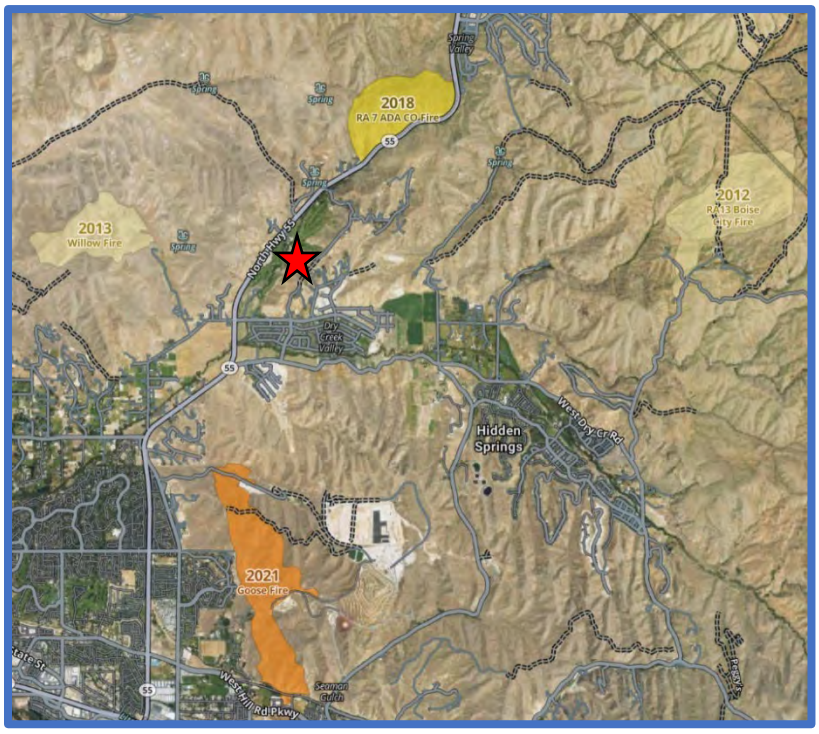


Figure 6 - Historic Area Fires.

As noted, the area has a historic wildfire regime and will continue to have wildfires in the future. Windblown fires in natural open-space areas near, and within, the proposed development, could easily carry embers or firebrands throughout the development, igniting combustible materials on and around any structure.

©MC FIRE, LLC. ALL RIGHTS RESERVED.

This site, located within Fire Weather Zone (FWZ) ID420, has an average of one or more significant positive red flag warning events annually, some of which are tied in with lighting strikes. In 2019 there were three (3) significant red flag events, all of which included lightning. In 2005 there were twelve (12) positive red flag events, ten (10) of which were wind events and two (2) of which were lightning events. This weather zone has a history of high wind events and fire, which combined could lead to significant loss.



Figure 7 - Radii of ½ Mile & 1 Mile from Fuels on BLM lands, by OnXmaps.

UTILITIES

All distribution utilities, including power, will be underground. Utility structures should be protected from surface fire where practicable, with a minimum of three feet (3') of gravel, concrete, brick, or other noncombustible material around all sides and maintained in this state with no vegetation. The utility owner and/or property owner should regularly treat these areas with herbicide, or use similar preventative measures, to keep these areas free of vegetation.

Potable water for each structure will come from onsite wells, tanks, and distribution systems that will be owned and maintained by the individual property owners or the Shadow Valley East Homeowners' Association.

Requirements for water supply for fire suppression will be determined by Ada County Development Services and/or the Eagle Fire Department.

Large residential propane tanks serving structures for heating, cooking, or backup power generation, shall be located at least ten feet (10') from structures, and shall be surrounded by a fuel-free, clear area of at least five feet (5') on all sides, utilizing gravel, concrete, brick, or other noncombustible material. This fuel-free area shall be maintained free of vegetation. Highly combustible vegetation (e.g., decorative grasses, conifers, etc.) shall not be allowed within ten feet (10') of any such propane tank.

ACCESS ROADS AND TURNAROUNDS

Fire apparatus access roads, alleys, conforming driveways, gates, aerial apparatus access points, emergency access protection, and "NO PARKING" signs/markings shall meet standards for Ada County and the Eagle Fire Department.

WATER SUPPLY FOR FIRE SUPPRESSION

Conforming water supply is defined as meeting the minimum required fire hydrant spacing and meeting the minimum required fire flow. A nonconforming water supply is any water system or

©MC FIRE, LLC. ALL RIGHTS RESERVED.

source that does not comply with Section 404 of the 2024 IWUIC, including situations where there is no water supply for structure protection or fire suppression.

When interior sprinklers are required in any single-family residence, NFPA 13D residential systems shall also incorporate a dedicated cistern or "home hydrant" which will include a minimum three hundred (300) gallon tank and pump system. This tank and pump system shall be dedicated solely for the sprinkler system to be able to flow a minimum of thirty (30) gallons per minute for a minimum of ten (10) minutes. Additionally, the minimum three hundred (300) gallon tank will need to be designed to ensure that the tank always remains full, utilizing an auto-refill valve or similar appurtenance. In these cases, it is highly recommended that each structure installs a backup power supply that can activate the tank and pump system in the event of a power outage during a wildfire event.

> **Exception**: As an alternative to the NFPA 13D system for single-family residences, a listed NFPA 750 residential water mist fire protection system, with tank and pump, and able to provide a minimum of 10 minutes of flow, may be utilized with review and approval by Ada County Development Services and the Eagle Fire Department.

Note: it is highly recommended that any ponds adjacent to, or near, BLM lands be improved, with a depth of at least ten feet (10'), to create a competent dip-site for aerial firefighting resources (e.g., helicopters) that may be called upon to fight wildfire in the general vicinity of the Shadow Valley East development.

RECREATIONAL AND MULTI-USE PATHS

Recreational and multi-use pathways serve multiple purposes in wildfire-prone areas. Not only do they provide a means of recreation for area property owners, but they also provide a fuel-break for the community. Additionally, if properly constructed, they can provide a means of access for firefighting resources attempting to protect the community.

Where practicable, and where roadways do not already provide fire apparatus access, paths constructed through or around this development should be constructed a minimum of twelve feet (12') in width, have an all-weather surface, and be able to withstand the weight of wildland fire apparatus. The entries to these paths shall be signed with "NO PARKING – EMERGENCY ACCESS." Gates or bollards shall prevent unintended access to these areas and shall be installed as approved by Ada County Development Services and the Eagle Fire Department.

> **Exception**: Narrow, single-track, dirt hiking trails and/or equestrian trails, where additional width is not practicable.

IGNITION-RESISTANT LANDSCAPING AND MAINTENANCE

Landscaping designs for each property will incorporate fire-resistant vegetation, with emphasis placed on the use of native plants. Vegetation shall be planted and maintained in accordance with the Shadow Valley East Wildfire Safety Plan, Ada County Code, and the 2024 International

©MC FIRE, LLC. ALL RIGHTS RESERVED.

Wildland-Urban Interface Code® (2024 IWUIC); the more restrictive shall apply. More specific requirements are provided in the "Structure Ignition Zones" section of this plan.

This plan intends to address ignition source control both to, and away from, structures in this development.

- ✓ Common areas shall utilize fire-resistant plants, with an emphasis on short-stature native shrubs, grasses, and forbs. For specific examples, refer to the Idaho Firewise "Fire-Resistance of Plants Master Database," located on the Idaho Firewise website.
- ✓ Slash, snags, debris, and dead trees shall be removed from all properties.
- ✓ Pruning of all live trees shall include the removal of dead branches, as well as pruning the tree away from the ground to reduce the possibility of fire traveling from ground-based materials and vegetation (ladder-fuels) upward and into the tree canopies.
- ✓ Firewood and combustible materials shall not be stored in unenclosed spaces beneath structures, on decks, or under eaves, canopies, or other projections or overhangs. Firewood and combustible materials shall be located a minimum of thirty feet (30') from habitable structures and separated from the crown of trees by a minimum of fifteen feet (15'). **Exception**: Firewood may be stored in a tightly sealed noncombustible box.
- ✓ Trees canopies at full maturity shall not be located within ten feet (10'), vertically or horizontally, of any structure or outlet of a chimney.
- ✓ Agricultural structures shall not be located within fifty feet (50') of habitable structures.

Specific individual landscaping exceptions should be reviewed by a third-party "Special Expert" (e.g., NFPA Certified Wildfire Mitigation Specialist (CWMS) or landscape professional certified by Idaho Firewise) for conformance with the intent of this plan. A signed letter written by the "Special Expert" should be provided to Ada County Development Services in these circumstances.

Plans for revegetation and restoration of disturbed areas shall be reviewed and approved by a shrub steppe restoration ecologist or similarly qualified individual, with an emphasis on native and low-stature grasses, forbs, and shrubs.

STRUCTURE IGNITION ZONES

Defensible space will be required to be designed and maintained for all properties in this development, which includes the use of structure ignition zones along with ignition-resistant landscaping designs.

0' – 5': A fuel-free area extending zero-to-five feet (0' – 5') from all structures and appendages/projections (e.g., decks), is required. In other words, the area directly adjacent to structures and projections shall be fuel-free out to a minimum of five feet (5').
This area shall remain free of combustible storage, combustible vegetation, and combustible mulches, including bark mulch. This fuel-free area shall utilize rock mulch or hardscapes, and any plant materials within this area shall be especially fire-resistant. This precludes the use of decorative grasses, conifers, lavender, and other hazardous, combustible, oily or resinous plants within this area. For specific examples, refer to "Zone 1 Species List" in the Idaho Firewise "Fire-

©MC FIRE, LLC. ALL RIGHTS RESERVED.

Resistance of Plants Master Database", which can be found on the Idaho Firewise website (this database is not comprehensive).

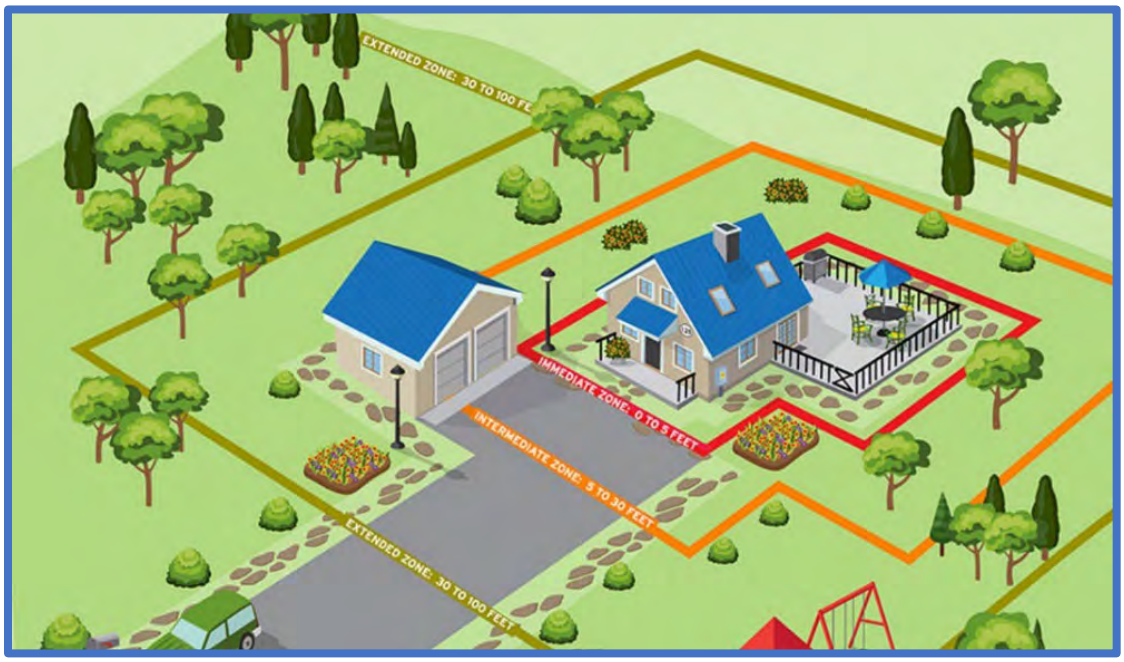


Figure 8 - NFPA Home Ignition Zone (HIZ) graphic, by NFPA.

Plants within this area shall be maintained lean, clean, and green and remain pruned of dead materials. This area shall also be maintained free of dead leaf litter and debris, with the idea of keeping any possible ground fire from touching any part of a structure.

Planting pots used within this area shall be of a noncombustible material such as clay, terra cotta, ceramic, concrete, etc. Plastic planting containers shall not be used within this area. Additionally, plant materials inside of planters shall be low-stature, fire-resistant plant selections, pruned of dead material, and well-watered and maintained.

5' – 30': Moving into the transitional area, consisting of the space five-to-thirty feet (5' – 30') away from each structure, fire-resistant plants shall be utilized. See Idaho Firewise "Fire-Resistance of Plants Master Database – Zone 1 Species List" for examples (this list is not comprehensive). Where deciduous trees are utilized, canopies shall be a minimum of ten feet (10') from any point of a structure at full maturity. A minimum of eighteen feet (18') of spacing between tree canopies, at full maturity, shall be maintained within this area.

Exceptions:

1. Individual, single-specimens of low-stature (e.g., dwarf) and open-canopy conifers or evergreens, may be utilized in this area, provided they are not planted in front of any window, and they are located so that tree canopies at full maturity are a minimum of fifteen feet (15') from any point of a structure.
2. When there is a specific conflict with requirements concerning plantings in common areas, vegetation selection and spacing in common areas five-to-thirty feet (5' – 30') from any structure shall emphasize the use of fire-resistant

©MC FIRE, LLC. ALL RIGHTS RESERVED.

vegetation, with tree spacing per applicable code requirements of Ada County Development Services.

30' – 60': Within the fuel modification area, which is comprised of the area thirty-to-sixty feet (30' – 60') away from any structure, landowners may begin to utilize conifers and evergreens, and other non-fire-resistant plant materials, keeping the reduction of fuel-continuity in mind, and with a minimum of twelve feet (12') of spacing between tree canopies at full maturity.

> **Exception**: When there is a specific conflict with requirements concerning plantings in common areas, vegetation selection and spacing in common areas thirty-to-sixty feet (30' – 60') from any structures shall conform to applicable code requirements of Ada County Development Services.

60' – 100': The extent of the fuel modification area, which lies sixty-to-one hundred feet (60' – 100') from any structures, shall have the same requirements as the area thirty-to-sixty feet (30' – 60') from structures. However, tree canopy spacing shall be allowed to be reduced to a minimum of six feet (6') of spacing between canopies at full maturity in this area.

> **Exception**: When there is a specific conflict with requirements concerning plantings in common areas, vegetation selection and spacing in common areas sixty-to-one-hundred feet (60' – 100') from any structures shall conform to applicable code requirements of Ada County Development Services.

Additional Requirements: All trees in this development shall have all limbs removed up to a minimum of six to ten feet (6' – 10') from the ground, or to one-third (1/3) the crown height for trees that are shorter in stature. Combustible vegetation, such as decorative grasses and evergreen shrubs, shall not be planted under trees due to the increased risk of a ladder-fuel-based fire situation.

Common areas and common area fuel breaks (e.g., paths, green strips, etc.) will be maintained by the Shadow Valley East Homeowners' Association.

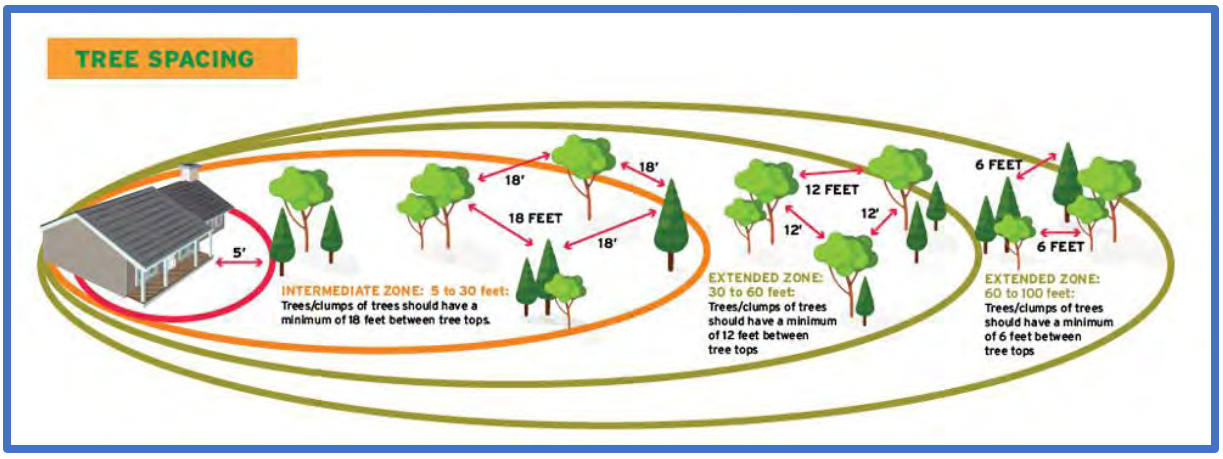


Figure 9 - NFPA Firewise tree spacing graphic, by NFPA.

©MC FIRE, LLC. ALL RIGHTS RESERVED.

SETBACKS

When a lot line abuts an internal or external natural open-space area, structures on these lots shall have a minimum setback from the respective lot line(s) to any point of a structure of no less than thirty feet (30'). This requirement also pertains to outbuildings and accessory structures over five hundred (500) square feet in area. This setback shall only be reduced if there is a perpetual agreement that provides a maintained fuel break along the respective adjacent lot line, while still providing a minimum of thirty feet (30') of distance from the far edge of the fuel break to any point of the structure.

IGNITION-RESISTANT CONSTRUCTION

Based on fire weather, topography, and fuel type (2024 IWUIC, Table 502.1), this location is a moderate to high hazard area. In determining construction methodology for this development, conforming defensible space with conforming water supply (2024 IWUIC, Table 503.1) was taken into consideration, along with hazardous topography and the overall high-risk ember zone(s).

The Fire Hazard Severity Form in the 2024 International Wildland-Urban Interface Code (2024 IWUIC) is not being utilized in determining the risk for this area, as it does not depict an accurate picture of the inherent or actual risk. As stated in the 2024 IWUIC, the Fire Hazard Severity Form is meant to be an alternative methodology to using Table 502.1, when unable to determine the attributes necessary for Table 502.1. It does not account for historic fires and climatic conditions, and it simply provides a rough and incomplete impression as to the actual risk to properties in this area.

Outbuildings and accessory structures over five hundred (500) square feet in area, and located within fifty feet (50') of a habitable structure, shall meet the same construction requirements as the habitable structure on that parcel.

Class 2 Ignition-Resistant (IR2) Construction

For **all lots**, structure design and construction shall meet the requirements for Class 2 Ignition-Resistant (IR2) construction (Appendix B), due to potential direct flame and ember exposure.

Requirements for Fences and Gates

In addition to the IR2 requirements, all fence sections and gate sections within eight feet (8') of any habitable structure, shall be constructed of noncombustible materials (e.g., wrought iron, steel, concrete, etc.); combustible fencing shall not be allowed within eight feet (8') of a habitable structure.

IGNITION SOURCE CONTROL

Contractors and owners/tenants shall provide for ignition source control by the following means:

- Contractors shall be directed to make sure employees do not smoke within fifteen feet (15') of combustible materials or non-fire-resistant vegetation.
- Contractors shall have means of extinguishment on site, available and ready to utilize, such as water, shovels, fire extinguishers, and/or heavy equipment.

©MC FIRE, LLC. ALL RIGHTS RESERVED.

- Provide for clearance between ignition sources and grass, brush, or other combustible materials of at least thirty feet (30').
- The use of equipment and/or devices that might create heat, sparks, or open flames capable of igniting nearby combustible materials (e.g., vegetation) is prohibited without prior approval by the Eagle Fire Department, unless a thirty-foot (30') separation from combustible materials can be created and maintained during the use of the equipment or device, and all other relevant ignition source control measures are taken.
- Aerial and exploding fireworks are illegal to use in the State of Idaho without a permit, regardless of the location. Even with a valid legal permit, they are expressly prohibited in this community due to the high wildfire risk and adjacent open-space areas.
- All solid-fuel-burning (e.g., wood-burning) fireplaces and solid-fuel-burning portable outdoor fireplaces are prohibited.
- Portable outdoor fireplaces that are propane-fired shall have a minimum of fifteen feet (15') of separation from all combustible materials and non-fire-resistant vegetation.
- Incinerators, outdoor fireplaces, permanent BBQs, and grills shall be maintained in good repair and safe. Openings in these appliances shall have a spark arrestor, screen, or door, unless the BBQ or grill needs unprotected openings for proper functioning.
- Burn piles, burn barrels, field burning, bonfires, and other miscellaneous outdoor fires are prohibited on any lot within this development, due to the high wildfire risk and nearby natural open-space areas, unless otherwise specifically approved in writing by the Eagle Fire Department.

PERPETUAL FUNDING REQUIREMENT

A perpetual funding mechanism shall be created to ensure that maintenance requirements for individual lots and common areas are adhered to over time. At a minimum, this will include:

- initial landscaping compliance checks,
- collection and maintenance of all landscaping plans to create a baseline database,
- wildfire safety evaluations/audits of all lots every five (5) years, and
- continual maintenance of common lot vegetation, pathways, trails, fuel-breaks, etc.

This funding can also be utilized to maintain a Firewise landscaping demonstration area within the development, to purchase equipment for wildfire mitigation efforts, to purchase materials or supplies for community wildfire education and outreach, and to pay for future updates to this plan.

FIREWISE CERTIFICATION

The developer for Shadow Valley East should initiate the application process to become a nationally recognized Firewise USA® site prior to the first home occupancy permit. The developer should work in cooperation with Idaho Firewise to complete the application process, set up a Shadow Valley East Firewise Committee, and subsequently enforce the requirements set forth in this plan. More information can be found at www.firewise.org .

©MC FIRE, LLC. ALL RIGHTS RESERVED.

APPENDIX A
RESOURCES

- 2018 International Building Code® (2018 IBC) – https://codes.iccsafe.org/content/IBC2018P6
- 2018 International Fire Code® (2018 IFC) - codes.iccsafe.org/content/IFC2018P6
- 2022 Ada County Multi-Hazard Mitigation Plan - https://adacounty.id.gov/emergencymanagement/Mitigation
- 2024 International Wildland-Urban Interface Code® (2024 IWUIC) – https://codes.iccsafe.org/content/IWUIC2024P1
- Ada County Zoning Ordinance Amendments 2022/2023 - https://adacounty.id.gov/developmentservices/administration/zoning-ordinance-amendment/
- FEMA Emergency Preparedness – www.ready.gov
- IBHS Residential Wildfire – www.ibhs.org/residential
- Idaho Firewise "Fire-Resistance of Plants Master Database" – www.idahofirewise.org
- Idaho State Fire Marshal's Office Bulletin 20-14, dated November 4, 2020, and indicating an effective date of January 1, 2021 for the State of Idaho adoption of the 2018 International Fire Code® (2018 IFC) and associated amendments through IDAPA 18.08.01
- International Association of Fire Chiefs (IAFC) Wildfire Programs – https://www.iafc.org/topics-and-tools/wildland/fire-adapted
- Living with Fire Program – www.livingwithfire.org
- MC Fire, LLC Consulting – www.mcfirellc.com
- NFPA 1140: Standard for Wildland Fire Protection (2022 Edition)
- NFPA Firewise USA Site Program – https://www.nfpa.org/education-and-research/wildfire/firewise-usa
- National Institute for Standards and Technology (NIST) Hazard Mitigation Methodology (HMM) – https://www.nist.gov/el/fire-research-division-73300/wildland-urban-interface-fire-73305/hazard-mitigation-methodology-2
- Society of Fire Protection Engineers (SFPE) WUI Virtual Handbook – https://www.sfpe.org/wuihandbook/home

©MC FIRE, LLC. ALL RIGHTS RESERVED.

APPENDIX B
SECTION 505
CLASS 2
IGNITION-RESISTANT CONSTRUCTION

505.1 General. Class 2 ignition-resistant construction shall be in accordance with Sections 505.2 through 505.11.

505.2 Roof assembly. Roofs shall have a roof assembly that complies with not less than a Class A rating when tested in accordance with ASTM E108 or UL 790, or an approved noncombustible roof covering. For roof assemblies where the profile allows a space between the roof covering and roof deck, the space at the eave ends shall be firestopped to preclude entry of flames or embers, or have one layer of cap sheet complying with ASTM D3909 installed over the combustible roof deck.

505.2.1 Roof valleys. Where provided, valley flashings shall be not less than 0.019-inch (0.48 mm) (No. 26 galvanized sheet gage) corrosion-resistant metal installed over a minimum 36-inch-wide (914 mm) underlayment consisting of one layer of 72-pound (32.4 kg) mineral-surfaced, nonperforated cap sheet complying with ASTM D3909 running the full length of the valley.

505.3 Protection of eaves. Combustible eaves, fascias and soffits shall be enclosed with solid materials with a minimum thickness of 3/4 inch (19 mm). Exposed rafter tails shall not be permitted unless constructed of heavy timber materials.

505.4 Gutters and downspouts. Gutters and downspouts shall be constructed of noncombustible material. Gutters shall be provided with an approved means to prevent the accumulation of leaves and debris in the gutter.

505.5 Exterior walls. Exterior walls of buildings or structures shall be constructed with one of the following methods:

1. Materials approved for not less than 1-hour fire-resistance-rated construction on the exterior side.
2. Approved noncombustible materials.
3. Heavy timber or log wall construction.
4. Fire-retardant-treated wood on the exterior side. The fire-retardant-treated wood shall be labeled for exterior use and meet the requirements of Section 2303.2 of the International Building Code.
5. Ignition-resistant materials on the exterior side.

Such material shall extend from the top of the foundation to the underside of the roof sheathing.

 COPYRIGHT © 2023 INTERNATIONAL CODE COUNCIL, INC.

505.6 Underfloor enclosure. Buildings or structures shall have underfloor areas enclosed to the ground, with exterior walls in accordance with Section 505.5.

Exception: Complete enclosure shall not be required where the underside of exposed floors and exposed structural columns, beams and supporting walls are protected as required for exterior 1-hour fire-resistance-rated construction or heavy timber construction or fire-retardant-treated wood. The fire-retardant-treated wood shall be labeled for exterior use and meet the requirements of Section 2303.2 of the International Building Code.

505.7 Appendages and projections. Unenclosed accessory structures attached to buildings with habitable spaces and projections, such as decks, shall be not less than 1-hour fire-resistance-rated construction, heavy timber construction or constructed of one of the following:

1. Approved noncombustible materials.
2. Fire-retardant-treated wood identified for exterior use and meeting the requirements of Section 2303.2 of the International Building Code.
3. Ignition-resistant building materials in accordance with Section 503.2.
   Exception: Coated materials shall not be used as the walking surface of decks.

505.7.1 Underfloor areas. Where the attached structure is located and constructed so that the structure or any portion thereof projects over a descending slope surface greater than 10 percent, the area below the structure shall have underfloor areas enclosed to within 6 inches (152 mm) of the ground, with exterior wall construction in accordance with Section 505.5.

505.8 Exterior glazing. Exterior windows, window walls and glazed doors, windows within exterior doors, and skylights shall be tempered glass, multilayered glazed panels, glass block or have a fire protection rating of not less than 20 minutes.

505.9 Exterior doors. Exterior doors shall be approved noncombustible construction, solid core wood not less than 1-3/4 inches thick (45 mm), or have a fire protection rating of not less than 20 minutes. Windows within doors and glazed doors shall be in accordance with Section 505.8.

Exception: Vehicle access doors.

505.10 Vents. Where provided, ventilation openings for enclosed attics, gable ends, ridge ends, under eaves and cornices, enclosed eave soffit spaces, enclosed rafter spaces formed where ceilings are applied directly to the underside of roof rafters, underfloor ventilation, foundations and crawl spaces, or any other opening intended to permit ventilation, either in a horizontal or vertical surface, shall be in accordance with Section 505.10.1 or Section 505.10.2 to resist building ignition from the intrusion of burning embers and flame through the ventilation openings.

505.10.1 Performance requirements. Ventilation openings shall be fully covered with listed vents, tested in accordance with ASTM E2886, to demonstrate compliance with all the following requirements:

1. There shall be no flaming ignition of the cotton material during the Ember Intrusion Test.
2. There shall be no flaming ignition during the Integrity Test portion of the Flame Intrusion Test.
3. The maximum temperature of the unexposed side of the vent shall not exceed 662° F (350° C).

 COPYRIGHT © 2023 INTERNATIONAL CODE COUNCIL, INC.

505.10.2 Prescriptive requirements. Where provided, attic ventilation openings, foundation or underfloor vents, or other ventilation openings in vertical or horizontal surfaces and vents through roofs shall not exceed 144 square inches (0.0929 m^2) each. Such vents shall be covered with noncombustible corrosion-resistant mesh with openings not to exceed 1/8 inch (3.2 mm) or shall be designed and approved to prevent flame or ember penetration into the structure.

505.10.3 Vent locations. Attic ventilation openings shall not be located in soffits, in eave overhangs, between rafters at eaves, or in other overhang areas. Gable end and dormer vents shall be located not less than 10 feet (3048 mm) from lot lines. Underfloor ventilation openings shall be located as close to grade as practical.

505.11 Detached accessory structures. Detached accessory structures located less than 50 feet (15,240 mm) from a building containing habitable space shall have exterior walls constructed with materials approved for not less than 1-hour fire-resistance-rated construction, heavy timber, log wall construction, or constructed with approved noncombustible materials or fire-retardant-treated wood on the exterior side. The fire-retardant-treated wood shall be labeled for exterior use and meet the requirements of Section 2303.2 of the International Building Code.

505.11.1 Underfloor areas. Where the detached accessory structure is located and constructed so that the structure or any portion thereof projects over a descending slope surface greater than 10 percent, the area below the structure shall have underfloor areas enclosed to within 6 inches (152 mm) of the ground, with exterior wall construction in accordance with Section 505.5 or underfloor protection in accordance with Section 505.6.

Exception: The enclosure shall not be required where the underside of exposed floors and exposed structural columns, beams and supporting walls are protected as required for exterior 1-hour fire-resistance-rated construction or heavy-timber construction or fire-retardant-treated wood on the exterior side. The fire-retardant-treated wood shall be labeled for exterior use and meet the requirements of Section 2303.2 of the International Building Code.

 COPYRIGHT © 2023 INTERNATIONAL CODE COUNCIL, INC.

Shadow Valley Estates Wildfire Safety Plan

Prepared by Jerry McAdams, CWMS
Certified Wildfire Mitigation Specialist
MC Fire, LLC
PO Box 50392
Boise, Idaho 83705
www.mcfirellc.com

©MC FIRE, LLC. ALL RIGHTS RESERVED.

Exhibit 18
Page 1 of 19
202402701-PC-CPA

TABLE OF CONTENTS

SECTION	PAGE(S)
Preface	3
Plan Intent	3 – 4
Project Description	4 – 5
Area Ecology and Fuel Model	5 – 6
Topography	6
Fire History and Fire Weather	6 – 8
Utilities	8
Access Roads and Turnarounds	9
Water Supply for Fire Suppression	9
Recreational and Multi-Use Paths	9 – 10
Ignition-Resistant Landscaping and Maintenance	10
Structure Ignition Zones	10 – 13
Setbacks	13
Ignition-Resistant Construction	13 – 14
Ignition Source Control	14
Perpetual Funding Requirement	14 – 15
Firewise Certification	15
APPENDIX A – Resources	16
APPENDIX B – Class 1 Ignition-Resistant Construction (IR1)	17 – 19

©MC FIRE, LLC. ALL RIGHTS RESERVED.

PREFACE

While this plan is intended to meet best-practices for wildfire-prone areas, there are no guarantees that homes and other structures will survive a wildfire event, as there are always extraneous factors that can lead to loss. The requirements of this plan can help make the community safer from the threat of low-intensity surface fires, as well as wind-blown embers from nearby wildfires.

PLAN INTENT

The intent of the Shadow Valley Estates Wildfire Safety Plan is to minimize the spread of fire from wildland areas to structures, and from structures to wildland areas, as well as to minimize ignition vulnerabilities from embers and low-intensity surface fire to structures and landscaping within this development. The overall goal is to reduce the possibility of loss of life and property from wildfire, and to protect other nearby values-at-risk, such as wildlife and wildlife habitat, watersheds, and endangered plant species.

A copy of this plan shall be provided to Ada County Development Services, the Eagle Fire Department, the developer(s), subdeveloper(s), Shadow Valley Estates Design Review Committee, builders, architects, landscape architects, homeowners, Shadow Valley Estates Homeowners' Association, and owners' association Board of Directors, to ensure compliance and long-term maintenance with the provisions of this plan, keeping the protection of the community in mind.

The Shadow Valley Estates Wildfire Safety Plan shall be incorporated as a reference document into the CC&Rs for the subdivision and shall cover all phases of the development. Long-term adherence to the provisions of this plan shall be the responsibility of the individual owners, owners' association Board of Directors, and Architectural or Design Review Committee. Any lots or parcels that are added to this development after the writing of this plan shall meet the requirements in this plan.

The Shadow Valley Estates Homeowners' Association and/or Shadow Valley Estates Design Review Committee shall compile an electronic database of all detailed landscaping plans for the development, which shall be legible/readable and used as a baseline for future audits/inspections.

Upon completion of initial landscaping on any lot, the Shadow Valley Estates Homeowners' Association or Shadow Valley Estates Design Review Committee shall have a member, or contractor, inspect each property to ensure initial landscaping meets the requirements of this plan. The subsequent inspection report shall remain on file with the Shadow Valley Estates Homeowners' Association to be used as a reference document for future audits/inspections.

Owners, tenants, or persons in control of each property, shall allow access onto the property for wildfire safety evaluations/audits upon the completion of initial landscaping, and at least every five (5) years thereafter, to assure compliance with the requirements and intent of the Shadow Valley Estates Wildfire Safety Plan.

©MC FIRE, LLC. ALL RIGHTS RESERVED.

This plan does not require owners, tenants, or persons in control of a property to maintain adjacent properties that they do not have control over, or that fall outside of the Shadow Valley Estates development.

If any part of this plan conflicts with any other required code provision or legal requirement, the more restrictive shall apply. If there is a conflict between a general requirement and a specific requirement, the specific requirement shall apply. Any compliance alternatives shall be reviewed and approved at the discretion of Ada County Development Services and the Eagle Fire Department.

PROJECT DESCRIPTION

The Shadow Valley Estates development is located in a portion of Sections 13 and 24 of Township 5N, Range 1E, B.M. Ada County, Idaho. The proposed development is approximately 290 acres, located within the Ada County Wildland-Urban Interface Overlay District. The development lies generally to the north and west of State Highway 55. A portion along the east side of the proposed development directly abuts Department of Interior – Bureau of Land Management (DOI-BLM) lands. The development has numerous open space areas nearby including other BLM lands, as well as numerous private lots. The BLM lands, and many of the surrounding private properties, consist of natural open space with highly combustible vegetative fuels common to the Great Basin Region.

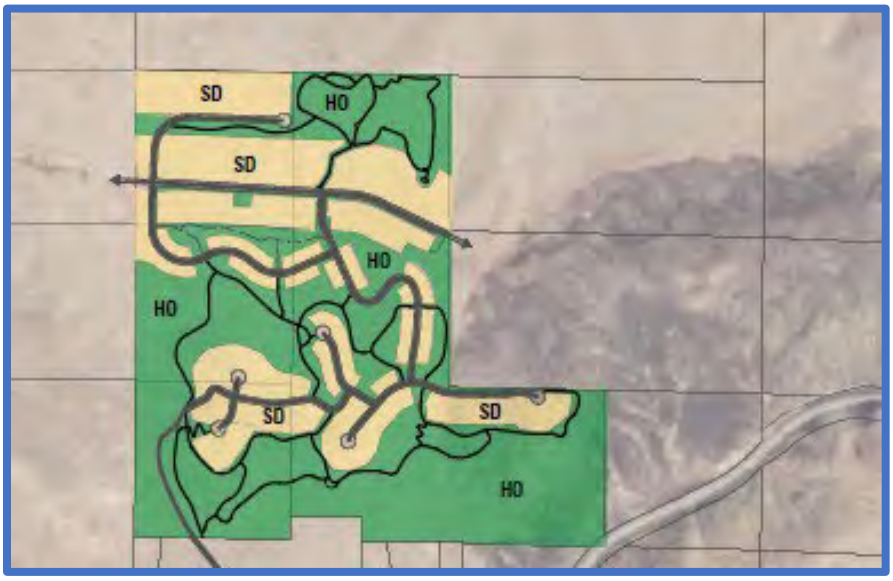


Figure 1 - Shadow Valley Estates Land Use Plan, by The Land Group.

Shadow Valley Estates will consist of approximately eighty-nine (89) single-family, residential lots. The development also has limited common areas. All structures for this development will conform with ordinances and requirements of Ada County and the Eagle Fire Department, and the provisions of the Shadow Valley Estates Wildfire Safety Plan, as well as all other relevant codes, ordinances, and standards.

©MC FIRE, LLC. ALL RIGHTS RESERVED.

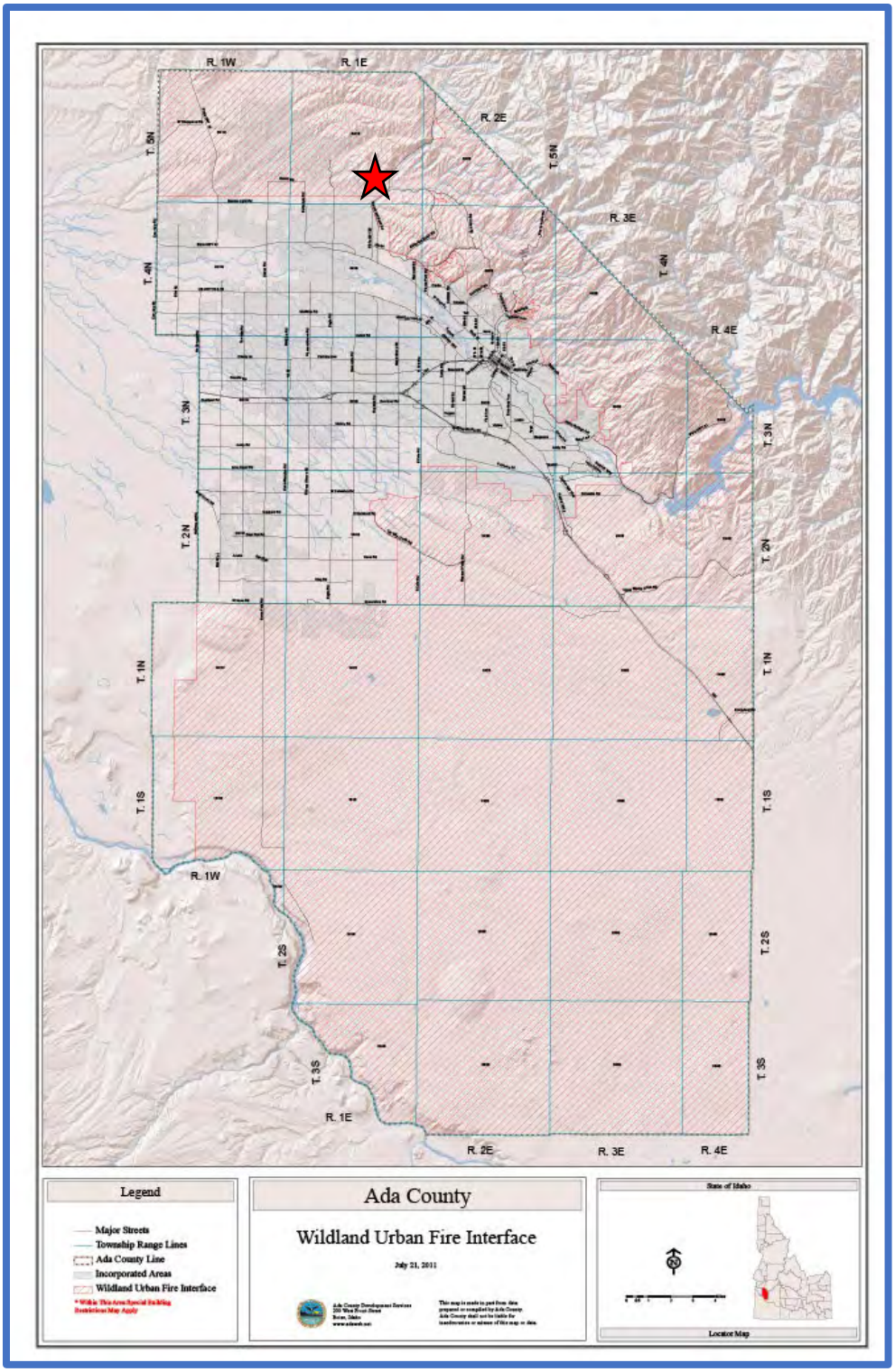


Figure 2 - Ada County Wildland-Urban Fire Interface (WUFI) Map from 2011.

AREA ECOLOGY AND FUEL MODEL

This proposed development is in a historical shrub steppe ecosystem, with nearby irrigated and non-irrigated agricultural lands, and natural open space areas.

The predominant vegetation in the nearby open-space areas is composed of light, flashy fuels (e.g., grasses) that are easily ignitable and able to spread fire quickly, in addition to highly combustible shrubs such as Sagebrush, Bitterbrush, and Rabbitbrush.

©MC FIRE, LLC. ALL RIGHTS RESERVED.

The fuel model for the nearby open-space areas is a mix of Fuel Model A and Fuel Model T (2024 IWUIC). Fuel Model A includes sagebrush-grass types common in the Great Basin Region, characterized by shrubs that burn easily and are not dense enough to shade out native and invasive grasses and other herbaceous vegetation, and where shrubs occupy less than 1/3 of the site. Fuel Model T is characterized by shrubs that burn easily, occupy more than 1/3 of these areas, and are dense enough to shade out grass and other herbaceous plants. This information was formulated through an onsite assessment of the property and utilizing information from Appendix D of the 2024 International Wildland-Urban Interface Code® as a general guide.



Figure 3 - Fuel Type and Topography, by MC Fire, LLC.

TOPOGRAPHY

This site ranges between approximately 2,998 – 3,484 feet in elevation, consisting of valleys with surrounding hills and rolling terrain, and gets ample sun from the south and west in the afternoon. Adjacent properties are similar in terrain and elevation.



Figure 4 - Shadow Valley Estates Aerial 3D Topo.

FIRE HISTORY AND FIRE WEATHER

The RA 7 ADA CO Fire, in July 2018, burned over 276 acres and burned into the proposed development. Several other notable, recent, historic fires have occurred in this general area – the "Willow Fire" in July 2013 burned over 247 acres and burned approximately 1.5 miles away from this proposed development, and the "Goose Fire" in October 2021 burned over 440 acres. Numerous other smaller, unnamed fires have occurred in this general area as well.

©MC FIRE, LLC. ALL RIGHTS RESERVED.

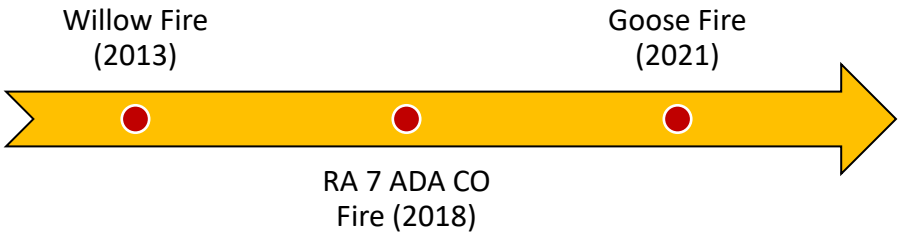


Figure 5 - Timeline of Historic Fires Near the Shadow Valley Estates Proposed Development.

Fire protection for this development is provided by the Eagle Fire Department (Eagle Fire Protection District).

Note: The need to purposefully attempt to restore our ecosystems back to native and more fire-resistant plant communities is an important consideration in development within, and near, these areas. This will be especially important during post-disturbance restoration and revegetation.

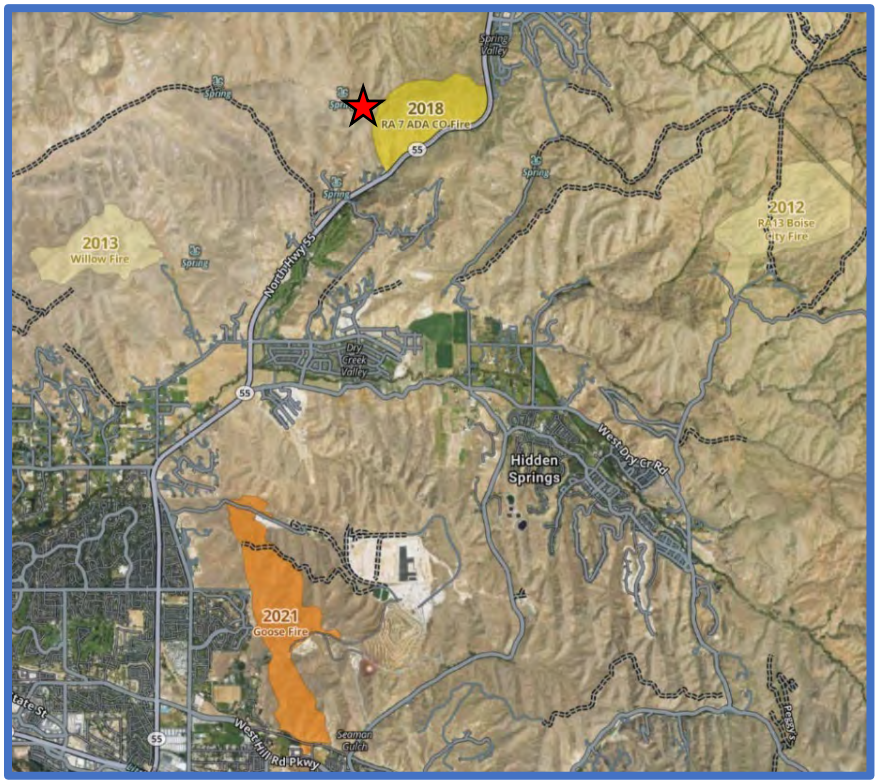


Figure 6 - Historic Area Fires.

As noted, the area has a historic wildfire regime and will continue to have wildfires in the future. Windblown fires in natural open-space areas near, and within, the proposed development, could easily carry embers or firebrands throughout the development, igniting combustible materials on and around any structure.

©MC FIRE, LLC. ALL RIGHTS RESERVED.

This site, located within Fire Weather Zone (FWZ) ID420, has an average of one or more significant positive red flag warning events annually, some of which are tied in with lighting strikes. In 2019 there were three (3) significant red flag events, all of which included lightning. In 2005 there were twelve (12) positive red flag events, ten (10) of which were wind events and two (2) of which were lightning events. This weather zone has a history of high wind events and fire, which combined could lead to significant loss.

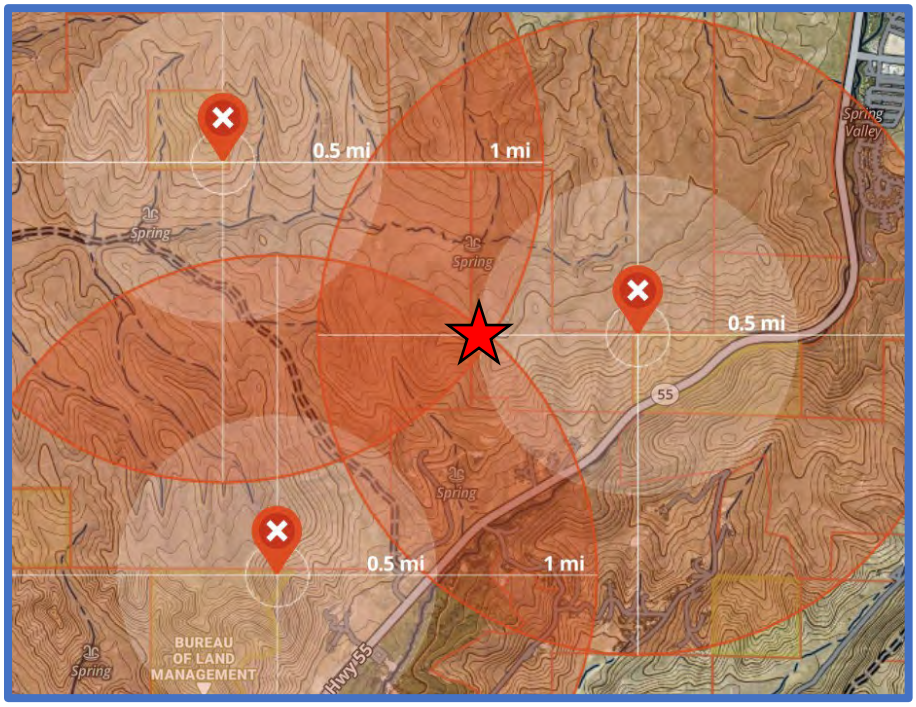


Figure 7 - Radii of ½ Mile & 1 Mile from Fuels on BLM land.

UTILITIES

All distribution utilities, including power, will be underground. Utility structures should be protected from surface fire where practicable, with a minimum of three feet (3') of gravel, concrete, brick, or other noncombustible material around all sides and maintained in this state with no vegetation. The utility owner and/or property owner should regularly treat these areas with herbicide, or use similar preventative measures, to keep these areas free of vegetation.

Potable water for each structure will come from onsite wells, tanks, and distribution systems that will be owned and maintained by the individual property owners or the Shadow Valley Estates Homeowners' Association.

Requirements for water supply for fire suppression will be determined by Ada County Development Services and/or the Eagle Fire Department.

Large residential propane tanks serving structures for heating, cooking, or backup power generation, shall be located at least ten feet (10') from structures, and shall be surrounded by a fuel-free, clear area of at least five feet (5') on all sides, utilizing gravel, concrete, brick, or other noncombustible material. This fuel-free area shall be maintained free of vegetation. Highly combustible vegetation (e.g., decorative grasses, conifers, etc.) shall not be allowed within ten feet (10') of any such propane tank.

©MC FIRE, LLC. ALL RIGHTS RESERVED.

ACCESS ROADS AND TURNAROUNDS

Fire apparatus access roads, alleys, conforming driveways, gates, aerial apparatus access points, emergency access protection, and "NO PARKING" signs/markings shall meet standards for Ada County and the Eagle Fire Department.

WATER SUPPLY FOR FIRE SUPPRESSION

Conforming water supply is defined as meeting the minimum required fire hydrant spacing and meeting the minimum required fire flow. A nonconforming water supply is any water system or source that does not comply with Section 404 of the 2024 IWUIC, including situations where there is no water supply for structure protection or fire suppression.

When interior sprinklers are required in any single-family residence, NFPA 13D residential systems shall also incorporate a dedicated cistern or "home hydrant" which will include a minimum three hundred (300) gallon tank and pump system. This tank and pump system shall be dedicated solely for the sprinkler system to be able to flow a minimum of thirty (30) gallons per minute for a minimum of ten (10) minutes. Additionally, the minimum three hundred (300) gallon tank will need to be designed to ensure that the tank always remains full, utilizing an auto-refill valve or similar appurtenance. In these cases, it is highly recommended that each structure installs a backup power supply that can activate the tank and pump system in the event of a power outage during a wildfire event.

> **Exception**: As an alternative to the NFPA 13D system for single-family residences, a listed NFPA 750 residential water mist fire protection system, with tank and pump, and able to provide a minimum of 10 minutes of flow, may be utilized with review and approval by Ada County Development Services and the Eagle Fire Department.

Note: it is highly recommended that any ponds adjacent to, or near, BLM lands be improved, with a depth of at least ten feet (10'), to create a competent dip-site for aerial firefighting resources (e.g., helicopters) that may be called upon to fight wildfire in the general vicinity of the Shadow Valley Estates development.

RECREATIONAL AND MULTI-USE PATHS

Recreational and multi-use pathways serve multiple purposes in wildfire-prone areas. Not only do they provide a means of recreation for area property owners, but they also provide a fuel-break for the community. Additionally, if properly constructed, they can provide a means of access for firefighting resources attempting to protect the community.

Where practicable, and where roadways do not already provide fire apparatus access, paths constructed through or around this development should be constructed a minimum of twelve feet (12') in width, have an all-weather surface, and be able to withstand the weight of wildland fire apparatus. The entries to these paths shall be signed with "NO PARKING – EMERGENCY ACCESS." Gates or bollards shall prevent unintended access to these areas and shall be installed as approved by Ada County Development Services and the Eagle Fire Department.

©MC FIRE, LLC. ALL RIGHTS RESERVED.

Exception: Narrow, single-track, dirt hiking trails and/or equestrian trails, where additional width is not practicable.

IGNITION-RESISTANT LANDSCAPING AND MAINTENANCE

Landscaping designs for each property will incorporate fire-resistant vegetation, with emphasis placed on the use of native plants. Vegetation shall be planted and maintained in accordance with the Shadow Valley Estates Wildfire Safety Plan, Ada County Code, and the 2024 International Wildland-Urban Interface Code® (2024 IWUIC); the more restrictive shall apply. More specific requirements are provided in the "Structure Ignition Zones" section of this plan.

This plan intends to address ignition source control both to, and away from, structures in this development.

- ✓ Common areas shall utilize fire-resistant plants, with an emphasis on short-stature native shrubs, grasses, and forbs. For specific examples, refer to the Idaho Firewise "Fire-Resistance of Plants Master Database," located on the Idaho Firewise website.
- ✓ Slash, snags, debris, and dead trees shall be removed from all properties.
- ✓ Pruning of all live trees shall include the removal of dead branches, as well as pruning the tree away from the ground to reduce the possibility of fire traveling from ground-based materials and vegetation (ladder-fuels) upward and into the tree canopies.
- ✓ Firewood and combustible materials shall not be stored in unenclosed spaces beneath structures, on decks, or under eaves, canopies, or other projections or overhangs. Firewood and combustible materials shall be located a minimum of thirty feet (30') from habitable structures and separated from the crown of trees by a minimum of fifteen feet (15'). **Exception**: Firewood may be stored in a tightly sealed noncombustible box.
- ✓ Trees canopies at full maturity shall not be located within ten feet (10'), vertically or horizontally, of any structure or outlet of a chimney.
- ✓ Agricultural structures shall not be located within fifty feet (50') of habitable structures.

Specific individual landscaping exceptions should be reviewed by a third-party "Special Expert" (e.g., NFPA Certified Wildfire Mitigation Specialist (CWMS) or landscape professional certified by Idaho Firewise) for conformance with the intent of this plan. A signed letter written by the "Special Expert" should be provided to Ada County Development Services in these circumstances.

Plans for revegetation and restoration of disturbed areas shall be reviewed and approved by a shrub steppe restoration ecologist or similarly qualified individual, with an emphasis on native and low-stature grasses, forbs, and shrubs.

STRUCTURE IGNITION ZONES

Defensible space will be required to be designed and maintained for all properties in this development, which includes the use of structure ignition zones along with ignition-resistant landscaping designs.

©MC FIRE, LLC. ALL RIGHTS RESERVED.

0’ – 5’: A fuel-free area extending zero-to-five feet (0’ – 5’) from all structures and appendages/projections (e.g., decks) is required. In other words, the area directly adjacent to structures and projections shall be fuel-free out to a minimum of five feet (5’).

This area shall remain free of combustible storage, combustible vegetation, and combustible mulches, including bark mulch. This fuel-free area shall utilize rock mulch or hardscapes, and any plant materials within this area shall be especially fire-resistant. This precludes the use of decorative grasses, conifers, lavender, and other hazardous, combustible, oily or resinous plants within this area. For specific examples, refer to “Zone 1 Species List” in the Idaho Firewise “Fire-Resistance of Plants Master Database”, which can be found on the Idaho Firewise website (this database is not comprehensive).

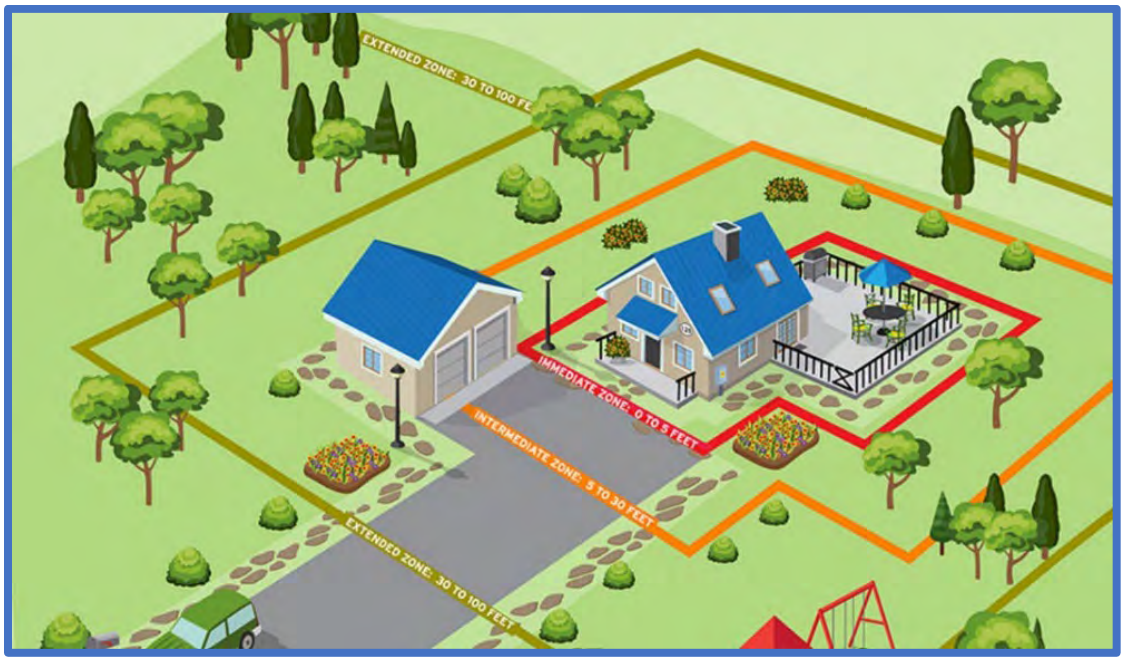


Figure 8 - NFPA Home Ignition Zone (HIZ) graphic, by NFPA.

Plants within this area shall be maintained lean, clean, and green and remain pruned of dead materials. This area shall also be maintained free of dead leaf litter and debris, with the idea of keeping any possible ground fire from touching any part of a structure.

Planting pots used within this area shall be of a noncombustible material such as clay, terra cotta, ceramic, concrete, etc. Plastic planting containers shall not be used within this area. Additionally, plant materials inside of planters shall be low-stature, fire-resistant plant selections, pruned of dead material, and well-watered and maintained.

5’ – 30’: Moving into the transitional area, consisting of the space five-to-thirty feet (5’ – 30’) away from each structure, fire-resistant plants shall be utilized. See Idaho Firewise “Fire-Resistance of Plants Master Database – Zone 1 Species List” for examples (this list is not comprehensive). Where deciduous trees are utilized, canopies shall be a minimum of ten feet (10’) from any point of a structure at full maturity. A minimum of eighteen feet (18’) of spacing between tree canopies, at full maturity, shall be maintained within this area.

©MC FIRE, LLC. ALL RIGHTS RESERVED.

Exceptions:

1. Individual, single-specimens of low-stature (e.g., dwarf) and open-canopy conifers or evergreens, may be utilized in this area, provided they are not planted in front of any window, and they are located so that tree canopies at full maturity are a minimum of fifteen feet (15') from any point of a structure.
2. When there is a specific conflict with requirements concerning plantings in common areas, vegetation selection and spacing in common areas five-to-thirty feet (5' – 30') from any structure shall emphasize the use of fire-resistant vegetation, with tree spacing per applicable code requirements of Ada County Development Services.

30' – 60': Within the fuel modification area, which is comprised of the area thirty-to-sixty feet (30' – 60') away from any structure, landowners may begin to utilize conifers and evergreens, and other non-fire-resistant plant materials, keeping the reduction of fuel-continuity in mind, and with a minimum of twelve feet (12') of spacing between tree canopies at full maturity.

Exception: When there is a specific conflict with requirements concerning plantings in common areas, vegetation selection and spacing in common areas thirty-to-sixty feet (30' – 60') from any structures shall conform to applicable code requirements of Ada County Development Services.

60' – 100': The extent of the fuel modification area, which lies sixty-to-one hundred feet (60' – 100') from any structures, shall have the same requirements as the area thirty-to-sixty feet (30' – 60') from structures. However, tree canopy spacing shall be allowed to be reduced to a minimum of six feet (6') of spacing between canopies at full maturity in this area.

Exception: When there is a specific conflict with requirements concerning plantings in common areas, vegetation selection and spacing in common areas sixty-to-one-hundred feet (60' – 100') from any structures shall conform to applicable code requirements of Ada County Development Services.

Additional Requirements: All trees in this development shall have all limbs removed up to a minimum of six to ten feet (6' – 10') from the ground, or to one-third (1/3) the crown height for trees that are shorter in stature. Combustible vegetation, such as decorative grasses and evergreen shrubs, shall not be planted under trees due to the increased risk of a ladder-fuel-based fire situation.

Common areas and common area fuel breaks (e.g., paths, green strips, etc.) will be maintained by the Shadow Valley Estates Homeowners' Association.

©MC FIRE, LLC. ALL RIGHTS RESERVED.

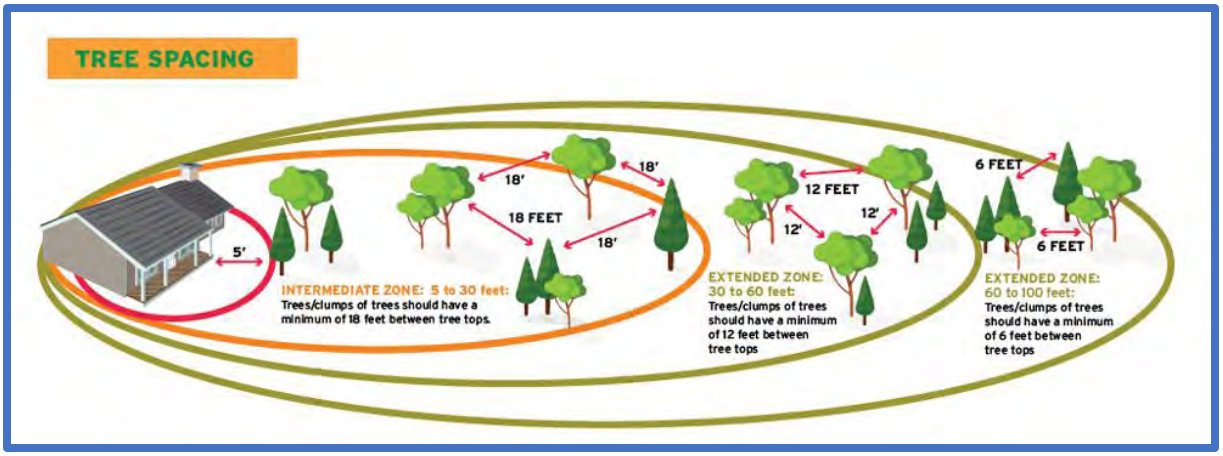


Figure 9 - NFPA Firewise tree spacing graphic, by NFPA.

SETBACKS

When a lot line abuts an internal or external natural open-space area, structures on these lots shall have a minimum setback from the respective lot line(s) to any point of a structure of no less than thirty feet (30'). This requirement also pertains to outbuildings and accessory structures over five hundred (500) square feet in area. This setback shall only be reduced if there is a perpetual agreement that provides a maintained fuel break along the respective adjacent lot line, while still providing a minimum of thirty feet (30') of distance from the far edge of the fuel break to any point of the structure.

> **Exception**: When a lot line abuts a "natural" open-space area, managed by the Bureau of Land Management (BLM), structures on these lots shall have a minimum setback from the respective lot line(s) to any point of a structure of no less than fifty feet (50'). This requirement also pertains to outbuildings and accessory structures over five hundred (500) square feet in area.

IGNITION-RESISTANT CONSTRUCTION

Based on fire weather, topography, and fuel type (2024 IWUIC, Table 502.1), this location is a moderate to high hazard area. In determining construction methodology for this development, conforming defensible space with conforming water supply (2024 IWUIC, Table 503.1) was taken into consideration, along with hazardous topography and the overall high-risk ember zone(s).

The Fire Hazard Severity Form in the 2024 International Wildland-Urban Interface Code (2024 IWUIC) is not being utilized in determining the risk for this area, as it does not depict an accurate picture of the inherent or actual risk. As stated in the 2024 IWUIC, the Fire Hazard Severity Form is meant to be an alternative methodology to using Table 502.1, when unable to determine the attributes necessary for Table 502.1. It does not account for historic fires and climatic conditions, and it simply provides a rough and incomplete impression as to the actual risk to properties in this area.

Outbuildings and accessory structures over five hundred (500) square feet in area, which are located within fifty feet (50') of a habitable structure, shall meet the same construction requirements as the habitable structure on that parcel.

©MC FIRE, LLC. ALL RIGHTS RESERVED.

Class 1 Ignition-Resistant (IR1) Construction

For **all lots**, structure design and construction shall meet the requirements for Class 1 Ignition-Resistant (IR1) construction (Appendix B), due to potential direct flame and ember exposure.

Requirements for Fences and Gates

In addition to the IR1 requirements, all fence sections and gate sections within eight feet (8') of any habitable structure, shall be constructed of noncombustible materials (e.g., wrought iron, steel, concrete, etc.); combustible fencing shall not be allowed within eight feet (8') of a habitable structure.

IGNITION SOURCE CONTROL

Contractors and owners/tenants shall provide for ignition source control by the following means:

- Contractors shall be directed to make sure employees do not smoke within fifteen feet (15') of combustible materials or non-fire-resistant vegetation.
- Contractors shall have means of extinguishment on site, available and ready to utilize, such as water, shovels, fire extinguishers, and/or heavy equipment.
- Provide for clearance between ignition sources and grass, brush, or other combustible materials of at least thirty feet (30').
- The use of equipment and/or devices that might create heat, sparks, or open flames capable of igniting nearby combustible materials (e.g., vegetation) is prohibited without prior approval by the Eagle Fire Department, unless a thirty-foot (30') separation from combustible materials can be created and maintained during the use of the equipment or device, and all other relevant ignition source control measures are taken.
- Aerial and exploding fireworks are illegal to use in the State of Idaho without a permit, regardless of the location. Even with a valid legal permit, they are expressly prohibited in this community due to the high wildfire risk and adjacent open-space areas.
- All solid-fuel-burning (e.g., wood-burning) fireplaces and solid-fuel-burning portable outdoor fireplaces are prohibited.
- Portable outdoor fireplaces that are propane-fired shall have a minimum of fifteen feet (15') of separation from all combustible materials and non-fire-resistant vegetation.
- Incinerators, outdoor fireplaces, permanent BBQs, and grills shall be maintained in good repair and safe. Openings in these appliances shall have a spark arrestor, screen, or door, unless the BBQ or grill needs unprotected openings for proper functioning.
- Burn piles, burn barrels, field burning, bonfires, and other miscellaneous outdoor fires are prohibited on any lot within this development, due to the high wildfire risk and nearby natural open-space areas, unless otherwise specifically approved in writing by the Eagle Fire Department.

PERPETUAL FUNDING REQUIREMENT

A perpetual funding mechanism shall be created to ensure that maintenance requirements for individual lots and common areas are adhered to over time. At a minimum, this will include:

- initial landscaping compliance checks,
- collection and maintenance of all landscaping plans to create a baseline database,

©MC FIRE, LLC. ALL RIGHTS RESERVED.

- wildfire safety evaluations/audits of all lots every five (5) years, and
- continual maintenance of common lot vegetation, pathways, trails, fuel-breaks, etc.

This funding can also be utilized to maintain a Firewise landscaping demonstration area within the development, to purchase equipment for wildfire mitigation efforts, to purchase materials or supplies for community wildfire education and outreach, and to pay for future updates to this plan.

FIREWISE CERTIFICATION

The developer for Shadow Valley Estates should initiate the application process to become a nationally recognized Firewise USA® site prior to the first home occupancy permit. The developer should work in cooperation with Idaho Firewise to complete the application process, set up a Shadow Valley Estates Firewise Committee, and subsequently enforce the requirements set forth in this plan. More information can be found at www.firewise.org .

©MC FIRE, LLC. ALL RIGHTS RESERVED.

APPENDIX A
RESOURCES

- 2018 International Building Code® (2018 IBC) – https://codes.iccsafe.org/content/IBC2018P6
- 2018 International Fire Code® (2018 IFC) - codes.iccsafe.org/content/IFC2018P6
- 2022 Ada County Multi-Hazard Mitigation Plan - https://adacounty.id.gov/emergencymanagement/Mitigation
- 2024 International Wildland-Urban Interface Code® (2024 IWUIC) – https://codes.iccsafe.org/content/IWUIC2024P1
- Ada County Zoning Ordinance Amendments 2022/2023 - https://adacounty.id.gov/developmentservices/administration/zoning-ordinance-amendment/
- FEMA Emergency Preparedness – www.ready.gov
- IBHS Residential Wildfire – www.ibhs.org/residential
- Idaho Firewise "Fire-Resistance of Plants Master Database" – www.idahofirewise.org
- Idaho State Fire Marshal's Office Bulletin 20-14, dated November 4, 2020, and indicating an effective date of January 1, 2021 for the State of Idaho adoption of the 2018 International Fire Code® (2018 IFC) and associated amendments through IDAPA 18.08.01
- International Association of Fire Chiefs (IAFC) Wildfire Programs – https://www.iafc.org/topics-and-tools/wildland/fire-adapted
- Living with Fire Program – www.livingwithfire.org
- MC Fire, LLC Consulting – www.mcfirellc.com
- NFPA 1140: Standard for Wildland Fire Protection (2022 Edition)
- NFPA Firewise USA Site Program – https://www.nfpa.org/education-and-research/wildfire/firewise-usa
- National Institute for Standards and Technology (NIST) Hazard Mitigation Methodology (HMM) – https://www.nist.gov/el/fire-research-division-73300/wildland-urban-interface-fire-73305/hazard-mitigation-methodology-2
- Society of Fire Protection Engineers (SFPE) WUI Virtual Handbook – https://www.sfpe.org/wuihandbook/home

©MC FIRE, LLC. ALL RIGHTS RESERVED.

APPENDIX B
SECTION 504
CLASS 1
IGNITION-RESISTANT CONSTRUCTION

504.1 General. Class 1 ignition-resistant construction shall be in accordance with Sections 504.2 through 504.11.

504.2 Roof assembly. Roofs shall have a roof assembly that complies with a Class A rating when tested in accordance with ASTM E108 or UL 790. For roof assemblies where the profile allows a space between the roof covering and roof deck, the space at the eave ends shall be firestopped to preclude entry of flames or embers or have one layer of 72-pound (32.4 kg) mineral-surfaced, nonperforated cap sheet complying with ASTM D3909 installed over the combustible roof deck.

Exceptions:

1. Class A roof assemblies include those with coverings of brick, masonry or an exposed concrete roof deck.
2. Class A roof assemblies also include ferrous or copper shingles or sheets, metal sheets and shingles, clay or concrete roof tile or slate installed on noncombustible decks or ferrous, copper or metal sheets installed without a roof deck on noncombustible framing.
3. Class A roof assemblies include minimum 16 oz/sq ft (0.0416 kg/m^2) copper sheets installed over combustible roof decks.

504.2.1 Roof valleys. Where provided, valley flashings shall be not less than 0.019 inch (0.48 mm) (No. 26 galvanized sheet gage) corrosion-resistant metal installed over a minimum 36-inch-wide (914 mm) underlayment consisting of one layer of 72-pound (32.4 kg) mineral-surfaced, nonperforated cap sheet complying with ASTM D3909 running the full length of the valley.

504.3 Protection of eaves. Eaves and soffits shall be protected on the exposed underside by ignition-resistant materials or by materials approved for not less than 1-hour fire-resistance-rated construction, 2-inch (51 mm) nominal dimension lumber, or 1-inch (25 mm) nominal fire-retardant-treated lumber or $^3/_4$-inch (19.1 mm) nominal fire-retardant-treated plywood, identified for exterior use and meeting the requirements of Section 2303.2 of the International Building Code. Fascias are required and shall be protected on the backside by ignition-resistant materials or by materials approved for not less than 1-hour fire-resistance-rated construction or 2-inch (51 mm) nominal dimension lumber.

504.4 Gutters and downspouts. Gutters and downspouts shall be constructed of noncombustible material. Gutters shall be provided with an approved means to prevent the accumulation of leaves and debris in the gutter.

504.5 Exterior walls. Exterior walls of buildings or structures shall be constructed with one of the following methods:

1. Materials approved for not less than 1-hour fire-resistance-rated construction on the exterior side.
2. Approved noncombustible materials.
3. Heavy timber or log wall construction.
4. Fire-retardant-treated wood on the exterior side. The fire-retardant-treated wood shall be labeled for exterior use and meet the requirements of Section 2303.2 of the International Building Code.
5. Ignition-resistant materials complying with Section 503.2 on the exterior side.

Such material shall extend from the top of the foundation to the underside of the roof sheathing.

504.5.1 Flashing. A minimum of 6 inches (152 mm) of metal flashing or noncombustible material applied vertically on the exterior of the wall shall be installed at the ground, decking and roof intersections.

504.6 Underfloor enclosure. Buildings or structures shall have underfloor areas enclosed to the ground with exterior walls in accordance with Section 504.5.

Exception: Complete enclosure shall not be required where the underside of exposed floors and exposed structural columns, beams and supporting walls are protected as required for exterior 1-hour fire-resistance-rated construction or heavy timber construction or fire-retardant-treated wood. The fire-retardant-treated wood shall be labeled for exterior use and meet the requirements of Section 2303.2 of the International Building Code.

504.7 Appendages and projections. Unenclosed accessory structures attached to buildings with habitable spaces and projections, such as decks, shall be not less than 1-hour fire-resistance-rated construction, heavy timber construction or constructed of one of the following:

1. Approved noncombustible materials.
2. Fire-retardant-treated wood identified for exterior use and meeting the requirements of Section 2303.2 of the International Building Code.
3. Ignition-resistant building materials in accordance with Section 503.2.
   Exception: Coated materials shall not be used as the walking surface of decks.

504.7.1 Underfloor areas. Where the attached structure is located and constructed so that the structure or any portion thereof projects over a descending slope surface greater than 10 percent, the area below the structure shall have underfloor areas enclosed to within 6 inches (152 mm) of the ground, with exterior wall construction in accordance with Section 504.5.

504.8 Exterior glazing. Exterior windows, window walls and glazed doors, windows within exterior doors, and skylights shall be tempered glass, multilayered glazed panels, glass block or have a fire protection rating of not less than 20 minutes.

504.9 Exterior doors. Exterior doors shall be approved noncombustible construction, solid-core wood not less than $1^3/_4$ inches thick (44 mm), or have a fire protection rating of not less than 20 minutes. Windows within doors and glazed doors shall be in accordance with Section 504.8.

Exception: Vehicle access doors.

504.10 Vents. Where provided, ventilation openings for enclosed attics, gable ends, ridge ends, under eaves and cornices, enclosed eave soffit spaces, enclosed rafter spaces formed where ceilings are applied directly to the underside of roof rafters, underfloor ventilation, foundations and crawl spaces, or any other opening intended to permit ventilation, either in a horizontal or vertical surface, shall be in accordance with Section 504.10.1 or Section 504.10.2 to resist building ignition from the intrusion of burning embers and flame through the ventilation openings.

504.10.1 Performance requirements. Ventilation openings shall be fully covered with listed vents, tested in accordance with ASTM E2886, to demonstrate compliance with all the following requirements:

1. There shall be no flaming ignition of the cotton material during the Ember Intrusion Test.
2. There shall be no flaming ignition during the Integrity Test portion of the Flame Intrusion Test.
3. The maximum temperature of the unexposed side of the vent shall not exceed 662°F (350°C).

504.10.2 Prescriptive requirements. Where provided, attic ventilation openings, foundation or underfloor vents, or other ventilation openings in vertical or horizontal surfaces and vents through roofs shall not exceed 144 square inches (0.0929 m^2) each. Such vents shall be covered with noncombustible corrosion-resistant mesh with openings not to exceed $^1/_8$ inch (3.2 mm) or shall be designed and approved to prevent flame or ember penetration into the structure.

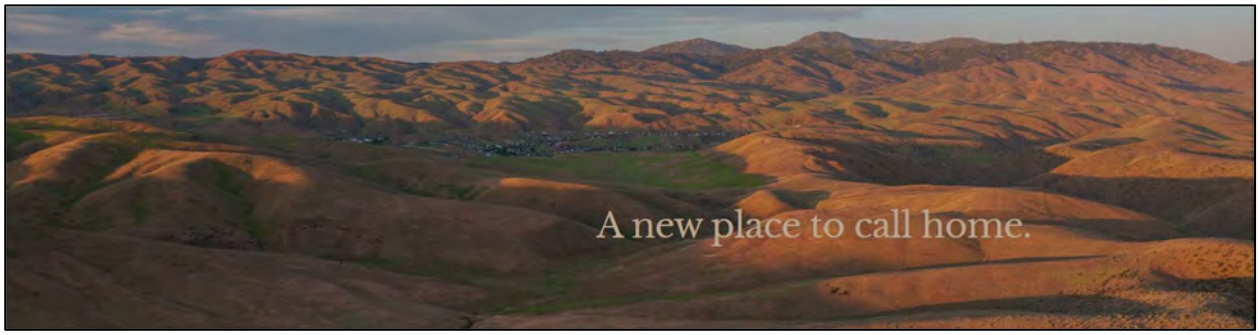
504.10.3 Vent locations. Attic ventilation openings shall not be located in soffits, in eave overhangs, between rafters at eaves or in other overhang areas. Gable-end and dormer vents shall be located not less than 10 feet (3048 mm) from lot lines. Underfloor ventilation openings shall be located as close to grade as practical.

504.11 Detached accessory structures. Detached accessory structures located less than 50 feet (15 240 mm) from a building containing habitable space shall have exterior walls constructed with materials approved for not less than 1-hour fire-resistance-rated construction, heavy timber, log wall construction, or constructed with approved noncombustible materials or fire-retardant-treated wood on the exterior side. The fire-retardant-treated wood shall be labeled for exterior use and meet the requirements of Section 2303.2 of the International Building Code.

504.11.1 Underfloor areas. Where the detached structure is located and constructed so that the structure or any portion thereof projects over a descending slope surface greater than 10 percent, the area below the structure shall have underfloor areas enclosed to within 6 inches (152 mm) of the ground, with exterior wall construction in accordance with Section 504.5 or underfloor protection in accordance with Section 504.6.

Exception: The enclosure shall not be required where the underside of exposed floors and exposed structural columns, beams and supporting walls are protected as required for exterior 1-hour fire-resistance-rated construction or heavy timber construction or fire-retardant-treated wood on the exterior side. The fire-retardant-treated wood shall be labeled for exterior use and meet the requirements of Section 2303.2 of the International Building Code.

 COPYRIGHT © 2023 INTERNATIONAL CODE COUNCIL, INC.



Version: December 11, 2024, Planned Community Application Phase 1

INTRODUCTION

Shadow Valley Planned Community is an Ada County, Idaho development. This recreation focused estate community is proposed to be home to 395 people by 2034. As the southwestern area of Idaho—the Treasure Valley—attracts new residents, the need for additional houses is increasing. The 560-acre Planned Community is ideally situated to provide infill housing between the employment core of the Treasure Valley and surrounding much larger planned community developments. Split into two communities on either side of highway 55, the east side provides bench view estate lots and attached townhome style units overlooking the Shadow Valley Golf Course. The west side provides foothill estate lots in a pastureland setting with unmatched sunset and mountain views. The neighboring properties include rural estate homes and undeveloped private land.

According to the THK Economic Analysis completed for the Shadow Valley Planned Community application, only 12.4%; 109 of an anticipated 873 person population will be of school age by 2034[1]. These population numbers based on early discussions with West Ada School District regarding this north region, is not anticipated to impact school demand in the school district to a degree where an additional school site is required given population and demographic projections.

West Ada School District has indicated a need for bus parking facilities to bus students to the neighboring school sites in the north region. Shadow Valley Planned Community will provide bus parking facilities in the form of 0.36-acres of bus parking (assumed to park approximately 16 +/- school busses) co-located in a 'Civic Zone' with an Ada County Sheriff remote office location.

[1] (Elzi, 2024)

Urban Public Service Requirements				
	Service	**Provider**	**Standard Requirement**	**Response**
General Standards				
	Community Conservation	Shadow Valley Planned Community	Director	Yes
	Transportation	Shadow Valley Planned Community	Conform to ACHD policies and studies	Yes, may include private roadways
	Trails and Pathways	Shadow Valley Planned Community	Conform to Ada County pathway plans	Yes
Minimum Standards				
	Electricity	Idaho Power	Each buildable property	Yes
	Telephone	Sparklight, TDS	Each buildable property	Yes
	Water	Shadow Valley Planned Community	Each buildable property	Yes
	Irrigation Water	Shadow Valley Planned Community	Each buildable property	Yes
	Wastewater (East Zone)	Shadow Valley Planned Community	Each buildable property	Yes
	Wastewater (West Zone)	Individual Residential Septic	Each buildable property	Yes
	Law Enforcement	Ada County Sheriff	1 = 1 officer per 1,200 population	Yes, 'civic' land provided for 1 (one) remote sheriff office
	Fire Protection	Eagle Fire Department	5 minutes or less	Yes, Eagle Fire Station #2
	Paramedic	Ada County Paramedic	5 minutes or less EMS, 9 minutes or less ALS	Yes
	Schools	West Ada School District	School Site	No, 'civic' land bus parking area provided/school site likely not needed
	Transportation	Ada County Highway District	At least 15.75 percent internal trip capture	Yes, pending final TIS
	Natural Open Space	Land Use Map	A minimum of 10 acres per 1,000 population of developed open space based on 2.5 persons per dwelling unit.	Yes, 161 acres per 1,000 population
	Developed Open Space	Land Use Map	A minimum of 10 acres per 1,000 population of developed open space based on 2.5 persons per dwelling unit.	Yes, 118 acres per 1,000 population
	Library	Ada County Library	Sufficient space shall be incorporated into the land use plan for library services to serve the planned community.	No-not needed, Hidden Springs Library 8min. Drive/ 3.9 miles, bookdrop location under discussion
	Each planned community shall provide all of the above referenced categories of urban public services in accordance with the stated minimum standard for each.per Ada County Code 8-8-4.B. Waiver: The board may waive or alter one or more of the public service standards in this section on a case by case basis. The applicant shall submit the request and justification for such waiver as part of subsection 8-8-7C7 of this chapter. (Ord. 738, 2-23-2010)			

Additional Service Standards				
1	Developed Open Space	Land Use Map	12 acres per 1,000 population based on 2.5 persons per dwelling unit	161 acres
1	Natural Open Space	Land Use Map	16.5 percent of the total gross area of the planned community shall be dedicated to natural open space.	Yes
0	Multi-Family Housing	n/a	10 percent of the total number of dwelling units	No
0	Library	n/a	n/a	No
0.5	Schools	Land Use Map 'Civic'	bus parking in lieu of school site	Yes/No
1	Green Community	Shadow Valley Planned Community	Water efficiency (e.g., low water plumbing fixtures in homes and buildings; primarily low water or xeric landscaping; limited turf). Energy efficiency (e.g., energy star homes or comparable standard). Materials efficiency (e.g., using less building materials than standard). Green infrastructure/design (e.g., application of reclaimed wastewater; groundwater recharge; less impermeable surface).	Yes
0	Mixed use district	n/a	n/a	No
1	Employment	Land Use Map 'Neighborhood Comm	Employment Centers: Shadow Valley Golf Course, Stone Crossing	Yes
1	Walkability	Land Use Map	(90%) of dwelling units located within 0.6-mile mile walking distance to neighborhood shops/services and/or developed open space.	Yes, 100% of units are within 0.5 miles of developed open space.
1	Trip capture	Ada County Highway District	At least 15.75 percent internal trip capture	Yes, pending final TIS
6.5	**Total**	*Each planned community must provide a minimum of six (6) of the following categories of additional services per Ada County Code 8-8-4.B.*		

Above tables provided in compliance with Ada County Code 8-8-7C7 & 8-8-4.B. (Ord. 738 2-23-2010)

UTILITIES

WATER

Shadow Valley Planned Community will provide Private Municipal Potable Water to the entire residential housing development and also the Shadow Valley Golf Course Neighborhood Commercial Zone.
Reference: HDR Water Facility Plan, dated 08/02/2024

ELECTRICITY & TELECOMMUNICATIONS

Preliminary development scoping is underway by Idaho Power Company. A 'Will Serve' letter has been provided to Shadow Valley Planned Community. The development team is working with Idaho Power Company to ensure that power capacity needs are met in all areas of the development including Residential, Neighborhood Commercial and Civic Zones. With mainline power extensions, telecommunications and broadband connectivity will be provided via joint trench coordination. Duplicity of at least two broadband providers is anticipated.
Reference: Idaho Power Will Serve, dated 6/11/2024

GAS

Mainline natural gas service is intended to feed Residential, Neighborhood Commercial and Civic Zone fireplaces, hot water, furnaces and appliances. The Foothills Estate West Subdivision will be fed by 4-inch plastic mainline extension via North High Valley Way. The Golf Course Estates East Subdivision will be fed by 8-inch steel mainline extension via West Brookside Lane.
Reference: Intermountain Gas Mapping, dated 3/2/2024

WASTEWATER

The approach to wastewater management is split into two different service types for the east and west subdivisions.
The Foothills Estates West Subdivision will be served by Individual residential septic systems, with compliance overseen by the Central District Health Department.

The Golf Course Estates East Subdivision will be served by a community wastewater treatment facility (WWTP) connected to gravity sanitary sewer mainline extensions to Residential Housing Zones. The WWTP will also provide much needed sanitary sewer to the Neighborhood Commercial Zone-Stone Crossing Event Center and the Civic Zone.
Reference: Keller & Associates Wastewater Treatment Facility Plan, dated 11/01/2024

PRESSURIZED IRRIGATION & WATER REUSE

There are two approaches to pressurized irrigation. The West Foothills Subdivision will utilize well ground-sourced irrigation for landscape irrigation needs. The East Golf Estates Subdivision is

planned to rely on Type 2 water reuse from wastewater treatment for pressurized irrigation to support irrigation landscape areas wherever possible.

TRANSPORTATION

ROADWAY DESIGN

Golf Course Estates East Subdivision
The east zone will provide a connection Spring Creek Way north/south to Brookside Lane. A local street section designed to Ada County Highway District Policy Manual will be provided and the street will be maintained as a 'Private' street by the Shadow Valley Municipal Association, assumed to be called Spring Creek Lane. Additional local streets will spur off from Spring Creek Lane also designed as ACHD local streets. The east zone will provide detached sidewalks and on-street parking. Detached sidewalks will provide connectivity to community amenity areas which will also co-locate with a school bus stop location and turn-out lane for school bus loading and unloading.

Foothills Estates West Subdivision
The west side of the community will receive a rural local street designed to Ada County Highway District policy manual standard and extend the typical roadway section provided at N High Valley Way up into the new subdivision. Adequate space will be provided for future roadway at the 'Collector' identified location through the west one in the ACHD future roadway map. Where functional the addition of an asphalt pathway extension will be provided on the rural section to allow walkability to community amenities whenever feasible given topographical constraints given the unique foothills character of the planned community location. The community amenity area will also co-locate a school bus stop location with an attached sidewalk and turn-out lane for school bus loading and unloading.

At this time, given the current transportation corridors of Highway 55 and Brookside Lane, vehicular transportation to and from the Shadow Valley Planned Community is the most likely method of travel via personal vehicles and ride share services. Valley Rapid Transit does not serve the parcel region. Currently, ACHD vanpool may not be an appropriate option for the community because of the diverse routes residents may be traveling to employment cores from the community. The planned community can provide a future bus stop location in the Civic Zone.

OTHER ESSENTIAL SERVICES

SCHOOLS | WEST ADA SCHOOL DISTRICT

Shadow Valley and the West Ada School District reviewed the school district's ability to serve the 'North Region' of the school district where the planned community is located. There is currently school capacity in the north region as well as new schools actively planned for in neighboring planned community

decisions. Early conversations with West Ada School District indicated the need for a remote school bus parking facility and Shadow Valley has identified a civic parcel as the future bus parking location for the school district to support bus transport of students to neighboring school locations.

EMERGENCY SERVICES

Emergency Services for Shadow Valley Planned Community will include Ada County Sheriff's Department law enforcement with a remote sheriff's office located in the identified Civic Zone. Through a written agreement, fire protection services will be provided by the Eagle Fire District serving the community. The Development Team is currently working on a secondary fire access route to the community's Foothills West Subdivision through partnership with neighboring landowners. Paramedic Services and Advanced Life Support Services will be provided by Ada County Paramedics (EMS & ALS).

LIBRARY | REMOTE SHERIFF OFFICE | BUS PARKING

Shadow Valley Planned Community has planned a book drop location in the Civic Zone in coordination with Ada County Library. The book drop location will be co-located with a Ada County Remote Sherrif Office, which is also co-located with West Ada School District bus parking.

CONNECTIVITY & OPEN SPACE

Currently, there is also no connectivity to or through the undeveloped east and west parcels for walking or mountain biking without trespassing on private land or walking down the existing rural road section 'Broken Horn Road'.
Shadow Valley Planned Community development will provide much needed connectivity to existing home sites through the planned community, infilling undeveloped remnant ranch land with housing and right of way improvements that include improved sidewalks and a natural 'unimproved' foothills trail systems within Natural Open Space zones for recreationalists.

The development plans to provide walkable neighborhoods with attached and detached sidewalks connected to multi-purpose foothills hiking, biking and walking trails. Trail systems provide connectivity to site specific planned community amenities and are as well as natural and developed open space amenities.
The Foothills Estates West Subdivision is somewhat isolated by topography making it less ideal for recreational connectivity; therefore, an abundance of Natural Open Space amenity is provided.
Shadow Valley Planned Community's Recreational Goals.
The following figures represent open space percentages for the planned community:

Description	Acres	% of Community
Developed Open Space	161.03	30%
Natural Open Space	118.07	22%

Shadow Valley Planned Community is unique in that planned community development will zone existing neighborhood commercial areas currently covered via conditional use permits. The planned community will expand neighborhood commercial offerings and continue to provide exemplary recreational opportunities to serve the sub-region including Avimor, Dry Creek and Spring Creek.

Existing Services within a one-mile radius

Shadow Valley Planned Community

1. Shadow Valley Golf Course
2. Stone Crossing Event Center

Neighboring Planned Communities

3. Idaho Novus Academy
4. Neighborhood Commercial

Proposed Services within a one-mile radius

Shadow Valley Planned Community

5. Neighborhood Commercial Expanded Offerings
6. Civic Zone: Library Book Drop, Remote Sherrif Office, WASD Bus Parking
7. Developed Open Space
8. Natural Open Space
9. Municipal Water System
10. Municipal Wastewater System (east only)
11. Roadway corridor connectivity
12. Connectivity: Trail Systems and pathways

Please refer to Urban Public Services Map provided on the next page.

SOURCES

Bureau of Economic Analysis-Outdoor Recreation Satellite Account. (2022). Retrieved from US Department of Commerce-Bureau of Economic Analysis: https://apps.bea.gov/data/special-topics/orsa/summary-sheets/ORSA%20-%20Idaho.pdf

County, A. (2016). *Ada County 2025 Comprehensive Plan.* Ada County: Ada County.

Elzi, P. (2024). *Shadow Valley Planned Community Economic Analysis Report.* Greenwood Village: THK & Associates Inc.

Idaho, A. C. (n.d.). *Idaho Novus Classical Acadmy Brochure*. Retrieved from Idaho Novus Classical Acadmy Brochure: https://s3.amazonaws.com/buildercloud/9d4d36547c340021e89ff9417cdae896.pdf

Marci Horner, P. a. (2022). *West Ada School District Facility Plan Presentation.* Meridian: West Ada School District.

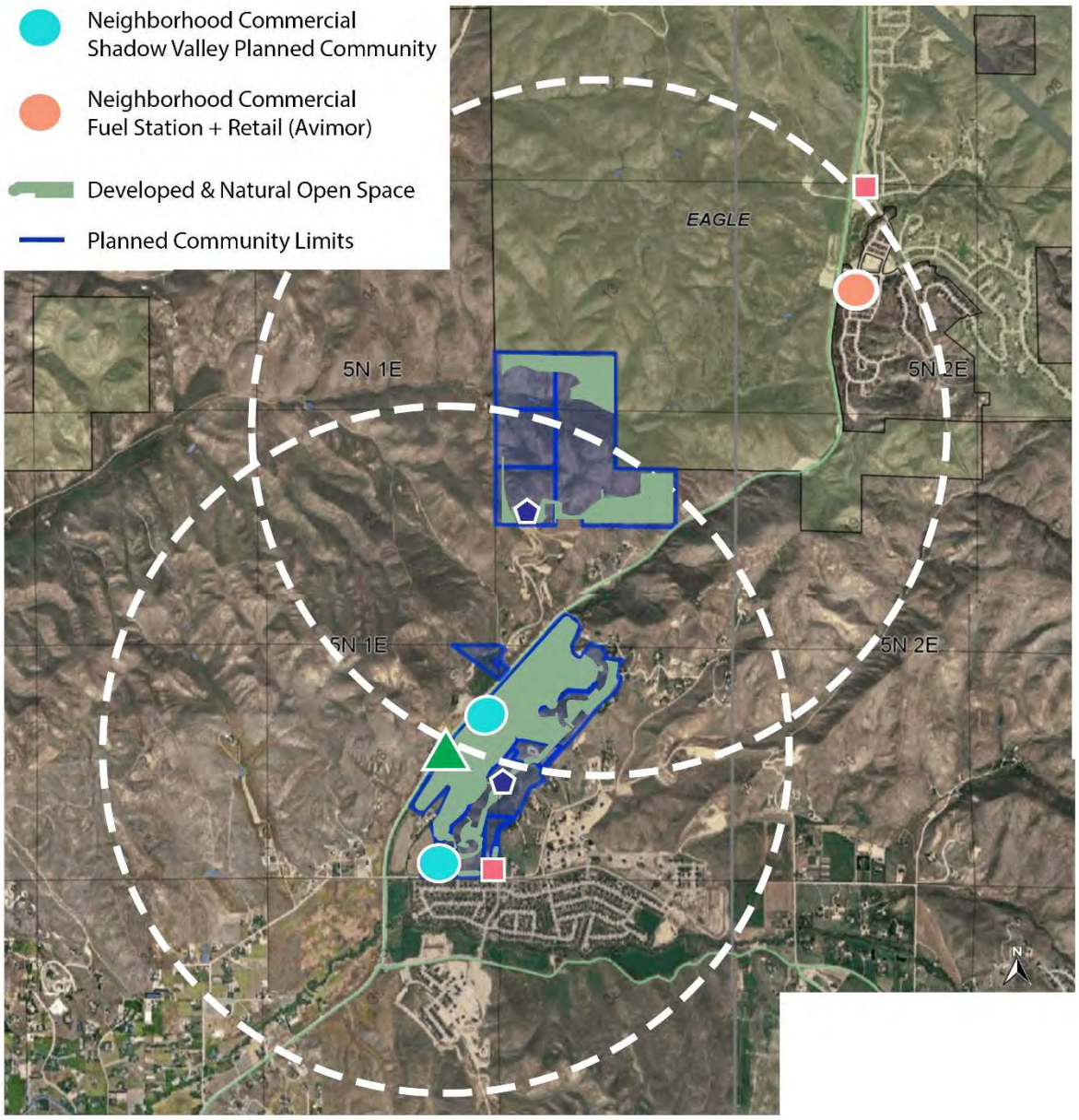
Shadow Valley Planned Community - Urban Public Services Map

Legend:

- Potable Water
  (Symbol does indicate well location)
- Wastewater Treatment
- Civic Zone
- Neighborhood Commercial
  Shadow Valley Planned Community
- Neighborhood Commercial
  Fuel Station + Retail (Avimor)
- Developed & Natural Open Space
- Planned Community Limits

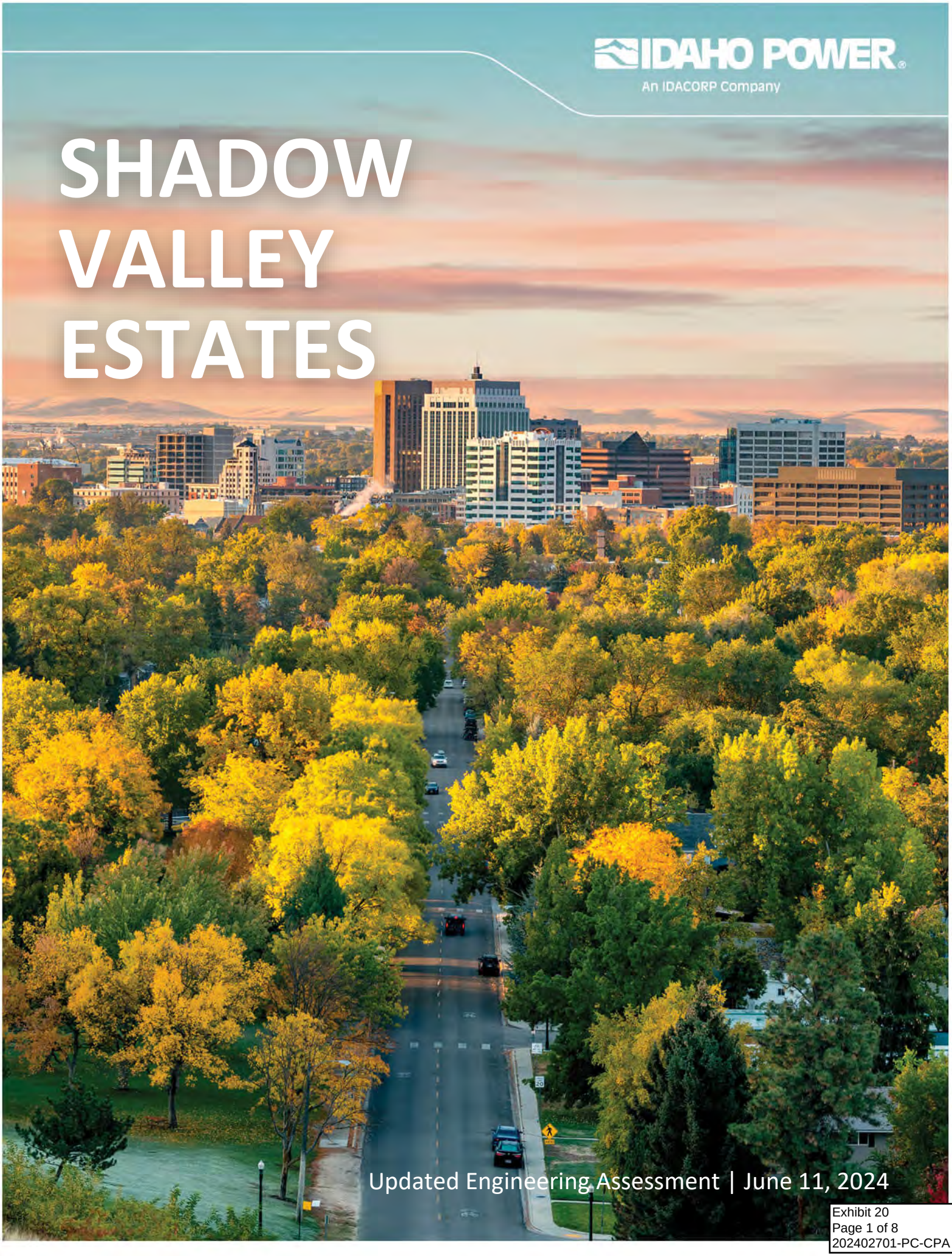
1 to 5-Mile Distance:

Hidden Springs Library: 3.8 miles, 7 minutes
Eagle Fire Station #2 (Floating Feather): 3.4 miles, 5 minutes
Treasure Valley Chevron: 2.3 miles, 3 minutes



IDAHO POWER
An IDACORP Company

SHADOW VALLEY ESTATES



Updated Engineering Assessment | June 11, 2024

IDAHO POWER
An IDACORP Company

Welcome

June 11, 2024

Dear Shadow Valley Estates,

Thank you for your inquiry about expanding your residential development in Idaho Power's service area. We appreciate the opportunity to serve you!

Idaho Power is passionate about powering lives with reliable, affordable, clean energy while developing innovative solutions every day. We believe in safety first, integrity always, and respect for all — and in sharing those values with the customers and communities we serve.

Our commitment to reliable, affordable, clean energy is more than a slogan. We keep the lights on more than 99.9% of the time — when you need us, we are there for you. We understand that price is important, and Idaho Power's business prices are 30% lower than the national average! Clean energy is also a priority – both today and into the future. Clean hydropower is our largest energy source, and we are on a path away from coal-fired energy. Idaho Power was one of the first investor-owned utilities to establish a clean energy goal without a government requirement to do so, and we are making significant progress on our plan to provide 100% clean energy by 2045.

Enclosed you will find additional information about Idaho Power and our proposed solutions to meet your energy needs. The next steps to move forward with this project are as follows:

Distribution Facilities Next Steps:

- ☐ Shadow Valley Estates signs and submits a Service Request.
- ☐ Shadow Valley Estates signs a Consent to Proceed form and submits engineering fees for distribution and design work.
- ☐ Idaho Power develops a Distribution Facilities (Rule H) Cost Quote (valid for 60 days).
- ☐ Shadow Valley Estates signs and funds a Distribution Facilities (Rule H) Cost Quote.
- ☐ Idaho Power commences distribution construction work.

Welcome

We are confident that Idaho Power's electrical system is well positioned to serve Shadow Valley Estates' needs now and into the future. We look forward to serving as your provider of reliable, affordable, clean energy in the years to come.

Sincerely,



Paris Dickerson
Economic & Community Development
pdickerson@idahopower.com
(208) 388-2022
10790 Franklin Rd., Boise, ID 83709

Enclosures

- Engineering Assessment (Work Scope, Cost Estimate, and Timeline of necessary upgrades)

Additional Information

- Idaho Power Overview
- Energy Efficiency Incentives
- New Service Attachments and Distribution Line Installations or Alterations – Rule H

IDAHO POWER®
An IDACORP Company



Engineering Assessment

Engineering Assessment

Shadow Valley Estates

June 11, 2024

Project location:	Near Hwy 55 and West Brookside Lane, Eagle, ID
Requested load for Phase 1:	0.75MW (approximately 106 residential units)
Requested load for Phase 2:	1.85MW (approximately 259 residential units) for a total of 2.6MW (364 residential units)
Requested in-service date:	2027/2028
Proposed in-service date for Phase 1:	May 2027
Proposed in-service date for Phase 2:	May 2028

On-site electric facilities, including the service transformer(s), are not included in this estimate. Temporary construction power is also not included in this estimate.

Cost Estimates[1]

Phase 1 – 0.75 MW:

The load request requires the following upgrades to Idaho Power's electrical system:

- Install approximately 1.3 miles of new underground distribution line
- Install one (1) new pole top switch

Below is an estimate of Shadow Valley Estates' costs to serve 0.75 MW to the proposed development.

Distribution facilities	$850,000
Transmission facilities	$0
Substation facilities	$0
TOTAL	**$850,000**

[1] This cost estimate includes a 20% contingency allowance for detailed refinement of the project's scope or changed circumstances and overheads of 10.69% for distribution facilities. Overhead costs cover the indirect costs associated with the project and may vary from time to time.

Phase 2 – 1.85 MW (2.6 MW total):

The load request requires the following upgrades to Idaho Power's electrical system:

- Install approximately 0.4 miles of new underground distribution line
- Install one (1) new distribution voltage regulator
- Install one (1) new step-down transformer
- Install one (1) new pole top switch

Below is an estimate of Shadow Valley Estates' costs to serve an additional 1.85 MW to the proposed development.

Distribution facilities	$700,000
Transmission facilities	$0
Substation facilities	$0
TOTAL	**$700,000**

Phase 1 and 2 Cost Estimate

Below is an estimate of Shadow Valley Estates' costs to serve the proposed development.

Phase 1	$850,000
Phase 2	$700,000
TOTAL	**$1,550,000**

It is important to note that this solution is contingent upon a separate Idaho Power-funded infrastructure upgrade. As a result, the timing of Idaho Power's ability to serve Shadow Valley Estates may be impacted should the contingent project's in-service date experience delays.

- Information included in this document is based on system capacities as of the date of this response. Idaho Power's system operates on a first come, first served basis and is subject to change without notice. This assessment does not constitute a commitment of reserved capacity.
- Due to supply chain constraints and rapidly escalating material costs, the estimated timeline and costs included in this document are subject to change.
- All upgrades to Idaho Power's electrical system will be owned, operated, and maintained by Idaho Power and may be used to serve other customers.

Timeline

As mentioned previously, Idaho Power has a planned infrastructure upgrade that would need to be online in order to serve Shadow Valley Estates beginning in May 2027. This in-service date could shift if there is a delay in Idaho Power's ability to complete its project in the timeframe currently anticipated.

Additional Considerations

The identified solution requires the purchase of right-of-way easements on private property and a permit to cross Highway 55. While Idaho Power does not anticipate that this will be a problem, it is unknown if Idaho Power can acquire the permit for a reasonable cost. If the cost for obtaining the permit is excessive or the timeframe to do so does not meet your needs, then Idaho Power will look for another route. Please be advised that a different route may result in changes to the project's scope, construction timeline and cost estimate.

If your project will require a joint trench solution, please review pages 55 – 57 of Idaho Power's Customer Requirements for Electrical Service for more information.
https://www.idahopower.com/servicerequirements

Pursuant to Rule H of Idaho Power's tariff, Shadow Valley Estates will hold a "Vested Interest" in the new distribution facilities and may be eligible to receive Vested Interest Refunds from Additional Applicants connecting to such distribution line. Rule H is linked above for your reference.

All upgrades to Idaho Power's electrical system will be owned, operated, and maintained by Idaho Power and may be used to serve other customers. Additionally, Idaho Power does not indefinitely reserve or hold capacity for its customers. Idaho Power makes capacity available to its existing and prospective customers on a "first come, first served" basis. "First come" is defined as a customer receiving a Rule H Cost Quote and funding such Rule H Cost Quote prior to its expiration.

The identified solution and estimate are based on Idaho Power's existing electrical system as of the date of this letter. Because the electrical system is constantly changing, this estimate and associated solution is subject to change. To move your project forward, please see next steps listed above.

Energy Efficiency Incentive Opportunities

To discuss energy efficiency incentives under our Residential New Construction Program, please contact Paris Dickerson. Our dedicated energy efficiency engineers are ready and available to offer support to help maximize your incentive opportunity.


IDAHO POWER®
An IDACORP Company



Shadow Valley Planned Community

Water Facility Plan

REVISED

Ada County, Idaho

August 2, 2024

PROFESSIONAL ENGINEER REGISTERED 13323 STATE OF IDAHO JASON W. THOMPSON

Digitally signed by Thompson, Jason W
Date: 2024.08.02 10:11:40-06'00'

APPROVED

By: Naqsh Mansoor

State of Idaho
Department of Environmental Quality

Date: Aug 06, 2024

This page is intentionally left blank.

Executive Summary

- A new residential development, the Shadow Valley Planned Community, is proposed in the foothills north of Eagle, Idaho. The development includes two non-contiguous properties on the east and west sides of Highway 55. The east property includes Shadow Valley golf course; the west property is undeveloped rangeland.
- The development is expected to include 755 residential units plus commercial and civic space. On the west property, 460 units are planned while on the east property there are plans for 295 units. The development will be phased, with an estimated 60 residential units constructed per year.
- The anticipated total maximum day water demands for the development are expected to range from 343 to 864 gpm, with the former number based on actual water use in Boise and the latter number used for initial design and based on requirements set forth in the Idaho Rules for Public Drinking Water Systems (IRPDWS; IDAPA 58.01.08). These demands include residential irrigation. Irrigation of the golf course and open space will be from a separate pressurized irrigation (PI) system.
- The total peak hour water demands for the development are expected to range from 630 to 1,895 gpm.
- There are no municipal water rights appurtenant to the development property. An application for a new municipal water right permit has been filed with the Idaho Department of Water Resources (IDWR), requesting groundwater supply for the development.
- Options for water service for the development include a stand-alone public water system, or service from an existing municipal provider (the City of Eagle or Veolia).
- Veolia has the ability to serve both the east and west properties and has the closest infrastructure to the initial development area (east property). However, service would require a 2 or 3-mile long transmission main with associated easements, pressure reducing stations, booster pump stations, and possibly storage and other improvements required by Veolia.
- The City of Eagle could serve the west property by gravity from the Avimor water system, but it is likely that one or more additional supply wells would be needed plus a new transmission main and pressure reducing stations. The City would also have to agree to annex the west property. The east property is located in Veolia's planning area and therefore cannot be served by the City.
- The recommended water service alternative is a stand-alone public water system due to the preference for a single entity to serve the entire development, and the time, administrative challenges, and infrastructure requirements and costs associated with connecting to a municipal provider.
- The source of supply for the proposed public water system will be at least two on-site groundwater wells. There are two existing wells on the property that are currently used for irrigation and will continue to be used for irrigation of the golf course and development open

space. It is assumed that storage will be provided for fire protection and peak demand, so each well will need to produce the maximum day demand of the development.

- Water quality data from on-site wells suggests that aquifers in the area as deep as 350 feet have elevated arsenic, requiring treatment. It might be possible to drill wells deeper than 600 feet and target aquifers producing water meeting primary drinking water standards, but low temperature geothermal water must be avoided. A test well would be needed to verify the presence of suitable aquifers. Given the risk of finding acceptable water and the cost associated with a test well and deeper supply wells, shallower wells (approximately 250 feet deep) with arsenic treatment are the recommended option. The new wells are expected to be very productive based on the existing irrigation wells, with yields approaching 2,000 gpm.
- Three different locations for supply wells are presented in this Facility Plan: near the southern property boundary, near the South Well, and near the North Well. There are no potential well site identified on the west property, due to poor groundwater supply opportunities. Final well locations will be identified and evaluated in the future well Preliminary Engineering Report.
- Supply wells will be equipped as required by the IRPDWS, including valves, flow meter, sample tap, and flush-to-waste appurtenances. Wells will be equipped with pumps sized to produce the development's maximum day demand with adequate head to pump to storage. The wells and associated equipment will be located in well houses, expected to be constructed of CMU block with a metal roof. At least one well will be equipped with emergency backup power, with an expected exterior installation.
- Above-ground storage is anticipated to meet peaking demands, operational storage, and fire flow. A single storage tank could be provided for the entire development or storage could be phased with development, with storage provided on both the east and west properties. With the single tank option, the total required tank volume is approximately 500,000 gallons. With the dual storage option, the total required tank volume for the east property is about 450,000 gallons and about 240,000 gallons for the west property. Given the proposed size of the storage tank(s), and taking into account cost and schedule, the recommended construction is bolted steel.
- Booster pump stations are expected to be required to deliver water from the storage tank gravity zones to higher pressure zones. Booster pump stations will be designed to meet the IRPDWS. Booster pump stations that pump to storage must be capable of pumping maximum day demand with any pump out of service. For booster pump stations that directly serve the system where there is no storage, the pump station must be capable of meeting the larger of maximum day demand and fire flow or peak hour demand, with any pump out of service.
- Each booster pump station will be equipped with valves, flow meter, and pressure sensors. Booster pump stations will be provided with backup emergency power. The booster pump station buildings are expected to be constructed of CMU block with a metal roof.
- A water transmission main will connect the water systems serving the east and west properties. The transmission main will cross Highway 55, then follow the connector road on private property to the west property. An easement will be needed from the private property

owner. The transmission main should have a minimum diameter of 8 inches. The main will be equipped with air and isolation valves.

- The supply wells are expected to produce water with an arsenic concentration exceeding the primary drinking water standard of 10 ug/L. Therefore, treatment is anticipated to be required to lower the arsenic concentration to less than 10 ug/L. It is assumed that all water (in-home and residential irrigation) will be treated, due to all of the infrastructure requirements associated with dual systems. Water treatment will occur prior to storage, so the treatment flow rate is the maximum day demand. The recommended treatment technology is adsorption using a granular ferric oxide media. The treatment system is expected to be a packaged, pre-engineered system that can be expanded with development.
- Voluntary chlorination will be used to maintain a disinfection residual in the water system and storage tanks.
- In order to maintain static pressure below 80 psi and dynamic pressure above 40 psi during peak hour demand, pressure zones will need to be established across the development property. Pressure zones will be established and maintained through the use of pressure reducing stations.
- The east property will require four (4) pressure zones to serve a developable space ranging in elevation from approximately 2,750 feet to 3,000 feet above mean sea level (amsl). Similarly, the west property will require four (4) pressure zones to serve a developable space ranging in elevation from approximately 3,160 feet to 3,460 feet amsl.
- The recommended storage option for the east property to install a storage tank at an elevation of 2,990 feet amsl. This tank would provide gravity service to development between an elevation of 2,750 feet and 2,902 feet amsl, with one or more pressure reducing stations required for development below an elevation of 2,826 feet. Development above an elevation of 2,902 feet amsl would require one or more booster pump stations and one or more pressure reducing stations.
- The recommended supply option for the east property is two new wells constructed near the existing North Well at an elevation of approximately 2,870 feet amsl. This site allows for efficient arsenic treatment, a single building for both the well equipment and booster pumps, and lower well pump pressure requirements. A150-hp vertical turbine pump is expected.
- The recommended water service option for the west property is to install a storage tank at an elevation of about 3,400 feet amsl. This tank would provide gravity service to development between an elevation of 3,160 feet and 3,312 feet amsl, with one or more pressure reducing stations required for development below an elevation of 3,236 feet. Three booster pump stations would be required to serve the west property, one on the east property, one to fill the west storage tank, and one to serve development above an elevation of 3,312 feet. One or more pressure reducing stations would also be needed for the higher elevation lots.
- The budgetary cost for backbone water infrastructure to serve the development, including two new wells and well houses, two bolted steel storage tanks, three booster pump stations, four pressure reducing stations, an arsenic treatment system, and the transmission main, is estimated to be approximately $8.3 million dollars.

Contents

Executive Summary i

1 Introduction 1

2 Service Area and Water Demands 3
- 2.1 Water System Service Area 3
- 2.2 Residential Water Demand 5
- 2.3 Commercial and Civic Water Demand 5
- 2.4 Total Water Demand 6
- 2.5 Water Demand by Property 6
- 2.6 Fire Flow Requirements 7

3 Design Standards 8

4 Water Rights 10
- 4.1 Existing Water Rights 10
- 4.2 Municipal Water Rights 12

5 Local Municipal Service Areas 12

6 Water Supply Options 14
- 6.1 Introduction 14
- 6.2 Veolia Water System 14
- 6.3 City of Eagle Water System 16
- 6.4 Dry Creek Ranch Water System 18
- 6.5 Summary 18

7 Public Water System Conceptual Design 19
- 7.1 Introduction 19
- 7.2 Supply Wells 20
  - 7.2.1 Overview 20
  - 7.2.2 Existing Wells 20
  - 7.2.3 Groundwater Quality 23
  - 7.2.4 New Wells 27
  - 7.2.5 Well Site Requirements 27
- 7.3 Well Pumping Facilities 30
  - 7.3.1 New Well Pumping Facilities 30
  - 7.3.2 Well Houses 30
  - 7.3.3 Emergency Backup Power 31
- 7.4 Storage 31
  - 7.4.1 Introduction 31
  - 7.4.2 Storage Location 31
  - 7.4.3 Storage Volume 32
  - 7.4.4 Storage Construction Details 35
  - 7.4.5 Instrumentation 35
- 7.5 Booster Pump Stations 35
  - 7.5.1 Introduction 35
  - 7.5.2 Locations 36
  - 7.5.3 Capacity 36

7.5.4 Appurtenances 36
7.6 Distribution System 37
7.6.1 Transmission Main 37
7.6.2 Distribution System 37
7.7 Treatment 38
7.7.1 Arsenic Treatment 38
7.7.2 Chlorination 39
7.8 Pressure Zones 39
7.8.1 Requirements 39
7.8.2 Pressure Zone Delineations 40
7.8.3 Pressure Reducing Stations 42
7.9 Supply and Storage Options 42
7.9.1 Introduction 42
7.9.2 East Property Options 43
7.9.3 East Property Recommended Option 45
7.9.4 West Property Options 46
7.9.5 West Property Recommended Option 51
7.9.6 Summary 51
8 Water System Administration 54
8.1 Water System Financing, Management, and Operations 54
9 Project Schedule and Budgetary Cost Estimate 55
9.1 Project Schedule 55
9.2 Budgetary Cost Estimate 55
10 Wastewater Treatment 56

Tables

Table 1. Residential water demands 5
Table 2. Commercial / Civic water demands 6
Table 3. Total water demands 6
Table 4. Total water demands for east property 7
Table 5. Total water demands for west property 7
Table 6. Relevant sections of the IRPDWS 9
Table 7. Water rights appurtenant to the property 10
Table 8. Water quality results from existing irrigation wells 23
Table 9. Nearby well water quality results 25
Table 10. Storage volume for single tank 33
Table 11. Storage volume for east tank 34
Table 12. Storage volume for west tank 34
Table 13. East property pressure zones 40
Table 14. West property pressure zones 42
Table 15. East booster pump station operational conditions 45
Table 16. Well pump operational conditions 46
Table 17. East booster pump station – single station BPS1-2 47
Table 18. West booster pump station – single station BPS2-1 49
Table 19. West booster pump station – dual station BPS2-2 49

Table 20. West booster pump station – dual station BPS3-1 50
Table 21. West booster pump station – dual station BPS2-3 51
Table 22. West booster pump station – dual station BPS3-2 51
Table 23. Budgetary Cost Estimate 55

Figures

Figure 1. Development vicinity map 2
Figure 2. Development topography map 4
Figure 3. Water rights map 11
Figure 4. Municipal service area map 13
Figure 5. Veolia service options 15
Figure 6. Avimor water system 17
Figure 7. On-site and area wells 22
Figure 8. Potential supply well locations 29
Figure 9. Pressure zone map 41
Figure 10. Supply and storage options for the east property 44
Figure 11. Supply and storage options for the west property 48
Figure 12. Water system backbone infrastructure 53

Appendices

Appendix A. Preliminary Land Use Map
Appendix B. Municipal Application for Permit
Appendix C. Well Driller's Reports
Appendix D. Water Quality Laboratory Reports
Appendix E. Arsenic Treatment Information

This page is intentionally left blank.

1 Introduction

The Shadow Valley Planned Community (Shadow Valley or development) is proposed in the foothills north of Eagle. The development is in the early planning stages, with 755 dwelling units anticipated at build-out plus commercial and civic space. The development includes the existing Shadow Valley golf course (golf course). The development property is shown on Figure 1.

Options for water service to the development include service from an existing water purveyor such as the City of Eagle (City) or Veolia, or from an on-site stand-alone public water system. The preferred option is for the development to be served by a stand-alone community public water system. The public water system is expected to include supply wells, one or two storage tanks, booster pump stations, and arsenic treatment.

The public water system will be regulated by the Idaho Department of Environmental Quality (IDEQ) and subject to the Idaho Rules for Public Drinking Water Systems (IRPDWS; IDAPA 58.01.08). A separate pressurized irrigation (PI) system is expected to be used to irrigate common lots.

This Water System Facility Plan (Facility Plan) follows the requirements outlined in the IRPDWS, Section 502. The Facility Plan describes anticipated demands for the water system, including domestic, irrigation, and fire flow demands. This Facility Plan outlines options for meeting potable demands, including supply wells and storage, utilizing a water system phasing plan to meet project development objectives. An evaluation of anticipated well capacity and water quality is provided. The potential for arsenic treatment is discussed. Water rights applicable to the project are described. This Facility Plan proposes a conceptual water system layout of backbone water system infrastructure, including supply wells, storage, and booster pump stations. Water system pressure zones are delineated based on service elevations and acceptable pressure.

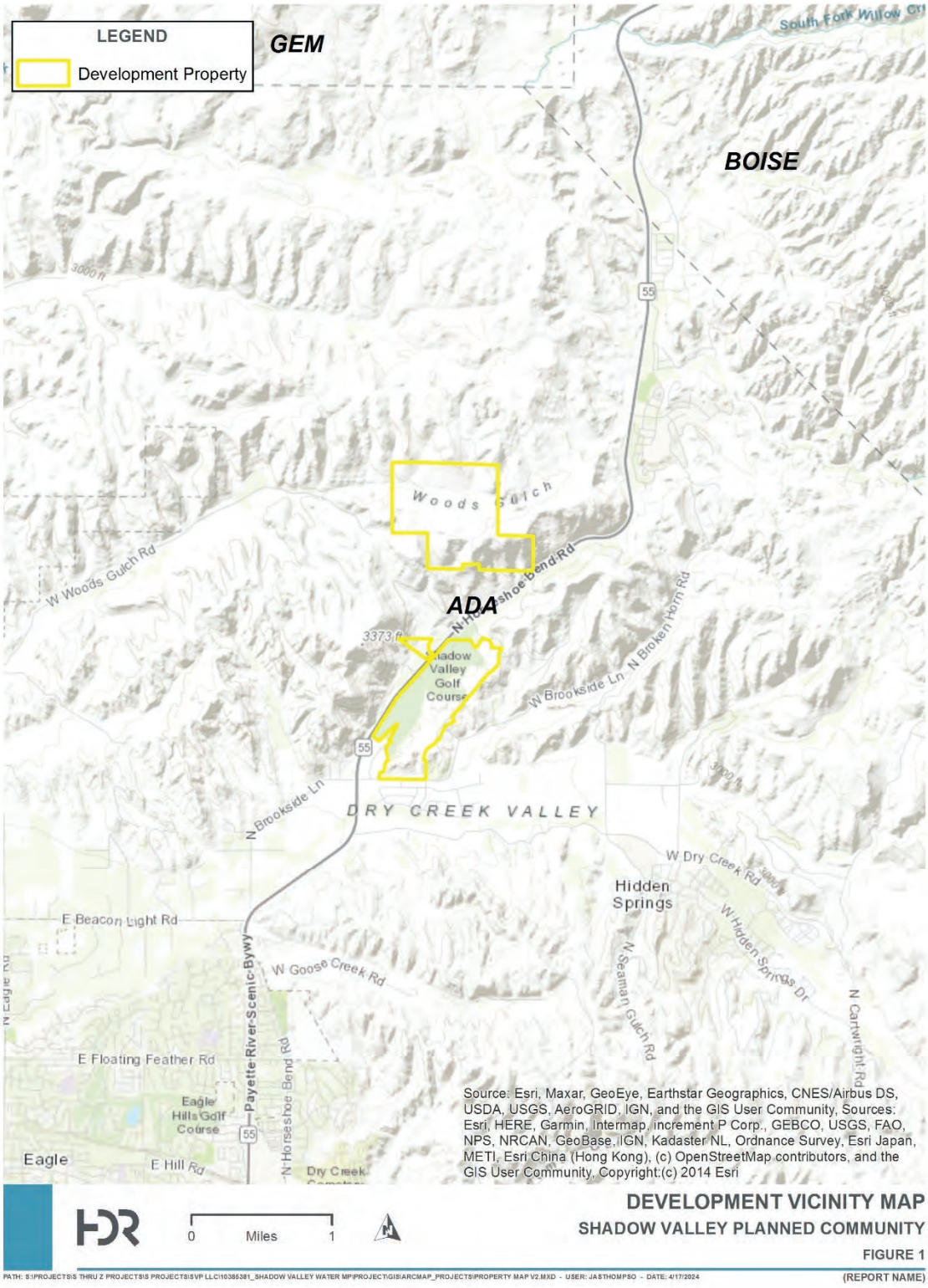


Figure 1. Development vicinity map

2 Service Area and Water Demands

2.1 Water System Service Area

Shadow Valley is expected to include residential development along with commercial and civic space (bus and police staging area). The development property includes two non-contiguous areas on the east and west sides of Highway 55 (herein referred to as east property and west property), connected by a roadway and utility corridor. Both areas of the property are expected to be served by a single water system. The latest development plans include 755 residential units, with 460 units on the west property and 295 units of the east property. Assuming an average of 2.64 persons per household (US Census data for Eagle, Idaho, 2018-2022), then the residential population is estimated to be approximately 2,000 people.

The development will be phased, with an estimated 60 residential units constructed per year. It is assumed that the east property will be developed first, followed by the west property. Commercial development is proposed on the east property and is expected to include an existing event center and retail and restaurants near the golf course.

The average residential density is assumed to be 5 units per acre, or 0.2 acres per dwelling unit. For residential irrigation, it is assumed that half of each lot will be irrigated, or 0.1 acres per lot, for a total of 75.5 acres. Residential irrigation is expected to occur from the municipal water system.

The project will include both irrigated open space and non-irrigated natural open space. The existing golf course will be incorporated into the development plans. The combined golf course and irrigated open space area is estimated to be about 230 acres. Irrigation of the golf course and open space will be from the separate pressurized irrigation (PI) system.

A preliminary land use map for the development is included in Appendix A. This land use map was developed prior to the total number of residential units being finalized, but it provides a general idea of the type and location of proposed development and areas of open space.

A topographic map of the development property showing 20-foot contours is included as Figure 2. On the east property, the elevation ranges from approximately 2,730 feet above mean sea level (amsl) to 3,020 feet amsl, with proposed developable space occurring between 2,750 feet and 3,000 feet amsl. On the west property, the elevation ranges from approximately 2,960 feet to 3,480 feet amsl, with proposed developable space occurring between 3,160 feet and 3,460 feet amsl. The elevations of building pads will be better defined as development plans progress.

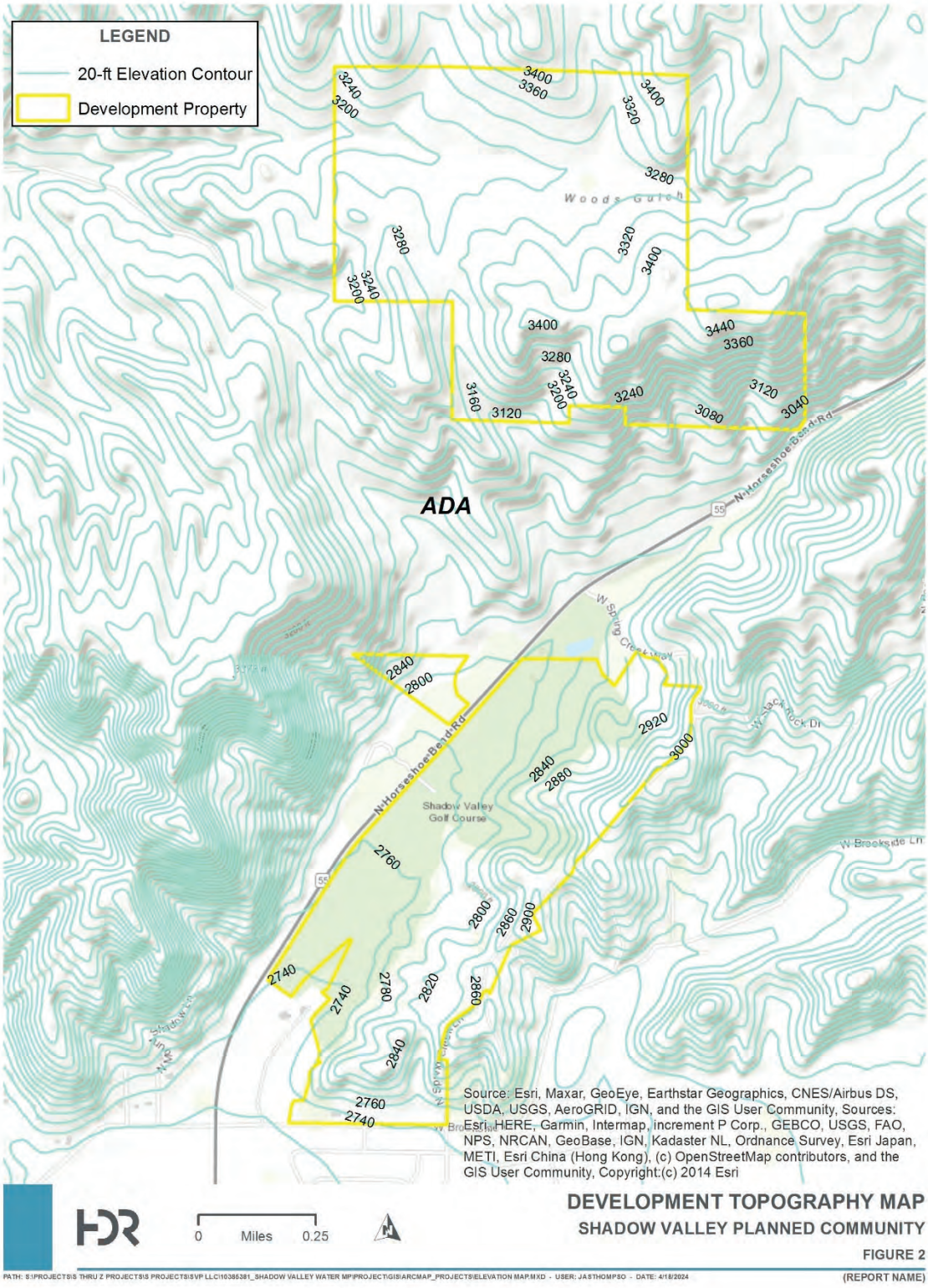


Figure 2. Development topography map

2.2 Residential Water Demand

The initial residential water demands for design and planning can be estimated using equations accepted by IDEQ and based on requirements set forth in the IRPDWS. The demand equations are described in the IDEQ Boise Regional Office Design File Note titled *Design Flows – Public Water Systems*[1]. The equations can be used to calculate maximum day demand and peak hour demand. Domestic demands are set at 800 gallons per day (gpd) per residence, which is considered to be the design maximum day demand per residence for public water systems and does not include irrigation or fire flow (IRPDWS §552.01.a).

For residential irrigation, the equations use the estimated irrigated area and an evaporation potential of 0.28 inches of water and a factor of 0.6 to adjust for the difference between actual and potential evapotranspiration from lawns.

While a maximum day demand of 800 gpd per residence must be used for initial design and planning, the maximum day demand for future design work can be based on actual water data. A more reliable estimate of maximum day domestic demand is about 640 gpd per residence, taken from the Veolia (formerly United Water Idaho) Water Master Plan[2]. This value includes both in-home and irrigation uses and is based off of an average day demand of 315 gpd per household and a peaking factor of 2.0. The Veolia Master Plan also identifies a peaking factor 1.8 between peak hour demand and maximum day demand. Using this peaking factor, the peak hour demand can be estimated to be 0.82 gpm per household.

Residential water demands assuming both a maximum day demand of 800 gpd per residence and the more typical 640 gpd per residence are summarized in Table 1. If residential irrigation is not included, the maximum day demand reduces to 567 gpm (assuming a design demand of 800 gpd per residence).

Table 1. Residential water demands

Residential Units	Maximum Day Demand (gpd/unit)[1]	Maximum Day Demand (gpd)	Maximum Day Demand (gpm)	Peak Hour Demand (gpm)	Average Day Demand (gpd)	Annual Water Demand (acre-feet)
755	800	1,233,253	856	1,881	606,031	679
755	641	483,966	336	617	237,825	266

1 - The maximum day demand of 800 gpd does not include irrigation

2.3 Commercial and Civic Water Demand

The proposed development is expected to include limited commercial and civic development on the east property, including an existing event center, retail shop and one or two restaurants near the golf course, and a bus and police staging area. Water

[1] Design Flows – Public Water Systems, prepared by Monty Marchus, IDEQ Boise Regional Office, last revised November 30, 2006.

[2] Murray, Smith & Associates, Inc., 2015, United Water Idaho Master Facilities Plan.

demand associated with these commercial and civic uses was estimated using the typical wastewater flows presented in IDAPA 58.01.03 – Individual/Subsurface Sewage Disposal Rules. Irrigation of areas around the commercial and civic areas is expected to be from the PI system.

The anticipated commercial and civic water demands are summarized in Table 2, using peaking factors from the Veolia Water Master Plan.

Table 2. Commercial / Civic water demands

Commercial / Civic	Persons	Average Day Demand per Person (gpd)	Average Day Demand (gpd)	Maximum Day Demand (gpd)	Peak Hour Demand (gpm)	Annual Water Demand (acre-feet)
Event Center	200	10	2000	4,070	5	2
Retail	20	2	40	81	0	0
Two Restaurants	200	15	3000	6,105	8	3
Staging Area	10	20	200	407	1	0
TOTAL	430	---	5,240	10,663	14	5.9

2.4 Total Water Demand

The total public water system demands, including residential and commercial and civic uses, are summarized in Table 3, for both maximum day demand assumptions.

Table 3. Total water demands

Maximum Day Demand (gpd/unit)[1]	Maximum Day Demand (gpd)	Maximum Day Demand (gpm)	Peak Hour Demand (gpm)	Average Day Demand (gpd)	Annual Water Demand (acre-feet)
800	1,243,916	864	1,895	611,271	685
641	494,629	343	630	243,065	272

1 - The maximum day demand of 800 gpd does not include irrigation

2.5 Water Demand by Property

The development includes the east property and west property, with 460 residential units planned on the west property and 295 units and commercial development on the east property.

The total water demands for the east and west properties are summarized in Table 4 and Table 5, respectively, for both maximum day demand assumptions (800 gpd and 641 gpd per residential unit).

Table 4. Total water demands for east property

Residential Units	Maximum Day Demand (gpd/unit)	Maximum Day Demand (gpd)	Maximum Day Demand (gpm)	Peak Hour Demand (gpm)	Average Day Demand (gpd)	Annual Water Demand (acre-feet)
295	800	511,521	355	764	251,366	282
TOTAL W COMMERICAL / CIVIC	---	522,184	363	777	256,606	287
295	641	189,099	131	241	92,925	104
TOTAL W COMMERICAL / CIVIC	---	199,762	139	255	98,165	110

Table 5. Total water demands for west property

Residential Units	Maximum Day Demand (gpd/unit)	Maximum Day Demand (gpd)	Maximum Day Demand (gpm)	Peak Hour Demand (gpm)	Average Day Demand (gpd)	Annual Water Demand (acre-feet)
460	800	772,519	536	1,166	379,623	425
460	641	294,866	205	376	144,900	162

2.6 Fire Flow Requirements

Fire flow for the development is expected to be supplied from the public water system. Fire flow requirements for the development will ultimately be determined by the authority with jurisdiction, understood to be the Eagle Fire Department. Those requirements have not been established, so the 2018 International Fire Code (IFC) may be referred to for reasonable guidance.

The development will include single-family dwellings with an average size of 2,800 to 3,000 square feet. For single-family dwellings (Type V-B construction) with an area less than 3,600 ft^2 and not equipped with fire sprinklers, the minimum fire flow requirement is 1,000 gpm for one hour. For one-family dwellings (Type V-B construction) with an area between 3,600 and 4,800 ft^2 and not equipped with fire sprinklers, the minimum fire flow requirement is 1,750 gpm for two hours.

The largest building in the development should be the existing golf course clubhouse, assuming it will be provided fire protection from the public water system. This building should have a fire flow requirement of 2,500 gpm for two hours assuming IIIB construction, an area of 13,700 square feet, and no fire sprinklers. For the purpose of this study, a fire flow requirement of 2,500 gpm for two hours is assumed, with ultimate verification from the Eagle Fire Department.

In addition to requirements set forth in the 2018 IFC, the IRPDWS requires that public water systems that provide fire flow shall provide the maximum day demand plus fire flow. Fire flow must be provided with any pump out of service. Fire pumping redundancy can be reduced or eliminated with adequate fire suppression storage or upon approval by the jurisdictional authority. The Eagle Fire Department has required

fire flow redundancy for other similar projects, so this is assumed to be the case for this project. This should be confirmed with the Eagle Fire Department.

The design contemplates providing fire flow from storage and booster pumps. With the required booster pumps, redundancy will be provided.

The IRPDWS also requires that new community public water systems have dedicated on-site standby power (or storage) to pressurize the water system for 8 hours at average day demand plus fire flow. Standby storage requires the storage of water for 8 hours at average day demand.

3 Design Standards

The proposed community public water system will be designed and constructed in accordance with the Idaho Rules for Public Drinking Water Systems (IRPDWS, IDAPA 58.01.08), the Idaho Standards for Public Works Construction (ISPWC), the American Waterworks Association (AWWA), and any other relevant drinking water standards. The IRPDWS form the basis of the design criteria for the proposed water system. Sections of the IRPDWS that are relevant to the proposed water system are summarized in Table 6.

Table 6. Relevant sections of the IRPDWS

Requirement	IDAPA 58.01.08 Citation	Description
Groundwater Source Redundancy	501.17	New community water systems served by ground water shall have a minimum of two (2) sources if they are intended to serve more than twenty-five (25) connections or equivalent dwelling units (EDUs). Under normal operating conditions, with any source out of service, the remaining source(s) shall be capable of providing either peak hour demand of the system or a minimum of the maximum day demand plus equalization storage.
System Pressure	552.01.b.i	Any public water system shall be capable of providing sufficient water during maximum day demand conditions, including fire flow where provided, to maintain a minimum pressure of twenty (20) psi throughout the distribution system, at ground level, as measured at the service connection.
	552.01.b.v	Any public water system constructed or substantially modified after July 1, 1985, or any new service areas of public water systems shall maintain a minimum pressure of forty (40) psi throughout the distribution system, during peak hour demand conditions, excluding fire flow, measured at the service connection.
	552.01.b.vi	Any public water system shall keep static pressure within the distribution system below one hundred (100) psi and should ordinarily keep static pressure below eighty (80) psi.
Storage	544.01.a	Storage facilities shall have sufficient capacity, as determined from engineering studies that consider peak flows, fire flow capacity, and analysis of the need for various components of finished storage as defined under the term “Components of Finished Water Storage”.
	003.15	Components of Finished Water Storage: Dead Storage: Storage that is either not available for use in the system or can provide only substandard flows and pressures. Operational Storage: Operational storage supplies water when, under normal conditions, the sources are off. This component is the larger of (i) The volume required to prevent excessive pump cycling or (ii) The volume needed to compensate for the sensitivity of the level sensors. Equalization Storage: Storage of finished water in sufficient quantity to compensate for the difference between a water system's maximum pumping capacity and peak hour demand. Fire Suppression Storage: The water needed to support fire flow where provided. Standby Storage: Standby storage provides a measure of reliability or safety factor should sources fail or when unusual conditions impose higher than anticipated demands. Normally used for emergency operation, if standby power is not provided, to provide water for eight (8) hours of operation at average day demand.
Emergency Operation	501.07	New community public water systems constructed after April 15, 2007, are required to have sufficient dedicated on-site standby power, with automatic switch-over capability, or standby storage so that water may be treated and supplied to pressurize the entire distribution system during power outages. During a power outage, the water system shall be able to meet the operating pressure requirements of Subsection 552.01.b. for a minimum of eight (8) hours at average day demand plus fire flow where provided.
Booster Pump Stations	541.04.c	Each booster pumping station shall contain not less than two (2) pumps with capacities such that peak hour demand, or a minimum of maximum day demand plus equalization storage (pumping to storage), can be satisfied with any pump out of service.
	501.07.c	Booster pumps intended to increase system capacity shall be provided with standby power or equivalent unless, during a power outage, the public water system or distribution system pressure zone can already meet the minimum operating capacity and pressure requirements in Subsection 501.07 for a minimum of eight (8) hours at average day demand plus fire flow where provided for each pressure zone.
Redundant Fire Flow Capacity	501.18.a	Public water systems that provide fire flow shall be designed to provide maximum day demand plus fire flow. Pumping systems supporting fire flow capacity must be designed so that fire flow may be provided with any pump out of service.
	501.18.b.i	The requirement for fire flow pumping redundancy may be reduced or eliminated where fire suppression storage is provided or if the local fire authority justifies that the fire flow capacity of the system is acceptable and is compatible with the water demand of existing and planned fire-fighting equipment and fire-fighting practices in the area served by the system.

4 Water Rights

4.1 Existing Water Rights

Water rights appurtenant to the development property were identified through the Idaho Department of Water Resources (IDWR) online water right database. Water rights are summarized in Table 7 and Figure 3. There are currently no municipal water rights appurtenant to the development property.

There are two irrigation rights currently used at the golf course, 63-31837 and 63-31849. Irrigation water rights 63-31850 and 63-31851 are appurtenant to the development property south of the golf course. These rights can continue to be used for irrigation at the development. There may be an opportunity to transfer rights that are not being used for irrigation to municipal uses.

The irrigation and stockwater right 63-32658 is appurtenant to the small property adjacent to and west of Highway 55, but the point of diversion on Spring Valley Creek is not on the property. A portion of the stockwater right 63-15167 is appurtenant to the west property, but this right is of limited value to the development. The domestic and stockwater right 63-19685 is also of limited value to the development.

The City of Eagle municipal water rights 63-11413 and 63-12448 cover a western portion of the west property as shown on Figure 3. These rights define the City municipal water system service area. City of Eagle water right permits 63-32089, 63-32573, and 63-33876 also are included in this service area.

Table 7. Water rights appurtenant to the property

Water Right	Priority Date	Owner	Water Use	Diversion Rate (cfs)	Total Acres	Source
63-15167	1/1/1880	DBSI Buck 278 LLC	Stock	0.07	---	Springs
63-32658	4/1/1900	DBSI Buck 278 LLC	Stock / Irrigation	0.34	16	Spring Valley Cr
63-19685	6/6/1987	Ron Hutt	Domestic / Stock	0.10	---	Groundwater
63-31837	9/2/1964	Spring Creek Golf Management LLC	Irrigation	2.88	144	Groundwater
63-31849	9/2/1964	Spring Creek Golf Management LLC	Domestic / Irrigation	0.46	23	Groundwater
63-31850	9/2/1964	Joseph Leo Critchfield Living Trust	Irrigation	0.10	5	Groundwater
63-31851	9/2/1964	Ronald Hutt Trust	Irrigation	0.14	7	Groundwater
63-11413	4/2/1991	City of Eagle	Municipal	3.15	---	Groundwater
63-12448	4/8/1998	City of Eagle	Municipal	3.25	---	Groundwater

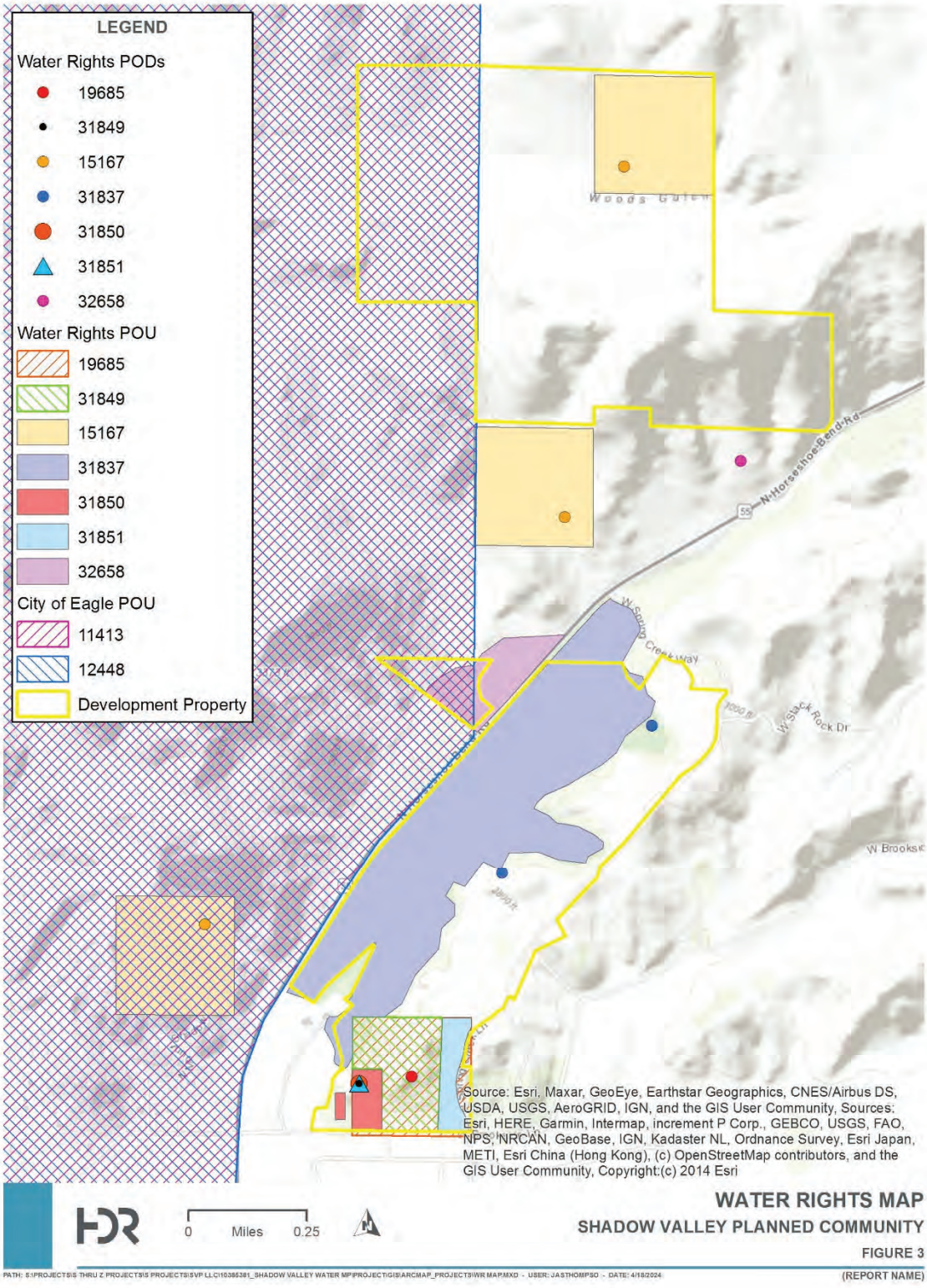


Figure 3. Water rights map

4.2 Municipal Water Rights

There are currently no municipal water rights appurtenant to the development property. A new municipal water right is needed to allow groundwater supply for a new municipal water system to serve the development. An application for a municipal water right permit has been filed with IDWR, a copy of the permit is included in Appendix B. The application requests 2.72 cfs (1,220 gpm) of groundwater from up to eight (8) points of diversion (only two wells are expected to be constructed). The permit place of use is the entire development property.

5 Local Municipal Service Areas

There are two (2) existing municipal water systems in the vicinity of the proposed development, the City of Eagle (City) and Veolia North America (Veolia). This section discusses the service areas of each of these providers and evaluates opportunities for service.

The City and Veolia service areas are depicted in Figure 4, along with the Veolia planning area and the development property. The development property includes property east of Highway 55 (east property) and property west of Highway 55 (west property). The east property is located within the Veolia planning area, but not the active service area. The majority of the west property is also located in the Veolia planning area, but the western portion of this property is located in the Eagle service area.

The west property is affected by the 2021 Water Management Agreement (Agreement) between City of Eagle and Suez (now Veolia). The western half of the west property is located in “Area 3” identified in the Agreement, while the eastern half is located in “Area 5”. The Agreement states that if the City annexes any area within Area 5, then the City shall have the exclusive right to provide water service to those areas, unless Suez (now Veolia) has already received a request to serve or is already serving a part of Area 5.

Within Area 3, either Suez (now Veolia) or the City may serve a customer at their request depending upon which utility “has facilities available in the vicinity or that is otherwise most easily, efficiently and reliably able to serve a new customer request”. The Agreement also states that Suez will remove its service area in the southwestern part of Area 3.

In summary, Veolia appears to have the exclusive right to serve the east property, according to the Agreement. The development property could request either Veolia or the City to serve the west property, assuming the City has not previously annexed the property located in Area 5. With annexation, the City would have the exclusive right to provide water service to Area 5.

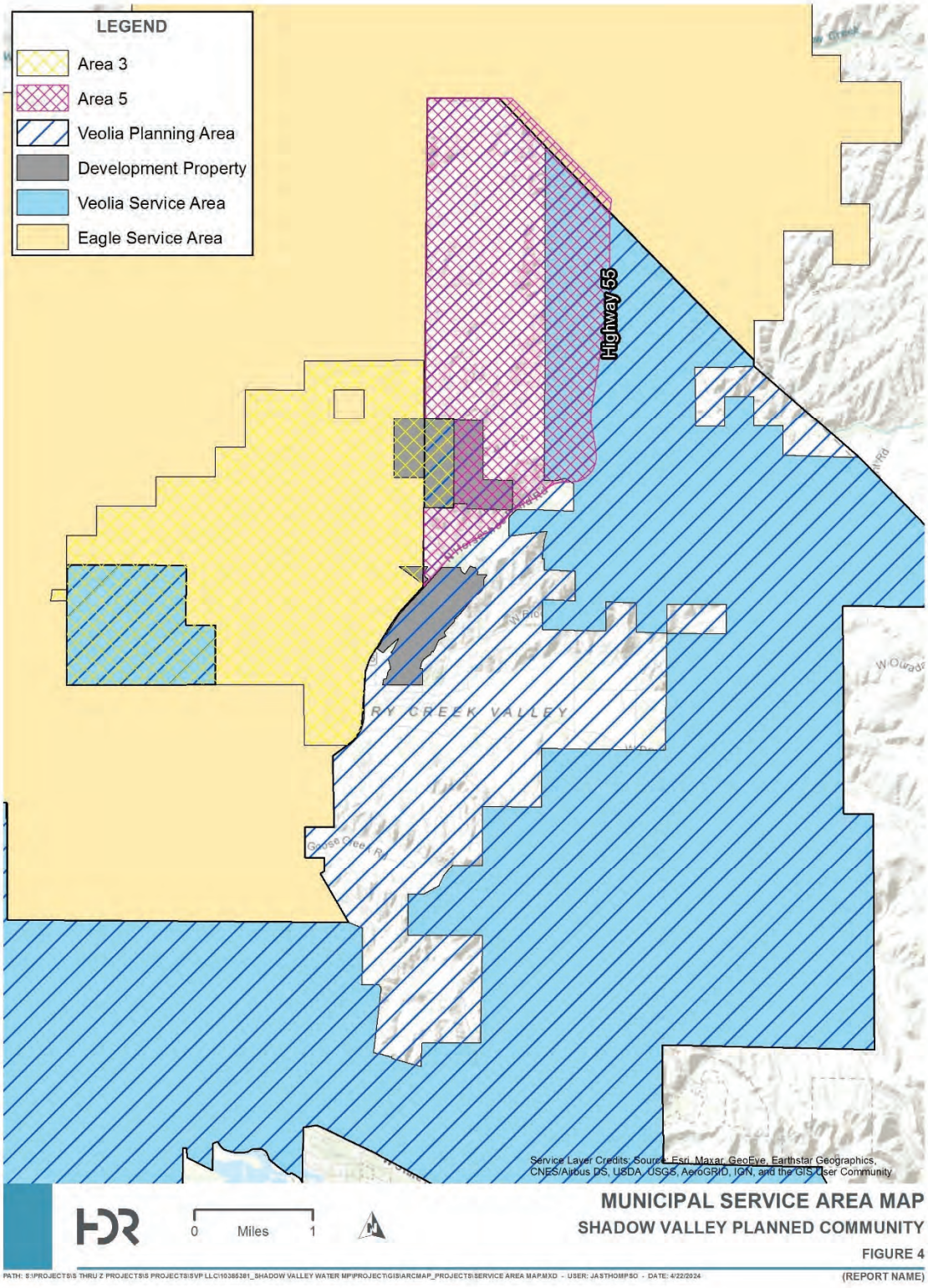


Figure 4. Municipal service area map

6 Water Supply Options

6.1 Introduction

Options for providing water service to the proposed Shadow Valley development include (1) permitting and constructing a new stand-alone public water system to serve the development, or (2) connecting to an existing public water system. Existing public water systems in the area include Veolia, City of Eagle, and Dry Creek Ranch.

This section of the Facility Plan describes each of the existing public water systems in the area of the development property and evaluates the feasibility of serving the development from each of the systems.

6.2 Veolia Water System

Per the 2021 Water Management Agreement between the City of Eagle and Suez (now Veolia), Veolia appears to have the exclusive right to serve the east property which is located in Veolia's planning area (see Figure 4). For the west property, service could be from either the City or Veolia, assuming the property has not been annexed by the City.

There is existing Veolia water system infrastructure to the east of the east property, as shown on Figure 5. Veolia currently serves Avimor Village 1 via the 16-inch diameter Broken Horn transmission main from Hidden Springs, a booster pump station, and storage reservoir. If water service is provided by connection to Veolia, Veolia would likely serve the project from off-site wells.

If serving the development from the Broken Horn transmission main wants to be explored further, then Veolia should be contacted to discuss cost, required water system improvements, conditions of service, connection options, and other details. At this preliminary planning stage, two possible connection options are presented, as shown on Figure 5.

1. Extend mainline from Broken Horn transmission main west along Dry Creek Road to Highway 55, then north along Highway 55 to Brookside Lane, then east to the development property. The mainline would be located in existing road right-of-way. The approximate length of this main would be 2.7 miles.

2. Extend mainline from Broken Horn transmission main southwest along dirt road located on property owned by First American Title Insurance Company and then BHH Investors 1414 LLC (Boise Hunter Homes) to Brookside Lane and then west to the development property. It is assumed that easements would be required to install the main on private property. The approximate length of this main would be 1.8 miles.

The hydraulic grade line (HGL) of the Broken Horn transmission main is approximately 3,270 feet when delivering water to the Broken Horn storage tank (this HGL needs to be confirmed with Veolia). At this HGL, there appears to be adequate pressure to serve the east property, with a maximum development elevation of 3,000 feet. One or more pressure reducing stations would be needed to maintain acceptable pressure per the IRPDWS: a minimum of 40 psi under peak hour demand conditions, a minimum of 20 psi under fire flow and peak day demand, and a maximum static pressure of 80 psi.

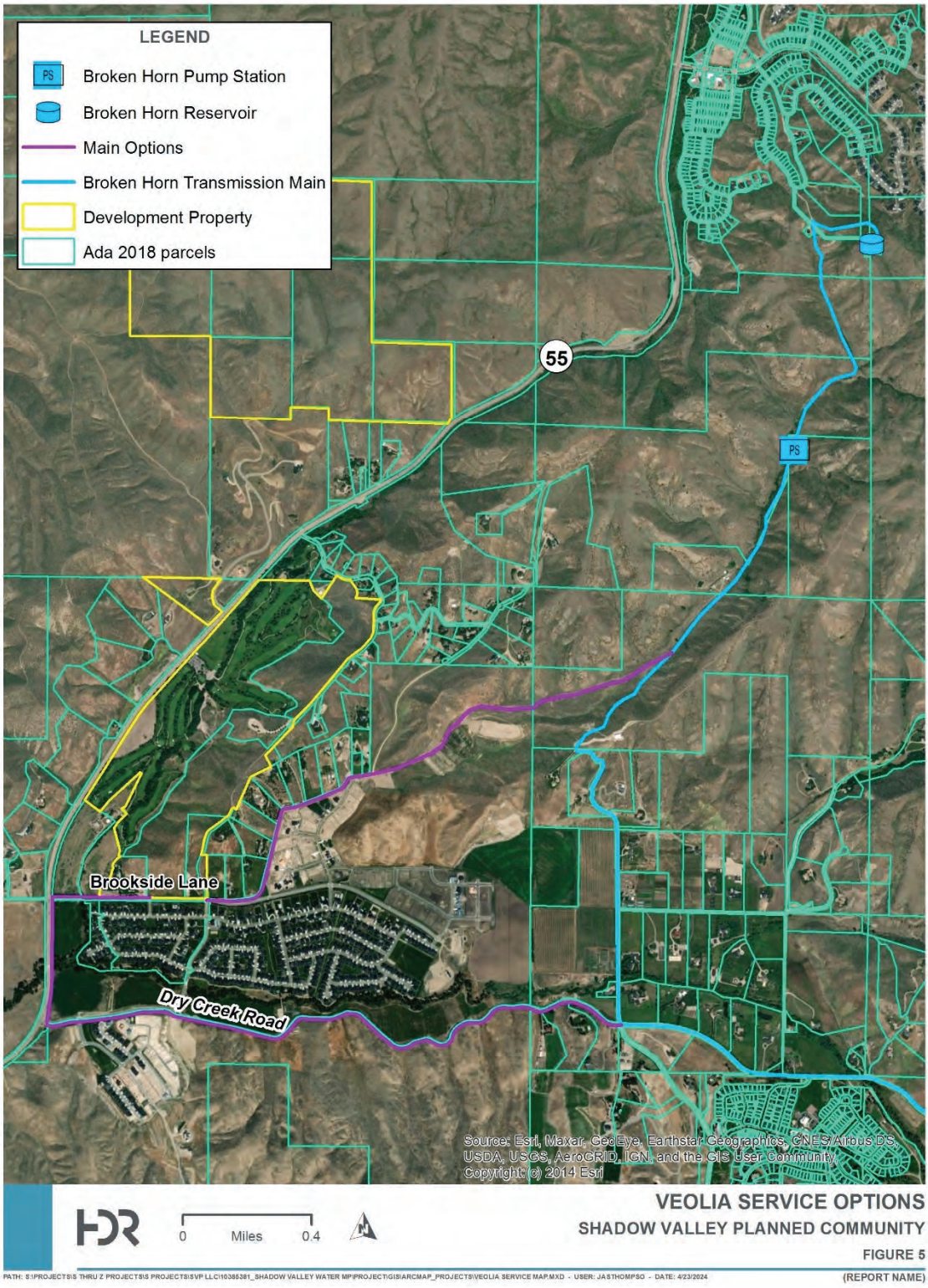


Figure 5. Veolia service options

For the west property, with a developable space elevation ranging from 3,160 to 3,460 feet, two booster pump stations would be needed to maintain acceptable pressure. The IRPDWS require that booster pump stations that pump to storage must be capable of pumping maximum day demand with any pump out of service (firm capacity). In this case, storage provides for peak demand and fire flow. For booster pump stations that directly serve the system where there is no storage, the pump station must be capable of meeting the larger of maximum day demand and fire flow or peak hour demand, with any pump out of service. Booster pump stations are required to have emergency standby power if standby storage is not provided.

It is not known if Veolia has adequate supply or storage to meet peak demand and provide fire protection to the development. If not, on-site storage would need to be provided to satisfy these requirements.

Service from Veolia would require Veolia to add the proposed development to their certificated area through the Idaho Public Utilities Commission (IPUC). Financial arrangements and refund agreements for the facilities constructed to serve the development would need to be negotiated with Veolia. Water system infrastructure would need to be permitted through IDEQ and approved by Veolia.

6.3 City of Eagle Water System

The City does not appear to be able to serve the east property according to the 2021 Water Management Agreement. The Agreement allows the City to serve that portion of the west property designated as “Area 5” if Eagle annexes that area and that portion of the property designated as “Area 3” if the City has the facilities to readily do so.

The existing City distribution system in its Eastern Service Area is mostly located south of Dry Creek, between Floating Feather Road and Beacon Light Road, west of Highway 55. The nearest water main to the west property is located at Beacon Light Road and Highway 55, about 3.4 miles south of the west property along Highway 55. The City has recently installed a 16-inch main from an existing storage tank along Old Horseshoe Bend Road, across Highway 55, to Beacon Light Road.

The HGL of the Eastern Service Area is 2,840 feet. Therefore, booster pump stations would be needed to serve the west property developable space ranging in elevation from 3,160 to 3,460 feet. If the City does not have adequate supply or storage to meet peak demand and provide fire protection to the development, then on-site storage would be needed.

The City will also ultimately own the water system currently under construction to serve the Avimor development north of the west property. The Avimor water system includes two supply wells, a 20-inch diameter transmission main, booster pump station, and 500,000-gallon storage tank (refer to Figure 6). The Avimor development has been annexed by the City and is contiguous to the west property. Therefore, there is a path to annexation should the City decide to annex the west property.

The Avimor water system HGL is 3,832 feet. This HGL provides adequate pressure to serve the west property using pressure reducing stations to maintain acceptable pressure. The existing water system supply and storage infrastructure is dedicated to

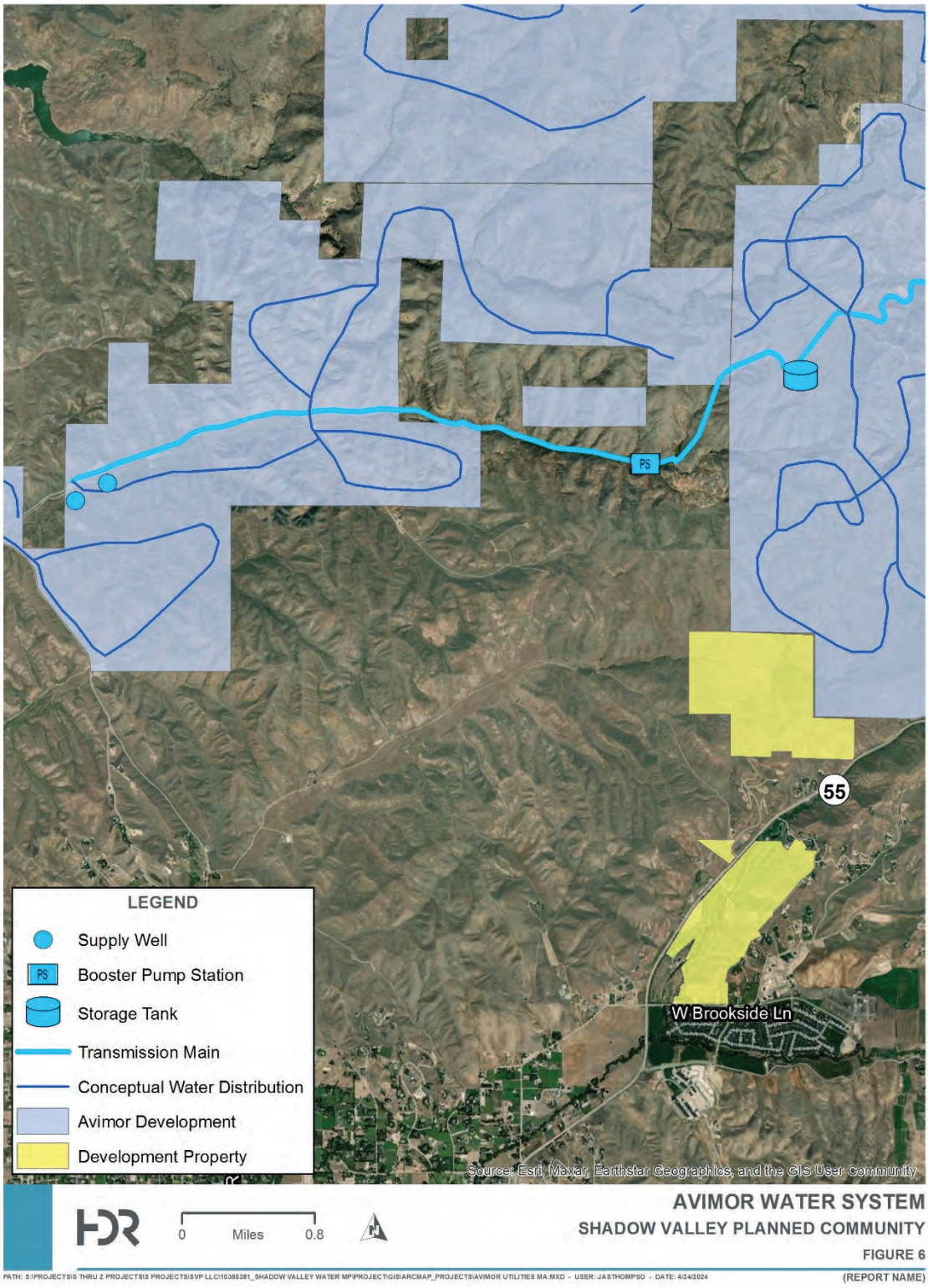


Figure 6. Avimor water system

the Avimor development. However, there may be an opportunity to increase supply and storage, utilizing the existing transmission main, to serve the west property. A new transmission main would need to be extended south from the Avimor transmission main. Alternatively, it might be possible to serve the west property using distribution system piping planned for Avimor, up-sized as appropriate for the property.

If serving the development from the Avimor transmission main wants to be explored further, then the City should be contacted to discuss cost, required water system improvements, conditions of service, connection options, and other details.

Service from the City would require annexation and water rights actions to expand the City water service area and add additional points of diversion. The City typically requires developments of this size to provide for their own water rights and assign those rights to the City upon annexation. The City also typically requires the developer to pay for all water system infrastructure necessary to serve the development property. Water system infrastructure would need to be permitted through IDEQ and approved by the City.

6.4 Dry Creek Ranch Water System

Dry Creek Ranch is located south of the east property across Brookside Lane. Dry Creek Ranch is served by its own public water system, supplied by three (3) groundwater wells. The HGL of the water system is 2,910 feet. This HGL is adequate to serve limited lower elevation portions of the east property (below approximately 2,800 feet), but a booster pump station would be needed to serve the remainder of the east property and all of the west property.

The owner of Shadow Valley has approached the owner of Dry Creek Ranch about the possibility of water service. However, the Dry Creek Ranch owner was unwilling to provide water service to the development.

6.5 Summary

There are three existing public water systems in the near vicinity of the proposed development: Veolia, City of Eagle, and Dry Creek Ranch. The feasibility of service from each of these providers is discussed below.

The advantages of Veolia service include the ability to serve both the east and west properties (assuming the west property has not been annexed by the City). Veolia also has the closest infrastructure to the initial development area (east property). Veolia will ensure that the development has a reliable water supply meeting primary drinking water standards (although the Shadow Valley owner might have to pay for off-site supply and associated infrastructure). Veolia would own and operate the water system.

Disadvantages include the need to install a 2 or 3-mile long transmission main, with the need for an easement for the shorter alternative that crosses private property. Pressure reducing stations would be needed for the east property and booster pump stations for the west property. Storage may also be needed if Veolia does not have adequate supply or storage to meet peak demand and fire flow. There may be additional improvements required by Veolia to serve the development.

The primary advantage of City service includes the ability to serve the west property by gravity without the need for booster pumps, assuming service from the Avimor transmission main. Connecting to the City would guarantee adequate water supply meeting primary drinking water standards, but it is likely that Shadow Valley owner would have to pay for one or more additional supply wells to serve the development. The City would own and operate the water system.

Disadvantages include the inability of the City to serve the east property and the requirement to be annexed to serve the west property. The annexation process would add considerable time to the development schedule, and it may not be politically feasible. Other disadvantages include the need for additional supply and storage infrastructure to complement the Avimor water system and the need to install a transmission main from the Avimor main to the development. Service would also require pressure reducing stations to maintain acceptable pressure.

Service from the Dry Creek Ranch water system is not considered feasible based on preliminary discussions between the Shadow Valley owner and the owner of the Dry Creek Ranch water system.

The preferred option is for the development to have its own stand-alone public water system. This is preferred due to: (1) the desire to have a single water system serving both the west and east properties and (2) the cost and time associated with connecting to a municipal provider. Informal discussions have suggested that the cost of a stand-alone water system is comparable to the cost of service from Veolia or the City, given the infrastructure requirements from these providers. The biggest uncertainty with a stand-alone system is supply with water quality that does not require treatment, discussed in more detail in the next section. A test well could be constructed to better evaluate the likelihood of on-site aquifers producing adequate yield and water quality to serve the development. Alternatively, treatment for arsenic will be implemented.

7 Public Water System Conceptual Design

7.1 Introduction

The proposed Shadow Valley development is proposed to be served by a stand-alone public water system. The public water system must meet the requirements of the IRPDWS.

The source of supply for the water system will be groundwater wells, and at least two wells will be required. If each well can produce the required fire flow and maximum day demand, then storage may not be required to meet peak demand and fire flow. Under this scenario, at least one of the wells would be equipped with two pumps, one pump for average day demand and one pump for fire protection.

If each well cannot produce the required fire flow and maximum day demand, then storage will be provided to meet peak demands and fire flow. Each well would then only need to produce maximum day demand. With storage, booster pump stations will be required to deliver water at the required minimum pressure to the distribution system. For the purpose of this Facility Plan, storage is assumed. Due to the elevation of the

development, the water system will be divided into different pressure zones, served from pressure reducing stations.

Treatment for arsenic will be required if the supply wells produce water with a level greater than the primary drinking water standard.

A separate pressurized irrigation PI system is expected to be used for common lot irrigation.

7.2 Supply Wells

7.2.1 Overview

The source of supply for the public water system will be groundwater wells. The IRPDWS require that maximum day demand of the public water system be met with any supply source unavailable. This assumes that equalization storage is provided to supply the difference between supply and peak hour demand, and storage is provided for fire protection. Storage is anticipated for this project, but without storage, supply wells must produce the greater of fire flow and maximum day demand or peak hour demand with any well out of service.

7.2.2 Existing Wells

There are three existing irrigation wells at Shadow Valley, two of which are currently in operation. The active wells are points of diversion for water right 63-31837. This water right allows for the diversion of 2.88 cfs (~1,300 gpm) and 648 acre-feet of groundwater for the irrigation of 144 acres at the golf course. There are two points of diversion associated with this water right.

Two wells are located southeast of the golf course clubhouse in the SWNW Section 25 T5N R1E, the original and replacement well. The original well was drilled in 1962 for Ben Stadler to a total depth of 244 feet. This well was cased to 242 feet with 16-inch casing that was perforated from 209 to 242 feet in gravel with interbedded blue clay. After construction this well had a reported yield of 2,000 gpm.

The 1962 Stadler well was apparently replaced in 1991 by a new well for Shadow Valley drilled to a total depth of 255 feet. This well is referred to as the South Well (or Well 1 in past studies of the area). This well is constructed with 16-inch casing to a depth of 201 feet and 10-inch stainless steel screen from 201 to 251 feet in basalt and granitic sands with interbedded blue clay. The well yield or temperature is not reported on the driller's log, but given its proximity and similar depth to the 1962 Stadler well, a comparable yield (2,000 gpm) can expected.

The other active well is located northeast of the clubhouse in the NENW Section 25 T5N R1E. This well is referred to as the North Well (or Well 2 in past studies of the area). A driller's report could not be located for this well so construction information and yield are not definitively known. However, this well is understood to be the primary well used for golf course irrigation, and its yield is expected to be adequate for at least the irrigation water right (63-31837) diversion rate of 2.88 cfs (1,290 gpm). Water quality from this well compared to the South Well suggests that the North Well is shallower than the South Well, see Section 7.2.3 for information on water quality.

There is also a domestic well drilled for Ben Stadler in 1973 on the property. This well was drilled to a depth of 90 feet, with 8-inch casing to 52 feet, 6-inch casing from 46 to 69 feet, with perforations from 54 to 64 feet in sand and pea gravel. This well currently serves the golf course clubhouse.

There are three other wells of interest located south of the golf course property:

- An irrigation well drilled for Ben Stadler in 1964 reportedly had an artesian flow of 900 gpm, with a water temperature of 82.5°F. The total depth of this well is 688 feet, with 12-inch casing to 340 feet and 8-inch casing between 340 and 688 feet. The 8-inch casing is perforated from 633 to 688 feet. This well is currently used at the Stone Crossing event center, located on the development property.
- An irrigation well drilled for Joe Stadler in 2013 was drilled to a total depth of 862 feet, with 8-inch casing to 210 feet and open hole to 800 feet. Water-bearing zones noted on the driller's log include a fine black sand and a coarse sand and gravel between 301 and 318 feet, and a blue sand between 782 and 862 feet. This well had 1 psi of artesian pressure after completion and a water temperature of 82°F. This well is not located on the development property.
- A domestic well drilled for Judy Hutt at 9070 Brookside Lane. This well is believed to have artesian pressure but a well driller's report could not be located for this well so there is no information on well construction or well capacity. This well is located on the development property.

Other wells of note are located west and east of the property. A well drilled for John Francis for domestic purposes in 1992 was drilled to a total depth of 204 feet, with 8-inch casing to 20 feet and open hole to total depth. The well reportedly produces 300 gpm from decomposed granite found below 180 feet. The water temperature is reported as 65°F.

A domestic well drilled for Horseshoe Bend Hills LLC at 4811 E Ronald Reagan Dr (Shadow Valley Estates) in 2021 was drilled to a total depth of 349 feet. This well is screened from 249 to 349 feet in fractured granite. This well produces greater than 100 gpm after completion, with a reported water temperature of 72°F.

A map of relevant wells is provided as Figure 7. Well driller's reports are included in Appendix C.

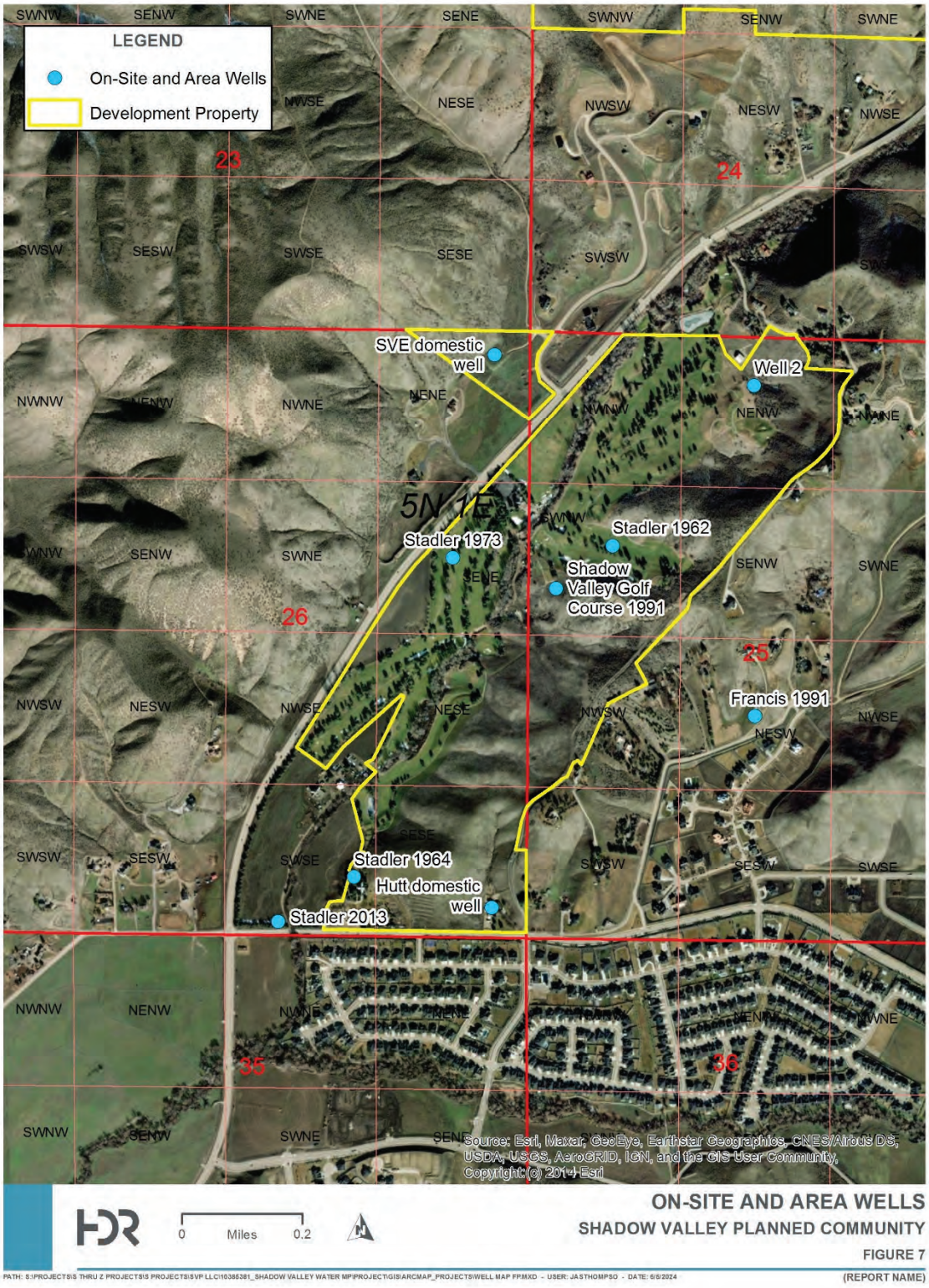


Figure 7. On-site and area wells

7.2.3 Groundwater Quality

On-Site Wells

Two sets of water quality samples have been collected from the two active Shadow Valley wells to characterize groundwater quality. One set was collected in 2008 by SPF Water Engineering. The second set was collected in 2021 by Shadow Valley staff. Results are summarized in Table 8, and laboratory reports are included in Appendix D.

Primary and secondary drinking water standards for common constituents of concern are included in Table 8. Primary drinking water standards are established to protect public health and are enforceable by IDEQ. Secondary drinking water standards are established to prevent aesthetic issues with drinking water (staining, taste, odor) but are not enforceable by IDEQ.

Table 8. Water quality results from existing irrigation wells

Analyte	Units	Drinking Water Standard		South Well (Well 1)		North Well (Well 2)	
		Primary	Secondary	2008	2021	2008	2021
Arsenic	mg/L	0.01	---	**0.02**	0.0082	**0.022**	**0.022**
Uranium	ug/L	30	---	<1	<1	<1	2
Nitrate	mg/L	10	---	<0.2	<0.2	<0.2	<0.2
Fluoride	mg/L	4	2	1.39	1.33	0.37	0.27
Iron	mg/L	---	0.3	0.11	**0.42**	0.12	0.12
Manganese	mg/L	---	0.05	0.05	**0.114**	<0.05	0.046
Ammonia	mg/L	---	----	0.15	---	<0.04	---
Total Dissolved Solids	mg/L	---	500	278	318	358	416
Hardness	mg/L	---	---	---	171	---	301

Note: Values highlighted in red exceed the primary drinking water standard

Values highlighted in blue exceed the secondary drinking water standard

Sampling results demonstrate the following:

- Water from the North Well has an arsenic concentration over two times greater than the EPA primary drinking water standard. In 2008, water from the South Well had an arsenic concentration over two times greater than the primary drinking water standard. In 2021, the concentration was elevated but less than the standard. When the South Well was sampled in 2021, it had not been operated in some time. Therefore, the groundwater sample may not be representative of the aquifer and this could explain the lower arsenic concentration compared to 2008.
- The concentrations of uranium and nitrate were below primary drinking water standards in both wells during both sampling events.
- Both samples from the North Well and the 2008 sample from the South Well had levels of iron and manganese below secondary drinking water standards. The 2021 sample from the South Well had levels of iron and manganese above

secondary drinking water standards. When this well was sampled in 2021, it had not been operated in some time. This could explain the higher iron and manganese levels compared to 2008.

- Fluoride was below the primary and secondary standards in both wells during both events. The lower level in the North Well suggests a shallower completion depth, as fluoride is often associated with deeper warmer water.
- Both samples from both wells had concentrations of total dissolved solids (TDS) below the secondary drinking water standard. The higher level of TDS in the North Well indicates a shallower completion depth compared to the South Well.
- Ammonia was detected in the South Well but not the North Well in 2008, supporting a deeper depth for the South Well.
- Water hardness was measured in 2021 in both wells. Water in the South Well is considered to be hard while water from the North Well is very hard. In the Treasure Valley, water hardness typically decreases with depth.
- In 2008, water temperature and pH were measured from both wells in the field. Water temperature was 77°F in the South Well and 59°F in the North Well. Water temperature generally increases with well depth. The pH was 7.3 in the South Well and 7.1 in the North Well.

It is not known how the North Well is constructed. However, temperature and water quality from this well, specifically fluoride, ammonia, and total dissolved solids, compared to the South Well suggests that the North Well is shallower (i.e. less than 250 feet deep).

Wells in Vicinity

Supply wells will be designed and constructed to target any existing aquifers producing water meeting primary and secondary drinking water standards. To gather additional information on groundwater quality in the area, three existing wells in the project vicinity were recently sampled, with results are summarized in Table 9. Water quality laboratory reports are included in Appendix D.

One of the existing wells is the Hutt domestic well located on Shadow Valley development property at 9070 Brookside Lane. A well driller's report could not be located for this well, but the well is believed to be artesian given its sealed well head configuration. A domestic well is located at 9060 W Brookside Lane, just to the east of the Hutt well and at a similar elevation. This domestic well is screened from 345 to 385 feet, and has a reported static water level of 23 feet. Based on this information, the Hutt domestic well is deeper than 400 feet.

Water samples from the Hutt domestic well meet primary drinking water standards, with levels of arsenic, uranium, fluoride, and nitrate below the standards. The water does have levels of fluoride and manganese above the secondary drinking water standard. The water is moderately hard, and moderately aggressive. The water temperature was 18.6°C (65°F), measured from an outside frost-free hydrant. This temperature is cooler than expected if the well is deep, but it is possible that the water cooled down after being collected in a bucket for measurement. The artesian conditions and moderately high fluoride suggest that the well is deep, and under some geothermal influence.

Water quality samples were also collected from the nearby artesian irrigation well drilled for Ben Stadler in 1964, currently used at the Stone Crossing event center. The event center is also located on Shadow Valley development property. The water sample from the 1964 Stadler well exceeds the drinking water standard for arsenic, but meets all other primary and secondary drinking water standards. The fluoride level is just below the secondary standard of 2 mg/L. The water is moderately hard, and moderately aggressive. The artesian conditions and moderately high fluoride suggest that the well is deep, and under some geothermal influence.

This well has a driller's report, with a reported total depth of 688 feet, with perforated casing from 633 to 688 feet. The well is constructed with 12-inch casing driven in a 12-inch borehole to 340 feet, set into a hard blue shale. Below the casing, a 10-inch hole was drilled to 688 feet, and the 8-inch casing was installed to the total depth. The 8-inch casing was perforated from 633 to 688 feet, but this casing is unsealed below 340 feet, essentially allowing for the vertical movement of groundwater along the casing.

The third well sampled is a domestic well located at 4811 E Ronald Reagan Dr, in Shadow Valley Estates in the foothills west of the golf course. This well is screened from 249 to 349 feet in fractured granite, with a reported static water level of 49 feet below ground surface. Water from this well exceeds the drinking water standard for arsenic but meets all other primary and secondary drinking water standards. The moderate fluoride level (1.11 mg/L) and water temperature of 72°F suggests a minor geothermal influence.

Table 9. Nearby well water quality results

Analyte	Units	Drinking Water Standard		Brookside Domestic Well[a]	1964 Stadler Irrigation[b]	Shadow Valley Estates Domestic
		Primary	Secondary	S.I. = Unknown[c]	S.I. = 633-688 ft[d]	S.I. = 249-349 ft
Arsenic	mg/L	0.01	---	<0.0005	**0.0261**	**0.022**
Uranium	ug/L	30	---	<0.1	<0.1	<1
Nitrate	mg/L	10	---	<0.01	<0.01	<0.2
Fluoride	mg/L	4	2	**2.68**	1.99	1.11
Iron	mg/L	---	0.3	0.13	<0.00002	<0.05
Manganese	mg/L	---	0.05	**0.088**	0.035	0.023
Ammonia	mg/L	---	---	0.76	0.35	---
Total Dissolved Solids	mg/L	---	500	236	233	242
Hardness	mg/L	---	---	89.4	91.8	132
Corrosivity	LI	---	---	-0.16	-0.24	---

a - Values highlighted in blue exceed the secondary drinking water standard

b - Values highlighted in red exceed the primary drinking water standard

c - Well is believed to be artesian with an assumed depth >300 ft

d - Well is unsealed between 340 and 688 feet

Summary

Available water quality data shows that the aquifer underlying Shadow Valley, found between a depth of 200 and 250 feet, has high arsenic, moderate fluoride and TDS, detectable ammonia, and low uranium and nitrate. The water is hard. The water temperature (77°F) and fluoride level indicate a moderate geothermal influence. The shallower local aquifer system believed to be targeted by the North Well has high arsenic, moderately high TDS, moderately low fluoride and iron, and low levels of uranium, nitrate, manganese, and ammonia. The water is very hard.

Sampling of these on-site wells indicates that the aquifer system above a depth of 250 feet is of generally good quality, with the exception of elevated arsenic. This water cannot be used for drinking water without first treating it for arsenic. Water quality from the domestic well located west of Highway 55 is similar to Well 1, suggesting that aquifers as deep as 350 feet in the area have elevated arsenic.

The deeper artesian aquifer system, believed to be targeted by the Hutt domestic well, appears to meet primary drinking water standards, with low levels of arsenic, uranium, and nitrate. The level of fluoride is above the secondary drinking water standard of 2 mg/L, but below the primary standard of 4 mg/L. The water also contains elevated manganese and high levels of ammonia. Unfortunately, construction details of this well are not known as there is not a well log available, but the well is believed to be deeper than 400 feet. A camera survey could be performed on the well with the intent of determining construction, but the pump would have to be removed and the artesian flow piped to a suitable disposal area.

The water sample from the 1964 Stadler well appears to be a mix of shallow and deep aquifer systems, with high arsenic and moderate fluoride and ammonia. While the well casing is perforated from 633 to 688 feet, the unsealed casing appears to allow co-mingling of waters between a depth of 340 and 688 feet.

Water quality samples could not be collected from the Stadler 2013 well, with a total bore depth of 862 feet and an open hole between 210 and 800 feet. This well had 1 psi of artesian pressure after completion, but the well has since collapsed and lost its artesian flow. This well is not currently in use.

Available water quality data from the Hutt domestic well demonstrate that there appears to be a local aquifer system that produces water meeting primary drinking water standards. However, the depth and thickness of the aquifer are not definitively known. In order to confirm the presence of aquifer zones of suitable water quality, an on-site test well is recommended before construction of a municipal production well. The test well should be drilled near where the future municipal wells will be located to provide representative data. The test well should have a total depth of 900 feet. Aquifer zones between a depth of 200 and 900 feet would be sampled for water quality. Well depths below 600 feet are known to have elevated temperature (>80°F). Water temperatures greater than 85°F must be avoided; these waters are considered low-temperature geothermal and shall be used primarily for heat value pursuant to Idaho Code 42-233.

The recommended test well is expensive and there is the risk that a productive aquifer meeting primary drinking water standards is not discovered, and/or low-temperature geothermal water limits well depth and yield. Even if the target aquifer is found, water

production would require well depths of between 600 and 800 feet, resulting in costly well construction and pumping costs. Finally, the optimum area for possible groundwater development of a deeper aquifer system is located at lower elevation at the south end of the development. This low elevation is not ideal for groundwater wells and storage due to the high lift required to serve the remainder of the development. For these reasons, completing shallower wells into a known and productive aquifer system and treating for arsenic may be a better option.

7.2.4 New Wells

New supply wells are planned to serve the development. New wells are required to produce either (1) maximum day demand or (2) the greater of fire flow and maximum day demand or peak hour demand. With the former, storage is provided to meet peak hour demand and fire flow. Under both scenarios, demand will be met with any well out of service. The IRPDWS and Eagle Fire Department require that fire flow be provided with any pump (or well) out of service.

Under scenario 1 above, each well will be designed to produce the build-out domestic maximum day demand of 864 gpm[3]. Under scenario 2 above, each well will need to produce fire flow (2,500 gpm) and maximum day demand (864 gpm), equal to 3,364 gpm. It is very unlikely that there will be sufficient well yield to support the latter requirement unless several wells are constructed, so storage is anticipated for peak demand and fire protection.

Water quality data from nearby wells suggests that aquifers in the area as deep as 350 feet have elevated arsenic. To avoid arsenic and associated treatment, new supply wells would likely need to be deeper than 350 feet, and probably deeper than 600 feet based on available water-bearing zones. If arsenic treatment is provided, then new wells could be approximately 250 feet deep, based on Well 1 and its predecessor the 1962 Stadler well.

Given the risk and cost associated with deeper supply wells, shallower wells with arsenic treatment are considered to be a more cost effective and less risky option. Shallower wells are expected to be very productive, with yields approaching 2,000 gpm based on the reported capacity of the 1962 Stadler well. New wells are expected to be constructed with 16-inch casing and up to 50 feet of minimum 10-inch diameter screen.

Before construction of a new public water system well, IDEQ first needs to approve this Facility Plan, then the well Preliminary Engineering Report (PER), Well Site Evaluation, and well specifications.

7.2.5 Well Site Requirements

Regulatory Requirements

New wells need to be located on a well lot meeting setbacks per the IRPDWS, including 50 feet from the property line and any potential source of contamination (including gravity sewer lines, storm water facilities, open water channels, roads, parking, homes). Wells need to be 100 feet from any standard septic tank and drainfield, 150 to 300 feet from

[3] Assumes a maximum day demand of 800 gpd per EDU as required by the IRPDWS for initial design.

any large soil adsorption systems (depending on soil type), and 500 feet from municipal wastewater treatment plant. The required distance between municipal wastewater re-use sites is determined using a site-specific groundwater susceptibility analysis, per the Idaho Recycled Water Rules (IDAPA 58.01.17).

Factors to consider when siting a new well are water right authorized points of diversion, access for construction and future operation and maintenance, proximity to initial development and water system infrastructure, placing the well where development plans can accommodate a future well lot, proximity to existing wells where hydrogeological conditions are known, and slope and elevation.

A designated well lot needs to be identified, controlled (owned or long-term lease) by the water system owner. A well lot needs to be large enough to accommodate two wells plus a well house. Where two wells are proposed on the same lot, they should be located at least 100 feet apart to minimize interference between the wells. This is typically not an issue since both wells will not run at the same time (one is a redundant source). A minimum area of 0.50 acres is needed, or 200 feet by 100 feet.

Potential Well Sites

Three different options for locations of supply wells are presented in this Facility Plan, as described below and on Figure 8. Each of these locations are currently readily accessible by a drill rig and will be accessible in the future from new roads associated with the development. Each of these locations are close to new water mains needed to serve the new development, and each of these locations are large enough to accommodate a water storage tank. The final well locations will be further evaluated in the future well PER.

One possible location for the new supply wells is near the Hutt domestic well at 9070 Brookside Lane, near the southern property boundary at an elevation of approximately 2,750 feet amsl (site A on Figure 8). The latest Preliminary Land Use Map (dated March 27, 2024) identifies this area as a proposed bus storage yard (see Appendix A and Figure 8), with open space to the west. This is a possible location due to the promising water quality from the domestic well and the non-residential nature of the land use on the proposed development plan.

The second potential location (site B on Figure 8) is near the South Well at an elevation of approximately 2,830 feet amsl. This is presented as an option due to the high yield (2,000 gpm) expected in this area based on the nearby 1962 Stadler well. This area is identified as open space / golf course on the latest Preliminary Land Use Map. The area is currently undeveloped land adjacent to the golf course maintenance shop.

The third potential location (site C on Figure 8) is near the North Well at an elevation of approximately 2,870 feet amsl. This location is a possibility due the expected high groundwater yield in this area (likely at least 1,300 gpm) and existing and future land use. The latest Preliminary Land Use Map shows this area as open space, and the area is currently undeveloped land. To better evaluate this site, it would be helpful if the golf course staff knew the historical and current pumping capacity of Well 2.

There are no potential well site identified on the west property. There is no evidence of an aquifer system capable of supporting high yields to meet the peak day demand of the development.

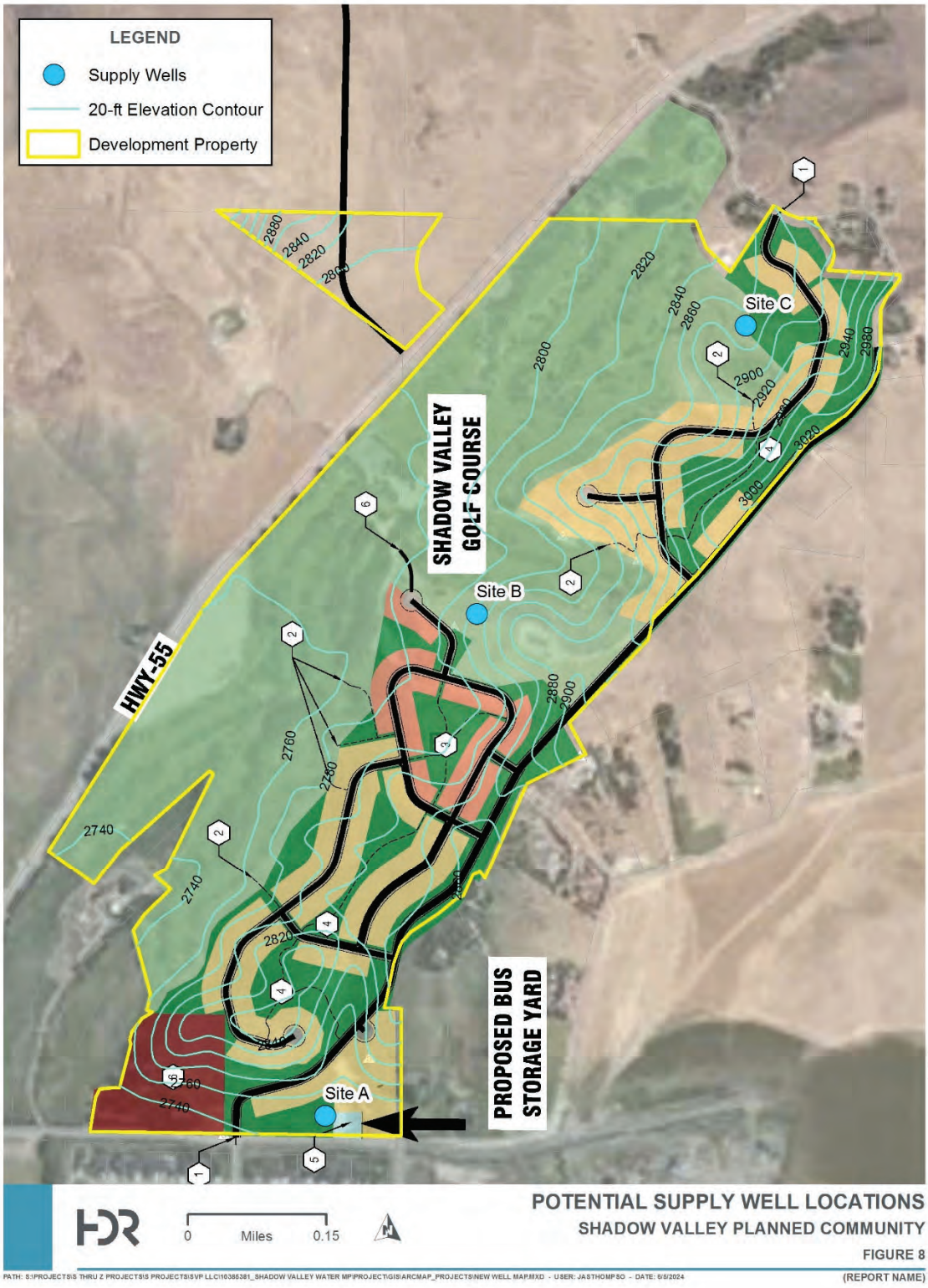


Figure 8. Potential supply well locations

7.3 Well Pumping Facilities

7.3.1 New Well Pumping Facilities

New wells will be equipped with vertical turbine lineshaft or submersible turbine pumps. Well pumps will be selected to produce maximum day demand, with storage provided for fire protection and peak hour demand. Well pump capacity will be limited by the well's long-term sustainable yield as verified through test pumping. Pumps will be selected with adequate total dynamic head (TDH) to pump to storage. Well pumps are discussed in more detail in Section 0.

The well pumps are expected to be controlled by variable frequency drives (VFDs) to maintain a constant water level in the storage tank. Telemetry will be installed between the well pumps and storage tank so the well pumps will turn on off when the tank is full. It is expected that the well facilities will be connected to a local water SCADA system for monitoring and control.

The IRPDWS require that well pumping systems be equipped with certain equipment for operation and maintenance. All equipment in contact with water needs to be NSF-certified for public water system use. The discharge piping from each well shall be equipped with a smooth nose sample tap, pressure gauge, isolation valve, pressure relief valve, accessible check valve, and instantaneous and totalizing flow meter. For vertical turbine pumps, an air/vacuum valve shall be provided between the pump discharge head and check valve to allow air to enter and leave the column pipe when the pump stops and starts. The air valve outlet needs to be screened and provided with an air gap. Each well needs be equipped to be able to be flushed to waste prior to the first service connection. The flush outlet will be screened and provided with an air gap.

7.3.2 Well Houses

New well houses will need to be constructed over the wells and associated equipment. The required well houses will be constructed to meet the IRPDWS and applicable public water system design standards. It is expected that the buildings will be constructed of CMU block with a metal roof. The buildings will be fenced to prevent unauthorized access. The IRPDWS require:

- Buildings will be protected from flooding and be adequately drained.
- The building floors will be greater than 6 inches above surrounding grade.
- The buildings will be of durable construction (fire and weather resistant).
- Heat will be provided to prevent freezing of pipes and equipment.
- Ventilation will be provided as required by local and/or state codes.
- Each building will have locking doors to prevent unauthorized access.
- No hazardous materials will be stored in the well house buildings (except for chlorine solution in the well houses).

- Floor drains will be provided to accommodate leaks and minor discharge from pump packing boxes, floor drains will discharge to gravel sump located at least 30 feet from the buildings.
- A roof hatch will be provided at each building for pump removal and servicing.

7.3.3 Emergency Backup Power

The IRPDWS require that public water systems have dedicated on-site standby power, with automatic transfer switches, to meet average day demand for eight (8) hours plus fire flow where provided. In lieu of standby power, emergency standby storage can be provided in a storage tank with a volume to meet average day demand for eight (8) hours.

For build-out, the average day demand is estimated to be about 611,000 gpd or about 425 gpm, assuming 800 gpd per residential unit for maximum day demand and a peaking factor of 2.0. With an expected sustainable yield of about 900 gpm per well, backup power should be needed for one well to meet the IRPDWS.

The most common options for generator fuel are natural gas, propane, and diesel. Often the choice is up to the Owner. The generator will be located on the well lot, either inside the well house or on the exterior. Exterior installations are often preferred due to the increased size and ventilation requirements associated with interior installations. With an exterior installation, a sound attenuating enclosure can be installed over the generator, and the generator can also be installed inside a CMU enclosure for further noise reduction and protection. This generator will need to meet the requirements of the IRPDWS. The generator fuel tank will be above ground, double-walled, and include spill prevention features and a spill containment structure.

7.4 Storage

7.4.1 Introduction

If new supply wells are equipped to produce maximum day demand, storage will be provided to meet peak hour demand and fire flow. A single storage tank could be provided for the entire development or storage could be phased with development, with storage provided on both the east and west properties.

7.4.2 Storage Location

The storage tank shall be located on a dedicated lot owned by the water system. The tank is expected to be installed at ground level. The tank needs to be located on a site that is protected against contamination and flooding, and accessible year-round. Per the IRPDWS, ground-level storage tanks are required to be located at least 20 feet from the nearest property line and any potential contamination source. The tank site will be fenced to prevent unauthorized access.

Selection of the storage tank site also needs to account for the tank drain and overflow discharge. The location needs to be able to accommodate at a minimum the overflow discharge, which is equal to the flow entering the tank. There are no regulatory

requirements for the amount of overflow or drain storage, the requirements are typically dictated by site conditions and owner preference.

The location and elevation of storage is important as it establishes water system pressure zones. Options for storage locations and associated pressure zones are discussed in more detail in Section 0.

7.4.3 Storage Volume

Storage is proposed to meet peak potable, irrigation, and fire flow demands for the development. Storage volume must also account for operational and dead storage. The estimated storage volume could also include emergency standby storage instead of providing emergency backup power for one or more supply wells.

Equalization storage is the storage required to account for the difference between a water system's maximum pumping capacity and the peak hour demand. With equalization storage, the supply wells must be capable of meeting the maximum day demand with any source out of service. Operational storage is the volume needed to account for the sensitivity of water level sensors and pump operation. If equalization storage is adequate to provide operational storage, then additional operational storage may not be necessary. Dead storage is volume not available for use and is typically assumed to be the bottom 6 inches in the tank.

For planning purposes, two different tank options are considered: (1) a single tank serving the entire development and (2) two tanks serving the development, on the east and west properties.

Single Tank Option

The components of storage required for the single storage tank, serving the entire development, are summarized in Table 10. For build-out, the projected maximum day demand is 1.24 million gallons per day (MGD), assuming 800 gpd per residential unit and including residential irrigation. The associated equalization storage, calculated per IDEQ guidance[4], is equal to the peak hour demand (1,895 gpm) minus the source capacity (864 gpm), then multiplied by 150 minutes, equal to 154,661 gallons. This calculation conservatively assumes that source capacity is equal to the maximum day demand. Storage volume assumes a fire flow requirement of 2,500 gpm for 2 hours (300,000 gallons) for non-residential areas. The required operational storage is assumed to be equal to 5 feet of storage volume based on typical water level sensor spacing, equal to approximately 105,700 gallons. Since the required equalization storage is greater than the required operational storage, the equalization storage provides more than 5 feet of storage for water level sensors and pump operation. Additional operational storage is therefore not necessary. Dead storage is calculated to be the bottom 6 inches of the tank, equal to about 10,600 gallons. The total required water volume is therefore about 465,000 gallons. The total required tank volume is estimated to be about 500,000 gallons, accounting for freeboard at the top of the tank.

4 Guidance for Determining Equalization Water Storage for Public Water Systems, Idaho Department of Environmental Quality Drinking Water Program, Revised March 2013.

The required volume for project build-out can be accommodated with a single tank with a diameter of 60 feet and a tank height of 23.5 feet. The storage volume in Table 10 does not include standby storage, which is not needed if a backup generator is provided for supply wells to meet average day demand (424 gpm) for 8 hours. If the tank were to include standby storage, the required volume would increase to about 701,000 gallons.

Table 10. Storage volume for single tank

Storage Components	Value	Unit	Assumptions
Tank Diameter	60	ft	Tank diameter
Fire Storage	300,000	gal	Fire flow of 2,500 gpm for 2 hours
Equalization Storage	154,661	gal	(pkhr-source capacity)*150 min
Operational Storage	105,692	gal	5 feet of storage
Equal/Op Storage	154,661	gal	Greater of equal and operational storage
Dead Storage	10,575	gal	0.5 ft at bottom
Total Water Volume	465,236	gal	Design volume for water storage
Tank Overflow Height	22.5	ft	Includes 0.5 ft above water level
Total Tank Height	23.5	ft	Includes 1 ft above overflow
Total Tank Volume w/o Standby Storage	497,195	gal	Includes volume above overflow (0.5 ft)
Standby Storage	203,757	gal	Average day demand for 8 hours
Total Tank Volume w Standby Storage	700,952	gal	Includes standby storage

Dual Tank Option

An alternative to the single-tank option is installing two tanks to serve the development, with one on the east property and one on the west property. It is assumed that the east property will be developed first, followed by the west property. Therefore, the east tank could be installed first and the west tank installed in the future when development of the west property occurs.

The components of storage required for the east storage tank are summarized in Table 11. For the east property, the projected maximum day demand is about 522,000 gallons, assuming 800 gpd per residential unit and including residential irrigation. The associated equalization storage is calculated to be 62,200 gallons, conservatively assuming that source capacity is equal to the maximum day demand. This tank would have a fire storage volume of 300,000 gallons. The required operational storage is approximately 105,700 gallons, based on 5 feet of storage volume. Since the required equalization storage is less than the required operational storage, the operational storage requirement takes precedence. Dead storage is calculated to be the bottom 6 inches of the tank, equal to about 10,600 gallons. The total required water volume is therefore about 416,000 gallons (not including standby storage), and the total required tank volume is about 450,000 gallons. The required volume for the east property can be accommodated with a single tank with a diameter of 60 feet and a tank height of 21.2 feet.

Table 11. Storage volume for east tank

Storage Components	Value	Unit	Assumptions
Tank Diameter	60	ft	Tank diameter
Fire Storage	300,000	gal	Fire flow of 2,500 gpm for 2 hours
Equalization Storage	62,200	gal	(pkhr-source capacity)*150 min
Operational Storage	105,692	gal	5 feet of storage
Equal/Op Storage	105,692	gal	Greater of equal and operational storage
Dead Storage	10,575	gal	0.5 ft at bottom
Total Water Volume	416,267	gal	Design volume for water storage
Tank Overflow Height	20.2	ft	Includes 0.5 ft above water level
Total Tank Height	21.2	ft	Includes 1 ft above overflow
Total Tank Volume w/o Standby Storage	448,202	gal	Includes volume above overflow (0.5 ft)
Standby Storage	85,535	gal	Average day demand for 8 hours
Total Tank Volume w Standby Storage	533,737	gal	Includes standby storage

The west storage tank volume components are summarized in Table 12. The required equalization storage is calculated to be about 94,500 gallons. The required operational storage is approximately 59,500 gallons, based on 5 feet of storage volume. The equalization storage is greater than the operational storage, so the latter is not needed. The required fire flow volume for the west property would be 120,000 gallons assuming a fire flow requirement of 1,000 gpm for 2 hours. The total required tank volume is about 240,000 gallons. The required volume for the west property can be accommodated with a single tank with a diameter of 45 feet and a tank height of 20 feet.

Table 12. Storage volume for west tank

Storage Components	Value	Unit	Assumptions
Tank Diameter	45	ft	Tank diameter
Fire Storage	120,000	gal	Fire flow provided from east tank
Equalization Storage	94,481	gal	(pkhr-source capacity)*150 min
Operational Storage	59,452	gal	5 feet of storage
Equal/Op Storage	94,481	gal	Greater of equal and operational storage
Dead Storage	5,948	gal	0.5 ft at bottom
Total Water Volume	220,429	gal	Design volume for water storage
Tank Overflow Height	19.0	ft	Includes 0.5 ft above water level
Total Tank Height	20.0	ft	Includes 1 ft above overflow
Total Tank Volume w/o Standby Storage	238,385	gal	Includes volume above overflow (0.5 ft)
Standby Storage	126,541	gal	Average day demand for 8 hours
Total Tank Volume w Standby Storage	364,926	gal	Includes standby storage

7.4.4 Storage Construction Details

Each storage tank will meet the requirements of the IRPDWS, the American Waterworks Association (AWWA), and be constructed to meet NSF standards. Tanks will be constructed to provide protection from contamination and will be equipped with access, drain, overflow, and vent. An appropriate discharge location for the tank drain and overflow will need to be identified.

The two primary options are tank construction are steel and concrete. Steel tanks can be bolted steel or welded steel, with bolted steel being more prevalent. Steel tanks are commonly used where the volume is 500,000 gallons or less. Where the volume is between 500,000 gallons and 1 MG, both steel and concrete tanks are used, and where the volume is greater than 1 MG, concrete tanks are often the preferred construction approach.

Steel tanks are epoxy coated on the interior and exterior, with an NSF-certified coating on the interior. The advantages to bolted steel tanks include lower initial cost, shorter design and construction schedule, and easier installation. Disadvantages include shorter design life (50 years), higher maintenance costs, and service disruptions during re-coating and maintenance. To avoid extended service interruptions, at least two smaller tanks are often installed instead of one large tank, at a higher cost and larger footprint. Bolted steel tanks cannot be buried, which may result in thermal stratification and water quality issues, and also exposes the tank to freezing temperatures.

The advantages to concrete tanks include a long design life (at least 80 years), lower maintenance costs since these tanks do not need to be re-coated, no need for multiple tanks to avoid extended service interruptions, and these tanks can be buried which can prevent thermal stratification and less exposure to freezing. Buried concrete tanks are also less visually intrusive and can be better protected from vandalism. The main disadvantages include a higher initial capital cost, longer design and construction period, and a buried installation results in deep pipe and valve installations.

Given the proposed size of the storage tank(s), and taking into account cost and schedule, the recommended construction is bolted steel.

7.4.5 Instrumentation

Each storage tank will be equipped with water-level sensors to control the well pump, booster pumps, and/or tank fill valve, and low-level and high-level floats for alarm signals. These sensors could be connected to a local water SCADA system.

7.5 Booster Pump Stations

7.5.1 Introduction

Booster pump stations are expected to be required to deliver water from the storage tank gravity zones to higher pressure zones and to serve the west property, as described in Section 7.9. Booster pump stations will be designed to meet the IRPDWS.

7.5.2 Locations

Booster pump stations need to be located at an elevation that provides adequate suction head from that pressure zone. A direct hydraulic connection is required between the pump station and the pressure zone it is pumping to and pumping from.

Potential booster pump station locations are described in more detail in Section 7.9. Final locations can be identified once development plans are better defined and tank elevations established. These stations need to be located on a lot owned by the water system or under a long-term lease or easement.

7.5.3 Capacity

The IRPDWS require that booster pump stations that pump to storage must be capable of pumping maximum day demand with any pump out of service (firm capacity). The relevant maximum day demand is that associated with the storage the station is pumping to. For booster pump stations that directly serve the system where there is no storage, the pump station must be capable of meeting the larger of maximum day demand and fire flow or peak hour demand, with any pump out of service.

7.5.4 Appurtenances

Each booster pump station will be equipped with at least two pumps, each capable of meeting the design capacity of the station. The pump TDH will be adequate to pump to the target pressure zone HGL, while also talking into account headloss and safety factor between the pump station and target zone. Each of the booster pumps are expected to each be controlled by VFDs and operated to maintain tank level or system pressure. Booster pump station instrumentation could be connected to a local SCADA system for monitoring and alarm notification.

Each booster pump station must meet the requirements of the IRPDWS. The discharge line of each of the booster pumps will be provided with a check valve and isolation valve. The suction line of each pump will be provided with an isolation valve. The common booster pump discharge line will be provided with a pressure gauge, pressure sensor, flow meter, and pressure relief valve. The common pump suction line will be provided with a pressure sensor. The suction pressure sensor will automatically shut off the booster pumps in the event of low suction pressure (less than 10 psi, adjustable). The pressure relief valve will serve to protect the booster pump station and transmission main from excessive pressure. Combination air/vacuum valves will be placed on the pump system manifold to allow the manifold and associated distribution system to be filled and drain without vacuum pressures and allow air release under pressure.

If the booster pump station pumps to storage that does not include emergency standby storage, then the pump station will need to be equipped with emergency backup power. Backup power is also required if the pump station pumps directly into the system without storage. Each booster pump station building must meet IRPDWWS requirements. It is expected that each building will be constructed of CMU block with a metal roof.

7.6 Distribution System

7.6.1 Transmission Main

A water transmission main will connect the water systems serving the east and west properties. The transmission main is expected to be installed on golf course property on the east property, cross Highway 55, enter the small development property on the west side of the highway, then follow the connector road on private property to the west property. An easement will be needed from the private property owner (America First Federal Credit Union) for both the access road and water main. A map of the transmission main route in included on Figure 12.

For a design flow rate of 536 gpm, equal to the maximum day demand of the west property, a minimum transmission main diameter of 8 inches is recommended. This results in a velocity of about 3.4 feet per second. The transmission main is expected to be approximately 9,500 feet long, resulting in a pressure loss of approximately 25 psi.

Air valves will be installed along the transmission main at appropriate intervals to prevent the build-up of air. A detailed design analysis will be performed to determine the exact number and location of these air valves. Air valves will be installed in accordance with the ISPWC and manufacturer recommendations.

Isolation valves will be installed at appropriate intervals for proper maintenance and repair. Valves are expected to be ductile iron resilient seated gate valves. The exact locations of isolation valves will be identified at final design.

The transmission main will be installed and tested in accordance with the ISPWC. These standards describe acceptable backfill, cover, and bedding. These standards also outline pipe hydrostatic and compaction testing and disinfection requirements. Appropriate inspections will occur during installation to ensure compliance with the approved project plans and specifications and the IRPDWS.

7.6.2 Distribution System

The water distribution system and services will be installed as development proceeds. The distribution system will be installed in roadways, with horizontal and vertical separations from non-potable mains per the IRPDWS. A conceptual map of the water distribution system is included on Figure 12. Detailed distribution system design, including line sizing and final layout, will occur with the development plans and approved by IDEQ prior to construction.

Hydraulic modeling will be conducted to verify distribution sizing and pressure reducing station placement to maintain pressure design criteria, namely a minimum of 40 psi at peak hour demand, 20 psi at fire flow and peak day demand, and a maximum static pressure of 80 psi. Water mains will not be smaller than 6 inches in diameter.

Design and construction of the distribution system will be per the IRPDWS and the latest version of the ISPWC. Distribution system piping is expected to be constructed of AWWA C900 DR18 pipe, rated for 235 psi. If the piping has a static pressure greater than the working pressure rating, then pipe with an appropriate pressure rating will be used. Pipe fittings are expected to be ductile iron, meeting AWWA C153. Pipe backfill,

bedding, restraints, disinfection and testing (hydrostatic, compaction), and horizontal and vertical separations from non-potable mains shall be per the IRPDWS and ISPWC. Water mains will have a minimum cover of 48 inches and a maximum cover of 60 inches. Appropriate inspections will occur during installation to ensure compliance with the approved project plans and specifications.

Isolation valves will be ductile iron resilient seat gate valves, meeting AWWA C509 or C515. Isolation valves will be installed on all legs of crosses and tees and at all water main stubs before the blow-off. Approved dead-end mains will have a hydrant for flushing. Any required air valves will be installed in accordance with the ISPWC.

7.7 Treatment

7.7.1 Arsenic Treatment

Supply wells are expected to produce water exceeding the primary drinking water standard for arsenic. If this occurs, treatment will be required to reduce the concentration of arsenic to less than the primary drinking water standard of 10 ug/L. Water from the wells would be treated before entering storage. Therefore, at project build-out the maximum day demand would need to be treated, equal to approximately 860 gpm.

Treatment options for arsenic include adsorption, coagulation/filtration, ion exchange, or reverse osmosis. Information from an arsenic treatment vendor, Adedge Water Technologies, is included in Appendix E. Information includes a matrix of benefits and features for the three common treatment technologies, a treatment datasheet, media specifications, and a typical treatment skid configuration.

Based on treatment vendor input, adsorption is the recommended treatment option. This technology is appropriate for small to medium water systems, does not require a lot of operator oversight or maintenance, it does not rely on chemicals other than chlorine, and the backwash rate is low and infrequently needed.

With adsorption, arsenic chemically adheres to the filter media. A common adsorptive media is a granular ferric oxide. Pressure vessels contain the adsorptive media, and these systems can achieve up to 99% removal of total arsenic. Often the arsenic removal system is installed with pre-chlorination to oxidize arsenic III to arsenic V. The media is backwashed at an estimated interval of 45 to 60 days to prevent plugging, and the backwash water does not contain arsenic or high solids (see the benefits matrix for adsorption in Appendix E). The backwash water is expected to be discharged to the sanitary sewer. The spent media will be discarded in accordance with the Solid Waste Management Rules (IDAPA 58.01.06).

The treatment system is expected to be a packaged, pre-engineered system that can be expanded with development. These systems include piping, gauges, automated control valves, sample taps, flow sensors, a programmable logic controller (PLC), and user interface screen.

To achieve the required redundancy, the treatment system will have two vessels arranged in a lead-lag configuration, with either vessel capable of treating the design

flow. This configuration allows for the media to be replaced in one vessel while the second vessel continues to remove arsenic from the water.

The initial system will likely be sized for the design maximum day demand of the east property of 363 gpm. The system could be expanded in the future for a total design maximum day demand of 900 gpm for the entire property. If actual water demand turns out to be similar to the typical 640 gpd per residence (resulting in a total maximum day demand of 343 gpm), then treatment expansion may not be necessary to serve the west property.

For conceptual planning, it is assumed that all water (in-home and residential irrigation) will be treated. The alternative would be only treating potable water and not treating water used for irrigation. This would require two separate systems, including distribution systems, storage, booster pump stations, and pressure reducing stations. However, the difference in maximum day demand with residential irrigation (856 gpm) compared to the demand without residential irrigation (567 gpm) is only 290 gpm. The cost of the larger arsenic treatment system is low compared to the cost of all of the infrastructure associated with dual systems, given the numerous pressure zones requiring service. Therefore, it is recommended to have a single water system, supplied with treated water, for both potable and residential irrigation needs.

If treatment for arsenic is required, it will be further described in a future PER.

7.7.2 Chlorination

Although not required, the groundwater from the wells is expected to be chlorinated before entering the distribution system and storage tanks to maintain a chlorine residual in the system. Sodium hypochlorite is a common form of chlorine for public water system disinfection. Chlorination system equipment would be housed in each well house. Equipment is expected to include a sodium hypochlorite storage tank, metering pump, and injection point. An emergency eyewash and shower will be provided in each well house.

7.8 Pressure Zones

7.8.1 Requirements

The IRPDWS require that a minimum pressure of 40 psi be maintained in the distribution system during peak hour demand and a minimum pressure of 20 psi be maintained in the distribution system during fire flow and maximum day demand. The static pressure in the system shall not exceed 100 psi and normally stay below 80 psi. Where system pressure exceeds 80 psi but is less than 100 psi, IDEQ allows for the installation of pressure reducing devices at a limited number of individual service connections on a case-by-case basis. IDEQ requires a demonstration that main-line pressure reducing stations are not an economical, physical, or an otherwise viable option for efficient system operation. Any customers served by individual pressure reducing devices must be notified by the water purveyor.

In order to maintain static pressure below 80 psi and dynamic pressure above 40 psi during peak hour demand, pressure zones will need to be established across the

development property. Because 40 psi must be maintained during peak demand and when the tank operational and equalization storage have been depleted, for planning purposes a static pressure of 47 psi is used for planning to determine maximum service elevation for a pressure zone. Pressure zones will be established and maintained through the use of pressure reducing stations.

This pressure zone analysis is based on conceptual development plans and available topographic data (20-foot contours) and is intended to provide a general overview of the pressure zones. For planning purposes, it is generally assumed that the entire elevation range of a developable area needs to be served, so the pressure zone HGLs are set to maintain acceptable pressures over the entire developable area. Once actual development plans are available, then detailed hydraulic analysis and modeling can be performed. The hydraulic model will be used to define and evaluate exact pressure zone boundaries and pressure reducing station HGLs based on maximum static pressure and minimum pressures during maximum day demand, peak hour demand, and fire flow events. The model is used to identify any of the isolated residential units that are most efficiently served using individual pressure reducing devices to limit static pressure to less than 80 psi, rather than using main-line pressure reducing stations. The IRPDWS allow these devices on a case-by-case basis. The hydraulic model is also used to identify the number of and efficient locations for pressure reducing stations.

7.8.2 Pressure Zone Delineations

East Property – Entire Developable Space

The east property developable space varies in elevation from approximately 2,750 feet to 3,000 feet amsl, according to conceptual development plans (see Appendix A). Using static pressure limits of 80 psi and 47 psi, a total of four (4) pressure zones are required to serve the entire east property developable space (refer to Table 13). Each of these pressure zones has an associated HGL. A map of the pressure zones in included as Figure 9.

The pressure zones in Table 13 assume that the entire proposed developable space will be served by the water system. If there is some flexibility with developing the higher elevations on the east property, then the number of pressure zones could be reduced. For example, only three pressure zones would be required if the maximum service elevation was limited to 2,979 feet amsl, and only two required if the maximum service elevation was limited to 2,902 feet amsl.

Table 13. East property pressure zones

Pressure Zone	HGL (feet)	Min Service Elevation (ft, 80 psi)	Max Service Elevation (ft, 47 psi)
PZ 2935	**2,935**	2,750	2,826
PZ 3011	**3,011**	2,826	2,902
PZ 3087	**3,087**	2,902	2,979
PZ 3109	**3,109**	2,979	3,000

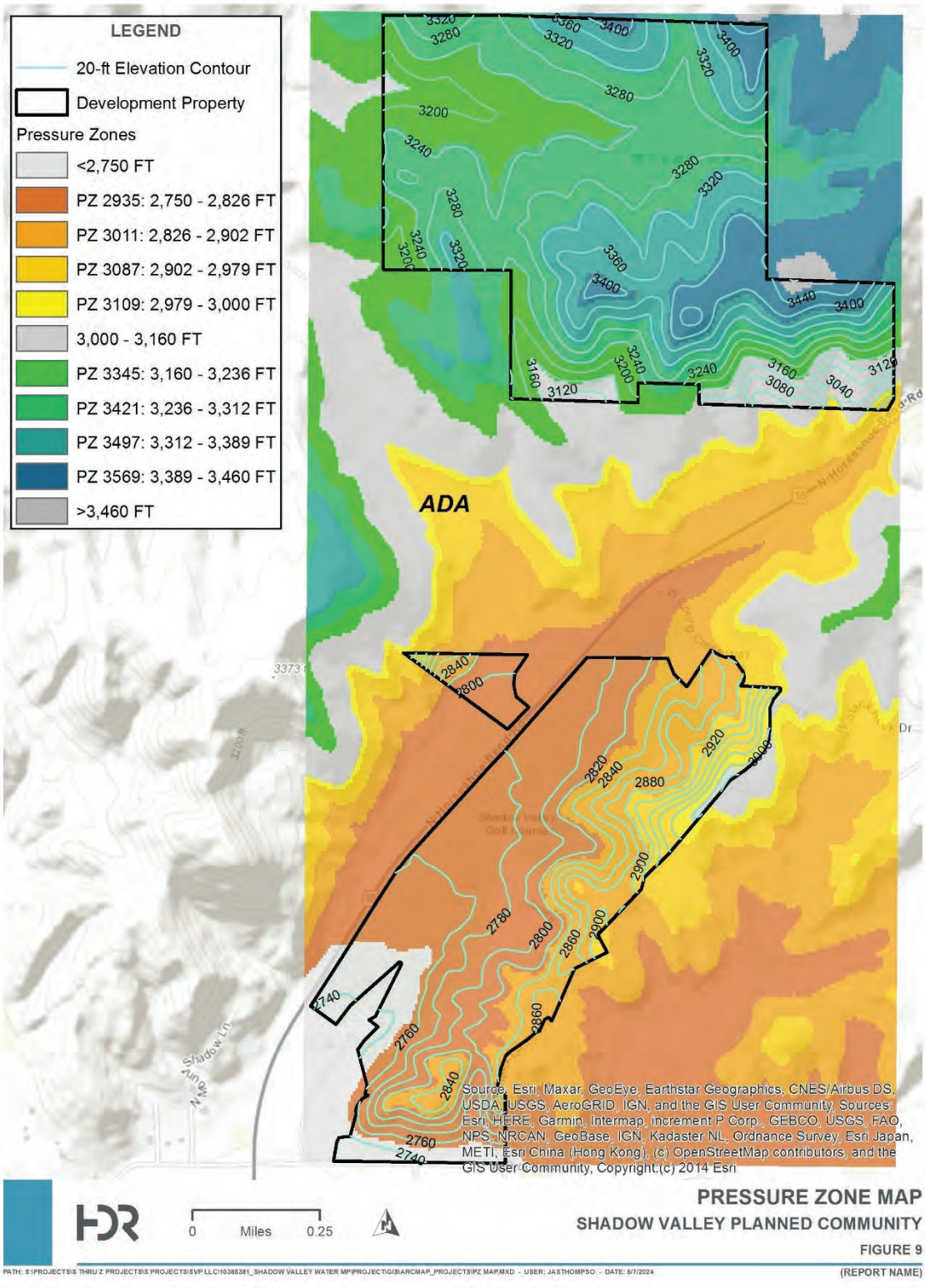


Figure 9. Pressure zone map

West Property – Entire Developable Space

Conceptual development plans show that the west property developable space varies in elevation from approximately 3,160 feet to 3,460 feet amsl. As with the east property, a total of four (4) pressure zones are needed to serve the entire west property developable space (refer to Table 14). The HGL for each zone is also included in Table 14. A map of the pressure zones in included as Figure 9.

Table 14. West property pressure zones

Pressure Zone	HGL (feet)	Min Service Elevation (ft, 80 psi)	Max Service Elevation (ft, 50 psi)
PZ 3345	**3,345**	3,160	3,236
PZ 3421	**3,421**	3,236	3,312
PZ 3497	**3,497**	3,312	3,389
PZ 3569	**3,569**	3,389	3,460

7.8.3 Pressure Reducing Stations

Pressure reducing stations will be required to maintain static pressure below 80 psi. Each station is expected to include dual valves for low- and high-flow applications. Additional appurtenances can include pressure gauges and pressure transducers installed upstream and downstream of each valve and a flow meter installed upstream of each valve. A sample tap can be installed downstream of the low-flow valve, equipped with a backflow preventer. Pressure reducing stations can be connected to a local water SCADA system. Stations are often installed in buried vaults and are located in a dedicated right-of-way or permanent utility easement.

Each pressure zone requiring a pressure reducing station to maintain acceptable pressure must have at least one station. However, more than one station may be needed per zone depending upon on the distribution system layout relative to pressure zone boundaries.

7.9 Supply and Storage Options

7.9.1 Introduction

There are three primary options for serving a water system with multiple pressure zones: (1) install a tank with sufficient elevation to serve the entire water system by gravity, or (2) install a tank at an elevation to serve part of the water system by gravity with the remainder served from one or more booster pump stations, or (3) install a tank at an elevation where the entire water system must be served by one or more booster pump stations. With each of these options, pressure reducing stations are needed to delineate pressure zones to maintain acceptable water system pressure.

Where water service is provided by gravity from a storage tank, pressure zones are delineated based on tank elevation. The tank maximum water elevation establishes the HGL for the tank service area, with any lower elevation pressure zones served through pressure reducing stations. The HGL for service areas fed from pressure reducing

stations are established by setting the HGL at the station valves. In situations where there is not sufficient elevation to serve the entire development by gravity, booster pump stations are needed.

7.9.2 East Property Options

Generally, it is preferable to avoid booster pump stations and rely on tank gravity service whenever possible, due to the cost, electrical service, space requirements, operation, and maintenance associated with these stations. In the case of the development, there is not adequate elevation on the east property to serve the entire east development by gravity. The highest elevation on the east property is approximately 3,020 feet amsl, whereas the required HGL to serve the highest pressure zone is 3,109 feet.

There is adequate elevation on the west property to serve the entire east property by gravity. However, this approach is not recommended since the east property will be developed first, the supply wells will be located on the east property, and the high-pressure requirements to fill a tank on the west property from wells on the east property. As a result, the water service options 2 and 3 are the only ones available for this system. With either option, the total required tank volume is estimated to be about 500,000 gallons with a single tank being installed (refer to Section 7.4.3).

For option 3, a tank would be located within the lowest pressure zone (PZ 2915) in the east property, with all four pressure zones served by a booster pump station. Two possible tank locations are depicted in Figure 10, identified by associated ground elevation (Tank 2,750 FT and Tank 2,830 FT). For tank option 3, supply wells are recommended near the tanks (site A or B on Figure 8 and Figure 10). The wells would pump directly to storage.

For option 2, a tank would serve part of the water system by gravity, with one or more booster pump stations required to serve the rest of the property. There is adequate elevation in the east property to serve one or two pressure zones. A tank with an approximate base elevation of 2,915 feet amsl could serve PZ 2935, with a service elevation ranging from 2,750 feet to 2,826 feet amsl (see Figure 10). The 2,915-foot elevation contour is also included in the figure to demonstrate alternative locations at the same elevation. A booster pump station would be required to serve the remaining three pressure zones, above a service elevation of 2,826 feet.

A tank with an approximate base elevation of 2,990 feet amsl could directly serve PZ 3011 by gravity and PZ 2935 through a pressure reducing station (see Figure 10). The tank gravity zone would cover an elevation ranging from 2,750 feet to 2,902 feet amsl. The 2990-foot elevation contour is also included in the figure to demonstrate alternative locations at the same elevation. A booster pump station would be required to serve the remaining two pressure zones, above a service elevation of 2,902 feet. No pump stations would be needed if development were limited to approximately 2,900 feet amsl.

For the tank option 2, supply wells are recommended at sites B or C on Figure 8 and Figure 10. Supply wells located at either one of these sites could fill a storage tank located at elevation of 2,915 feet amsl or one located at elevation 2,990 feet amsl. As long as a well is located within the tank gravity zone (or higher), it can feed directly into the distribution system without the need for a dedicated high-pressure tank fill line that bypasses a pressure reducing station.

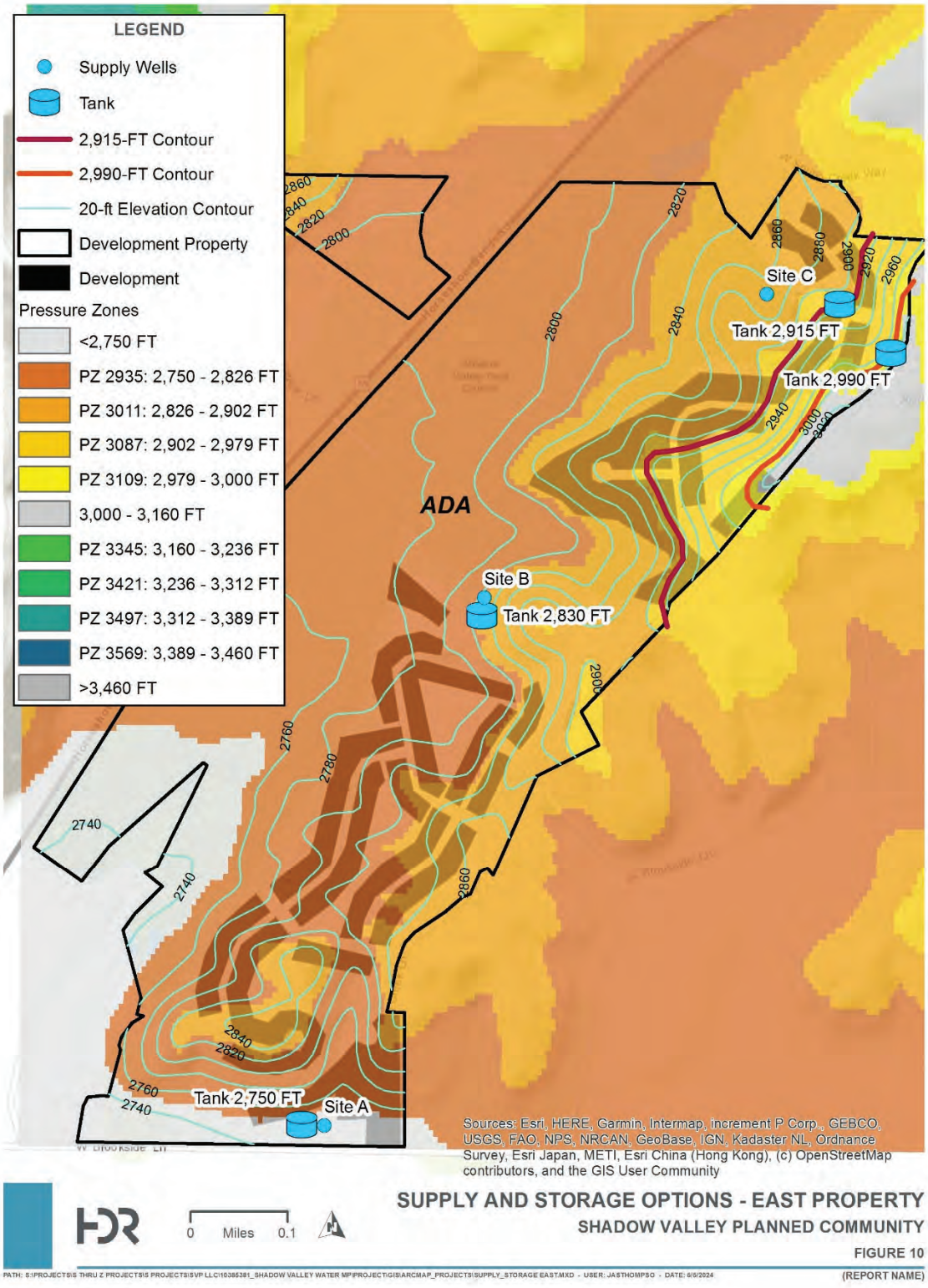


Figure 10. Supply and storage options for the east property

7.9.3 East Property Recommended Option

In general, it is recommended to install a storage tank at the highest elevation possible to take advantage of gravity service and limit booster pumping requirements. This is particularly true for areas with a higher fire flow requirement. This is demonstrated in Table 15, that shows booster pump station horsepower requirements for each tank location. As tank elevation increases, the horsepower requirements decrease. Table 15 assumes that each booster pump station is located at the same elevation as the tank, each station pumps fire flow and maximum day demand, and the fire flow for PZ 2915 is 2,500 gpm for commercial areas and 1,000 gpm in the other pressure zones for residential development with an area less than 3,600 ft^2. Table 15 also demonstrates the lower number of pressure reducing stations (PRS) required for the higher elevation tank sites. Both booster pump station horsepower and the number of pressure reducing stations have a large impact on overall project cost.

Table 15. East booster pump station operational conditions

Tank Elevation (ft, amsl)	Gravity Service (PZ)	Booster Service (PZ)	Booster HP[1]	Booster Pressure (psi)	No. PRS
2,750	---	PZ 2935 PZ 3011 PZ 3087 PZ 3109	407	171	3
2,830	----	PZ 2935 PZ 3011 PZ 3087 PZ 3109	316	133	3
2,915	PZ 2935	PZ 3011 PZ 3087 PZ 3109	95	92	2
2,990	PZ 2935 PZ 3011	PZ 3087 PZ 3109	51	56	2

1 - Does not account for pump redundancy requirements

Therefore, the recommended tank site (referred to as Tank1) is at an elevation of 2,990 feet amsl, with gravity service to development between an elevation of 2,750 feet and 2,902 feet amsl. Development below an elevation of 2,826 feet would be served through one or more pressure reducing stations. Development above an elevation of 2,902 feet amsl would require one or more booster pump stations and one or more pressure reducing stations.

For supply wells, either site B or C would work, in that both locations are within the gravity zone of a tank at an elevation of 2,990 feet amsl. Both sites have advantages and disadvantages. Table 16 summarizes well pump horsepower and total horsepower (including booster pump station) for each tank and well option. For either site B or C, and pumping to an HGL of 3,011 feet, a 150-hp vertical turbine pump is expected. This would require a 12-inch pump, that could fit in the planned 16-inch well casing.

Site B is at a lower elevation (~2,830 feet amsl), so a shallower well depth may be anticipated to reach the target aquifer (assuming a constant groundwater surface elevation across the property)[5]. Site B is also close to the 1962 Stadler well, with known construction and yield. The main disadvantages of site B are the greater pressure to fill the storage tank (see Table 16) and the inability to treat water for arsenic prior to storage without a dedicated fill line. The well pump horsepower is the same for sites B and C assuming a constant groundwater surface elevation across the property. Another disadvantage is that it would not be practical for the well house and booster pump station to share a common building.

The main advantage to Site C is the ability treat for arsenic with a short, dedicated fill line between the wells and tank. Another big advantage of this site is that it would be possible for the booster pumps to be located inside the well house, rather than requiring another building. Site C is also somewhat higher in elevation requiring less pressure to fill the tank; but this higher elevation may result in a deeper well to reach the target aquifer. A potential disadvantage is that Site C is near Well 2, where there is more uncertainty regarding yield at this location since Well 2 does not have a driller's log or reported yield. It would be helpful if the golf course staff knew the pumping capacity of this well to better evaluate this site. Given the advantages of Site C, this is the recommended location for the supply wells.

Rather than drill both wells at sites B or C, one well could be drilled at site B and one at site C. This has the advantage of reducing the overall size of the required well lot, eliminating any potential pumping interference, and allowing for the booster pumps to be located in one of the well houses. Disadvantages include needing two well lots and electrical service to two areas, and potentially two arsenic treatment systems.

Table 16. Well pump operational conditions

Tank Elevation (ft, amsl)	Well Elevation (ft, amsl)	Well HP	Total HP[1]	Well Pressure (psi)	No. PRS
2,750	2,750	48	455	10	3
2,830	2,830	75	392	10	3
2,915	2,830	105	200	50	2
2,990	2,830	130	181	86	2
2,915	2,870	105	200	31	2
2,990	2,870	130	181	67	2

1 - Includes BPS

7.9.4 West Property Options

Introduction

The west property developable space varies in elevation from approximately 3,160 feet to 3,460 feet amsl, based on conceptual development plans. A total of four (4) pressure

[5] However, water quality data suggests that the North Well is shallower than the South Well.

zones are needed to serve this entire elevation range (refer to Table 14 and Figure 9). The west property will be served from wells located on the east property. There are options for a single storage tank on the east property or installing storage on both the east and west properties, as discussed in Section 7.4.3.

Booster Pump Stations

The recommended tank site on the east property is at an elevation of 2,990 feet amsl (Tank1). The HGL associated with this tank is 3,011 feet. The lowest elevation of the developable space on the west property (3,160 feet) is therefore higher than the tank HGL. One or more booster pump stations are needed to serve the west property.

A booster pump station (referred to here as BPS1-1) is anticipated to serve the east development above an elevation of 2,902 feet amsl, with a target HGL of 3,109 feet. This HGL is still lower than the lowest elevation of the developable space on the west property. This booster pump station HGL could be adjusted to 3,163 feet and still maintain a static pressure of 80 psi in the highest eastern pressure zone. The updated BPS is referred to as BPS1-2 as operational conditions are summarized in Table 17.

Table 17. East booster pump station – single station BPS1-2

Source	Source HGL (ft)	Suction HGL (ft)	BPS1-2 Max Elevation (ft, amsl)	Target HGL (ft)	TDH (ft)	BPS1-2 Pressure (psi)	BPS1-2 HP
Tank1 HGL	3,011	2,991	2,990	3,163	190	82	111

Various pump station scenarios for the west property are evaluated in Table 18 through Table 20 and shown on Figure 11. Table 18 evaluates pressure requirements if using a single pump station (referred to here as BPS 2-1) and pumping to the highest HGL on the west property (3,569 feet). The required pressure varies from 205 psi to 277 psi, and the required horsepower ranges from 262 to 355 HP, depending upon the source HGL. This option would require three pressure reducing stations.

In general, these high pressures should be avoided due to the expense of high-pressure rated pipes and equipment, and the surge and safety mitigation measures required. If this option were to be pursued, it is recommended that BPS2-1 be supplied from BPS1-2, with a target HGL of 3,163 feet.

The maximum elevation of BPS2-1 is approximately 3,081 feet, to maintain at least 25 psi of suction pressure. As shown on Figure 11 by the 3,080-FT contour, the only area on the west property with this elevation is in the southeast corner, distant from the planned main access road and development area. Therefore, an off-site BPS site is needed, ideally along the main access road where the transmission main connecting the east and west properties will be located. A possible location for BPS2-1 is shown on Figure 11.

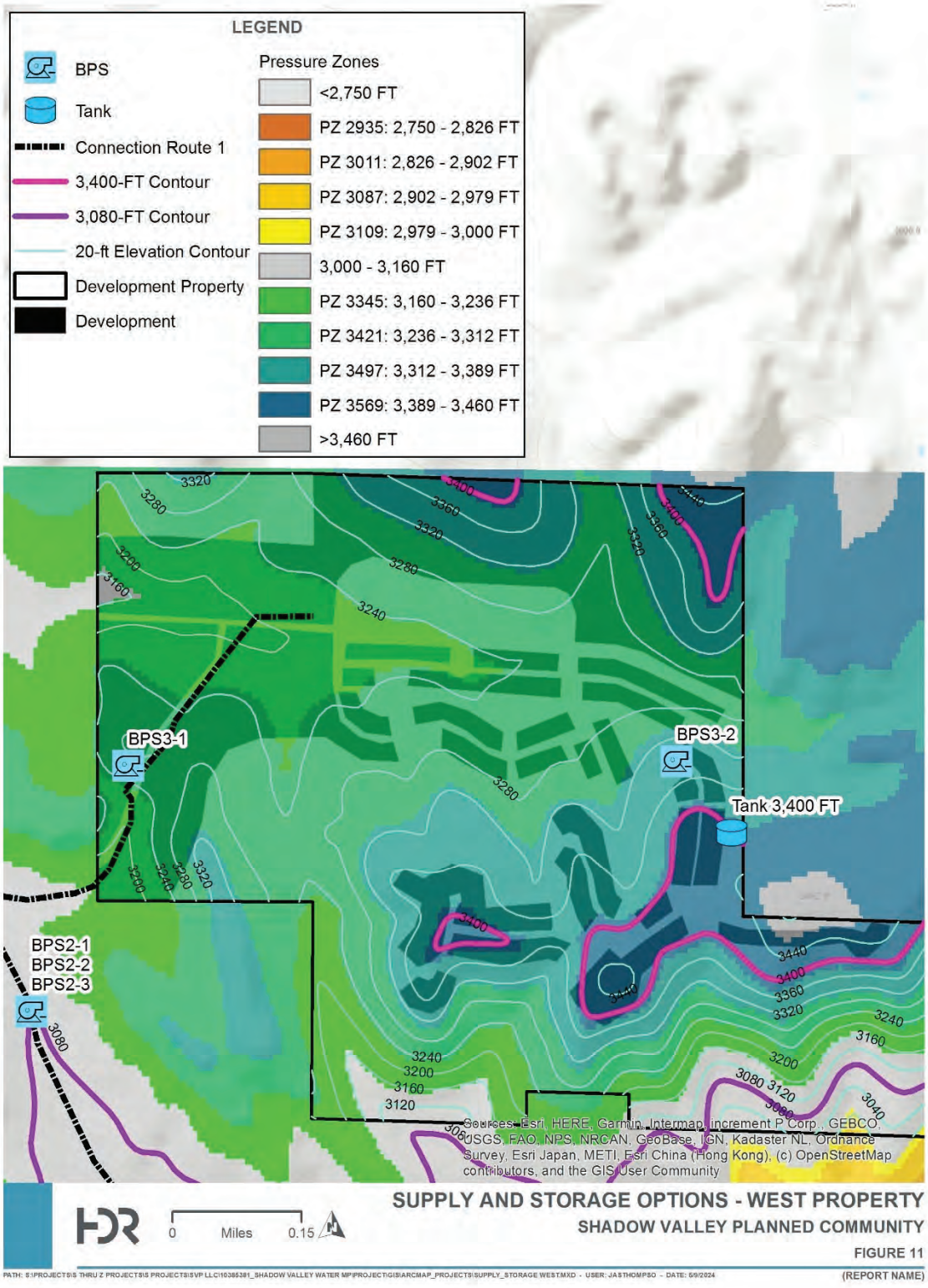


Figure 11. Supply and storage options for the west property

Table 18. West booster pump station – single station BPS2-1

Source	Source HGL (ft)	Suction HGL (ft)	BPS2-1 Max Elevation (ft, amsl)	Target HGL (ft)	TDH (ft)	BPS2-1 Pressure (psi)	BPS2-1 HP
Tank1 HGL	3,011	2,986	2,928	3,569	641	277	355
BPS1-1 HGL	3,109	3,084	3,026	3,569	534	231	296
BPS1-2 HGL	3,163	3,138	3,081	3,569	473	205	262

A second scenario considers two pump stations (BPS2-2 and BPS3-1) on the west property. The initial pump station (BPS2-2) would deliver water to the first pressure zone (PZ 3345) and BPS3-1 on the west property, as outlined in Table 19. The required discharge pressure varies from 98 psi to 171 psi depending upon the source HGL. The required horsepower varies from 126 to 219 HP. For this initial pump station, no pressure reducing stations would be needed since the station is serving one pressure zone.

The Idaho Standards for Public Works Construction (ISPWC) requires pressure testing at 1.5 times the working pressure if working pressure is greater than 100 psi. To maintain use of readily available and cost-effective C900 PVC pipe (DR18, 235 psi) and 150-lb flanges on equipment, the working pressure should be kept below 150 psi. Therefore, under this scenario it is recommended that BPS2-2 be supplied from BPS1-2, with a target HGL of 3,163 feet. This option also reduces the required horsepower for BPS2-2. The maximum elevation of BPS2-2 is approximately 3,081 feet (refer to Figure 11), likely requiring an off-site location.

Table 19. West booster pump station – dual station BPS2-2

Source	Source HGL (ft)	Suction HGL (ft)	BPS2-2 Max Elevation (ft, amsl)	Target HGL (ft)	TDH (ft)	BPS2-2 Pressure (psi)	BPS2-2 HP
Tank1 HGL	3,011	2,986	2,928	3,345	395	171	219
BPS1-1 HGL	3,109	3,084	3,026	3,345	287	124	159
BPS1-2 HGL	3,163	3,138	3,081	3,345	227	98	126

The second pump station in the dual pump station scenario (referred to here as BPS3-1) would deliver water to the highest pressure zone (PZ 3569) on the west property, as shown in Table 20 and Figure 11. The initial pump station BPS2-2 would provide the suction pressure at BPS3-1. The required discharge pressure at BPS3-1 is estimated to be 118 psi, and the required horsepower is predicted to be 139 HP. This pump station would serve three pressure zones: PZ 3421, PZ 3497, and PZ 3569. The two lower zones would be served through pressure reducing stations to maintain acceptable pressure.

Table 20. West booster pump station – dual station BPS3-1

Source	Source HGL (ft)	Suction HGL (ft)	BPS3-1 Max Elevation (ft, amsl)	Target HGL (ft)	TDH (ft)	BPS3-1 Pressure (psi)	BPS3-1 HP
BPS2-2 HGL	3,345	3,320	3,262	3,569	274	118	139

Storage

The aforementioned booster pump station options for the west property assume storage on the east property only. These stations are sized to produce fire flow and maximum day demand, with redundancy. If booster pump stations pump to storage instead of directly into the system without storage, the IRPDWS allow the stations to be sized for maximum day demand with any pump out of service (firm capacity). The relevant maximum day demand is that associated with the serve area of the storage that the station is pumping to.

With two storage tanks, the required volume of the east tank is approximately 450,000 gallons and the required volume of the west tank is approximately 240,000 gallons (see Table 11 and Table 12). The volume of the west tank includes fire protection for the west property, so fire flow does not have to be provided from the east property, reducing the size of the transmission main connecting the east and west properties.

The elevation of the west property supports gravity service to two pressure zones (PZ 3345 and PZ 3421), with a tank base elevation of about 3,400 feet amsl. The highest elevation on the west property is approximately 3,460 feet amsl. This tank location is depicted on Figure 11, along with the 3,400-foot elevation contour to demonstrate alternative tank locations at the same elevation. These pressure zones cover service elevation ranging from 3,160 feet amsl to 3,312 feet amsl. The lower zone PZ 3345 would require a pressure reducing station.

With a tank (herein referred to as Tank2) at elevation 3,400 feet amsl, a total of three booster pump stations would still be needed, one on the east property (BPS1-2 referred to above and in Table 17), a second pump station (herein referred to as BPS2-3) that would fill Tank2 through a dedicated high-pressure line, and a third pump station (herein referred to as BPS3-2) that would be supplied from Tank2 and serve PZ 3497 and PZ 3569.

Table 21 summarizes source options and operating conditions for BPS2-3. Since BPS2-3 pumps to storage, it does not have to pump fire flow, only maximum day demand. To keep the working pressure below 150 psi, it is recommended that BPS2-3 be supplied from BPS1-2. By providing storage, the size of BPS2-3 (60-HP) is about half the size of BPS2-2 (100-HP), even though BPS2-3 pumps to a higher pressure zone. For this scenario, one pressure reducing station is needed for PZ 3345.

Table 21. West booster pump station – dual station BPS2-3

Source	Source HGL (ft)	Suction HGL (ft)	BPS2-3 Max Elevation (ft, amsl)	Target HGL (ft)	TDH (ft)	BPS2-3 Pressure (psi)	BPS2-3 HP
Tank1 HGL	3,011	2,986	2,928	3,421	479	207	93
BPS1-1 HGL	3,109	3,084	3,026	3,421	371	161	72
BPS1-2 HGL	3,163	3,138	3,081	3,421	311	135	60

The second pump station (BPS3-2) would be supplied from Tank2 (HGL of 3,421 feet) and would deliver water to the highest pressure zone (PZ 3569) on the west property, as shown in Table 22. Service to PZ 3497 would require a pressure reducing station. The required discharge pressure at BPS3-2 is estimated to be 82 psi, and the required horsepower is predicted to be 82 HP. The horsepower requirement is lower than that for BPS2-2, due to the smaller service area and greater suction HGL.

Table 22. West booster pump station – dual station BPS3-2

Source	Source HGL (ft)	Suction HGL (ft)	BPS3-2 Max Elevation (ft, amsl)	Target HGL (ft)	TDH (ft)	BPS3-2 Pressure (psi)	BPS3-2 HP
Tank2 HGL	3,421	3,396	3,338	3,569	190	82	82

7.9.5 West Property Recommended Option

The recommended water service option for the west property is to install a storage tank (Tank2) at a tank base elevation of about 3,400 feet amsl. This tank can serve two pressure zones (PZ 3345 and PZ 3421) by gravity, with the lower zone requiring a pressure reducing station. Three booster pump stations would be required: BPS1-2 on the east property, BPS2-3 that would fill Tank2 through a dedicated high-pressure line, and BPS3-2 that would be supplied from Tank2 and serve PZ 3497 and PZ 3569. With this option, a minimum of two pressure reducing stations would be needed.

This is the recommended option for the following reasons: (1) storage redundancy provided by two storage tanks, (2) lower horsepower requirements associated with booster pump stations, (3) lower system pressure requirements,(4) limiting the number of pressure reducing stations, and (5) reducing the size of the transmission main required to serve the west property.

7.9.6 Summary

Based on the recommended water service options for the east and west properties, the following water system infrastructure is needed to serve the entire property:

- Two supply wells, one serving as a redundant source of supply
    - Both wells located at site C, near the existing North Well
    - Anticipated maximum depth of 300 feet

    - Both equipped with pumps (estimated at 150-HP) to produce the total maximum day demand of 864 gpm
    - One well equipped with backup power
    - Two well houses
- Two bolted steel storage tanks
    - One located on the east property at an elevation of 2,990 feet amsl, with a total volume of 450,000 gallons
    - One located on the west property at an elevation of 3,400 feet amsl, with a total volume of 240,000 gallons
- Three booster pump stations
    - One (BPS1-2) located on the east property at a maximum elevation of 2,990 feet amsl, with a total horsepower of 125-hp, plus redundancy
    - One (BPS2-3) located on the west property at a maximum elevation of 3,081 feet amsl, with a total horsepower of 60-hp, plus redundancy
    - One (BPS3-2) located on the west property at a maximum elevation of 3,338 feet amsl, with a total horsepower of 100-hp, plus redundancy
- A minimum of four (4) pressure reducing stations
    - One or more stations to serve PZ 2935
    - One or more stations to serve PZ 3087
    - One or more stations to serve PZ 3345
    - One or more stations to serve PZ 3497
    - The number of stations ultimately depends on the distribution system layout relative to pressure zone boundaries
- Water transmission main
    - Connects east and west properties
    - Approximately 9,500 feet long
    - Minimum 8-inch diameter
- Water distribution system
    - Approximately 34,000 feet (6.4 miles) long
    - Minimum 6-inch diameter
- Arsenic treatment system
    - Pre-packaged system with adsorptive media
    - Initially sized for 363 gpm, capable of expansion to 900 gpm

A map of recommended water system backbone infrastructure is included as Figure 12.

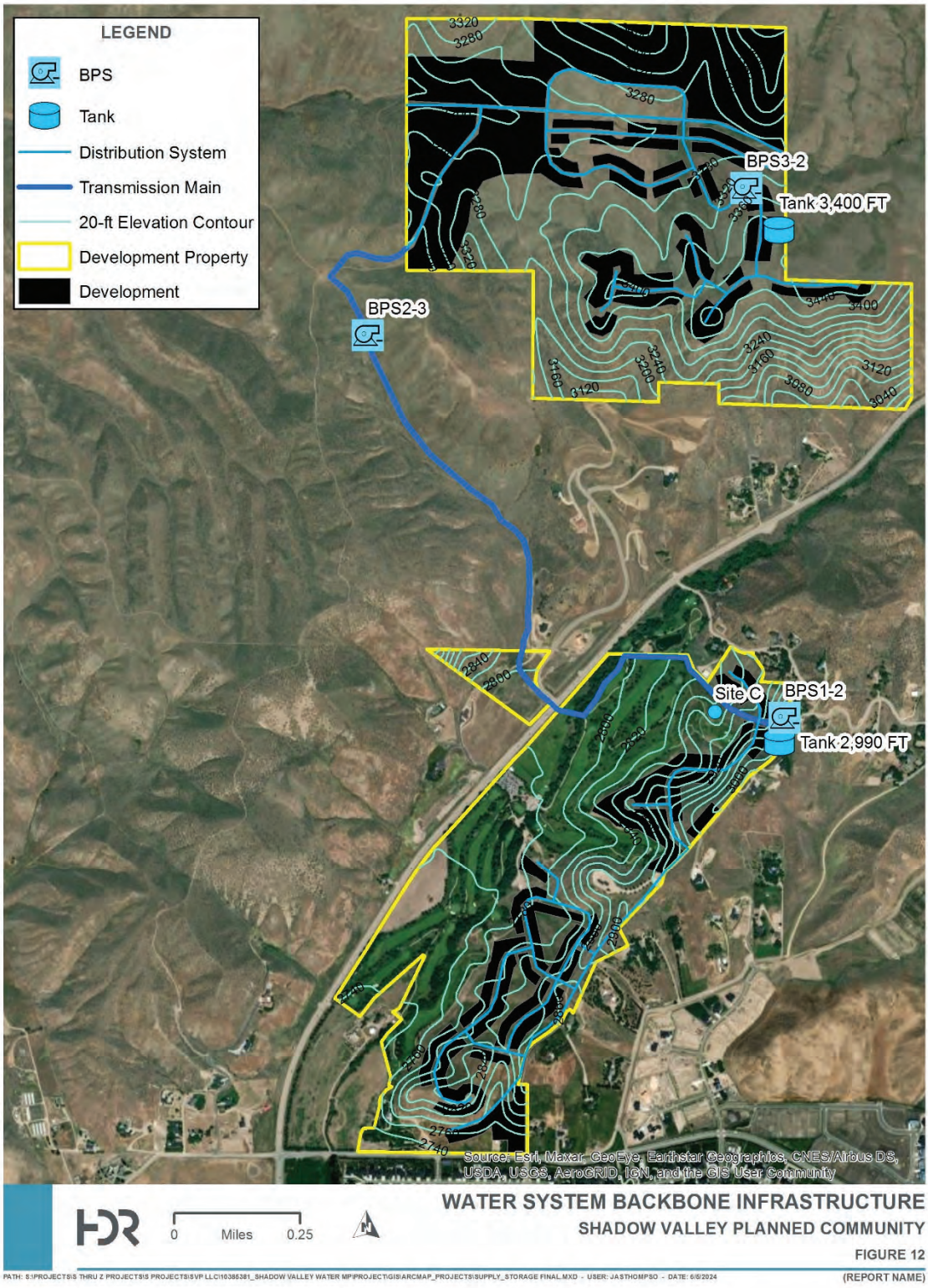


Figure 12. Water system backbone infrastructure

8 Water System Administration

8.1 Water System Financing, Management, and Operations

Water system construction will be financed by the owner of the development property, SVP, LLC. The owner intends on owning, operating, and maintaining the water system upon completion of construction. Licensed operators will operate the water system, hired by the owner. Any required water treatment system will be operated by an operator with an appropriate water treatment license.

A Technical, Financial, and Managerial (TFM) capacity document will be prepared and submitted to IDEQ demonstrating that the owner will have adequate technical, financial and managerial capacity to construct, operate, and maintain the water system. This demonstration of capacity will be submitted concurrently or prior to the plans and specifications for the water system. The demonstration will follow the requirements listed in IDAPA 58.01.08.500.

The TFM capacity document will demonstrate adequate technical capacity, including that the system will be designed and constructed in accordance the IRPDWS, there is an adequate source of drinking water supply, there are plans in place for an emergency response and source protection, there is a capital improvement plan, and that the water system is operated by trained and qualified personnel.

The TFM capacity document will demonstrate adequate financial capacity, including documentation that there are adequate financial and organizational arrangements to construct and operate the water system to meet the IRPDWS. It is anticipated that the TFM will include an updated estimate of construction and operation costs associated with the water system. The TFM will demonstrate the financial means by which the owner will construct, operate, and maintain the water system. Billing and collection procedures, rate structure for billing, fiscal controls, and the process for accruing a capital replacement fund will be identified. A preliminary operating budget will be developed for the project.

The TFM capacity document will demonstrate adequate managerial capacity, including managerial structure including operators. Operator experience, qualifications, and training will be identified. The TFM will include procedures and policies for water system management, communication between the water company and customers, regulatory agencies, and contractors, and planning for growth and infrastructure maintenance and replacement.

9 Project Schedule and Budgetary Cost Estimate

9.1 Project Schedule

Construction of the proposed water system to serve the east property is expected to start in the spring of 2025, following approval of the plans and specifications by IDEQ. Water system infrastructure for the west property will be constructed to meet the long-term development plans.

9.2 Budgetary Cost Estimate

A budgetary cost estimate has been prepared for the backbone water infrastructure to serve the development, including two new wells and well houses, two bolted steel storage tanks, three booster pump stations, four pressure reducing stations, an arsenic treatment system, and the transmission main connecting the east and west properties. The budgetary cost estimate does not include water distribution. Current development plans are conceptual in nature and do not provide adequate detail to create distribution plans and develop a reliable cost estimate. The budgetary cost is estimated to be approximately $8.26 million dollars, as summarized in Table 23. The cost estimate includes a 30% contingency.

Table 23. Budgetary Cost Estimate

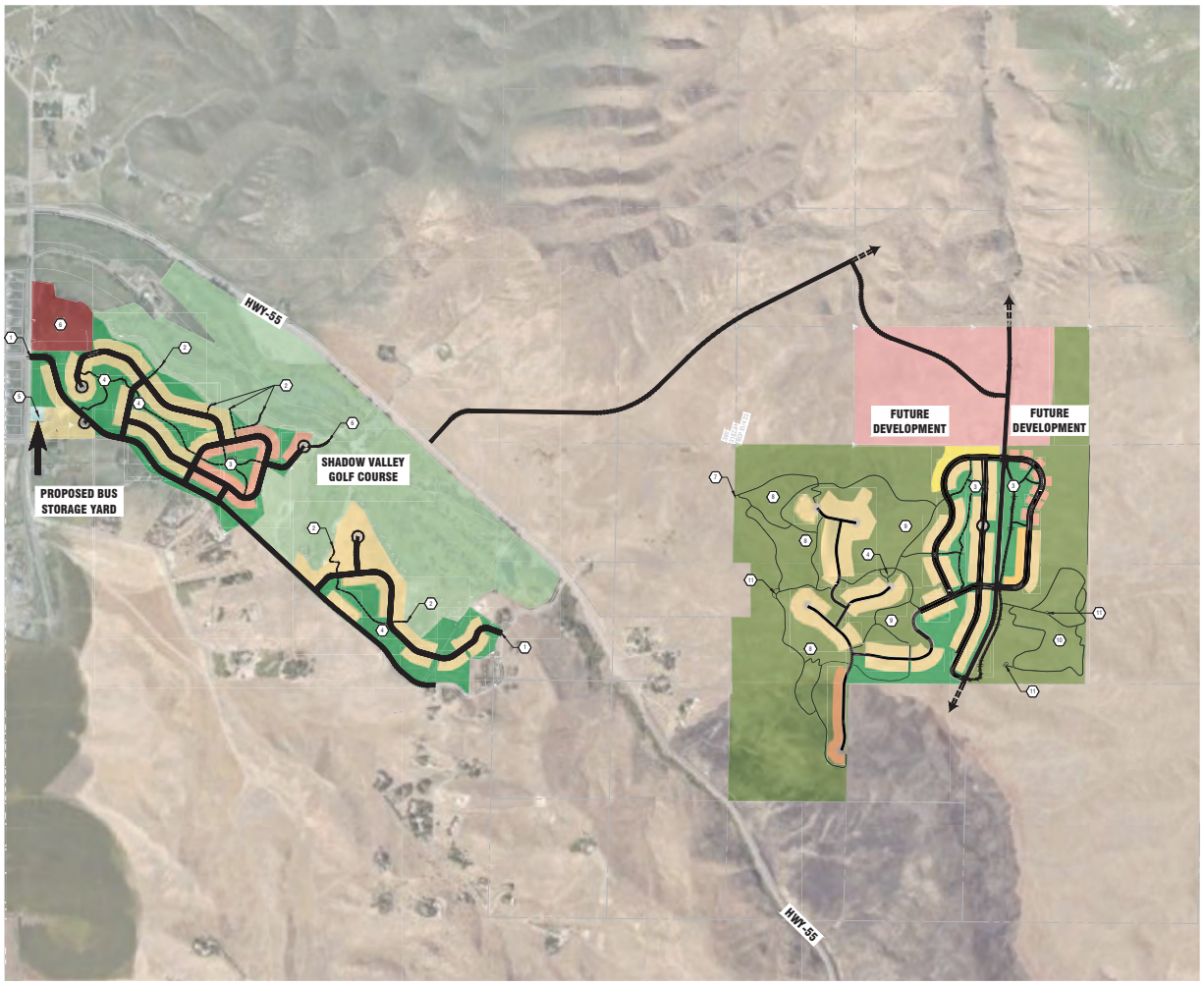
Description	Unit	Quantity	Unit Price	Total Price
Two Supply Wells	LF	600	$550	$330,000
Well Houses - site work, building, HVAC, pump, mechanical piping and equipment, chlorination system, generator and ATS, electrical and controls, telemetry	LS	2	$670,000	$1,340,000
Storage Tanks - site work, foundation, electrical and controls, telemetry	LS	2	$610,000	$1,220,000
Booster Pump Stations - site work, building, HVAC, pumps, mechanical piping and equipment, generator and ATS, electrical and controls, telemetry	LS	3	$560,000	$1,680,000
Pressure Reducing Stations - vault, mechanical piping and equipment, electrical and controls, telemetry	LS	4	$90,000	$360,000
Arsenic Treatment System	LS	1	$660,000	$660,000
Transmission Main - pipe, valves, installation, surface repair, highway crossing	LF	9500	$80	$760,000
			Contingency 30%	$1,905,000
			TOTAL	**$8,255,000**

10 Wastewater Treatment

A new wastewater treatment plant (WWTP) will be provided for the development. The WWTP is anticipated to include mechanical treatment such as sequencing batch reactor, integrated fixed-film activated sludge, or membrane bioreactor. The wastewater Facility Plan recommends the membrane bioreactor. During the non-irrigation season, treated wastewater is expected to be disposed of using rapid infiltration basins, surface water discharge, and/or stored for irrigation use. The wastewater Facility Plan recommends surface water discharge. During the irrigation season, treated wastewater is expected to be used for non-residential irrigation including on the golf course. Additional information is provided in the wastewater Facility Plan prepared by Keller Associates.

The exact locations of new public water system supply wells have not been identified, but future locations must take into account the required setbacks from the WWTP, rapid infiltration basins, and recycled water application sites. Setbacks will be defined in future re-use permits, conforming to IDAPA 58.01.17 and IDAPA 58.01.08. Well site evaluations will be prepared for each proposed well, identifying the source aquifer and associated properties, the well capture zone, and distances to potential contamination sources including the rapid infiltration basins and application sites. The well site evaluation will demonstrate that the proposed well site is protective of public health.

Appendix A
Preliminary Land Use Map



Project Summary - Overall:

TOTAL LOTS, SHADOW VALLEY SUBDIVISION: 642*
TOTAL DEVELOPED AREA: 627.48 ACRES
TOTAL GROSS DWELLING UNITS PER ACRE: 1.02 UNITS/ACRE (INCLUDES ROW AREA, GOLF COURSE, AND EVENT CENTER AREAS)

* INCLUDES ESTIMATED 110 LOTS IN FUTURE DEVELOPMENT AREA AT PROJECTS FAR NORTHWEST EDGE. TOTAL NUMBER OF LOTS SUBJECT TO CHANGE.

Land Use Legend:

PROJECT AREA: 627.48 Ac.

RESIDENTIAL LAND USES (104.6 Ac. OR 16.7% AREA*)
- SINGLE FAMILY DETACHED 91.3 Ac. = 416 DU (64.8% OF DU)
- SINGLE FAMILY ATTACHED (TOWNHOME ETC) 13.3 Ac. = 116 UNITS (18.1% OF DU)

FUTURE RESIDENTIAL LAND USES (20.2 Ac. OR 3.2% AREA*)
- FUTURE RESIDENTIAL (INCL. ATTACHED AND DETACHED) =20.2 Ac. = 110 DU (17.1% OF DU)

TOTAL DU: 642 (1.02 DU/Ac.)

COMMERCIAL AND CIVIC LAND USES (10.6 Ac. OR 1.7% AREA*)
- EVENT CENTER 10.0 AC. (1.6% AREA*)
- CIVIC SPACE (BUS/POLICE STAGING AREA) .6 AC. (<1% AREA*)

OPEN SPACE LAND USES (429.3 Ac. OR 68.4% AREA*)
- ACTIVE RECREATION/GOLF COURSE 152.9 Ac. (24.4%*)
- HOA OPEN SPACE 76.4 Ac. (11.0% AREA*)
- HOA CONSERVATION OPEN SPACE 200.0 Ac. (31.9% AREA*)

* % OF TOTAL PROJECT AREA

CIRCULATION - ROADWAY (62.8 Ac. OR 10.0% AREA*)
* % OF TOTAL PROJECT AREA
- PRIMARY
- SECONDARY
- PRIVATE DRIVE | EMERGENCY ACCESS

CIRCULATION - COMMUNITY PATH
- 12' ASPHALT MULTI-USE TRAIL
- 5-8' ASPHALT COMMUNITY PATH
- 5' CONCRETE SIDEWALK
- NATURAL SURFACE TRAIL

Keynotes:

1. CONNECTION TO EXISTING ROADWAY.
2. GOLF COURSE PATH CONNECTION.
3. ACTIVE RECREATION PARK. (HOA).
4. PASSIVE RECREATION PARK AND INTERPRETIVE TRAIL (HOA).
5. PROPOSED SCHOOL BUS STAGING AND STORAGE AREA. SHERIFF OUTPOST.
6. EMERGENCY ACCESS AND PRIMARY GOLF COURSE PATHWAY.
7. TRAIL CONNECTION TO SHADOW VALLEY ESTATES AND HIGHWAY 55.
8. EXPOSURE MULTI-USE ADVENTURE TRAIL AND CONSERVATION AREA.
9. FALL LINE MULTI-USE TRAIL AND CONSERVATION AREA.
10. ROCK GARDEN SINGLE-TRACK MOUNTAIN BIKE TRAIL AND CONSERVATION AREA.
11. OBSERVATION POINT.

Preliminary Land Use Map

Horizontal Scale: 1" = 500'

0 500' 1000'

THE LAND GROUP

SHADOW VALLEY PLANNED COMMUNITY

Kine, LLC

Highway 55
Ada County, Idaho

Revisions
1.

NOT FOR CONSTRUCTION

Project No.: 13161
Date of Issuance: 10.27.2014
Project Milestone: Preliminary Plat

Preliminary Land Use Map

EX-01

Appendix B
Municipal Application for Permit

Print Single Sided Only

FORM 202 Rev. 09/16

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

Ident. No. _____

APPLICATION FOR PERMIT

To appropriate the public waters of the State of Idaho

1. Name of applicant(s) SVP LLC Phone 541-617-1999

Name connector (check one): ☐ and ☐ or ☐ and/or

Mailing address 250 NW Franklin Ave #401 City Bend

State OR ZIP 97703 Email larrykine@gmail.com

2. Name of representative, if any HDR Phone 208-387-7000

Mailing address 412 E Parkcenter Blvd, Ste 100 City Boise

State ID ZIP 83706 Email lori.graves@hdrinc.com

a. ☐ Send all correspondence for this application to the representative and not to the applicant OR
☒ Send original correspondence to the applicant and copies to the representative.

b. ☒ The representative may submit information for the applicant but is not authorized to sign for the applicant OR
☐ The representative is authorized to sign for the applicant. Attach a Power of Attorney or other documentation.

3. Source of water supply Ground Water which is a tributary of _____

4. Location of point(s) of diversion: Lori Graves 5/13/2024

Twp	Rge	Sec	Govt Lot	¼	¼	¼	County	Source	Local name or tag #
5N	1E	25			NE	NW	Ada	Ground Water	Possible POD
5N	1E	25			NE	NW	Ada	Ground Water	Possible POD
5N	1E	25			SW	NW	Ada	Ground Water	Possible POD
5N	1E	25			SW	NW	Ada	Ground Water	Possible POD

5. Water will be used for the following purposes:

Amount 2.72 cfs (cfs or acre-feet per year) for Municipal purposes from 1/1 to 12/31 (both dates inclusive)

Amount _____ (cfs or acre-feet per year) for _____ purposes from _____ to _____ (both dates inclusive)

Amount _____ (cfs or acre-feet per year) for _____ purposes from _____ to _____ (both dates inclusive)

Amount _____ (cfs or acre-feet per year) for _____ purposes from _____ to _____ (both dates inclusive)

6. Total quantity to be appropriated is (a) 2.72 cubic feet per second (cfs) and/or (b) _____ acre-feet per year (af).

7. Proposed diverting works: Lori Graves 5/13/2024

a. Describe type and size of devices used to divert water from the source. Up to 4 wells, pumps, pressurized system

b. Height of storage dam _____ feet; active reservoir capacity _____ acre-feet; total reservoir capacity _____ acre-feet. If the reservoir will be filled more than once each year, describe the refill plan in item 12. For dams 10 feet or more in height AND having a storage capacity of 50 acre-feet or more, submit a separate Application for Construction or Enlargement of a New or Existing Dam. Application required? ☐ Yes ☐ No

c. Proposed well diameter is 12 - 16 inches; proposed depth of well is 800 feet.

d. Is ground water with a temperature of greater than 85°F being sought? ☐ Yes ☒ No

e. If well is already drilled, when? _____; drilling firm _____;
well was drilled for (well owner) _____; Drilling Permit No. _____.

For Department Use

Received by _____ Date _____ Time _____ Preliminary check by _____

Fee $_____ Receipted by _____ Receipt No. _____ Date _____

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

Ident. No. _____

Point of Diversion/Place of Use Supplement

Attachment to: ☒ Application for Permit to Appropriate Water ☐ Application for Transfer** ☐ Adjudication Claim
☐ Application for Amendment of Permit ☐ Beneficial Use Field Report ☐ Statutory Claim

Location of points of diversion (POD):

Lori Graves 5/13/2024

New POD?	Twp	Rge	Sec	Govt Lot	¼	¼	¼	County	Source	Local name or well/diversion tag #
☒ Yes	5N	1E	26			NE	NE	Ada	Ground Water	Possible POD
☒ Yes	5N	1E	26			NE	NE	Ada	Ground Water	Possible POD
☒ Yes	5N	1E	26			SE	SE	Ada	Ground Water	Possible POD
☒ Yes	5N	1E	26			SE	SE	Ada	Ground Water	Possible POD
☐ Yes										
☐ Yes										
☐ Yes										
☐ Yes										
☐ Yes										
☐ Yes										

Description of place of use (POU):

a. If water is for irrigation, indicate acreage in each subdivision in the tabulation below.
b. If water is used for other purposes, place a symbol of the use (example: D for Domestic) in the corresponding place of use below.

TWP	RGE	SEC	NE				NW				SW				SE				TOTALS
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
5N	1E	26	M		M	M									M	M	M	M	

**If this supplemental sheet is for an Application for Transfer, insert this page into Part 1B of the application.

Page _____

Application Narrative:

A new planned development consisting of up to 755 residential units is planned in the Shadow Valley area northeast of Eagle. The development encompasses approximately 635 acres. As proposed, a new public water system consisting of up to ~~six~~ four new wells will provide ground water for municipal purposes within the development including potable domestic uses for 755 homes (1.15 cfs), each with 0.1-acre landscape irrigation with a duty of 0.02 cfs per acre (1.51 cfs), along with 0.06 cfs to account for miscellaneous commercial uses. An average density of 5 homes/acre is planned for residential areas within the development. Large irrigated areas within the development will not be directly irrigated under the municipal permit but rather with recycled water and/or existing irrigation rights. Storage tanks will be provided for fire protection that will utilize ground water from the municipal system for initial fill and refill purposes only. Further details will be provided in the conceptional master plan being prepared for Ada County.

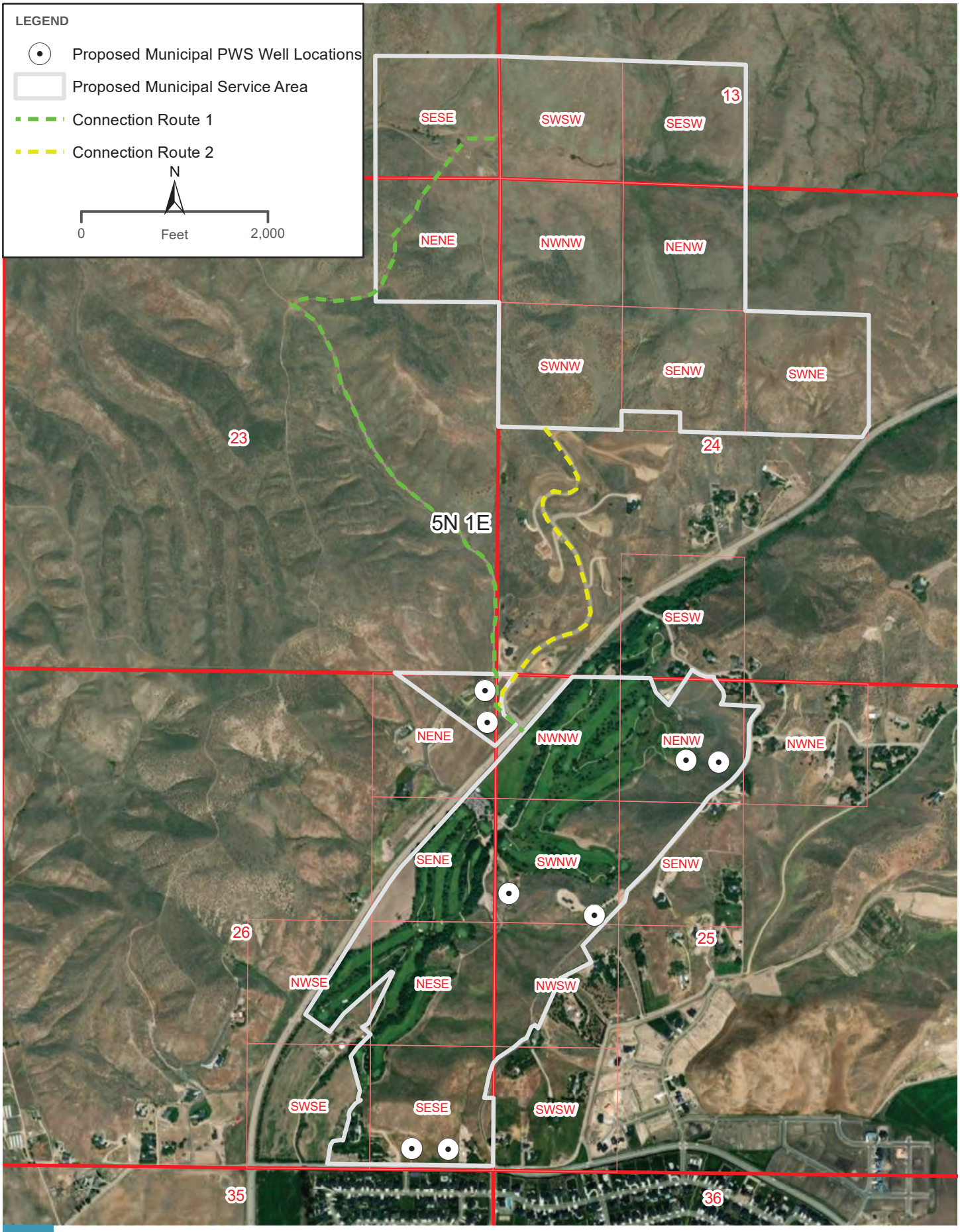
Overlapping water rights found within the proposed municipal service area are listed in Table 1. These rights represent separate systems and uses that will not be integrated into the proposed municipal system. Ground water rights 63-31837 and 63-31849 serve Shadow Valley Golf Course. The other rights authorize stockwater, domestic, and irrigation uses. Irrigation of the golf course will continue under these rights and will not be served by the proposed municipal system.

Water Right	Priority Date	Owner	Water Use	Diversion Rate (cfs)	Total Acres	Source	Tributary
63-15167	1/1/1880	DBSI BUCK 278 LLC	STOCK	0.07	0	SPRINGS	SPRING VALLEY CR
63-32658	4/1/1900	DBSI BUCK 278 LLC	STOCK/IRRIG	0.34	16	SPRING VALLEY CR	DRY CR
63-19685	6/6/1987	RON HUTT	DOM/STOCK	0.10	0	GROUND WATER	
63-31837	9/2/1964	SPRING CREEK GOLF MANAGEMENT LLC	IRRIG	2.88	144	GROUND WATER	
63-31849	9/2/1964	SPRING CREEK GOLF MANAGEMENT LLC	DOM/IRRIG	0.46	23	GROUND WATER	
63-31850	9/2/1964	JOSEPH LEO CRITCHFIELD LIVING TRUST	IRRIG	0.10	5	GROUND WATER	
63-31851	9/2/1964	RONALD HUTT TRUST	IRRIG	0.14	7	GROUND WATER	

The proposed water-bearing zone to be appropriated is from 200 to 800 feet. One or more test wells are planned to attempt to identify aquifers of suitable water quality and the maximum depth to avoid LTG water. The test wells will be properly abandoned after testing.

Eight possible well locations have been proposed to allow drilling flexibility.

(Lori Graves 5-13-2024)



APPLICATION FOR PERMIT

SHADOW VALLEY DEVELOPMENT

SVP LLC

Appendix C
Well Driller's Reports

Well Log Form 1
4M - 5/62

Stadler 1962

1709

RECEIVED
AUG 25 1964
Department of Reclamation

WELL LOG AND REPORT OF THE STATE RECLAMATION ENGINEER OF IDAHO

097974

Permit No. 32052 Well No. _____ County Ida

Owner Ben Stadler

Address Boise

Driller Russel Cowe

Address Boise Idaho

Well location SW¼ NW¼ Sec. 25, T. 5N N/S, R. 1E E/W

Size of drilled hole 20"

Total depth of well 244

Locate well in section

NW¼	NE¼
SW¼	SE¼

Give depth to standing water from the ground 28 ft Water temp. _____ °Fahr.

On "Pumping Test" delivery was 2000 g.p.m. or _____ c.f.s. Drawdown was _____ feet.

Size of pump and motor used to make test air compressor

Length of time of test 8 hours _____ minutes.

If flowing well, give flow _____ c.f.s. or _____ g.p.m. and of shut off pressure _____

If flowing well, described control works _____
(TYPE AND SIZE OF VALVE, ETC.)

Water will be used for Irrigation Weight of casing per lineal foot 56 pound

Thickness of casing .025 Casing material steel
(STEEL, CONCRETE, WOOD, ETC.)

Diameter, length and location of casing _____
(CASING 12" IN DIAMETER OR LESS, GIVE INSIDE DIAMETER; CASING OVER 12" IN DIAMETER, GIVE OUTSIDE DIAMETER)

16" OD casd to 242 ft.

CASING RECORD

Diam. Casing	From Feet	To Feet	Length	Remarks—seals, grouting, etc.
16"	0	242		
	209	242		perforated well gravel packed

Number and size of perforations ¼ X 5 900 located 209 feet to 242 feet from ground

Date of commencement of well Oct 1962 Date of completion of well Oct 1962

WELL LOG

From Feet	To Feet	Type of Material	Water-bearing Formation Ans. Yes or No	Casing Perforated Ans. Yes or No
0	7	soil		
7	185	brown sandy clay		
185	187	blue clay		
187	215	blue sandy clay		
215	242	water bearing gravel blue clay mixed		
		If more space is required use Sheet No. 2		

WELL DRILLER'S STATEMENT

This well was drilled under my supervision and the above information is complete, true and correct to the best of my knowledge and belief.

Signed Russel Powe

By

License No. 65

Dated , 19

South Well

rm 238-7
89

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

USE TYPEWRITER OR BALLPOINT PEN

WELL DRILLER'S REPORT

within 30 days after the completion or abandonment of the well

6. WELL OWNER

Name SHADOW VALLEY GOLF COURSE

Address RT.# 1 BOISE 83703

Owner's Permit No. 63-91-Z-097 63-8329

7. WATER LEVEL

Static water level 50 feet below land surface.
Flowing? ☐ Yes ☐ No G.P.M. flow _____
Artesian closed-in pressure _____ p.s.i.
Controlled by: ☐ Valve ☐ Cap ☐ Plug
Temperature _____ °F. Quality _____
Describe artesian or temperature zones below.

5. NATURE OF WORK

☐ New well ☐ Deepened ☒ Replacement
☐ Well diameter increase
☐ Abandoned (describe abandonment procedures such as materials, plug depths, etc. in lithologic log)

8. WELL TEST DATA

☐ Pump ☐ Bailer ☐ Air ☐ Other _____

Discharge G.P.M.	Pumping Level	Hours Pumped

4. PROPOSED USE

☐ Domestic ☒ Irrigation ☐ Test ☐ Municipal
☐ Industrial ☐ Stock ☐ Waste Disposal or Injection
☐ Other _____ (specify type)

9. LITHOLOGIC LOG

Bore Diam.	Depth From	Depth To	Material	Water Yes	Water No
20	0	68	tannish brown clay		X
	68	201	bluish gray clay		X
	201	255	basalt & granite sands with layers of blue clay	X	

DEC - 3 1991

Fig. K

13" Rim

3. METHOD DRILLED

☐ Rotary ☐ Air ☐ Hydraulic ☐ Reverse rotary
☒ Cable ☐ Dug ☐ Other _____

10.

Work started 6/5/91 finished 6/19/91

2. WELL CONSTRUCTION

Casing schedule: ☒ Steel ☐ Concrete ☐ Other _____

Thickness		Diameter		From		To	
.250	inches	16	inches +	1	feet	201	feet
.250	inches	14	inches	196	feet	201	feet
	inches		inches		feet		feet
	inches		inches		feet		feet

Was casing drive shoe used? ☐ Yes ☒ No
Was a packer or seal used? ☒ Yes ☐ No
Perforated? ☐ Yes ☒ No
How perforated? ☐ Factory ☐ Knife ☐ Torch ☐ Gun
Size of perforation _____ inches by _____ inches

Number		From		To	
	perforations		feet		feet
	perforations		feet		feet
	perforations		feet		feet

Well screen installed? ☒ Yes ☐ No
Manufacturer's name johnson
Type stainless steel Model No. 30F
Diameter 10 Slot size 30 Set from 201 feet to 251 feet
Diameter ___ Slot size ___ Set from ___ feet to ___ feet
Gravel packed? ☒ Yes ☐ No ☐ Size of gravel 8-12 sand
Placed from 180 feet to 255 feet
Surface seal depth 22 Material used in seal: ☒ Cement grout
☐ Bentonite ☐ Puddling clay ☐ _____
Sealing procedure used: ☐ Slurry pit ☒ Temp. surface casing ☒ Overbore to seal depth
Method of joining casing: ☐ Threaded ☒ Welded ☐ Solvent Weld
☐ Cemented between strata
Describe access port _____

1. LOCATION OF WELL

Hiway 55

Sketch map location must agree with written location.

N
W E
S

Subdivision Name _____
Lot No. _____ Block No. _____

County ADA

SW ¼ NW ¼ Sec. 25, T. 5 N ☒ S ☐ R. 1 E ☒ W ☐

11. DRILLERS CERTIFICATION

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name Stevens & Sons Firm No. 153
Address 3709 Hawthorne Drive Date 6/27/91
Signed by (Firm Official) Wayne E Stevens
and
(Operator) Wayne E Stevens

1708

Stadler 1964

Location Corrected by IDWR To:
T05N R01E Sec. 26 SWSE
By: segbert 2010-10-15

Well Log Form 1
3M-3/63

WELL LOG AND REPORT TO THE STATE RECLAMATION ENGINEER OF IDAHO 097973

SUBMIT WITHIN 30 DAYS AFTER COMPLETION OF WELL: SEE IDAHO STATUTES 42-238

Permit No. 9-32051 Well No. _____ County Ada

Owner Ben F. Stadler

Address Route 1 Boise, Idaho

Driller Russell Cowe

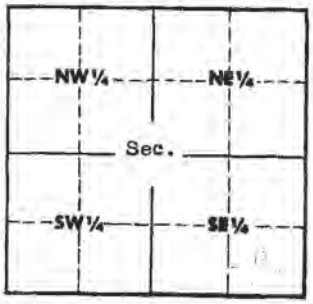
Address Boise, Idaho

Well location SE ¼ SE ¼ Sec. 26, T. 5N N/S, R. 1E E/W

Size of drilled hole 12" to 340' 10" 340' to 688'

Total depth of well 688'

Locate well in section



Give depth to standing water from the ground flowing Water temp. 82.5 °Fahr.

Test delivery was 900 g.p.m. or ✓ c.f.s. Drawdown was ✓ feet. Pump? ✓ Bail? ✓

Size of pump and motor used to make test none

Length of time of test _____ hours _____ minutes.

If flowing well, give flow _____ c.f.s. or 900 g.p.m. and of shut off pressure 5 lbs.

If flowing well, described control works 6" Gate Valve
(TYPE AND SIZE OF VALVE, ETC.)

Water will be used for Domestic+Irrigation Weight of casing per lineal foot _____

Thickness of casing ¼ wall Casing material Steel
(STEEL, CONCRETE, WOOD, ETC.)

Diameter, length and location of casing 12" casing to 340' 8" casing 340 to 688'
(CASING 12" IN DIAMETER OR LESS, GIVE INSIDE DIAMETER; CASING OVER 12" IN DIAMETER, GIVE OUTSIDE DIAMETER)

CASING RECORD

Diam. Casing	From Feet	To Feet	Length	Remarks—seals, grouting, etc.
12"	0'	340'	343'	3' above ground. Casing set in hard, blue shale
8"	321'	688'	367'	8" seal into 12" at 321' from ground level
				WWR.

Number and size of perforations 5/32" 990 perforations located 633' feet to 688' feet from ground

Date of commencement of well June 1, 1964 Date of completion of well Aug. 12, 1964

3

Stadler 2013

Form 238-7
6/07

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

1. WELL TAG NO. D 0064294
Drilling Permit No. 961856-867918 ✓
Water right or injection well # 63-31838

2. OWNER:
Name Joe Stadler
Address [redacted]
City Boise State ID Zip 83714

3.WELL LOCATION:
Twp. 5 North ☒ or South ☐ Rge. 1 East ☐ or West ☐
Sec. 26 ____ 1/4 (10 acres) S/W 1/4 (40 acres) S/E 1/4 (160 acres)
Gov't Lot ____ County Ada
Lat. 43 ° .7358 (Deg. and Decimal minutes)
Long. 116 ° .3025 (Deg. and Decimal minutes)
Address of Well Site 9700 Brookside Lane City Boise
(Give at least name of road + Distance to Road or Landmark)
Lot. ____ Blk. ____ Sub. Name ____

4. USE:
☐ Domestic ☐ Municipal ☐ Monitor ☒ Irrigation ☐ Thermal ☐ Injection
☐ Other ____

5. TYPE OF WORK:
☒ New well ☐ Replacement well ☐ Modify existing well
☐ Abandonment ☐ Other ____

6. DRILL METHOD:
☐ Air Rotary ☒ Mud Rotary ☐ Cable ☐ Other ____

7. SEALING PROCEDURES:

Seal material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method/procedure
Cement	20	212	3 yd	pumped
bentonite chip	0	20	9 sk	poured

8. CASING/LINER:

Diameter (nominal)	From (ft)	To (ft)	Gauge/ Schedule	Material	Casing	Liner	Threaded	Welded
8"	+2	210	250		☒	☐	☐	☒
					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐

Was drive shoe used? ☐ Y ☒ N Shoe Depth(s) ____

9. PERFORATIONS/SCREENS:
Perforations ☐ Y ☒ N Method ____
Manufactured screen ☐ Y ☒ N Type ____
Method of installation ____

From (ft)	To (ft)	Slot size	Number/ft	Diameter (nominal)	Material	Gauge or Schedule

Length of Headpipe ____ Length of Tailpipe ____
Packer ☐ Y ☒ N Type ____

10.FILTER PACK:

Filter Material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method

11. FLOWING ARTESIAN:
Flowing Artesian? ☒ Y ☐ N Artesian Pressure (PSIG) 1
Describe control device 6" butterfly valve

12. STATIC WATER LEVEL and WELL TESTS:
Depth first water encountered (ft) 301 Static water level (ft) +2
Water temp. (°F) 82 Bottom hole temp. (°F) 82
Describe access port ____

Well test:

Drawdown (feet)	Discharge or yield (gpm)	Test duration (minutes)

Test method: ☐ Pump ☐ Bailer ☐ Air ☐ Flowing artesian

Water quality test or comments: ____

13. LITHOLOGIC LOG and/or repairs or abandonment:

Bore Dia. (in)	From (ft)	To (ft)	Remarks, lithology or description of repairs or abandonment, water temp.	Water Y	Water N
12	0	6	topsoil		X
	6	13	silty dark gray clay		X
	13	39	coarse sand & small gravel		X
	39	44	tan & gray clay streaks		X
	44	46	cemented sand		X
	46	301	blue clay		X
	301	307	fine black sand	X	
	307	316	blue clay		X
	316	318	coarse quartz sand,		
			small gravel	X	
	318	361	sticky silty blue gray clay		X
	361	760	hard blue gray clay stone		X
	760	772	hard quartz sand stone		X
	772	778	sticky gray clay		X
	778	780	hard quartz sand stone		X
	780	782	sticky blue gray clay		X
	782	862	blue quartz sand	X	

RECEIVED
APR 18 2013
WATER RESOURCES
WESTERN REGION

Completed Depth (Measurable): 800'
Date Started: 2/20/13 Date Completed: 4/1/13

14. DRILLER'S CERTIFICATION:
I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Company Name Stevens & Sons Co. No. 153
*Principal Driller [signature] Date 4/10/13
*Driller [signature] Date ____
*Operator II [signature] Date ____
Operator I ____ Date ____

* Signature of Principal Driller and rig operator are required.

Appendix D
Water Quality Laboratory Reports

Analytical Laboratories, Inc.

1804 N. 33rd Street
Boise, Idaho 83703
Phone (208) 342-5515

Date Report Printed: 06/21/2021 04:10:46 PM
http://www.analyticallaboratories.com
These test results relate only to the items tested.

Laboratory Analysis Report

Sample Number: 2128034

Attn: JUDY HUTT
SHADOW VALLEY GOLF COURSE
15711 HWY 55
BOISE, ID 83714

Collected By: C. PATE
Submitted By: C. PATE

Source of Sample:
NORTH WELL

Time of Collection: 10:05
Date of Collection: 06/08/2021
Date Received: 06/08/2021
Report Date: 6/16/2021

Field pH:
Field Temp: 14.8 °C
Lab pH:
Temp Rcvd in Lab:

PWS#:
PWS Name: SHADOW VALLEY GOLF COURSE

Test Requested	MCL	Analysis Result	Units	MDL	Method	Date Completed	Analyst
Arsenic Low		0.022	mg/L	0.002	EPA 200.8	06/14/2021	JH
Value Exceeds the MCL of 0.010 mg/L							
Iron, Fe		0.12	mg/L	0.05	EPA 200.7	06/11/2021	JMS
Manganese, Mn		0.046	mg/L	0.005	EPA 200.7	06/11/2021	JMS
Uranium, U		2	ug/L	1	EPA 200.8	06/15/2021	JH
Nitrate (as N)		<0.2	mg/L	0.2	EPA 300.0	06/08/2021	NC
Fluoride, F		0.27	mg/L	0.10	EPA 300.0	06/09/2021	NC
Hardness		301	mg/L	5.0	SM 2340-C	06/10/2021	LW
Total Dissolved Solids		416	mg/L	25	SM 2540 C	06/10/2021	BDM

Email: shadowvalley9@gmail.com

CC: t.j.@shadowvalley.com

MCL = Maximum Contamination Level
MDL = Method/Minimum Detection Limit
UR = Unregulated

Thank you for choosing Analytical Laboratories for your testing needs.

If you have any questions about this report, or any future analytical needs, please contact your client manager:

Brian M. McGovern

Analytical Laboratories, Inc.

1804 N. 33rd Street
Boise, Idaho 83703
Phone (208) 342-5515

Date Report Printed: 06/21/2021 04:10:46 PM
http://www.analyticallaboratories.com
These test results relate only to the items tested.

Laboratory Analysis Report

Sample Number: 2128036

Attn: JUDY HUTT
SHADOW VALLEY GOLF COURSE
15711 HWY 55
BOISE, ID 83714

Collected By: C. PATE
Submitted By: C. PATE

Source of Sample:
SOUTH WELL

Time of Collection: 10:25
Date of Collection: 06/08/2021
Date Received: 06/08/2021
Report Date: 6/16/2021

Field pH:
Field Temp: 24.6 °C
Lab pH:
Temp Rcvd in Lab:

PWS#:
PWS Name: SHADOW VALLEY GOLF COURSE

Test Requested	MCL	Analysis Result	Units	MDL	Method	Date Completed	Analyst
Arsenic Low		0.0082	mg/L	0.0020	EPA 200.8	06/14/2021	JH
Iron, Fe		0.42	mg/L	0.05	EPA 200.7	06/11/2021	JMS
Manganese, Mn		0.114	mg/L	0.005	EPA 200.7	06/11/2021	JMS
Uranium, U		<1	ug/L	1	EPA 200.8	06/15/2021	JH
Nitrate (as N)		<0.2	mg/L	0.2	EPA 300.0	06/08/2021	NC
Fluoride, F		1.33	mg/L	0.10	EPA 300.0	06/09/2021	NC
Hardness		171	mg/L	5.0	SM 2340-C	06/10/2021	LW
Total Dissolved Solids		318	mg/L	25	SM 2540 C	06/10/2021	BDM

Email: shadowvalley9@gmail.com

CC: t.j.@shadowvalley.com

MCL = Maximum Contamination Level
MDL = Method/Minimum Detection Limit
UR = Unregulated

Thank you for choosing Analytical Laboratories for your testing needs.

If you have any questions about this report, or any future analytical needs, please contact your client manager:

Brian M. McGovern

Analytical Laboratories, Inc.
1804 N. 33rd Street
Boise, Idaho 83703
Phone (208) 342-5515

Date Report Printed: 8/12/2008 1:59:12
http://www.analyticallaboratories.com

Laboratory Analysis Report

Sample Number: 0824034

Attn: JENNIFER SUKOW
S P F WATER ENGINEERING, LLC
600 E RIVER PARK LN STE 105
BOISE, ID 83706

Collected By: M LASH
Submitted By: M LASH

Source of Sample:
SHADOW VALLEY #1
(South well)

Time of Collection: 9:45
Date of Collection: 8/4/2008
Date Received: 8/4/2008
Report Date: 8/12/2008

PWS#:
PWS Name:

Arsenic value exceeds MCL of 0.010 mg/L.

Test Requested	MCL	Analysis Result	Units	MDL	Method	Date Completed	Analyst
Arsenic Low		0.020	mg/L	0.005	EPA 200.8	8/7/2008	JH
Iron, Fe		0.11	mg/L	0.05	EPA 200.7	8/8/2008	JH
Manganese, Mn		0.05	mg/L	0.05	EPA 200.7	8/8/2008	JH
Uranium, U		<1	ug/L	1	EPA 200.8	8/7/2008	JH
Nitrate (as N)		<0.2	mg/L	0.2	EPA 300.0	8/4/2008	WW
Ammonia Direct (as N)		0.15	mg/L	0.04	EPA 350.1	8/8/2008	SS
Fluoride, F		1.39	mg/L	0.1	EPA 300.0	8/6/2008	WW
Total Dissolved Solids		278	mg/L	25	SM 2540C	8/7/2008	MG

Michael M Moore 8/14/08

Thank you for choosing Analytical Laboratories for your testing needs.

If you have any questions about this report, or any future analytical needs, please contact your client manager:

Michael Moore

MCL = Maximum Contamination Level
MDL = Method/Minimum Detection Limit
UR = Unregulated

Analytical Laboratories, Inc.
1804 N. 33rd Street
Boise, Idaho 83703
Phone (208) 342-5515

Date Report Printed: 8/12/2008 1:59:12
http://www.analyticallaboratories.com

Laboratory Analysis Report

Sample Number: 0824035

Attn: JENNIFER SUKOW
S P F WATER ENGINEERING, LLC
600 E RIVER PARK LN STE 105
BOISE, ID 83706

Collected By: M LASH
Submitted By: M LASH

Source of Sample:
SHADOW VALLEY #2
(North Well)

Time of Collection: 10:00
Date of Collection: 8/4/2008
Date Received: 8/4/2008
Report Date: 8/12/2008

PWS#:
PWS Name:

Arsenic value exceeds MCL of 0.010 mg/L.

Test Requested	MCL	Analysis Result	Units	MDL	Method	Date Completed	Analyst
Arsenic Low		0.022	mg/L	0.005	EPA 200.8	8/7/2008	JH
Iron, Fe		0.12	mg/L	0.05	EPA 200.7	8/8/2008	JH
Manganese, Mn		<0.05	mg/L	0.05	EPA 200.7	8/8/2008	JH
Uranium, U		<1	ug/L	1	EPA 200.8	8/7/2008	JH
Nitrate (as N)		<0.2	mg/L	0.2	EPA 300.0	8/4/2008	WW
Ammonia Direct (as N)		<0.04	mg/L	0.04	EPA 350.1	8/8/2008	SS
Fluoride, F		0.37	mg/L	0.1	EPA 300.0	8/6/2008	WW
Total Dissolved Solids		358	mg/L	25	SM 2540C	8/7/2008	MG

Michael Moore 8/14/08

Thank you for choosing Analytical Laboratories for your testing needs.

If you have any questions about this report, or any future analytical needs, please contact your client manager:

Michael Moore

MCL = Maximum Contamination Level
MDL = Method/Minimum Detection Limit
UR = Unregulated

Analytical Laboratories Inc

1804 N. 33rd Street
Boise, Idaho 83703
Phone (208) 342-5515

www.analyticallaboratories.com
Lab Federal ID# ID00020

Laboratory Analysis Report

Report To: JASON THOMPSON
HDR ENGINEERS
412 E PARKCENTER BLVD STE100
BOISE, ID 83706
Phone: (208) 387-7000 Copy:
e-mail: jason.thompson@hdrinc.com
Date Received: 11/16/2023
Collection Date/Time: 11/16/2023 14:00

Lab/Sample Number: 2324856-01
Sample Location: L. KINE - SADLER 1964 WELL
Date Printed: 12/06/2023 13:37
Collector's Name: PATRICK KELLY
Transported By: PATRICK KELLY
Temp C Received at Lab:

Field Measurements

pH: Total Chlorine mg/L: DO mg/L:
Temp C: Free Chlorine mg/L: Flow g/min:

Analyte	Result	Units	MRL	MDL	MCL	Analyzed	Analyst	Method	Notes
Inorganics									
pH	7.8	S.U.				11/22/23 17:00	JD	EPA 150.1	
Nitrate (as N)	ND	mg/L	0.2	0.01	10	11/16/23 22:49	NC	EPA 300.0	
Fluoride	1.99	mg/L	0.10	0.0001	4	11/18/23 20:33	NC	EPA 300.0	
Alkalinity, Total	134	mg CaCO3/L	5.0	5.0		11/22/23 17:08	LW	EPA 310.1	
Ammonia, Direct (as N)	0.35	mg/L	0.04	0.02		11/21/23 9:00	JPH	EPA 350.1	
Langelier's Index	- 0.24	LI				11/28/23 14:23	JH	Langelier	C
Hardness	91.8	mg/L	3.5	3.5		11/21/23 17:00	JMS	SM 2340-B	
Total Dissolved Solids	233	mg/L	25	24	500	11/22/23 8:55	MAA	SM 2540 C	
Metals by ICP									
Manganese, Mn	0.035	mg/L	0.005	0.002		11/17/23 13:15	JMS	EPA 200.7	
Iron, Fe	ND	mg/L	0.050	0.00002		11/17/23 13:15	JMS	EPA 200.7	
Hardness, Calcium (as CaCo3)	77.7	mg/L	1.25	0.07		11/21/23 15:00	JMS	EPA 200.7	
Metals by ICP-MS									
Uranium, U	ND	ug/L	1	0.1	30	11/20/23 13:02	JMS	EPA 200.8	
Arsenic, As	0.0261	mg/L	0.0020	0.0005	0.01	11/20/23 13:02	JMS	EPA 200.8	MA

C Moderately Aggressive. No Field Temperature Provided, 16°C Used In the Calculation.
MA Value Exceeds the MCL of 0.010 mg/L for Arsenic.

Authorized Signature,



CHRISTI YOUNG, Client Manager

Analytical Laboratories Inc

1804 N. 33rd Street
Boise, Idaho 83703
Phone (208) 342-5515

www.analyticallaboratories.com
Lab Federal ID# ID00020

Laboratory Analysis Report

Report To: JASON THOMPSON
HDR ENGINEERS
412 E PARKCENTER BLVD STE100
BOISE, ID 83706
Phone: (208) 387-7000 Copy:
e-mail: jason.thompson@hdrinc.com
Date Received: 11/02/2023
Collection Date/Time: 11/02/2023 12:30

Lab/Sample Number: 2323811-01
Sample Location: 4080 BROOKSIDE - DOMESTIC WELL

9070 Brookside

Date Printed: 11/15/2023 14:12
Collector's Name: PATRICK KELLY
Transported By: PATRICK KELLY
Temp C Received at Lab: 20.60

Field Measurements

pH: Total Chlorine mg/L: DO mg/L:
Temp C: Free Chlorine mg/L: Flow g/min:

Analyte	Result	Units	MRL	MDL	MCL	Analyzed	Analyst	Method	Notes
Inorganics									
pH	7.8	S.U.				11/2/23 17:00	LW	EPA 150.1	
Nitrate (as N)	ND	mg/L	0.2	0.01	10	11/3/23 5:53	NC	EPA 300.0	
Fluoride	2.68	mg/L	0.10	0.0001	4	11/9/23 19:09	NC	EPA 300.0	
Alkalinity, Total	136	mg CaCO3/L	5.0	5.0		11/3/23 16:43	LW	EPA 310.1	
Ammonia, Direct (as N)	0.76	mg/L	0.04	0.02		11/5/23 17:00	JPH	EPA 350.1	
Langelier's Index	- 0.16	LI				11/14/23 11:10	JH	Langelier	C
Total Dissolved Solids	236	mg/L	25	24	500	11/9/23 10:15	BDM	SM 2540 C	
Metals by ICP									
Manganese, Mn	0.088	mg/L	0.005	0.002		11/7/23 13:27	JMS	EPA 200.7	
Iron, Fe	0.130	mg/L	0.050	0.00002		11/7/23 13:27	JMS	EPA 200.7	
Hardness, Calcium (as CaCo3)	89.4	mg/L	1.25	0.07		11/6/23 12:40	JMS	EPA 200.7	
Calcium, Ca	35.8	mg/L	0.50	0.03		11/6/23 12:40	JMS	EPA 200.7	
Metals by ICP-MS									
Uranium, U	ND	ug/L	1	0.1	30	11/6/23 10:35	JH	EPA 200.8	
Arsenic, As	ND	mg/L	0.0020	0.0005	0.01	11/6/23 10:35	JH	EPA 200.8	

C Moderately Aggressive. No Field Temperature Provided, 16°C Used In the Calculation.

Authorized Signature,

CHRISTI YOUNG, Client Manager

Analytical Laboratories, Inc.

1804 N. 33rd Street
Boise, Idaho 83703
Phone (208) 342-5515

Date Report Printed: 5/3/2021 10:54:48 AM
http://www.analyticallaboratories.com
These test results relate only to the items tested

Laboratory Analysis Report

Sample Number: 2119267

Attn:
ADAMSON PUMP & DRILLING
1320 SMITH AVE
NAMPA, ID 83651

Collected By: STEVE
Submitted By: STEVE

Source of Sample:
4811 E. RONALD REAGAN BOISE TEST PUMP

Time of Collection: 13:20
Date of Collection: 4/26/2021
Date Received: 4/26/2021
Report Date: 5/3/2021

Field pH: Lab pH: **PWS#:**
Field Temp: Temp Rcvd in Lab: **PWS Name:**

TIME TAKEN FROM BOTTLE

Test Requested	MCL	Analysis Result	Units	MDL	Method	Date Completed	Analyst
Arsenic Low	0.01	0.022	mg/L	0.002	EPA 200.8	4/28/2021	JH
Value Exceeds the MCL of 0.010 mg/L							
Iron, Fe	UR	1.26	mg/L	0.05	EPA 200.7	4/28/2021	JMS
Manganese, Mn	UR	0.054	mg/L	0.005	EPA 200.7	4/28/2021	JMS
Uranium, U	30	<1	ug/L	1	EPA 200.8	4/28/2021	JH
Nitrate (as N)	10	<0.2	mg/L	0.2	EPA 300.0	4/26/2021	NC
Fluoride, F	4.0	1.11	mg/L	0.10	EPA 300.0	4/27/2021	NC
Hardness	UR	132	mg/L	5.0	SM 2340-C	4/27/2021	LW
Total Dissolved Solids	UR	242	mg/L	25	SM 2540 C	4/29/2021	BDM

Email: deirdre@adamsonpumpanddrilling.com

5-4-21

Thank you for choosing Analytical Laboratories for your testing needs.

If you have any questions about this report, or any future analytical needs, please contact your client manager:
Brian M. McGovern

MCL = Maximum Contamination Level
MDL = Method/Minimum Detection Limit
UR = Unregulated

PDF Only

Analytical Laboratories, Inc.

1804 N. 33rd Street
Boise, Idaho 83703
Phone (208) 342-5515

Date Report Printed: 4/29/2021 7:12:57 AM
http://www.analyticallaboratories.com
These test results relate only to the items tested.

Laboratory Analysis Report

Sample Number: 2119268

Attn:
ADAMSON PUMP & DRILLING
1320 SMITH AVE
NAMPA, ID 83651

Collected By: STEVE
Submitted By: STEVE

Source of Sample:
4811 E. RONALD REAGAN BOISE TEST PUMP

Time of Collection: 13:20
Date of Collection: 4/26/2021
Date Received: 4/26/2021
Report Date: 4/29/2021

Field pH:
Field Temp:
Lab pH:
Temp Rcvd in Lab:

PWS#:
PWS Name:

TIME TAKEN FROM BOTTLE

Test Requested	MCL	Analysis Result	Units	MDL	Method	Date Completed	Analyst
Iron, Fe	UR	<0.05	mg/L	0.05	EPA 200.7	4/28/2021	JMS
Manganese, Mn	UR	0.023	mg/L	0.005	EPA 200.7	4/28/2021	JMS
Metals Filtering		*				4/27/2021	JR

Email: deirdre@adamsonpumpanddrilling.com

5-4-21

Thank you for choosing Analytical Laboratories for your testing needs.
If you have any questions about this report, or any future analytical needs, please contact your client manager:
Brian M. McGovern

MCL = Maximum Contamination Level
MDL = Method/Minimum Detection Limit
UR = Unregulated

PDF Only

Appendix E
Arsenic Treatment Information

AdEdge ARSENIC Treatment Technologies

Matrix of Benefits and Features

	ADSORPTION	OXIDATION / FILTRATION	COAGULATION / FILTRATION
TREATMENT APPROACH			
Media Type	Bayoxide E33	AD26	ADGS+
Description	Granular Ferric Oxide	70-80% Manganese Dioxide	Manganese Dioxide-Coated Silica
Arsenic Removal Mechanism	Arsenic is adsorbed and retained in the media	Arsenic co-precipitates with naturally-ocurring iron forming ferric arsenate which is filtered in the media	Arsenic precipitates with addition of iron-based coagulant formic ferric arsenate which is filtered in the media
Effects of Iron & Manganese in Raw Water	Fouls media; Requires pre-treatment	Filters out oxidized Fe & Mn; Catalytic oxidation of Mn/Fe/As	Filters out oxidized Fe & Mn; Catalytic oxidation of Mn
Technology Preference - When to Use	Low Fe & Mn; Low TSS & turbidity; Difficulty sourcing / working w/ chemicals	Naturally-occurring iron is present in more than a 30:1 Fe/As ratio; High manganese concentrations	Insufficient naturally-ocurring iron; Low manganese concentrations
*System Size**	Ideal for small to medium systems	Ideal for small to large systems	Ideal for medium to large systems
Complexity	Simple	Simple	Moderate
WATER QUALITY CRITERIA - TYPICAL DESIGN PARAMETERS*			
Raw Water Quality - Arsenic	As < 100 ppb	As < 30 ppb	As < 80 ppb
Raw Water Quality - Iron	Fe < 0.3 mg/L	Fe < 8 mg/L	Fe < 8 mg/L
Raw Water Quality - Manganese	Mn < 0.05 mg/L	Mn < 3 mg/L	Mn < 0.40 mg/L
Raw Water Quality - pH	pH = 6.5-8.2	pH = 6.8-8.5	pH = 6.8-7.8
Raw Water Quality - Silica	SiO_2 < 30 mg/L	SiO_2 < 60 mg/L	SiO_2 < 60 mg/L
Raw Water Quality - Phosphate	PO_4 < 0.3 mg/L	PO_4 < 1.0 mg/L	PO_4 < 1.0 mg/L
CHEMICAL TREATMENT			
Pre-Oxidation	Sodium Hypochlorite	Sodium Hypochlorite	Sodium Hypochlorite
Coagulant	Not Required	Not Required	Ferric Chloride
Flocculant	Not Required	Not Required	Polymer may be required***
BACKWASH			
Required Cleaning Operations	Raw or Treated Water Backwash	Treated Water Backwash	Treated Water Backwash
Regeneration	None, only backwash	None, only backwash	None, only backwash
Backwash Flowrate	9 gpm / sqft	17-20 gpm / sqft	12 gpm / sqft
Backwash Frequency	45-60 days	1-3 times / week	3-4 times / week
Wastewater Generation	Low (<1%)	Moderate	Moderate
Minimum System Controls	Manual Backwash	Automatic Backwash	Automatic Backwash
Backwash Water Constituents	Some color & iron fines present; Arsenic is not desorbed from media	Ferric arsenate removed from media; Backwash has high solids content****	Ferric arsenate removed from media; Backwash has high solids content****
Backwash Water Quality	Non-hazardous	Non-hazardous	Non-hazardous
Backwash Water Management	Septic, Sewer, Solar Evaporation Pond, Recycle	Sewer, Solar Evaporation Pond, Recycle	Sewer, Solar Evaporation Pond, Recycle
BACKWASH RECYCLE**			
Recycle Flowrate	10% of Treatment Flowrate	10% of Treatment Flowrate	10% of Treatment Flowrate
Backwash Holding Tank Type (typical)	Flat-bottom	Cone or Sloped Bottom	Cone or Sloped Bottom
Solids Management	Solids are manually cleaned out	Offsite disposal of sludge or Dried in dewatering box	Offsite disposal of sludge or Dried in dewatering box
OPERATION AND MAINTENANCE			
Operator Attention	Low	Low	Moderate
Media Life	Dependent on water quality and flow throughput	>10 years typical	>10 years typical
O&M Replacement Media Cost	Moderate	Low	Low
Operating Cost	$0.23 - $0.85 / 1000 gallon	$0.05 - $0.15 / 1000 gallon	$0.15 - $0.35 / 1000 gallon
Media Disposal	Non-hazardous landfill	Non-hazardous landfill	Non-hazardous landfill
Waste Media Characterization	Passes TCLP test	Passes TCLP test	Passes TCLP test

CLARIFICATIONS

* *For specific sizing requirements contact AdEdge*

** *For waters with challenging water chemistry a combination of treatment solutions may be implemented*

*** *Polymer use with coagulation/filtration is used on an as-needed basis, typically determined after piloting*

**** *The solids content in O/F and C/F will be in form of ferric oxides & hydroxides and ferric arsenate; very little dissolved arsenic will still be present*

***** *Backwash Recycle is used in situations when there is no access to sewer or if desired to considerably reduce wastewater generation to existing facilities*

AdEdge Water Technologies, LLC * 2055 Boggs Road * Duluth, GA 30096 * 678-835-0052 * Fax 678-935-0057 * www.adedgetechnologies.com

INTEGRATED WATER SYSTEM SOLUTIONS

AdEdge Packaged Units & Modular Systems for Arsenic Reduction

Compliance with the United States EPA and the World Health Organization's maximum contaminant level of 10 parts per billion for arsenic impacts thousands of water systems throughout the United States and other countries around the globe.

The dangers of arsenic are masked by its colorless, odorless appearance. It is a carcinogen that occurs naturally in groundwater and is known for leading to dangerous health conditions such as cancer, neurodevelopmental disorders, and heart failure.

AdEdge offers a multiple water treatment solutions rated from 5 gpm to over 12 MGD to meet your treatment needs. Choosing the right option is variable upon flow rates, arsenic concentration, the presence of co-contaminants, and site specific conditions or limitations. Upon receiving a complete water quality analysis, AdEdge determines the best treatment option suitable to your needs based on years of experience and an accurate predictive model.

These options include:

- Adsorption using Bayoxide E33 granular ferric oxide media
- Coagulation/Filtration with iron augmentation
- Oxidation/Filtration

AdEdge's line of packaged, pre-engineered APU (AdEdge Packaged Units) systems are the ideal solution for public water systems, schools, subdivisions, and more. We also have a line of modular treatment systems that arrive to site unassembled, ready for hook-up when they arrive on-site. These solutions can incorporate the absorption, oxidation/filtration, and/or coagulation/filtration treatment processes with pre-and-post treatment for a complete integrated system.



2.7 MGD arsenic removal system in Santiago, Chile using AdEdge's Bayoxide E33 adsorption media.

WHY CHOOSE ADEDGE FOR YOUR ARSENIC REMOVAL NEEDS

- AdEdge participated in 12 successful USEPA arsenic demonstration projects.
- AdEdge has over 400 arsenic treatment systems throughout the world.
- AdEdge offers a range of treatment options to meet your treatment needs and goals.
- Independent studies have proven AdEdge's E33 adsorption media to be the highest performing technology for arsenic removal.
- All treatment technologies are NSF 61 certified.

ARSENIC REDUCTION
DATA SHEET

FEATURES & BENEFITS OF ADEDGE ARSENIC REMOVAL SOLUTIONS

- Removal of up to 99% of total arsenic in water, including As (III) & As (V), with no wasting of water
- NSF 61 product listing (see AdEdge for listing site/ product details)
- Effective over broad water chemistry
- Spent media discarded as non-hazardous solid waste
- Simple commercial applications for arsenic removal
- Reliable performance and low maintenance
- Adaptable add-on to water softening or other existing equipment

ADSORPTION



In the adsorption process, contaminants break their bond with water molecules and chemically adhere to a filter media. This is accomplished by directing water flow through pressure vessels that contain the adsorptive media, at a specific rate that allows just the right contact time for adsorption to occur. AdEdge Water Technologies' Bayoxide E33 adsorption media is the industry standard for arsenic removal. This granular ferric oxide media reduces up to 99 percent total arsenic, including arsenic (III) and arsenic (V).

OXIDATION/FILTRATION

Oxidation/filtration is a precipitative process that removes naturally occurring arsenic — if it coexists with high levels of iron) — iron, manganese and hydrogen sulfides from water. The process oxidizes the insoluble forms of these contaminants into their soluble forms and then removes them via filtration. Oxidation/filtration media has a high catalytic and oxidation capacity, superior handling properties, NSF 61-certification, does not require permanganate or coagulant addition, and has low operating and capital costs.

COAGULATION/FILTRATION

Coagulation/filtration is a process that introduces a coagulant, typically an iron or aluminum salt, to pretreat water contaminated with arsenic, iron, manganese and/or sulfides. The process allows for significantly higher flow rates per square foot of media, creates less backwash water than other conventional treatment approaches, and has a smaller footprint that allows for lower operating and capital costs. This process involves a chemical addition, automated processes, which decreases operator involvement and expense, and does not generate hazardous waste.



SPEC SHEET

Bayoxide E33 GRANULAR FERRIC OXIDE MEDIA

For Arsenic and Heavy Metals Removal

AdEdge Water Technologies, LLC's E33 media is the industry standard for arsenic and heavy metals reduction for potable water applications. This media reduces up to 99% of total arsenic, including both arsenic (III) and arsenic (V). It is also effective in reducing other heavy metals such as lead, antimony, and others. This high performing iron-based granular adsorption media is the standard in the industry showing consistently higher capacities than other commercially available adsorption media.

AdEdge's product is ideal for integrated water system solution for drinking water, industrial, commercial, and remediation installations to meet the United States Environmental Protection Agency's maximum contaminant level of 10 ppb. Developed in the mid-nineties, this ferric oxide-based (GFO) product has been successfully used in hundreds of installations around the globe. It is the premier product of choice for commercial water systems for the reliable, cost-effective, proven reduction of arsenic.

FEATURES & BENEFITS

Removal up to 99% of total arsenic in water including As (III) and As (V)	Effective over broad water chemistry
Simple application for drinking water and commercial installations	2 - 2.5 times lighter than other iron-based media
Arsenic is not released or discharged in backwash water	Reliable performance, low maintenance
Adaptable add-on to existing equipment	Effective for the removal of antimony, lead and other heavy metals
Imparts no harmful chemicals into the treated product water	No salt or regeneration needed



Example of E33 Granular Ferric Oxide media

TECHNICAL SPECIFICATIONS

E33 provides cost-effective centralized arsenic and heavy metals treatment with a typical life of 6 - 48 months before replacement in most cases. The media exhibits high operating capacity across a wide range of pH, influent arsenic concentrations, and flow rates. It is simple to apply in standard pressure vessels with flow rates ranging from 10 gallons per minute to over 12 MGD. Once the media is exhausted, E33 can be discarded as a non-hazardous waste (specific state and application--specific requirements should be consulted). Media is easy to handle and can be stored and shipped dry.

Physical Properties	**E33 Media**
Matrix	Iron Oxide Composite
Physical Form	Dry granular media
Color	Amber
Particle Size Distribution	10x35 or 14 x 18 Mesh
Moisture Content	< 15% by weight
Packaged	Dry
Weight per cubic foot	30 pounds*

*Approximate

SPEC SHEET

Bayoxide E33 GRANULAR FERRIC OXIDE MEDIA

For Arsenic and Heavy Metals Removal

ARSENIC REMOVAL PERFORMANCE

Arsenic Concentration Range	10 ppb - 1 ppm
Arsenic Species Reduced	As (III) and As (V)
Removal Efficiency	Up to 99%
Estimated Media Life	6 - 48 months (typical)
Estimated Life Bed Volumes	Site-specific
Spent Media Disposal	Non-hazardous waste
Empty Bed Contact Time	3 - 4 minutes (typical)



AdEdge Package Unit (APU) installation using granular ferric oxide media

OPERATING CONDITIONS

Treatment Goals	Arsenic: < 0.010 mg/L
pH Range	5.5 - 8.5
Iron	< 0.3 mg/L
Manganese	< 0.05 mg/L
Phosphate	< 0.5 mg/L
Silica	< 30 mg/L
Sulfate	< 100 mg/L
Sulfide	< detect mg/L
TSS	< 5 mg/L
Fluoride	< 1 mg/L
Hardness	< 300 mg/L
Turbidity	< 5 NTU
Temperature	Groundwater ambient (55 - 75 F)
Pre-Oxidant	Hypochlorite Feed (12.5% average)
Oxidant Contact Time	15 - 30 Seconds
Backwash Frequency	Every 30 days (site specific)



AdEdge Package Unit (APU) installation using granular ferric oxide media

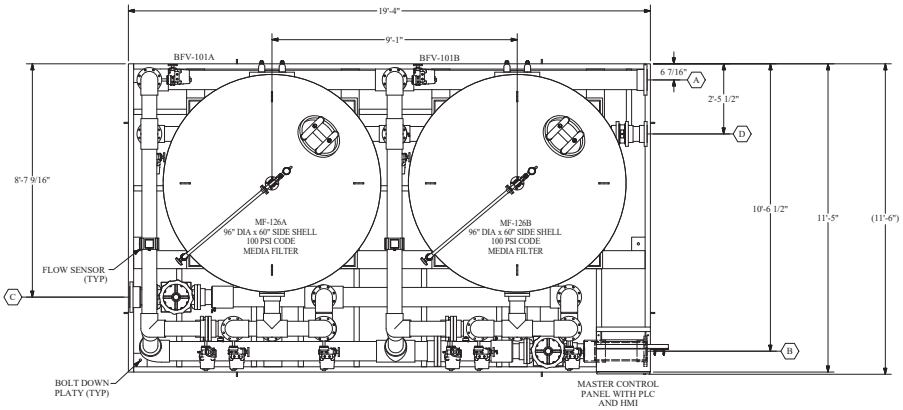


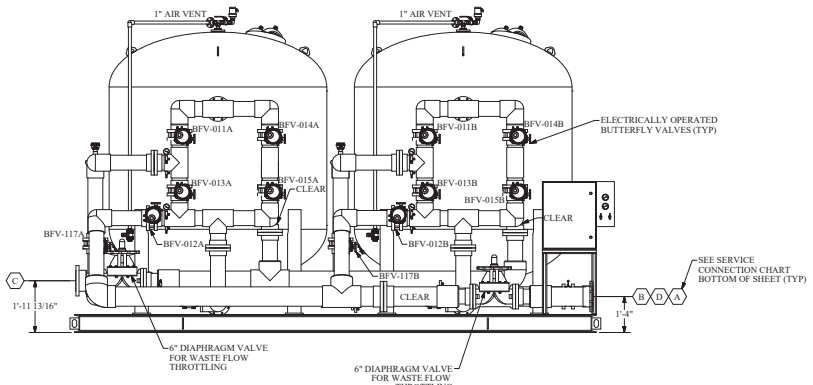
AdEdge Package Unit (APU) installation using granular ferric oxide media

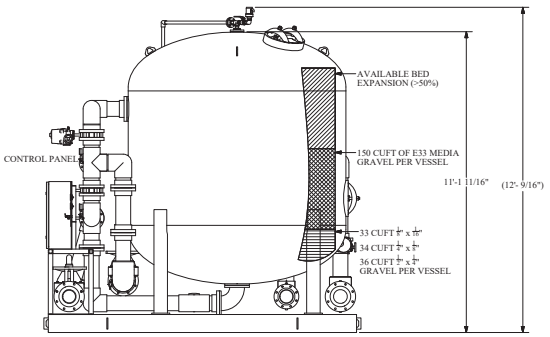
Notes:

- Media life is based on gallon usage and water profile. It will vary by individual site based on water quality and usage.
- AdEdge recommends effluent testing and a monitoring program to determine media breakthrough.
- Information is believed to be reliable and is offered in good faith with no warranties or implied warranties or fitness for a particular use. Customer is responsible for determining whether use conditions and information in this document are appropriate for specific applications and for ensuring compliance with applicable laws and regulations.

DO NOT SCALE DRAWING. REFER TO ADEDGE ENGINEERING DEPARTMENT FOR ALL DIMENSIONS.







REV #	DATE	REVISIONS

This drawing is the exclusive property of AdEdge Water Technologies, LLC. Its acceptance constitutes an agreement that it shall be expressly used for subject project and shall be returned upon request. Information contained on, or derived from this drawing, is not to be communicated, disclosed, used or copied without prior authorization.

AdEdge
2055 BOGGS ROAD
DULUTH, GA 30096
P. 678-835-0052 F. 678-835-0057
www.adedgetechnologies.com

TP	SERVICE CONNECTIONS	TYPE/MATERIAL
A	SYSTEM RAW WATER INLET	8" FLANGE, SCH80 PVC
B	SYSTEM TREATED OUTLET	8" FLANGE, SCH80 PVC
C	SYSTEM BACKWASH OUTLET	6" FLANGE, SCH80 PVC
D	SEPERATE SOURCE BACKWASH INLET	6" FLANGE, SCH80 PVC

Title: GENERAL ARRANGEMENT

ARSENIC TREATMENT SYSTEM
MODEL: APU33-9660CS-2-AVH

Drawn by	Checked by	Approved by	Project	Date	Scale
EP	JF	KY			

Customer: FOR REFERENCE ONLY

Dwg. File	Rev. Date	Rev. No	Sheet
			1 OF 2

DESCRIPTION:

1. SYSTEM MODEL: APU33-9660CS-2-AVH
2. SKID-MOUNTED SYSTEM
3. MEDIA: BAYOXIDE E33
4. CONTROL VALVES: 6" LUG-STYLE BUTTERFLY
5. SYSTEM CONTROL: ALLEN BRADLEY PLC
6. VESSELS: THREE (2) 96" DIAMETER X 60" SIDESHELL
7. SYSTEM PRESSURE: 100PSI MAX

DIMENSIONAL NOTES:

1. ALL DIMENSIONS ARE +/- 2"
2. DO NOT SCALE DRAWING. REFER TO ADEDGE ENGINEERING DEPT FOR ALL DIMENSIONS.
3. (##): REFERENCE DIMENSION

GENERAL SYSTEM SPECIFICATIONS:

1. 8" SCH80 PVC INLET AND TREATED OUTLET HEADERS WITH FLANGED TIE POINTS
2. 8" SCH80 PVC BACKWASH OUTLET AND SEPERATE SOURCE BACKWASH INLET HEADERS WITH FLANGED TIE POINTS
3. 6" SCH80 PVC HARNESS PIPING ON EACH VESSEL
4. 6" BRAY S31-S LUG-STYLE BUTTERFLY VALVES WITH RCEL ELECTRIC ACTUATORS ON VALVE HARNESS AND VESSEL ISOLATION ON EACH VESSEL INLET
5. 6" GF PVC MANUAL DIAPHRAGM THROTTLING VALVE ON SYSTEM BACKWASH OUTLET
6. 6" GF PVC MANUAL DIAPHRAGM THROTTLING VALVE ON SYSTEM TREATED OUTLET
7. 6" CHECKRITE WAFER-STYLE SWING CHECK VALVES ON BACKWASH INLET
8. 304SS NEMA 4X ELECTRICAL JUNCTION BOX
9. 304SS HYDRAULIC PANEL WITH SYSTEM INLET AND OUTLET 0-100 PSI PRESSURE GAUGES & SAMPLE VALVES
10. 0-150 PSI PRESSURE GUAGES AND SAMPLE VALVES ON EACH VESSELS INLET AND OUTLET
11. SAMPLE VALVE ON SYSTEM BACKWASH OUTLET
12. SEAMETRICS EX-82P MAGNETIC FLOW SENSORS ON EACH VESSELS INLET AND ON BACKWASH INLET
13. PRESSURE SENSORS ON SYSTEM INLET/OUTLET FOR SYSTEM HIGH DP MEASUREMENT, TWO (2) PER SKID
14. CLEAR SCH80 PVC SIGHT WINDOW ON EACH VESSELS BACKWASH OUTLET AND ON EACH VESSELS TREATED OUTLET

VESSEL SPECIFICATIONS:

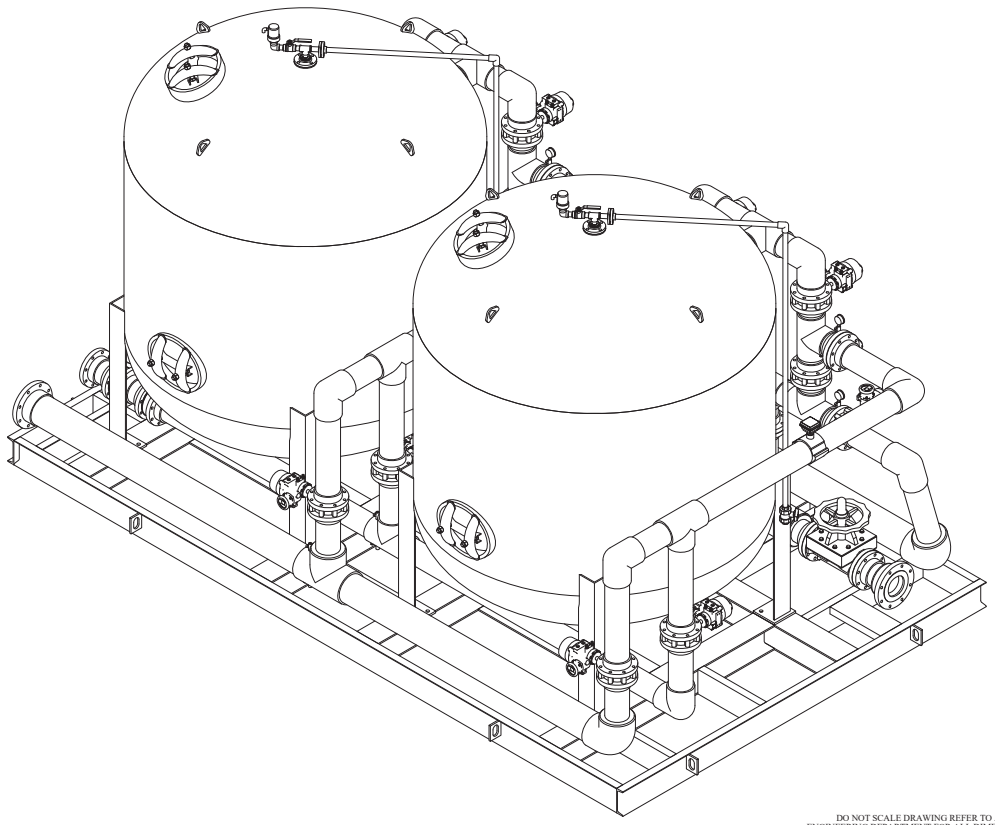
1. ASME CODE CARBON STEEL PRESSURE VESSELS
2. DESIGN PRESSURE: 100 PSI MAX
3. 2:1 HEADS
4. DESIGN TEMPERATURE: AMBIENT
5. NO TANK LINING WARRANTY ABOVE 140F
6. 14"X18" TOP MANWAY FOR MEDIA LOADING
7. 14"X18" SIDE MANWAY FOR ACCESSING INTERNALS
8. VESSEL INTERIOR: SSPC-SP-10 NEAR WHITE BLAST 5-7 MILS DFT DEVOE #BAR-RUST 233H EPOXY, OR TNEMEC 233H EPOXY
9. VESSEL EXTERIOR: SSPC-SP-6 COMMERCIAL BLAST 3-5 MILS DFT TNEMEC N69F SAFETY BLUE EXPOXY
10. 6" SCH80 PVC TYPE B HUB AND SLOTTED LATERAL OUTLET COLLECTOR
11. 6" SCH80 PVC 4-POINT INLET DISTRIBUTOR
12. MEDIA QUANTITIES (SEE SHEET 1 SIDE VIEW)

INSPECTION & TESTS:

1. SYSTEM HYDROTEST PRESSURE: 100 PSI @ 2F

OPERATING CONDITIONS:

1. FLOW CONFIGURATION: PARALLEL
2. SERVICE FLOW RATE: 1400 GPM TOTAL (233.3 GPM PER VESSEL)
3. BACKWASH / RINSE FLOW RATE: 603 GPM PER VESSEL
4. BACKWASH WATER SOURE: TREATED WATER
5. FAST RINSE WATER SOURCE: RAW WATER
6. OPERATING PRESSURE: 100 PSI MAXIMUM
7. SHIPPING WEIGHT: APPROX 19,000 LBS EMPTY



DO NOT SCALE DRAWING REFER TO ADEDGE ENGINEERING DEPARTMENT FOR ALL DIMENSIONS.

REV #	DATE	REVISIONS

This drawing is the exclusive property of AdEdge Water Technologies, LLC. Its acceptance constitutes an agreement that it shall be expressly used for subject project and shall be returned upon request. Information contained on, or derived from this drawing, is not to be communicated, disclosed, used or copied without prior authorization.

AdEdge
2055 BOGGS ROAD
DULUTH, GA 30096
P. 678-835-0052 F. 678-835-0057
www.adedgetechnologies.com

TP	SERVICE CONNECTIONS	TYPE/MATERIAL
A	SYSTEM RAW WATER INLET	8" FLANGE, SCH80 PVC
B	SYSTEM TREATED OUTLET	8" FLANGE, SCH80 PVC
C	SYSTEM BACKWASH OUTLET	6" FLANGE, SCH80 PVC
D	SEPERATE SOURCE BACKWASH INLET	6" FLANGE, SCH80 PVC

Title: GENERAL ARRANGEMENT

ARSENIC TREATMENT SYSTEM
MODEL: APU33-9660CS-2-AVH

Drawn by	Checked by	Approved by	Project	Date	Scale
EP	JF	KY			

Customer: FOR REFERENCE ONLY

Dwg. File	Rev. Date	Rev. No	Sheet
			2 OF 2

1445 N. Orchard St.
Boise ID 83706 • (208) 373-0550

Brad Little, Governor
Jess Byrne, Director

August 6, 2024

Larry Kine
Crown Villa, LLC
250 NW Franklin Ave, #410
Bend, Oregon 97703
larrykine@gmail.com

RE: Shadow Valley Development – Drinking Water Facility Plan (*Ada County*)

Dear Mr. Kine:

The Drinking Water Facility Plan (FP) for Shadow Valley Development (Project) was initially submitted to Idaho Department of Environmental Quality (DEQ) by HDR Engineering on June 10, 2024. After addressing DEQ's comments, the FP was signed and sealed by Jason Thompson, PE, on August 2, 2024.

The Project appears to meet State of Idaho standards and is approved subject to the conditions listed below.

This approval is for the referenced FP only**.** When designing any facilities associated with this FP document, a Preliminary Engineering Report (PER) for the improvements must be reviewed and approved by the DEQ prior to submitting plans and specifications (P&S). Detailed P&S cannot be accepted for review until the corresponding PER is approved and technical, financial, managerial (TFM) documentation has been submitted. Furthermore, no construction can begin until the P&S have been reviewed and approved by DEQ.

If you any questions about this approval, please do not hesitate to contact me at (208) 373-0184, or via e-mail at naqsh.mansoor@deq.idaho.gov.

Sincerely,

Naqsh Mansoor, Ph.D
Water Quality Engineer

Attachment(s): Approval Stamped Facility Plan Cover Page

c: Jason Thompson, PE, HDR
Valerie Greear, PE, DEQ
2024AGD5124

1445 N. Orchard St.
Boise ID 83706 • (208) 373-0550

Brad Little, Governor
Jess Byrne, Director

July 24, 2024

Larry Kine
Crown Villa, LLC
250 NW Franklin Ave, #410
Bend, Oregon 97703
larrykine@gmail.com

RE: Shadow Valley Development – Wastewater System Facility Plan (*Ada County*)

Dear Mr. Kine:

The above-referenced Facility Plan (FP) document appears to meet State of Idaho standards and is approved subject to the conditions listed below.

This approval is for the referenced FP document only. When designing any facilities associated with this FP document, a Preliminary Engineering Report (PER) for the improvements must be reviewed and approved by the Idaho Department of Environmental Quality (DEQ) prior to submitting plans and specifications (P&S). Detailed P&S cannot be accepted for review until the corresponding PER is approved and technical, financial, managerial (TFM) documentation has been submitted. Furthermore, no construction can begin until the P&S have been reviewed and approved by DEQ.

Please note that any expansion of the development beyond what is described in the approved FP will require a revised FP to be submitted for review and approval prior to acceptance of any PER or P&S for review.

Please feel free to contact me at (208) 373-0281, or via e-mail at Dan.M.Smith@deq.idaho.gov.

Sincerely,

Dan Smith, PE
Senior Water Quality Engineer

Attachment(s): Approval Stamped Facility Plan

c: Michael Schulz, PE, Ryan Wagner, PE, Keller Associates
Valerie Greear, PE, Adam Bussan, PE, DEQ
2024AGD4837

Kerstin Dettrich

From: Valerie Greear <Valerie.Greear@deq.idaho.gov>
Sent: Tuesday, October 8, 2024 4:46 PM
To: Larry Kine
Cc: Kerstin Dettrich; Dan M. Smith; Brady Lasher; ryan@iagroupllc.com; Matthew Pabich; Peter Adams
Subject: RE: Shadow Valley Planned Community - Septic Review

Follow Up Flag: Follow up
Flag Status: Flagged

Larry,

Thank you for this response. You did answer most of the question, and it sounds like you ran down most of the potential options available to you.

Please put this information with a little more detail into a memo format and we can provide a reasonably accessible determination letter. One additional question for you to address in the memo is consideration of pressure sewer collection.

Thanks
Valerie

Valerie Greear, PE | Water Quality Engineering Manager
Idaho Department of Environmental Quality, Boise Regional Office
(o) 208-373-0459

From: Larry Kine <[redacted]>
Sent: Tuesday, October 8, 2024 12:54 PM
To: Valerie Greear <Valerie.Greear@deq.idaho.gov>
Cc: Kerstin Dettrich <kerstin@camberservices.com>; Dan M. Smith <Dan.M.Smith@deq.idaho.gov>; Brady Lasher <brady@lasherenterprises.com>; ryan@iagroupllc.com; Matthew Pabich <Matthew.Pabich@deq.idaho.gov>; Peter Adams <Peter.Adams@deq.idaho.gov>
Subject: Re: Shadow Valley Planned Community - Septic Review

CAUTION: This email originated outside the State of Idaho network. Verify links and attachments BEFORE you click or open, even if you recognize and/or trust the sender. Contact your agency service desk with any concerns.

Valerie,

Thank you for your email!

This project has been very complex. The traffic, sewer and affluent all impact the design of the project. Being that currently the road that connects to Hwy 55 is a local road it will only allow for 100 residential units. We had looked at changing the road that connects to Hwy 55 to be a collector and use

Wood Gulch as the access point to get to the highland but that required the purchase of an additional 80 acres of ground and more than 4,000 feet of collector road to be built. This would allow us to get upto 300 residential units in the high ground, but at a substantial investment which turn out to be unfeasible. Therefore we went back to using the existing local road and only getting 100 units (keep in mind we already have 11 existing units so this would mean just 89 lots in the PUD). In working with Keller, we realized that the separation of the lots on the West and the East are substantial in distance and elevation. In addition the density of lots on the Westside is such that it has long runs between lots for sewer collection. Therefore we tried to see what would be the most economically feasible design to provide sewer to all of the PUD. We looked at 2 treatment facilities that was too costly so we looked at one treatment facility with collection and pump stations that too turned out to be economically infeasible. Thus we settled on bigger lots with septic.

We have drilled 11 wells on the existing lots and know that the water is at 350' to 500' deep, thus we feel that septic will work well with no risk to the existing groundwater.

Does that answer your questions?

Larry Kine - Broker/Developer
Kine & Kine Properties
541-617-1999 office
541-280-4937 mobile
250 NW Franklin Ave, Ste 401
Bend, Oregon 97703

On Tue, Oct 8, 2024 at 11:24 AM Valerie Greear <Valerie.Greear@deq.idaho.gov> wrote:

> Hi Kerstin,
>
> In order to determine if sewer is reasonably accessible, you will need to provide further justification as to why this portion of the development cannot be connected to sewer. We understand that city sewer is not accessible, and our understanding is that the nearby private wastewater services are also unwilling to connect these lots. You do not need to provide further justification of that. However, a wastewater treatment facility is part of the plan for this development as a whole, and it has not been sufficiently explained why that treatment plant will not be able to service this area. Connection to centralized sewer is the best practice for protection of groundwater. Why can't these lots be connected to that sewer, which is being provided as part of the same overall development?
>
> In the initial wastewater facility plan submittal, both sides of the highway were proposed to be connected to sewer, but the west portion was removed from subsequent wastewater submittals. Furthermore, we understand that the entirety of the development will be served by a common public drinking water system, suggesting that utilities will be extended to this area and that wastewater service might be able to be provided.
>
> Before we accept that sewer is not accessible, please provide detailed information to justify why sewer cannot be provided to these lots.

Thank you,

Valerie

Valerie Greear, PE | Water Quality Engineering Manager
Idaho Department of Environmental Quality, Boise Regional Office

(o) 208-373-0459

From: Kerstin Dettrich <kerstin@camberservices.com>
Sent: Wednesday, September 18, 2024 4:53 PM
To: Dan M. Smith <Dan.M.Smith@deq.idaho.gov>; Valerie Greear <Valerie.Greear@deq.idaho.gov>
Cc: Larry Kine <[redacted]>; Brady Lasher <brady@lasherenterprises.com>; ryan@iagroupllc.com
Subject: Shadow Valley Planned Community - Septic Review

CAUTION: This email originated outside the State of Idaho network. Verify links and attachments BEFORE you click or open, even if you recognize and/or trust the sender. Contact your agency service desk with any concerns.

Hello Dan and Valerie,

After speaking with CDH and our wastewater engineering team below (in email), I am reaching out to confirm what DEQ requires to gain an approval statement from DEQ stating that city services are not reasonably accessible to the West of 55 phases of this project (Shadow Valley Planned Community), located on the west and east sides of Hwy 55 at the Shadow Valley Golf Course.

Please see attached draft land use exhibit for Shadow Valley Planned Community in Ada County jurisdiction. The general plan for wastewater will provide a municipal WWTP serving the east side of Highway 55, that we know is DEQ jurisdiction. The west side of Highway 55 will be estate lots of 1-3 acre parcels and the plan is individual septic systems.

Our team met and completed a pre-application meeting at Ada County and has not yet submitted our formal application that will kick-off the planned community process with public scoping sessions. I wanted to make early connection with CDH to discuss expectations as we move through this plan.

The development team has worked through individual systems on standard subdivision projects and expects this to be somewhat similar. Max units on the west side of the project is 89 units on 290 acres.

Can you confirm the proper way for me to submit this to DEQ so I can then move forward with CDH?

Thank you!

Kerstin Dettrich

Camber Services LLC | P. 208.985.4358

Land Planning | Entitlement | Development Services

From: Michael Schulz <mschulz@Kellerassociates.com>
Sent: Wednesday, August 28, 2024 2:54 PM
To: Kerstin Dettrich <kerstin@camberservices.com>; Ryan Wagner <rwagner@Kellerassociates.com>
Cc: Brady Lasher <brady@lasherenterprises.com>
Subject: Re: Shadow Valley Planned Community - Septic Review

Kerstin,

I would begin the conversation with Dan Smith (dan.m.smith@deq.idaho.gov and Valerie Greear (valerie.greear@deq.idaho.gov).

Thanks!

MICHAEL SCHULZ, PE

Keller Associates, Inc.

DIRECT 208-813-7554 | CELL 208-553-6384 | OFFICE 208-288-1992

From: Kerstin Dettrich <kerstin@camberservices.com>
Sent: Tuesday, August 27, 2024 5:19 PM
To: Michael Schulz <mschulz@Kellerassociates.com>; Ryan Wagner <rwagner@Kellerassociates.com>
Cc: Brady Lasher <brady@lasherenterprises.com>
Subject: FW: Shadow Valley Planned Community - Septic Review

Michael or Ryan,

I reached out to CDH to begin discussions about the individual septic systems planned for the west side of Highway 55. Below is Lori's response. Do you know whom the correct person at DEQ is to begin this line of questioning about inaccessibility of municipal sanitary sewer?

Thank you,

Kerstin Dettrich

Camber Services LLC | P. 208.985.4358

From: Lori Badigian <LBadigian@cdh.idaho.gov>
Sent: Tuesday, August 27, 2024 4:37 PM
To: Kerstin Dettrich <kerstin@camberservices.com>
Cc: Larry Kine <[redacted]>; Brady Lasher <brady@lasherenterprises.com>; ryan@iagroupllc.com
Subject: RE: Shadow Valley Planned Community - Septic Review

Kerstin,

Before we could proceed with individual septic systems based on the density and the proximity of sewer we would need a statement from DEQ stating that city services is not reasonable accessible to the West of 55 phases.

If DEQ determines it is not reasonable accessible, then:

1. The portions with city sewer vs individual septic systems must be submitted in separate phases. Since the approval requirements for properties connecting to central sewer vs septic system differ, they will need to be divided accordingly

2. For the remainder of the parcels with individual septic proposed:

    a. If the properties are in a DEQ Nitrate Priority area than an NP study will be required
    b. If there are any areas of natural springs, surface water or groundwater within 10 feet of ground surface, weekly groundwater monitoring would be required in those areas
    c. An application, fee per lot, preliminary plat and topographic map with slopes color coded would need to be submitted before test holes could be scheduled. We prefer that the 89 lots are split into phases and done prior to each phase s opposed to all 89 lots at one time

CENTRAL DISTRICT HEALTH
Connect with us!

Lori Badigian, REHS | Environmental Health Specialist Senior
Community & Environmental Health
P. 208 327-8517 | **M**. 208-869-9118 | **F**. 208-327-8553
E. LBadigian@cdh.idaho.gov | **W**. cdh.idaho.gov
707 N. Armstrong Pl., Boise, ID 83704

Excellence | Positive Impact | Partnership | Innovation | Credibility | Humanity

IMPORTANT: The information contained in this email may be privileged, confidential or otherwise protected from disclosure. All persons are advised that they may face pena and federal law for sharing this information with unauthorized individuals. If you received this email in error, please reply to the sender that you have received this informatic please delete this email after replying to the sender.

From: Kerstin Dettrich <kerstin@camberservices.com>
Sent: Tuesday, August 27, 2024 11:51 AM
To: Lori Badigian <LBadigian@cdh.idaho.gov>
Cc: Larry Kine <[redacted]>; Brady Lasher <brady@lasherenterprises.com>; ryan@iagroupllc.com
Subject: RE: Shadow Valley Planned Community - Septic Review

Caution: The sender domain (camberservices.com) was only recently created, which may indicate it is a malicious domain. Verify the email's authenticity with the sender using your organization's trusted contact list before replying or taking further action.

Secured by Check Point

You don't often get email from kerstin@camberservices.com. Learn why this is important

Hi Lori,

I think you are the correct person to initiate this conversation with, but please correct me if not.

Please see attached draft land use exhibit for Shadow Valley Planned Community in Ada County jurisdiction. The general plan for wastewater will provide a municipal WWTP serving the east side of Highway 55, that we know is

DEQ jurisdiction. The west side of Highway 55 will be estate lots of 1-3 acre parcels and the plan is individual septic systems.

Our team met and completed a pre-application meeting at Ada County and has not yet submitted our formal application that will kick-off the planned community process with public scoping sessions. I wanted to make early connection with CDH to discuss expectations as we move through this plan.

The development team has worked through individual systems on standard subdivision projects and expects this to be somewhat similar. Max units on the west side of the project is 89 units on 290 acres.

How do we need to go about early coordination with CDH in front of the pre-plat? Do you want to do a call to discuss?

Let me know what you think.

Thank you,

Kerstin Dettrich

Camber Services LLC | P. 208.985.4358

Docusign Envelope ID: 06C7828D-1CE9-45E6-AA9E-A3C88F459D84

KELLER ASSOCIATES

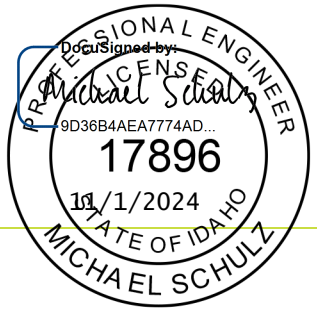
Technical Memorandum

TO: Crown Villa, LLC (Developer) – Larry Kine

FROM: Keller Associates, Inc. – Michael Schulz, PE

DATE: November 1, 2024

SUBJECT: Shadow Valley West – Septic Systems



1. BACKGROUND

The Shadow Valley Development is a planned residential subdivision located along Highway 55 near the City of Eagle. The development will consist of approximately 350 equivalent residential units (ERUs) on the east side of Highway 55 that will be served by a community wastewater system. The Development anticipates include 89 ERUs on the west side of Highway 55 that will be served by individual septic systems. This Technical Memorandum provides information to document the process that has been completed to arrive at the decision to utilize septic systems on the west side of Highway 55 in lieu of connecting these units to the community wastewater system to the east.

2. WEST DEVELOPMENT SEWER OPTIONS

Keller Associates (Keller) reviewed several options for connecting the lots on the west side of Highway 55 to a community sewer system. These explorations included connections to nearby sewer systems (Avimor and Dry Creek), developing its own sewer system to serve just the west area and combining the system with the east Shadow Valley system. A description of the challenges associated with each of these follows.

2.1. CONNECTION TO EXISTING COMMUNITY WASTEWATER SYSTEMS

Discussions for the proposed Shadow Valley Development began with conversations with local sewer systems in the area. These conversations included Eagle Sewer District, Avimor, and Dry Creek Ranch. It was determined that Eagle Sewer District did not have available capacity in their collection system near the proposed development and a new wastewater treatment plant would be required to service the Shadow Valley Development. Avimor indicated that they would be willing to accept flows from Shadow Valley, however they would require that connection fees for the development be pre-purchased at the time of annexation into the sewer system. This cost along with the cost of infrastructure to pipe flows to the Avimor WWTP made this option economically unfeasible for the Developer. Dry Creek Ranch was also approached but did not want to engage in negotiations regarding connection to their facilities. Based on these steps taken, it was determined that connection to an existing community wastewater system was not a viable alternative for Shadow Valley.

2.2. SEPARATE SEWER SYSTEM FOR WEST SHADOW VALLEY DEVELOPMENT

As the Developer looked into options for serving the west Shadow Valley Area, the requirements for serving more than 89 additional ERUs west of Highway 55 included developing a new collector road system. In order to reach the western development area, it would have required an additional 80 acres of land purchased or negotiated easements. In addition, this path required an additional 4,000 feet of roadway to be constructed. Based on this, it was determined to be economically unfeasible to develop more than 89 additional ERUs west of Highway 55. Keller evaluated utilizing its own collection and treatment facilities for the West Shadow Valley Development. Serving this area with its own separate facilities proved problematic for several reasons including identifying a viable discharge alternative, constructing pipelines between homes to convey wastewater with low density development, and the cost for a treatment facility is higher with fewer units to be connected.

Docusign Envelope ID: 06C7828D-1CE9-45E6-AA9E-A3C88F459D84

2.2.1. Discharge Alternatives

As Keller worked through the Facility Plan for the Shadow Valley East Development, Rapid Infiltration, surface water discharge and land application were all considered for disposal. Rapid infiltration faced permitting challenges associated with limited data in the area near the Shadow Valley West location which likely would have increased the required time associated with permitting and may still have not yielded information to make rapid infiltration a viable discharge alternative. Discharge to surface water is not readily available as the nearest surface water is Spring Creek located on the east of Highway 55. Connecting the discharge to Spring Creek would have required installation of about 5,000 feet of effluent piping between the east and west sides of the Shadow Valley Development. Land Application was not desired for discharge as supplemental irrigation water availability was limited and the topography west of Highway 55 consists of rolling hills that make removal of plant material difficult.

2.2.2. Collection System Cost Impacts

The proposed 89 ERU development west of Highway 55 covers approximately 290 acres of land. These lots are anticipated two to five acres in size and would require significant lengths of pipe installed between them to connect a gravity or pressure collection system. These increases the cost per unit for the collection system.

2.2.3. Treatment Facility Cost Impacts

Based on the discharge options considered for the Development, treatment options were focused on providing a Class A product. This increases the treatment requirements for the proposed system. With smaller developments, the cost for treatment is higher per unit as the construction and equipment costs required are not spread as much for smaller developments. Keller evaluated a separate treatment and disposal system for the East and West development areas and found that the anticipated cost for the treatment facilities was about 33% higher to construct separate treatment facilities. Operating and maintaining two treatment facilities was anticipated to be approximately 33% higher as well.

Based on limitations with the existing road system, higher collection system costs and treatment facilities cost, the Developer determined that a separate treatment and collection facility for the West Development area was not feasible.

2.3. COMBINED SEWER SYSTEM WITH EAST SHADOW VALLEY DEVELOPMENT

As discussed above, the development west of Highway 55 is limited to 89 additional units based on the economic viability of constructing additional roadways. A development limited to 89 units see higher costs per unit similar to the discussion above. The larger affect is from the collection system as there is greater distances between ERUs and the west development area is approximately 5,000 feet from the east development area. In total, it was estimated that around 15,000 feet of gravity or pressure sewer would need to be included to provide a collection system for the west development. The west area also sits on the back side of a ridge that increased the required total dynamic head that a step tank would see for each residence. During the planning it was not clear based on the available data if step tanks would have the required head to pump over the ridge. Even when considering the use of step tanks and pressure sewer lines, the Developer determined that it was not economically viable to provide a collection system for the west development area.

3. SUMMARY

Based on the work that has been completed and presented to the Developer, it appears that the most economically viable alternative for the wastewater service at the Shadow Valley Development west of Highway 55 is to provide individual septic tanks for each ERU.

KITTELSON & ASSOCIATES
101 South Capitol Boulevard, Suite 600
Boise, ID 83702
P 208.338.2683

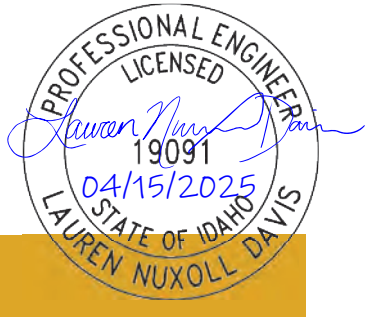
April 15, 2025

Project# 25775

To: Brandon Atchley, Ada County Highway District (ACHD)
Kendra Conder, Idaho Transportation Department (ITD)

From: Liz Kaniecki, PE and Lauren Nuxoll, PE, PTOE

RE: Shadow Valley Development Transportation Impact Study-UPDATED



INTRODUCTION

Kittelson & Associates, Inc. (Kittelson) has conducted a Transportation Impact Study (TIS) for the proposed Shadow Valley Development in Ada County, Idaho. The study was prepared in accordance with requirements of the Idaho Transportation Department (ITD) *Rules Governing Highway Right-of-Way Encroachment Rights-of-Way* (Reference 1) and Ada County Highway District's (ACHD) *Policy Manual Section 7106* (Reference 2). The TIS examines the current transportation network and addresses the transportation impacts associated with background growth and the proposed development. A scoping memo was approved in February 2025 by ACHD and ITD. *Attachment A contains the scoping memo and acceptance emails.*

This memorandum addresses the following items:

- Project Description
- Year 2025 Existing Traffic Conditions Analysis
- Year 2030 Background Traffic Conditions Analysis
- Estimated Trip Generation and Distribution
- Year 2030 Total Traffic Conditions Analysis
- Year 2032 Total Traffic Conditions Analysis (Seven Year Buildout)
- Summary and Recommendations

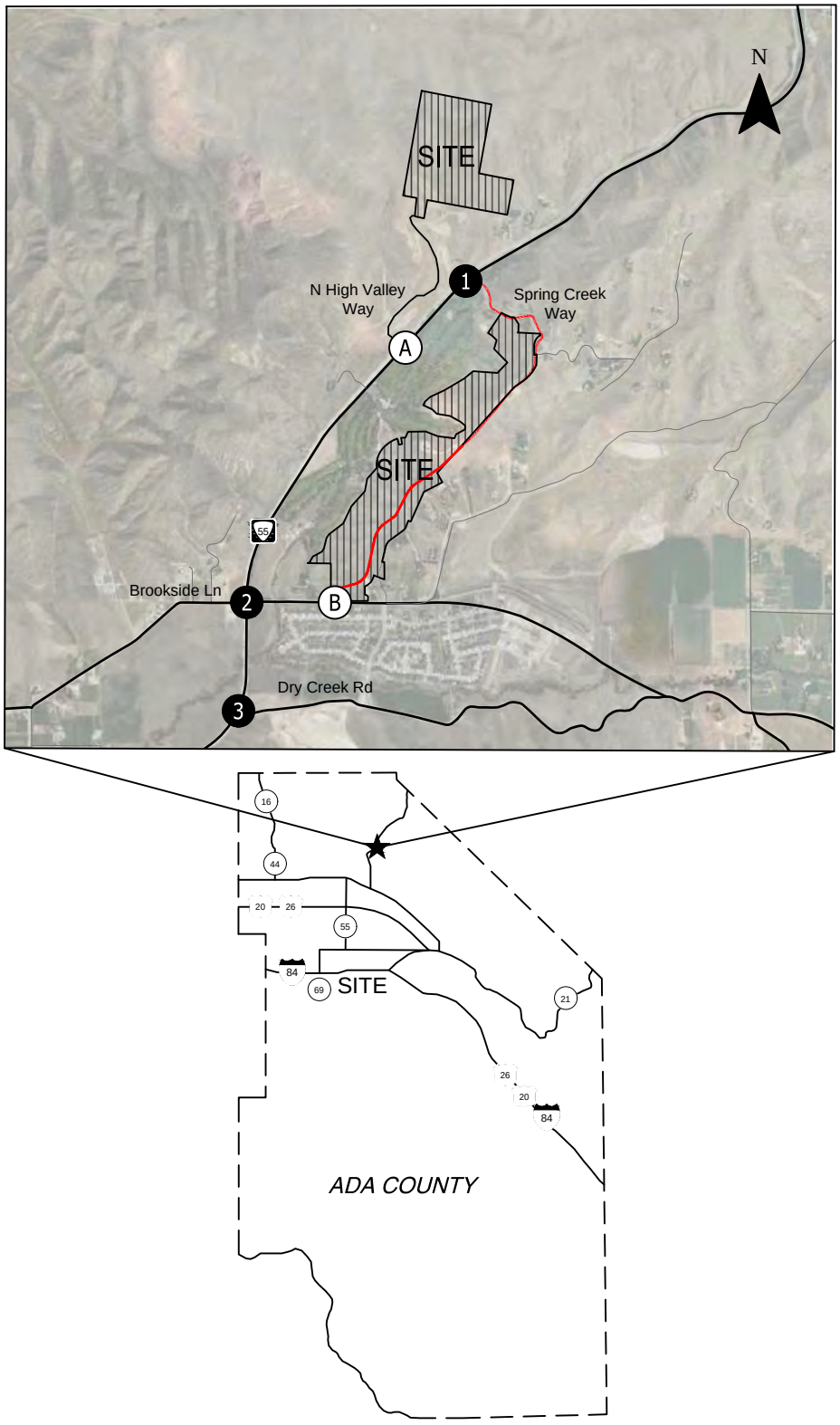
Project Description

The Shadow Valley development is located on the east and west side of SH-55 between Brookside Lane and Spring Creek Way. The site is in Ada County and will be annexed into the City of Eagle. The development site plan proposes to build 395 single-family homes, 88 attached and 307 detached. The development is on both the east and west sides of SH-55, with 218 single-family detached and 88 single-family attached homes on the east side, and 89 single family homes on the west side.

Figure 1 provides the site vicinity for the Shadow Valley Development. The development proposes access points at the following locations:

- Spring Creek Way & SH 55
- High Valley Way & SH 55
- Malbeur Ave & Brookside Lane

The site plan shown in Figure 2 shows which units are accessible through each access location.

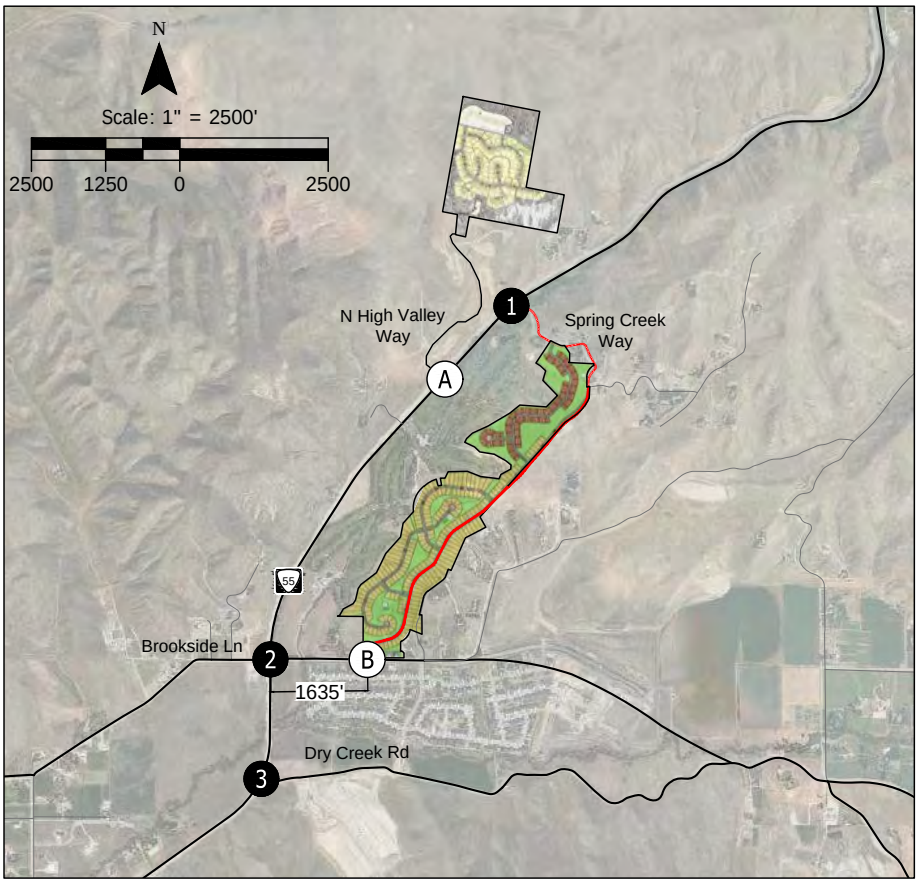


##- Study Intersections
(X)- Site Access Intersections
- Study Roadway Segment

Site Vicinity
Ada County, Idaho

Figure
1

C:\Users\lkaniecki\appdata\local\temp\AcPublish_25840\25775 - TIS Figures 2025 Update.dwg Apr 04, 2025 - 8:36am - lkaniecki Layout Tab: Fig01-Site Vicinity



##- Study Intersections
(X)- Site Access Intersections
- Study Roadway Segment

Proposed Site Plan
Shadow Valley
Ada County, Idaho

Figure
2

KITTELSON & ASSOCIATES

C:\Users\kaniecki\appdata\local\temp\AcPublish_25840\25775 - TIS Figures 2025 Update.dwg Apr 04, 2025 - 8:36am - kaniecki Layout Tab: Fig02-Updated Site Plan

YEAR 2025 EXISTING CONDITIONS

The existing conditions analysis identifies the current operational characteristics of the study intersections. These conditions will be compared with future conditions later in this memorandum.

Traffic Volumes

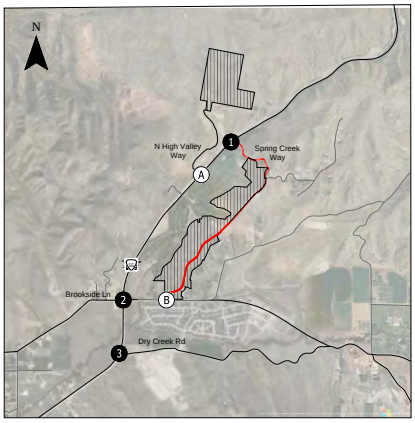
Peak hour intersection turning movement counts (TMCs) were collected during the weekday a.m. (7:00-9:00 a.m.), weekday p.m. (4:00-6:00 p.m.), and Friday p.m. (4:00-6:00 p.m.) peak periods in February 2025. To account for the summer peak periods, these volumes were adjusted using a seasonal adjustment factor (1.48) that was calculated using data from the last three years on ATR #10 located on SH-55 south of Dry Creek Road.

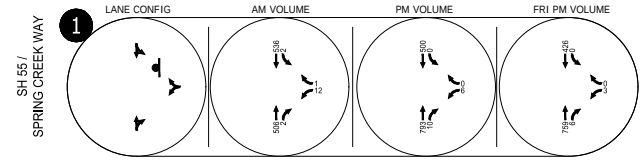
Volumes along SH-55 were balanced given the close proximity between these study intersections and the lack of driveways/side streets between them. *Attachment A includes traffic counts for each of the study intersections*.

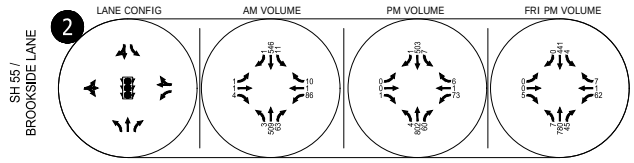
Year 2025 Existing Traffic Operations

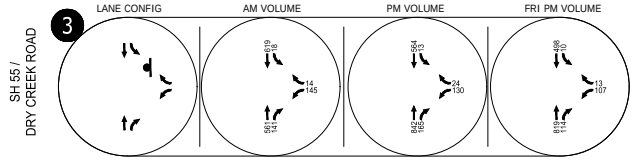
Existing year 2025 traffic operations were analyzed for a typical mid-weekday a.m. peak period, mid-weekday p.m. peak period, and Friday p.m. peak period for existing study intersections.

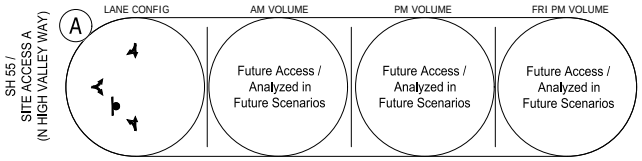
Table 1 presents the traffic operation results for each intersection and its corresponding lane groups. Figure 3 presents lane configurations, traffic control devices, and peak hour traffic volumes at each of the study intersections. *Attachment B includes the year 2025 existing conditions Synchro worksheets.*

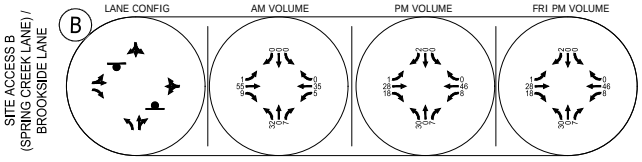












- STOP SIGN
- TRAFFIC SIGNAL
- Study Intersections
- Site Access Intersections
- Site Access Intersections

2025 Existing Lane Configurations, Traffic Control Devices, and Peak Hour Volumes
Shadow Valley Development
Boise, Idaho

Figure 3

KITTELSON & ASSOCIATES

C:\Users\kvanek\AppData\Local\Temp\AcPublish_25840\25775 - TIS Figures 2025\Update.dwg Apr 04, 2025 - 8:36am - kvanek Layout Tab: Fig03-Existing

Table 1. Year 2025 Existing Traffic Operations

Intersection	Intersection Weekday AM / Weekday PM / Friday PM			Lane Group	Weekday AM Peak Hour			Weekday PM Peak Hour			Friday PM Peak Hour		
	V/C[1]	LOS[2]	Delay (s)[3]		V/C[1]	LOS[2]	Delay (s)[3]	V/C[1]	LOS[2]	Delay (s)[3]	V/C[1]	LOS[2]	Delay (s)[3]
Spring Creek Way & SH-55	-	-	-	WBLR	0.07	C	22.4	0.04	D	28.9	0.02	D	25.1
				SBTL	0.01	A	8.6	0.01	A	0.0	0.01	A	0.01
Brookside Lane & SH-55	0.56 / 0.68 / 0.66	B / A / A	10.3 / 9.3 / 9.0	EBLTR	0.03	B	17.5	0.01	C	25.4	0.05	C	24.6
				WBL	0.32	B	18.9	0.35	C	27.3	0.31	C	26.2
				WBTR	0.41	C	21.4	0.30	C	28.5	0.08	C	24.7
				NBL	0.01	A	6.5	0.01	A	4.6	0.01	A	4.3
				NBT	0.66	A	9.9	0.75	A	9.8	0.74	A	9.4
				NBR	0.10	A	5.8	0.07	A	4.2	0.05	A	4.1
				SBL	0.03	A	6.4	0.02	A	7.1	0.01	A	6.8
				SBTR	0.67	A	9.6	0.49	A	6.3	0.44	A	6.0
Dry Creek Road & SH-55	-	-	-	WBL	***0.99***	***F***	***123.6***	***0.97***	***F***	***131.6***	0.74	***F***	***75.6***
				WBR	0.03	B	12.6	0.07	C	15.9	0.04	C	15.5
				SBL	0.02	A	9.4	0.02	B	10.4	0.02	B	10.1
Spring Creek Lane (Malheur Ave) & Brookside Lane	-	-	-	NBLR	0.03	A	9.5	0.02	A	9.5	0.02	A	9.5
				WBL	0.01	A	7.4	0.01	A	7.4	0.01	A	7.4

[1] V/C ratio is defined as vehicle-to-capacity ratio, which calculates the number of vehicles divided by the capacity of the roadway/intersection during the peak 15 minutes of the peak hour. [2] LOS stands for Level of Service. [3] Delay is reported in seconds per vehicle. Cells above that are ***bold****, italicized, and highlighted indicate an intersection and/or lane group operating below the jurisdictional standards.*

As shown in Table 1, all intersections operate acceptably except the following:

- **Dry Creek Road / SH-55**:
  - WBL movement operates at LOS F during all three time periods and nearing capacity.

Year 2025 Mitigated Existing Traffic Operations

This section highlights the mitigations needed to address the intersection not meeting traffic operational guidelines under the year 2025 existing traffic conditions. *Attachment C contains the year 2025 mitigated existing traffic operational worksheets.*

Dry Creek Road / SH-55

As shown in Table 1, the Dry Creek Road / SH-55 WBL movement exceeds ITD and ACHD's desired operational threshold under year 2025 existing conditions during the weekday a.m., weekday p.m., and Friday p.m. peak hours. The weekday a.m. and weekday p.m. peak hours also exceed ITD and ACHD's V/C ratio threshold. As part of their development agreement for the Dry Creek Ranch development, Boise Hunter Homes is conditioned to construct a signalized Green-T intersection at the Dry Creek Road / SH-55 intersection which will mitigate the intersection under existing conditions. Table 2 displays the intersection's operation as a signalized Green-T intersection, meeting both ACHD and ITD standards for signalized intersections.

Table 2. Year 2025 Mitigated Existing Traffic Operations at Dry Creek Road / SH-55 Intersection

Intersection	Intersection Weekday AM / Weekday PM / Friday PM			Lane Group	Weekday AM Peak Hour			Weekday PM Peak Hour			Friday PM Peak Hour		
	V/C[1]	LOS[2]	Delay (s)[3]		V/C[1]	LOS[2]	Delay (s)[3]	V/C[1]	LOS[2]	Delay (s)[3]	V/C[1]	LOS[2]	Delay (s)[3]
Dry Creek Road & SH-55	0.38 / 0.44 / 0.37	C / C / C	31.1 / 28.3 / 24.4	WBL	0.79	D	38.7	0.76	D	39.4	0.83	E	79.7
				WBR	0.09	C	29.6	0.16	C	31.1	0.11	E	64.4
				SBL	0.75	C	32.1	0.79	C	28.8	0.43	B	17.8
				NBT	0.28	B	17..8	0.26	B	14.8	0.12	A	9.3
				NBR	0.51	D	46.3	0.48	D	49.1	0.52	F	92.4

[1] V/C ratio is defined as vehicle-to-capacity ratio, which calculates the number of vehicles divided by the capacity of the roadway/intersection during the peak 15 minutes of the peak hour. [2] LOS stands for Level of Service. [3] Delay is reported in seconds per vehicle. Cells above that are ***bold****, italicized, and highlighted indicate an intersection and/or lane group operating below the jurisdictional standards.*

Once the Green-T intersection is constructed, the signals along the SH-55 corridor are anticipated to be coordinated using a 150 second cycle length. The Dry Creek Road / SH-55 intersection was analyzed using a half cycle length of 75 seconds under existing conditions to minimize delay and maintain coordination with the other signals along the corridor.

Safety Analysis

Crash data for the study intersections and roadways was provided by ITD for the previous five years on record (2019-2023). This data was used to evaluate and document any potential crash trends occurring at study intersections and along study roadways. *Appendix E contains the crash data reports provided by ITD.*

Table 3 presents the number of crashes, by crash type and severity, at each study intersection. As shown in Table 3, no significant crash trend was found.

Table 3. Study Intersection Crash Type and Severity Summary, 2019-2023

Intersection	Crash Type				TOTAL	Severity			Crash Rate (Crashes/ MEV)
	Rear- End	Turning	Backed Into	Other		PDO	Injury	Fatality	
Brookside Lane & SH-55	6	2	-	-	8	6	2	-	0.30
Dry Creek Road & SH-55	-	7	1	-	8	5	3	-	0.25

Roadway	Crash Type					TOTAL	Severity			Crash Rate (Crashes/
	Animal	Fixed Object	Turning	Head-On	Other		PDO	Injury	Fatality	
SH 55 (Dry Creek Rd to Spring Creek Rd)	11	3	2	1	1	18	14	4	-	0.35

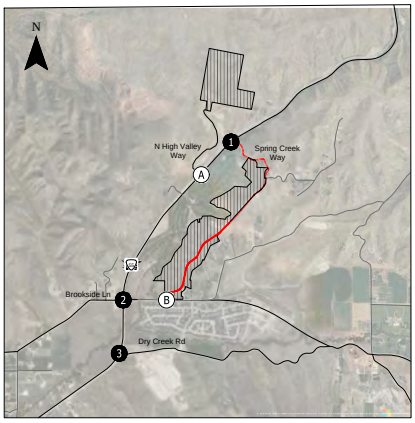
YEAR 2030 FUTURE CONDITIONS

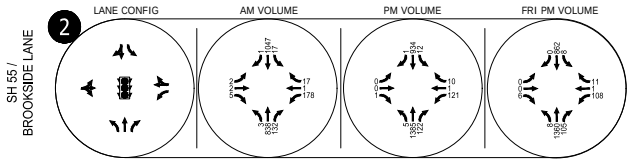
The future conditions analysis identifies how the study intersections will operate in the year the proposed development is expected to be fully built with and without the site-generated trips from the proposed development. The assumed build out year is 2030.

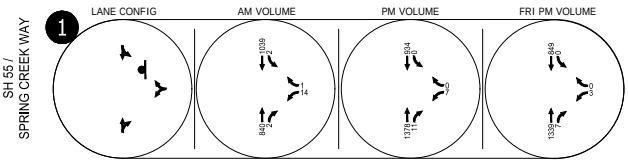
Year 2030 Background Traffic Operations

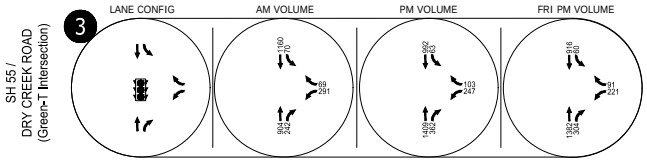
Year 2030 background traffic volumes reflect existing traffic volumes plus five (5) years of growth at a 2% annual compounded rate plus site-generated traffic from in-process developments including the Dry Creek Ranch development and the Avimor Village 1 development. *More details on in-process developments can be found in Attachment D.*

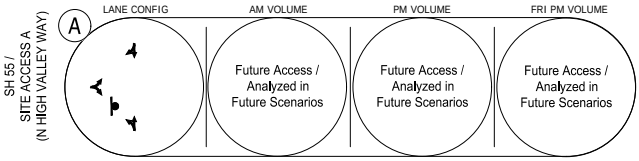
Table 4 presents the traffic operation results for each study intersection under year 2030 background conditions. Figure 4 presents lane configurations, traffic control devices, and peak hour traffic volumes at each of the study intersections for year 2030 background conditions. *Attachment E includes the year 2030 background conditions Synchro worksheets.*

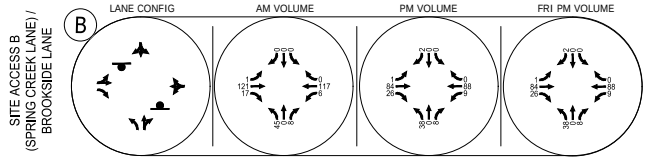












- STOP SIGN
- TRAFFIC SIGNAL

##- Study Intersections
X- Site Access Intersections
- Site Access Intersections

2030 Background Lane Configurations, Traffic Control Devices, and Peak Hour Volumes
Shadow Valley Development
Boise, Idaho

Figure 4

KITTELSON & ASSOCIATES

C:\Users\kvanek\AppData\Local\Temp\AcPublish_23\MVCB\TS - TIS Figures 2025\Update.dwg Apr 04, 2025 - 8:36am - kvanek Layout Tab: Fig04-Background

Table 4. Year 2030 Background Traffic Operations

Intersection	Intersection AM / PM / Friday PM			Lane Group	Weekday AM Peak Hour			Weekday PM Peak Hour			Friday PM Peak Hour		
	V/C[1]	LOS[2]	Delay (s)[3]		V/C[1]	LOS[2]	Delay (s)[3]	V/C[1]	LOS[2]	Delay (s)[3]	V/C[1]	LOS[2]	Delay (s)[3]
Spring Creek Way & SH-55	-	-	-	WBLR	0.27	***F***	***84.9***	0.23	***F***	***143.8***	0.09	***F***	***108.4***
				SBTL	0.01	A	9.9	0.01	A	0.0	0.01	A	0.0
Brookside Lane & SH-55	***0.92 / 1.05 / 1.03***	C / D / C	23.1 / 39.4 / 33.7	EBLTR	0.03	D	44.3	0.01	E	58.6	0.05	E	59.3
				WBL	0.71	D	54.6	0.72	E	76.2	0.71	E	76.5
				WBTR	0.36	D	48.2	0.39	E	63.6	0.10	E	59.9
				NBL	0.02	C	22.4	0.01	A	9.2	0.02	A	7.2
				NBT	0.78	B	16.2	***1.06***	F	58.7	***1.03***	F	48.1
				NBR	0.15	A	6.8	0.11	A	4.0	0.09	A	3.6
				SBL	0.07	B	13.6	0.17	D	46.2	0.13	D	46.8
				SBTR	***0.91***	C	24.8	0.73	B	10.5	0.68	A	8.8
Dry Creek Road & SH-55	-	-	-	WBL	***>1.50***	***F***	***>150.0***	***>1.50***	***F***	***>150.0***	***>1.50***	***F***	***>150.0***
				WBR	0.26	C	21.4	0.66	***F***	***61.8***	0.60	***F***	***55.8***
				SBL	0.14	B	12.6	0.19	C	18.1	0.18	C	17.3
Spring Creek Lane (Malheur Ave) & Brookside Lane	-	-	-	NBLR	0.02	B	10.4	0.02	B	10.1	0.03	B	11.9
				WBL	0.01	A	7.5	0.01	A	7.5	0.10	A	7.8

[1] V/C ratio is defined as vehicle-to-capacity ratio, which calculates the number of vehicles divided by the capacity of the roadway/intersection during the peak 15 minutes of the peak hour. [2] LOS stands for Level of Service. [3] Delay is reported in seconds per vehicle. Cells above that are ***bold****, italicized, and highlighted indicate an intersection and/or lane group operating below the jurisdictional standards.*

As shown in Table 4, all intersections operate acceptably except the following:

- **Spring Creek Way / SH-55**:
  - The WBLR movement operates at LOS F but well under capacity during all three time periods.
- **Brookside Lane / SH-55**:
  - The overall intersection operates over capacity in the weekday p.m. and Friday p.m. peak hour.
- **Dry Creek Road / SH-55**:
  - The WBL movement operates over capacity in all three time periods.

Year 2030 Mitigated Background Traffic Operations

This section highlights the mitigations needed to address each of the intersections which do not meet agency operational thresholds under the year 2030 background traffic conditions. *Attachment F contains the year 2030 mitigated background traffic operational worksheets.*

Spring Creek Way & SH-55

The Spring Creek Way & SH-55 westbound left right (WBLR) movement operates at LOS F but under capacity in all three time periods. Constructing a two-way left-turn lane (TWLTL), allowing for two-stage left turning onto SH-55, would mitigate the intersection. However, a high delay is normal for a smaller street intersecting with a high-volume highway during the peak hour. Table 5 presents the traffic operations for the Spring Creek Way & SH-55 intersection with the addition of a TWLTL.

Brookside Lane & SH-55

The Brookside Lane & SH-55 intersection operates over capacity in the weekday p.m. and Friday p.m. peak hours, exceeding ACHD and ITD operational threshold of V/C of 0.90 or better. The Avimor and Dry Creek Developments (that were assumed as in-process) are conditioned with widening SH 55 from one (1) to two (2) through lanes, which will be constructed as part of the ultimate configuration of the Green-T intersection at Dy Creek Road & SH-55. Table 5 displays the intersection's operation with this mitigation in place, meeting both ACHD and ITD standards for signalized intersections.

Dry Creek Road & SH-55

The intersection of Dry Creek Road & SH-55 operates over capacity in all three time periods. No additional mitigations are recommended beyond the previous mitigation of the Green-T intersection. Table 5 shows the intersection's operations with this mitigation in place.

Table 5. Year 2030 Mitigated Background Traffic Operations

Intersection	Intersection AM / PM / Friday PM			Lane Group	Weekday AM Peak Hour			Weekday PM Peak Hour			Friday PM Peak Hour		
	V/C[1]	LOS[2]	Delay[3]		V/C[1]	LOS[2]	Delay (s)	V/C[1]	LOS[2]	Delay (s)	V/C[1]	LOS[2]	Delay (s)
Spring Creek Way & SH-55	-	-	-	WBLR	0.09	D	26.3	0.06	D	33.5	0.02	D	30.8
				SBTL	0.01	A	9.9	0.01	A	0.0	0.01	A	0.0
Brookside Lane & SH-55	0.63 / 0.64 / 0.63	B / A / A	11.4 / 9.2 / 8.8	EBLTR	0.03	C	21.8	0.01	C	34.3	0.04	C	33.7
				WBL	0.55	C	25.7	0.54	D	38.5	0.51	D	37.6
				WBTR	0.33	C	24.2	0.32	D	37.3	0.08	C	33.9
				NBL	0.01	A	7.8	0.01	A	5.0	0.02	A	4.7
				NBT	0.52	A	9.8	0.64	A	8.6	0.63	A	8.1
				NBR	0.19	A	7.7	0.13	A	5.1	0.11	A	4.7
				SBL	0.06	A	7.2	0.05	A	6.9	0.04	A	6.5
				SBTR	0.59	B	10.5	0.43	A	6.6	0.41	A	6.2
Dry Creek Road & SH-55	0.61 / 0.70 / 0.68	D / D / C	53.7 / 43.7 / 31.8	WBL	***0.92***	E	73.5	0.90	E	77.9	0.90	E	79.0
				WBR	0.25	D	50.3	0.41	E	56.9	0.41	E	58.6
				NBT	0.87	D	54.5	0.89	D	42.7	0.73	C	25.5
				NBR	0.32	B	19.1	0.38	B	13.2	0.29	A	7.4
				SBL	0.81	F	84.3	0.80	F	86.5	0.79	F	86.8

[1] V/C ratio is defined as vehicle-to-capacity ratio, which calculates the number of vehicles divided by the capacity of the roadway/intersection during the peak 15 minutes of the peak hour. [2] LOS stands for Level of Service. [3] Delay is reported in seconds per vehicle. Cells above that are ***bold****, italicized, and highlighted indicate an intersection and/or lane group operating below the jurisdictional standards.*

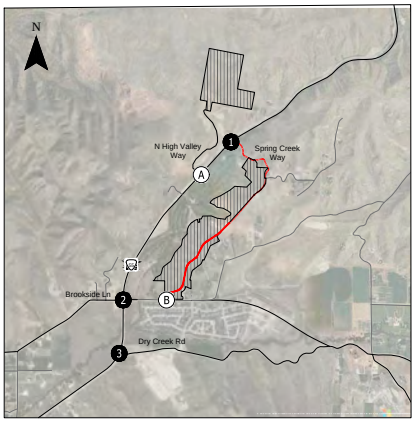
Trip Generation and Distribution

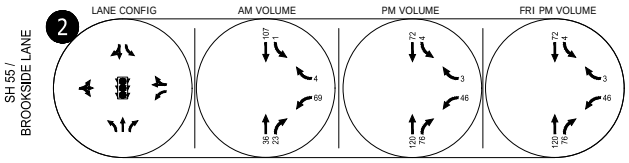
The estimated projected weekday daily, weekday a.m. peak hour, and weekday p.m. peak hour vehicle trips for the proposed development were based on the Trip Generation Manual, 11th Ed. (Reference 1). Note that the estimated vehicle trips for the weekday p.m. peak hour was used for that of the Friday p.m. peak hour in the total traffic analysis. Table 6 summarizes the estimated trip generation for the proposed Shadow Valley Development.

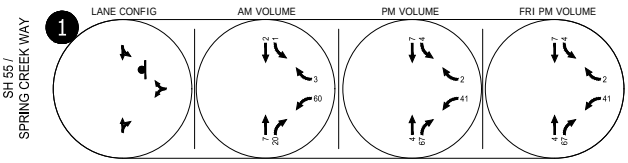
Table 6. Estimated Trip Generation for the Shadow Valley Development

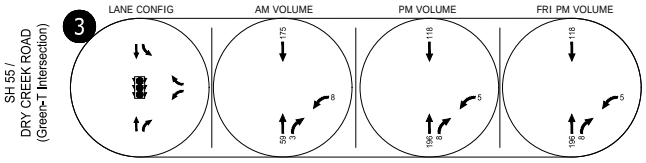
Land Use	ITE Code	Units	Daily Trips	Weekday AM Peak Hour			Weekday PM Peak Hour		
				Total	In	Out	Total	In	Out
West Side									
Single Family Houses (Detached)	210	89	906	67	17	50	89	56	33
East Side									
Single Family Houses (Detached)	210	218	2,067	151	38	113	207	130	77
Single Family Houses (Attached)	215	88	620	40	10	30	49	29	20
Total			**3,575**	**258**	**65**	**193**	**345**	**215**	**130**

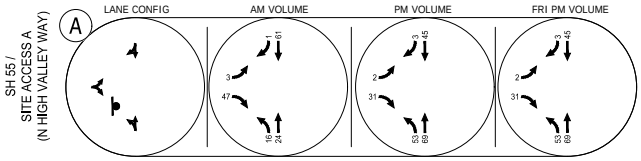
The trip distribution patterns are based on the access connections to and from the proposed development and their attraction/destination characteristics. The site generated trips were distributed onto the roadway system based on the area of impact model runs provided by COMPASS, review of the roadway system, and knowledge of travel patterns in the area. Figure 5 provides the trip assignment for the buildout year of 2030. Figure 6 provides the estimated trip distribution.

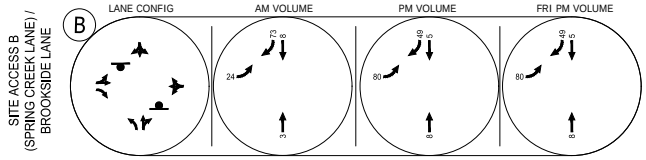












- STOP SIGN
- TRAFFIC SIGNAL
- ## - Study Intersections
- X - Site Access Intersections
- Site Access Intersections

Site Generated Trips
Shadow Valley Development
Boise, Idaho

Figure 5

KITTELSON & ASSOCIATES

C:\Users\kvanek\AppData\Local\Temp\AcPublish_2584\OBJTS - TIS Figures 2025\Update.dwg Apr 04, 2025 - 8:36am - kvanek Layout Tab: Fig05-Site Trips Generated



Trip Distribution
Ada County, Idaho

Figure 6

- ## - Study Intersections
- (X) - Site Access Intersections
- — - Site Access Intersections
- ↔ XX% - Trip Distribution Percentage

KITTELSON & ASSOCIATES

C:\Users\lkaniecki\appdata\local\temp\AcPublish_25840\257775 - TIS Figures 2025 Update.dwg Apr 04, 2025 - 8:36am - lkaniecki Layout Tab: Fig06-TripDist

Year 2030 Total Traffic Operations

Total traffic volumes reflect the background traffic volumes plus site-generated trips from the proposed development. Table 7 presents the traffic operations for each study intersection under year 2030 total traffic conditions.

Figure 7 presents lane configurations, traffic control devices, and peak hour traffic volumes at each of the study intersections for year 2030 total traffic conditions. *Attachment G includes the year 2030 total traffic operation Synchro worksheets*.

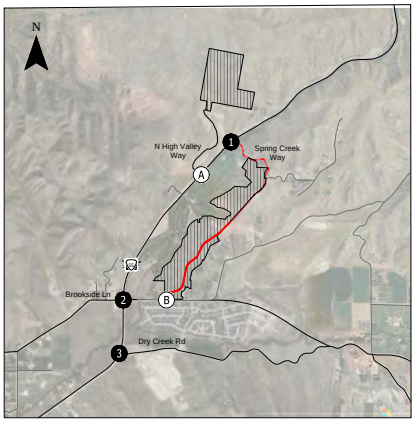
Table 7. Year 2030 Total Traffic Operations

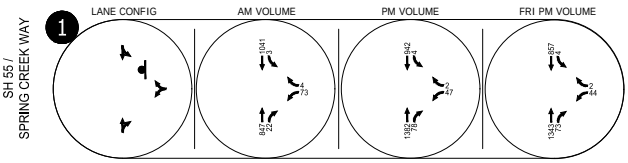
Intersection	Intersection AM / PM / Friday PM			Lane Group	Weekday AM Peak Hour			Weekday PM Peak Hour			Friday PM Peak Hour		
	V/C[1]	LOS[2]	Delay (s)[3]		V/C[1]	LOS[2]	Delay (s)[3]	V/C[1]	LOS[2]	Delay (s)[3]	V/C[1]	LOS[2]	Delay (s)[3]
Spring Creek Way & SH-55	-	-	-	WBLR	1.50	***F***	***>150.0***	>1.50	***F***	***>150.0***	***1.43***	***F***	***>150.0***
				SBTL	0.01	B	10.0	0.01	B	13.5	0.01	B	13.3
Brookside Lane & SH-55	***1.05 / 1.18 / 1.15***	D / E / E	49.5 / 71.4 / 64.5	EBLTR	0.03	D	44.5	0.01	E	55.3	0.03	E	56.2
				WBL	0.89	F	83.3	0.82	F	83.7	0.82	F	85.8
				WBTR	0.34	D	48.7	0.35	E	59.5	0.09	E	56.6
				NBL	0.05	D	38.4	0.02	B	15.1	0.03	B	11.6
				NBT	0.85	C	25.9	***1.20***	F	116.3	***1.17***	F	102.6
				NBR	0.18	A	9.7	0.19	A	5.6	0.17	A	5.1
				SBL	0.11	C	21.6	0.21	D	44.0	0.18	D	44.6
				SBTR	***1.06***	F	65.8	0.82	B	16.0	0.76	B	13.0
Dry Creek Road & SH-55	-	-	-	WBL	***>1.50***	***F***	***>150.0***	***>1.50***	***F***	***>150.0***	***>1.50***	***F***	***>150.0***
				WBR	0.28	C	23.4	0.86	***F***	***114.5***	0.79	***F***	***99.1***
				SBL	0.15	B	13.1	0.23	C	21.6	0.22	C	20.6
Spring Creek Lane (Malheur Ave) & Brookside Lane	-	-	-	NBLRT	0.03	B	12.2	0.04	B	13.4	0.10	B	13.4
				EBLT	0.02	A	7.6	0.06	A	7.7	0.03	A	7.7
				EBR	0.01	A	0.0	0.01	A	0.0	0.06	A	0.0
				WBLTR	0.01	A	7.5	0.01	A	7.5	0.01	A	7.5
				SBLTR	0.10	A	9.8	0.07	A	9.7	0.08	A	9.7
High Valley Way & SH-55	-	-	-	NBLT	0.03	B	11.5	0.09	B	11.0	0.09	B	10.5
				EBLR	0.33	D	33.7	0.69	F	***140.7***	0.30	E	42.8

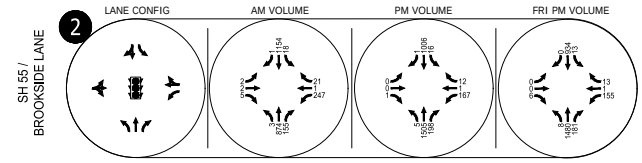
[1] V/C ratio is defined as vehicle-to-capacity ratio, which calculates the number of vehicles divided by the capacity of the roadway/intersection during the peak 15 minutes of the peak hour. [2] LOS stands for Level of Service. [3] Delay is reported in seconds per vehicle. Cells above that are ***bold****, italicized, and highlighted indicate an intersection and/or lane group operating below the jurisdictional standards.*

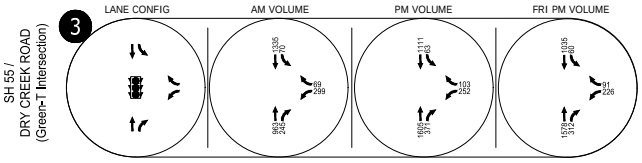
As shown in Table 7, all intersections operate acceptably except the following:

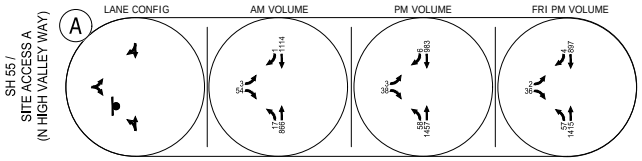
- **Spring Creek Way / SH-55**:
  - The WBLR movement operates at LOS F but is well under capacity during all three time periods.
- **Brookside Lane / SH-55**:
  - The overall intersection operates over capacity in the weekday p.m. and Friday p.m. peak hour.
- **Dry Creek Road / SH-55**:
  - The WBL movement operates over capacity in all three time periods.
- **High Valley Way / SH-55**:
  - The EBLR operates at LOS E and F during the weekday p.m. and Friday peak hours, respectively, but well under capacity.

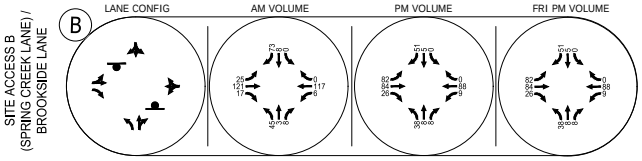












- STOP SIGN
- TRAFFIC SIGNAL

##- Study Intersections
Ⓧ- Site Access Intersections
- Site Access Intersections

2030 Total Lane Configurations, Traffic Control Devices, and Peak Hour Volumes
Shadow Valley Development
Boise, Idaho

Figure 7

KITTELSON & ASSOCIATES

C:\Users\kvanek\AppData\Local\Temp\AcPublish_23\MVCB\TS - TIS Figures 2025\Update.dwg Apr 04, 2025 - 8:36am - kvanek Layout Tab: Fig07-Total

Year 2030 Mitigated Total Traffic Operations

This section highlights the mitigations needed to address each of the intersections not meeting traffic operational guidelines under the year 2030 total traffic conditions. *Attachment H contains the year 2030 mitigated total traffic operational worksheets.*

Spring Creek Way / SH-55

The Spring Creek Way & SH-55 westbound left right (WBLR) movement operates at LOS F but under capacity in all three time periods. No additional mitigations are recommended beyond the previous mitigation of constructing a two-way left-turn lane (TWLTL), allowing for two-stage left turning onto SH-55. A high delay is normal for a smaller street intersecting with a high-volume highway during the peak hour. In addition, vehicles can use Spring Creek Way to get to the signal at Brookside to make a left-turn onto SH 55. Table 8 displays the intersection's operation with this mitigation in place.

Brookside Lane / SH-55

The Brookside Lane & SH-55 intersection operates over capacity in in all three time periods. No additional mitigations are recommended beyond the previous mitigation of widening SH 55 from one (1) to two (2) through lanes, which will be constructed as part of the ultimate configuration of the Green-T intersection at Dy Creek Road & SH-55. Table 8 displays the intersection's operation with this mitigation in place.

Dry Creek Road / SH-55

The intersection of Dry Creek Road & SH-55 operates over capacity in all three time periods. No additional mitigations are recommended beyond the previous mitigation of the Green-T intersection. Table 8 shows the intersection's operations with this mitigation in place.

High Valley Way / SH-55

The EBLR operates at LOS E and F during weekday p.m. and Friday peak hour, respectively, but well under capacity indicating vehicles can still find gaps to turn onto SH 55. A high delay is normal for a smaller street intersecting with a high-volume highway during the peak hour. Therefore, no mitigations are recommended.

Table 8. Year 2030 Mitigated Total Traffic Operations

Intersection	Intersection Weekday AM / Weekday PM / Friday PM			Lane Group	Weekday AM Peak Hour			Weekday PM Peak Hour			Friday PM Peak Hour		
	V/C[1]	LOS[2]	Delay[3]		V/C[1]	LOS[2]	Delay	V/C[1]	LOS[2]	Delay	V/C[1]	LOS[2]	Delay
Spring Creek Way & SH-55	-	-	-	WBLR	0.48	E	41.9	0.41	***F***	***51.0***	0.37	E	46.1
				SBTL	0.01	B	10.0	0.01	B	13.5	0.01	B	13.3
Brookside Lane & SH-55	0.72 / 0.71 / 0.70	B / B / B	14.7 / 12.1 / 11.5	EBLTR	0.02	C	23.6	0.01	D	37.6	0.03	D	37.4
				WBL	0.68	C	29.9	0.65	D	44.1	0.63	D	43.5
				WBTR	0.32	C	26.1	0.28	D	40.4	0.07	D	37.6
				NBL	0.01	B	10.3	0.01	A	6.4	0.02	A	6.0
				NBT	0.55	B	12.3	0.70	B	11.6	0.69	B	10.9
				NBR	0.22	A	9.7	0.21	A	66.7	0.11	A	6.4
				SBL	0.07	A	9.2	0.08	A	9.8	0.07	A	9.2
				SBTR	0.65	B	13.7	0.46	A	8.3	0.45	A	7.8
Dry Creek Road & SH-55	0.64 / 0.77 / 0.75	D / D / C	52.6 / 41.2 / 33.8	WBL	***0.92***	E	73.2	***0.91***	F	81.6	0.90	F	80.6
				WBR	0.24	D	49.6	0.41	E	56.6	0.40	E	58.2
				NBT	0.88	D	53.2	***0.91***	D	39.3	0.83	C	29.0
				NBR	0.31	B	17.1	0.35	A	9.5	0.29	A	7.0
				SBL	0.81	F	84.3	0.80	F	88.2	0.79	F	86.8

[1] V/C ratio is defined as vehicle-to-capacity ratio, which calculates the number of vehicles divided by the capacity of the roadway/intersection during the peak 15 minutes of the peak hour. [2] LOS stands for Level of Service. [3] Delay is reported in seconds per vehicle. Cells above that are ***bold****, italicized, and highlighted indicate an intersection and/or lane group operating below the jurisdictional standards.*

Year 2030 Total Traffic Conditions Queuing Analysis-Mitigated

Error! Not a valid bookmark self-reference. Table 9 shows the results of the queuing analysis with the total traffic mitigated intersections. Queue lengths and storage lengths are reported to the nearest 25 feet. An N/A represents unlimited storage such as a through lane.

Table 9. Year 2030 Total Traffic Conditions Queuing Analysis

Intersection	Lane Group	Storage	Weekday AM Peak Hour		Weekday PM Peak Hour		Friday PM Peak Hour	
			Queue	Fits?	Queue	Fits?	Queue	Fits?
Spring Creek Way & SH-55	WBLR	N/A	50	Yes	50	Yes	50	Yes
	SBTL	N/A	0	Yes	0	Yes	0	Yes
Brookside Lane & SH-55	EBLTR	N/A	25	Yes	0	Yes	25	Yes
	WBL	175	125	Yes	100	Yes	100	Yes
	WBTR	N/A	0	Yes	0	Yes	25	Yes
	NBL	50	0	Yes	0	Yes	0	Yes
	NBT	N/A	100	Yes	225	Yes	200	Yes
	NBR	500	50	Yes	50	Yes	50	Yes
	SBL	100	25	Yes	25	Yes	25	Yes
	SBTR	N/A	150	Yes	100	Yes	100	Yes
Dry Creek Road & SH-55	WBL	N/A	350	Yes	300	Yes	250	Yes
	WBR	200	150	Yes	200	Yes	200	Yes
	SBL	150	100	Yes	75	Yes	75	Yes
Spring Creek Lane (Malheur Ave) & Brookside Lane	NBLTR	N/A	25	Yes	25	Yes	25	Yes
	EBLT	N/A	0	Yes	25	Yes	25	Yes
	EBR	100	25	Yes	25	Yes	25	Yes
	WBLTR	N/A	0	Yes	0	Yes	0	Yes
	SBLTR	N/A	25	Yes	25	Yes	25	Yes
High Valley Way & SH-55	NBLT	N/A	25	Yes	25	Yes	25	Yes
	EBLR	N/A	25	Yes	25	Yes	25	Yes

Year 2030 Total Traffic Conditions Roadway Segment Analysis

Total peak hour segment volumes were determined for the study roadway segments from the intersection turning movement counts collected in February 2025. Per ACHD Policy Manual 7106.4.1, Table 10 summarizes the characteristics of the study roadway segment, applicable peak hour level of service planning thresholds, and resultant roadway level of service under total traffic conditions.

Table 10. Year 2028 Total Roadway Segment Operations - Weekday AM and PM Peak Hour

Roadway Segment	Classification[1]	Travel Lanes[2]	ACHD Peak Hour Std. Volume (One-Way)	Weekday AM Peak Hour		Weekday PM Peak Hour	
				One-Way Volume/ Direction	Meets Std.	One-Way Volume/ Direction	Meets Std.
Spring Valley Way (North of Brookside)	Local Street	2	-	80 / SB	-	90 / NB	-
Spring Valley Way (East of SH 55)	Local Street	2	-	80 / WB	-	80 / EB	-

[1]Per COMPASS 2040 Functional Street Classification Map (Reference 5)
[2]Travel lanes include the total number of lanes across the roadway's respective cross section

As shown in Table 10, under 2030 total conditions, Spring Creek Way is projected to operate acceptably as a local roadway.

Year 2037 Total Traffic Operations

ITD requested an analysis of seven years beyond the anticipated buildout as part of the TIS. All the mitigations found to be needed in the buildout year of 2030 were assumed to be in place for the year 2037.

Year 2037 total traffic volumes reflect existing traffic volumes plus twelve (12) years of growth at a 2% annual compounded rate plus site-generated traffic from in-process developments including the Dry Creek Ranch development and the Avimor Village 1 development plus site-generated trips from the proposed development. The analysis for year 2037 assumes full build out of the in-process developments. Table 11 shows the operations for each of the intersections in the year 2037. *Attachment K includes the year 2037 total traffic operation Synchro worksheets.*

Table 11. Year 2037 Total Traffic Operations

Intersection	Intersection AM / PM / Friday PM			Lane Group	Weekday AM Peak Hour			Weekday PM Peak Hour			Friday PM Peak Hour		
	V/C[1]	LOS[2]	Delay (s)[3]		V/C[1]	LOS[2]	Delay (s)[3]	V/C[1]	LOS[2]	Delay (s)[3]	V/C[1]	LOS[2]	Delay (s)[3]
Spring Creek Way & SH-55	-	-	-	WBLR	0.59	***F***	***3.1***	0.52	***F***	***71.9***	0.45	***F***	***60.8***
				SBTL	0.01	B	0.0	0.01	B	15.0	0.01	B	14.7
Brookside Lane & SH-55	***0.91*** / 0.85 / 0.83	D / C / B	38.5 / 20.7 / 19.5	EBLTR	0.02	C	22.9	0.01	D	38.7	0.02	D	38.6
				WBL	0.87	D	49.7	0.78	D	52.2	0.77	D	50.7
				WBTR	0.29	C	26.2	0.30	D	42.2	0.07	D	39.0
				NBL	0.04	C	27.6	0.02	B	10.7	0.03	B	10.0
				NBT	0.76	C	33.3	0.83	C	21.9	0.81	C	20.3
				NBR	0.54	C	28.5	0.38	B	12.3	0.35	B	11.5
				SBL	0.22	C	24.9	0.20	C	20.4	0.16	B	18.6
				SBTR	0.87	D	42.0	0.55	B	13.6	0.53	B	12.7
Dry Creek Road & SH-55	0.74 / 0.87 / 0.86	D / D / D	47.2 / 38.9 / 35.6	WBL	0.90	E	66.9	***0.91***	E	78.0	0.89	E	74.8
				WBR	0.43	D	50.4	0.67	E	63.2	0.64	E	61.9
				NBT	0.88	D	46.6	***0.92***	C	34.6	0.89	C	30.3
				NBR	0.50	B	14.3	0.70	B	11.5	0.64	A	9.5
				SBL	0.83	F	84.9	0.83	F	102.8	0.83	F	102.0
Spring Creek Lane (Malheur Ave) & Brookside Lane	-	-	-	NBLTR	0.29	C	23.6	0.19	C	19.4	0.22	C	21.1
				EBLT	0.02	B	11.5	0.04	B	12.6	0.04	B	13.1
				EBR	0.02	A	8.0	0.07	A	7.8	0.07	A	7.8
				WBLTR	0.01	A	7.9	0.01	A	8.3	0.01	A	8.4
				SBLTR	0.14	B	11.5	0.09	B	10.3	0.09	B	10.4
High Valley Way / SH-55	-	-	-	NBLT	0.04	B	12.2	0.11	B	11.8	0.09	B	11.1
				EBLR	0.34	D	34.4	0.20	C	24.3	0.16	C	21.0

[1] V/C ratio is defined as vehicle-to-capacity ratio, which calculates the number of vehicles divided by the capacity of the roadway/intersection during the peak 15 minutes of the peak hour. [2] LOS stands for Level of Service. [3] Delay is reported in seconds per vehicle. [4] The intersection LOS and delay for the Green-T intersection accounts for southbound through movements and delay. Cells above that are ***bold****, italicized, and highlighted indicate an intersection and/or lane group operating below the jurisdictional standards.*

As shown in Table 11, all intersections operate acceptably except the following:

- **Spring Creek Way / SH-55**:
  - The WBLR movement operates at LOS F but is well under capacity during all three time periods.
- **Brookside Lane / SH-55**:
  - The overall intersection operates at V/C of 0.91 in the weekday a.m. peak hour.
- **Dry Creek Road / SH-55**:
  - The WBL movement operates at V/C of 0.91 and the NBT movement operates at V/C of 0.92 during the weekday p.m. peak hour.

TURN LANE WARRANTS

Turn lane warrants were analyzed for the Spring Creek Way / SH-55 and High Valley Way / SH-55 intersections. The warrant analysis for turn lanes on SH-55 was based on ITD's *Traffic Manual* (Reference 2). *Attachment I provides the turn lane warrant worksheets for each turn lane evaluated in this analysis.* Table 12 presents the results of the turn lane analysis.

Table 12. Turn Lane Analysis Results

Site Access	Proposed Access Type	Turn Lane	Warranted
Spring Creek Way / SH-55	Full-movement, stop-control	NB Right-Turn Lane SB Left-Turn Lane	**Yes** **Yes**
High Valley Way / SH-55	Full-movement, stop-control	NB Left-Turn Lane SB Right-Turn Lane	**Yes** No

SUMMARY AND RECOMMENDATIONS

The results of the memorandum indicate that the proposed Shadow Valley Development can be constructed while maintaining acceptable levels of service and safety on the surrounding transportation system if the appropriate mitigations are in place. The findings of this analysis and recommended mitigations are discussed below.

Summary

Year 2025 Existing Traffic Conditions

All study intersections were found to operate at acceptable operating standards during the existing weekday a.m., weekday p.m., and Friday p.m. peak hours except for the following:

- **Dry Creek Road / SH-55**:
  - WBL movement operates at LOS F during all three time periods and nearing capacity.
    - Mitigation: Construct a signalized Green-T at the Dry Creek Road / SH-55 intersection. This mitigation is already conditioned for the Dry Creek Ranch Development.

Year 2030 Background Traffic Conditions

All study intersections were found to operate at acceptable operating standards during the existing weekday a.m., weekday p.m., and Friday p.m. peak hours except for the following:

- **Spring Creek Way / SH-55**:
  - The WBLR movement operates at LOS F but well under capacity during all three time periods.
    - Mitigation: Construct a TWLTL to allow a two-stage left turn onto SH-55.
- **Brookside Lane / SH-55**:
  - The overall intersection operates over capacity in the weekday p.m. and Friday p.m. peak hour.
    - Mitigation: Widen SH-55 southbound to two (2) through lanes. This mitigation is already conditioned on the Avimor Development.

- **Dry Creek Road / SH-55**:
  - The WBL movement operates over capacity in all three time periods.
    - Mitigation: No additional mitigations recommended beyond the previous mitigation.

Year 2030 Total Traffic Conditions

All study intersections were found to operate at acceptable operating standards during the existing weekday a.m., weekday p.m., and Friday p.m. peak hours except for the following:

- **Spring Creek Way / SH-55**:
  - The WBLR movement operates at LOS F but is well under capacity during all three time periods.
    - Mitigation: No additional mitigations recommended beyond the previous mitigation.
- **Brookside Lane / SH-55**:
  - The overall intersection operates over capacity in the weekday p.m. and Friday p.m. peak hour.
    - Mitigation: No additional mitigations recommended beyond the previous mitigation.
- **Dry Creek Road / SH-55**:
  - The WBL movement operates over capacity in all three time periods.
    - Mitigation: No additional mitigations recommended beyond the previous mitigation.
- **High Valley Way / SH-55**:
  - The EBLR operates at LOS E and F during the weekday p.m. and Friday peak hours, respectively, but well under capacity.
    - Mitigation: No mitigation is recommended.

Turn Lane Warrants

Based on the analysis, the following turn lanes are warranted:

- **Spring Creek Way / SH-55**:
  - Northbound right-turn lane
  - Southbound left-turn lane
- **High Valley Way / SH-55**:
  - Northbound left-turn lane

Mitigation Summary

Table 13 shows a mitigation summary for each of the study intersections and percentage of site traffic.

Table 13. Mitigation Summary

No.	Intersection	Year 2025 Existing Conditions Mitigation	Year 2030 Background Conditions Mitigation	Year 2030 Total Conditions Mitigation	% Site Traffic[2]
1	Spring Creek Way & SH-55	-	Short TWLTL along SH 55 for two-stage left-turns	NB Right-Turn Lane Warranted SB Left-Turn Lane Warranted	AM – 5% PM – 5%
2	Brookside Lane & SH-55	-	Widening of SH 55 and traffic signal modification	*No Additional Improvements Needed*	AM – 10% PM – 11%
3	Dry Creek Road & SH-55	Green T Signalized Intersection	*No Additional Improvements Needed*	*No Additional Improvements Needed*	AM – 8% PM – 9%
4	Spring Creek Lane (Malheur Ave) & Brookside Lane	No Mitigation Required			
5	High Valley Way & SH-55	-	-	NB Left-Turn Lane Warranted	AM – 7% PM – 8%

Recommendations

The following recommendations were developed based on the analysis and findings.

Year 2025 Existing Traffic Condition Mitigations (Without Proposed Development)

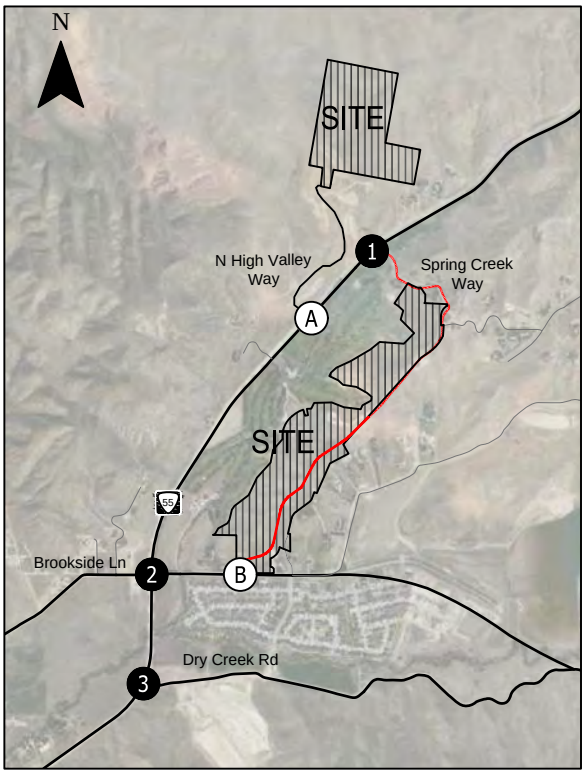
- The Dry Creek Ranch Development is funding and constructing the Green T signal at the Dry Creek & SH 55 Intersection.

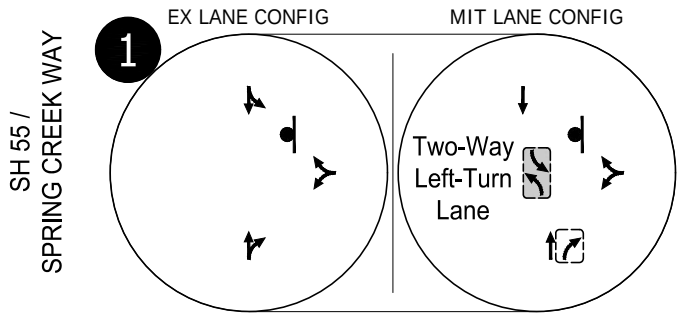
Year 2030 Background Traffic Condition Mitigations (Without Proposed Development)

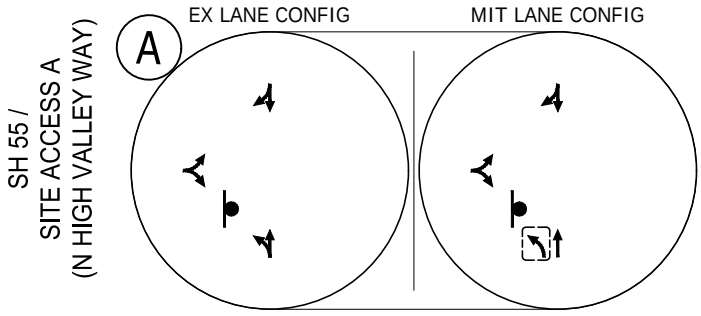
- The Avimor Development is funding and constructing the widening of SH 55 from one (1) to two (2) through lanes in both directions from Brookside Lane to Avimor Drive.

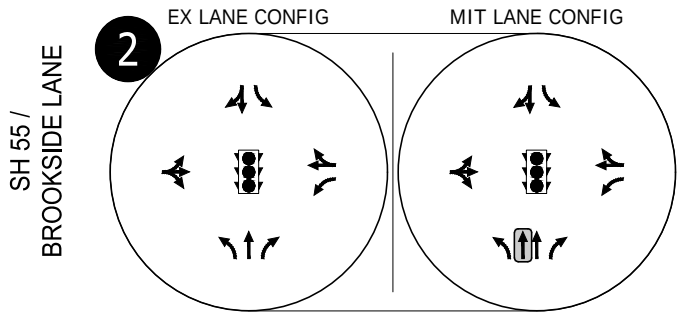
Year 2030 Total Traffic Condition Mitigations Needed with the Proposed Development

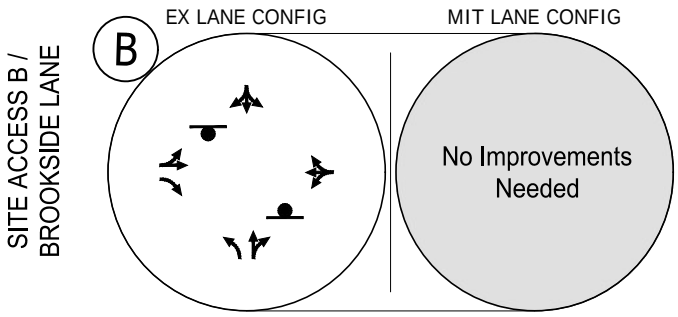
- Construct a two-way left-turn lane to allow for a two-stage westbound left-turn onto SH 55 at the intersection of Spring Creek Way & SH 55.
- Install a northbound right-turn lane and southbound left-turn lane at the intersection of Spring Creek Way & SH 55.
- Install a northbound left-turn lane at the intersection of High Valley Way & SH 55.

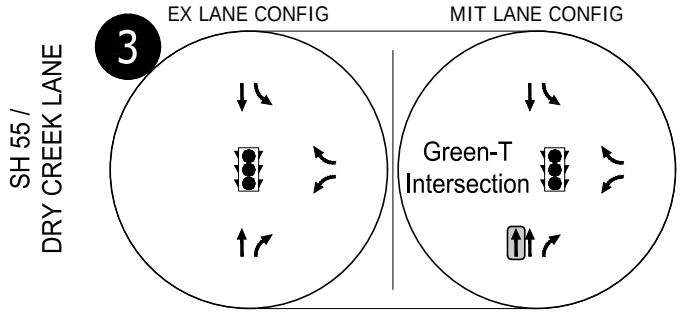












- Turn Lane Warranted
- MIT Improvement (Additional Thru/Turn Lane)

Mitigation Lane Configuration Diagram
Ada County, Idaho

Figure 8

- ## - Study Intersections
- X - Site Access Intersections
- Study Roadway Segment

C:\Users\lkaniecki\appdata\local\temp\AcPublish_25840\257775 - TIS Figures 2025 Update.dwg Apr 04, 2025 - 8:36am - lkaniecki Layout Tab: Fig08-MIT

REFERENCES

1. Institute of Transportation Engineers. *Trip Generation Manual, 11th Edition*. 2021.
2. Idaho Transportation Department. *Traffic Manual: Idaho Supplementary Guidance to the MUTCD.* April 2020.

ATTACHMENTS

A. Scoping Memo and Corresponding Emails
B. Traffic Counts
C. Year 2025 Existing Traffic Operation Synchro Worksheets
D. Year 2025 Existing Traffic Operation Synchro Worksheets (Mitigated)
E. In Process Traffic Volumes
F. Year 2030 Background Traffic Operation Synchro Worksheets
G. Year 2030 Background Traffic Operation Synchro Worksheets (Mitigated)
H. Year 2030 Total Traffic Operation Synchro Worksheets
I. Year 2030 Total Traffic Operation Synchro Worksheets (Mitigated)
J. Turn Lane Warrant Worksheets
K. Year 2037 Total Traffic Operation Synchro Worksheets

Attachment A
Scoping Memo and Corresponding Emails

KITTELSON & ASSOCIATES
101 S CAPITOL BOULEVARD, SUITE 301
BOISE, ID 83702
P 208.338.2683 F 208.338.2685

MEMORANDUM

Date:	February 5, 2025	Project #: 25775
To:	Mindy Wallace and Sam Standal - Ada County Highway District Niki Benyakhlef and Kendra Conder – Idaho Transportation Department	
From:	Lauren Nuxoll, PE, PTOE	
Project:	Shadow Valley Development – Ada County, Idaho	
Subject:	Proposed Scope of Work for the Transportation Impact Study	

This memorandum documents the proposed scope and summarizes assumptions for the transportation impact study (TIS) for the proposed Shadow Valley Development. This project is located along both sides of SH 55 in Ada County. The development is proposed to consist of 395 single-family homes, 88 attached and 307 detached. As part of the development plan there is a space for an event center which is existing today as the Stone Crossing Wedding Venue. The site will be annexed into the City of Eagle. Figure 1 shows the site vicinity and project boundaries.

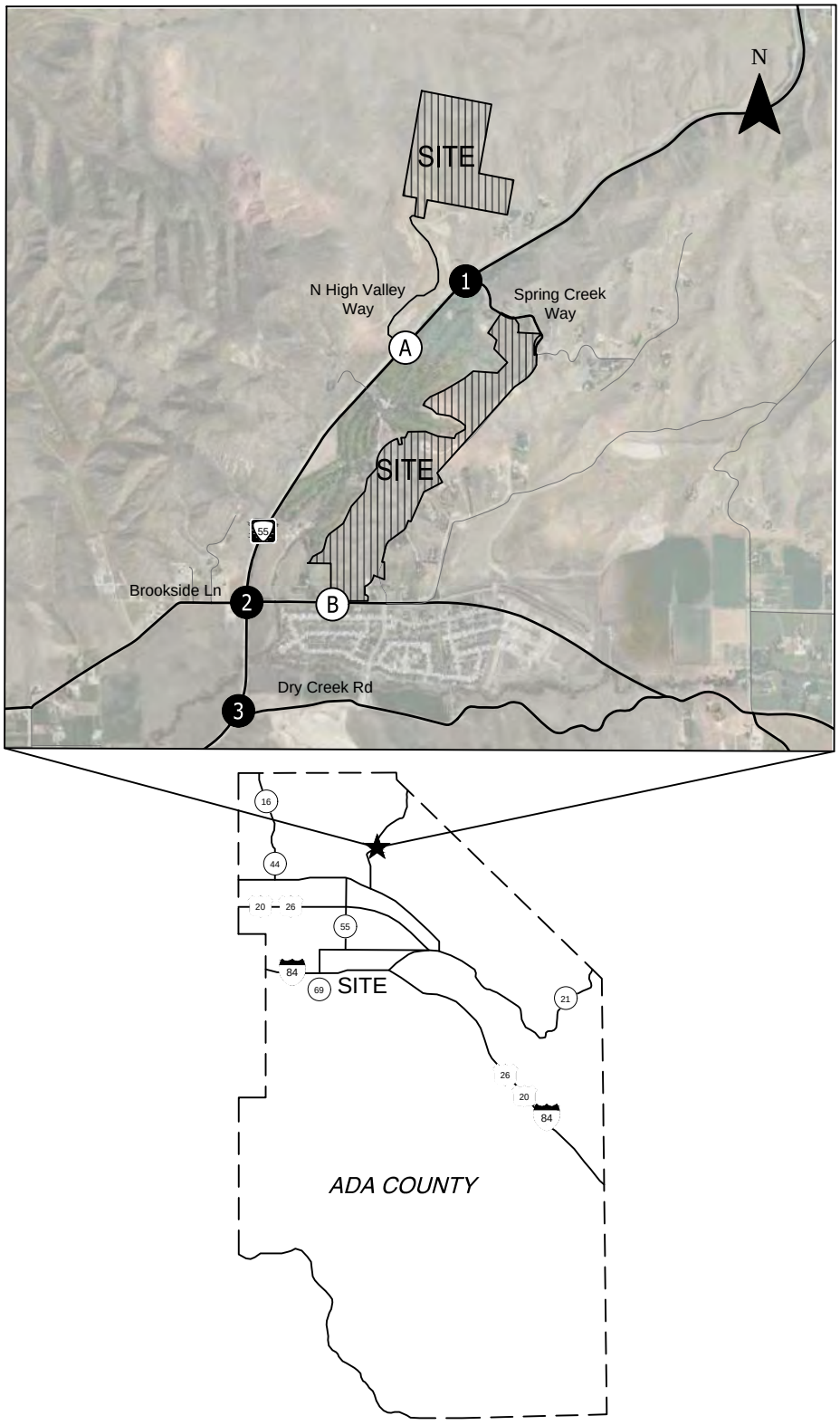
The information presented in this memorandum was developed based on conversations with Kine & Kine Properties (property developer), our familiarity with the area and with the Ada County Highway District (ACHD) and Idaho Transportation Department (ITD) policies.

This memorandum addresses the following items:

- Project Description
- Estimated Trip Generation and Distribution
- Analysis Scenarios and Study Assumptions
- Analysis Tools

PROJECT DESCRIPTION

The Shadow Valley Development is located on the east and west side of SH-55 between Brookside Lane and Spring Creek Way. The site is in Ada County and will be annexed into the City of Eagle. The development proposes to build 395 single-family homes with 216 single-family detached and 88 single-family attached homes on the east side, and 89 single family homes on the west side. The existing Stone Crossing Wedding Venue will be part of the development as it plans an expansion. No additional trips are projected with the Stone Crossing expansion as a wedding venue as a site plan has not been established. Figure 2 illustrates the proposed site plan.



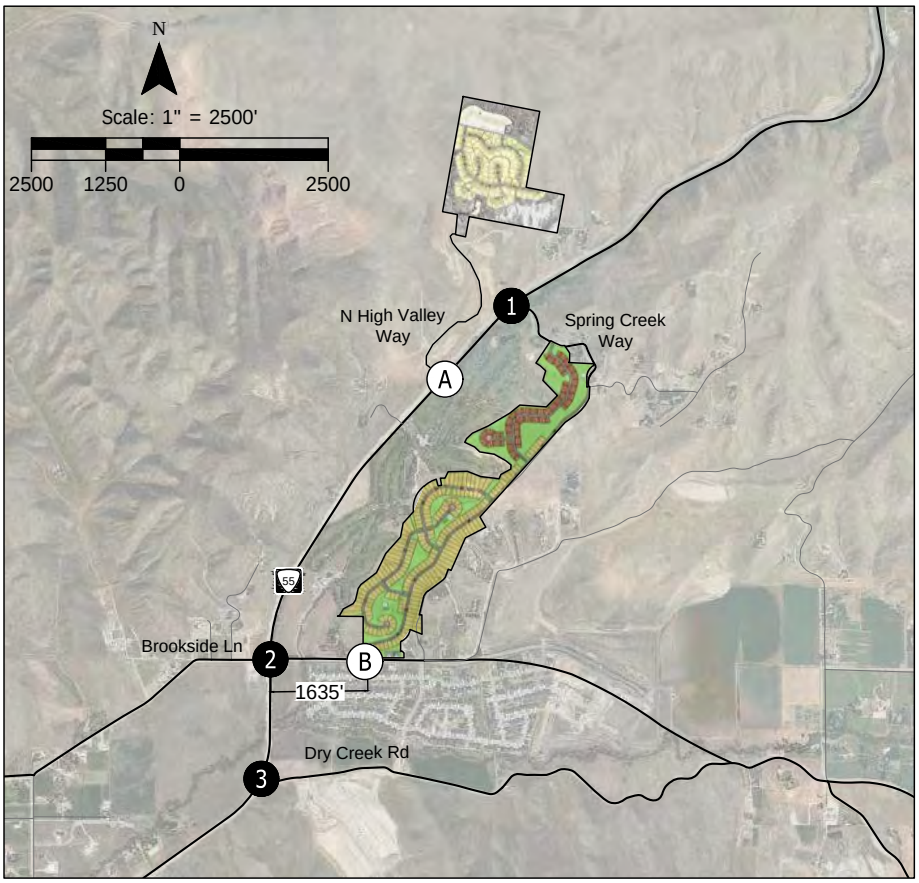
##- Study Intersections
(X)- Site Access Intersections

Site Vicinity
Ada County, Idaho

Figure
1

H:\25\25775 - Shadow Valley Development TIS\report\figs\25775 - TIS Figures2.2.dwg Oct 31, 2024 - 4:03pm - lkaniecki Layout Tab: Fig01-Site Vicinity

KITTELSON & ASSOCIATES



##- Study Intersections
Ⓧ- Site Access Intersections

Proposed Site Plan
Shadow Valley
Ada County, Idaho

Figure
2

KITTELSON & ASSOCIATES

H:\25\25775 - Shadow Valley Development TIS\report\figs\25775 - TIS Figures2.2.dwg Oct 31, 2024 - 4:03pm - lkaniecki Layout Tab: Fig02-Updated Site Plan

Access to the site development is proposed via three accesses:

- SH 55 / Spring Creek Way: An existing full access, approximately 1.4 miles north of Brookside Lane.
- Site Access A (SH 55 / High Valley Way): An existing full access, approximately 0.96 miles north of Brookside Lane.
- Site Access B (Brookside Lane / Spring Creek Way): An existing full access, approximately 0.5 miles west of Brookside Lane.

ESTIMATED TRIP GENERATION AND DISTRIBUTION

The projected weekday daily, a.m. and p.m. peak hour vehicle trips for the proposed development were estimated based on the *Trip Generation Manual, 11th Edition* (Reference 1). Table 1 summarizes the estimated trip generation for the proposed Shadow Valley Development.

Table 1. Proposed Trip Generation

Land Use	ITE Code	Units	Daily Trips	Weekday AM Peak Hour			Weekday PM Peak Hour		
				Total	**In**	**Out**	**Total**	**In**	**Out**
West Side									
Single Family Houses (Detached)	210	89	906	67	17	50	89	56	33
East Side									
Single Family Houses (Detached)	210	218	2,067	151	38	113	207	130	77
Single Family Houses (Attached)	215	88	620	40	10	30	49	29	20
Total			**3,575**	**258**	**65**	**193**	**345**	**215**	**130**

Trip Distribution

The distribution of site generated trips onto the roadway system was based previous studies in the area, review of the roadway system, and knowledge of travel patterns the area. The proposed distribution is shown in Figure 3.



##- Study Intersections
X- Site Access Intersections
XX%- Trip Distribution Percentage

Trip Distribution
Ada County, Idaho

Figure
3

H:\25\25775 - Shadow Valley Development TIS\report\figs\25775 - TIS Figures2.2.dwg Oct 31, 2024 - 4:03pm - lkaniecki Layout Tab: Fig06-TripDist

ANALYSIS SCENARIOS & STUDY ASSUMPTIONS

The proposed TIS assumptions for the analysis include:

- **Study Years:**
  - Existing traffic conditions (Year 2025)
  - Buildout year (Year 2030) background traffic conditions (includes regional growth and in-process developments, but no site development traffic)
  - Buildout year (Year 2030) total traffic conditions (includes background traffic conditions plus site-generated trips from the proposed development)
    - If needed, a sensitivity analysis will be completed to identify the trigger point of mitigation measures
- **Time Periods:**
  - Weekday a.m. Peak Hour (7-9 AM)
  - Weekday p.m. Peak Hour (4-6 PM)
  - Friday p.m. Peak Hour (4-6 PM)
- **Study Intersections:**
  1. SH 55 / Brookside Lane *(traffic signal)*
  2. SH 55 / High Valley Way *(two-way stop-controlled)*
  3. SH 55 / Spring Creek Way *(two-way stop-controlled)*
  4. SH 55 / Dry Creek Road *(two-way stop-controlled)*
  5. Brookside Lane / Spring Creek Lane *(two-way stop-controlled)*
- **Roadway Segments:**
  - Spring Creek Way (Brookside Ln to SH 55) *(Buildout Year Only)*
- **Data Collection:**
  - Since the development is along SH 55, peak hour turning movements are usually collected during the summer months which result in the highest volumes for the area. Since collecting during the summer months is not an option, Kittelson is proposing to collect new traffic counts in February 2025 at the study intersections and apply a seasonal growth factor from ITD's ATR #10.
  - For crash data, KAI will obtain historical crash data from ITD for the last 5 years on record.
- **Background Growth Rate and In-Process Developments:**
  - Previous TISs in the area established the following annual background growth rates:

- SH 55 intersections from Avimor Drive south: 1.5% annual compound growth rate

- **In-Process Development:** There are two in-process developments which are planned to be included as background traffic:
  - *Dry Creek Ranch:* This analysis assumes 20% buildout of the Dry Creek Ranch is already occupied and captured in the existing 2024 counts. An additional 20% of the buildout is assumed to be developed by 2030.
  - *Avimor Development PUMP Area 1 + 2 Development:* PUMP Area 1 and 2 are currently being built and expect to be occupied by 2030. Based on the Avimor PUMP 1 Development TIS, this includes:
    - 1,612 dwelling units (1,173 single-family units, 439 multi-family units)
    - 164 beds of assisted living space
    - 62,000 square feet of mini-warehouse space
- Kittelson requests that ACHD and ITD provide information in the response to this scope for any other background developments that should be included in the TIS (in addition to the normal background development growth included in the growth rate) as well as the approved traffic impacts studies for the developments.

- **Access Spacing and Needs:**
  - Access locations on SH 55 will be evaluated with respect to ITD policy, spacing requirements, and sight distance.
  - The need for traffic control and turn lanes will also be evaluated at each site access.

- **Planned Transportation Improvements:**
  - Based on our review of ACHD's Capital Improvement Plan adopted in August 2020 (CIP, Reference 2) and ACHD's Integrated Five Year Work Plan (IFYWP, Reference 3), no projects were found that are planned between 2020 and 2030.
  - Based on our review of ITD's Statewide Transportation Investment Program (ITIP, Reference 3), there is one project in the study area.
    - 23638: SH 55, Beacon Light Rd to Brookside Ln. This project will widen the road from two lanes to four lanes.

ANALYSIS TOOLS AND OPERATING STANDARDS

The intersection operational analysis will be performed using the *Highway Capacity Manual (HCM), 6th Edition* analysis procedures (Reference 4). To ensure that this analysis is based on a reasonable worst-case scenario, the peak 15-minute flow rate during the weekday a.m. and p.m. peak hours will be used

in the evaluation of all intersection level-of-service (LOS) and volume-to-capacity (V/C) ratios. The signalized and stop-controlled intersection operations analyses will be completed using Synchro 10 software, and if needed for supplemental analysis, HCS 7 software (version 7.40). For signalized intersection overall V/C ratios, the HCM 2000 procedure will be used because the HCM 6th Edition procedure does not produce an intersection overall V/C ratio. Roundabout intersection operations analyses will be completed using Sidra 7.

The analysis will be performed in accordance with the methodologies stated in Section 7106.6 of the *ACHD Policy Manual* (Reference 5) and include consideration of separate left-and right-turn lanes as well as queuing impacts. Intersection and segment level-of-service will be reported per ACHD thresholds.

ACHD requires that signalized intersections operate at a minimum of LOS "E" for Principal Arterials and Minor Arterials and LOS "D" for Collectors. All unsignalized intersections that have a projected LOS "D" or worse shall be evaluated to determine if a signal or roundabout is warranted. The acceptable volume-to-capacity ratio for signalized intersections is 0.90 for the overall intersection and 1.00 for each lane group. The acceptable volume-to-capacity ratio is 1.00 for the critical lane group at unsignalized intersections.

Although not policy, ITD's desired thresholds are LOS D and v/c ratio of 0.90 or better for all intersections.

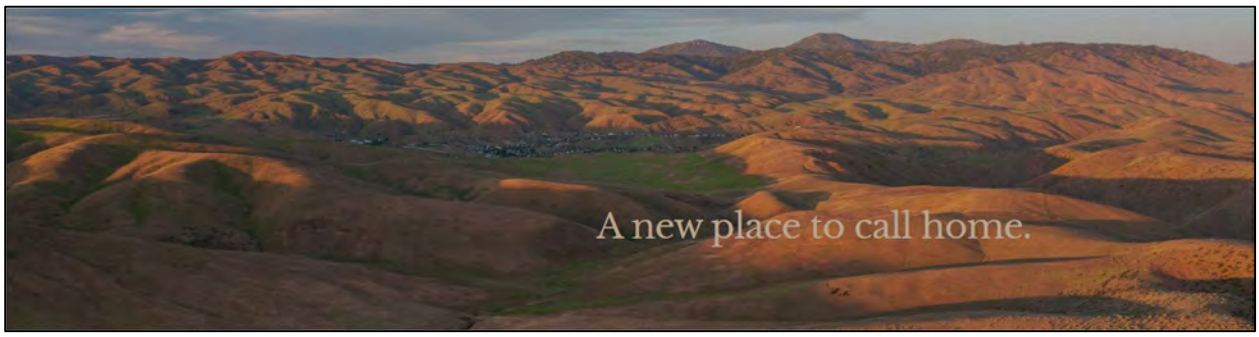
NEXT STEPS

We request ACHD and ITD review this scoping memo and provide a response on the assumptions so that we can move forward with the study. Please contact Lauren Nuxoll at 208.472.9817 or lnuxoll@kittelson.com if you have any questions or comments on the information presented in this memorandum.

REFERENCES

1. Institute of Transportation Engineers. *Trip Generation Manual, 11th Edition*. 2021.
2. Ada County Highway District. *Capital Improvements Plan*. Published August 19, 2020. Amended July 27, 2022.
3. Ada County Highway District. *Five Year Integrated Work Plan 2025-2029.* September 25, 2024.
4. Idaho Transportation Department. *Idaho Statewide Transportation Investment Program (ITIP) – FY25 to FY31*. September 19, 2024.
5. Transportation Research Board. *Highway Capacity Manual 6th Edition*. Washington D.C. 2015.
6. Ada County Highway District. *Policy Manual*. 2020.

SHADOW VALLEY PLANNED COMMUNITY | RECREATION ANALYSIS



Version: December 20, 2024, Planned Community Application Phase 1

TABLE OF CONTENTS

Table of Contents 2

Introduction 2

Existing Natural Features & Recreation 3

Community Land Use Summary 7

Connectivity 9

Recreational goals 10

Recreational map 11

Golf 12

Shadow valley golf course 12

item 1: Open Space & trail systems 14

item 2: Community Center sport courts, commons & gathering spaces 15

item 3: Semi-Public Places 15

item 4: Neighboring planned community amenities 15

item 5: Proximity to major recreation hubs 16

item 5: Implementation strategies 18

INTRODUCTION

Shadow Valley Planned Community is a 560-acre community envisioned as a small-scale but modern and efficient planned community located in unincorporated Ada County. This recreation-focused community is proposed to be home to a maximum of 395 housing units and a population of just under 1,000[1] by 2034. As southern Idaho and specifically the Treasure Valley attracts new residents, the need for additional residential housing units increases. The community is ideally situated to allow access to the employment cores of the Treasure Valley while co-locating with other planned communities already underway to minimize public service impacts overall.

[1] (Elzi, 2024)

EXISTING NATURAL FEATURES & RECREATION

Environmental engineering reporting is pending. The project area is located in northern Ada County, Idaho, north of the City of Boise and City of Eagle, in the foothills along Highway-55. Elevations of the Foothills range from about 2,800 to 5,000 feet. The topography of the project area is moderately to steep slopes (20 to 60%). The rolling foothills have many small, unnamed ephemeral, intermittent streams and isolated springs. Dry Creek is the only perennial streams in the vicinity of the project area. Located between the Boise Front and the Owyhee Mountains the Treasure Valley is the broad valley of the western Snake River Plain. While geologists debate the details of its origin, evidence indicates that the Plain began as a rift about 12 million years ago. A rift is a large valley bordered by faults, or fractures in the earth's crust. According to the Bureau of Land Management Geology of Southwest Idaho Booklet, *"Along the Upper Hulls Gulch Trailhead you'll see exposures of granitic rocks of the Idaho Batholith, which forms the geologic backbone of west-central Idaho. Batholiths are large areas of rock that have intruded into an existing rock formation. The Idaho Batholith intruded into the existing bedrock during the late Cretaceous Period (approximately 64 to 100 million years ago)."*[2] The Shadow Valley Planned Community is located in the above-mentioned Batholith zone with natural rock outcrops occurring intermittently throughout the undulating foothill topography. Shadow Valley Planned Community is somewhat isolated from its closest jurisdictional neighbors, the City of Eagle and City of Boise. The planned community is primarily accessed by vehicle when heading north on Highway 55 from Eagle and provides existing recreational amenities, primarily the Shadow Valley Golf Course, integrated into the planned community with other recreational opportunities available in neighboring planned communities and cities.

Location/Drive Time Review from Shadow Valley Planned Community:

1. Avimor Exxon Fuel Station: 2.8 Miles, 4 minutes
2. Hidden Springs Library: 3.8 miles, 7 minutes
3. Eagle Fire Station #2 (Floating Feather): 3.4 miles, 5 minutes
4. City of Boise Downtown:15-miles, 30 minutes
5. City of Eagle Downtown: 5.8 miles, 10 minutes
6. City of Meridian Downtown: 14.1 miles, 30 minutes
7. City of Emmett: 21 miles, 30 minutes
8. City of Caldwell Downtown: 26 miles, 44 minutes
9. City of Nampa Downtown: 24 miles, 47 minutes
10. Boise Airport: 12 miles, 35 minutes
11. Bogus Basin Recreational Area: 26 miles, 47 minutes
12. Lucky Peak State Park: 32 miles, 54 minutes

Existing Recreation

Existing recreational opportunities within about 1 mile radius of parcel lines are limited to the following[3]:

1. Shadow Valley Golf Course
2. Bureau of Land Management public access parcels accessed via unimproved private ranch roads
3. Dry Creek Ranch, Stables and trail system

[2] (Management, unknown)

[3] (Google, 2024)

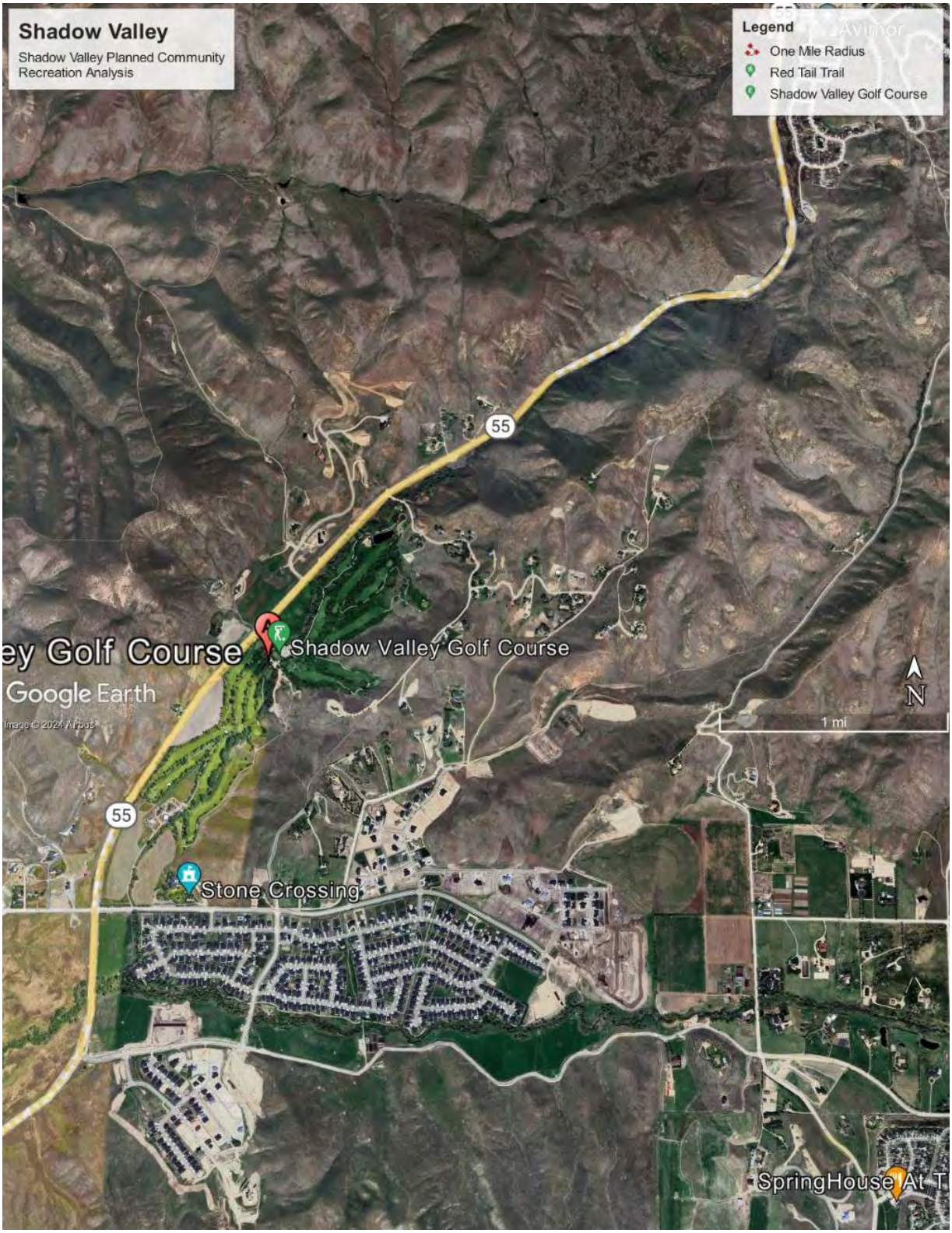


Figure 1 Existing Recreation[4]

[4] (Google, 2024)

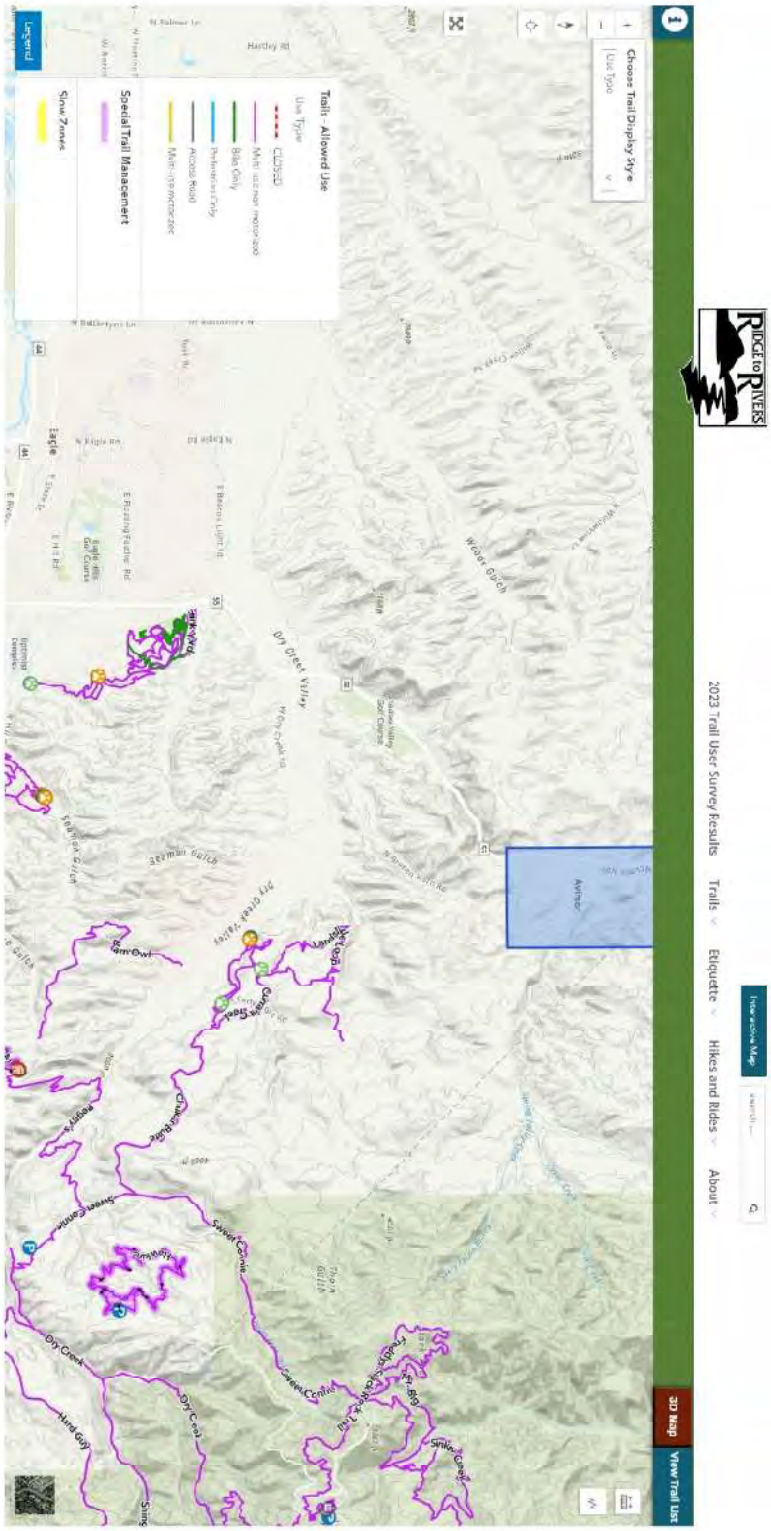


Figure 2 Existing Recreation - Ridge to Rivers[5]

[5] (Rivers, 2024)

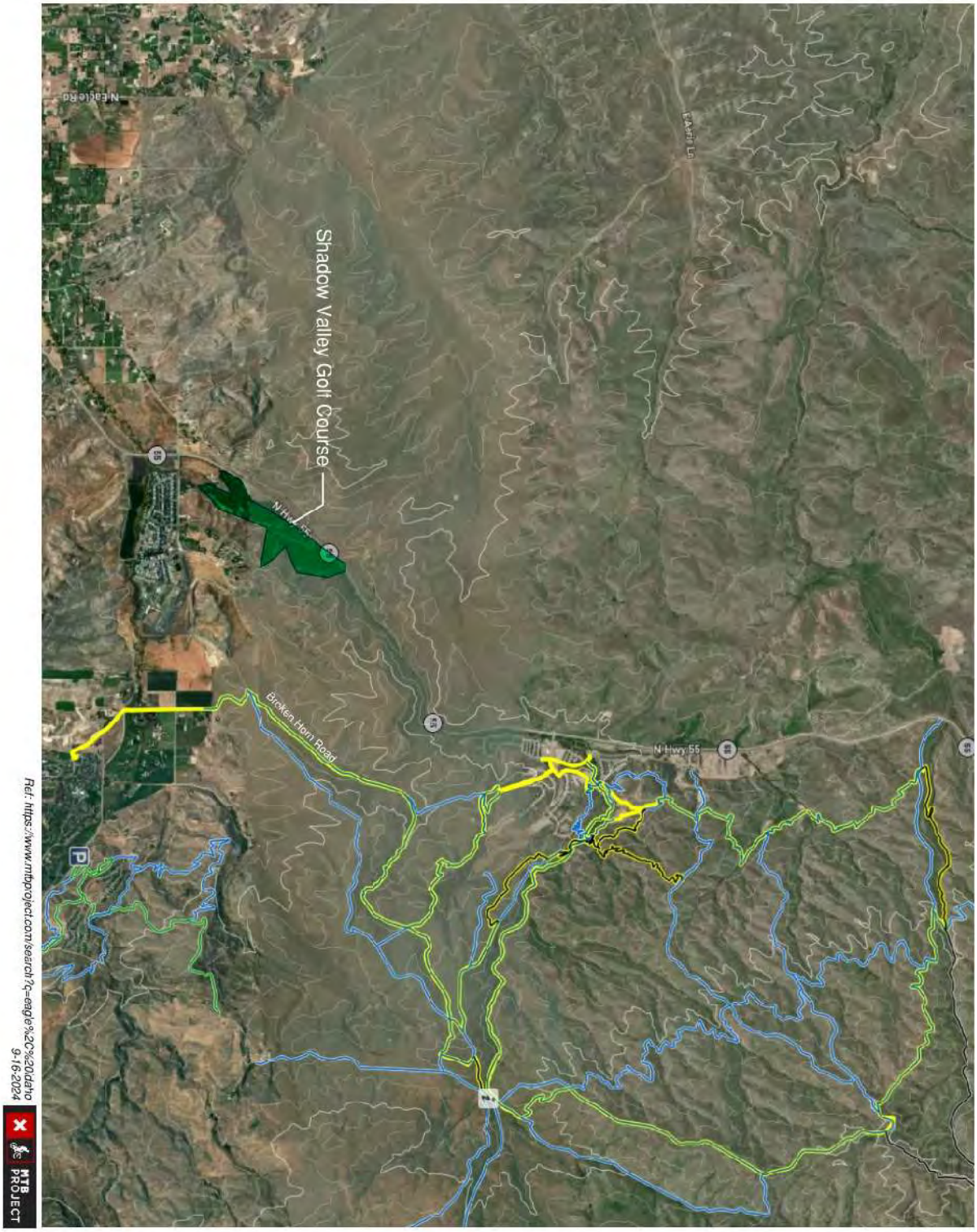


Figure 3 MTB Project Trail Map ***(Both private and public trail systems are shown)*****.**

COMMUNITY LAND USE SUMMARY

Connected-Yet-Secluded Location[6]

This 'Connected-Yet-Secluded' concept, seeks to offer a balance between connectivity and seclusion, providing residents with access to necessary amenities and services within a short drive while maintaining a sense of privacy and tranquility within the Idaho Foothills environment. The Shadow Valley Planned Community provides abundant access to recreational touchpoints that achieve housing goals aligned with post-pandemic shifts in work-life patterns where homeowners work and live more hours in a given day, at their single-family residence than pre-pandemic routines.

Independent-Yet-Shared Economy[7]

Shadow Valley aims to foster an economy where residents have independence in their endeavors and private residences while also promoting collaboration and sharing of amenities between neighboring planned communities through nearby schools, libraries, neighborhood commercial and recreational offerings within a five-minute drive.

Corridor Separation

An important element of the planned community is corridor separation of subdivision areas. Idaho State Highway 55 creates a clear separation between the Shadow Valley Planned Community east and west. Recreational amenities are provided with walkability limitations between subdivisions. To offset that, the quality and quantity of recreational amenities on each side of Highway 55 has been thoroughly evaluated to ensure that both east and west subdivisions are provided with recreational options and walkability standards particular to their own subdivision but also shared by the planned community overall.
The plan appropriately sites a variety of residential product types throughout the community, taking advantage of the natural slopes and roadways to create neighborhood boundaries. Neighborhood Commercial uses rely upon proposed expansion of the existing Shadow Valley Golf Course Clubhouse facility located at the golf course via Highway 55 and Stone Crossing Event Center proposed expansion, which is accessed from North Brookside Lane. Community Civic amenities such as Ada County Library Book Drop will be collocated with other Civic needs in an easily accessible vehicular access location and available by a walkable safe route which is ADA accessible.

[6] (Canning, 2022)
[7] (Canning, 2022)

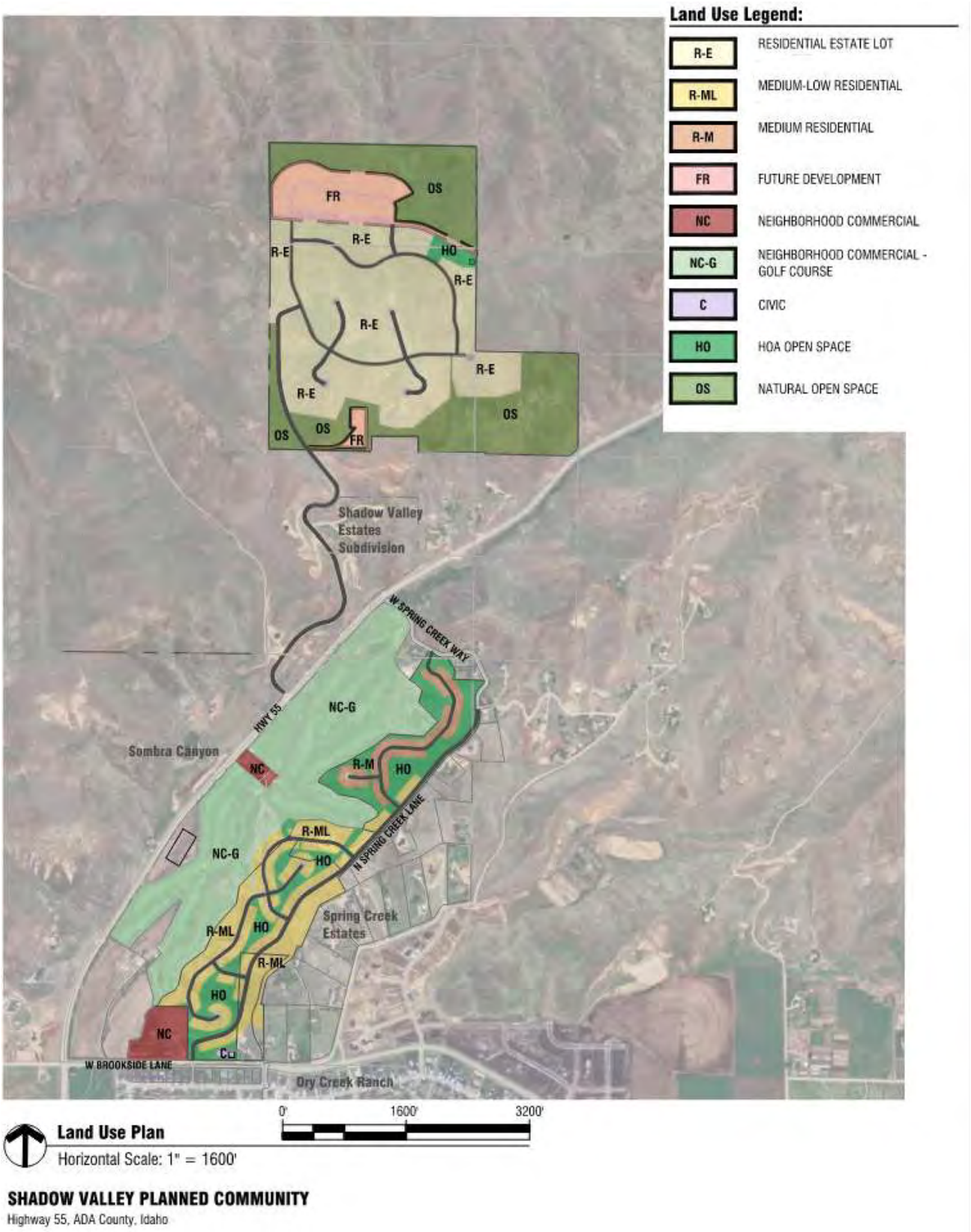


Figure 4 Land Use Map

CONNECTIVITY

We have evaluated existing trail systems, although sparsely available (Please refer to the Ridge to Rivers map included for reference to existing trail systems[8]). The development team has made efforts to contact neighboring landowners, Avimor Planned Community and Ridge to Rivers to understand future trails mapping. Ridge to Rivers does not currently consider the Shadow Valley Planned Community land mass as in their current area of management. Avimor does not yet have a trail master plan that has been published. The Shadow Valley development team is working to understand trail connectivity when possible. The planned community process requests review of established recreational opportunities within a one-mile radius of the project area. Unfortunately, within a one-mile radius of the project area, the only recreational opportunity is the Shadow Valley Golf Course and one unimproved/informal multi-use trail called the Red Tail Trail. [9]

Currently, there is also no connectivity to or through the undeveloped east and west parcels for walking or mountain biking without trespassing on private land or walking down the existing rural road section 'Broken Horn Road'.

Shadow Valley Planned Community development will provide much needed connectivity to existing home sites through the planned community, infilling undeveloped remnant ranch land with housing and right of way improvements that include improved sidewalks and a natural 'unimproved' foothills trail systems within Natural Open Space zones for recreationalists.



[10]

[8] (Rivers, 2024)
[9] (Google, 2024)
[10](Images, istockphoto)

RECREATIONAL GOALS

Shadow Valley Planned Community's Recreational Goals

Goal 1: Provide connectivity through Shadow Valley Planned Community by a variety of trail and pathway systems to neighboring planned communities, subdivisions and civic spaces.

Goal 2: Improve access and availability of recreational amenities within Shadow Valley Planned Community and also the region.

Goal 3: Provide modern active and passive recreational amenities that speak to demographic and market demands anticipated for Shadow Valley Planned Community.

Task 1: Include a network of safe community pathways and trail systems that provide access to natural open space, developed open space and community amenity areas within 400 feet from every lot.

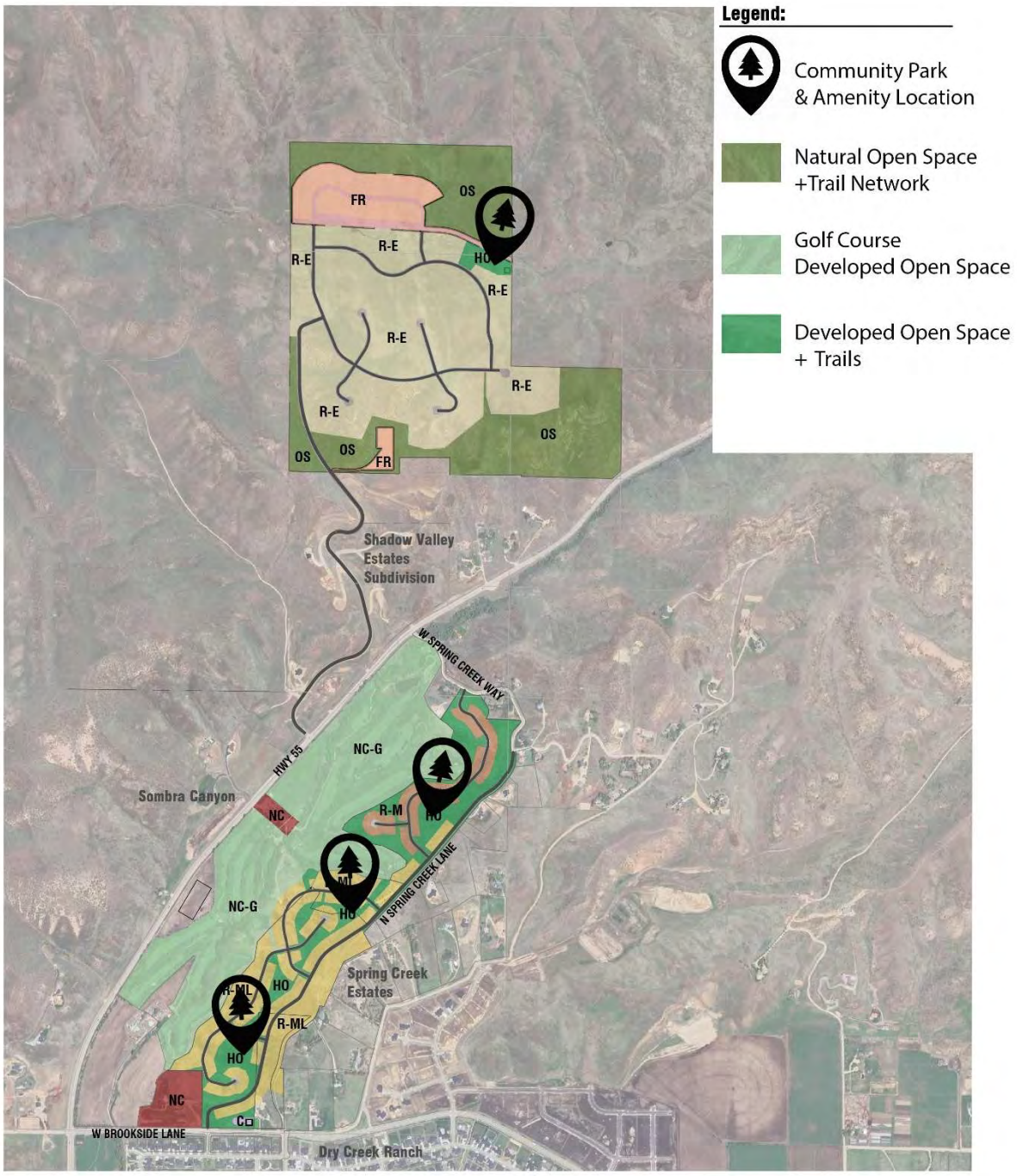
Task 2: Provide community managed developed, natural open space and parks in the planned community greatly exceeding minimum requirements provided by Ada County Code, greatly increasing recreational opportunities in the sub-area.

Task 3: Manage community open space utilizing fire-wise and wildland urban interface policies to help mitigate future wildfire risk in the sub-area.

Task 4: Provide new and improved developed open space amenities meeting the needs of the two identified most popular recreational sports in the United States; golf and pickle ball[11].

[11] (Digest, 2021) (Ball, 2023)

RECREATIONAL MAP



Shadow Valley Planned Community - Recreational Opportunities Map

GOLF



[12]

SHADOW VALLEY GOLF COURSE

Encompassing 145-acres, the existing publicly accessible Shadow Valley Golf Course is a lush recreational amenity beloved by Idaho locals and visitors alike. Nestled in the foothills, the course has earned a reputation for eye-catching golf because of its picturesque setting, while maintaining a comfortable and inviting atmosphere for beginners, intermediate and advanced golfers.

The course is home to men's, women's and junior golf league associations. The existing golf course operations provide a practice driving range, individual and group golf instruction as well as event space for parties and banquets. The Valley Bar and Restaurant boast a casual atmosphere partnered with a well-executed pub menu. The planned community envisions extension of food and beverage service within the existing golf course parcel in order to meet the increased occupancy load of the new planned community surrounding the course. [13][14]



Figure 5 Golfers at sunset

[12] (LLC, 2024)
[13] (Associates, 2024)
[14] (Images, istockphoto) Golfers at Sunset-Image

The National Golf Foundation count showed 24.8 million golfers in the United States in 2020, an increase of 500,000 and 2% since 2019.[15]



PICKLE BALL[16]

Pickleball grew in 2023 to 13.6 million players in the United States, according to the 2024 Sports & Fitness Industry Association (SFIA) Topline Participation Report. [17]

"The pandemic certainly helped accelerate the growth of the sport, but it was growing very steadily before that," said Stu Upson, the CEO of USA Pickleball.[18]

Both Shadow Valley Planned Community Foothills West Subdivision and the Golf Estates East Subdvision will provide access to a minimum of two (2) pickle ball courts within their respective communities with guest parking and shaded rest space on homeowner's association managed common lot.

The Shadow Valley Planned Community 'Connected Yet Secluded' concept, inherently implies some community separation from neighboring jurisdictions. However, the planned community will provide access to two of the most popular sports in the United States within the community and access to two of the highest rated recreational activities listed by the Bureau of Economic Analysis for the state of Idaho within a 30-minute drive. Those two sports are hunting and snow activities, which are even more readily accessible with further drive time.[19]

[15] (Digest, 2021)
[16] (Images, istockphoto)
[17] (Ball, 2023)
[18] (Ramos, 2022)
[19] (Bureau of Economic Analysis-Outdoor Recreation Satellite Account, 2022)



[20]

ITEM 1: OPEN SPACE & TRAIL SYSTEMS

Shadow Valley Planned Community has a major natural open space recreation anchor on the West Foothills side. The west subdivision provides expansive views south of the Treasure Valley, intermittent views of Bogus Basin and territorial views within the development of the natural foothills. The west subdivision will provide housing intermingled on foothill bench slopes with detached sidewalks on local roadways leading to over 13-miles of unimproved pathways on recreational open space common lots through undulating foothills terrain. The open space trail systems provide multi-use (biking, walking, running) trails for community use and as a possible future link to future neighboring community land uses. The area of dryland open space integrated with natural decomposed granite multi-use trail systems provide a secondary benefit at Wildland Urban Interface and assist in creating third tier defensible space and fire line separation from undisturbed wildland areas adjacent.[21] The trail systems conceived of in this planned community also demonstrate alignment with the Ada County 2025 Comprehensive Plan goal of preservation and maintenance of future trails and trailheads. [22]

[20] (Images, istockphoto)
[21] (McAdams, 2024)
[22] (County, 2016)

ITEM 2: COMMUNITY CENTER SPORT COURTS, COMMONS & GATHERING SPACES

Shadow Valley Planned Community's 150-acre Shadow Valley Golf Course is a major recreational foundation for the planned community. At the golf estates east subdivision, the Shadow Valley Planned Community will provide housing intermingled with improved pathways leading to the golf course and additional acres of developed open space. Formalized parks within the planned community will include neighborhood informal playfields and sport courts.

Golf Estates East Subdivision

- The east community will provide approximately four (4) acres of developed open space amenities designed to accommodate a minimum of four (4) pickle ball courts.

Foothill Estates West Subdivision

- The west community will provide one (1) acre of developed open space designed to accommodate a minimum of (1) pickle ball courts.

ITEM 3: SEMI-PUBLIC PLACES

Shadow Valley Planned Community will construct and maintain all its own infrastructure. Associated with that responsibility comes the need to have a variety of semi-public facilities to house that infrastructure and equipment (e.g., irrigation pump systems, well houses, lawn mowers, maintenance tools, etc.).

ITEM 4: NEIGHBORING PLANNED COMMUNITY AMENITIES

Shadow Valley Planned Community is fortunate to be surrounded by other Ada County Planned communities. Below summarizes neighboring planned community amenities within a one-mile radius of the Shadow Valley Parcel boundaries:

- Avimor Planned Community = 3.4 Miles (7 Minutes)
    - Foothills Heritage Park
    - Highfield Way Pocket Park
    - Spring Valley Creek Trail System
    - Commercial/retail
    - Exxon Fuel station
    - Spring Creek Brewing Company
- Dry Creek Planned Community = 1.8 miles (6 Minutes)
    - Dry Creek Trail System
    - Dry Creek Equestrian Center

Other

- Miscellaneous horse boarding facilities

ITEM 5: PROXIMITY TO MAJOR RECREATION HUBS

Naturally, community residents will seek other destination recreational amenities outside the planned community. Below summarizes destination recreational amenities within a relatively short distance that community residents will be able to easily access and enjoy.

- Eagle Bike Park = 4.1 Miles (9 Minutes)
- Dry Creek Ranch Equestrian Facility = 2.4 Miles (7 Minutes)
- Bogus Basin = 26 Miles (52 Minutes)
- Lucky Peak State Park = 28 Miles (45 Minutes)
- Camel's Back Park = 12.1 Miles (24 Minutes)
- Bureau of Land Management (BLM) Open Space = 1.3Miles (4 Minutes)
- Brundage Mountain Resort
- Tamarack Mountain Resort
- Sun Valley Ski Resort
- Soldier Mountain Ski Resort
- Lake Cascade
- Payette Lake
- Payette River



Downtown Boise



Bogus Basin (Summer)



Bogus Basin (Winter)



Lucky Peak Reservoir



Boise Farmers Market



Camel's Back Park

ITEM 5: IMPLEMENTATION STRATEGIES

Shadow Valley is uniquely positioned in that the golf course is in place, functioning and ready to serve new homeowners. Right of way improvements, including landscaping and sidewalks will be completed at the beginning of the development and in tandem with development phasing.

The individual east and west amenity areas and parks will be constructed in early phases of residential home development for community use. Natural open space trail systems will be developed mid-development to provide trail amenities, but not too early in phasing where members of the public are attracted to an active construction project. We look forward to hearing from Ada County and partners to continue to develop the recreational plan for this new planned community.

SOURCES

Associates, B. C. (2024). *Shadow Valley Planned Community Environmental Report (Draft).* Salt Lake City: Bowen Collins.

Ball, U. P. (2023). *USA Pickle Ball*. Retrieved from Annual Growth Report: https://usapickleball.org/about-us/organizational-docs/pickleball-annual-growth-report/#:~:text=Pickleball%20grew%20in%202023%20to%2013.6

Bureau of Economic Analysis-Outdoor Recreation Satellite Account. (2022). Retrieved from US Department of Commerce-Bureau of Economic Analysis: https://apps.bea.gov/data/special-topics/orsa/summary-sheets/ORSA%20-%20Idaho.pdf

Canning, A. B. (2022). *Spring Rock Planned Community Application.* Ada County: Spring Rock Planned Community.

County, A. (2016). *Ada County 2025 Comprehensive Plan.* Ada County: Ada County.

Course, S. V. (2024, October 08). *Course Details*. Retrieved from Shadow Valley Golf Course: https://www.shadowvalley.com/

Digest, G. (2021, April 07). *Golf Digest News*. Retrieved from Golf Digest: https://www.golfdigest.com/story/national-golf-foundation-reports-numbers-for-2020-were-record-se

Google. (2024, October 8). *Google Maps*. Retrieved from Google Maps: https://www.google.com/maps?ll=43.74375,-116.29278&z=15&t=h

Images, I. b. (istockphoto). *Istock by Getty Images*. (1. 2. File ID: 1702025958, Producer, & Stock Photos) Retrieved 2024, from istockphoto: Istock by Getty Images

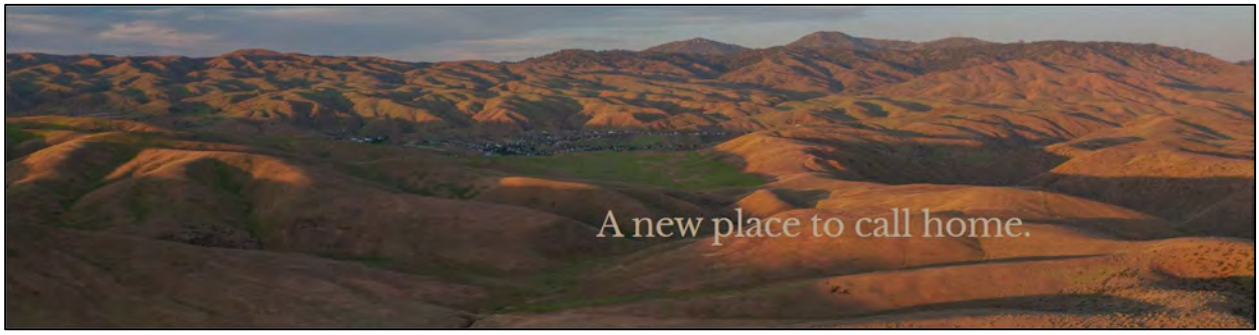
LLC, C. S. (2024, October 08). *Landprodata Parcel Image.* Retrieved from landprodata.com: www.landprodata.com

Management, B. o. (2024). *Bureau of Land Management Media Center: Geology of Southwest Idaho*. Retrieved from Bureau of Land Management: Ref: https://www.blm.gov/sites/blm.gov/files/documents/files/MediaCenter_PublicRoom_Idaho_Geology-of-%20SouthwestIdaho.pdf

McAdams, J. (2024). *Shadow Valley Planned Community Wild Fire Safety Plan* . Boise: McAdams, Jerry.

Ramos, E. (2022, April 19). *Pickleball's the new jam: Why it's now the fastest-growing sport*. Retrieved from NBC News: https://www.nbcnews.com/data-graphics/pickleball-fastest-growing-sport-pandemic-rcna24620

Rivers, R. t. (2024). *Ridge to Rivers Interactive Trail Map*. Retrieved from River to Rivers: https://www.ridgetorivers.org/trails/interactive-map/



Version: December 20, 2024, Planned Community Application Phase 1

INTRODUCTION

The Shadow Valley Planned Community subject parcels encompass 560 acres, zoned Rural Residential (RR) and Rural Preservation (RP) and located in Ada County jurisdiction. This recreation focused community plans to be home to a population of approximately 990 people by 2034. The 560-acre Planned Community is ideally situated on both the east and west side of Highway-55 at the existing Shadow Valley Golf Course. The planned community will be split by Highway-55 into two subdivision areas. The east side provides bench view estate lots and attached townhome style units overlooking the Shadow Valley Golf Course. The west side provides foothill estate lots in a pastureland setting with unmatched sunset and mountain views. The neighboring properties include rural estate homes and undeveloped private land.

The development team completed special areas reporting that included the Shadow Valley Planned Community area. Please refer to the Frontier Historical Consultants report included in the application for detail. "The direct and indirect effects of this project have been assessed and the project was found to have **No Effect** on NRHP-eligible cultural sites."[1]

BIBLIOGRAPHY

Consultants, F. H. (2017). *Shadow Valley Estates Project.* Grand View, Idaho: Frontier Historical Consultants.

[1] (Consultants, 2017)

Exhibit 27
Page 1 of 27
202402701-PC-CPA

Frontier Historical Consultants

24265 River Road
Grand View, ID 83624
(208) 834-3061
dalegray@mindspring.com

Abstract: The project area consists of the **Shadow Valley Estates** project northeast of Eagle, Idaho. Kine and Kine Properties of Bend, Oregon is developing the subdivision project. Major impacts to the project area would result from construction of access roads, housing, landscaping and parking. There is one previously identified cultural site within the project area and only four non-assessed cultural sites within one mile of the project area. All of these sites are beyond visual range of the development.

One historic site was recorded as a result of the survey. The Clifford Homestead (BR-01) was located and recorded in upper Woods Gulch. The homestead consists of three stone foundations dating from 1917. The site is not associated with important historical events or persons. The diminished integrity of the site precludes consideration under Criterion C.. The site has little potential to reveal important information beyond that already available in the historic record. As such, the site is not eligible for the NRHP.

The project area also contains the previously recorded 10AA533. This multi-component site was recorded by FHC Senior Archaeologist William Statham in 1998, prior to his employment with FHC. The site consisted of a mix of lithic tools and historic debris revealed in an irrigation ditch and test pits. At the time, it was assessed as not eligible for the NRHP due to lack of coherent strata. It was relocated in 2017, and William Statham was able to participate in assessing the site via telepresence. Analysis of maps showed that the field had been enlarged and subject to land-leveling in the modern era. This would explain the churned nature of the materials. The non-eligible status was confirmed.

The Buchanan Farmstead (BR-02), which is outside the boundaries of the project area, but in the APE, was recorded at the reconnaissance level. The farmstead is along the southern boundary of the project area on the north side of Highway 55. It is specifically excluded from the project development footprint. However, because the project is on three sides of the historic farmstead, it was recorded and assessed. While the dwelling is listed as being built in 1900, maps do not show the structure to be at the location until after 1940. This may be due to the structure being moved onto the site. The dwelling and barn are both extensively altered in the modern era and as a result have diminished integrity. Because of this diminished integrity and lack of historical significance, the site is not eligible for the NRHP.

Because the sites are not eligible for the NRHP, the project will have NO EFFECT on their NRHP status. No other historic or prehistoric cultural sites, features or artifacts were located. No previously recorded sites are within the viewshed of the project. Therefore, the proposed subdivision will have NO EFFECT on cultural resources. Cultural clearance for the project is recommended.

CERTIFICATION OF RESULTS

I certify that this investigation was conducted and documented according to Secretary of Interior's Standards and guidelines and that the report is complete and accurate to the best of my knowledge.

Signature of Principle Investigator

August 11, 2017
Date

Key Information

PROJECT NAME

Shadow Valley Estates

PROJECT NUMBER(S)

N/A

LOCATION

Ada County

USGS QUADS

Pearl, ID (1985) and Eagle, ID (1979)

LEGAL LOCATION OF SURVEY

Portions SW ¼ Section 13; Section 24; NW ¼ Section 25; and NE ¼ Section 26
T 5 N, R 1 E

PROJECT AREA

278 Acres

AREA SURVEYED

[28] Acres Intensive Survey
[250] Acres Reconnaissance Survey

PROJECT DATA

[1] Previously recorded cultural resources
[1] New cultural resources located and/or recorded

AUTHORS

Dale M. Gray

FEDERAL AGENCY

EPA

REPORT PREPARED FOR

Kine and Kine Properties of Bend, Oregon

REPOSITORY

Frontier Historical Consultants, Inc.

PRINCIPLE INVESTIGATOR

Dale M. Gray (M.A.)

DATE

August 11, 2017

ARCHAEOLOGICAL AND HISTORIC SURVEY REPORT

Idaho Archaeological Survey

A. Project Name and Statement of Objectives:

Shadow Valley Estates. The objective of the cultural resource inventory is to conduct an intensive-level cultural survey and assessment of the property that may be impacted by work associated with the construction of the Shadow Valley Estates north of Eagle, Idaho. This study was initiated in anticipation of filing for an EPA storm water permit.

B. Name and Full Description of the Proposed Undertaking

The project area consists of the Shadow Valley Estates located in the Spring Valley immediately north and west of Highway 55 north of, Eagle, Idaho. Kine and Kine Properties of Bend, Oregon is preparing to develop the Shadow Valley Estates in portions of SW ¼ of Section 13; Section 24; NW ¼ of Section 25; and NE ¼ of Section 26, T 5 N, R 1 E (Figures 1-4). Major impacts to the project area would result from construction of roads, housing, landscaping and parking.

C. Location and General Environmental Setting (Key to Map).

The 278-acre project area is on the floodplain of Spring Valley and the hills to the north. It is northeast of Eagle, Idaho, in Ada County (Figure 1). The **Area of Potential Effect** (APE) consists of the project footprint, plus a small historic farmstead surrounded by the project boundaries. Access to the property is directly from Highway 55 opposite of the Shadow Valley Golf Course north of Eagle, Idaho. The area was taken out of the public domain through homesteading and cash sales from 1875 to 1917. The bottom land has been in agricultural production since the 1870s and was land leveled in the 20th Century. Upper hillsides have been used for dryland grazing.

The APE consists of a portion of the lower Spring Valley floor and the adjacent sloping hillsides. The lower elevation soils are composed of Quaternary stream sediments of late Pleistocene and Holocene age. They are medium to course-grained arkosic sand, sandstone and claystone derived from a variety of stream and lake deposition environments. The hillsides are sand and mudstone of stream and lake sediments. These are Tertiary sediments of Miocene and Pliocene age. They are medium to course sand interbedded with silty fine sand and silt. This sediment is derived mostly from weathered granite and reworked Tertiary sediments with minor pedographic clay and calcium carbonate. Their thickness is variable. Elevations range from 2780 feet amsl in the southern-most corner to 3460 feet in the northeast corner. The closest permanent water is in Spring Valley Creek which is as close as 200 feet to the east at one point. (Geologic Map 1992; Statham 1998).

The APE contains sage, bitter brush, and bunch grass. It has been heavily colonized by cheat grass, tumble mustard, horse thistle, bind weed, mullein, button weed, and wild roses. Along the intermittent creeks there are Russian olive trees. Most of the project area is dryland pasture, but the lower areas were used as alfalfa fields into the modern era.

The APE is bound on the south by Highway 55. The other boundaries to the east, north, and west are marked by barbed wire fence. The southern boundary of the project area excludes a historic farmstead and an area of modern homes (Figures 2-3).

The site is currently vacant. The project is on private land owned by Horseshoe Bend Hills TIC LLC, 943 W. Overland, Meridian, ID 83642.

D. Pre-Field Research

1. Sources of information checked:

( ) Overview
(X) Site Location Directory
( ) Other (list)
( ) Site Sensitivity Maps
(X) National Register

Idaho State Historic Preservation Office Records (**Search #17316**)
Ada County Highway Map (1939)
Metsker Map T5N, R1E (1938)
"Dry Creek Ranch Subdivision" (FHC 2016)
USGS Maps (1890; 1913; 1953)
GLO Records
"Buchanan Waste Material Disposal Sites and 10-AA-533" (Statham 1998)

2. Summary of previous studies in this general area:

A file search conducted by the Idaho SHPO (Search # **17316**) revealed that 22 previous cultural surveys have been conducted within a radius of a mile from the project area. Two of the projects included survey within the project area. These are listed in bold below. The ITD study (1991/110) included a strip of land along the southern boundary of the project area. The other study (1998/322) included 15.2 acres of the project area and contained 10AA53, the only previously recorded cultural site in the APE. This study was conducted by William Statham prior to becoming FHC's Senior Archaeologist.

Year	Rpt #	Abbreviated Title	Author	Agency	Acres
2001	54	Cascade Field Office Land Exchange	Shaw, D.	BLM, Boise	10948
2004	735	Sand Capped Knob ACEC Fence Construct.	Shaw, D.	BLM, Boise	18
1989	1994	Annual Report of Investigations	Gaston, J	ITD	0
1989	1995	Annual Report of Investigations	Gaston, J	ITD	0
1989	1996	Annual Report of Investigations	Gaston, J	ITD	0
1989	2075	ARR, SH55 & Beacon Light Rd	Gaston, J	ITD	20
1991	**110**	**SH55N from Jct. SH 44**	**Gaston, J**	**ITD**	**579**
1994	43	Spring Valley North	Petersen, N.	ITD	1
1989	**322**	**Buchanan Waste Material Disposal Site**	**Statham, W**	**ITD**	**15**
1999	188	Annual Report of Investigations	Gaston, J	ITD	0
2009	550	Highway Advisory Radio Installation	Everhart, D.	ITD	27
1999	191	CRI of Selected Parcels in the Dry Ck Valley	Haynes-Peterson, R	Ada County	718
2001	978	Eagle North Cell Tower ID201	Mauser, L	FCC	3
2005	775	Draft Avimor Planned Community Devel.	McDaniel, S	Ada County	210
2006	242	IPC Transmission Line 904	Gross, T	FERC	1476
2006	251	Final Avimor Planned Community Devel.	McDaniel, S	Ada County	210
2008	794	Proposed Dry Creek Development	Plew, M.	Ada County	1300
2009	842	Mitigation Area Avimor Planned Community	Druss, M.	Other	1
2012	464	Avimor Cell Tower, ID-041	Tews, Amber	FCC	7
2013	429	ID041/Avimore	Tews, Amber	FCC	2
2014	376	Hells Canyon Complex	Idaho Power	FERC	1
2016	549	Avimore Planned Community, Phase 5	Frulinger, J.	EPA	67
2016	566	Dry Creek Ranch Subdivision	Gray, Dale	Ada County	185

Table 1. Previous cultural studies within one mile of project area.

E. Expected Historic and Prehistoric Land Use and Site Sensitivity

1. Are there sites known in this area? (X) Yes ( ) No

2. Are sites expected? (explain below) (X) Yes (Where?) (What kinds?) ( ) No (Why?)

There have been only five cultural sites recorded within a mile of the project area. Of these, only 10AA533 was recorded in the project area. Only the Boise to Pearl Wagon Road (10AA619) has been assessed to be eligible for the National Register of Historic Places (NRHP).

Smith No.	Site Name	Type	Eligible?	Distance
10AA232	Lithic scatter	Pre-contact Site	Undetermined	0.75 miles
10AA533	Lithic and trash scatter	Multi-component	Undetermined	within
10AA624	Lithic and trash scatter	Multi-component	Ineligible	0.95 miles
10AA698	Trash scatter	Historic	Undetermined	0.8 miles
10AA619	Boise to Pearl Wagon Road	Historic	Eligible	1.0 miles

Table 2. Cultural sites within one mile of project area.

The APE has good potential for prehistoric sites along the margins of Spring Valley floodplain as is evidenced by site 10AA533. The project area was first mapped in detail in 1868 when the General Land Office surveyed a portion of T 5N, R1E. This map of sections 25 – 36 shows Spring Valley Creek connecting with Dry Creek to the south of the project area. The areas around Spring Valley Creek are shown as grassy, but there is no detail to the north, away from the creek bottom. The northern portion of the township was surveyed in 1893. The topography of the project area is represented along with Spring Valley Creek and Woods Gulch to the north, but there is no development or roads shown.

On May 20, 1875, Paul Philip took out a cash sale entry that included the bottom ground along Spring Valley Creek. His property included all the project area in Sections 25 and 26 along with the Shadow Valley Golf Course across Highway 55. The 1940 Metsker Map of T5N, R1E shows this land to be in the hands of Robert E. Newhouse. However, neither the Metsker Map nor the 1937 Ada County Highway Map shows any structures on the property in the project area.

Northeast of Paul Philips' land in Section 24, along Spring Valley Creek, David R. Benson took out a 160-acre homestead on April 30, 1914. The Metsker Map of 1940 also shows the Benson Homestead to be in the hands of Robert E. Newhouse. While the Ada County Assessor's records indicate that a small farmstead on the side of Highway 55 was built in 1900, this farmstead is not shown in the 1939 Ada County Road Map. The area in and around the farmstead has been excluded from the survey area.

The remaining portions of the project area to the north in Sections 13 and 24 were taken out in a homestead entry by James H. Clifford on April 17, 1917. The homestead included 160 acres stretching from Spring Valley Creek to Woods Gulch. The 1940 Metsker Map of T5N, R1E shows that the property was owned by James M. Clifford. However, neither the Metsker Map nor the 1939 Ada County Highway Map shows any structures on the property in the project area.

F. Field Methods

1. Areas examined and type of coverage (Key to map).

Co-PI/ Archaeologist, William P. Statham, provided overall supervision for the work including project scope, crew composition and direction, and report preparation. Other sources consulted include the 1868 USGS T5N, R1E Map, 1938 Metsker Map, 1939 Ada County Highway Map, 1954 USGS Eagle, Idaho Map, 1976, on-line GLO Homestead Records, Ada County Assessor Records, and historic GoogleEarth aerial images of the project area dating from 1992 to present.

On June 9th and 15th, 2017, project areas were subject to an intensive-level survey by Co-PI/ Historian Dale M. Gray and Archaeologist, David Barklow. The portions of the floodplain within the project area were surveyed using 30-meter transects paralleling Highway 55. Once this was completed, north/south transects were begun along the western boundary. When one transect to the north was completed, it was determined that transects using cardinal directions were not practical and would result in little usable data. The majority of the project area was then surveyed using contour transects with extra coverage given to areas deemed to have higher potential for cultural sites. In the northern-most portion of the project area in Woods Gulch, north/south transects were resumed. A portion of the project area in the south half of the north half of Section 24 was deemed too steep to survey safely. This area was surveyed at a reconnaissance level. Whenever possible, the unsurveyed areas were viewed from promontories for evidence of cultural sites, features, and/or artifacts. None were seen.

All areas within the project area were closely examined along with the back-dirt from rodent and badger excavations and cut-banks along the various watercourses. Selected areas along the floodplain margin near gulches and undeveloped ground inside the confluence of Dry Creek and Spring Valley Creek were surveyed using 10-15 meter transects.

Site 10AA533 was relocated using a site form provided by SHPO. The site was recorded by FHC Senior Archaeologist William Statham in 1998. Although he was unable to be at the site physically because of other commitments, he assisted with the relocation through telepresence. This provided the necessary understanding of the site to ascertain the boundaries and resources.

On August 10, the APE was revisited by Gray to establish datum points for 10AA533 and for HR-01. Additional photography was conducted of the western extension of 10AA533 and datums.

2. Surface and subsurface visibility

Visibility varied widely (0-100 percent). Areas with dense matted cheat grass had poor visibility while agricultural areas proved to have excellent visibility.

3 Acres surveyed: Reconnaissance 28
Intensive 250

4 Areas not examined and reasons why: Portions of the south half of the north half of Section 24 were excluded from the survey when it was determined that the slopes were too steep to survey safely.

5. Personnel conducting or assisting in the survey:
Dale Gray and David Barklow. William Statham (telepresence),
Frontier Historical Consultants, Inc., 24265 River Road, Grand View, ID 83624

6. Dates of survey: June 9 and 15; August 10, 2017.

7. Problems encountered: None.

G. Results

1. All cultural resources recorded in this area: (key to map)
( ) None

Within the APE, survey and research revealed one previously recorded prehistoric site (10AA533) and one historic site (BR-01). The previously recorded 10AA533 was located and monitored on the farm ground fronting Highway 55. The Clifford Homestead (BR-01) was located and recorded within Woods Gulch in the northern project area. In addition, a historic farmstead (BR-02) is outside the project area, but has project ground on three sides. Because it was out of the

project area, it was recorded at the reconnaissance level. Two pieces of farm equipment (IF-01 and IF-02) in a modern stack-yard were recorded as isolates.

Prehistoric Site 10AA533[1]

Located on the northern floodplain of Spring Valley Creek where it abuts the foothills, this multi-component site was recorded by William Statham in 1998 as part of the Buchanan Waste Material Disposal Sites and Site 10AA533. This project evaluated locations proposed for use in the State Highway 55, Junction SH 44 North project. The site is centered on an irrigation ditch which exposed both historic and prehistoric items (Figures 11-15).

Because the prior datum was a UTM point that appears to be outside the site boundaries, a new datum was established at an 8-inch DBH deciduous tree along the fence line at 557020 mE / 4844426 mN (Figure 12).

The ditch-related historic items consist of clear glass bottle fragments, a purple glass fragment, white stoneware ceramics, iron stove parts, an iron gear wheel for machinery, iron wire, a brass wick holder for a coal oil lamp, and miscellaneous other small items..

The ditch-related prehistoric items consist of a number of small obsidian projectile points and point fragments, a cobble chopper, fire-cracked rock and a few tools, midsections and flakes of obsidian, basalt, agate and siliceous materials. In addition, obsidian flakes and bone fragments were revealed through test pit excavation on the hillside above the ditch. The tools consist of one cobble chopper made of a fine-grained granite, a spall-scraper made of quartzite from a river cobble, an awl or drill fragment, and three biface fragments. One biface is of a red jasper, the other of a fine-grained basalt, and the final of a brown and grey cryptocrystalline material. The remaining prehistoric tools consist of six obsidian projectile points. One is a tip fragment and is unidentifiable. The remaining five include the following point types; Elko Eared, Elko Corner Notched, Rose Spring Corner Notched, Cottonwood Triangular, and Desert Side Notched.

There was no pattern to their distribution or an observable association since all were found scattered in the irrigation ditch. This caused a problem with dating the site since dating cultural items or deposits assumes an observable degree of association between diagnostic and non-diagnostic items and their geologic context. This type of association is not present at this site from the observations made to-date. Therefore, it is problematic, at best, to infer that the site area was used with any certainty during any or all of the aforementioned prehistoric periods. The site was not recommended to be eligible for the NRHP due to lack of integrity.

When the site was revisited in 2017, its boundaries were expanded to the west to where a road cuts across the ditch. Small obsidian, third-stage reduction flakes were observed at this point.

It was also noted that the USGS Map differed from the land-form observed in that the irrigation ditch had been rerouted to the base of the hillside and the field leveled. The Pearl USGS Map dates from 1985, but is an updated map from 1981. Sometime between the construction of the map and when the site was recorded by Statham, the field had been expanded to the north and subject to land-leveling. Such leveling would have moved soil and other materials from the base of the field upward to the top of the field. A ditch would have then been cut through the relocated soil, exposing the jumble of cultural materials collected from somewhere on the flats to the south. When viewed from the perspective of a field modified through land-leveling, Statham's results make perfect sense. The land-leveling would have completely destroyed any subsurface stratification of the prehistoric artifacts and jumbled surface historic artifacts. While there is a subsurface component to the site, the lack of integrity documented by the ditch collection and testing precludes consideration under Criterion D.

[1] Site findings and initial analysis is drawn with some modification from Statham 1998.

Clifford Homestead (BR-01)

The Clifford Homestead had its origins in the April 17, 1917 homestead entry of James H. Clifford. The relatively isolated homestead of 160 acres was at the head of Woods Gulch and extended south to the narrows of Spring Valley Creek. There is little development in the homestead other than three stone foundations on the south bank of Woods Gulch Creek and a few durable artifacts (Figure 16 - 18). An arbitrary datum was established at a UTM point at 557256 mN / 4845890 mN. Two field stones are at this location (Figure 19).

Clifford was born in Glena, Illinois in 1871. During his adult life, he worked as a coal miner. He enlisted in 1896 and served in the Cavalry in Cuba, where he was discharged on August 28, 1899. He went back to mining coal in Illinois. He married around 1900 and he and his wife, Ella, had three children: two girls and a boy. For reasons unknown, he left Illinois as a single man to homestead in Idaho in 1917. The next year he enlisted again, this time into the Marine Reserves. His second marriage, to Marion Barnes, occurred on February, 3, 1923. On January 1, 1926, James H. Clifford died in Nampa, Idaho (US Census 1880; 1900; 1910; Army Service Record 1898; Idaho Marriage Records; Find-A-Grave).

Features: The site consists of three stone foundations and an ephemeral two-track road on the south bank of upper Woods Gulch.

F-1 Stone foundation: Located six feet east of the ephemeral 2-track, this simple feature consists of a rectangular, stone foundation (16 x 12-feet oriented at 40 degrees). There are about 70 cobble-sized stones in the foundation. It is slightly deflated (1 foot) in the center. In and around the foundation were observed five barrel hoops, a bed frame section, a gray enamel-ware wash basin, and can fragments (<20). A small ephemeral watercourse is on the east side.

F-2 Stone foundation: Located 175 feet at 40 degrees from F-1, this square stone foundation is about 12 x 12 feet with a 1-foot depression in the center. In the center of the depression is the core of a small cook stove. At some point in time, someone has collected local artifacts and piled them on the stove. These include a crushed bucket, tines of a pitchfork, stove pipe, round nails, a square-headed bolt, and two barrel hoops. The condition of the metal is consistent with having been exposed to fire. The stove has been stripped of all removable parts and has been used for target practice.

F-3 Stone foundation: Located 60 feet downhill (327 degrees) from F-1, this rectangular stone foundation is seven feet west of the 2-track. The feature is about 8 x 12 feet. Because of the growth of grass and tumble mustard, its outline was difficult to see in the field. However, aerial images on GoogleEarth show that it is not one, but two rectangular stone foundations overlapping each other. The older stone foundation is oriented at 100 degrees. The newer one overlays the older and is at 66 degrees and is square with the 2-track. No artifacts were observed associated with this feature.

The site has poor cultural integrity. The simplicity of the foundations, indicate that it was probably developed only sufficient for the homestead patent. There are no remaining wood structures or fragments and all metal observed has been exposed to fire at some point in time. The passage of years, wildfire, cattle, amateur artifact collectors, and recreational shooters have all worked to greatly reduce the values of Location, Design, Materials, Workmanship, Feeling, and Setting. The site is not associated with any persons known to be significant to history.

The site is not associated with historically significant events or persons (criteria A and B). It contains no examples of architecture or engineering nor work of a master craftsman (Criterion C). It has little potential to reveal significant historical information not already available in the historic record (Criterion D). Because of lack of integrity and significance, it is not eligible for the National Register of Historic places.

Buchanan Farm (BR-02)

Located at 16335 N. Horseshoe Bend Road on the north side of Highway 55 opposite Spring Creek Way, this small farmstead is not part of the survey area, but is surrounded on three sides by the surveyed ground. As such, any development of the project area would have the potential to have an impact on the NRHP eligibility of the site and so the site was recorded at the reconnaissance level. The farmstead consists of a dwelling (F-1), barn (F-2), granary (F-3) and modern steel shop/garage (F-4) (Figures 20-22). According to Ada County records, the dwelling and barn date from 1900. The site has been extensively modified resulting in poor cultural integrity. The site is not historically significant.

The site is part of a 160-acre homestead taken out of the public domain by David R. Benson on April 30, 1914. Ada County Assessor records show that the dwelling on the side of Highway 55 was built in 1900. The Metsker Map of 1940 shows the Benson homestead to be in the hands of Robert E. Newhouse. The 1939 Ada County Highway Map shows no structures at the location. Because the dwelling is listed as being constructed before the homestead, it may be that the information is in error or that the dwelling was moved onto the site. The home shows four separate episodes of additional construction with ells on the east, north and west sides and an enclosed porch added in the modern era in the northwest corner.

F-1 Dwelling. Located against the hillside 185 feet northwest of Highway 55, this irregular-shaped, frame, one-story building consists of a much-altered dwelling reported to have been built in 1900. The original structure, 28 x 28 feet, appears to have been a four-square, frame building with a pyramid roof. The roof is covered with three-tab asphalt composite shingles with the exception of the northwest porch which has a corrugated metal shed roof. The entire structure has been clad in aluminum siding. The building has three gable-roof covered ells: the east ell is 14 x 14 feet, the north ell is 12 x 17 feet, and the east ell is 12 x 21 feet. The main entrance was on the south side through a door protected by a roof dormer with partially returned eaves. This entrance was framed in when the front door was moved to the side of the west ell addition. The south side of the main house has a 1-light, fixed-sash picture window. The south side of the west ell has a screened door protected with a bracketed gable hood. A picture window is adjacent to the door. The west end of the west ell has an aluminum 1 x 1-light, sliding-sash window, an air conditioner and an electrical service. The gable end of the addition has partially returned eaves to echo those on the front gable. The west side of the northwest porch addition has a single screened door. Other sides of the dwelling could not be seen due to heavy vegetation and limited access.

F-2 Barn. Located 60 feet southwest of the F-1 Dwelling, the rectangular, frame, one-story barn measures 60 x 20 feet. The building has a ring concrete foundation that extends several inches beyond the walls of the building – an indication that it was retrofitted to the structure. The walls are clad in drop-lap novelty siding with corner boards. The exposed rafter tails are partially covered with fascia boards. The gable roof is covered with modern ribbed metal siding. The east end has a plywood door, two open horizontal windows and a yard light. The north side has four horizontal window openings, an open doorway and a larger open garage door. The west end has an open horizontal window opening. The south side, facing the highway has five horizontal window openings and a double barn door. Knob and tube wiring is still being used in the structure. From its location, corrals and conformation, it is likely that this long barn was a post-1930s milk barn. Such barns, used from the 1930s to late 1970s, used vacuum lines and long rows of stanchions as key technologies. Cows would enter from the holding pen through the south door and, after milking, exit the north door. The east door would be to a small “parlor” where the vacuum pump, strainers, milk cans, separator, and other machines would be housed. While the barn is recognizable as a dairy barn, it has been converted for use for storage. A set of corrals built of railroad ties and planks are arranged on the south side of the building.

F-3 Grain bin. This 16-foot diameter steel grain bin is located across a farm lane from the north side barn access door. The manufactured structure has a door on the south side and the name "Co-op" painted above the door in blue.

F-4 Modern Garage. This 27 x 33-foot garage has a concrete slab foundation, corrugated steel walls and a corrugated, off-set, steel gable roof. The south side has a hanging-rail shop door and a yard light. The off-set gable roof is the result of a shed addition on the west side which has a roll-up garage door on the south side.

The site has diminished integrity in that the dwelling has numerous alterations including three ells and an enclosed porch, a relocated front door, modern metal lap siding, modern doors and at least some of the windows. There is some evidence the house may have been relocated. The nearby barn has been retrofitted with a modern concrete foundation, has modern roofing, but has lost all of its window glazing. As a result, it has diminished values of location, design, materials, workmanship, feeling, and setting. There is no known association with historically significant events or individuals (criteria A and B). There are no unique or archetypical examples of architecture or engineering and there are no examples of the work of a master (Criterion C). The site has little potential to reveal important historical information (Criterion D). The site is not eligible for the NRHP under any criterion due to lack of integrity and lack of significance.

2. Cultural isolates: (key to map)
( ) None

Two pieces of historic farm equipment were located to the west of site 10AA533 in a former haystack yard (Figures 2 and 4). These consist of a hay sweep (IF-O1) (Figure 9) and an International Harvester grain drill (IF-02) (Figure 10). The haystack yard was also evaluated, but the presence of a vertical stack support points to its use by automatic stack-wagons, an innovation that appeared in the mid-1970s (Figure 22).

3. Cultural resources noted but not formally recorded: (key to map)
( ) None

Two sets of "New Age" rock stacks were noted. In each case, several rocks in the stacks had clear soil horizons on them and no lichen colonization had occurred on the previously buried portions of the rocks, nor was there any trace of lichen welding between rocks. One had grass stems under the rocks while the other was on an outcrop above Highway 55. In both cases, the stacks gave the impression that they had been in place for a short time.

H. Conclusions and Recommendations:

Other than the previously recorded 10AA533 and the Clifford Homestead (BR-01), no other pre-contact or historic sites were recorded or re-recorded within the project area. A historic farmstead, the Buchanan Farm (BR-02) was also recorded in an inset surrounded by, but outside of, the project area. Two agricultural implements were recorded as isolates.

The lower portions of the project area have been farmed since 1875. However, in the 20th Century, possibly as late as the 1980s, it was subject to land leveling, which scraped the surface and relocated material against the hillside to the northeast. This allowed a new irrigation ditch to be excavated, resulting in more productive farm acres. However, the activity churned and relocated historic and prehistoric artifacts from the lower area and deposited them in and around the ditch area where they were recorded as multi-component site 10AA533. Because of lack of context and any stratigraphy, this site was assessed as not eligible for the NRHP. Therefore, the proposed subdivision will have no effect on its NRHP status.

To the north, the Clifford Homestead (BR-01) dates from 1917, but was never extensively developed. The passage of years with wildfires, cattle, amateur collection, and recreational target

practice have greatly diminished the integrity of the site. The site was assessed as not eligible for the NRHP because of its lack of integrity and lack of significance. Therefore, the proposed subdivision will have no effect on its NRHP status.

Outside the survey area, but surrounded on three sides is the Buchanan Farm (BR-02). It was recorded at the reconnaissance-level since access was limited. Even so, the dwelling (F-1) and barn (F-2) have been extensively altered through time, resulting in loss of values of cultural integrity. For that reason and lack of historical significance, it was assessed as not eligible for the NRHP. Therefore, the proposed action will have no effect on its NRHP status.

Two pieces of farm machinery were recorded as isolates (IF-01 and IF-02) and, by definition, isolates are not eligible for the NRHP. Therefore, the proposed action will have no effect on their NRHP status.

There are two unassessed (10AA232 & 10AA624) and one ineligible (10AA698) cultural sites along with one NRHP-eligible wagon road (10AA619) previously recorded within one mile of the project area. None can be seen from the project area because of trees or hillsides. Therefore, the project will have no indirect effect on these sites.

The direct and indirect effects of this project have been assessed and the project was found to have **No Effect** on NRHP-eligible cultural sites.

If during the course of construction cultural sites, features, or artifacts are uncovered, it is recommended that work cease in the immediate area and the Idaho SHPO be contacted so that the discovery may be assessed before work resumes.

Clearance for the project is recommended.

I. Attachments:

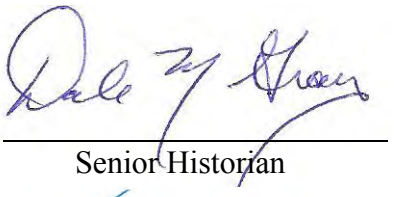
1.	IMACS or equivalent site form attached for each site?	(X) Yes
2.	Maps attached?	(X) Yes
3.	Other attachments (List below)	(X) Yes
	Photographs	
	Aerial photos	

J. Repository: (Where Original survey records and attendant data will be located)

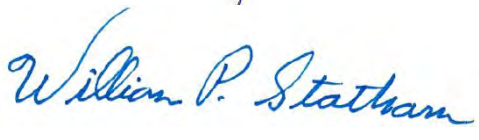
Frontier Historical Consultants, Inc.

K. Certification of Results:

We certify that FHC conducted the investigation reported here, that our observations and methods are fully documented, and that this report is complete and accurate to the best of our knowledge.



Senior Historian — August 11, 2017 Date



Senior Archaeologist — August 11, 2017 Date

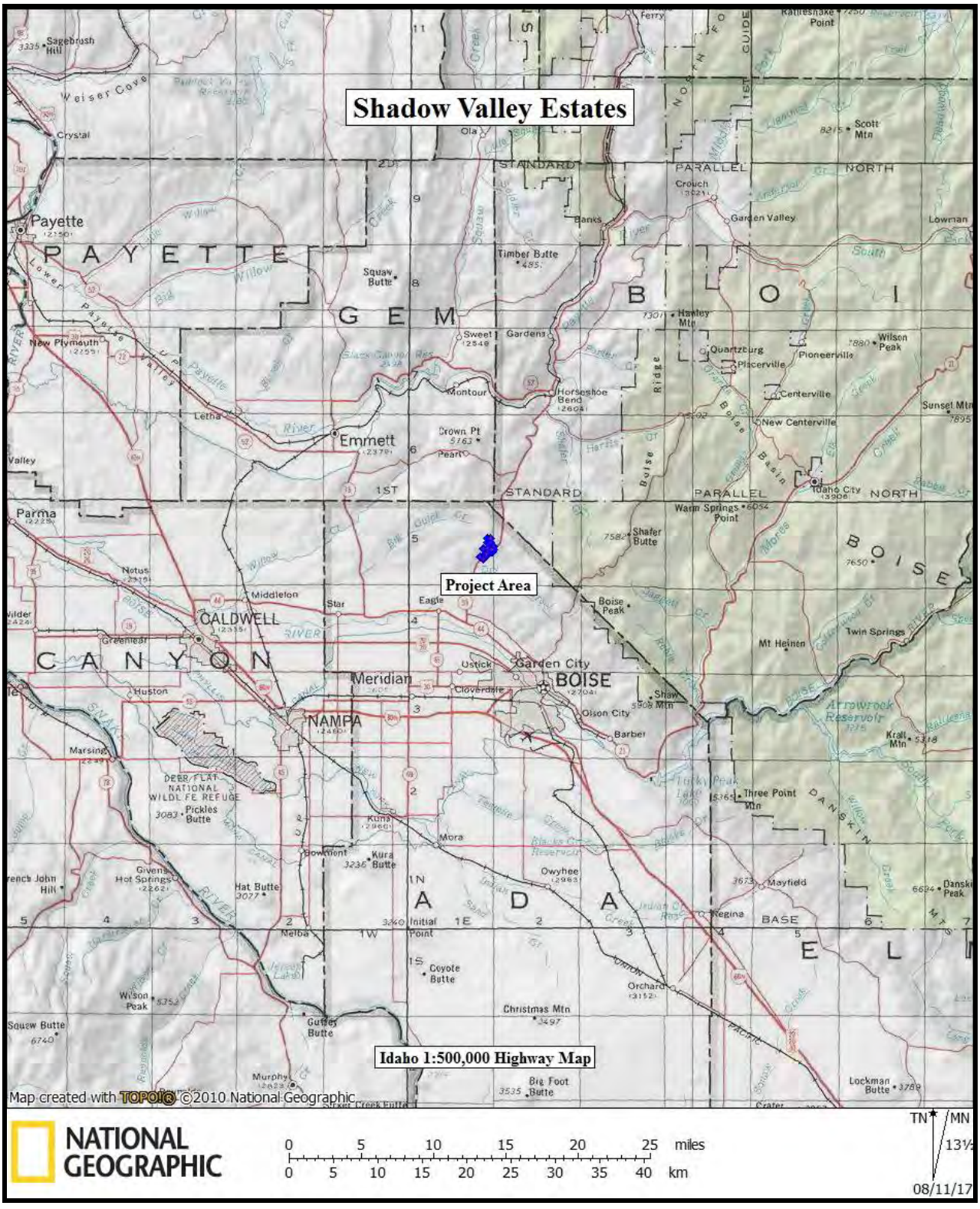


Figure 1. Location of Shadow Valley Estates on Idaho 1:500,000 highway map

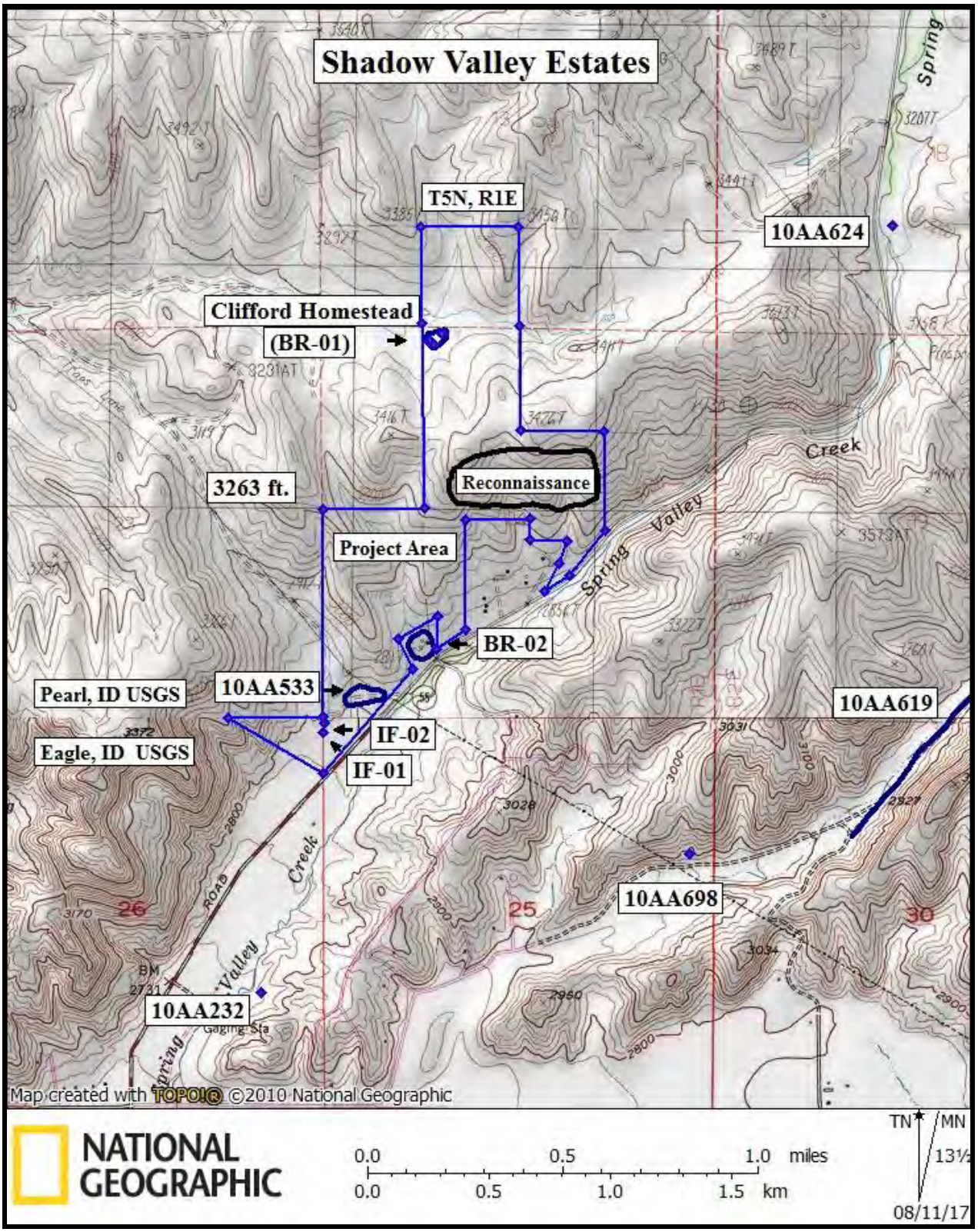


Figure 2. Location of project area and cultural sites
on Pearl (1985) and Eagle (1979), ID USGS Quadrangles.

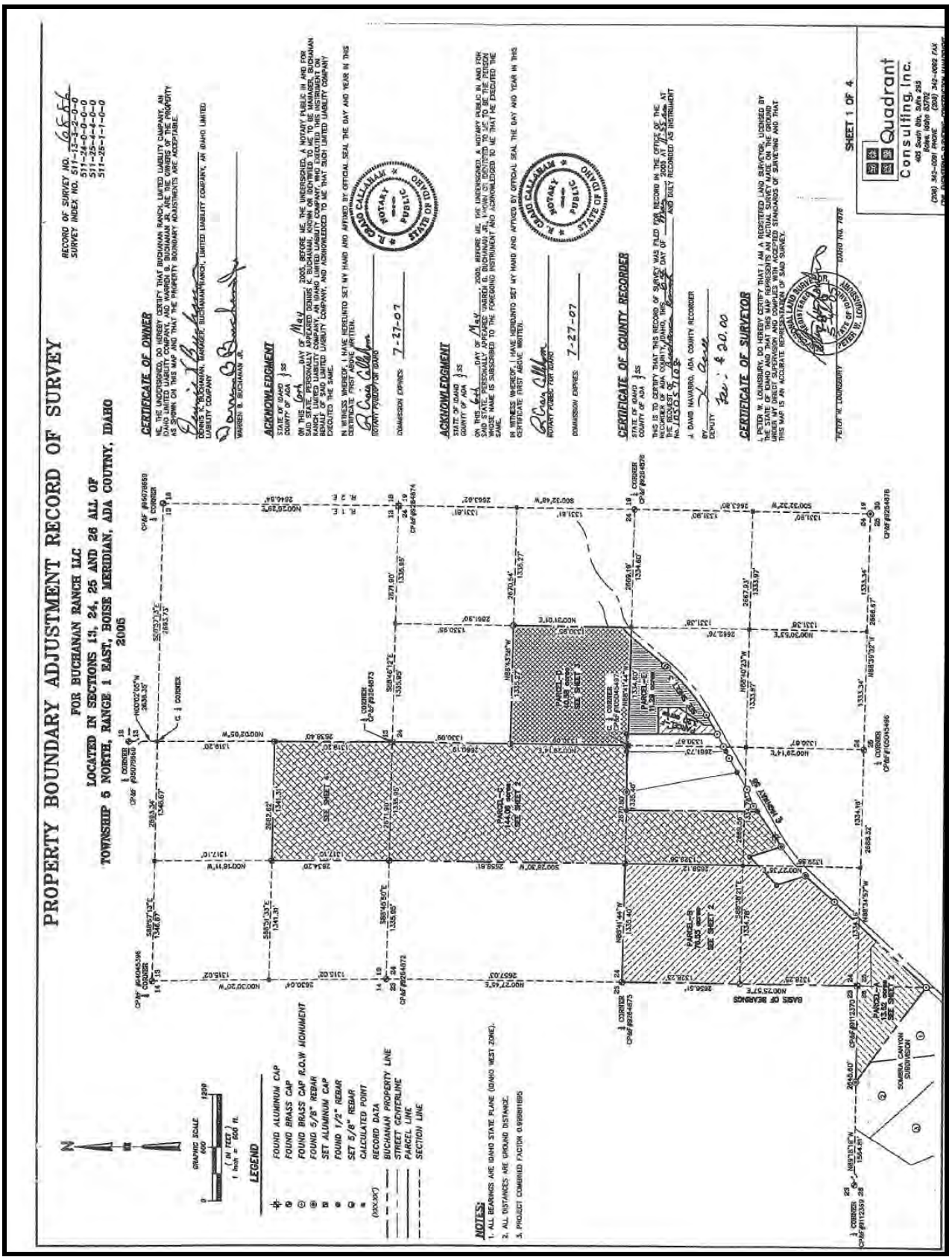


Figure 3. Subdivision survey map from 2007 showing Buchanan Ranch Subdivision, now Shadow Valley Estates.

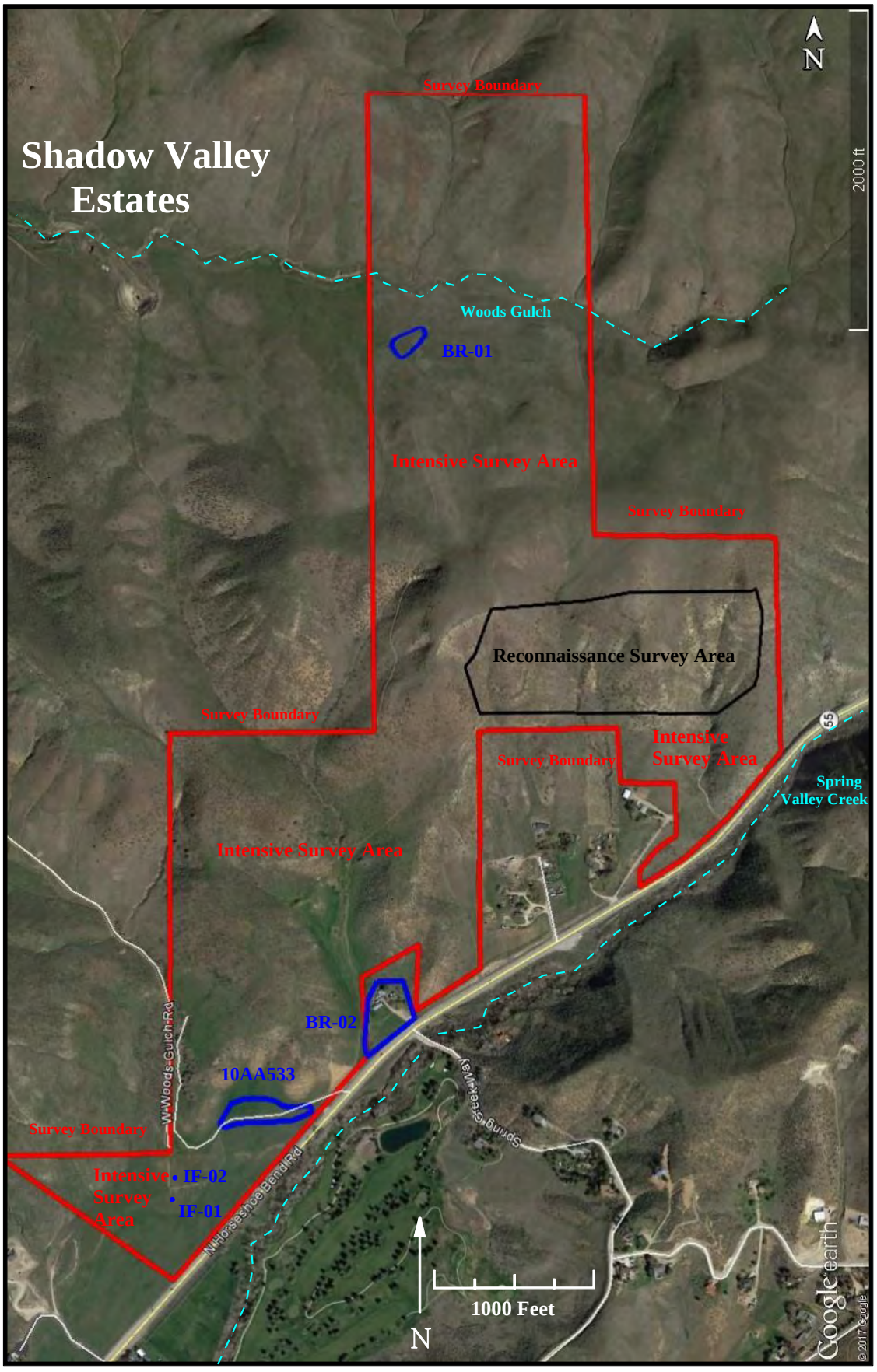


Figure 4. GoogleEarth Image showing the project area, sites, isolates and survey levels.



Figure 5. View to the south from near the northwest corner of the project area, looking across upper Woods Gulch.



Figure 6. View to the southwest from the northeast corner of the Shadow Valley Estates.



Figure 7. Southeast corner of the project area showing Highway 55. View is to the east.



Figure 8. Overview of south half of project area from east center looking south. Steep slopes immediately below were subject to Reconnaissance-level survey only.



Figure 9. Overview of project area looking southeast from west center toward historic Buchanan Farmstead (BR-02).

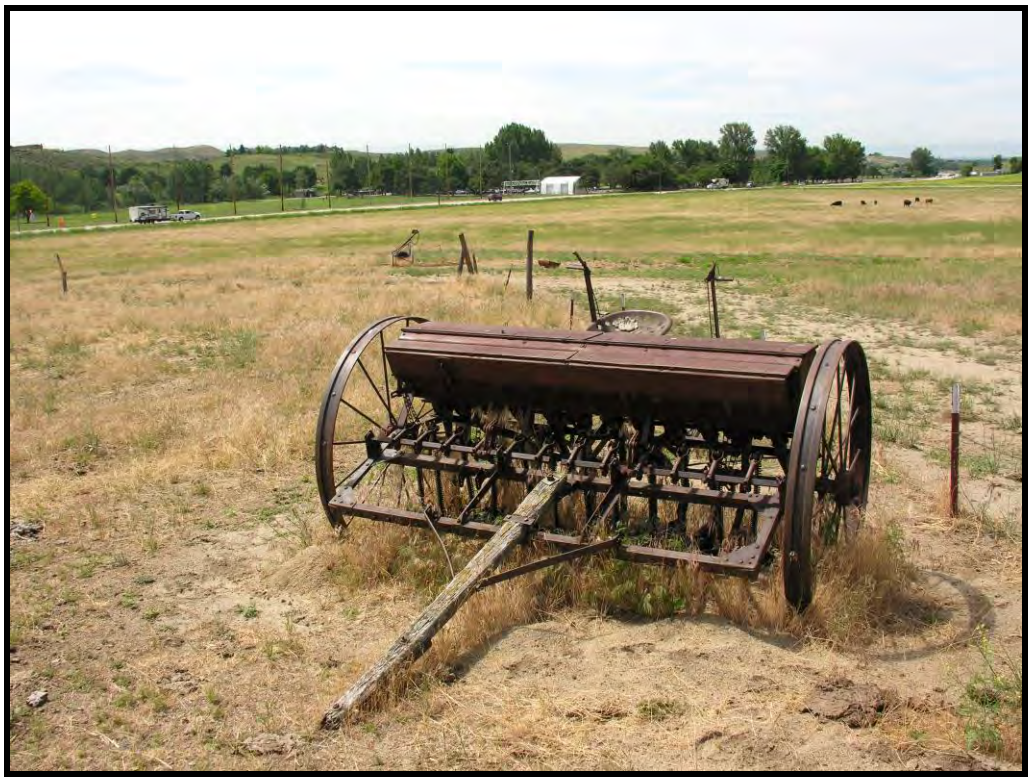


Figure 10. South end of project area from I-01 looking south. Abandoned grain drill (IF-02).



Figure 11. Overview of project area looking north. The hay sweep IF-01 is in the foreground and grain drill (IF-01) is further north along the fence. 10AA533 is in upper right corner of photo.



Figure 12. Overview of 10AA533. Datum is tree on the left side of photo. In 1998, lithics and historic debris were observed and recorded in the ditch running along the fence line.



Figure 13. Overview of 10AA533 viewed to the east, northeast.
Datum is furthest tree along the fenceline.



Figure 14. Fence-line and ditch running through 10AA533. The site was extended to the west based upon flakes found in the ditch in foreground and the two track on left. View is to the east. Original site runs from upper left side of the photo to the straight ditch line.



Figure 15. Expanded western portion of 10AA533 viewed to the north.



Figure 16. Overview of Clifford Homestead with Feature 1 in foreground and Feature 2 in background. View is to the northeast.



Figure 17. Detail of F-1 viewed to the southwest.



Figure 18. Feature 2, with F-1 in background near vehicle. View is to the southwest.



Figure 19. Feature 2, stove shell and items collected by persons unknown.



Figure 20. Feature 3, stone foundation viewed to the north.



Figure 21. HR-01 Datum viewed to the south. Datum is UTM point located at two field stones.



Figure 22. Abandoned farmstead dwelling excluded from project area viewed to the north.



Figure 23. Feature 2, Barn viewed to the southwest.

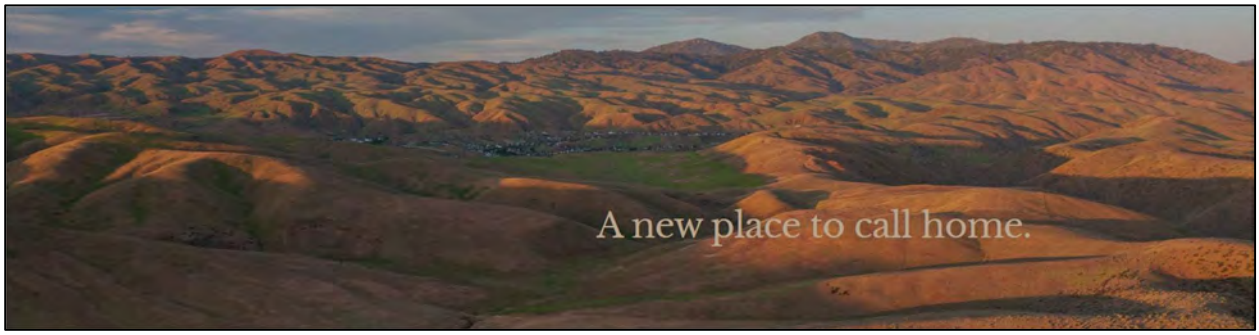


Figure 24. Feature 3 and 4, Grain Bin and Shop viewed to the northeast.



Figure 25. Modern stack wagon haystack back stop supports.

SHADOW VALLEY PLANNED COMMUNITY HOUSING ANALYSIS



Version: December 20, 2024, Planned Community Application Phase 1

INTRODUCTION

The Shadow Valley Community is situated on the east and west sides of ITD State Route Highway-55 (hereinafter referred to as Highway-55) generally located near the Shadow Valley Golf Course. Approximately one-mile north when traveling on Highway-55 is the Avimor Planned Community.

Golf Course Estates East Subdivision

The planned community east subdivision infills undeveloped land on the east side of the Shadow Valley Golf Course with housing and roadways tying into and finalizing development adjacent to the Dry Creek Ranch Planned Community to the south.

The Golf Course Estates East Subdivision will provide a commensurate product type to neighboring Dry Creek Ranch across Brookside Lane in massing and scale but will its own architectural vision that is explained further within the analysis.

As a part of the Golf Course Estates East Subdivision, there will also be a Townhome Subdivision within the larger community, providing ranch style duplex townhomes offering a slightly different living style from the detached single family home product.

Foothills Estates West Subdivision

The planned community west subdivision provides a new access point to a new branch of community development with a mix of product types and community amenities, creating miles of new trails and providing unobstructed foothill views.

In total, the Shadow Valley Planned Community will be book-ended by the Avimor Planned Community and Dry Creek Ranch Planned Community.

Exhibit 28
Page 1 of 5
202402701-PC-CPA

DEMOGRAPHIC ANALYSIS OF AREA

The Development Team commissioned a demographic study for the Shadow Valley Planned Community in preparation to complete this Sub-area Comprehensive Plan. The immediate area has no current population base and so THK Associates analysis references U.S. Bureau of the Census and Sitewise Analytics, which are shown in the table below.

Table V-4: Population by Age at the Shadow Valley Planned Development, 2034

Age	Total Population	% of Total Population	Male Population	% of Total Population	Female Population	% of Total Population
4 or younger	43	5.0%	19	2.2%	24	2.8%
5 to 13	73	8.3%	34	3.9%	39	4.4%
14 to 17	36	4.1%	18	2.1%	17	2.0%
18 to 21	41	4.7%	21	2.4%	20	2.3%
22 to 24	33	3.8%	16	1.9%	17	1.9%
25 to 29	55	6.3%	24	2.7%	31	3.6%
30 to 34	46	5.2%	18	2.1%	27	3.1%
35 to 39	40	4.6%	19	2.2%	21	2.4%
40 to 44	45	5.1%	23	2.6%	22	2.5%
45 to 49	52	5.9%	26	2.9%	26	3.0%
50 to 54	54	6.2%	25	2.9%	29	3.3%
55 to 59	55	6.3%	26	3.0%	28	3.3%
60 to 64	56	6.5%	27	3.1%	30	3.4%
65 to 69	60	6.8%	29	3.3%	31	3.5%
70 to 74	59	6.8%	28	3.2%	31	3.6%
75 to 79	51	5.9%	22	2.6%	29	3.3%
80 to 84	39	4.4%	16	1.9%	22	2.5%
85 and older	36	4.2%	15	1.7%	22	2.5%
	873	100.0%	407	46.6%	466	53.3%

- The THK Associates Analysis, prepared an economic base analysis of the surrounding Seven-County Boise market area (Ada, Boise, Canyon, Elmore, Gem, Owyhee, and Payette counties).
- The Counties have added 13,696 jobs per year on average, for an average annual growth rate of 3.7%, despite economic setback and job growth slowdown from COVID in 2020.
- According to the THK Economic Analysis completed for the Shadow Valley Planned Community application, only 12.4%; 109 of an anticipated 873-person population will be of school age by 2034. For the next ten years, the Boise seven-county area is projected to add 15,990 full- and part-time jobs per year on average. This growth will likely be fueled by Transportation and Warehousing, Professional Services and Real Estate.
- Over the last three-year period, this ratio has lowered to 64.3%, indicating a market shift towards more attached and multi-family housing.
- Out of the total housing unit demand, 90% is projected to be for single-family detached unit ownership.
- The Boise seven-county area has experienced positive annual increases in per capita personal income for the almost all of the past 34 years. As the economy continues to grow over the next decade, per capita personal incomes are expected to continue to rise at a steady pace.

- Based on the median household income of $95,937, residents in the Shadow Valley Residential Primary Trade Area could likely afford a $455,400 home or monthly rental payments of $2,400. This is shown in Table IV-5 below.
- Annual average demand for single-family detached units is 751 units. 20% of demand is from homes priced under $699,999, 20.0% is from homes priced $700,000 - $799,999, 25% is from homes priced $800,000 – $999,999, and the remaining 35% is from homes priced $1,000,000 & above.

Table IV-5: Residential Purchasing and Rental Capacity in the Shadow Valley Residential PTA, 2024

Income Range	Percent of Households	Number of Households	Home Purchasing Capacity	Estimated Monthly Payment (PITI)*	Monthly Rental Capacity**
Under $24,999	9.25%	4,628	Under & $123,600	$620	Under $625
$25,000 - $39,999	7.68%	3,843	$123,600 - $197,800	$1,000	$625 - $999
$40,000 - $49,999	6.33%	3,169	$197,800 - $247,200	$1,250	$1,000 - $1,249
$50,000 - $59,999	6.73%	3,370	$247,200 - $296,600	$1,500	$1,250 - $1,499
$60,000 - $74,999	8.96%	4,487	$296,600 - $370,800	$1,870	$1,500 - $1,874
$75,000 - $99,999	12.82%	6,419	$370,800 - $494,400	$2,500	$1,875 - $2,499
$100,000 - $124,999	10.65%	5,332	$494,400 - $618,000	$3,120	$2,500 - $3,124
$125,000 - $199,999	20.74%	10,383	$618,000 $988,800	$5,000	$3,125 - $4,999
$200,000 - $249,999	9.45%	4,729	$988,800 $1,236,000	$6,250	$5,000 - $6,249
$250,000 & Above	7.38%	3,692	$1,236,000 & Above	$7,812	$6,250 & Above
Median Income* $95,937	**100%**	**50,052**	**$455,400**		**$2,400**

* Assumes 30% of income used for housing (before taxes and insurance), 20% down payment, 30 yr term, 6.5% interest rate

** Assumes 30% of income used for rental payment

Source: Sitewise and THK Associates, Inc.

Shadow Valley Planned Community provides suitable residential housing products and partnering civic and neighborhood commercial services to meet the demand outlined in the THK Associates report.

RESIDENTIAL OFFERINGS

Residential base district zoning refers to the classification of land within the planned community reserved for residential use. These districts are designed to regulate the density and type of housing that can be built in a specific area, ensuring that development aligns with the community's Sub-Area Comprehensive Plan and available public facilities. The below listed zoning regulations will manage growth, protect property values, and ensure that infrastructure can support the population.[1]



[1] (County, 2000) Title 8-Ada County Zoning Code

FOOTHILL ESTATES WEST SUBDIVISION [2]

The planned community west subdivision provides a new access point to a new branch of community development with a mix of product types and community amenities, creating miles of new trails and providing unobstructed foothill views.

Housing the Foothills Estates West Subdivision will provide a mix of low density units with larger lots and larger more extravagant housing product types interwoven into the foothills setting.



Figure 1 Foothills Estate Vision

The Foothills Estates West Subdivision is intended to provide Low Density Single Family home product, predominantly residential uses on larger lots as and supportive community common space and open space. Panoramic view lots, larger estate lots.

GOLF COURSE ESTATES EAST SUBDIVISION

The planned community east subdivision infills undeveloped land on the east side of the Shadow Valley Golf Course with housing and roadways tying into and finalizing development adjacent to the Dry Creek Ranch Planned Community to the south and Spring Creek Subdivision. Ho using product styles will likely provide a mix of modern and ranch modern variations with some individual variations towards modern craftsmen and modern contemporary styling.



Figure 2 Golf Course Estate Subdivision

The Golf Course Estates East Subdivision is intended to provide Low-Medium Density Single-Family housing with a flexible mix of compact detached residential uses on slightly smaller-sized lots (in contract to the R-L District) as well as supportive community uses and open space within the Golf Course Estates East Subdivision providing foothill, golf course view lots and neighborhood view lots.

[2] Figure 3 courtesy of Boise Hunter Homes (Harris North)

TOWNHOMES

The planned community east subdivision will also be home to a segment of just under 100 townhome units. These attached 'duplex' style townhomes will provide a shared wall at the garage side splitting the units, with the housing portion on either side of the duplex to provide ample privacy to residents in a denser setting.



Figure 3 Townhome Duplex Vision

The townhome subdivision will be a gated sub-community of the Golf Estates East Subdivision, where residents can rely on additional community maintenance and operational support to manage seasonal and rental properties in addition to full-time residences. [3]

SOURCES

Bureau of Economic Analysis-Outdoor Recreation Satellite Account. (2022). Retrieved from US Department of Commerce-Bureau of Economic Analysis: https://apps.bea.gov/data/special-topics/orsa/summary-sheets/ORSA%20-%20Idaho.pdf

County, A. (2016). *Ada County 2025 Comprehensive Plan.* Ada County: Ada County.

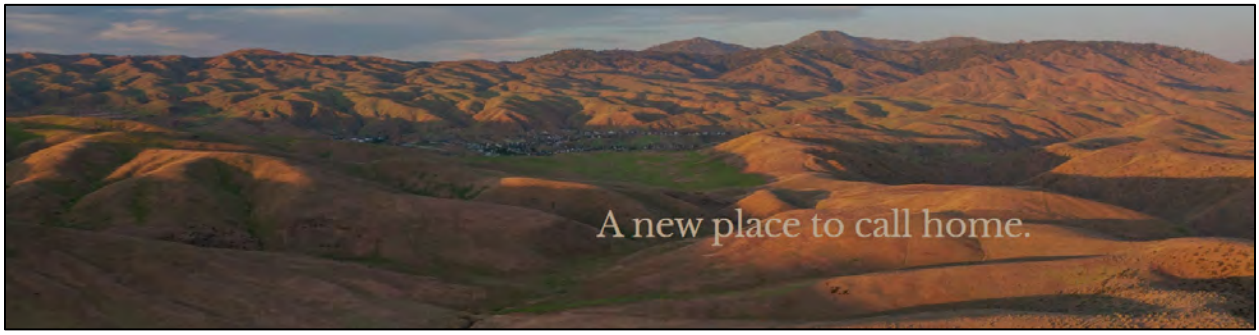
Elzi, P. (2024). *Shadow Valley Planned Community Economic Analysis Report.* Greenwood Village: THK & Associates Inc.

Idaho, A. C. (n.d.). *Idaho Novus Classical Acadmy Brochure*. Retrieved from Idaho Novus Classical Acadmy Brochure: https://s3.amazonaws.com/buildercloud/9d4d36547c340021e89ff9417cdae896.pdf

Images, I. b. (istockphoto). *Istock by Getty Images*. (1. 2. File ID: 1702025958, Producer, & Stock Photos) Retrieved 2024, from istockphoto: Istock by Getty Images

Marci Horner, P. a. (2022). *West Ada School District Facility Plan Presentation.* Meridian: West Ada School District.

[3] Townhome Image coutesty of https://www.familyhomeplans.com/plan-80887



Version: January 24, 2024, Planned Community Application Phase 1

INTRODUCTION

The Shadow Valley Planned Community subject parcels encompass 560 acres, zoned Rural Residential (RR) and Rural Preservation (RP) and located in Ada County jurisdiction. This recreation focused community plans to be home to a population of approximately 990 people by 2034. The 560-acre Planned Community is ideally situated on both the east and west side of Highway-55 at the existing Shadow Valley Golf Course. The planned community will be split by Highway-55 into two subdivision areas. The east side provides bench view estate lots and attached townhome style units overlooking the Shadow Valley Golf Course. The west side provides foothill estate lots in a pastureland setting with unmatched sunset and mountain views. The neighboring properties include rural estate homes and undeveloped private land. The land mass is located approximately five miles from Boise National Forest.

COMMUNITY VISION

The vision for Shadow Valley Planned Community is to create a recreation-focused foothills community that offers a unique blend of connectivity and seclusion. Shadow Valley Planned Community will speak to growing trends providing ample pickle ball court amenities amidst greenbelts and community parks with direct access to the Shadow Valley Golf Course. The Shadow Valley Planned Community aims to provide new public services and leverage those available in neighboring communities, while featuring extensive recreational spaces, both natural and developed. Set in an unparalleled foothills environment, Shadow Valley Planned Community will provide a variety of residential housing products clearly defined by purchasing trends in unincorporated Ada County and southern Idaho.

After completion, the Shadow Valley Planned Community provided infill much-needed housing between the communities of Dry Creek Ranch and Spring Creek Subdivisions as well as providing an extension of Shadow Valley Estates, addressing improvements for vehicular connectivity and secondary emergency fire access routing out of the west area. The community will also provide additional neighborhood commercial offerings such as expanded restaurant options and additional community amenity recreational opportunities. The east area will provide connectivity to and through the community via pathways, trails and sidewalks connected to neighboring right-of-way sidewalks. The west area will define a clear wildland urban interface by established natural and developed open space as a core element of the west community.

The Shadow Valley Planned Community will also provide municipal infrastructure in the form of a municipal water system throughout and a municipal wastewater system for the east side, simplifying management of those public services to a single point in lieu of individual homeowner management.
Housing within the planned community will be constructed in sequential phases providing product types commensurate with neighboring custom home and planned community product types with housing criteria aligned with market analysis research provided by THK and Associates Reporting of market demands and projected need in the region.

Shadow Valley Planned Community has a major natural open space recreation anchor on the West Foothills side. The west subdivision provides expansive views south of the Treasure Valley, intermittent views of Bogus Basin and territorial views within the development of the natural foothills. The west subdivision will provide housing intermingled on foothill bench slopes with detached sidewalks on local roadways leading to over 13-miles of unimproved pathways on recreational open space common lots through undulating foothills terrain. The open space trail systems provide multi-use (biking, walking, running) trails for community use and as a possible future link to future neighboring community land uses. The area of dryland open space integrated with natural decomposed granite multi-use trail systems provide a secondary benefit at Wildland Urban Interface and assist in creating third tier defensible space and fire line separation from undisturbed wildland areas adjacent.[1] The trail systems conceived of in this planned community also demonstrate alignment with the Ada County 2025 Comprehensive Plan goal of preservation and maintenance of future trails and trailheads. [2] [3]



Developed Open Space

Provide well designed easily accessible open space and supporting structures that enhance the use of the dedicated open space including, but not limited to: structures related to outdoor recreational use; structures of historic and/or cultural significance, educational buildings; way-finding or informational signage; parking facilities; well houses; and utility infrastructure and facilities.[4]

Natural Open Space

Provide undisturbed and native open space easily accessible for a natural/unimproved trail network. Supporting structures that enhance the use of the natural open space shall be limited to: structures related areas of respite for trail users such as benches; structures of historic and/or cultural significance, educational way-finding or informational signage.



[1] (McAdams, 2024)
[2] (Images, istockphoto) Foothills Trails-Image
[3] (Images, istockphoto) Golfers at Sunset-Image
[4] (County, 2000) Ada County Code section 8-3N-9 Open Space

In summary, the planned community will solve rapid growth that has occurred beyond city areas of impact aligning with Ada County code and provide solutions compliant with the Ada County Comprehensive Plan. Both community east and west areas will adequately provide vehicular connectivity options for future growth coordinated with ITD and ACHD policy and staff recommendations.
Imagery below provides visioning for residential housing and community massing.

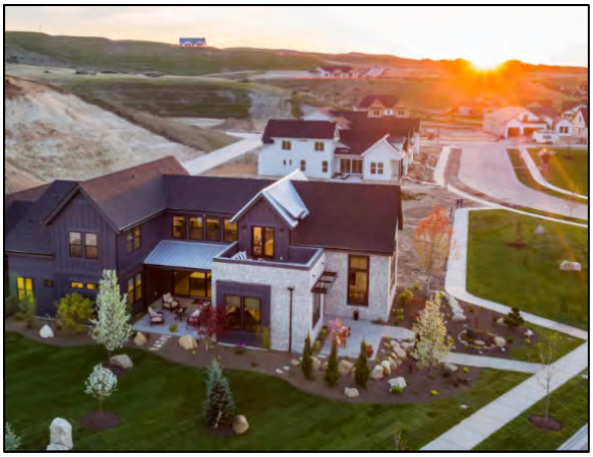




Figure 1: West Community Massing

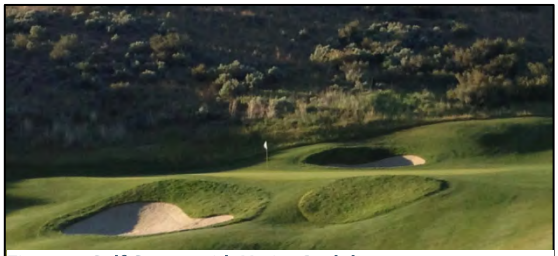


Figure 2: Golf Course with Native Backdrop



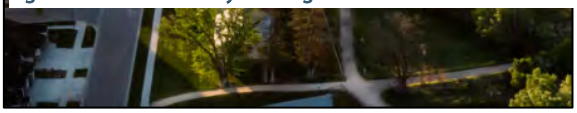
[5] [6]







Figure 3: East Community Massing



[5] Figure 2: Harris North, www.boisehunterhomes.com
[6] Figure 3: Dry Creek Ranch, www.boisehunterhomes.com

COMMUNITY REGULATION

The Shadow Valley Planned Community regulations will fall into three specific homeowners associations that establish aligned regulation for the broader planned community. The three homeowner associations will be as follows:

1. West Subdivision (community name tbd)
2. East Subdivision Single Family Home Area (community name tbd)
3. East Subdivision Townhome Area (community name tbd)

It is important to note that the existing Shadow Valley Estates Subdivision existing will remain in a separate and individual homeowners association.

The following draft notations from consultants, agency partners, Ada County Code and Ada County Comprehensive Plan (2025) shall be carried into Shadow Valley Planned Community Design Guidelines and CCR's.

1. Prohibit chain link fencing.
2. Prohibit perimeter fencing to encourage wildlife movement.
3. Encourage fencing on the project to be wildlife friendly, per IDFG recommendations.
4. Residents should control pets at all times.
5. Prohibit the feeding of wildlife and require that potential wildlife attractants (pet food, garbage, gardens, etc.) be maintained in a way to reduce attraction of wildlife species (skunks, foxes, raccoons, magpies, etc.). Eliminating or minimizing the potential for wildlife depredations is the responsibility of the property owner.
6. Prohibit Non-Native Yew species plants.
7. Prohibit livestock.
8. Landscaping for individual lots should encourage "Fire Wise" methodology.
9. Require Dark Sky initiative Ada County restrictions.

Landscaping

Regulations will emphasize the use of native and drought-tolerant plants to conserve water and maintain the natural beauty of the area. Landscaping plans must include a variety of plant species to ensure biodiversity and resilience. Specific guidelines will be provided for the selection, placement, and maintenance of plants, with a focus on dryland native plantings suitable for Ada County's semi-arid climate.

Plant Colors and Textures: Ensure that the colors and textures of plant materials are consistent in the common areas of the project. However, within individual residential clusters or parcels, there should be variation to create unity in common areas and diversity in individual parcels. Colors and textures will be harmonious with the surrounding planned community and neighborhood environments. Formality of planting arrangement may be used at main community entrances, intersections, and areas of interest such as community amenity areas.

Plant Size and Functionality: Evaluate the mature size of plants based on maintenance needs, lifespan, and functional requirements. For areas requiring screening, select plants based on their form and branching density.

Tree Planting Tree planting regulations will require the use tree species that are well-adapted to the local climate and soil conditions. Trees will be strategically planted to provide shade, reduce urban heat islands, and enhance the visual appeal of the community. Maintenance guidelines will ensure the health and longevity of the trees.

Street Trees: Street trees will provide shade for sidewalks, parking areas, and roadways, thereby reducing reflected solar heat. Street tree placement shall also be mindful of territorial views, viewsheds and existing neighbor views.

All Tree Plantings will be selected by criteria defined in the Treasure Valley Tree Selection Guide.[7]

Class I *Small trees which do not generally reach over 25-30' in height and width. Spacing, 20-30'between trees. Good for under power lines or smaller planting areas.*

Class II *Usually considered medium sized trees mostly planted for their shade and excellent use in the landscape and parkway plantings. Reaching 30-40+' height and width. Spacing, 30-40' between trees.*

Class III *Many are long lived and attain large height and trunk diameter. Make sure you have ample room to accommodate it at maturity. May reach 70'+ in height and width. Spacing, 40-60' between trees. Conifers Provide year round greenery, screening and serve as excellent wildlife shelters. Generally they do not require much pruning and need large growing areas away from buildings, sidewalks and driveways. Spacing varies with species.*







1. All plant materials should be assessed for their ability to enhance architecture, complement existing plant life, define spaces, and connect various activities within the planned community.
2. Plants should be grouped according to their water and soil needs. To conserve water, plants should be confined to beds with appropriate mulch depth.
3. Favor low-maintenance plants over those requiring frequent spraying and pruning. Proper plant spacing will reduce unnecessary pruning.
4. Consider the plant life cycle when selecting materials, encouraging a mix of slow, medium, and fast-growing species for a drought-tolerant and disease-resistant landscape.
5. Effective turf management helps control soil erosion, dust, temperature, and groundwater recharge. Select turf areas like other plantings and utilize best practices for the Treasure Valley. Utilize and integrate native/dryland bunch grasses with turf grasses.
6. Deep watering promotes healthy plant roots and drought resistance. Irrigation systems should be underground and fully automated, with water-conserving features such as drip irrigation and moisture sensors.
7. Undeveloped areas outside building envelopes should not be irrigated or landscaped ornamentally. Enhance these areas with native, drought-resistant plants to minimize weed growth and erosion.
8. Encourage planting buffers between conflicting uses, such as residential and neighborhood commercial areas.
9. Screen off-street parking areas. Avoid plantings that obstruct sightlines at intersections or access to utility equipment.
10. Provide low-fuel plants in transition areas near high fire hazard zones.

[7] (Boise, 2024)

11. Require drought-tolerant, native plant species that are less palatable to wildlife for new landscaping at exterior development buffer locations.
12. Encourage replanting wildlife food species, plants that enhance critical habitats and provide alignment with environmental engineering inventory if applicable.
13. Prohibit installation and require the removal of noxious plants and weeds within the development envelope.



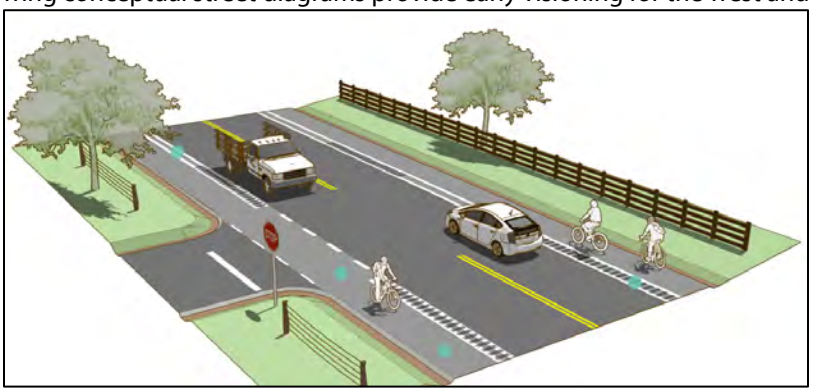
Typical Developed Amenities

The planned community will provide architectural renderings or imagery to guide planning for recreational structures.

Typical Street Sections

The planned community will provide proprietary typical street section diagrams in the Planned Community Application to guide planning typology. The Shadow Valley Planned Community Street Section Details will be carried into the Sub-Area Comprehensive Plan.

The following conceptual street diagrams provide early visioning for the west and east subdivisions.

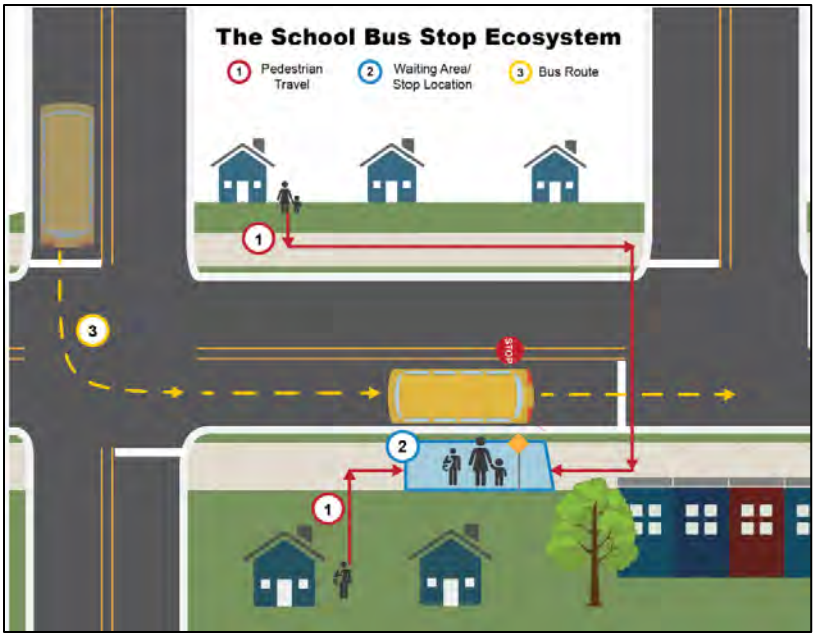


West Subdivision - Rural Streetscape ("Paved Shoulder")[8]



East Subdivision - Neighborhood Streetscape ("Physically Separated Sidewalk")[9]

[8] (Guide, 2025)
[9] (Guide, 2025)



The School Bus Ecosystem[10]

At a minimum, The School Bus Ecosystem' will be established in both the east and west subdivision for safe pedestrian travel and waiting for bus route pickup and drop-off.

- **West** At the west subdivision a school bus pickup location with a parking and waiting zone will be established separated from the typical rural street section.
- **East** At the east subdivision, given that the neighborhood streetscape will provide uninterrupted pedestrian pathways and crossings, a separated school bus pickup location is not planned, and the design will follow 'The School Bus Ecosystem' policy of travel lane pickup illustrated in concept above.

Building Design

Building design regulations will promote architectural styles that complement the natural landscape and context of the regional community and neighboring planned communities. Guidelines will include guidelines for building materials, colors, and rooflines to ensure aesthetic harmony. Energy-efficient designs and sustainable building practices will be encouraged to reduce environmental impact.

Signs

Signage regulations will control the size, placement, and design of signs to prevent visual clutter and maintain the community's aesthetic appeal. Signs must be designed to be both functional and attractive, using materials and colors that blend with the surrounding environment.

Suggested Patterns and Standards of Community Design, Development, and Beautification

The community design standards will promote walkability, connectivity, and accessibility. Public spaces will be designed to encourage social interaction and community engagement. Streetscapes will include pedestrian-friendly features such as wide sidewalks, street trees, and benches. Development patterns will prioritize neighborhood commercial areas to create vibrant, livable neighborhoods.

[10] (Transportation, 2025)

LAND USE

The following excerpts were taken from the Bowen Collins Resource Inventory Report provided for the Shadow Valley Planned Community. [11]

Shadow Valley Planned Community (SVPC) Soils

Soils on the property are mostly mixed alluvium or lacustrine deposits. The north half of the property is predominantly alluvium derived from igneous rock or colluvium derived from granite with surface textures of loam to sandy loam. The soils grow coarser towards the southeast where the steep slopes are present. The south half of the property is predominantly silty alluvium over silty lacustrine deposits on the slopes and loamy alluvium in the valley. The surface textures are coarser by Spring Valley Creek with loam or sandy loam textures and the foothills are finer with either a silt loam or silty clay loam texture. These textures are resultant from the development of the western plain of the Snake River that covers most of Ada County. A figure showing the names of the soil types within the planned community site along with a Custom Soil Resource Report for Ada County, Idaho (NRCS, 2024) is available in Appendix B.

SVPC Prime Agricultural Land

The Natural Resources Conservation Service (NRCS) defines prime farmland as "land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and that is available for these uses" (NRCS, 2015). These tracts of land are identified in the Custom Soil Resource Report for Ada County, Idaho (see Appendix B). The project site includes fertile valleys that have the potential to be prime farmland if irrigated. Approximately 67 acres or 12 percent of the area is classified as prime farmland if irrigated, and 92 acres or 17 percent is classified as farmland of statewide importance, if irrigated (see Figure 4: Prime Farmland, Appendix A). The prime farmland areas identified in the upper property are along the south facing mountainside north of Woods Gulch. The NRCS has classified this portion as farmland or statewide importance, if irrigated. As it is not irrigated, it is not prime farmland. The areas classified as prime farmland in the lower section of the project area mostly correlate with what is currently being managed as irrigated golf green. Due to their irrigated status, these areas are classified as prime farmland or farmland of statewide importance. However, these areas will continue to be managed in the same way, so there will be no effect to prime farmland.

SVPC Mineral Resources

The area surrounding the site is known as the Boise Foothills. Deposited sediments are from the Idaho Batholith (Cretaceous intrusive granodiorite), located north and east of the Boise Front. Sediments deposited within the valley are of Tertiary (T) and Quaternary (Q) age and generally consist of arkosic sands, sandstones, claystones and siltstones. At the valley margins near the site, Tertiary age sand and mudstone of stream and lake sediments dominate the foothills. These sediments include interbedded fine gravel, siltstones, and are also locally cemented. Referenced geologic maps do not indicate faulting or folding in the immediate area of the proposed site. The nearest faults are identified approximately 12 miles to the southwest of the site.

[11] (Associates, 2024)

LAND USE WITHIN ONE-MILE OF SVPC

Please refer to the Shadow Valley Adjacent Land Use Exhibit included for reference.
Existing land uses within one mile of the project area fall into the following categories: Residential, Vacant, Avacnt-Ag, Other(Shadow Valley Golf Course), Right-of-way (ITD SH Hwy-55), Agriculture Prime Farmland, Public/Government.
Given the 'Corridor Development' that has occurred along ITD SH Hwy-55 in Ada County jurisdiction, the neighboring uses at adjacent parcel lines to the Shadow Valley Planned Community are primarily residential. Where the project area abuts 'Vacant-Ag' land designation it is important to note that those surrounding parcels are privately owned and not currently be agriculturally operated, therefore possible that future development could also occur on those parcels.

PROPOSED LAND USES

Shadow Valley Planned Community will be home to approximately eighty-nine (89) foothill estate residences at the Foothills Estate West Subdivision and 306 golf estate residences on the Golf Course Estates East Subdivision, with three specific parcels of supporting neighborhood commercial and civic uses located only in the Golf Course Estates East Subdivision. The community is planned over a land mass of approximately 560 acres defined by the following land uses.

See Land Use Table provided on next page.

LAND USE SUMMARY TABLE

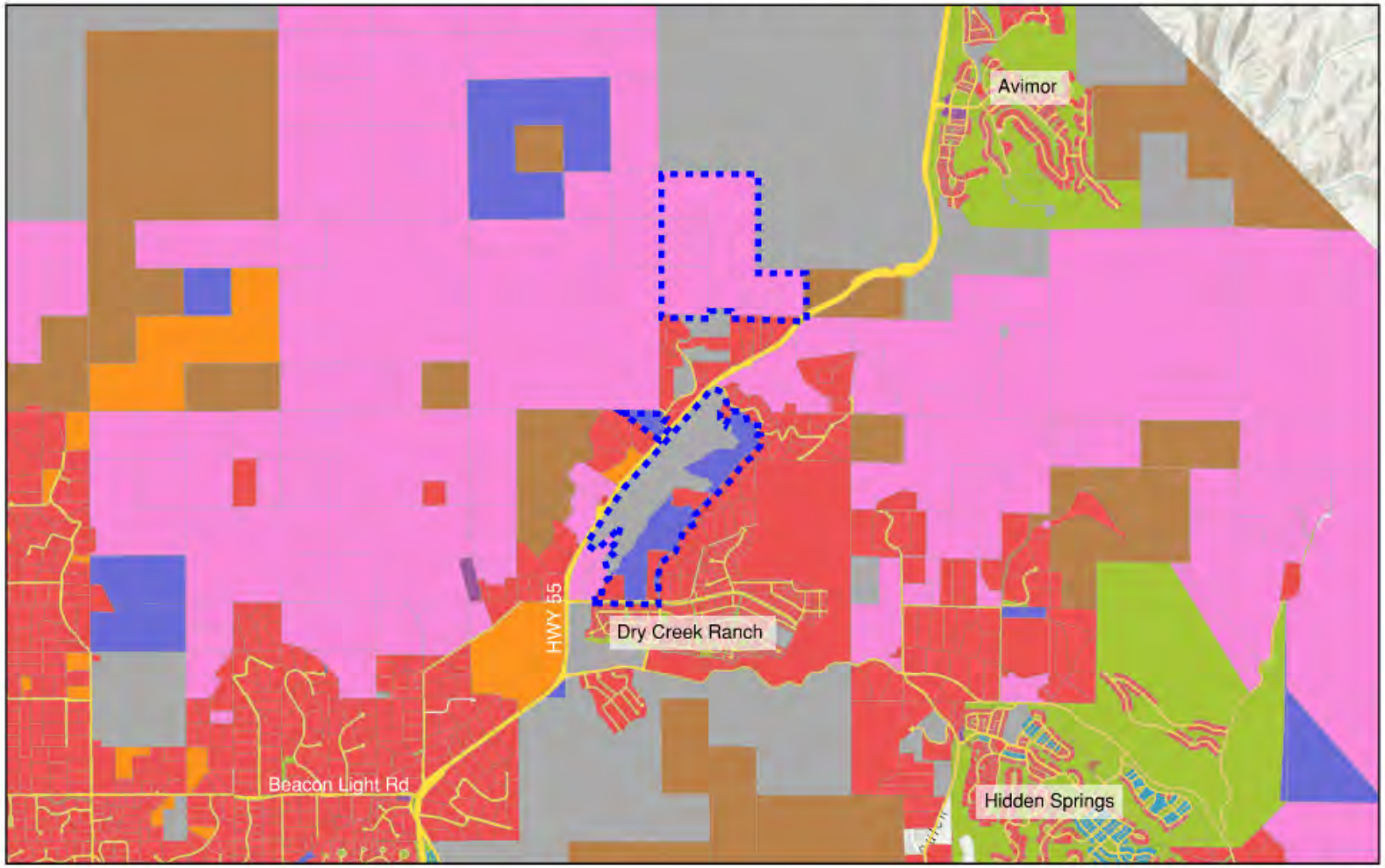
Description	Acres	% of Community
Neighborhood Commercial	12.5	2%
Residential Housing	203.8	37%
Right of Way	24	4%
Future Development	25	5%
Developed Open Space	161.03	30%
Natural Open Space	118.07	22%
Total Acres	**560**	
West Foothills Estates Subdivision		
Neighborhood Commercial	0	0%
Residential Housing [Detached Single Family]	132	45%
Right of Way	9	3%
Future development	25	9%
Developed Open Space [New Amenities]	6.63	2%
Natural Open Space	118.07	41%
Total Acres	**290.7**	
East Golf Estates Subdivision		
Neighborhood Commercial [Stone Crossing]	10	4%
Neighborhood Commercial [SV Golf Course]	2.5	1%
Residential Housing		
[Detached Single Family]	71.8	27%
[Attached Townhomes]	14.7	5%
Right of Way	15	6%
Developed Open Space [SV Golf Course]	134.36	50%
Developed Open Space [New Amenities]	20.04	7%
Natural Open Space	0	0%
Total Acres	**268.4**	

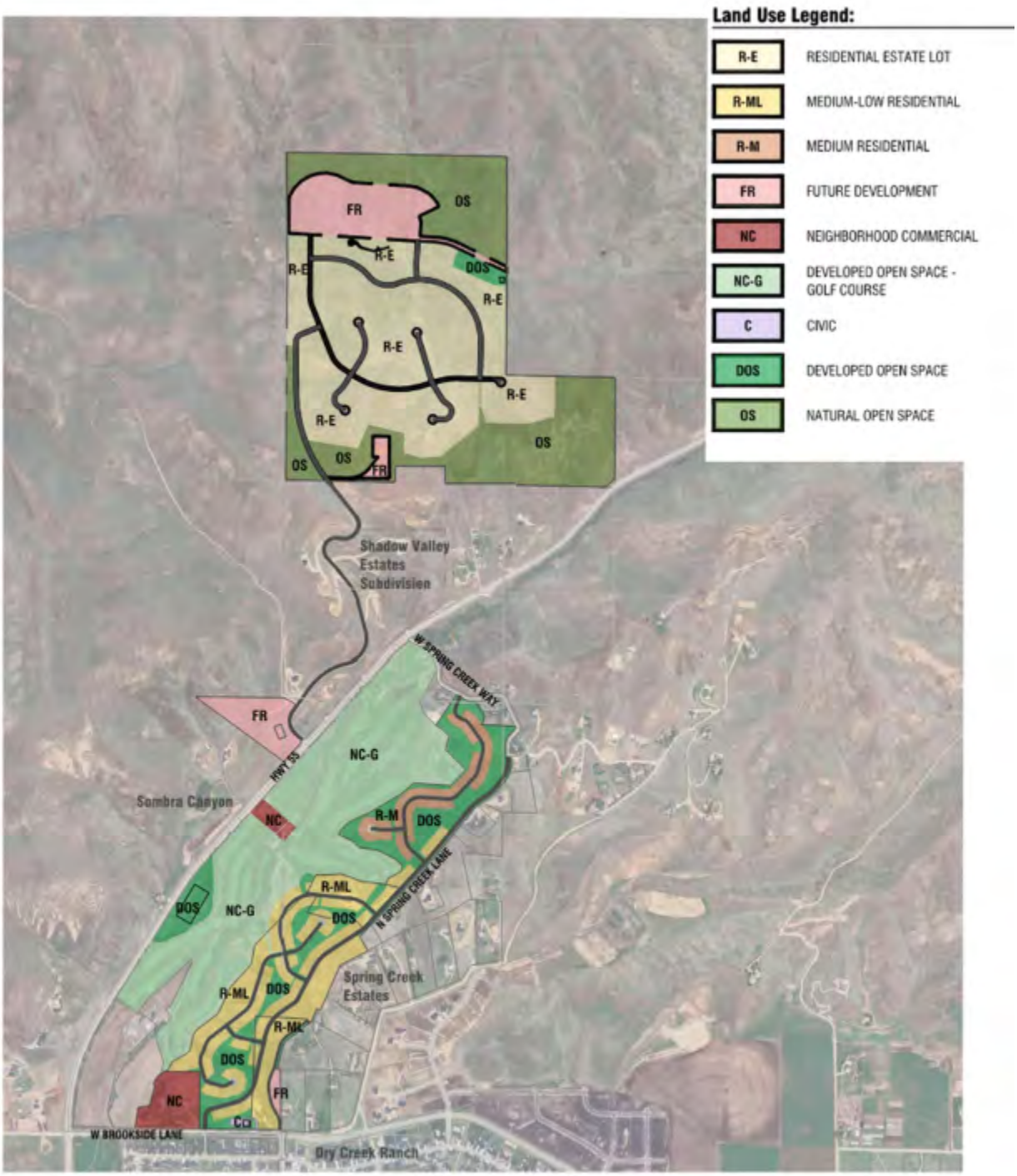
(Acreages defined above are approximate in nature.)

The plan appropriately sites a variety of residential product types throughout the community, taking advantage of the natural slopes and existing conditions to create neighborhood boundaries.
The Shadow Valley Planned Community will provide clear land use boundaries in the sub-region. The planned community uniquely provides unmatched quantities of developed and natural open space, preserving large quantities of acreage within unincorporated Ada County for recreation purposes.

Please reference the Existing Land Use Map (within one-mile), Urban Public Services Map (within one mile) and Shadow Valley Planned Community Land Use Plan on the following pages.

Shadow Valley Adjacent Land Use Exhibit





Land Use Plan

Horizontal Scale: 1" = 1600'

SHADOW VALLEY PLANNED COMMUNITY

Highway 55, ADA County, Idaho

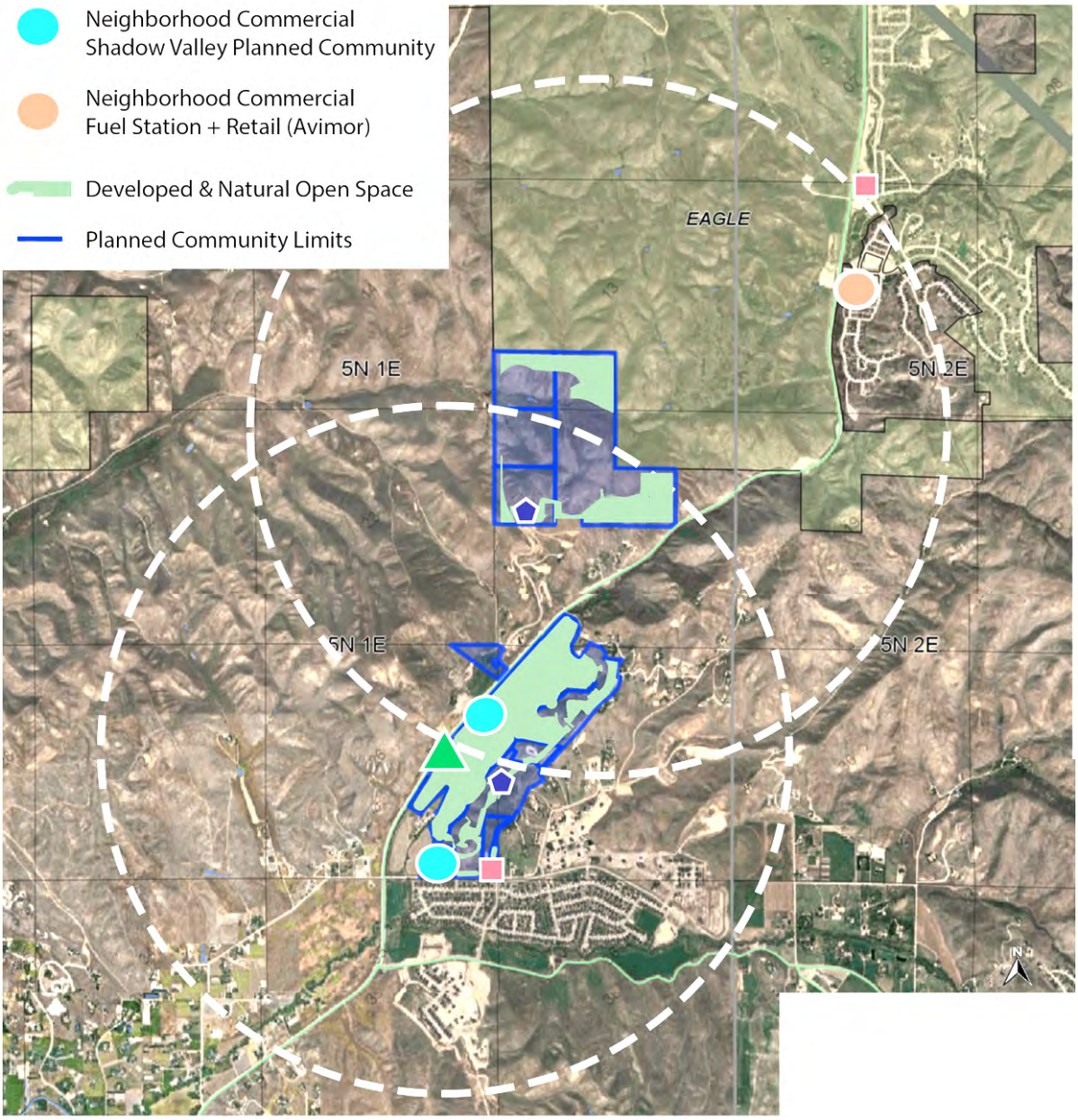
Shadow Valley Planned Community - Urban Public Services Map

Legend:

- Potable Water
  (Symbol does indicate well location)
- Wastewater Treatment
- Civic Zone
- Neighborhood Commercial
  Shadow Valley Planned Community
- Neighborhood Commercial
  Fuel Station + Retail (Avimor)
- Developed & Natural Open Space
- Planned Community Limits

1 to 5-Mile Distance:

Hidden Springs Library: 3.8 miles, 7 minutes
Eagle Fire Station #2 (Floating Feather): 3.4 miles, 5 minutes
Treasure Valley Chevron: 2.3 miles, 3 minutes



SOURCES

Associates, B. C. (2024). *Shadow Valley Community Project - Draft Resources Inventory.* Salt Lake City, Utah: Bowen Collins & Associates.

Boise, C. o. (2024, January). *Treasure Valey Tree Selection Guide*. Retrieved from Treasure Valey Tree Selection Guide: https://www.cityofboise.org/media/4078/tree-selection-guide_second-edition.pdf

County, A. (2000). Title 8-Ada County Zoning Code. In A. County, *Ada County Zoning Code* (pp. (Ord. 389, 6-14-2000)). Ada County: Ada County.

Guide, S. T. (2025, 01 23). *Small Town and Rural Design Guide - Pedestrian Lane*. Retrieved from Small Town and Rural Design Guide: https://ruraldesignguide.com/

Images, I. b. (istockphoto). *Istock by Getty Images*. (1. 2. File ID: 1702025958, Producer, & Stock Photos) Retrieved 2024, from istockphoto: Istock by Getty Images

McAdams, J. (2024). *Shadow Valley Planned Wildfire Safety Plan (East & West.* Boise: Jerry McAdams.

Transportation, N. H.-U. (2025, 01 23). *National Highway Traffic Safety Administration*. Retrieved from Planning for Safety: https://www.nhtsa.gov/planning-safer-school-bus-stops-and-routes/planning-safety

ADA COUNTY
DEVELOPMENT SERVICES

200 W. FRONT STREET, BOISE, IDAHO 83702-7300 PHONE (208) 287-7900
https://adacounty.id.gov/developmentservices FAX (208) 287-7909

BUILDING • COMMUNITY PLANNING • ENGINEERING & SURVEYING • PERMITTING

January 27, 2025

Larry Kine
SVP LLC
250 NW Franklin Ave, Ste 401
Bend, OR 97703
[redacted]

RE: 202402701-PC-CPA / Shadow Valley Planned Community

Larry,

This is to notify you that your application, 202402701-PC-CPA, has been scheduled to be heard by the Ada County Planning & Zoning Commission on **March 13, 2025.** This hearing will begin at 6:00 p.m. and will be held in the Commissioners Main Hearing Room #1235, on the first floor of the Ada County Courthouse at 200 W. Front Street. You or your representative must be present.

A copy of the staff report will be sent to you, and available online, prior to the meeting. Please contact me if you have any questions or comments regarding the application, staff report, or any conditions which may be attached to the staff report. I can be reached at 208-287-7998 or bmoore@adacounty.id.gov.

Sincerely,

Brent Moore

Brent Moore, MCMP, AICP
Senior Community & Regional Planner
Ada County Development Services

Brent Moore

From: Brent Moore
Sent: Monday, January 27, 2025 2:39 PM
To: mdewalt@adalib.org; Jean Schaffer; Street NameMail; Bryan Gilbert; Zachary Walls; Shawn Rayne; Zach Kirk; Bob Batista; Ryan Strain; impactfees@achdidaho.org; planningreview@achdidaho.org; Brent Danielson; Adam Schroeder; Scott Koberg; Candy Hahlbeck; Annette Yates; Karl Rudorf; Justin Wright; Justin McConnell; Brent Moore; Stacey DuPuis; Dale Meyers; Stacey DuPuis; adaswcd@gmail.com; bradp@avimor.com; ballentyneditch@gmail.com; board@bvnaboise.org; lanette.daw@boiseschools.org; aflavel.bkirrdist@gmail.com; bpr@cityofboise.org; tritthaler@boiseproject.org; gashley@boiseproject.org; projectmgr@boiseriver.org; projectmgr@boiseriver.org; bvidc1@gmail.com; borahneighborhood@gmail.com; newts@q.com; lbadigian@cdh.idaho.gov; terrillfranks@gmail.com; shad.bowers@lumen.com; mwigley@cityofboise.org; amurphy@cityofboise.org; mbisagno@cityofboise.org; rboehm@cityofboise.org; ffrance@cityofboise.org; mstumbaugh@cityofboise.org; atuning@cityofboise.org; publicworks@cityofboise.org; bvaughan@cityofeagle.org; chubinger@cityofeagle.org; dmiller@cityofeagle.org; aglaspell@cityofeagle.org; dhanson@kunaid.gov; tbehunin@kunaid.gov; mlundy@kunaid.gov; awenger@kunaid.gov; cityofmelba@aol.com; cjohnson@meridiancity.org; cityclerk@meridiancity.org; planning@meridiancity.org; snickel@staridaho.org; gtiminski@midstarfire.org; vislas@midstarfire.org; xraygal2012@aol.com; jmlcattle@gmail.com; mike kulchak; sdkel01@hotmail.com; cherylwright@cwi.edu; president@collister.org; gisshared@compassidaho.org; depotbench@gmail.com; bryce@sawtoothlaw.com; boisedrycreekcemetery@gmail.com; lnorthey@boisehunterhomes.com; adickey@boisehunterhomes.com; twononas@msn.com; sbuck@eaglefire.org; jfrancesconi@eaglefire.org; sbumgarner@cityofeagle.org; njenkins@eaglesewer.org; cindymontoto@gmail.com; epa-seattle@epa.gov; marksphillips@gmail.com; scott.eaton@faa.gov; smm5156 @gmail.com; farmers.union.ditch@gmail.com; jamie.huff@dhs.gov; jthorn@gardencityidaho.org; odurfey@gardencityidaho.org; edmiller@givenspursley.com; info@goldeneagleaudubon.org; markf@wcnx.org; hazelwoodvillage@amihome.net; tdrb@hiddensprings.com; hsta@hiddensprings.com; bighitterjb@icloud.com; christopher.borders.1@us.af.mil; kyle.carpenter@us.af.mil; lee.d.rubel.mil@mail.mil; farin.d.schwartz.mil@mail.mil; james.p.anderson3.mil@mail.mil; albert.a.williams6.mil@army.mil; Bryant.p.adleson.nfg@army.mil; cdishner@imd.idaho.gov; brandon.flack@idfg.idaho.gov; marjorie.owen@dhw.idaho.gov; brenna.garro@oer.idaho.gov; kenny.huston@oer.idaho.gov; dan.everhart@ishs.idaho.gov; ashley.molloy@ishs.idaho.gov; chris.shaver@ishs.idaho.gov; aco@idahohumanesociety.org; jmaffuccio@idahopower.com; jmaffuccio@idahopower.com; easements@idahopower.com; bro.admin@deq.idaho.gov; dgjohnson@idl.idaho.gov; dgjohnson@idl.idaho.gov; adam.zaragoza@idpr.idaho.gov; file@idwr.idaho.gov; airport.planning@itd.idaho.gov; knute.sandahl@doi.idaho.gov; shona.tonkin@itd.idaho.gov; d3development.services@itd.idaho.gov; mark.wasdahl@itd.idaho.gov; randy.morgan@intgas.com; CHERYL.LMLACH@intgas.com; idprospect@aol.com; mbeatty345@aol.com; office@kunafire.com; TJ Lawrence; bgraves@kunaschools.org; jjreddy@kunaschools.org; tejensen@kunaschools.org; drichie@kunalibrary.org; starjordanrn@msn.com; tjones@design4000.net; midge.a.kline@andeavor.com; melbafire@gmail.com; mark@meridiancemetery.com; cami@meridiancemetery.com; johnoverton@meridiancity.org; bmedica@meridiancity.org; Bmedica@meridiancity.org; Johnoverton@meridiancity.org;

Exhibit 31
Page 1 of 3
202402701-PC-CPA

To: twalsh@meridiancity.org; sarellano@meridiancity.org; staulbee@meridiancity.org; director@mld.org; mm_mi@juno.com; mm_mi@juno.com; tonym222@msn.com; heather.coursey@us.af.mil; georgia.clark@us.af.mil; lsharpe@nmid.org; eolvera@nmid.org; newdrycreek@gmail.com; terri@nyid.org; mbisagno@cityofboise.org; sbuck@eaglefire.org; rboehm@cityofboise.org; ffrance@cityofboise.org; mstumbaugh@cityofboise.org; nefnassoc@gmail.com; llewelr@gmail.com; nwneighborhoodassociation@gmail.com; admin@wcmedc.org; fernsworth13@gmail.com; kirk@pioneerirrigation.com; info@preservationidaho.org; awells@qrs-llc.com; quailridge.qrna@gmail.com; smcgourty@republicservices.com; dgordon@cityofboise.org; teslamydog@yahoo.com; bryce@sawtoothlaw.com; david@sawtoothlaw.com; mack@settlersirrigation.org; ledixey@gmail.com; the_cruiser39@yahoo.com; danmar47@aol.com; earl@spyke.com; mindy@southcole.org; iceberg210@hotmail.com; mkeithboise@gmail.com; carolvidales@gmail.com; brett.schwarz@Sparklight.biz; starcemetery@msn.com; testrada@starswd.com; centralfoothillsna@gmail.com; mbisagno@cityofboise.org; rboehm@cityofboise.org; ffrance@cityofboise.org; tommy2x4@gmail.com; bryce@sawtoothlaw.com; dtharbek@up.com; cenww-rd-boi-tv@usace.army.mil; boise.office@usace.army.mil; tmeeks@blm.gov; bhorsburgh@usbr.gov; Chris_Reighn@fws.gov; vwidengineering@veolia.com; vpnaboise@gmail.com; russell.mia.dawn@gmail.com; roberts.dave@westada.org; pznotices@wbnaboise.org; mary@westboisesewer.com; westvalleyna@gmail.com; info@westernada.com; mbisagno@cityofboise.org; rboehm@cityofboise.org; ffrance@cityofboise.org; mstumbaugh@cityofboise.org; brenda.marshall@williams.com; Brenda.Marshall@williams.com; wbestates@aol.com; Brent Moore

Subject: Ada County Application Transmittal Notice.

File Number: 202402701-PC	X-Reference: NONE
Description: A Planned Community Comprehensive Plan Map and Text Amendment for the Shadow Valley Planned Community, which will consist of approximately 395 homes on 560 acres within the Rural Residential (RR) and Rural Preservation (RP) Districts.	
Reviewing Body: P AND Z	Hearing Date: 3/13/2025
Applicant: SVP LLC	P&Z Recommendation:
Property: The subject property is generally located east of Hwy 55 between Spring Creek Wy and Brookside Ln, and west of Hwy 55 north of High Valley Wy; Sections 13, 24, 25, 26, T.5N, R.1E.	

Ada County Development Services is requesting comments and recommendations on the application referenced above. To review detailed information about the request please click on the file number above and click 'Decision Status/Supporting Documents' on the left side of the screen.

We request you submit your comments or recommendations by 2/11/2025. When responding, please reference the file number above. If responding by email, please send comments to bmoore@adacounty.id.gov.

Let me know if you would like more information or would like to request hard copies of any of the application materials.

Brent Moore, MCMP, AICP
Senior Community & Regional Planner
Ada County Development Services
200 W. Front St., Boise, ID 83702
bmoore@adacounty.id.gov
(208) 287-7998

ADA COUNTY DEVELOPMENT SERVICES
200 W FRONT ST, BOISE, ID 83702

January 30, 2025

Dear Property Owner:

Legal Notice is hereby given that the Ada County Planning & Zoning Commission will hold a public hearing on **March 13, 2025**, at 6:00 p.m. in the Commissioners Main Hearing Room #1235, 200 W. Front Street, Boise, ID, to hear the following:

202402701-PC-CPA, SVP LLC: An application for a Planned Community Comprehensive Plan Map and Text Amendment for the Shadow Valley Planned Community, which will consist of approximately 395 homes on 560 acres within the Rural Residential (RR) and Rural Preservation (RP) Districts. The subject property is generally located east of Highway 55 between Spring Creek Way and Brookside Lane, and west of Highway 55 north of High Valley Way; Sections 13, 24, 25, 26, T.5N, R.1E.

Contact Brent Moore at 208-287-7998 or bmoore@adacounty.id.gov for more information.

This is an Official Notice of Public Hearing regarding the land use designation of a property near your own. You have been notified because records indicated that you own property near or within 1,000' of the subject property. You are invited to attend the public hearing and offer your comments for consideration. If you are unable to attend, you may send comments to our office by **March 6, 2025**, and they will be entered in the public hearing record.

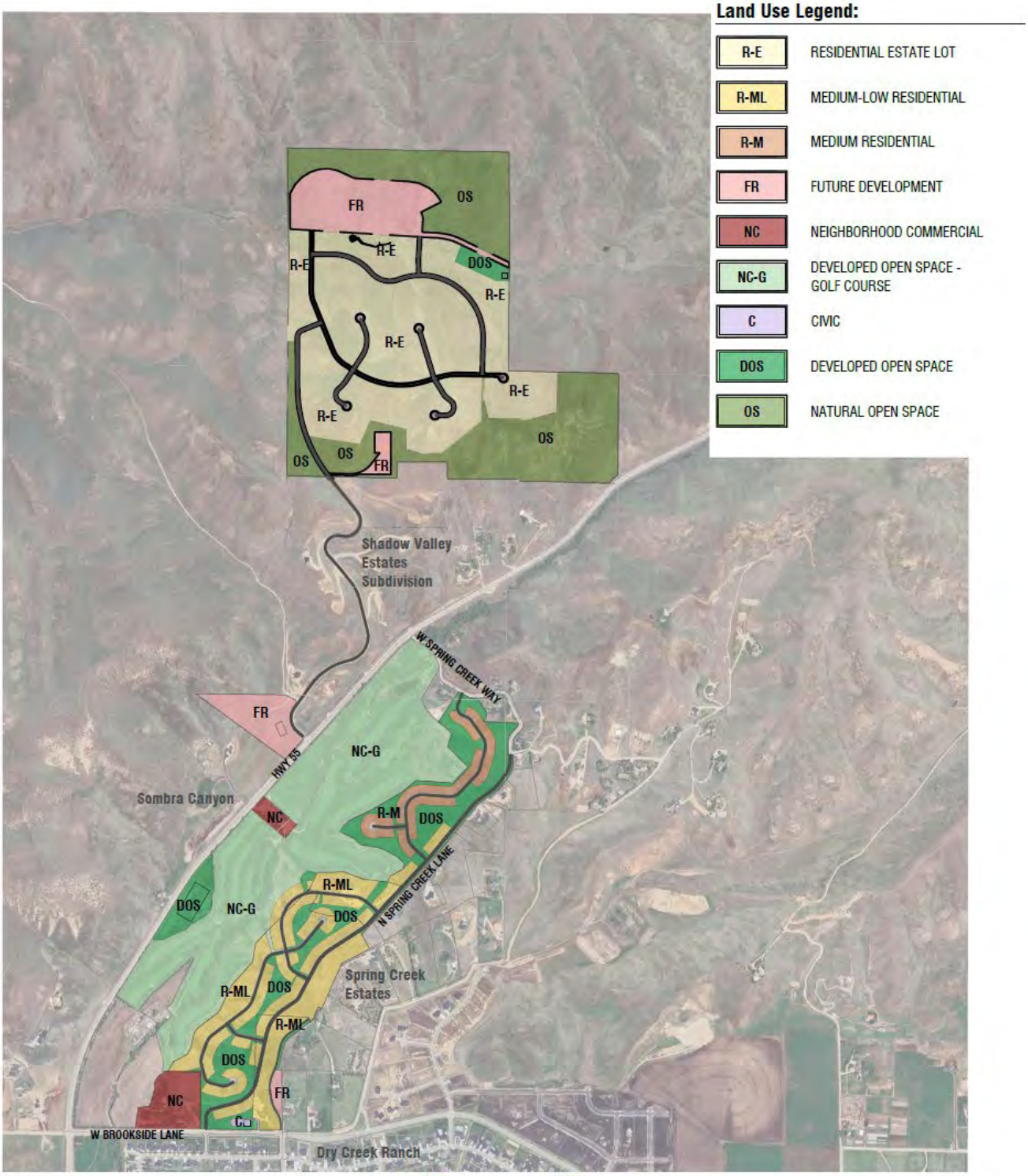
This application can be viewed online by completing the following:

1. **Type gis.adacounty.id.gov/apps/application_tracker/ into the address bar.**
2. **Enter application number "202402701-PC" and hit Enter.**
3. **Click 'Decision Status/Supporting Documents' to review documents.**
4. **Review supporting documentation by clicking on the individual documents.**

Five (5) days prior to the hearing you can go **adacounty.id.gov/developmentservices/** to view the agenda or staff report.

NOTES:

- This item may not be heard at the scheduled time of 6:00 p.m. as multiple items may be considered during the hearing.
- Video, audio, PowerPoint, or other computer-generated visuals used to present testimony, must be provided to the Planner thirty minutes prior to the start of the hearing: file format compatibility cannot be guaranteed.
- Auxiliary aids or services for persons with disabilities are available upon request. Please call 208-287-7900 three days prior to this public hearing to make arrangements.



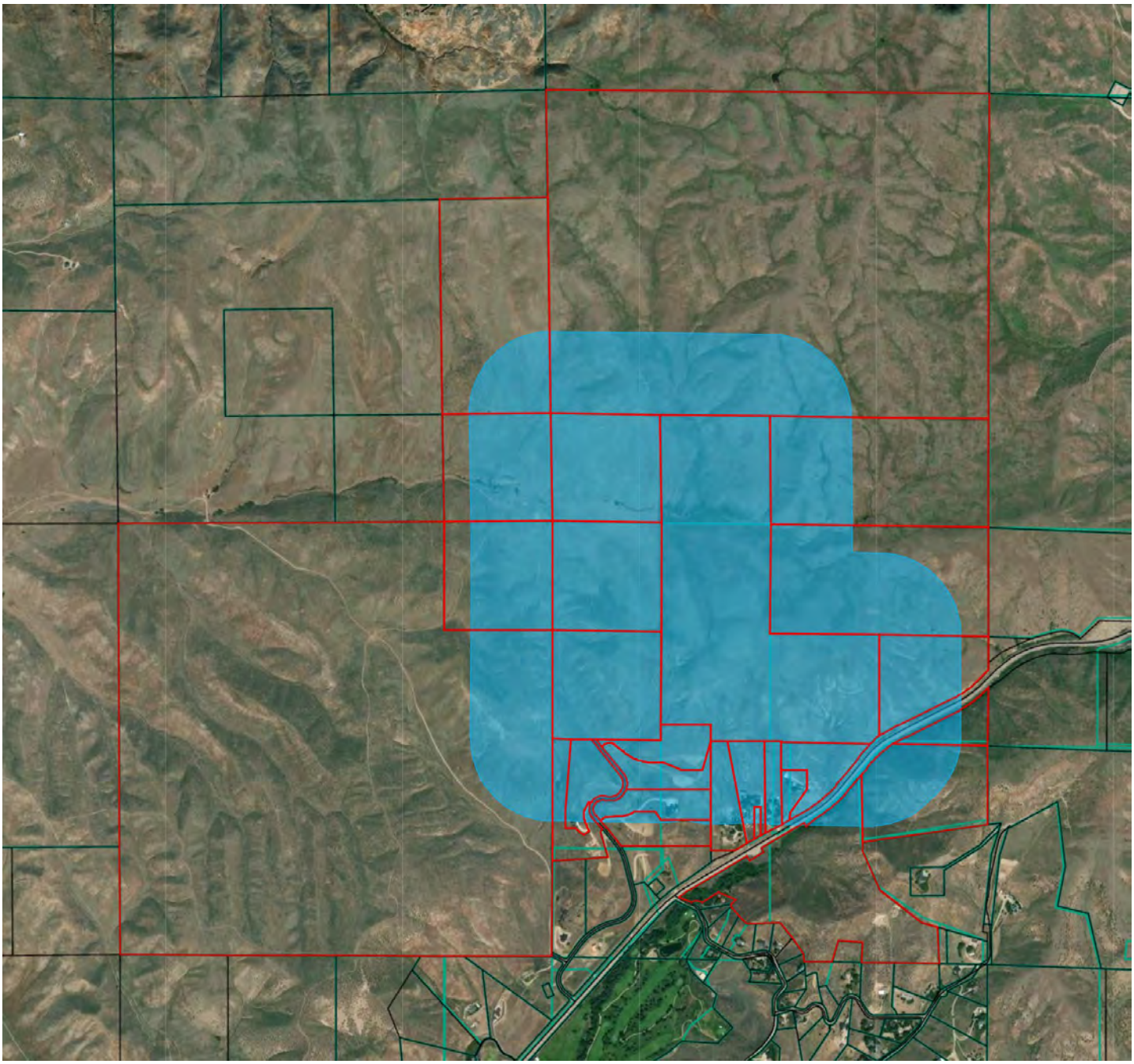
Land Use Plan

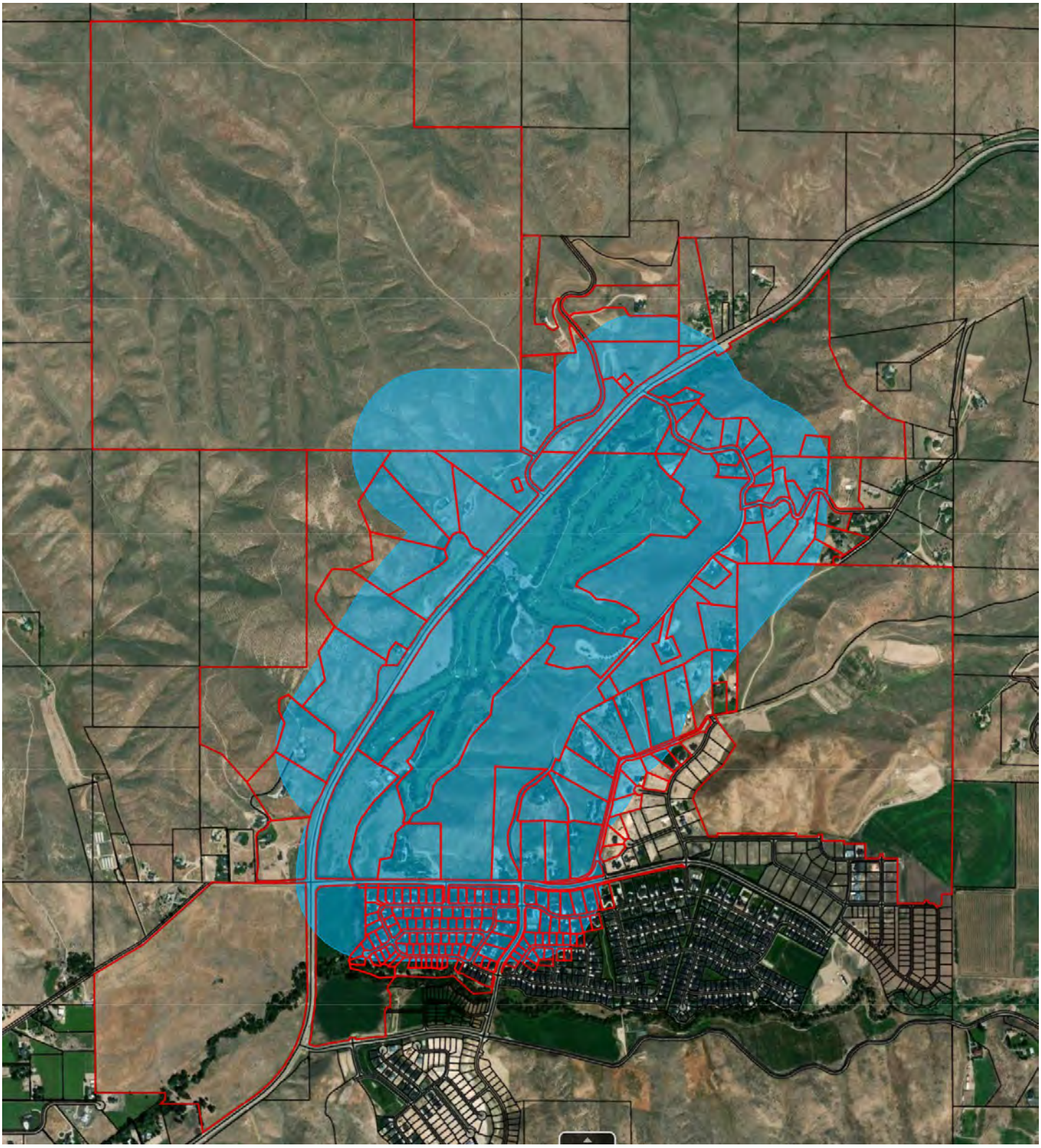
Horizontal Scale: 1" = 1600'

SHADOW VALLEY PLANNED COMMUNITY

Highway 55, ADA County, Idaho

File Location: g:\2020\120142\cad\120142 zoning plan.dwg
Last Plotted By: jyl glancy
Date Plotted: Thursday, December 19 2024 at 03:33 PM





Parcel	Property Owner	Owner Address	City, State, Zip
R1936011420	2002 REYES FAMILY TRUST	[redacted]	BOISE, ID 83714-0000
S0214140000	AMERICA FIRST FEDERAL CREDIT UNION	PO BOX 3183	OGDEN, UT 84409-0000
R1936020180	AMRINE JACALYN RENAE	[redacted]	BOISE, ID 83714-0000
R8079010065	ARCHIPELAGO REVOCABLE TRUST		LA JOLLA, CA 92037-0000
R1936031900	BALDWIN WAYNE K		BOISE, ID 83714-0000
R1936020200	BAREITHER LAURA		BOISE, ID 83714-0000
R1936010900	BARRY MICHAEL		BOISE, ID 83714-0000
R1936011140	BEACH TAMARA & DONALD LIVING TRUST		BOISE, ID 83714-0000
S0225142000	BHH INVESTORS 1414 LLC	923 S BRIDGEWAY PL	EAGLE, ID 83616-0000
R7824100300	BITNER JULIE	[redacted]	BOISE, ID 83714-9710
R1936020160	BLANDFORD MATHEW M		BOISE, ID 83714-0000
R7824100900	BOBZIEN KEVIN		BOISE, ID 83714-0000
S0225241325	BOEHM PATRICIA		BOISE, ID 83714-9641
R1936210400	BORS JUSTIN E		BOISE, ID 83714-0000
R7824100800	BRENNER ROBIN		BOISE, ID 83714-0000
R8079010086	BRITTON TIMOTHY SCOTT		BOISE, ID 83714-0000
R8037170010	BRODESSER LIVING TRUST		BOISE, ID 83714-0000
R1936010560	BROOKS TARA LYNN		BOISE, ID 83714-0000
R8079000080	BROOKSIDE ADVENTURES LLC	3931 N TRIPLE RIDGE PL	EAGLE, ID 83616-0000
S0235210751	BROOKSIDE DEVELOPERS INC	923 S BRIDGEWAY PL	EAGLE, ID 83616-0000
R8079020300	BUCHERT EVAN J	[redacted]	BOISE, ID 83714-0000
R1936011360	BUCKLES LINDSAY		BOISE, ID 83714-0000
R1936010880	BURBANK LIVING TRUST		BOISE, ID 83714-0000
R1936010440	BURKARD GLENN		BOISE, ID 83714-0000
R1936010320	BURNEY FAMILY TRUST		BOISE, ID 83714-0000
R1936011280	BUSCH HERBERT H III		BOISE, ID 83714-0000
R8079000015	BYNUM FAMILY TRUST		BOISE, OR 83714-0000
R1936210320	C & M TRUST		EAGLE, ID 83616-0000
R1936010240	CARRILLO DAVID		BOISE, ID 83714-0000
R1936011040	CASTOR TERRY W JR		BOISE, ID 83714-0000
R1936011540	CHADBAND LISA L LIVING TRUST		BOISE, ID 83714-0000
R1936020060	CHANCELLOR CHRISTOPHER & MARY LIV TRUST		BOISE, ID 83714-0000
R1936010160	CHRYSLER DEBBIE G FAMILY TRUST		BOISE, ID 83714-0000
R1936030500	CHURCH RACHELLE A		BOISE, ID 83714-0000
R1936031740	CLARKE MICHAEL & JENNIFER 2016 TRUST		BOISE, ID 83714-0000
R1936031020	COELHO G & L TRUST		BOISE, ID 83714-0000
R1936020140	COPELAND FAMILY TRUST		BOISE, ID 83714-0000
R8079000120	COYLE MICHAEL		BOISE, ID 83714-0000
R1936010400	CRAIG JEROME B JR		BOISE, ID 83714-0000
R1936011300	DADE ALLEN		BOISE, ID 83714-0000
R1936210340	D'ARCY JUSTIN		BOISE, ID 83714-0000
R1936011220	DAVIS ROBERT SCOTT		BOISE, ID 83714-0000
S0224427950	DEAN DANIEL GLENN- MICHAEL		BOISE, ID 83714-9633
R1936010620	DENNISTON ROBERT D		BOISE, ID 83714-0000
R1936030800	DORTCH ROBERT & DEBRA LIVING TRUST		BOISE, ID 83714-0000
R1936010940	DOWLING DAVID		BOISE, ID 83714-0000
R8079010035	DRILLING RICHARD DALE	PO BOX 5653	BOISE, ID 83705-0000
R1936010020	DRY CREEK RANCH HOA INC	2976 E STATE ST STE 120-327	EAGLE, ID 83616-0000
S0213110000	DUAL BENEFICIARY TRUST NO 8562	[redacted]	BOISE, ID 83714-0000
R1936020100	DUNCAN FAMILY TRUST		BOISE, ID 83714-0000
R1936011260	DUNN FAMILY TRUST		LIVERMORE, CA 94550-0000
R1936031920	DWG TRUST		BOISE, ID 83714-0000
R7824101000	EBERLE GAIL L STERBUTZEL		BOISE, ID 83702-0000
R1936010960	ECKEBRECHT PAUL		BOISE, ID 83714-0000
R8037170105	ELLIS DWAYNE J		BOISE, ID 83714-0000
R1936031040	ENDRIZZI FAMILY REVOCABLE TRUST		BOISE, ID 83714-0000
R1936011580	ERICKSON WILLIAM		BOISE, ID 83714-0000
R1936031680	EVANS MATTHEW J		BOISE, ID 83714-0000
R8079010087	EVERETT KENNETH		BOISE, ID 83714-0000
R8079010125	FARRENS NICHOLS TRUST		BOISE, ID 83714-0000
R1936031000	FAUSTINE DANA R		BOISE, ID 83714-0000
R8037170080	FITZSIMONS CONOR BEAU SEP SHARE FAMILY TRUST	PO BOX 667	EAGLE, ID 83616-0000
R1936011020	FOBEL FAMILY TRUST	[redacted]	BOISE, ID 83714-0000
R1936010280	FOCHT ERIC		BOISE, ID 83714-0000
R1936011380	FORE CHRISTOPHER		BOISE, ID 83714-0000
R1936011340	FOX RACHEL		BOISE, ID 83714-0000
R1936010080	FRAME FAMILY TRUST		BOISE, ID 83714-0000
R1936010800	FRANCISCO R T FAMILY TRUST		BOISE, ID 83714-0000
R1936031780	FRAZIER ERIN		BOISE, ID 83714-0000
R8079010032	FUHRIMAN ADAM		BOISE, ID 83714-0000
R1936010260	GARRISON ROBERT S		BOISE, ID 83714-0000

R1936031600	GESSAY RYAN	[redacted]	BOISE, ID 83714-0000
R1936010740	GIHRING RONALD & JILL REVOCABLE LIVING TRUST		BOISE, ID 83714-0000
R1936031080	GLICK TOM & CARMEL FAMILY TRUST		BOISE, ID 83714-0000
R8079000100	GRAMLING FAMILY TRUST		BOISE, ID 83714-0000
R1936210380	GRAY FAMILY TRUST		BOISE, ID 83714-0000
R1936011520	GRIFFIN GEOFFREY FORD		BOISE, ID 83714-0000
R1936011180	GRIGGS FAMILY TRUST		MERIDIAN, ID 83642-0000
S0226131605	GRIGGS THEODORE A		BOISE, ID 83704-0000
R1936032000	GROSS FAMILY LIVING TRUST		BOISE, ID 83714-0000
R1936011080	GRYCZKA CATHERINE		BOISE, ID 83714-0000
S0235212430	H O T 3 LLC	PO BOX 1335	MERIDIAN, ID 83680-0000
R8079010050	HAASE CELESTE	[redacted]	BOISE, ID 83714-0000
R8079010047	HAASE TRAVIS PAUL		BOISE, ID 83714-0000
R1936030780	HAEG TODD T		BOISE, ID 83714-0000
R8037170090	HAFER JEREMAI		BOISE, ID 83714-9721
R1936020280	HAMANN NICHOLAS J		BOISE, ID 83714-0000
R1936011460	HANOVER SCOTT V		BOISE, ID 83714-0000
R1936011160	HART LIVING TRUST		BOISE, ID 83714-0000
R1936011100	HAYES STEVEN L		BOISE, ID 83714-0000
R7824110100	HBH DEVELOPMENT LLC	3327 N EAGLE RD STE 110-148	MERIDIAN, ID 83646-0000
R1936011060	HEATH DAVID WHITING	[redacted]	PALM BEACH GARDENS, FL 33410-0000
R7824110200	HELSEL SIMONE		EAGLE, ID 83616-0000
R1936031620	HERNANDEZ WILLIAM D		BOISE, ID 83714-0000
S0225233110	HILLTOP HOMES IDAHO LLC	1880 N EMERALD BAY AVE	EAGLE, ID 83616-0000
R1936010340	HOGLE KEVIN ALLEN JR	[redacted]	BOISE, ID 83714-0000
R1936010660	HORN FAMILY TRUST		BOISE, ID 83714-0000
S0224212450	HORSESHOE BEND HILLS TIC LLC	3327 N EAGLE RD STE 110-148	MERIDIAN, ID 83646-0000
R8079000050	HUIZINGA MICHAEL	[redacted]	BOISE, ID 83714-0000
R8079010105	HULL SHANNON R		BOISE, ID 83714-9618
R8079000130	HUNTER JENNIFER E		BOISE, ID 83714-0000
R8079020500	HUNTER TRAVIS		BOISE, ID 83714-0000
R8037170030	HYPERION REVOCABLE TRUST		BOISE, ID 83714-0000
R1936011560	IFFLA JULIE REVOCABLE TRUST		BOISE, ID 83714-0000
R1936011200	INVERSO FAMILY TRUST		BOISE, ID 83714-0000
R1936210200	J & J TRUST		BOISE, ID 83714-0000
R8079010045	J BAR J LLC	3302 N GAVIOLA AVE	MERIDIAN, ID 83646-0000
S0224311105	JABLONSKI ED LIVING TRUST LIFE ESTATE	[redacted]	BOISE, ID 83714-0000
S0224314605	JABLONSKI EDWARD J LIFE ESTATE		BOISE, ID 83714-0000
R8079010100	JENSEN ROBERT L		BOISE, ID 83714-0000
R1936011400	JESKE CHERIANNE A		BOISE, ID 83714-0000
R1936010300	JOHNSON RYAN		BOISE, ID 83714-0000
R1936011480	JUDGE BRENDAN D		BURLINGAME, CA 94010-0000
R1936210160	KAUFMAN FAMILY TRUST		BOISE, ID 83714-0000
R1936010680	KAUFMAN REVOCABLE TRUST		BOISE, ID 83714-0000
R1936020260	KIMBRELL JON B	[redacted]	BOISE, ID 83714-0000
R7824100100	KINE & KINE PROPERTIES 401K	250 NW FRANKLIN AVE STE 401	BEND, OR 97703-0000
R8079000072	KOUBA NORMAN J	[redacted]	BOISE, ID 83714-9677
R1936031940	KRISTIANSEN DANIEL P		BOISE, ID 83714-0000
R1936020040	KROSHUS JEREMY C		BOISE, ID 83714-0000
R1936010580	KUHN SCOTT		BOISE, ID 83714-0000
R1936011320	LEUCK AARON		BOISE, ID 83714-0000
R8079010055	LOWE RALPH & SUSIE LIVING TRUST		BOISE, ID 83714-0000
R7824100700	LUCAS MATTHEW		BOISE, ID 83714-0000
R1936030760	LUCCHINI FAMILY TRUST		BOISE, ID 83714-0000
R8079010225	LUCILEROSE LLC	14070 DEERFIELD RD	MCCALL, ID 83638-0000
R8079010095	LYKE MARTHA	[redacted]	BOISE, ID 83714-0000
R1936010520	MARSHALL FAMILY TRUST		BOISE, ID 83714-0000
S0224314900	MARSTERS LARA LYNN		BOISE, ID 83714-0000
R1936210440	MARTINEZ AMANDA KELICE		BOISE, ID 83714-0000
R7824101100	MASONI HARRY J JR & ELIZABETH C FAMILY REV TRUST		BOISE, ID 83714-0000
S0224438420	MBP MANAGEMENT LLC	7852 W STACK ROCK DR	BOISE, ID 83714-0000
R1936010640	MCCANN NIKI D	[redacted]	BOISE, ID 83714-0000
S0224427900	MICIC LJUBOJE		MIDDLETON, ID 83644-0000
R1936011600	MILLER FAMILY TRUST		BOISE, ID 83714-0000
R1936030720	MILLER ROSS JAMES		BOISE, ID 83714-0000
R1936010720	MUNSON FAMILY TRUST		BOISE, ID 83714-0000
R8079000092	MUTHART LIVING TRUST		BOISE, ID 83714-0000
R1936030520	NELSON DAVID D		BOISE, ID 83714-0000
R1936010220	NEVILLE PAUL		BOISE, ID 83714-0000
R1936031060	NEWGARD JEFFREY K		BOISE, ID 83714-0000
R1936010480	NJ FAMILY TRUST		BOISE, ID 83714-0000
R1936020120	NOLLER APRIL		BOISE, ID 83714-0000
R1936010760	PAQUETTE SHAUN BRADLEY		BOISE, ID 83714-0000

R8079010062	PARACHUTE ADAMS LLC	531 S PINE ISLAND LN	BOISE, ID 83709-0000
R1936031760	PAYNE FAMILY LIVING TRUST	[redacted]	BOISE, ID 83714-0000
R1936011500	PEARSON PETER		BOISE, ID 83714-0000
R1936010980	PENE GREGORY J		BOISE, ID 83714-0000
R1936031700	PENNINO FAMILY TRUST		BOISE, ID 83714-0000
R8079020100	PINHEIRO DANIEL		BOISE, ID 83714-0000
R8079000110	PODOLAN DALE M		BOISE, ID 83714-9641
R8079010016	POPPELL DEREK C		BOISE, ID 83714-0000
R1936210360	PRESCOTT JAMES		BOISE, ID 83714-0000
S0224421466	RADOCHA DENNIS L		BOISE, ID 83714-9633
R8079010115	RASMUSSEN TIMOTHY J		BOISE, ID 83714-0000
R1936210420	REALMUTO PETER		BOISE, ID 83714-0000
R1936011120	REDDING STEVEN		BOISE, ID 83714-0000
R1936010180	REMUND FRANK		BOISE, ID 83714-0000
R1936020320	REVEL STEVEN		BOISE, ID 83714-0000
R1936031660	RIPPEY DANIEL SCOTT		BOISE, ID 83714-0000
R1936010920	SASO TRUST		BOISE, ID 83714-0000
R1936010600	SCHEURER MARTIN W		BOISE, ID 83714-0000
R1936020240	SCHIERER FAMILY LIVING TRUST		BOISE, ID 83714-0000
R8037170020	SCHULTZ BENJAMIN		BOISE, ID 83714-0000
R1936010120	SCHUMAN-FITCH ERIKA		BOISE, ID 83714-0000
R7824100200	SHADOW VALLEY ESTATES HOMEOWNERS ASSOCIATION INC	250 NW FRANKLIN AVE STE 401	BEND, OR 97703-2814
R1936011000	SHI XIAOMING	[redacted]	BOISE, ID 83714-0000
R1936010840	SHOEMAKER MAGGIE		BOISE, ID 83714-0000
R1936010040	SHORT ROBERT		BOISE, ID 83714-0000
R8079010110	SIELAFF BRANDY & BRAYDEN FAMILY TRUST		BOISE, ID 83714-0000
R1936010460	SIMS FAMILY TRUST		BOISE, ID 83714-0000
R1936010360	SKERSICK FAMILY TRUST		BOISE, ID 83714-0000
R1936031880	SKORINIS FAMILY TRUST		BOISE, ID 83714-0000
R1936010780	SMELTZER DAVID S & DENISE B REV LIVING TRUST		BOISE, ID 83714-0000
R8079000035	SMITH TERRY J		BOISE, ID 83714-0000
R1936010380	SORENSON FAMILY 2021 LIVING TRUST		BOISE, ID 83714-0000
R1936010820	SPRATT PAULA M		BOISE, ID 83714-0000
R8079010083	SPRING CREEK ROAD HOUSE LLC	7852 W STACK ROCK DR	BOISE, ID 83714-0000
R1936010100	SPRINKEL HERBERT M	[redacted]	BOISE, ID 83714-0000
R8079010096	STADLER JOE C		BOISE, ID 83714-0000
R7608140010	STADLER JOSEPH C		BOISE, ID 83714-9678
S0226449067	STONE CROSSING LLC	3931 N TRIPLE RIDGE PL	EAGLE, ID 83616-0000
R1936210180	STRAIN DEREK E	[redacted]	BOISE, ID 83714-0000
R1936010540	STRINGER KYLE T		BOISE, ID 83714-0000
S0224336400	SV GOLF LLC	250 NW FRANKLIN AVE STE 401	BEND, OR 97703-0000
S0213330000	SVP LLC	250 NW FRANKLIN AVE STE 401	BEND, OR 97703-0000
R8079000060	TARANTINO STEVEN	[redacted]	BOISE, ID 83714-0000
R7824101200	TAYLOR KYLE		BOISE, ID 83714-0000
R1936031800	THORPE BRITTNEY R		BOISE, ID 83714-0000
R1936031720	THREE SISTERS TRUST		BOISE, ID 83714-0000
R1936031960	TOEWS LOGAN		BOISE, ID 83714-0000
R8079010021	TROY GERALD		BOISE, ID 83714-0000
R1936030980	TRUST A UNDER EXCHANGE NO EX-19-14879	848 N RAINBOW BLVD # 2135	LAS VEGAS, NV 89107-0000
R8079010120	TUTTLE HEATHER D	[redacted]	BOISE, ID 83714-0000
R7824100600	URBAN HOMES LLC	880 S ISLAND GLENN PL	EAGLE, ID 83616-0000
S0224142200	USA (BUREAU OF LAND MANAGEMENT)	1387 S VINNELL WAY	BOISE, ID 83709-0000
R8079000045	VAN GINKEL FAMILY LIVING TRUST	[redacted]	BOISE, ID 83714-0000
R8079010010	VC HOLDINGS LLC	PO BOX 2621	EAGLE, ID 83616-0000
R1936020080	VITTONE STEVEN	[redacted]	BOISE, ID 83714-0000
R1936011240	VITTONE STEVEN L II		BOISE, ID 83714-0000
S0225325900	WALKER FAMILY TRUST		BOISE, ID 83714-0000
R1936031580	WALTER SHANE & KATHLEEN LIVING TRUST		BOISE, ID 83714-0000
R1936020340	WARD ALAN & LINDA LIVING TRUST		BOISE, ID 83714-0000
R1936010060	WATSON FAMILY TRUST		BOISE, ID 83714-0000
R1936010420	WHITAKER MICHAEL		BOISE, ID 83714-0000
R1936020300	WHITAKER TAMMY N		BOISE, ID 83714-0000
R1936031860	WHITMER KATHRYN		BOISE, ID 83714-0000
R1936010140	WINGETT DENISE G FAMILY TRUST		BOISE, ID 83714-0000
S0225325400	WOOD SUSAN P	PO BOX 6820	BIG BEAR LAKE, CA 92315-0000
R8079010005	WREGGELSWORTH ROBERT ALAN	[redacted]	BOISE, ID 83714-9659
S0224417209	WYLIE JAMES R		EAGLE, ID 83616-0000
R1936031640	YOUNG AARON P		BOISE, ID 83714-0000
R1936010700	ZICKER WESLEY KENNETH		BOISE, ID 83714-0000

ADA COUNTY

Ada County
200 W. Front Street
Boise, ID 83702
www.adacounty.id.gov

FOR IMMEDIATE RELEASE
February 24, 2025

Contact: Brianna Bustos
208-287-7901
bbustos@adacounty.id.gov

PUBLIC SERVICE ANNOUNCEMENT

(Media Outlets: The following announcement is intended to help notify Ada County residents of proposed development applications that will soon appear before the Planning and Zoning Commission or the Ada County Board of Commissioners. We appreciate any help you can provide in notifying your audience of these projects and public hearing dates.)

The Ada County Planning & Zoning Commission will hold a public hearing on March 13, 2025, at 6:00 p.m. in the Commissioners Main Hearing Room #1235, on the first floor, at 200 W. Front Street, Boise, ID to discuss **202402701-PC-CPA, SVP LLC**: A Planned Community Comprehensive Plan Map and Text Amendment for the Shadow Valley Planned Community, which will consist of approximately 395 homes on 560 acres. The subject property is generally located east of Highway 55 between Spring Creek Way and Brookside Lane, and west of Highway 55 north of High Valley Way within the Rural Residential (RR) and Rural Preservation (RP) Districts; Sections 13, 24, 25, 26, T.5N, R.1E.

Auxiliary aids or services for persons with disabilities are available upon request. Please call 208-287-7900 by 5:00 p.m. prior to this public hearing so that arrangements can be made.

Planner assigned to project: BRENT MOORE (208) 287-7998.

ADVERTISING PROOF

c/o ISj Payment Processing Center
PO Box 1570,
Pocatello,ID 83204
Ph. (208) 465-8129 **Fax:** (907) 452-5054

BILLING DATE:	ACCOUNT NO:
02/23/25	81006

Becky Alcala
1 Ada County Development Svcs
200 W Front St Second Floor
Boise, ID 83702

AD #	DESCRIPTION	START	STOP	TIMES	AMOUNT
610750	PH 3/13/2025 P&Z	02/25/25	02/25/25	2	$104.67

Payments:

Date	Method	Card Type	Last 4 Digits	Check	Amount

Discount: **$0.00**
Surcharge: **$0.00**
Credits: **$0.00**

Gross:**$104.67**
Paid Amount:**$0.00**

Amount Due:**$104.67**

We Appreciate Your Business!

610750

ADVERTISING PROOF

c/o ISj Payment Processing Center
PO Box 1570,
Pocatello,ID 83204
Ph. (208) 465-8129 **Fax:** (907) 452-5054

BILLING DATE:	ACCOUNT NO:
02/27/25	81006

Becky Alcala
1 Ada County Development Svcs
200 W Front St Second Floor
Boise, ID 83702

AD #	DESCRIPTION	START	STOP	TIMES	AMOUNT
612515	PH 3/13/2025 P&Z	03/01/25	03/01/25	2	$51.44

LEGAL NOTICE

NOTICE OF PUBLIC HEARING

Legal notice is hereby given that the Planning and Zoning Commission will hold a public hearing on **Thursday, March 13, 2025, at 6:00 p.m.** in the Commissioners Main Hearing Room #1235, on the first floor, 200 W. Front Street, Boise, ID, to hear a request for:

202402701-CPA-PC, SVP LLC: A Planned Community Comprehensive Plan Map and Text Amendment for the Shadow Valley Planned Community, which will consist of approximately 395 homes on 560 acres. The subject property is generally located east of Highway 55 between Spring Creek Way and Brookside Lane, and west of Highway 55 north of High Valley Way within the Rural Residential (RR) and Rural Preservation (RP) Districts; Sections 13, 24, 25, 26, T.5N, R.1E. Brent Moore, Senior Community & Regional Planner, at (208) 287-7998 or bmoore@adacounty.id.gov.

Staff Reports Available On-Line 5 Days before Hearing Date – adacounty.id.gov

Auxiliary aids or services for persons with disabilities are available upon request. Please call 287-7900 or 287-7979 (TDD) by 5:00 p.m. three days prior to this public hearing so that arrangements can be made.

PLANNING AND ZONING COMMISSION
Leon Letson
Community Planning Manager

March 1, 2025 612515

Payments:

Date	Method	Card Type	Last 4 Digits	Check	Amount

Discount: **$0.00**
Surcharge: **$0.00**
Credits: **$0.00**

Gross:**$51.44**
Paid Amount:**$0.00**

Amount Due:**$51.44**

We Appreciate Your Business!

AD# 612515

AD# 610750AD#

LEGAL NOTICE

NOTICE OF PUBLIC HEARING

Legal notice is hereby given that the Planning and Zoning Commission will hold a public hearing on **Thursday, March 13, 2025, at 6:00 p.m.** in the Commissioners Main Hearing Room #1235, on the first floor, 200 W. Front Street, Boise, ID, to hear a request for:

202402701-CPA-PC, SVP LLC: A Planned Community Comprehensive Plan Map and Text Amendment for the Shadow Valley Planned Community, which will consist of approximately 395 homes on 560 acres. The subject property is generally located east of Highway 55 between Spring Creek Way and Brookside Lane, and west of Highway 55 north of High Valley Way within the Rural Residential (RR) and Rural Preservation (RP) Districts; Sections 13, 24, 25, 26, T.5N, R.1E. Brent Moore, Senior Community & Regional Planner, at (208) 287-7998 or bmoore@adacounty.id.gov.

202500015-ZC-DA-CU-MSP, KIMLEY HORN & ASSOCIATES: Zoning Ordinance Map Amendment from the Rural-Urban Transition (RUT) to the Neighborhood Commercial (C1) District, a Development Agreement, Conditional Use, and Master Site Plan for Fuel Sales and a Retail Store (Circle K). Doug Holtom, Associate Planner, at (208) 287-7905 or dholtom@adacounty.id.gov.

202500168-CU-MSP, EAGLE RODEO: Conditional Use for a Commercial Riding Arena and Stable for the Eagle Rodeo. The property is generally located at 6500 W Chaparral Rd and contains 80.0 acres in the Rural Preservation (RP) District; Section 3, T.5N, R.1W. Amelia Haynes, Associate Planner, at (208) 287-5715 or ahaynes@adacounty.id.gov.

Staff Reports Available On-Line 5 Days before Hearing Date – adacounty.id.gov

Auxiliary aids or services for persons with disabilities are available upon request. Please call 287-7900 or 287-7979 (TDD) by 5:00 p.m. three days prior to this public hearing so that arrangements can be made.

PLANNING AND ZONING COMMISSION
Leon Letson
Community Planning Manager

February 25, 2025 610750

MEMORANDUM

ADA COUNTY DEVELOPMENT SERVICES

TO: Ada County Planning & Zoning Commission

FROM: Brent Moore, Senior Community & Regional Planner

DATE: March 13, 2025

RE: Project No. 202402701-PC-CPA

Commissioners,

Ada County Development Services requests Project No. 202402701-PC-CPA be tabled to the April 10, 2025, Planning & Zoning Commission Hearing, in order to allow transportation agencies and service providers additional time to review and provide comments on the application.

Exhibit 35
Page 1 of 1
202402701-PC-CPA

From:	Reighn, Chris
To:	Brent Moore
Cc:	Curtis, Jeffrey D; Kolts, Jaan R
Subject:	Re: [EXTERNAL] Ada County Application Transmittal Notice.
Date:	Tuesday, January 28, 2025 7:40:00 AM

CAUTION: This email originated from outside Ada County email servers. Do not click on links or open attachments unless you recognize the sender and know the content is safe. Verify the sender by mouse-hovering over their display name in order to see the sender's full email address and confirm it is not suspicious. If you are unsure an email is safe, please report the email by using the 'Phish Alert' button in Outlook.

Hello Brent,

Regarding the subject project (202402701-PC), the US Fish and Wildlife Service provides the following comments for your consideration.

Lepidium papilliferum (slickspot peppergrass) is a plant listed as threatened under the Endangered Species Act. This species occurs in southwest Idaho and nowhere else in the world.

The nearest known population to the project area is approximately 2 miles to the west. Given the proximity of known populations and general habitat characteristics, the project area is reasonably likely to be occupied by slickspot peppergrass. Please consider requiring surveys for slickspot peppergrass prior to any ground disturbing activities associated with the project.

If slick spots (unique habitats necessary for slickspot peppergrass to persist) or slickspot peppergrass are found, the US Fish and Wildlife Service would like to work with the project proponent to minimize impacts to this listed species.

Thank you for your continued interest in the conservation of threatened and endangered species. If you have any questions regarding these comments, please contact me.

Regards,

Chris Reighn
Biologist
U.S. Fish and Wildlife Service
Idaho Fish and Wildlife Office
Boise, Idaho
208-510-5426

From: Brent Moore <bmoore@adacounty.id.gov>
Sent: Monday, January 27, 2025 2:39 PM
To: mdewalt@adalib.org <mdewalt@adalib.org>; Jean Schaffer <jschaffer@adacounty.id.gov>; Street NameMail <streetnamemail@adacounty.id.gov>; Bryan Gilbert <bgilbert@adacounty.id.gov>; Zachary Walls <zwalls@adacounty.id.gov>; Shawn Rayne <srayne@adacounty.id.gov>; Zach Kirk

Your Safety • Your Mobility
Your Economic Opportunity

IDAHO TRANSPORTATION DEPARTMENT
P.O. Box 8028 • Boise, ID 83707-2028
(208) 334-8300 • itd.idaho.gov

January 29, 2025

Brent Moore
Senior Community & Regional Planner
200 W Front St
Boise, ID 83702

VIA EMAIL

Development Application	202402701-PC
Project Name	Shadow Valley Planned Community
Project Location	East of Hwy 55 between Spring Creek Way and Brookside Ln & West of Hwy 55 North of High Valley Way
Project Description	395 Residential Lots
Applicant	SVP LLC

The Idaho Transportation Department (ITD) reviewed the referenced application(s) and has the following comments:

1. ITD has received a copy of the Traffic Impact Study and has recently submitted a TIS revision request to Kittelson & Associates, Inc.
    a. The Department will continue working with the applicant, as well as agency partners, during the TIS review process.
2. ITD reserves the right to make further comments upon review of the submitted documents.

If you have any questions, you may contact me at 208-334-8377.

Sincerely,

Kendra Conder

Kendra Conder
Development Services Coordinator
Kendra.conder@itd.idaho.gov

PUBLIC WORKS DEPARTMENT
MAYOR: Lauren McLean | DIRECTOR: Stephan Burgos

To: Boise City Planning & Zoning
Ada County

Date: 2/3/2025

Re: 202402701-PC

East of Hwy 55 between Spring Creek Wy and Brookside Ln, and west of Hwy 55 north of High Valley Wy

CONDITIONS OF APPROVAL

SEWER CONDITIONS – Mike Sheppard (208-608-7504)
CITY OF BOISE SEWER IS NOT AVAILABLE

SEWER RATING – Rita DeYoung (208-608-7443)
CITY OF BOISE SEWER IS NOT AVAILABLE

STREETLIGHT CONDITIONS – Tom Marshall (208-608-7526)
NO COMMENTS

ENVIRONMENTAL REQUIREMENTS – Zach Conde (208-608-7530)
NO COMMENTS

SOLID WASTE – Gabe Brenner (208-608-7161)
NO COMMENTS

DRAINAGE/HILLSIDE – Andy Adams (208-608-7148)
NO COMMENTS

Mike Sheppard

MIKE SHEPPARD - PUBLIC WORKS

1445 N. Orchard St.
Boise ID 83706 • (208) 373-0550

Brad Little, Governor
Jess Byrne, Director

February 5, 2025

Brent Moore, Senior Community and Regional Planner
Ada County Development Services
200 W Front Street
Boise ID 83702
bmoore@adacounty.id.gov

Subject: Ada County Application Transmittal Notice_202402701-PC

Dear Mr. Moore:

Thank you for the opportunity to respond to your request for comment. While DEQ does not review projects on a project-specific basis, we attempt to provide the best review of the information provided. DEQ encourages agencies to review and utilize the Idaho Environmental Guide to assist in addressing project-specific conditions that may apply. This guide can be found at: *https://www.deq.idaho.gov/public-information/assistance-and-resources/outreach-and-education/*.

The following information does not cover every aspect of this project; however, we have the following general comments to use as appropriate:

1. AIR QUALITY

- Please review IDAPA 58.01.01 for all rules on Air Quality, especially those regarding fugitive dust (58.01.01.651), and trade waste burning (58.01.01.600-617).

- For new development projects, all property owners, developers, and their contractor(s) must ensure that reasonable controls to prevent fugitive dust from becoming airborne are utilized during all phases of construction activities per IDAPA 58.01.01.651.

- DEQ recommends the city/county require the development and submittal of a dust prevention and control plan for all construction projects prior to final plat approval. Dust prevention and control plans incorporate appropriate best management practices to control fugitive dust that may be generated at sites.

- Citizen complaints received by DEQ regarding fugitive dust from development and construction activities approved by cities or counties will be referred to the city/county to address under their ordinances.

- Per IDAPA 58.01.01.600-617, the open burning of any construction waste is prohibited. The property owner, developer, and their contractor(s) are responsible for ensuring no prohibited open burning occurs during construction.

  For questions, contact David Luft, Air Quality Manager, at (208) 373-0550.

2. WASTEWATER AND RECYCLED WATER

- DEQ recommends verifying that there is adequate sewer to serve this project prior to approval. Please contact the sewer provider for a capacity statement, declining balance report, and willingness to serve this project.
- IDAPA 58.01.16 and IDAPA 58.01.17 are the sections of Idaho rules regarding wastewater and recycled water. Please review these rules to determine whether this or future projects will require DEQ approval. IDAPA 58.01.03 is the section of Idaho rules regarding subsurface disposal of wastewater. Please review this rule to determine whether this or future projects will require permitting by the district health department.
- All projects for construction or modification of wastewater systems require preconstruction approval. Recycled water projects and subsurface disposal projects require separate permits as well.
- DEQ recommends that projects be served by existing approved wastewater collection systems or a centralized community wastewater system whenever possible. Please contact DEQ to discuss potential for development of a community treatment system along with best management practices for communities to protect ground water.
- DEQ recommends that cities and counties develop and use a comprehensive land use management plan, which includes the impacts of present and future wastewater management in this area. Please schedule a meeting with DEQ for further discussion and recommendations for plan development and implementation.

  For questions, contact Valerie Greear, Water Quality Engineering Manager at (208) 373-0550.

3. DRINKING WATER

- DEQ recommends verifying that there is adequate water to serve this project prior to approval. Please contact the water provider for a capacity statement, declining balance report, and willingness to serve this project.
- IDAPA 58.01.08 is the section of Idaho rules regarding public drinking water systems. Please review these rules to determine whether this or future projects will require DEQ approval.
- All projects for construction or modification of public drinking water systems require preconstruction approval.
- DEQ recommends verifying if the current and/or proposed drinking water system is a regulated public drinking water system (refer to the DEQ website at: https://www.deq.idaho.gov/water-quality/drinking-water/. For non-regulated systems, DEQ recommends annual testing for total coliform bacteria, nitrate, and nitrite.
- If any private wells will be included in this project, we recommend that they be tested for total coliform bacteria, nitrate, and nitrite prior to use and retested annually thereafter.
-

- DEQ recommends using an existing drinking water system whenever possible or construction of a new community drinking water system. Please contact DEQ to discuss this project and to explore options to both best serve the future residents of this development and provide for protection of ground water resources.
- DEQ recommends cities and counties develop and use a comprehensive land use management plan which addresses the present and future needs of this area for adequate, safe, and sustainable drinking water. Please schedule a meeting with DEQ for further discussion and recommendations for plan development and implementation.

  For questions, contact Valerie Greear, Water Quality Engineering Manager at (208) 373-0550.

4. SURFACE WATER

- Please contact DEQ to determine whether this project will require an Idaho Pollutant Discharge Elimination System (IPDES) Permit. A Multi-Sector General Permit from DEQ may be required for facilities that have an allowable discharge of storm water or authorized non-storm water associated with the primary industrial activity and co-located industrial activity.

  For questions, contact James Craft, IPDES Compliance Supervisor, at (208) 373-0144.
- If this project is near a source of surface water, DEQ requests that projects incorporate construction best management practices (BMPs) to assist in the protection of Idaho's water resources. Additionally, please contact DEQ to identify BMP alternatives and to determine whether this project is in an area with Total Maximum Daily Load stormwater permit conditions.
- The Idaho Stream Channel Protection Act requires a permit for most stream channel alterations. Please contact the Idaho Department of Water Resources (IDWR), Western Regional Office, at 2735 Airport Way, Boise, or call (208) 334-2190 for more information. Information is also available on the IDWR website at: https://idwr.idaho.gov/streams/stream-channel-alteration-permits.html
- The Federal Clean Water Act requires a permit for filling or dredging in waters of the United States. Please contact the US Army Corps of Engineers, Boise Field Office, at 10095 Emerald Street, Boise, or call 208-345-2155 for more information regarding permits.

  For questions, contact Lance Holloway, Surface Water Manager, at (208) 373-0550.

5. SOLID WASTE, HAZARDOUS WASTE AND GROUND WATER CONTAMINATION

- **Solid Waste.** No trash or other solid waste shall be buried, burned, or otherwise disposed of at the project site. These disposal methods are regulated by various state regulations including Idaho's Solid Waste Management Regulations and Standards (IDAPA 58.01.06), Rules and Regulations for Hazardous Waste (IDAPA 58.01.05), and Rules and Regulations for the Prevention of Air Pollution (IDAPA 58.01.01). Inert and other approved materials are also defined in the Solid Waste Management Regulations and Standards
- **Hazardous Waste.** The types and number of requirements that must be complied with under the federal Resource Conservations and Recovery Act (RCRA) and the Idaho Rules and Standards for Hazardous Waste (IDAPA 58.01.05) are based on the quantity and type of waste generated. Every business in Idaho is required to track the volume of waste generated, determine whether each type of waste is hazardous, and ensure that all wastes are properly disposed of according to federal, state, and local requirements.

- **Water Quality Standards.** Site activities must comply with the Idaho Water Quality Standards (IDAPA 58.01.02) regarding hazardous and deleterious-materials storage, disposal, or accumulation adjacent to or in the immediate vicinity of state waters (IDAPA 58.01.02.800); and the cleanup and reporting of oil-filled electrical equipment (IDAPA 58.01.02.849); hazardous materials (IDAPA 58.01.02.850); and used-oil and petroleum releases (IDAPA 58.01.02.851 and 852). Petroleum releases must be reported to DEQ in accordance with IDAPA 58.01.02.851.01 and 04. Hazardous material releases to state waters, or to land such that there is likelihood that it will enter state waters, must be reported to DEQ in accordance with IDAPA 58.01.02.850.
- **Ground Water Contamination.** DEQ requests that this project comply with Idaho's Ground Water Quality Rules (IDAPA 58.01.11), which states that "No person shall cause or allow the release, spilling, leaking, emission, discharge, escape, leaching, or disposal of a contaminant into the environment in a manner that causes a ground water quality standard to be exceeded, injures a beneficial use of ground water, or is not in accordance with a permit, consent order or applicable best management practice, best available method or best practical method."

  For questions, contact Matthew Pabich, Waste & Remediation Manager, at (208) 373-0550.

6. ADDITIONAL NOTES

- If an underground storage tank (UST) or an aboveground storage tank (AST) is identified at the site, the site should be evaluated to determine whether the UST is regulated by DEQ. EPA regulates ASTs. UST and AST sites should be assessed to determine whether there is potential soil and ground water contamination. Please call DEQ at (208) 373-0550, or visit the DEQ website https://www.deq.idaho.gov/waste-management-and-remediation/storage-tanks/leaking-underground-storage-tanks-in-idaho/ for assistance.
- If applicable to this project, DEQ recommends that BMPs be implemented for any of the following conditions: wash water from cleaning vehicles, fertilizers and pesticides, animal facilities, composted waste, and ponds. Please contact DEQ for more information on any of these conditions.

We look forward to working with you in a proactive manner to address potential environmental impacts that may be within our regulatory authority. If you have any questions, please contact me, or any of our technical staff at (208) 373-0550.

Sincerely,



Troy Smith
Regional Administrator

EAGLE FIRE DEPARTMENT

February 4, 2025

Brent Moore
Ada County Development Services
Senior Community & Regional Planner
200 W. Front St.
Boise, Idaho 83702

Reference: File #202402701-PC Shadow Valley Planned Community

The Eagle Fire Department has reviewed the above referenced applications. The following comments are from that review:

Standard Conditions of Approval

Fire hydrant locations and spacing shall be specified in Appendix C of the 2018 International Fire Code.

Fire hydrant locations and fire flows shall be approved and witnessed by the Eagle Fire Department prior to the issuance of building permits.

Please provide any agreement with neighboring addresses for water services that will be provided.

The minimum inside/outside turn radius for fire department apparatus shall be 28'/48'.

The Eagle Fire Department does not support private roads with a drivable road surface less than 32' wide.

A detailed plan for the secondary access road on the west development shall be included on the final construction plans. It shall be engineered to withstand 80,000lbs, an all-weather drivable surface, at least 20ft minimum width, maintained, and clearly marked for use with signage.

Roads in this development shall not exceed a 10% grade.

Cul-de-sacs shall be a minimum of 100' across and maintain a 28'/48' turn radius with no obstructions. No parking signs may be required depending on the cul-de-sac drive isle width.

Where private entry gates are located on Fire Department Access Roads, a Knox Box Key Switch and Opticom Light Sensor shall be installed. Gates shall be installed so there is a clear 20' opening free from obstruction and shall be roll back or side hinged. Secondary emergency access gates are to have an approved Eagle Fire Department pad lock provided by the owner/developer. These shall be installed and approved prior to the issuance of building permits.

E A G L E F I R E D E P A R T M E N T

As the trees that are planted mature, they shall have to be maintained to insure minimum vertical clearance of 13’6’ above street or road level.

Landscaping shall be planted far enough away from fire hydrants so that when the landscape matures, a 3 clear space is maintained around the circumference of the fire hydrant.

Dead end fire apparatus access roads or driveways in excess of 150’ shall be provided with a turnaround in accordance with Appendix D of the International Fire Code.

All street signage shall be installed and approved by the Eagle Fire Department prior to the issuance of building permits.

No Parking Fire Lane signs as specified in Section D103.6 shall be posted on both sides of fire apparatus access roads that are 20 — 26 feet wide. They shall be posted on one side of fire apparatus access roads more than 26 feet wide and less than 32 feet wide. Where signs are posted on one side of the road with fire hydrants present, they shall be posted on the fire hydrant side of the road.

The applicant will need to submit a complete set of site and construction plans for review and approval prior to construction.

Please contact me if you have any questions or concerns.

John Francesconi
Division Chief/Deputy Fire Marshal
Eagle Fire Department



ADA COUNTY
DEVELOPMENT SERVICES

200 W. FRONT STREET, BOISE, IDAHO 83702-7300 PHONE (208) 287-7900
https://adacounty.id.gov/developmentservices FAX (208) 287-7909

BUILDING • COMMUNITY PLANNING • ENGINEERING & SURVEYING • PERMITTING

MEMORANDUM

DATE: 2/4/2025

RE: 202402701-PC SVP LLC

TO: **Brent Moore, MCMP, AICP,** Senior Community & Regional Planner

FROM: Bryan Gilbert, Building Official

Summary of Project:
A Planned Community Comprehensive Plan Map and Text Amendment for the Shadow Valley Planned Community, which will consist of approximately 395 homes on 560 acres within the Rural Residential (RR) and Rural Preservation (RP) Districts.

Findings:
The Building Division has no objection to A Planned Community Comprehensive Plan Map and Text Amendment for the Shadow Valley Planned Community.

Conditions:
However, the applicant should be aware a building permit will be required for all new structures over 200sf. This area is in the wildland urban interface. All structures shall comply with the 2018 Wildland Urban Interface Code. A fire protection plan will be required for the subdivision.

Conclusion:
Approved as noted above.

Bryan Gilbert
Building Official/CBO
Ada County Development Services
200 W. Front St., Boise, ID 83702
(208) 287-5717 *office*
(208) 287-7909 *fax*
bgilbert@adacounty.id.gov

February 13, 2025

Brent Moore
Senior Community and Regional Planner
Ada County Development Services
200 West Front Street
Boise, ID 83702

Re: 202402701-PC - Comprehensive Plan Text and Map Amendment
for the Shadow Valley Planned Community

Dear Mr. Moore,

Thank you for the opportunity to provide comments on this development application.

The applicant is seeking Comprehensive Plan Text and Map Amendment for a Planned Community to allow approximately 395 residences on 560 acres. This land, located outside any city limits, is currently designated for low-density rural development—one home per 10 acres (RR zone) and one per 40 acres (RP zone). It also includes sensitive areas, such as the Wildland Urban Fire Interface (WUFI) and Hillside Overlays.

The City of Boise recommends denying this application due to the following long-term adverse impacts on both county and city residents:

- **Land Use**: The City of Boise continues to believe that development of this intensity should be limited to existing cities where infrastructure exists to accommodate this level of development.
- **Emergency Services:** North Ada County Fire and Rescue (NACFR) and the Ada County Sheriff's Office would serve this development, but they are already assisted by the City of Boise and City of Eagle's emergency services. Increased population in this area would strain municipal resources, creating an undue burden on emergency responders.
- **Fire Risk:** The site is located within the Wildland Urban Fire Interface (WUFI), increasing wildfire risk to residents and first responders. Development in fire-prone areas adds to fire fuel loads and complicates evacuation efforts and emergency response, further stressing regional firefighting resources.
- **Transportation:** The development, primarily accessed via Highway 55, is expected to generate 3,575 daily trips, with peak-hour traffic adding strain on regional roadways. The Traffic Impact Study identifies numerous intersections requiring mitigation. Without transit service, nearly all trips will rely on single-occupancy vehicles, worsening congestion and increasing transportation system demands.

- **Wastewater and Groundwater Management:** The proposed use of individual septic systems in Foothill Estates West and a sanitary sewer with wastewater treatment in Golf Course Estates East raises significant environmental and infrastructure concerns, especially given the development's reliance on community wells for drinking water. Septic systems in the foothills risk groundwater contamination, hillside instability, and long-term maintenance challenges, while the wastewater approach complicates oversight and future service needs.
- **Wildlife Habitat:** The site lies within a migration corridor for deer and elk, impacting a finite natural resource that provides economic and environmental benefits to the Treasure Valley. The loss of contiguous open space should be carefully considered in land-use decisions.

As the Treasure Valley continues to grow it is critical to ensure that development is fiscally responsible and sustainable. The city believes these lands are best suited under Ada County's Rural Residential (RR) and Rural Preservation (RP) zoning designations and should not be developed beyond these densities. We believe Ada County should deny this application to protect sensitive lands and uphold responsible growth policies.

Thank you in advance for your consideration of our comments. Please do not hesitate to call should you have questions or need additional information.

Sincerely,



Shawn Wilson
Director of Planning and Development Services
City of Boise

[EXTERNAL] Re: 202402701-PC-CPA (Shadow Valley Planned Community)

SC Stephen Chrysler <[redacted]
To Brent Moore

Debbie and Stephen Chrysler
[redacted]
Boise, Idaho 83714

February 16, 2025

Brent Moore
Ada County Developmental Services
200 W. Front St
Boise, ID 83702

Dear Mr. Moore:

We object to the attempt by Stone Crossing and the developers of the above Planned Community to change the zoning of the land just north of West Brookside from Rural Residential to Neighborhood Commercial/Civic Zone.

The simple reason why we object to the development and the change in zoning is that we currently live in a residential neighborhood, and we want to keep it residential. We do not want the noise and crowds of a commercial center and a bus parking lot.

The more complicated reason is the past and present owners of Stone Crossing/Underhill Garden have come before you and the Planning & Zoning Commission and have made all sorts of requests and received all sorts of permissions to do things to their property and they have yet to complete or comply with anything. They were to expand and pave their parking lot. After 4 years it has not been done. They were to have a lighting plan. After 4 years they still do not have a lighting plan. They still have ugly style 30 ft stadium lighting. They were to have a landscape plan. But, after 4 years, they do not have an approved landscape plan. In fact, they ripped out mature trees and made the landscape worse. They have ripped out a fence that hid old sheds and debris and, again, made the property look worse. They have graded dirt roads that now wash rocks and mud into West Brookside. They have made what some call a beautiful property into a trashy eyesore that detracts from the neighborhood.

To add insult to injury for almost four years they have used amplified music that is so loud the back windows of our house shake. When they do not stop at 10 pm we have to call the sheriff's office. They have only turned the music down recently because one of our neighbors became so tired of Stone Crossings' abusive behavior, they said they would get together with other neighbors to get an amplified music system and, if Stone Crossing played amplified music, we would play obnoxious amplified music to drown out their sound.

When Stone Crossing had events that were too large for the parking lot to accommodate the event their guests would park behind our house and block the bicycle lane. I informed ACHD about it and they put no parking signs behind my house.

When Stone Crossing receives deliveries, the delivery trucks often honk their horns to try to get someone to receive the delivery.

For the above reasons we ask you to deny Stone Crossing's and Shadow Valley Planned Community application to change the zoning of the land just north of West Brookside from Rural Residential to Neighborhood Commercial/Civic Zone.

But if you and the Planning and Zoning commission still want to approve the proposed zoning change please do so long as the applicant makes measures to mitigate the negative impacts. Debbie and Stephen ask for prohibition on the use of amplified music at any time as a condition of approval. We ask for the removal of stadium lights as a condition of approval. Also, we ask for limitation of the hours of operation of any commercial operations in the commercial zone. Finally, we ask for restrictions on idling buses and trucks and restrictions on the use of horns in the proposed commercial/civic zone.

Thank you,

Stephen Chrysler Debbie Goodrich Chrysler

[redacted]

I have sent you pictures of the parking lot which they have removed the mature trees and now have exposed rebar. It has been unfished for almost a year.

I have also sent you some pictures of the ugly sheds that used to be hidden by a solid fence per code, but the owners of Stone Crossing removed.


CLOSED
FOR
PRIVATE
EVENT








AGL
13
64
15E












STONE
CROSSING







P.O. Box 8261 | Boise, ID 83707 | www.goldeneagleaudubon.org

GOLDEN EAGLE
AUDUBON SOCIETY

February 24, 2025

TO: Brent Moore, MCMP, AICP
Senior Community & Regional Planner
Ada County Development Services
200 W. Front St., Boise, ID 83702
bmoore@adacounty.id.gov

RE: **File Number:** 202402701-PC, A Planned Community Comprehensive Plan Map and Text Amendment for the Shadow Valley Planned Community

Dear Mr. Moore,

I am writing to submit comments on behalf of Golden Eagle Audubon Society (GEAS) on the Planned Community Comprehensive Plan Map and Text Amendment for the Shadow Valley Planned Community.

Golden Eagle Audubon Society is a local 501(c)(3) non-profit organization founded in 1972, based in Boise, and represents more than 1,500 members and the counties of Ada, Elmore, Canyon, Owyhee, Washington, Payette, Gem, and Boise. Our mission is to build an understanding, appreciation, and respect for the natural world to conserve and restore natural ecosystems for birds and other wildlife.

Many of our members have a close connection with the proposed development area, since, collectively, we have spent many hours birding at nearby locations, including Foothills Park of Avimor. This is considered to be a birding hotspot with many species, which highlights the need to provide habitat and wildlife protection in this area.

We were happy to read that the developer is taking habitat and wildlife concerns into a number of considerations, including fencing type, the preservation of habitat areas, and certain HOA rules and regulations banning plants harmful to wildlife. However, we still feel there are a number of concerns that need to be considered before this project is fully approved.

First, many of the application materials state that more analyses is needed including studies that will gather information about a potential wetland in the proposed area, about the presence of Aase's onions, a rare plant, and whether this area hosts slickspot peppergrass, a species designated as threatened under the Endangered Species Act. We ask that these analyses be completed before approval, and that the wetland analysis be completed according to Army Corps of Engineer standards.

We also ask that special consideration is given to habitat that may be particularly valuable to wildlife. As stated before, we have spent hours birding nearby. Both year-round avian residents as well as summer migrants have been found in the area surrounding the proposed development, leading to a reasonable assumption they could be found within the site as well. A number of the species likely rely on the habitat features now available to them. Riparian corridors support diverse wildlife and a diverse number of birds throughout the year. A larger number of different bird species has been found in riparian area hotspots nearby, including various types of wrens, warblers, and flycatchers, and species such as the Blue-Gray Gnatcatchers. Open areas with sagebrush and bitterbrush are also important in supporting a number of bird species that have been found in this area, including the Common Nighthawk, Brewer's Sparrow, Western Meadowlark and Lazuli Bunting.

Golden Eagle Audubon would like to see the riparian corridor left intact, and open areas maintained to the extent possible. Additionally, we request that, before issuing final decisions, the suggested proper analyses are carried out, as seems to be planned for Spring of 2025, so we can give greater consideration to the bird, wildlife and habitat impacts of developing this area.

Finally, we request a number of the proposed regulations in the pending Zoning Ordinance Text Amendment, **File Number:** 202402581-ZOA, be applied to this project. Specifically, regulations in Chapter 2, Section 8-2-25, which are designed to minimize the spread of wildfire, and those in Chapter 3, Section 8-3-5 E., that require water conservation and green infrastructure in new developments; Section 8-3-7 that encourage the use of native plants in landscaping and retention of existing vegetation; Section 8-3-8 that reduce the adverse impacts of lighting on migrating birds; and Section 8-3-9 requirements for open space. We would further like to see development standards for windows to reduce bird collisions required for homes in the community, and a requirement to control pets, including cats, at all times (fenced yard, "catio", kept indoors, kenneled, leashed, etc.).

Golden Eagle Audubon Society appreciates the opportunity to comment on the Planned Community Comprehensive Plan Map and Text Amendment for the Shadow Valley Planned Community. Please consider our organization a no-cost consultant ready to advise on bird safety aspects of building design for new construction. Contact us at any time; we are delighted to help. Thank you for considering the conservation of birds and other natural resources in this development.

Thank you for your time,



Cynthia Wallesz
Executive Director
cwallesz@goldeneagleaudubon.org

From: [redacted]
To: Brent Moore
Cc: [redacted]
Subject: [EXTERNAL] Request for Confirmation on Meeting Date and Expressing Concerns About Local Development 202402701-PC | Shadow Valley
Date: Thursday, February 27, 2025 3:06:23 PM

Hi Brent,

I hope this message finds you well. Could you confirm if the meeting is still scheduled for March 13, as previously discussed?

Additionally, I want to formally express my concerns regarding the proposed usage of the area marked 'FR' west of Hwy 55. This property borders mine, and I strongly advocate for the preservation of Rural Residential zoning to maintain the character of our 15-home neighborhood, Sombra Canyon. Allowing the development of small (1-acre) lots would be a significant departure from the existing community standards and would be very disappointing.

I also urge the approving body to implement light pollution mitigation measures for the entire development. The current lighting from the Golf Course is overly bright and significantly disrupts the natural darkness of the area. I hope that these lights will be replaced or upgraded to be less intrusive.

Lastly, I request that safety improvements be made at the Golf Course entrance across from our driveway. Enhanced paint markings and reflectors are necessary to address the safety risks posed by aggressive drivers, particularly those turning left onto Hwy 55.

Thank you for addressing these issues.

Best regards,

Ben

From: [redacted]
To: Brent Moore
Subject: objection to application #202402701-PC Monday,
Date: March 3, 2025 11:33:44 AM

Dear Brent Moore,

I am writing this email to express my strong objections to the re-zoning application #202402701-PC submitted by owners of the Stone Crossing. I bought my house in this area because it was zoned rural residential. Rezoning of this to Commercial will result in unwanted noise and crowds stemming from the proposed commercial center and bus parking lot. I live in a residential neighborhood and wish it to remain quiet and peaceful.

However, if the zoning is changed against all of the Dry Creek Ranch (DCR) neighbor's objections, I respectfully request that the following contingencies be required: 1) eliminate the big-box style of commercial lighting for something more reflective of the rural environment, 2) finish the existing parking lot, 3) stop all amplified music (which is a terrible noise nuisance) and only allow acoustic music to be played outdoors, 4) require that the owner build sufficient parking on Stone crossing property so that their customers don't park behind DCR resident's houses, and 5) place reasonable hours of operation for the proposed strip mall (example 8AM - 7 PM).

I sincerely hope you will consider my requests.

Thank you,

Denise Wingett
[redacted]
Boise, ID 83714

--
Denise Wingett, Ph.D.
Professor, Dept. of Biological Sciences
Director, Biomolecular Sciences PhD Program
Boise State University
1910 University Dr.
Boise, ID 83725
tel: (208) 426-2921
fax: (208) 426-1040
<denisewingett@boisestate.edu>

Brent Moore

From: Paul Neville <[redacted]>
Sent: Tuesday, March 4, 2025 7:37 PM
To: Brent Moore
Subject: [UNKNOWN SENDER] [EXTERNAL] Concerns about application 202402701-PC

CAUTION: This email originated from outside Ada County email servers. Do not click on links or open attachments unless you recognize the sender and know the content is safe. Verify the sender by mouse-hovering over their display name in order to see the sender's full email address and confirm it is not suspicious. If you are unsure an email is safe, please report the email by using the 'Phish Alert' button in Outlook.

Hi Brent,

My name is Paul Neville. I am a resident of Dry Creek Ranch and received a notice about the proposed Shadow Valley Planned Community and I have some concerns.

I know that growth is inevitable in this area, especially residential growth as it is a very nice place to own a home, however I am very concerned and opposed to the proposed commercial properties for this development.

My house backs up to Brookside road (My house is [redacted]) and so the commercial properties for the development will be directly behind my house. Had I known that one day there would be commercial properties directly behind my house there is no way I would have built my house where it is. Please!! We need to limit any growth to just residential!!! Commercial properties have many negative consequences for a neighborhood and it would be really sad and unfortunate for many of the residents of Dry Creek Ranch if you allow commercial property to be built in such close proximity to our neighborhood.

Thanks for your consideration, unfortunately I will be unable to attend the meeting on March 13. Please let me know if there is anything else I can do to voice my concern or to help stop commercial property from being built directly behind my house. Thanks.

Paul Neville
[redacted]

Brent Moore

From: Gail Skersick <s[redacted]>
Sent: Tuesday, March 4, 2025 3:15 PM
To: Brent Moore
Subject: [UNKNOWN SENDER] [EXTERNAL] Expansion of Shadow Valley Golf Course & Stone Crossing

CAUTION: This email originated from outside Ada County email servers. Do not click on links or open attachments unless you recognize the sender and know the content is safe. Verify the sender by mouse-hovering over their display name in order to see the sender's full email address and confirm it is not suspicious. If you are unsure an email is safe, please report the email by using the 'Phish Alert' button in Outlook.

Dear Mr. Moore,

My name is Gail Skersick. I and my family live at [redacted]. Boise, ID 83714. This is regarding my concerns about the building of a bus parking lot behind my home and changing the zoning to commercial.

1. How big will the parking lot be?

2. How many buses are are going to be using this facility a day?

3. Are these buses going to use Brookside Ln. or Spring Creek Way (on the golf course side) to enter and exit?

4. How much pollution is anticipated from

- buses, cars (fumes)
- Noise
- Lighting of lot

5. Is it going to be lit like a car lot, all night until early morning?

6. Is this parking lot going to be in view of the residents on Mirror Pond?

7. The future planned elongated lane for a future bus stop will add to the congestion that you have already planned.

I think this bus parking lot, to be built across the street from a residential neighborhood, is a bridge to far. There only is a two lane road separating a residential neighborhood and the property you are proposing to build on. Spring Creek and Brookside will become so congested when the buses leave and return along with traffic from residents and construction vehicles who use it now. This parking lot should be built in a real commercial area where these concerns would not matter

We bought in Dry Creek 5 years ago for a quiet place to live and enjoy some nature and not to hear school buses all day and lights all night. I am fighting stage 4 cancer and my immune system is compromised and this will only compromise it more. We had no idea they would want to change the zoning from rural to commercial.

Please rethink the location of this bus parking lot. I am sure there must be some other location that could accommodate this parking lot that is not across the street from my home and my neighbors on Mirror Pond Dr.

Respectfully,

Gail Skersick

Brent Moore

From: BLAKE J LINDA L WATSON [redacted] >
Sent: Wednesday, March 5, 2025 1:30 PM
To: Brent Moore
Subject: [EXTERNAL] Application 202402701-PC-CPA, SVP LLC

CAUTION: This email originated from outside Ada County email servers. Do not click on links or open attachments unless you recognize the sender and know the content is safe. Verify the sender by mouse-hovering over their display name in order to see the sender's full email address and confirm it is not suspicious. If you are unsure an email is safe, please report the email by using the 'Phish Alert' button in Outlook.

Brian,

RE: SHADOW VALLEY PLANNED COMMUNITY

We are writing with regards to the application for Shadow Valley Planned Community. We are opposed to the project as presented. As a concerned homeowner in Dry Creek Ranch Subdivision, we have identified several concerns/key issues surrounding the project represented by The Land Group, Inc. It is essential to address these concerns to ensure the well-being, character and quality of life for the residents of our neighborhood. As well as others that will be impacted by the proposal. Below is a list of our concerns and reasons for opposition:

Traffic Impact

The traffic to the area during construction and afterward will be substantial for a subdivision with only one entrance on the south side and another on the north side. The south entrance already accommodates approximately 480 homes daily, not including contractors. Dry Creek is approved to accommodate over 1800 homes upon completion. This growth alone will increase traffic, exacerbate congestion, noise, and pose safety risks for residents.

Preservation of Natural Environment

The natural hills and habitat for wildlife in the area must be preserved. The development could potentially disrupt local ecosystems and negatively affect the native flora and fauna. Maintaining the natural landscape is crucial for the environmental health and aesthetic value of the community. The rural nature of the area (foothills, views, open settings, etc.) playing considerably into our decision and others to live in Dry Creek Ranch.

Fire and Water Issues

The area surrounding the proposed development has existing fire and water issues. Any new construction could strain existing resources and exacerbate these problems, putting residents at higher risk.

Current Commercial Impact

The Stone Crossing commercial development has already brought **noise** and traffic issues to the area, negatively affecting homeowners. Allowing further commercial expansion within a residential neighborhood is

poor planning and will worsen these issues. Any future commercial development should be developed to the west and closer in proximity to Hwy-55, not rezoned in a residential setting. Creating a proper buffer between commercial (and its associated impacts) and residential is essential to maintaining the look and feel of Dry Creek Ranch and the contiguous areas.

Proximity to Highway 55

Highway 55 is approximately a quarter mile west of the proposed development. This location is more suitable for commercial projects, as it can better accommodate the increased traffic and reduce the impact on residential areas.

In conclusion, we urge the decision-makers to consider these critical points and **prioritize the interests of the homeowners.** Thoughtful planning and community engagement are essential to ensure the sustainable development of our neighborhood.

Please verify receipt of this email. Thank you for opportunity to comment of the application.

Respectfully,

Blake & Linda Watson
[redacted]

Brent Moore

From: Ef Bernee <e[redacted]>
Sent: Wednesday, March 5, 2025 5:24 PM
To: Brent Moore
Subject: [UNKNOWN SENDER] [EXTERNAL] 202402701-CPA

CAUTION: This email originated from outside Ada County email servers. Do not click on links or open a. achments unless you recognize the sender and know the content is safe. Verify the sender by mouse-hovering over their display name in order to see the sender's full email address and confirm it is not suspicious. If you are unsure an email is safe, please report the email by using the 'Phish Alert' button in Outlook.

Hello Mr. Moore,
My name is Emmett Burney and I live at [redacted], Boise.
It has been brought to my attention that there are plans for residential properties directly to the north of mine. I received a notice from your office and attended a meeting at the Shadow Valley Golf Course clubhouse. That meeting detailed the upcoming housing development and road improvements that are in the works. The meeting did not however mention anything about commercial development of these areas. I understand that this area is zoned for residential development and I'm not in opposition to responsible development of low density neighborhoods. I am not in favor of a zoning change that would allow the construction of commercial projects to be built in our rural area. Boise Hunter Homes has billed this neighborhood as an equestrian friendly and farm to table area. I'm sure that there was much discussion and planning between your agency and BHH regarding the desired character of this community. A zoning change and commercial development of the adjacent properties would fundamentally alter the original plan for Dry Creek Ranch.
I am looking forward to attending the hearing and lending my support to the others in our neighborhood that are in opposition to these plans.

Thank you, Emmett Burney
Sent from my iPhone

Brent Moore

From: Shawn Rayne
Sent: Monday, March 10, 2025 8:57 AM
To: Brent Moore
Subject: RE: Shadow Valley Planned Community

Brent,

The secondary access would work for us as well if John feels it would work for them.

Thanks,

Shawn

From: Brent Moore <bmoore@adacounty.id.gov>
Sent: Monday, March 10, 2025 8:53 AM
To: Shawn Rayne <srayne@adacounty.id.gov>
Subject: Shadow Valley Planned Community

Hi Shawn,

I'm working on my staff report for the Shadow Valley Planned Community (attached) and wanted to know if you felt this was something Ada County Paramedics would be able to service. I'm particularly interested in your thoughts on the northern portion of the development accessed from High Valley Way.

While the applicant is proposing 89 new homes in this area, John Francesconi from Eagle Fire has indicated that only 20 additional homes would be allowed here until a secondary access is provided. The applicant has proposed a secondary access to the north (second attachment) which John will soon be driving with the applicant to see if it would meet Eagle Fire's requirements. If this secondary access were to be approved by Eagle Fire, would it also work for Ada County Paramedics, or would you want to look at this further?

Thanks.

Brent Moore, MCMP, AICP
Senior Community & Regional Planner
Ada County Development Services
200 W. Front St., Boise, ID 83702
bmoore@adacounty.id.gov
(208) 287-7998

Exhibit 51
Page 1 of 1
202402701-PC-CPA

Brent Moore

From: Justin Wright
Sent: Monday, March 10, 2025 2:11 PM
To: Brent Moore
Subject: Re: Shadow Valley Planned Community

Hi Brent,

A second entrance is definitely needed. After looking at the plans, the proposed additional access would work for us if it worked for Eagle Fire, providing its an actual roadway with at least two lanes. The concern along that entire area is the limitation of Hwy 55 and alternate routes if the highway is shut down for a significant time period. I included Travis Ruby, who is the Eagle Police Chief, in case he had any additional comments since unincorporated county and Eagle City significantly overlap in that area now.

Let us know what else we can be of assistance with and thank you for the care y'all take in planning growth.

Lieutenant Justin Wright
Patrol Division
Police Services Bureau
7200 Barrister Dr., Boise, ID 83704
Office: (208) 577-3848
Cell: (208) 573-7425
justinwright@adacounty.id.gov
"We make safer places for you to live, work, and play."

From: Brent Moore <bmoore@adacounty.id.gov>
Sent: Monday, March 10, 2025 8:55 AM
To: Justin Wright <justinwright@adacounty.id.gov>
Subject: Shadow Valley Planned Community

Hi Justin,

I'm working on my staff report for the Shadow Valley Planned Community (attached) and wanted to know if you felt this was something the Ada County Sheriff would be able to service. I'm particularly interested in your thoughts on the northern portion of the development accessed from High Valley Way.

While the applicant is proposing 89 new homes in this area, John Francesconi from Eagle Fire has indicated that only 20 additional homes would be allowed here until a secondary access is provided. The applicant has proposed a secondary access to the north (second attachment) which John will soon be driving with the applicant to see if it would meet Eagle Fire's requirements. If this secondary access were to be approved by Eagle Fire, would it also work for the Ada County Sheriff, or would you want to look at this further?

Thanks.

ADA COUNTY
DEVELOPMENT SERVICES

200 W. FRONT STREET, BOISE, IDAHO 83702-7300 PHONE (208) 287-7900
https://adacounty.id.gov/developmentservices FAX (208) 287-7909

BUILDING • COMMUNITY PLANNING • ENGINEERING & SURVEYING • PERMITTING

DATE: 3-31-2025
TO: Brent Moore, MCMP, AICP, Senior Community & Regional Planner
CC:
FROM: Zach Kirk, P.E. County Engineer
REGARDING: Shadow Valley Planned Community
FILE NO: 202402701 - PC

The following are engineering comments related to this application. These comments could be incorporated into terms of approval at later stages of the planned community application process:

1. Please submit an addendum to the Water Facility Plan identifying the groundwater level drawdown and horizontal distance of the influence zone at full project development.

2. One acre lots with septic systems can be problematic. DEQ will most likely require a Nutrient Pathogen Evaluation for one acre lots and one acre lots typically cannot meet the required criteria using a typical septic system. In these cases, the owner will most likely need to install an individual secondary treatment system which is costly for homeowners to maintain. Most septic systems on lots that are 5 acres or larger typically do not need the costly treatment systems.

April 3, 2025

ADA County Development Services
Brent Moore, MCMP, AICP
Senior Community and Regional Planner
200 W. Front St.
Boise, Idaho 83702

Reference: File # 202402701-PC Secondary Access Road Comments

Mr. Moore,

The Eagle Fire Department has reviewed emails related to the secondary access road in the Shadow Valley Planned Community between Avimore and Kine and Kine Properties. It appears that there is an agreement in the process between the two parties for the secondary access road. The Eagle Fire Department would support moving forward in the process to the next application. The Eagle Fire Department will require in the next application a signed copy by the two parties for the cross-access agreement as a condition of approval in that process.

Please contact me if you have any questions or concerns.

John Francesconi
Division Chief/Deputy Fire Marshal
Eagle Fire Department

MEMORANDUM

ADA COUNTY DEVELOPMENT SERVICES

TO: Ada County Planning & Zoning Commission

FROM: Brent Moore, Senior Community & Regional Planner

DATE: April 10, 2025

RE: Project No. 202402701-PC-CPA

Commissioners,

Ada County Development Services requests Project No. 202402701-PC-CPA be tabled to the May 8, 2025, Planning & Zoning Commission Hearing, in order to allow transportation agencies and service providers additional time to review and provide comments on the application.

Jacobs

Challenging today.
Reinventing tomorrow.

999 W. Main St
Suite 1200
Boise, ID 83702
United States

T +1.208.383.6208
www.jacobs.com

April 4, 2025

Attn: Brent Moore, MCMP, AICP
Senior Community & Regional Planner
Ada County Development Services
200 W. Front St.
Boise, ID 83702

Project name: Shadow Valley Planned Community Document Review

Subject: Review Summaries

Dear Brent:

Per your request, the Jacobs team has completed our review of three technical documents associated with the Shadow Valley Planned Community application. Specifically, the required Transportation Impact Study, the Natural Resources Inventory and Assessment, and the Residential and Retail Market Analysis were reviewed for compliance with the requirements of the Ada County Code and industry best practices. The attached memoranda detail the findings of those reviews and this letter provides a summary of each.

Transportation Impact Study

The Transportation Impact Study generally satisfied the requirements of Section 8-8-7C.8 of the Ada County Code . The study was evaluated per the traffic impact study (TIS) guidelines found in Section 7106 of Ada County Highway District's (ACHD) Policy Manual and ITD IDAPA 39.03.42 and generally meets ITD's and ACHD's requirements and followed industry standards for traffic studies.

The attached memo identifies a number of deficiencies in the TIS that are for the most part minor and easily correctible. Most significantly, the study identifies that the proposed Shadow Valley development will impact the surrounding transportation network, notably at the intersections of Spring Creek Way/SH-55, Brookside Lane/SH-55, Dry Creek Road/SH-55, and High Valley Way/SH-55. While the report recommends mitigation measures for these intersections, the Spring Creek Way/SH-55 intersection is projected to operate at LOS F under both the 2030 Mitigated Total Traffic and 2037 Total Traffic scenarios. **The study should further address this impact and propose measures to fully mitigate the project's contribution.**

Resource Inventory

The Resource Inventory broadly addressed the requirements of Section 8-8-7C.5 of the Ada County Code. Data sheets and requested maps were included in the report and code requirements were generally met, with five exceptions that were either partially addressed or not addressed at all. Specifically, Ada County Code Section 8-8-7C.5.a.1 requires a map and written assessment for a variety of resource areas, including prime agricultural land, soils, and minerals. **Soils and minerals were discussed but not mapped in the report. Wetlands will be delineated in 2025.**

Ada County Code Section 8--8--7C.5.b.2 requires a written assessment of the project's effect on source, quantity, and quality of ground and surface water in the area. **The report addresses these water -related issues in a general manner. Detailed assessments will be conducted in 2025 to fully meet this requirement.**

Ada County Code Section 8-8-7C.5.b.2(B) requires that BLM's Indicators of Rangeland Health be used to assess vegetation. **Only 9 of the 17 biotic indicators were evaluated.**

Ada County Code Section 8-8-7C.5.b.2(C) requires a discussion and mapping of sensitive species. These ae discussed, but an inventory will be conducted in 2025 to map these resources as appropriate.

Ada County Code Section 8-8-7C.5.b.2(F) requires discussion and mapping of priority wildlife habitat on the subject property. **There is discussion of priority species, but not of priority habitats.** It also requires that priority species be cross-referenced to either the Bureau of Land Management or U.S. Forest Service lists when the project is proximate to said agency land. The project is approximately 5 miles from U.S. Forest Service land, but the code does not define "in the vicinity of". Therefore, it is not known if the Applicant must cross-reference sensitive species lists for that agency with Idaho's list. **There was no cross-referencing within the document.**

Economic Development Analysis

The documents furnished under the economic development component of the application were developed using third-party data and projections from recognized sources (mainly the U.S. Bureau of Labor Statistics, the U.S. Census Bureau, and CoStar) along with primary research on the local and regional commercial and residential real estate markets. The methodologies employed to analyze these data were credible and applied by a firm with extensive experience in real estate and economic analysis. Required details on the proposed development program were provided and expressed in the context of regional forecasts and local market dynamics. Although the Applicant and its consultants' assumptions appear reasonable, **achieving the projected pricing and absorption pace will require buyers, renters, and commercial tenants to accept what is currently a somewhat remote location. Whether or under what conditions this would occur is outside the scope of our assessment.**

Estimated revenue from the completed community is provided, as well as potential employment generated by its construction, but **the fiscal impact analysis provided to us does not detail the cost of the project to the community**. Excluded, for example, are the cost to build or expand community facilities (parks, libraries, fire stations), the incremental cost of operating those new or expanded facilities, and the ongoing cost of maintaining new infrastructure. It is not unusual for a predominantly residential development to yield a net-negative fiscal impact, but revenue versus cost projections are vital for a jurisdiction to better understand the cost of growth through time and the importance of a balanced tax base.

Conclusion

Thank you for the opportunity to assist Ada County with the review of this complex project. Should you have questions or need any additional information or analysis regarding our reviews—or the Applicant's responses—please do not hesitate to ask.

Regards,



Daren Fluke, AICP
Senior Planner/Project Manager
+1 208.383.6138
Daren.fluke@jacobs.com

Analysis of Shadow Valley Development Comprehensive Plan Amendment Application – Transportation Impact Study

Date:	April 4, 2025
Project Name:	Shadow Valley Development Transportation Impact Study Document Review
Project No.:	D3703700
Client:	Ada County Development Services Department
Prepared by:	Christopher Pylant and Uday Maripalli

Jacobs
999 W. Main St
Suite 1200
Boise, ID 83702
United States
T +1.208.383.6208
www.jacobs.com

1. Introduction

1.1 Assignment Background

Shadow Valley Development is a proposed master-planned community (PC) in Ada County, Idaho, and will be annexed into the City of Eagle according to the Transportation Impact Study (TIS). The project, which is currently in the application and review process, is located on the east and west side of State Highway (SH) 55 between Brookside Lane and Spring Creek Way. As part of the application process, the developers are required to submit comprehensive information to Ada County regarding the project's local and regional impacts. This requirement serves to assess the development's appropriateness and potential for success and ensure the availability of necessary urban public services. The project is progressing through various stages, including a Comprehensive Plan and Text Amendment application, with public hearings scheduled for Spring 2025.

The purpose of this memorandum is to provide a detailed analysis verifying the accuracy and feasibility of the information presented and its compliance with Ada County Code Section 8-8-7C.8 and Ada County Highway District (ACHD) Policy 7106.

Documents the Applicant and its consultants submitted were reviewed by Christopher Pylant, a Jacobs transportation engineer with 15 years of experience preparing and reviewing transportation impact studies (TIS), including those prepared for comprehensive plan amendments and master-planned communities throughout the western United States and Uday Maripalli, a transportation engineer specializing in traffic operations, traffic impact studies, microsimulation, and project management with 17 years of experience.

1.2 Application Requirements

With respect to transportation, Ada County requires developers to submit the following in support of a proposed planned community:

> **Ada County Code 8-8-7C.8, Transportation:** An analysis of impacts to the regional transportation system resulting from the proposed land uses and population prepared in coordination with, as applicable, the Idaho Transportation Department (ITD), Ada County Highway District (ACHD), Community Planning Association of Southwest Idaho (COMPASS), Valley Regional Transit, and any other local jurisdiction(s) having authority over the public highways and streets materially affected by the planned community. The traffic impact study shall be submitted to ITD and ACHD thirty (30) days prior to submission of the planned community subarea comprehensive plan application to the director.

ACHD Policy Manual Section 7106: This section outlines the requirements for Traffic Impact Studies. Section 7106 establishes a comprehensive framework for evaluating traffic impacts of proposed developments that includes Level of Service (LOS) thresholds, turn lane analysis requirements, and guidelines for developing mitigation measures.

ITD IDAPA 39.03.42: This rule regulates access to the State Highway System, so the access matches the intended traffic function designation of each highway and corridor. The rule establishes standards and guidelines for encroachments on state highway rights-of-way; including but not limited to definitions, safety, maintenance, applications, permits, access spacing, design standards, turnouts and unauthorized/nonstandard encroachments

1.3 Materials Evaluated

To complete this assessment, Jacobs was provided with and reviewed the following documents:

- ***Shadow Valley Development Transportation Impact Study*** by Kittelson & Associates, March 7, 2025
- ***Review Memo of Shadow Valley Development Transportation Impact Study*** by ACHD, January 15, 2025

The TIS and its attachments were reviewed for accuracy and industry best practices. The Traffic Count and Synchro output worksheet appendices were spot-checked; however, it is not possible to completely verify the accuracy of analysis results without access to the software files. The TIS was evaluated per the TIS guidelines found in Section 7106 of ACHD's Policy Manual and reviewed in light of the review memo provided by ACHD.

2. Document Review

2.1 *Shadow Valley Development Transportation Impact Study* by Kittelson & Associates, March 7, 2025

2.1.1 Document Overview

This document is a TIS conducted by Kittelson & Associates, Inc. for the proposed Shadow Valley Development in Ada County, Idaho. The TIS examined the study area transportation network under existing and future conditions and analyzed the impacts of the proposed development. The purpose of this study was to identify the study area network, estimate future background growth rate, develop the project's trip generation and distribution, evaluate traffic related impacts- on the adjacent study area transportation network, and recommend measures to mitigate any impacts. In essence, this TIS serves as a comprehensive analysis to understand the transportation implications of the proposed Shadow Valley development, ensuring that the project is planned and developed in a way that minimizes negative impacts on the existing and future transportation network.

The document examines the existing transportation network and presents the existing conditions of the study area. This involves analyzing the current traffic conditions at key intersections in the vicinity of the proposed development. This analysis helps establish a baseline for understanding how the development might affect the existing infrastructure. It also examines potential mitigation for those intersections that do not meet traffic operational guidelines under the Year 2025 existing traffic conditions.

The document also addresses the transportation impacts associated with the background growth for future Year 2030. The study considers not only the current traffic but also the anticipated increase in traffic due to general growth in the area and other planned developments. This provides a more realistic picture of future traffic conditions without the Shadow Valley development.

The study includes estimating the number of new trips, how these trips will be distributed, and the resulting impact on intersection operations. The project's trip generation data was calculated using Institute of Transportation Engineers Trip Generation Manual, 11th Edition. ACHD requires analysis of any intersection or segment where project traffic makes up 10% or more of total traffic at the nearest downstream intersection. The study analyzed a total of five intersections, including three existing intersections and two site access intersections.

Future traffic conditions with the build out of proposed project were included in the operational analysis. The study looked at traffic conditions in the future: Year 2030, which is the expected buildout year of the development, and Year 2037, 7 years beyond the anticipated buildout. This analysis involved combining existing traffic, background growth traffic, and the traffic from the proposed development to project future congestion levels and identify potential problem areas. The study identified intersections that are likely to be impacted because of the proposed development.

Mitigation for intersections not meeting ACHD's LOS thresholds was proposed and analyzed. A trigger analysis was not completed to pinpoint how many trips the project could create before a specific facility would fall below the LOS thresholds. The costs of proposed mitigation or connections to a regional network are not included in the study.

2.1.2 Key Findings

The TIS generally complies with ACHD standards and requirements with the exceptions noted below.

- The study identifies that the proposed Shadow Valley development will impact the surrounding transportation network, notably at the intersections of Spring Creek Way/SH-55, Brookside Lane/SH-55, Dry Creek Road/SH-55, and High Valley Way/SH-55. While the report recommends mitigation measures for these intersections, the Spring Creek Way/SH-55 intersection is projected to operate at LOS F under both the 2030 Mitigated Total Traffic and 2037 Total Traffic scenarios. The study should further address this impact and propose measures to fully mitigate the project's contribution.
- This document provides accurate and up-to-date count and volume forecast data. The revised study appropriately addressed one of ACHD's prior comments by incorporating newly collected count data from 2025 into the analysis.
- In response to another ACHD comment, the study evaluated the proposed project as a stand-alone entity.
- The study lacks a description of the transportation facilities and roadways within the study area. Toensure appropriate application of LOS thresholds, which are determined by ACHD based on roadway classifications, a section detailing the study area roadways and their functional classifications should be included.
- The LOS tables should explicitly state the LOS threshold for each studied intersection, consistent with the ACHD criteria outlined in policy document section 7106.4, "Level of Service Planning Thresholds."
- The study provides a summary table of project's trip generation showing total number of project trips. The trip generation section should also include the methodology used for these calculations, such as application of an average trip rate or regression equation.
- The study does not include an analysis of roadway segments. ACHD has specifically requested the inclusion of an analysis for the Spring Creek Way section between the project approach and SH-55.
- The site plan indicates roadway connections between West Brookside Lane and West Spring Creek Way as part of the proposed development. As requested by ACHD in their comment letter dated January 15, 2025, the study should include a roadway segment analysis for these connections. The study does not include this analysis.
- The study did not provide a sight distance analysis for the proposed project's access locations. This omission fails to address ACHD's prior comment regarding the need for a sight distance analysis.
- A safety analysis was not provided in the study.

3. Author Resumes

Christopher Pylant has worked on development projects throughout the western United States, including numerous planned residential communities. In addition, he has 15 years of experience preparing technical transportation studies in support of environmental documents and for local environmental permitting. His projects include multiple types of transportation projects, as well as all sizes of residential, commercial, and industrial developments. He is proficient in numerous traffic software suites including Synchro, SIDRA, and Highway Capacity Software (HCS). He is also adept at threshold consistency analysis and development of feasible mitigation measures. As a project manager, he has successfully represented projects through the entire approval process, including the provision of technical expertise at public hearings.

Uday Maripalli is a transportation engineer specializing in traffic operations, traffic impact studies, microsimulation, and project management. He has 17 years of experience working on a variety of diverse projects, including multimodal transportation studies, microscopic modeling, pedestrian modeling, and transit planning. He has worked on more than 50 traffic impact studies nationwide and is proficient in numerous traffic operations models, including Vissim, Synchro, SimTraffic, Viswalk, SIDRA, and HCS.

Analysis of Shadow Valley Planned Community Comprehensive Plan Amendment Application – Natural Resources and Wildlife Inventory

Date: April 4, 2025
Project Name: Shadow Valley Planned Community Document Review
Project No.: D3703700
Client: Ada County Development Services Department
Prepared by: Denny Mengel, PhD

Jacobs
999 W. Main St
Suite 1200
Boise, ID 83702
United States
T +1.208.383.6208
www.jacobs.com

1. Introduction

1.1 Assignment Background

Shadow Valley is a proposed 550-acre, master-planned community in Ada County, Idaho, just northeast of the City of Eagle. As part of the application process, the Applicant, SVP LLC, was required to submit information to Ada County relative to the project's local and regional impacts on natural resources and wildlife. The purpose of this requirement is to determine the appropriateness of the development and feasibility of its success; to plan for and ensure the availability of urban public services; and to create a planned community subarea comprehensive plan specific to the subarea.

Jacobs was asked to provide a detailed analysis verifying the accuracy and feasibility of the information presented and its compliance with Ada County Code Sections 8-8-7C.3, 8-8-7C.5, and 8-8-7C.8.

Dr. Denny Mengel reviewed documents the Applicant and its consultants submitted. Denny is a Jacobs subject matter expert with over 30 years of experience in terrestrial ecology, including wildlife, wetlands, vegetation, soils, and threatened and endangered species analyses.

1.2 Application Requirements

With respect to the Natural Resources and Wildlife Inventory, Ada County Code requires developers to submit the following analyses, reports, and reviews supporting a proposed planned community:

(8-8-7C.5) Natural Resources and Wildlife Inventory: An analysis including the uses of rivers and other waters, forests, range, soils, harbors, fisheries, minerals, thermal water, watershed, and shorelines, and an analysis of existing wildlife and habitat conditions. The analysis shall include at a minimum:

1. Natural Resources Inventory:
    a. A map depicting, and a written assessment of, the following: topography; wetlands; soils from the most recent soil survey information; prime agricultural land; mineral resources; and rivers and other bodies of water; and
    b. A written assessment of the effect the planned community will have on the source, quantity and quality of ground and surface water in the area.
2. Wildlife Habitat Inventory:
    a. Aerial photography of sufficient quality and scale to show land unit boundaries, geological features, vegetation types, creeks, riparian areas and wetlands, roads, trails and other landscape features;

b. A map prepared in consultation with Idaho Department of Fish and Game, generally depicting and a written assessment (including methodologies used) of the following:

   i. Site resources including vegetation/habitat types (including noxious weeds), and wildlife;

   ii. Existing vegetation condition based on ecological site descriptions (ESD) from the latest version of the "Indicators of Rangeland Health";

   iii. Special status species and threatened and endangered species based on Idaho Fish and Game conservation data, and United States Department of Interior, Fish and Wildlife Service information;

   iv. Both current and potential use of big game winters range, and where appropriate pronghorn antelope, based upon Idaho Department of Fish and Game (IDF&G) data. Site specific surveys may be used to supplement IDF&G data;

   v. Structure and function of existing wildlife habitats, including connectivity, habitat fragmentation, and wildlife corridors;

   vi. Priority habitat based upon the Idaho comprehensive wildlife conservation strategy, except, if a planned community is planned adjacent to or in the vicinity of Bureau of Land Management and/or United States Forest Service managed federal land, the species list shall be cross referenced with the respective agency list; and

   vii. Existing human disturbance to wildlife and habitat as a result of livestock, transportation, recreation, agriculture and development within a minimum of one mile of the planned community boundary.

1.3 Materials Evaluated

To complete this assessment, Jacobs was provided with and reviewed the following documents, which Ada County received in March 2022:

- ***Shadow Valley Planned Community | Natural/Wildlife Resources Analysis*** by Camber Services, LCC, 2025.
- ***Resource Inventory for the Shadow Valley Planned Community Project, Ada County Idaho*** by Bowen Collins and Associates, 2025.

These documents were reviewed and the information checked for accuracy; however, this review constitutes neither an audit of the document nor an independent wildlife habitat inventory and assessment.

2. Summary Assessment

Table 1 lists specific requirements of the Ada County Code along with Jacobs' assessment of the Applicant's submitted materials in response to those requirements. Overall, the analysis suggests that the requirements were broadly met, except for the following, which are discussed in more detail in Section 3.2:

- Requirement 1.a. related to soils and minerals, which were discussed but not mapped.
- Requirement 1.b. related to there being no specific discussion of the project's effect on ground and surface water.
- Requirement 2.b.ii related to only partially evaluating BLM's indicators of rangeland health.
- Requirement 2.b.iii related to surveys for slickspot peppergrass and Aase's onion to be conducted in spring 2025 to complete this requirement.
- Requirement 2.b.vi relating to the State Wildlife Action Plan's priority habitats were not addressed.

Table 1. Summary Assessment of Application Compliance

Ada County Code Requirement	Jacobs Assessment
An analysis including the uses of rivers and other waters, forests, range, soils, harbors, fisheries, minerals, thermal water, watershed, and shorelines, and an analysis of existing wildlife and habitat conditions. The analysis shall include at a minimum:	The analyses assess the relevant required resources except harbors, fisheries, watersheds, thermal water, and shorelines. Some resources require additional fieldwork as discussed below.
1. Natural Resources Inventory including the following:	
a. A map depicting, and a written assessment of, the following: topography; wetlands; soils from the most recent soil survey information; prime agricultural land; mineral resources; and rivers and other bodies of water.	This requirement is partially met. ▪ The report provides maps and discusses these resources, except for mineral mapping. ▪ Wetlands and other Waters of the US (WOUS) results are preliminary and will be assessed in spring 2025 and a supplemental report prepared to satisfy this requirement.
b. A written assessment of the effect the planned community will have on the source, quantity and quality of ground and surface water in the area.	This requirement is partially met. ▪ The report provides an initial general assessment of the effects on the source, quantity, and quality of ground and surface water. ▪ Stormwater handling needs development to assess impacts to wetlands, WOUS, and infiltration. ▪ Geotechnical investigations will be required in spring 2025 to determine affects to groundwater and to identify if thermal water is present.
2. Wildlife Habitat Inventory including the following:	
a. Aerial photography of sufficient quality and scale to show land unit boundaries, geological features, vegetation types, creeks, riparian areas and wetlands, roads, trails and other landscape features.	Aerial photography was used to depict these resources except for geological features which were discussed, but not mapped. Major roads are shown and labeled, but two tracks or trails are not depicted.
b. A map prepared in consultation with Idaho Department of Fish and Game, generally depicting and a written assessment (including methodologies used) of the following.	IDF&G was consulted throughout preparation of the report.
i. Site resources including vegetation/habitat types (including noxious weeds), and wildlife.	These site resources were discussed, but there was no mention of field observations of wildlife.

Ada County Code Requirement		Jacobs Assessment
ii.	Existing vegetation condition based on Ecological Site Descriptions (ESD) from the latest version of the "Indicators of Rangeland Health."	This requirement was partially met. ▪ The Bureau of Land Management's (BLM) Interpretating Indicators of Rangeland Health manual (Pellant et al. 2020) was used to assess vegetation, but only nine of the 17 indicators representing biotic integrity were evaluated. Indicators related to soil and site stability and hydrologic function were not discussed. ▪ No data forms were provided.
iii.	Special status species and threatened and endangered species based on Idaho Fish and Game conservation data, and United States Department of Interior, fish and wildlife service information.	This requirement is partially met. ▪ US Fish and Wildlife Service (USFWS) and Idaho Department of Fish and Game (IDF&G) data were used to map and evaluate special status species. However, surveys for slickspot peppergrass and Aase's onion will be conducted in spring 2025 to complete this requirement.
iv.	Both current and potential use of big game winters range, and where appropriate pronghorn antelope, based upon IDF&G data. Site specific surveys may be used to supplement IDF&G data.	The report evaluates winter range for big game, including pronghorn antelope.
v.	Structure and function of existing wildlife habitats, including connectivity, habitat fragmentation, and wildlife corridors.	The report adequately addresses wildlife habitat structure and function. The report indirectly discusses habitat connectivity and fragmentation.
vi.	Priority habitat based upon the Idaho comprehensive wildlife conservation strategy, except, if a planned community is planned adjacent to or in the vicinity of Bureau of Land Management and/or United States Forest Service managed federal land, the species list shall be cross-referenced with the respective agency list.	This requirement is not met. ▪ The State Wildlife Action Plan's priority habitats are not addressed. See Section 2.F below for a discussion of this requirement. ▪ Forest Service administered land is 5 miles from the project and species lists were not cross-referenced.
vii.	Existing human disturbance to wildlife and habitat as a result of livestock, transportation, recreation, agriculture and development within a minimum of one mile of the planned community boundary.	Section 3.4 of the report discusses existing human disturbance, including grazing.

.

3. *Resource Inventory for the Shadow Valley Planned Community Project* Review

3.1 Document Overview

The report is well written and describes existing ecological conditions, wildlife, plants, species of concern, and development activities within the direct project area and within a 1-mile buffer. The report also discusses potential effects on these resources because of the Shadow Valley Planned Community development and how to possibly mitigate them if needed.

Except for four requirements partially met and one not met, all other items required in the Natural Resources and Wildlife Inventory were addressed adequately and meet all the other requirements of the Ada County Code. Table 1 and Section 3.2 discusses exceptions. Also, the Figure 4 callout in Section 2.2.2 Prime Agricultural Land, should reference Figure 3.

The report includes four sections:

1. Introduction
2. Natural Resource Inventory
3. Wildlife Habitat Inventory
4. Conclusions and Determination of Effects

3.2 Key Findings

This review lists each code requirement and discusses how the Natural Resources Inventory and Wildlife Habitat Inventory reports addresses the requirement. Each section indicates if the code requirement is met, partially met, or not met.

3.2.1 Natural Resources Inventory

1. A map depicting, and a written assessment of, the following: topography, wetlands, soils from the most recent soil survey information, prime agricultural land, mineral resources, and rivers and other bodies of water will be provided.

This requirement is mostly met. The report provides maps that include topography, soils, prime agricultural land, wetlands, streams, and other bodies of water. The report includes a discussion of these resources to inform the reader about what is shown on the maps. There is a discussion of mineral resources that describes where the different resources are located, but no map was provided. Wetlands, streams, and other bodies of water are mapped and discussed, but the description and map are based on cursory field observations. A WOUS delineation using US Army Corps of Engineers methodology for delineating wetlands and other WOUS is planned for spring 2025. A report will be prepared that discusses these resources in detail.

2. A written assessment of the effect the planned community will have on the source, quantity, and quality of ground and surface water in the area.

This requirement is partially met. The report provides an initial general assessment of the effects on the source, quantity, and quality of ground and surface water. Further analysis will be required as the design progresses and geotechnical studies are conducted in spring 2025. The additional fieldwork will allow the Applicant to determine if infiltration of surface water that recharges groundwater will be impacted. A better understanding of how stormwater will be handled is needed to determine how surface water flow that supports wetlands, streams, and other water bodies will be disrupted.

Wells will be installed to provide water to the development. These may need to be up to 350 feet deep to access groundwater, based on existing water quality wells. However, this aquifer has elevated levels of

arsenic that needs treatment before it can meet drinking water standards. Wells deeper than 600 feet may be required to tap into aquifers that meet drinking water standards. It is unknown if geothermal layers are present that would need to be avoided. This review assumes this data will be collected in the aforementioned geotechnical studies.

3.2.2 Wildlife Habitat Inventory

1. Aerial photography of sufficient quality and scale to show land unit boundaries, geological features, vegetation types, creeks, riparian areas and wetlands, roads, trails, and other landscape features.

This requirement is met. Aerial photographs were used to provide the requested information. The report addresses geological features, but these are not mapped. A figure provided shows topographic lines but not on an aerial photograph. The report also discusses other features like hillsides, benches, and valleys.

2. A map prepared in consultation with IDF&G, generally depicting, and a written assessment (including methodologies used) of the following:

    a. Site resources including vegetation/habitat types (including noxious weeds), and wildlife.

This requirement is met. Remote sensing and a reconnaissance-level field visit provide a qualitative assessment of vegetation, habitat types, and noxious weeds. Wildlife observed onsite were not recorded. These observations were used to inform various sections of the report.

    a. Existing vegetation condition based on ESD from the latest version of the "Indicators of Rangeland Health."

This requirement is partially met. The newest version of the BLM's *Interpretating Indicators of Rangeland Health Manual* (Pellant et al. 2020) was used to assess habitat conditions in the project area relative to undisturbed conditions. Nine ecological types were identified and mapped. Four the nine were prominent and discussed in detail in the report. The ESD and the existing rangeland health attributes were compared to what would be expected at an undisturbed reference site for four of the nine ecological types. Seventeen indicators are used to assess the soil and site stability, hydrologic function, and biotic integrity of the site.

Nine of the 17 indicators relate to biotic integrity. The Applicant only used those nine indicators in their analysis and did not assess indicators related to soil and site stability and hydrologic function. The report describes **only** the biotic integrity indicators and compares existing conditions to the reference state. Therefore, it is a partial assessment of rangeland health. The report also states that the timing of the site visit in September resulted in many forbs and grasses being dormant. Biotic integrity will be re-evaluated in spring 2025. Data forms were not provided.

Recommendation: Evaluate all 17 indicators and include the data forms in an appendix.

3. Special status species and threatened and endangered species based on IDF&G conservation data, and US Department of Interior, Fish and Wildlife Service (USFWS) information.

This requirement is met. An official species list was generated using the USFWS's Information for Planning and Consultation tool. The Applicant consulted with IDF&G, but there is no indication that the Idaho Fish and Wildlife Information System (IFWIS) was queried. The inquiries generated a list of federal threatened, endangered, and candidate species, listed critical habitat, and special status species, including IDF&G special status species. The size of the buffer around the project location in which these inquiries were conducted is not known. The report includes a description of the results and a discussion of potential effects.

Five federally listed species were included in the USFWS species list. One species, slickspot peppergrass (*Lepidium papilliferum;* threatened), has suitable habitat in the project site. Marginal habitat for Monarch butterfly (*Danaus Plexippus*; proposed threatened) and Suckley's cuckoo bumble bee (*Bombus suckleyi*;

proposed endangered) exists on site. There is no habitat for North American wolverine (*Gulo gulo luscus*; threatened). The report indicates there would be no effect to this species, pending the spring 2025 survey.

The IDF&G consultations in 2017 and 2024 indicate that slickspot peppergrass (USFWS Threatened) location records as well as critical habitat for that species are found within several miles of the project site. Aase's onion (*Allium aaseae*; state sensitive) has been observed to the east of the project site. There were no figures showing the locations of these sensitive species. No slickspot peppergrass habitat or Aase's onion individuals were observed within the project's boundary, but the timing of the site visit was outside the recommended survey period. Slickspot peppergrass and Aase's onion surveys will be conducted in spring 2025. The report makes no conclusions relative to these two sensitive species pending the upcoming spring surveys.

Recommendation: Indicate if the IFWIS was queried and the size of the buffer evaluated.

4. Both current and potential use of big game winter range, and, where appropriate, pronghorn antelope, based upon IDF&G data. Site specific surveys may be used to supplement IDF&G data.

This requirement is met. The IDF&G designates the project site as mule deer winter range. Roadkill data show elk are now using the area as winter range. Roadkill data also show elk, pronghorn antelope (state sensitive), mule deer, and whitetail deer move through the project site.

The Applicant indicates that construction of the project will not negatively impact winter range use due to large lots, no boundary fencing, wildlife friendly fencing around residences, and abundant open space included in the parcels.

We believe that the increased human activity and presence of domestic pets will not result in abandonment of winter range but could add additional stress during a vulnerable period for big game.

5. Structure and function of existing wildlife habitats, including connectivity, habitat fragmentation, and wildlife corridors.

This requirement is met. The report describes existing wildlife habitat and includes a discussion on wildlife corridors. The report indirectly discusses habitat connectivity and fragmentation through discussions of development, transportation infrastructure, and disturbance in the project area. The Applicant concludes that design of open space and limited wildlife fencing will not fragment habitat or prevent wildlife from moving through the area. There is recognition that increased roads and vehicles will result in an increase in the probability of animal/vehicle accidents.

6. Priority habitat based upon the Idaho comprehensive wildlife conservation strategy, except, if a planned community is planned adjacent to or in the vicinity of Bureau of Land Management and/or United States Forest Service managed federal lands, the species lists shall be cross-referenced with the respective agency list.

This requirement is not met. The report does not contain a discussion of priority habitats. Historically, a variety of priority habitats could have been present in the project area. These may have included Montane-Foothill Grassland & Shrubland, Dry Shrubland & Grassland, and Tall Sagebrush Steppe & Shrubland. Grazing and fire has resulted in these habitats transitioning into other priority habitats, including Ruderal Grassland & Shrubland and Semidesert Ruderal Scrub & Grassland. These habitats contain higher densities of invasive species intermixed with native shrubs. Although diminished in extent and managed as part of the golf course, the riparian area along Spring Valley Creek could be considered a degraded Lowland–Foothill Riparian Forest. Spring Creek is a Large Streams (3rd, 4th order) habitat as it flows year-round through the golf course. Woods Gulch in the northern parcel is a degraded Small Streams (1st, 2nd order) – Intermittent priority habitat. Finally, the golf course and existing residential parcels fall into the Agricultural Vegetation and Lawn, Garden & Recreational Vegetation priority habitat.

Recommendation: Include a discussion of priority habitats in the report.

7. Existing human disturbance to wildlife and habitat as a result of livestock, transportation, recreation, agriculture, and development within a minimum of 1 mile of the planned community boundary.

This requirement was met. Section 3.4 of the report describes existing disturbance due to livestock grazing, agriculture, development, transportation, and recreation within 1 mile of the project area. The existing disturbances are well described.

4. Conclusions and Determination of Effects

Not all resource categories are discussed in this section. However, effects to resources not discussed in this section are described in Sections 2 and 3. The conclusions for wildlife resources indicate there will be both beneficial and less desirable effects. The beneficial effects are due to conserving habitat through preservation of open space. Preserving open habitat is a desirable component of the planned community and will allow for the continued movement of wildlife. However, preserving open habitat that is already being occupied could be considered mitigation for the less desirable effects and not necessarily a beneficial effect.

Recommendation: Add effects conclusions for all resource areas discussed.

5. Reference

Pellant, M., P. Shaver, D.A. Dyke, J.E. Herrick N. Lepak, G. Riegel, E. Kachergis, B.A. Newingham, D. Toledo, and F.E. Busby. 2020. *Interpreting Indicators of Rangeland Health*. Version 5. Technical Reference 1734-6. US Department of Interior, Bureau of Land Management, National Science and Technology Center, Denver, CO. https://www.nrcs.usda.gov/sites/default/files/2022-06/Interpreting_Indicators_1734-6_ver5_08272020%20%281%29.pdf.

6. Author Resume

Dr. Mengel has a B.S. degree in wildlife biology, a M.S. degree in forestry, and a Ph.D. in soils. He is a Certified Professional Soil Scientist and a Certified Forester with over 35 years of experience in wetland delineations, Clean Water Act Section 404 permitting, wetland mitigation design, threatened and endangered species evaluations, biological assessment preparation, upland and wetland restoration designs, mine reclamation, and preparation of National Environmental Policy Act environmental impact statements and environmental assessments. In addition to extensive project work in the coastal, arid, and mountain west ecosystems, Denny has broad experience throughout the continental United States and internationally on a variety of projects including water, transmission, transportation, pipeline, and wind farms.

Analysis of Shadow Valley Planned Community Comprehensive Plan Amendment Application – Economic Development Analysis

Date: April 4, 2025
Project Name: Shadow Valley Planned Community Document Review
Project No: D3703700
Client: Ada County Development Services Department
Prepared by: Jonathan H Bartlett, CRE

Jacobs
999 W. Main St
Suite 1200
Boise, ID 83702
United States
T +1.208.383.6208
www.jacobs.com

1. Introduction

1.1 Assignment Background

Shadow Valley Planned Community is a proposed 560-acre, master-planned community in Ada County, Idaho, just north of Boise. As part of the application process, the Applicant, Kine and Kine Properties, was required to submit information to Ada County (County) regarding the project's local and regional impacts. The purpose of this requirement is to determine the appropriateness of the development and feasibility of its success, to plan for and ensure the availability of urban public services, and to create a planned community subarea comprehensive plan specific to the subarea.

Jacobs was asked to provide an analysis verifying the responsiveness of the information presented with Ada County Code Sections 8-8-7C.3, 8-8-7C.5, and 8-8-7C.8.

Jonathan Bartlett reviewed documents the Applicant and its consultants submitted. Bartlett, a Jacobs subject matter expert with more than 20 years of experience in real estate market analysis, including feasibility studies of master-planned communities across the country, also previously taught real estate market analysis to graduate business students at Emory University, holds the Counselor of Real Estate designation, and is regularly called upon by Jacobs' clients to evaluate their real estate portfolios and development opportunities in the US and abroad.

1.2 Application Requirements

With respect to economic development, Ada County Code requires developers to submit the following analyses, reports, and reviews supporting a proposed planned community:

(8-8-7C.3) Economic Development: An analysis of the economic base of the area, including employment, industries, economies, jobs, and income levels. The analysis shall include at a minimum:

1. A written assessment demonstrating that the planned community is reasonably supported by economic and market conditions in Ada County and the Boise metropolitan area. This assessment shall include conceptual information about the following:
    a. Projected dwelling unit counts, build out/absorption and occupancy in the context of regional growth trends, identified demographic trends and competing development;
    b. Likely residential product types and price ranges in current dollars suitable for development within the planned community as a function of planned community location and physical features, anticipated market conditions, and likely demographics as identified in the population section of the planned community comprehensive plan;

c. Planned commercial buildings/gross space, if any, and anticipated build out/absorption in the context of regional growth trends, residential development at the planned community, and locational features including transportation and access; and

d. Planned industrial building/gross space, if any, and anticipated build out/absorption in the context of regional growth trends, industrial land utilizing industry trends, and proximate infrastructure.

2. A written assessment of current dollar costs associated with both private and public infrastructure and facility improvements required to provide urban public services to the site broken out into private and public categories. This assessment shall include an analysis of unique conditions of the site consistent with the natural resources inventory required by subsection C5a of this section, which may contribute to an increased cost in providing urban public facilities and urban public services.

1.3 Materials Evaluated

To complete this assessment, Jacobs was provided with and reviewed the following documents:

- Primary Document:
  - ***Residential and Retail Market Analysis*** by THK Associates, September 4, 2024
- Supplemental Documents:
  - ***Shadow Valley Planned Community Housing Analysis*** by Applicant, December 20, 2024 (marked received December 23, 2024)
  - ***Shadow Valley Planned Urban Public Services*** by Applicant, December 11, 2024

These materials were reviewed and certain data were spot-checked for accuracy; however, this constitutes neither an audit of the material nor an independent market analysis. Jacobs makes no representations about the cost, constructability, or market acceptance of the project. Further, Jacobs has no ability to assess the Applicant's access to capital or capacity to execute the proposed development as the application materials describe.

2. Summary Assessment

Table 1 lists specific requirements of the Ada County Code along with Jacobs' assessment of the Applicant's submitted materials in response to those requirements. Overall, the review suggests that the requirements were met, **with the exception of requirement 2 related to the current dollar cost to provide urban services and facilities**.

Table 1. Summary Assessment of Application Compliance

Ada County Code Requirement	Jacobs Assessment
An analysis of the economic base of the area, including employment, industries, economies, jobs, and income levels. The analysis shall include at a minimum:	A conventional Economic Base Analysis (including employment by industry and economic growth trends and components) is provided in the Residential and Retail Market Analysis.
1. A written assessment demonstrating that the planned community is reasonably supported by economic and market conditions in Ada County and the Boise metropolitan area.	Based on the *Residential and Retail Market Analysis* prepared by THK Associates, this requirement has been satisfied.

Ada County Code Requirement	Jacobs Assessment
This assessment shall include conceptual information about the following:	
▪ Projected dwelling unit counts, build out/absorption and occupancy in the context of regional growth trends, identified demographic trends and competing development.	These figures are provided in the *Residential and Retail Market Analysis* (p. 49).
▪ Likely residential product types and price ranges in current dollars suitable for development within the planned community as a function of planned community location and physical features, anticipated market conditions, and likely demographics as identified in the population section of the planned community comprehensive plan.	These figures are provided in the *Residential and Retail Market Analysis* (p. 49). Further detail on the proposed housing types is found in the *Shadow Valley Planned Community Housing Analysis.*
▪ Planned commercial buildings/gross space, if any, and anticipated build out/absorption in the context of regional growth trends, residential development at the planned community, and locational features including transportation and access.	These figures are provided in the *Residential and Retail Market Analysis* (p. 88).
▪ Planned industrial building/gross space, if any, and anticipated build out/absorption in the context of regional growth trends, industrial land utilizing industry trends, and proximate infrastructure.	Not applicable.
2. A written assessment of current dollar costs associated with both private and public infrastructure and facility improvements required to provide urban public services to the site broken out into private and public categories. This assessment shall include an analysis of unique conditions of the site consistent with the natural resources inventory required by subsection C5a of this section, which may contribute to an increased cost in providing urban public facilities and urban public services.	**Not provided.**

3. Individual Document Review

3.1 Residential and Retail Market Analysis by THK Associates, September 4, 2024

3.1.1 Document Summary

This document provides economic and real estate market analyses in support of a proposed land use program for the Shadow Valley project. The document was prepared by THK Associates, a well-known provider of economic and real estate market consulting services for developers around the country, with particularly strong experience in the US west.

Specifically, the document includes an Economic Base Analysis for the seven-county Boise region, Residential and Retail Market Analyses, a School Enrollment, School Facilities, and Transportation Analysis, and a Fiscal Impact Analysis.

The **Economic Base Analysis** uses historical data from the US Bureau of Economic Analysis and Bureau of Labor Statistics to project future employment by industry through 2034 within the seven-county region. The projected 2.4% annual growth rate (p. 17) is below the 3.7% rate shown for the region over the past decade (p. 21), suggesting a conservative forecast. Further, the THK analysis incorporates population data from the US Census Bureau to support projected population growth of 2.1% per year through 2034 (p. 27).

The **Residential Market Analysis** uses the projections above to estimate demand for housing at Shadow Valley. The approach utilized by THK evaluates historical and projected housing demand within a proposed Shadow Valley Residential Primary Trade Area (PTA), taken as a share of the seven-county Boise region. This analysis generally suggests that the Shadow Valley Residential PTA will maintain its current share of regional population growth (p. 39). Over the next 10 years, THK projects that the PTA will yield demand for 12,231 housing units, which THK has segmented by unit type (p. 41).

THK uses an assessment of comparable communities and typologies in the area to forecast residential demand by price point and the potential capture rate for Shadow Valley. The proposed capture rate of 5%-15% is below the community's "fair share" based on five anticipated competing developments. THK projects annual sales of 344 homes per year across the project's two zones (p. 49). The approach used by THK appears reasonable, though the project's ability to capture this demand ultimately depends on many factors, including the developer's ability to market and deliver the community as envisioned.

The **Retail Market Analysis** uses data from CoStar, a national provider of commercial real estate market intelligence that is widely used for this type of study. THK characterized existing retail space in the seven-county region and in a proposed Shadow Valley Retail PTA. The analysis considers the number of existing buildings and square footage of retail space in the market, along with annual absorption, new construction, and vacancy over the past 10 years.

Considering the population forecast established in the Economic Base Analysis, as well as estimated purchasing power based on median gross income in the PTA, THK provides an estimate of annual household expenditures by store type. These expenditures are converted to square feet of retail demand using estimated sales per square foot, which vary by store type. THK then considers existing retail space in the PTA in order to project demand for an additional 1.3 million square feet by 2034 (p. 84). Capture rates are applied by store type in order to estimate the potential demand for 88,657 square feet of retail at the subject property by 2034 (p. 87); however, THK ultimately recommends a smaller retail footprint of 42,756 square feet, which includes the existing space on site (p. 88).

THK prepared a **Fiscal Impact Analysis** that projects potential revenue to the County from taxes and fees generated by the new development (p. 94). The analysis also includes projected employment from the construction and operation of the project (p. 96). **The Fiscal Impact Analysis does not evaluate the potential cost to the County for serving the development.**

3.1.2 Key Findings

- This document appears to provide objective and accurate data using reliable sources.
- The forecasting approaches used by THK are logical and familiar, with assumptions and sources clearly stated. The study authors used growth rates generally aligned to or slightly below historical averages. Capture rates are similarly neutral to conservative.
- No date was provided for the data on sales per square foot by store type. These figures can be quite dynamic and older numbers may not reflect current economic conditions or consumer tendencies. However, the amount of retail projected and ultimately proposed for the subject site appears quite conservative relative to the size of the project and is well beneath THK's estimated demand.

- **The Fiscal Impact Analysis does not speak to the cost to service the development.**
- To the extent that the forecast depends on future transportation or infrastructure improvements that would influence where growth occurs, care should be taken before assuming that any specific project will capture this growth.

4. Author Resume

Jonathan Bartlett has a Master of Business Administration degree in real estate from the University of North Carolina and is an Economics and Finance Consultant in the Advance Planning Group of Jacobs. Jonathan's core skills are in forward-looking market, financial, and strategic analysis of real estate opportunities. He has worked extensively with developers, corporations, and local governments providing market analysis, site selection, and portfolio strategies. Jonathan previously served as Vice President with RCLCO in Bethesda, Maryland, and Atlanta, Georgia, where he conducted strategic market analyses for master-planned communities and mixed-use projects throughout the United States. He is a full member of the Urban Land Institute's (ULI) Urban Revitalization Council, has served on local and national ULI advisory panels as a real estate market specialist, and has taught real estate market analysis in the Goizueta Business School at Emory University.

ADA COUNTY HISTORIC PRESERVATION COUNCIL

200 W. Front Street
Boise, Idaho 83702
P. (208) 287-7900
F. (208) 287-7909

Angie Steele, Chair
Jay Karamales, Vice-Chair
Carolina Valderrama Echvarria, Secretary
Rob Fraser
Joseph Gallagher
Bob Reinhardt
Zoe Scuderi
Larry Sundell

April 4, 2025

Brent Moore, AICP
Senior Community & Regional Planner
Ada County Development Services
200 W. Front Street
Boise, ID 83702
(via e-mail)

RE: PROJECT #202402701 PC-CPA; SHADOW VALLEY PLANNED COMMUNITY

Dear Mr. Moore,

The Ada County Historic Preservation Council (ACHPC) has reviewed the Shadow Valley Planned Community 's Special Areas Analysis prepared by Frontier Historical Consultants dated August 11, 2017. The ACHPC found the report to be very comprehensive and agrees with the findings within the report.

The ACHPC looks forward to being involved with the Implementation Plan of the proposed planned community.

Please feel free to contact me with any questions. I can be reached at (208) 287-7913 or via e-mail at bdanielson@adacounty.id.gov.

Sincerely,

The Ada County Historic Preservation Council

Brent Danielson

By: Brent Danielson, AICP
Senior Planner
Historic Preservation Council Staff Liaison

SHADOW VALLEY PLANNED COMMUNITY

April 18, 2025

Ada County Planning Division – Development Services
Attn: Brent Moore & Staff
Ada County Development Services
200 W. Front St.,
Boise, ID 83702

SHADOW VALLEY PLANNED COMMUNITY | JACOBS REVIEW – RESPONSE LETTER PHASE 1 PLANNED COMMUNITY

Dear Ada County,

On behalf of the Shadow Valley Planned Community Development Team, Camber Services (planning consultant) is pleased to submit this Jacobs Engineering (third party planning review) comment response letter for the Shadow Valley Planned Community Comprehensive Plan & Text Amendment application.

TRANSPORTATION IMPACT STUDY

Kittelson Engineering provided a letter addressing Jacob's question regarding the traffic impacts study. Please see enclosed letter, dated April 15, 2025.

RESOURCE INVENTORY

Bowen Collins & Associates provided a letter addressing Jacob's question regarding the environmental resource inventory. Please see enclosed letter, dated April 15, 2025.

ECONOMIC DEVELOPMENT ANALYSIS

Project Cost
At this stage in the development process where engineering is still in the schematic/design development phase, and the project has not been heard at public hearing with staff reports issued that may impact major design revisions, the development team believes it to be too early to provide development pricing projections. The development team anticipates that conceptual pricing related to phasing may be provided at the time of the subsequent planned community application.

Pricing & Absorption
The development team anticipates that pricing, absorption, and proximity to services are in agreement with the Ada County Comprehensive Plan and commensurate with approved planned community applications in close proximity to the Shadow Valley Planned Community project area.

ADA COUNTY QUESTIONS

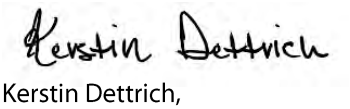
Recreational Access

Based on Ada County staff's request for a trail map, the landscape architect (The Land Group) provided 'Recreation Opportunities exhibits for the east and west subdivisions to indicate conceptual layout of trail system and open space.

ENCLOSURES

1. Kittelson Engineering Letter, dated April 15, 2025.
2. Bowen Collins & Associates Letter, dated April 15, 2025.
3. The Land Group Recreational Opportunities Exhibit-East, dated April 17, 2025
4. The Land Group Recreational Opportunities Exhibit-West, dated April 17, 2025

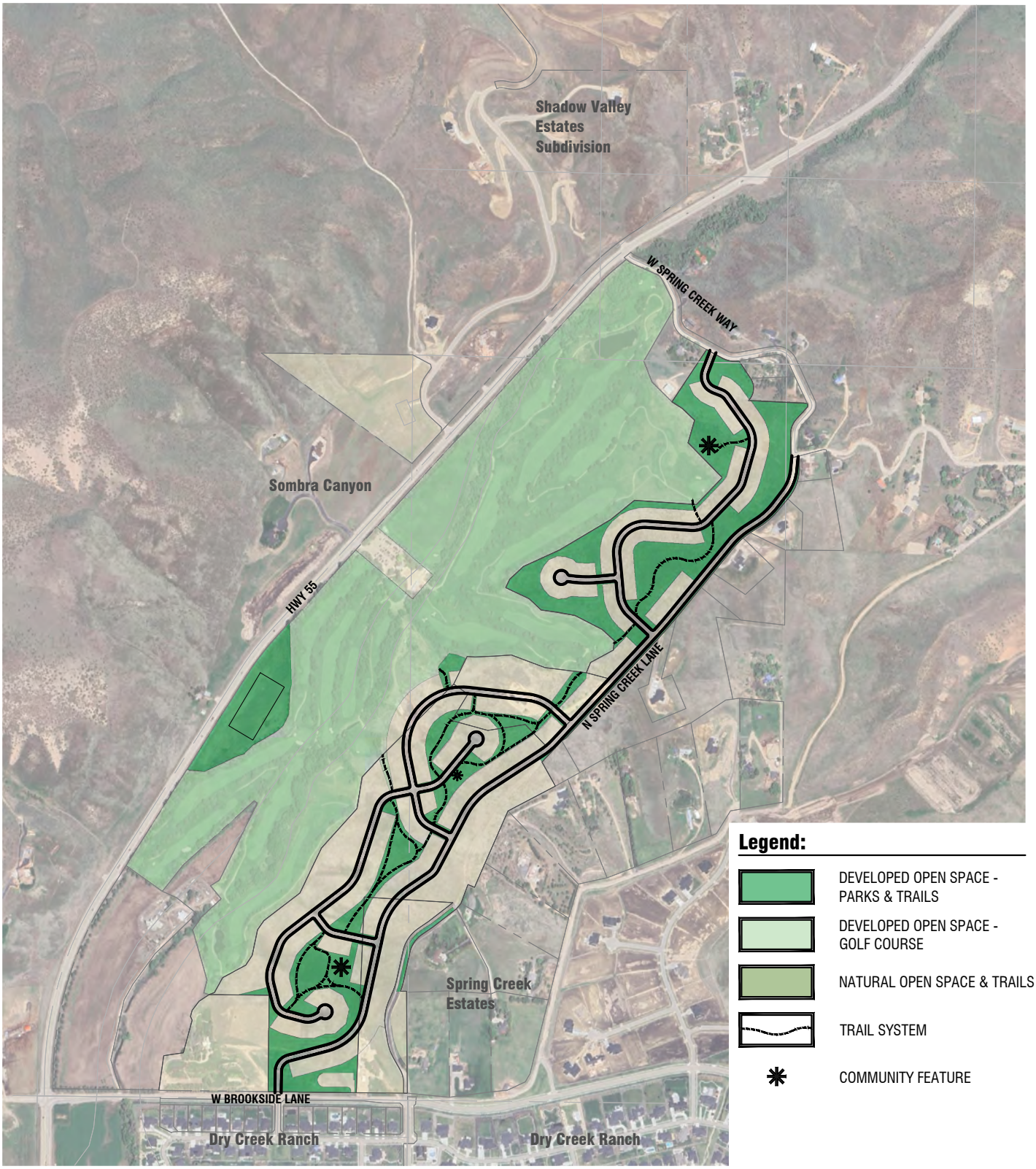
Thank you,



Kerstin Dettrich,
kerstin@camberservices.com
Camber Services LLC

On behalf of Shadow Valley Planned Community

Cc: Larry Kine [redacted]
Ryan Minert ryan@iagroupllc.com
Brady Lasher brady@lasherenterprises.com
[Counsel] Chris Koback chriskoback@hkcllp.com



Legend:

- DEVELOPED OPEN SPACE - PARKS & TRAILS
- DEVELOPED OPEN SPACE - GOLF COURSE
- NATURAL OPEN SPACE & TRAILS
- TRAIL SYSTEM
- COMMUNITY FEATURE

0' 1000' 2000'

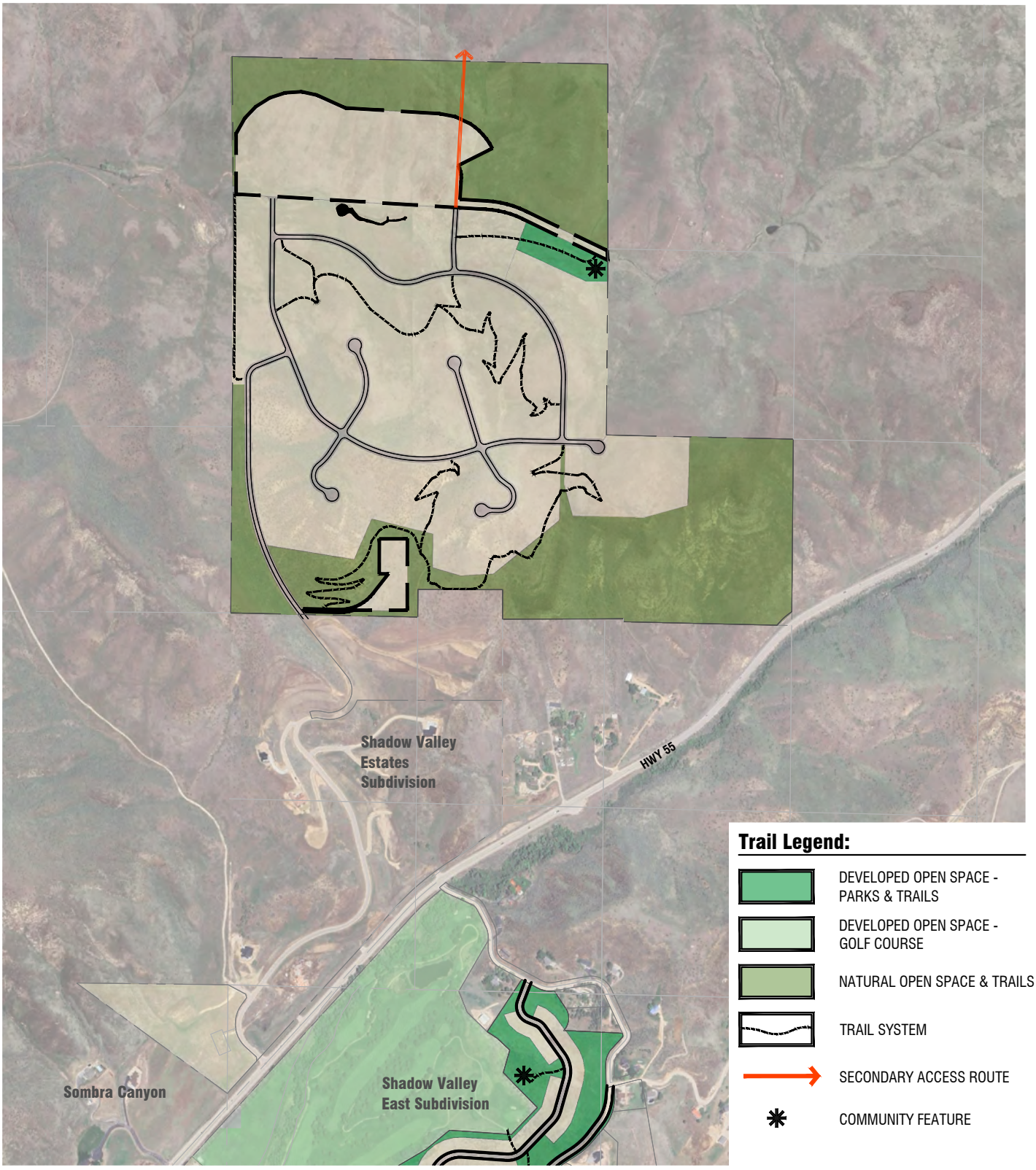
Recreational Opportunities - East

Horizontal Scale: 1" = 1000'

SHADOW VALLEY PLANNED COMMUNITY

Highway 55, ADA County, Idaho

File Location: g:\2020\120142\cad\120142 adaco_trail plan.dwg
Last Plotted By: jyl glancey
Date Plotted: Thursday, April 17 2025 at 04:41 PM



0' 1000' 2000'

Recreational Opportunities - West

Horizontal Scale: 1" = 1000'

SHADOW VALLEY PLANNED COMMUNITY

Highway 55, ADA County, Idaho

File Location: g:\2020\120142\cad\120142 adaco_trail plan.dwg
Last Plotted By: jyl glancey
Date Plotted: Thursday, April 17 2025 at 04:40 PM

KITTELSON & ASSOCIATES
101 South Capitol Boulevard, Suite 600
Boise, ID 83702
P 208.338.2683

TECHNICAL MEMORANDUM

April 15, 2025 Project# 25775

To: Brent Moore, Ada County

From: Lauren Nuxoll, PE, PTOE and Liz Kaniecki, PE

RE: Response to Jacob's Comments - Shadow Valley Development

This memorandum responds to the comments in the letter dated and received via email on April 4, 2025, from Jacobs and Ada County for the Shadow Valley Subdivision Transportation Impact Study (TIS). Jacob's comments are provided in italics followed by our response.

COMMENT #1

The Spring Creek Way/SH-55 intersection is projected to operate at LOS F under both the 2030 Mitigated Total Traffic and 2037 Total Traffic scenarios. The study should further address this impact and propose measures to fully mitigate the project's contribution.

Kittelson Response

The TIS acknowledges that the Spring Creek Way/SH-55 intersection experiences higher delays during the peak hour under 2030 and 2037 total traffic scenarios. However, it is important to note that this intersection is projected to remain well under capacity. The high average delay is a common outcome for a local street intersecting with a high-volume state highway and primarily reflects the challenge of finding acceptable gaps for side-street vehicles during peak conditions—not a failure of the intersection's capacity or operational integrity. Despite the LOS F designation for the side-street approach, vehicles are still able to access SH-55, and overall intersection operations remain within a functional range. In addition, neither ACHD nor ITD were concerned about the delay of this intersection.

In accordance with ACHD policy, turn lanes that meet volume thresholds are not included as discretionary mitigations in traffic impact studies. Instead, they are treated as standard infrastructure improvements that ACHD programs independently once specific warrants are met. These improvements are not development-driven mitigations but are triggered based on predefined thresholds established in ACHD's policy manual.

Nonetheless, if the warranted turn lanes were included in the operational analysis, the intersection would operate at LOS E—indicating improved performance—and would still remain comfortably under capacity thresholds. This reinforces that, while some delay is expected, the intersection is not projected to experience failure conditions as a result of the proposed development.

Table 1. Year 2030 Total Traffic Conditions with Warranted Turn Lanes

Intersection	Lane Group	Weekday AM Peak Hour			Weekday PM Peak Hour			Friday PM Peak Hour		
		V/C[1]	LOS[2]	Delay (s)[3]	V/C[1]	LOS[2]	Delay (s)[3]	V/C[1]	LOS[2]	Delay (s)[3]
Spring Creek Way & SH-55	WBLR	0.47	***E***	***40.9***	0.39	***E***	***48.3***	***0.35***	***E***	***43.5***
	SBL	0.01	B	10.0	0.01	B	13.5	0.01	B	13.3

It should also be noted that the 2037 analysis scenario was included at the specific request of the Idaho Transportation Department (ITD) to represent conditions seven years beyond the anticipated buildout year of 2030. This analysis is not a requirement of ACHD, Ada County, or ITD policy. It was provided as a professional courtesy to support ITD's long-range planning efforts. Because this extended horizon is outside the scope of standard traffic impact study requirements, no operational mitigations were developed for the 2037 scenario, and its results should be interpreted in that context.

COMMENT #2

The study did not provide a sight distance analysis for the proposed project's access locations. This omission fails to address ACHD's prior comment regarding the need for a sight distance analysis.

Kittelson Response

ACHD has reviewed the TIS and ACHD did not have a comment regarding a need for a sight distance analysis at the existing access locations.

COMMENT #3

A safety analysis was not provided in the study.

Kittelson Response

This comment was already provided by ACHD. The updated TIS includes this analysis.

COMMENT #4

The study does not include an analysis of roadway segments. ACHD has specifically requested the inclusion of an analysis for the Spring Creek Way section between the project approach and SH-55.

Kittelson Response

This comment was already provided by ACHD. The updated TIS includes this analysis.

We trust this memorandum provides response to Jacob's comments regarding the Shadow Valley Subdivision TIS. If you have any questions about this memo or if you require additional information, please contact us via email at lnuxoll@kittelson.com or via phone at 208.472.9817.

BOWEN COLLINS & ASSOCIATES

154 EAST 14075 SOUTH • DRAPER, UTAH 84020
TEL: (801) 495-2224 • FAX: (801) 495-2225

April 15, 2025

Ada County
200 W Front St.
Boise, Idaho 83702

Jacobs Engineering
Attn. Dr. Denny Mengel PhD
999 W Main St, Suite 1200
Boise, ID 83702

Subject: Requests From Consultant Review by Jacobs Engineering

Dear Ada County and Jacobs Engineering:

Bowen Collins & Associates (BC&A) is acting as the agent for Shadow Valley LLC to help provide necessary information for the Ada County review of their application for a planned community. Jacobs Engineering reviewed the technical reports to assess their compliance with Ada County Codes including the Natural Resource Inventory which BC&A prepared. In response to the consultant review letter from Jacobs Engineering, dated April 4, 2025, requesting additional information for this project, we provide the following responses. Jacobs Engineering's assessments of requirements as partially met or not met are listed below in the order recorded in Ada County Code followed by our responses.

Ada County Requirement 1.a

- Mineral Mapping
  a. ***Issue:*** The report provides maps and discusses prime agricultural land, soils, and minerals, except for mineral mapping.
  b. ***Response:*** A map of mineral resources will be included in the updated report.

- Wetland Review
  a. ***Issue:*** Wetlands and other Waters of the US (WOUS) results are preliminary and will be assessed in spring 2025 and a supplemental report prepared to satisfy this requirement.
  b. ***Response:*** The wetland delineation is currently scheduled for May 2025, and we anticipate a wetland delineation report to ready by June 2025. Findings from this delineation will be included in the updated report.

Ada County Requirement 1.b

- Effects to Surface Water
  a. ***Issue:*** Stormwater handling needs development to assess impacts to wetlands, WOUS, and infiltration.
  b. ***Response:*** Stormwater handling will be further discussed when community design is further along and after the wetland delineation and geotechnical investigations have been completed. Findings will be included in the updated report.

- Effect to Groundwater
  a. ***Issue:*** Geotechnical investigations will be required in spring 2025 to determine affects to groundwater and to identify if thermal water is present.
  b. ***Response:*** Geotechnical investigations including groundwater monitoring are planned for spring 2025. Findings will be included in the updated report.

Ada County Requirement 2.b.ii

- Indicators of Rangeland Health
  a. ***Issue:*** The Bureau of Land Management's (BLM) Interpretating Indicators of Rangeland Health manual (Pellant et al. 2020) was used to assess vegetation, but only nine of the 17 indicators representing biotic integrity were evaluated. Indicators related to soil and site stability and hydrologic function were not discussed.
  b. ***Response:*** Ada County Code requires the Indicators of Rangeland Health to assess vegetation. The nine indicators applying to biotic integrity were assessed. The eight remaining indicators are for hydrologic function and soil and site stability and were not assessed as they did not directly assess vegetation as required by Ada County Code. If the County requests the remaining indicators, additional fieldwork to collect this data can be scheduled for spring of 2025.

- Data Sheets
  a. ***Issue:*** No data forms were provided.
  b. ***Response:*** Data forms can be provided as an appendix in the updated report.

Ada County Requirement 2.b.iii

- Sensitive Plant Species Surveys
  a. ***Issue:*** US Fish and Wildlife Service (USFWS) and Idaho Department of Fish and Game (IDF&G) data were used to map and evaluate special status species. However, surveys for slickspot peppergrass and Aase's onion will be conducted in spring 2025 to complete this requirement.
  b. ***Response:*** These surveys will be conducted in Spring of 2025. Findings will be included in the updated report.

- IFWIS Coordination
  a. ***Issue:*** Indicate if the IFWIS was queried and the size of the buffer evaluated.
  b. **Response:** The IFWIS was queried at a ten mile buffer. This will be clarified in the updated report.

Ada County Requirement 2.b.vi

- Priority Habitat
  a. ***Issue:*** The State Wildlife Action Plan's priority habitats are not addressed.
  b. ***Response:*** Review of priority habitats as contained in the Idaho Wildlife Action Plan will be added to the updated report.

- Federal Vicinity
  a. ***Issue:*** Forest Service administered land is 5 miles from the project and species lists were not cross-referenced.

b. ***Response:*** Due to distance, terrain, and development between the Shadow Valley Planned community and Forest Service administered land, they were not determined to be within each other's vicinity. Additionally, land administered by the Bureau of Land Management (BLM) is directly adjacent to the planned community. When the BLM was contacted in the fall of 2024 about any requirements including rights of way or sensitive species review, they concluded that no species needed analysis for this area. These details will be added to the updated report.

We hope this provides all the data you need to move forward with the planned community public review. Please let us know if there is anything further that you need.

Sincerely,

Merissa Davis, Senior Biologist
Elena Capson, Wildlife Biologist

Bowen Collins & Associates

MEMORANDUM

ADA COUNTY DEVELOPMENT SERVICES

TO: Ada County Planning & Zoning Commission

FROM: Brent Moore, Senior Community & Regional Planner

DATE: May 8, 2025

RE: Project No. 202402701-PC-CPA

Commissioners,

Ada County Development Services requests Project No. 202402701-PC-CPA be tabled to the June 12, 2025, Planning & Zoning Commission Hearing, in order to allow transportation agencies additional time to review and provide comments on the application.

SIGN POSTING CERTIFICATION (ACC 8-7A-5)

GENERAL INFORMATION:

You must post the property:

- At least **ten (10) days** prior to the public hearing.

The sign certification form must be submitted:

- At least **seven (7) days** prior to the scheduled public hearing.

Please review Section 8-7A-5 of the Ada County Code for all sign posting requirements.

Please attach dated photographs of each sign with the sign posting certification.

PROJECT INFORMATION:

SITE ADDRESS: Generally located at 15711 Highway 55 **CITY:** Boise

SECTION: _____ **TOWNSHIP:** _____ **RANGE:** _____

SUBDIVISION NAME: Shadow Valley Planned Community **LOT(S):** _____ **BLOCK(S):** _____

TAX PARCEL NUMBER(s): See sign posting information for detail **CURRENT ZONING DISTRICT:** RR/RP

FILE NUMBER: _____ **DATE POSTED:** _____

APPLICANT (Please Print):

NAME: Kerstin Dettrich on behalf of Larry Kine

ADDRESS: 250 NW Franklin Ave, Ste 401

CITY: Bend **STATE:** OR **ZIP:** 97703

TELEPHONE: 541-617-1999 **FAX:** _____

EMAIL: kerstin@camberservices.com, larrykine@gmail.com

I certify that the property was posted at least ten (10) days prior to the scheduled public hearing and have attached dated photographs of each sign in accordance with Section 8-7A-5 of the Ada County Code:

Kerstin Dettrich — 5/8/2025

Signature (Applicant) **Date**

Please draw a diagram of sign location(s) on the property:

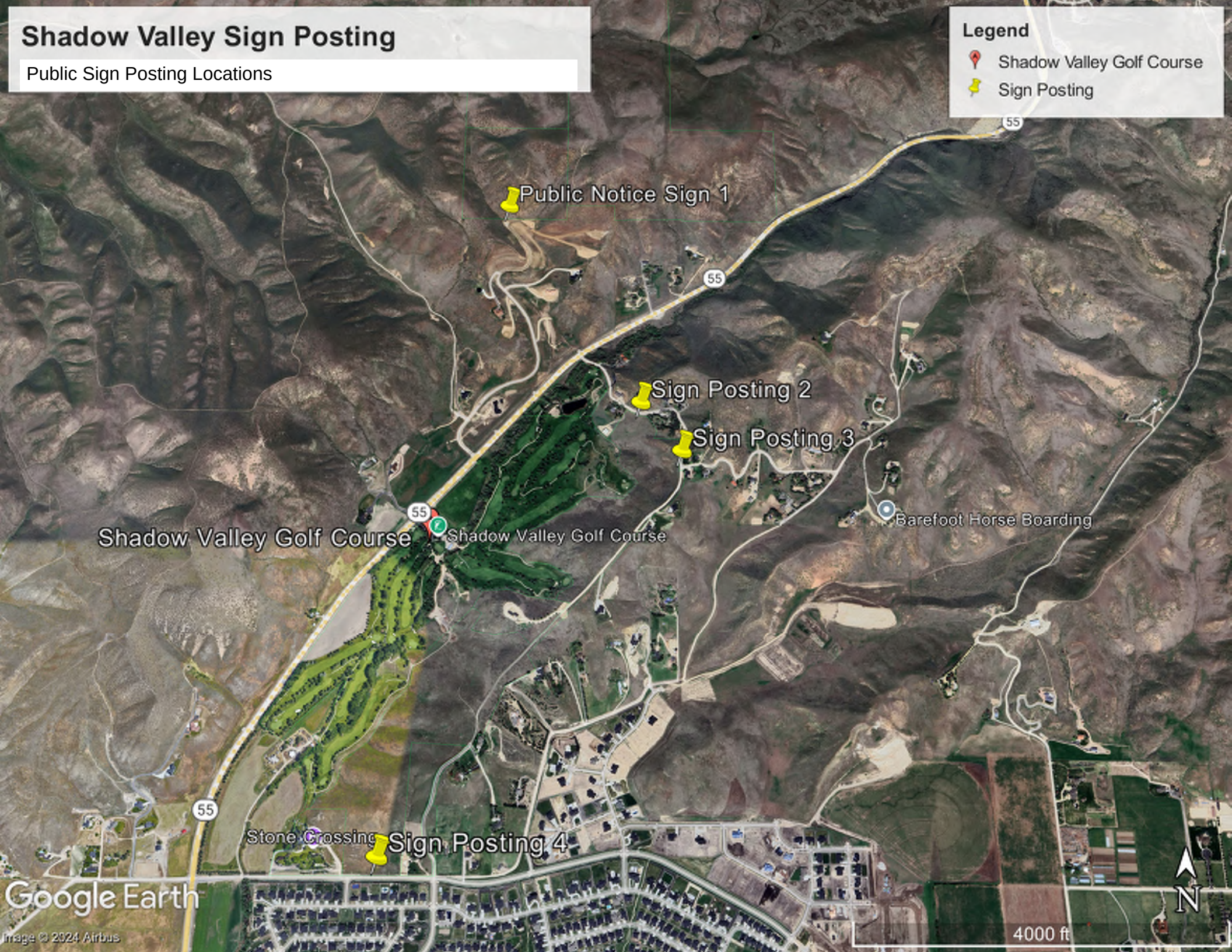
N

see map included

OFFICE USE ONLY			
PROJECT #:		RECIEVED BY:	
DATE:		DATE STAMPED:	☐

Shadow Valley Sign Posting

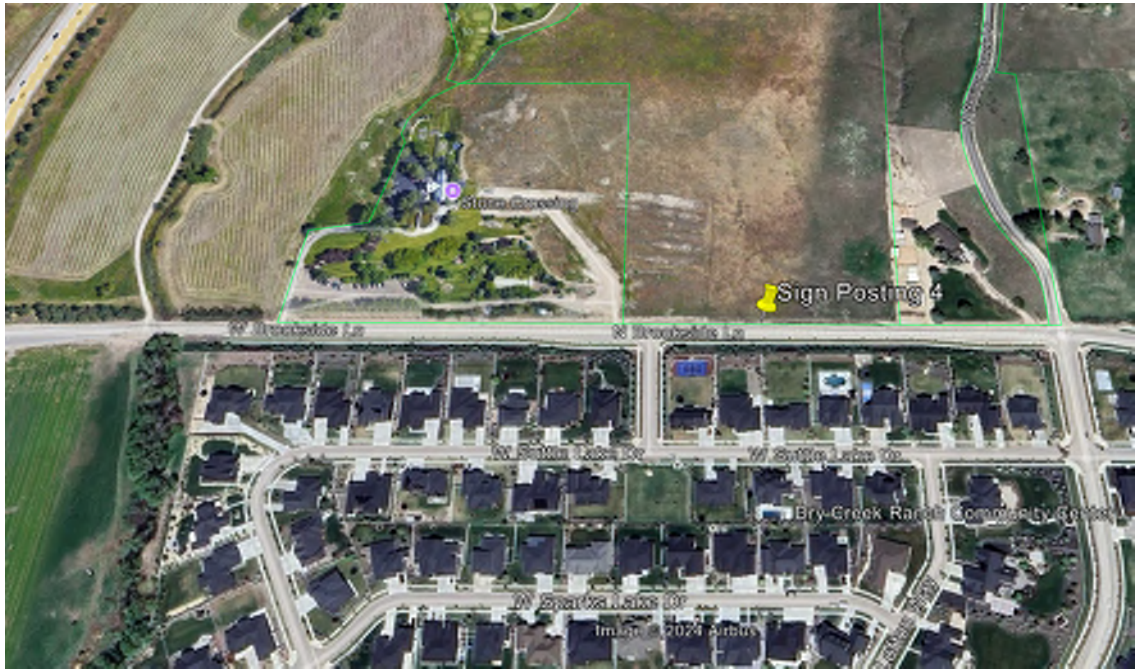
Public Sign Posting Locations





The owners of the new development developed this neighborhood so it is acceptable to place a public hearing sign in the ROW close to the parcel line and next to the roadway extension barricade.






ADA COUNTY PUBLIC HEARING NOTICE
Ada County Planning & Zoning Commission
Ada County will hold a public hearing on May 8, 2025 at 6:00 p.m. in the Commissioners Main Hearing Room #1235, on the first floor, 200 W. Front Street, Boise, ID.
This hearing will be conducted via WebEx Video Conference. We encourage the public to testify via WebEx Video Conference or by submitting written testimony. We will be allowing a limited number of people to testify in person at the courthouse. To testify either via WebEx or in person, you will be required to sign up one week in advance (www.adacounty.id.gov/developmentservices).
PURPOSE: A Comprehensive Plan and Text Amendment application will be heard by the planning and zoning commission for Shadow Valley Planned Community.
PROPERTY SIZE AND LOCATION: The property contains approximately 560 acres and is located on the east and west sides of Highway 55 at the Shadow Valley Golf Course, 15711 Highway 55, Boise, Idaho 83703. Parcel Numbers: R7824100100, S0213330000, S0224212450, S0224220000, S0224230000, S0225212500, S0225233110, S0226141900, S0226449067, S0226449825
APPLICATION BY: Shadow Valley Planned Community (SVP LLC)
PROJECT NUMBER /PLANNER NAME /PLANNER PHONE NUMBER: 202402701-PC-CPA, / Brent Moore /208-287-7900


ADA COUNTY PUBLIC HEARING NOTICE
Ada County Planning & Zoning Commission
Ada County will hold a public hearing on May 8, 2025 at 6:00 p.m. in the Commissioners Main Hearing Room #1235, on the first floor, 200 W. Front Street, Boise, ID.
PURPOSE: A Comprehensive Plan and Text Amendment application will be heard by the planning and zoning commission for Shadow Valley Planned Community.
PROPERTY SIZE AND LOCATION: The property contains approximately 560 acres and is located on the east and west sides of Highway 55 at the Shadow Valley Golf Course, 15711 Highway 55, Boise, Idaho 83703. Parcel Numbers: R7824100100, S0213330000, S0224212450, S0224220000, S0224230000, S0225212500, S0225233110, S0226141900, S0226449067, S0226449825
APPLICATION BY: Shadow Valley Planned Community (SVP LLC)
PROJECT NUMBER /PLANNER NAME /PLANNER PHONE NUMBER: 202402701-PC-CPA, / Brent Moore /208-287-7900


ADA COUNTY PUBLIC HEARING NOTICE
Ada County Planning & Zoning Commission
Ada County will hold a public hearing on May 8, 2025 at 6:00 p.m. in the Commissioners Main Hearing Room #1235, on the first floor, 200 W. Front Street, Boise, ID.
This hearing will be conducted via WebEx Video Conference. We encourage the public to testify via WebEx Video Conference or by submitting written testimony. We will be allowing a limited number of people to testify in person at the courthouse. To testify either via WebEx or in person, you will be required to sign up one week in advance (www.adacounty.id.gov/developmentservices).
PURPOSE: A Comprehensive Plan and Text Amendment application will be heard by the planning and zoning commission for Shadow Valley Planned Community.
PROPERTY SIZE AND LOCATION: The property contains approximately 560 acres and is located on the east and west sides of Highway 55 at the Shadow Valley Golf Course, 15711 Highway 55, Boise, Idaho 83703. Parcel Numbers: R7824100100, S0213330000, S0224212450, S0224220000, S0224230000, S0225212500, S0225233110, S0226141900, S0226449067, S0226449825
APPLICATION BY: Shadow Valley Planned Community (SVP LLC)
PROJECT NUMBER /PLANNER NAME /PLANNER PHONE NUMBER: 202402701-PC-CPA, / Brent Moore /208-287-7900


ADA COUNTY PUBLIC HEARING NOTICE
Ada County Planning & Zoning Commission
Ada County will hold a public hearing on May 8, 2025 at 6:00 p.m. in the Commissioners Main Hearing Room #1235, on the first floor, 200 W. Front Street, Boise, ID.
This hearing will be conducted via WebEx Video Conference. We encourage the public to testify via WebEx Video Conference or by submitting written testimony. We will be allowing a limited number of people to testify in person at the courthouse. To testify either via WebEx or in person, you will be required to sign up one week in advance (www.adacounty.id.gov/developmentservices).
PURPOSE: A Comprehensive Plan and Text Amendment application will be heard by the planning and zoning commission for Shadow Valley Planned Community.
PROPERTY SIZE AND LOCATION: The property contains approximately 560 acres and is located on the east and west sides of Highway 55 at the Shadow Valley Golf Course, 15711 Highway 55, Boise, Idaho 83703. Parcel Numbers: R7824100100, S0213330000, S0224212450, S0224220000, S0224230000, S0225212500, S0225233110, S0226141900, S0226449067, S0226449825
APPLICATION BY: Shadow Valley Planned Community (SVP LLC)
PROJECT NUMBER /PLANNER NAME /PLANNER PHONE NUMBER: 202402701-PC-CPA, / Brent Moore /208-287-7900


ADA COUNTY PUBLIC HEARING NOTICE
Ada County Planning & Zoning Commission
Ada County will hold a public hearing on May 8, 2025 at 6:00 p.m.
in the Commissioners Main Hearing Room #1235,
on the first floor, 200 W. Front Street, Boise, ID.
This hearing will be conducted via WebEx Video Conference. We encourage the public to testify via WebEx Video Conference or by submitting written testimony. We will be allowing a limited number of people to testify in person at the courthouse. To testify either via WebEx or in person, you will be required to sign up one week in advance (www.adacounty.id.gov/developmentservices).
PURPOSE: A Comprehensive Plan and Text Amendment application will be heard by the planning and zoning commission for Shadow Valley Planned Community.
PROPERTY SIZE AND LOCATION: The property contains approximately 560 acres and is located on the east and west sides of Highway 55 at the Shadow Valley Golf Course, 15711 Highway 55, Boise, Idaho 83703. Parcel Numbers: R7824100100, S0213330000, S0224212450, S0224220000, S0224230000, S0225212500, S0225233110, S0226141900, S0226449067, S0226449825
APPLICATION BY: Shadow Valley Planned Community (SVP LLC)
PROJECT NUMBER /PLANNER NAME /PLANNER PHONE NUMBER:
202402701-PC-CPA, / Brent Moore /208-287-7900


ADA COUNTY PUBLIC HEARING NOTICE
Ada County Planning & Zoning Commission
Ada County will hold a public hearing on May 8, 2025 at 6:00 p.m.
in the Commissioners Main Hearing Room #1235,
on the first floor, 200 W. Front Street, Boise, ID.
This hearing will be conducted via WebEx Video Conference. We encourage the public to testify via WebEx Video Conference or by submitting written testimony. We will be allowing a limited number of people to testify in person at the courthouse. To testify either via WebEx or in person, you will be required to sign up one week in advance (www.adacounty.id.gov/developmentservices).
PURPOSE: A Comprehensive Plan and Text Amendment application will be heard by the planning and zoning commission for Shadow Valley Planned Community.
PROPERTY SIZE AND LOCATION: The property contains approximately 560 acres and is located on the east and west sides of Highway 55 at the Shadow Valley Golf Course, 15711 Highway 55, Boise, Idaho 83703. Parcel Numbers: R7824100100, S0213330000, S0224212450, S0224220000, S0224230000, S0225212500, S0225233110, S0226141900, S0226449067, S0226449825
APPLICATION BY: Shadow Valley Planned Community (SVP LLC)
PROJECT NUMBER /PLANNER NAME /PLANNER PHONE NUMBER:
202402701-PC-CPA, / Brent Moore /208-287-7900


ADA COUNTY PUBLIC HEARING NOTICE
Ada County Planning & Zoning Commission
Ada County will hold a public hearing on May 8, 2025 at 6:00 p.m.
in the Commissioners Main Hearing Room #1235,
on the first floor, 200 W. Front Street, Boise, ID.
This hearing will be conducted via WebEx Video Conference. We encourage the public to testify via WebEx Video Conference or by submitting written testimony. We will be allowing a limited number of people to testify in person at the courthouse. To testify either via WebEx or in person, you will be required to sign up one week in advance (www.adacounty.id.gov/developmentservices).
PURPOSE: A Comprehensive Plan and Text Amendment application will be heard by the planning and zoning commission for Shadow Valley Planned Community.
PROPERTY SIZE AND LOCATION: The property contains approximately 560 acres and is located on the east and west sides of Highway 55 at the Shadow Valley Golf Course, 15711 Highway 55, Boise, Idaho 83703. Parcel Numbers: R7824100100, S0213330000, S0224212450, S0224220000, S0224230000, S0225212500, S0225233110, S0226141900, S0226449067, S0226449825
APPLICATION BY: Shadow Valley Planned Community (SVP LLC)
PROJECT NUMBER /PLANNER NAME /PLANNER PHONE NUMBER:
202402701-PC-CPA, / Brent Moore /208-287-7900


ADA COUNTY PUBLIC HEARING NOTICE
Ada County Planning & Zoning Commission
Ada County will hold a public hearing on May 8, 2025 at 6:00 p.m.
in the Commissioners Main Hearing Room #1235,
on the first floor, 200 W. Front Street, Boise, ID.
This hearing will be conducted via WebEx Video Conference. We encourage the public to testify via WebEx Video Conference or by submitting written testimony. We will be allowing a limited number of people to testify in person at the courthouse. To testify either via WebEx or in person, you will be required to sign up one week in advance (www.adacounty.id.gov/developmentservices).
PURPOSE: A Comprehensive Plan and Text Amendment application will be heard by the planning and zoning commission for Shadow Valley Planned Community.
PROPERTY SIZE AND LOCATION: The property contains approximately 560 acres and is located on the east and west sides of Highway 55 at the Shadow Valley Golf Course, 15711 Highway 55, Boise, Idaho 83703. Parcel Numbers: R7824100100, S0213330000, S0224212450, S0224220000, S0224230000, S0225212500, S0225233110, S0226141900, S0226449067, S0226449825
APPLICATION BY: Shadow Valley Planned Community (SVP LLC)
PROJECT NUMBER /PLANNER NAME /PLANNER PHONE NUMBER:
202402701-PC-CPA, / Brent Moore /208-287-7900

Your Safety • Your Mobility
Your Economic Opportunity

IDAHO TRANSPORTATION DEPARTMENT
P.O. Box 8028 • Boise, ID 83707-2028
(208) 334-8300 • itd.idaho.gov

May 19, 2025

Liz Kaniecki
Kittelson & Associates, Inc.

RE: Shadow Valley Development - ITD Development Staff Report

Dear Liz,

The Idaho Transportation Department (ITD) has completed our review of the Shadow Valley Development Traffic Impact Study (TIS). The proposed development will be located on the east and west side of SH-55 between Brookside Lane and Spring Creek Way in Ada County, Idaho.

Development Summary

- The proposed development will include 218 single-family detached and 88 single-family attached homes on the east side, and 89 single family homes on the west side.

ITD Staff Requirements

- **SH-55 & High Valley Way:**
  - Construct a 390' northbound left turn lane with the following dimensions:
    - 340' deceleration
    - 50' storage
    - 770' taper
    - Installation must be complete by 2030
- **SH-55 & Spring Creek Way:**
  - Construct a 390' southbound left turn lane with the following dimensions:
    - 340' deceleration
    - 50' storage
    - 770' taper
    - Installation must be complete by 2030
  - Construct a 520' northbound right turn lane with the following dimensions:
    - 340' deceleration
    - 180' taper
    - Installation must be complete by 2030
  - Construct a two-way left turn lane to allow for a two-stage westbound left-turns onto SH-55
    - 100' minimum lane length
    - Installation must be complete by 2030

Right-of-Way (ROW) Dedication

- ROW dedication will need to be equal to what is necessary to construct the above-referenced mitigations, excluding the two-way left turn lane.

Exhibit 61
Page 1 of 2
202402701-PC-CPA

IDAHO TRANSPORTATION DEPARTMENT
P.O. Box 8028 • Boise, ID 83707-2028
(208) 334-8300 • itd.idaho.gov

Expiration of Staff Report

- This staff report is valid for one year after anticipated build out. In the event of significant delays, this staff report will no longer be valid and ITD may request an updated TIS to reflect current traffic conditions.

Permit Requirements

- Once Civil Plans have been drafted for any work occurring in ITD's Right-of-Way, submit an access permit application via our online permitting tool here.
    - ITD staff will receive the application and all submitted supportive documents, which should include:
        - Civil Plans
        - Parcel Deed
        - Cross-Access or Access Easement, if applicable
        - Traffic Control Plan designed by a certified Traffic Control Supervisor
    - Access and Utility Permits
        - Both Access and Utility Permits, if required, for work being done in ITD ROW will need to be submitted for reviewed and approved by ITD staff prior to work beginning.

Notices

- This report does not supersede or nullify any local land use requirements or legal property restrictions. Legal property restrictions include but are not limited to easements, access agreements, deed restrictions, plat restrictions, liens or other encumbrances. Removing, modifying, or establishing legal property restrictions is the responsibility of the developer.
- This report does not constitute a permit approval, or denial issued pursuant to IDAPA 29.03.42.
- Any allowance for access/encroachment on a state highway granted in this report is subject to changes in requirements/restrictions, and removal in the future for reasons of safety, capacity, and other ITD planning efforts.

ITD Staff Recommendations are intended to assure that the proposed development will not place an undue burden on the existing State Highway system within the vicinity impacted by the proposed development. Maintaining safety and mobility for Idaho's motorists is of utmost importance to ITD. We appreciate your improvements to livability in Ada County, Idaho, as we want all residents to travel safely and efficiently on the highway system.

If you have any questions, feel free to contact me at Brian.Duran@itd.idaho.gov or Kendra Conder, Development Services Coordinator, at (208) 334-8377 or email Kendra.Conder@itd.idaho.gov.

Sincerely,



Brian Duran
Development Services Manager
Idaho Transportation Department | District 3

Aase's Onion Survey Report

SHADOW VALLEY PLANNED COMMUNITY PROJECT

ADA COUNTY, IDAHO

Prepared for:

SVP, LLC
250 NW Franklin Ave. #401
Bend, OR 97703
(541) 280-4937

Prepared by:

BOWEN COLLINS & ASSOCIATES

154 East 14075 South
Draper, UT 84020
801-495-2224

May 2025

TABLE OF CONTENTS

Page

1.0 INTRODUCTION 1
1.1 Purpose 1
2.0 AASE'S ONION HABITAT REQUIREMENTS AND LIFE HISTORY 1
3.0 SURVEY METHODS 1
3.1 Preliminary Habitat Determination 1
3.2 Field Survey Methods 2
4.0 SURVEY RESULTS 2
5.0 CONCLUSION 2
6.0 LITERATURE CITED 3

LIST OF APPENDICES

APPENDIX A Site Location Maps
APPENDIX B Survey Results Figure
APPENDIX C Survey Photos
APPENDIX D Soil Figure and NRCS Custom Soils Resource Report

ACRONYMS & ABBREVIATIONS

BC&A – Bowen Collins & Associates
IDFG – Idaho Department of Fish and Game
NAIP – National Agriculture Imagery Program
NRCS – National Resource Conservation Service

1.0 INTRODUCTION

This survey report has been prepared by Bowen Collins & Associates (BC&A), on behalf of SVP, LLC for the Shadow Valley Planned Community in Ada County, Idaho (see Site Location Maps, Appendix A). SVP, LLC is planning a low-density community northeast of the city of Eagle in Ada County, about five miles from the Boise National Forest. As parts of the project area fall within habitat for the Idaho State sensitive species, Aase's onion *(Allium asseae),* a survey was necessary to determine the impact that the project would potentially have on this species.

1.1 Purpose

The purpose of this Survey Report, as prepared by BC&A, is to assess the presence of Aase's onion within the project area. As a part of the planned community application process, Ada County requires an analysis of all state special status species in addition to all federally listed threatened or endangered species that have the potential to occur within the boundaries of the planned community. The Idaho Department of Fish and Game (IDFG) was consulted in regard to state special status species, and they identified this area as potentially suitable habitat for Aase's onion. To comply with Ada County requirements, presence surveys for Aase's onion were conducted during the 2025 blooming season, and the following report discusses the findings of that survey.

2.0 AASE'S ONION HABITAT REQUIREMENTS AND LIFE HISTORY

Aase's onion *(Allium asseae)* is a rare plant that is endemic to southern Idaho. With populations in Ada, Bosie, Gem Payette and Washington Counties (Caicco et. al., 2020). They predominantly reproduce though bulb division in rhizomatous patterns which leads to populations often being found in patches or lines. When conditions allow, these populations can include hundreds of individuals. Aase's onion flowers in early spring during March and April. They produce a distinct pink flower at the base of the plant.

Aase's onion is likely rare in part due to its very particular habitat requirements. It is only found within a specific topographic setting with a distinct soil substrate that also supports the proper plant community. Aase's onion is most commonly found on steep south facing aspects ranging from east to west. Soils within this topographical range must consist of alluvial granite material that is typically coarse textured deep and well drained (Caicco et. al., 2020). Plant communities often consist of red three-awn (*Aristida purpurea*), antelope bitterbrush (*Purshia tridentata)*, and big sagebrush (*Artemisia tridentata*) that sparsely populate the habitat patch. Aase's Onion can easily be crowded out if other vegetation increases in density. This makes the species especially susceptible to invasive weeds common in the area such as cheatgrass (*Bromus tectorum*) and rush skeletonweed (*Chondrilla juncea*). Although Aase's onion doesn't receive direct heavy grazing pressure, soil compaction and other indirect impacts make intensely grazed areas unsuitable for Aase's onion.

3.0 SURVEY METHODS

3.1 Preliminary Habitat Determination

Prior to field surveys, BC&A reviewed NAIP aerial imagery, soil data provided by Web Soil Survey, and previous survey reports for Aase's onion conducted on adjacent properties (Esri and USDA-FSA, 2023; NRCS, 2025; Mancuso, 2018). Data from these resources were combined to determine suitable areas to analyze in the field. The planned community is divided into two distinct and separate areas as shown in Figure 1, Appendix A. The lower area was not surveyed as soils and the plant communities in this area are not suitable habitat for Aase's onion. As such, the focus of fieldwork and this report is the upper area as shown in the subsequent figures.

Pre-survey coordination was also conducted with Idaho rare plant botanist Ann DeBolt via email to better inform BC&A of Aase's onion blooming status and potential field conditions.

3.2 Field Survey Methods

The lower area was visited and verified to have no suitable habitat for Aase's onion. Thus, no surveys were conducted on this portion of the property. Surveys were conducted on the upper area by walking meandering transects and evaluating suitable habitat designated during the preliminary habitat determination. The area was divided by the two biologists to examine different locations along the slopes of the area. Data was recorded in Esri's Field Maps using a Trimble R1 or Bad Elf Flex Mini GPS device for sum-meter accuracy. Meandering transect lines were tracked to ensure sufficient coverage of the area, and occurrences of Aase's onion were recorded as points with the intent to find the boundaries of the population. Pictures were captured throughout the survey that depict the plant and suitable or unsuitable habitat (see Survey Photos, Appendix C).

4.0 SURVEY RESULTS

BC&A biologists Elena Capson and Samantha McConkie conducted surveys on April 16 and 17, 2025 during daylight hours. On the first day of surveys, field conditions were warm to hot with temperatures between 65 and 70 degrees accompanied by clear skies. Wind speeds were between 8 and 16 miles per hour but averaged about 14. On the second day of surveys, conditions were cooler and partly cloudy with temperatures ranging from 47 to 60 degrees. High winds were observed in the mornings with speeds ranging from 18 to 26 miles per hour throughout the survey. The ground was snow free and vegetation was actively growing at the time of surveys.

Due to community growth pattern typical of Aase's onion, GPS points were not taken for every individual, but a 50-ft buffer was mapped around observed occurrences to account for potentially undetectable individuals. Occupied habitat polygons were further modified based on population and habitat trends observed in the field. Individuals, occupied habitat, and survey transect lines are shown on the Survey Results Figure (Appendix B).

BC&A surveyors found an abundance of Aase's onion in bloom and were able to confidently identify the plant. Photos taken in the field were cross-referenced with "Call Me *Allium*: A Guide to Oregon's Native Onions" (Roché et al., 2023) that reviews Aase's onion and other similar species in the genus as well as Idaho rare plant botanist Ann DeBolt (DeBolt, 2025). Both sources confirmed that Aase's onion were observed and not a similar species.

Soil, aspect, and plant community are the greatest factors of suitable habitat for Aase's onion. The project area is predominantly alluvium derived from igneous rock or colluvium derived from granite with surface textures of loam to sand (NRCS, 2025). The soils grow coarser and are more suitable for Aase's onion towards the south, where the steep slopes are present. All populations of Aase's onion were identified on the southern-facing slopes, ranging from west to east, where the soils and plant community meet habitat requirements. Aase's onions were often found skirting around shrubs, such as antelope bitterbrush and big sagebrush, but could also be found in areas where there was little vegetation. Areas with dense shrubs or grasses were not suitable, and Aase's onion was not found in these conditions. A figure with the names of the soil types within the planned community site, along with a Custom Soil Resource Report for Ada County, Idaho (NRCS, 2025) is available in Appendix D.

5.0 CONCLUSION

Field observations by BC&A biologists resulted in approximately 17 acres of suitable habitat found to be occupied by Aase's onion.

6.0 LITERATURE CITED

Caicco, S.L., and E. Joyal (1990), rev. M. Mancuso (1996), rev. A. Tomaino (2020). NatureServe Explorer. NatureServe Conservation Status Factors Edition for Aase's Onion. Accessed online May 5, 2025 at https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.129345/Allium_aaseae

DeBolt, Ann, Idaho Native Plant Society. 2025. *Emails regarding Aase's Onion.* April 14-21, 2025.

Esri, U.S. Department of Agriculture (USDA) Farm Service Agency (FSA). 2023. National Agriculture Imagery Program (NAIP).

Mancuso, Michael. 2018. Field survey for Aase's onion (*Allium aaseae*) in the proposed Shadow Valley Estates project area. Mancuso Botanical Services.

Roché, C., F. Callahan, K. Sturgeon, N. LeClear. 2023. Call me *Allium*: a guide to Oregon's native onions. Native Plant Society of Oregon Occasional Paper No. 4. 47 pp.

NRCS. 2025. Custom Soil Resource Report for Ada County, Idaho. National Resources Conservation Services and Forest Service, in Cooperation with the Utah Agricultural Experiment Station.

APPENDIX A

Site Location Maps

LEGEND

Shadow Valley Planned Community (550 ac)

Upper Area

Lower Area

55

N Horseshoe Bend Rd

N High Valley Way

Shadow Valley Golf Course

N Spring Creek Ln

W Brookside Ln

N Power Way

N Broken Horn Rd

W Mirror Pond Dr

W Sparks Lake Dr

W Suttle Lake Dr

W Dry Creek Rd

W Echanove D

BOWEN COLLINS & ASSOCIATES	CAMBER SERVICES SHADOW VALLEY PLANNED COMMUNITY	SITE LOCATION	NORTH: NORTH	SCALE: 0 500 1,000 Feet	FIGURE NO. 1

P:\Shadow Valley\834-24-01 Shadow Valley Planned Community\3.0 GIS\3.4 APRX\Shadow Valley Baseline.aprx Smcconkie 5/6/2025

L E G E N D

- Shadow Valley Planned Community (280 ac)
- Minor Contours - 10ft (Drone Imagry 2024)
- Major Contours - 50ft (Drone Imagry 2024)

Source: Esri, USDA FSA

BOWEN COLLINS & ASSOCIATES

CAMBER SERVICES

SHADOW VALLEY
PLANNED COMMUNITY

TOPOGRAPHY

NORTH:

SCALE: 0 250 500 Feet

FIGURE NO. 2

P:\Shadow Valley\834-24-01 Shadow Valley Planned Community\3.0 GIS\3.4 APRX\Shadow Valley Baseline.aprx Smcconkie 5/6/2025

APPENDIX B

Survey Results Figure

L E G E N D

- Shadow Valley Planned Community (280 ac)
- Aases Onion Occurence
- April 2025 Aase's Onion Occupied Habitat (17 ac)
- Meandering Transect Lines

BOWEN COLLINS & ASSOCIATES

CAMBER SERVICES

SHADOW VALLEY PLANNED COMMUNITY

AASE'S ONION SURVEY RESULTS

NORTH:

NORTH

SCALE:

0 250 500 Feet

FIGURE NO.

3

P:\Shadow Valley\834-24-01 Shadow Valley Planned Community\3.0 GIS\3.4 APRX\Shadow Valley Baseline.aprx Smcconkie 5/6/2025

APPENDIX C

Survey Photos

Shadow Valley Planned Community
Camber services





Shadow Valley Planned Community
Camber services





Shadow Valley Planned Community
Camber services



APPENDIX D

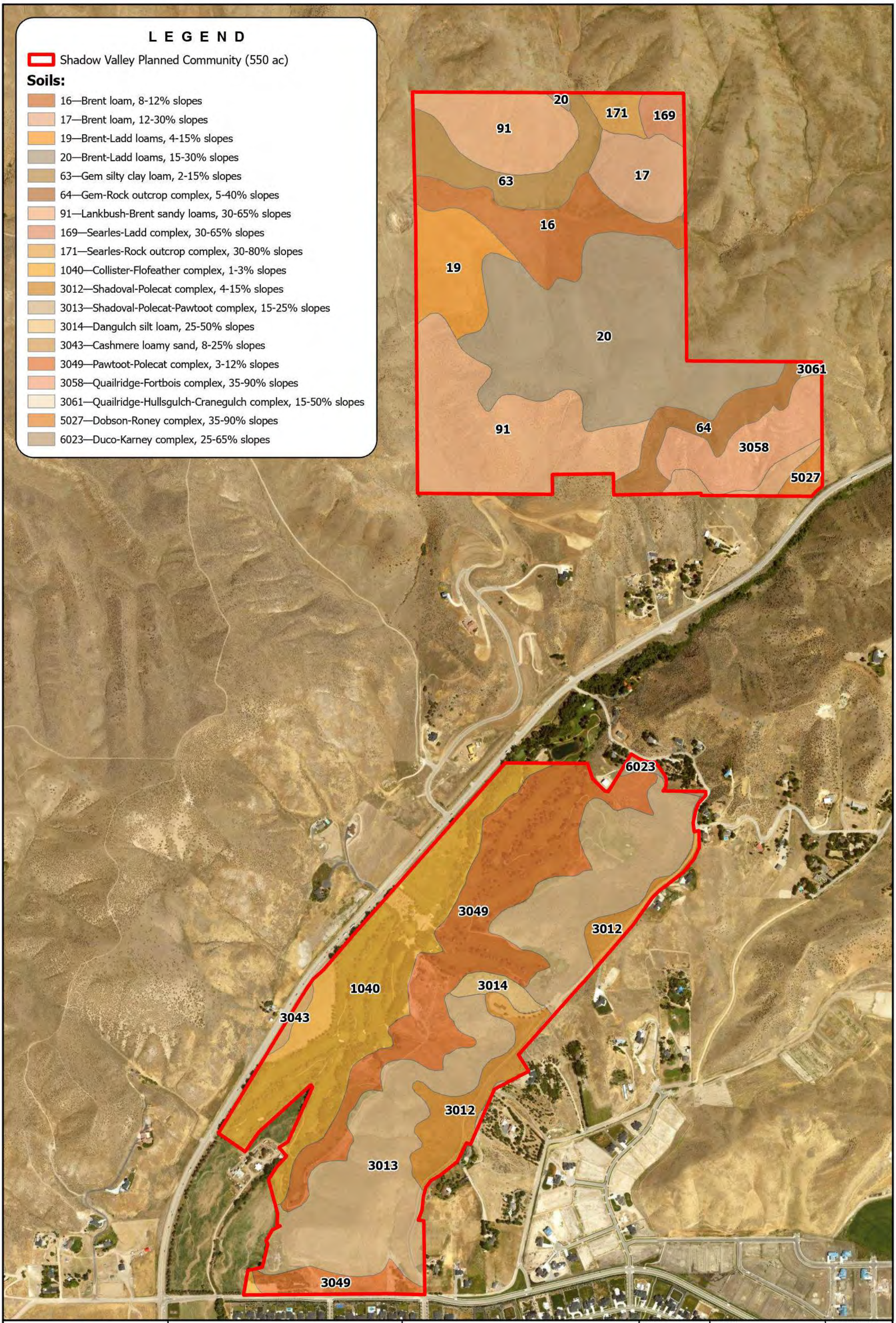
Soil Figure and NRCS Custom Soils Resource Report

L E G E N D

Shadow Valley Planned Community (550 ac)

Soils:

- 16—Brent loam, 8-12% slopes
- 17—Brent loam, 12-30% slopes
- 19—Brent-Ladd loams, 4-15% slopes
- 20—Brent-Ladd loams, 15-30% slopes
- 63—Gem silty clay loam, 2-15% slopes
- 64—Gem-Rock outcrop complex, 5-40% slopes
- 91—Lankbush-Brent sandy loams, 30-65% slopes
- 169—Searles-Ladd complex, 30-65% slopes
- 171—Searles-Rock outcrop complex, 30-80% slopes
- 1040—Collister-Flofeather complex, 1-3% slopes
- 3012—Shadoval-Polecat complex, 4-15% slopes
- 3013—Shadoval-Polecat-Pawtoot complex, 15-25% slopes
- 3014—Dangulch silt loam, 25-50% slopes
- 3043—Cashmere loamy sand, 8-25% slopes
- 3049—Pawtoot-Polecat complex, 3-12% slopes
- 3058—Quailridge-Fortbois complex, 35-90% slopes
- 3061—Quailridge-Hullsgulch-Cranegulch complex, 15-50% slopes
- 5027—Dobson-Roney complex, 35-90% slopes
- 6023—Duco-Karney complex, 25-65% slopes



BOWEN COLLINS & ASSOCIATES	CAMBER SERVICES SHADOW VALLEY PLANNED COMMUNITY	SOILS	NORTH:	SCALE: 0 250 500 Feet	FIGURE NO. 4

P:\Shadow Valley\834-24-01 Shadow Valley Planned Community\3.0 GIS\3.4 APRX\Shadow Valley Baseline.aprx Smcconkie 5/6/2025

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Ada County, Idaho



April 23, 2025

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

Contents

Preface.....2
How Soil Surveys Are Made.....5
Soil Map.....8
Soil Map.....9
Legend.....10
Map Unit Legend.....11
Map Unit Descriptions.....11
Ada County, Idaho.....14
16—Brent loam, 8 to 12 percent slopes.....14
17—Brent loam, 12 to 30 percent slopes.....15
19—Brent-Ladd loams, 4 to 15 percent slopes.....16
20—Brent-Ladd loams, 15 to 30 percent slopes.....17
63—Gem silty clay loam, 2 to 15 percent slopes.....19
64—Gem-Rock outcrop complex, 5 to 40 percent slopes.....20
91—Lankbush-Brent sandy loams, 30 to 65 percent slopes.....21
169—Searles-Ladd complex, 30 to 65 percent slopes.....22
171—Searles-Rock outcrop complex, 30 to 80 percent slopes.....24
3058—Quailridge-Fortbois complex, 35 to 90 percent slopes.....25
3061—Quailridge-Hullsgulch-Cranegulch complex, 15 to 50 percent slopes.....27
5027—Dobson-Roney complex, 35 to 90 percent slopes.....29
References.....31

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map



Map Scale: 1:9,480 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 100 200 400 600

Feet
0 450 900 1800 2700

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Ada County, Idaho
Survey Area Data: Version 12, Aug 23, 2024

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Sep 9, 2023—Sep 14, 2023

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
16	Brent loam, 8 to 12 percent slopes	25.2	9.0%
17	Brent loam, 12 to 30 percent slopes	15.4	5.5%
19	Brent-Ladd loams, 4 to 15 percent slopes	18.7	6.6%
20	Brent-Ladd loams, 15 to 30 percent slopes	80.5	28.6%
63	Gem silty clay loam, 2 to 15 percent slopes	18.1	6.4%
64	Gem-Rock outcrop complex, 5 to 40 percent slopes	13.9	4.9%
91	Lankbush-Brent sandy loams, 30 to 65 percent slopes	77.5	27.5%
169	Searles-Ladd complex, 30 to 65 percent slopes	4.4	1.6%
171	Searles-Rock outcrop complex, 30 to 80 percent slopes	4.5	1.6%
3058	Quailridge-Fortbois complex, 35 to 90 percent slopes	19.8	7.0%
3061	Quailridge-Hullsgulch-Cranegulch complex, 15 to 50 percent slopes	0.6	0.2%
5027	Dobson-Roney complex, 35 to 90 percent slopes	2.9	1.0%
Totals for Area of Interest		**281.4**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion

of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Ada County, Idaho

16—Brent loam, 8 to 12 percent slopes

Map Unit Setting

National map unit symbol: 2q7n
Elevation: 2,700 to 4,000 feet
Mean annual precipitation: 12 to 15 inches
Mean annual air temperature: 48 to 52 degrees F
Frost-free period: 140 to 155 days
Farmland classification: Not prime farmland

Map Unit Composition

Brent and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Brent

Setting

Landform: Terraces
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from igneous rock

Typical profile

A - 0 to 18 inches: loam
Bt - 18 to 29 inches: clay
Btk - 29 to 40 inches: clay
2Bk - 40 to 46 inches: gravelly clay loam
3C - 46 to 64 inches: gravelly loamy coarse sand

Properties and qualities

Slope: 8 to 12 percent
Depth to restrictive feature: 12 to 19 inches to abrupt textural change
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 3.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4s
Hydrologic Soil Group: D
Ecological site: R010XY007ID - Loamy 12-16 PZ
Hydric soil rating: No

17—Brent loam, 12 to 30 percent slopes

Map Unit Setting

National map unit symbol: 2q80
Elevation: 2,700 to 4,000 feet
Mean annual precipitation: 12 to 15 inches
Mean annual air temperature: 48 to 52 degrees F
Frost-free period: 140 to 155 days
Farmland classification: Not prime farmland

Map Unit Composition

Brent and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Brent

Setting

Landform: Terraces
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from igneous rock

Typical profile

A - 0 to 18 inches: loam
Bt - 18 to 29 inches: clay
Btk - 29 to 40 inches: clay
2Bk - 40 to 46 inches: gravelly clay loam
3C - 46 to 64 inches: gravelly loamy coarse sand

Properties and qualities

Slope: 12 to 30 percent
Depth to restrictive feature: 12 to 19 inches to abrupt textural change
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 3.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: D
Ecological site: R010XY007ID - Loamy 12-16 PZ
Hydric soil rating: No

19—Brent-Ladd loams, 4 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2q8q
Elevation: 2,700 to 5,050 feet
Mean annual precipitation: 12 to 18 inches
Mean annual air temperature: 45 to 52 degrees F
Frost-free period: 100 to 155 days
Farmland classification: Not prime farmland

Map Unit Composition

Brent and similar soils: 50 percent
Ladd and similar soils: 30 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Brent

Setting

Landform: Terraces
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from igneous rock

Typical profile

A - 0 to 18 inches: loam
Bt - 18 to 29 inches: clay
Btk - 29 to 40 inches: clay
2Bk - 40 to 46 inches: gravelly clay loam
3C - 46 to 64 inches: gravelly loamy coarse sand

Properties and qualities

Slope: 4 to 15 percent
Depth to restrictive feature: 12 to 19 inches to abrupt textural change
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 3.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4s
Hydrologic Soil Group: D
Ecological site: R010XY007ID - Loamy 12-16 PZ
Hydric soil rating: No

Description of Ladd

Setting

Landform: Mountains
Landform position (two-dimensional): Footslope
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Colluvium derived from granite

Typical profile

A - 0 to 14 inches: loam
Bt - 14 to 72 inches: sandy clay loam

Properties and qualities

Slope: 4 to 15 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: High (about 10.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: C
Ecological site: R010XY007ID - Loamy 12-16 PZ
Hydric soil rating: No

20—Brent-Ladd loams, 15 to 30 percent slopes

Map Unit Setting

National map unit symbol: 2q93
Elevation: 2,700 to 5,050 feet
Mean annual precipitation: 12 to 18 inches
Mean annual air temperature: 45 to 52 degrees F
Frost-free period: 100 to 155 days
Farmland classification: Not prime farmland

Map Unit Composition

Brent and similar soils: 50 percent
Ladd and similar soils: 30 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Brent

Setting

Landform: Terraces

Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from igneous rock

Typical profile

A - 0 to 18 inches: loam
Bt - 18 to 29 inches: clay
Btk - 29 to 40 inches: clay
2Bk - 40 to 46 inches: gravelly clay loam
3C - 46 to 64 inches: gravelly loamy coarse sand

Properties and qualities

Slope: 15 to 30 percent
Depth to restrictive feature: 12 to 19 inches to abrupt textural change
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 3.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: D
Ecological site: R010XY007ID - Loamy 12-16 PZ
Hydric soil rating: No

Description of Ladd

Setting

Landform: Mountains
Landform position (two-dimensional): Footslope
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Colluvium derived from granite

Typical profile

A - 0 to 14 inches: loam
Bt - 14 to 72 inches: sandy clay loam

Properties and qualities

Slope: 15 to 30 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: High (about 10.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e

Hydrologic Soil Group: C
Ecological site: R010XY007ID - Loamy 12-16 PZ
Hydric soil rating: No

63—Gem silty clay loam, 2 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2qbm
Elevation: 2,500 to 5,000 feet
Mean annual precipitation: 12 to 17 inches
Mean annual air temperature: 45 to 50 degrees F
Frost-free period: 110 to 140 days
Farmland classification: Farmland of statewide importance, if irrigated

Map Unit Composition

Gem and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Gem

Setting

Landform: Lava flows, lava plains
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loess over bedrock derived from tuff and/or basalt

Typical profile

A - 0 to 7 inches: silty clay loam
Bt - 7 to 18 inches: clay
Bk - 18 to 23 inches: gravelly loam
R - 23 to 33 inches: bedrock

Properties and qualities

Slope: 2 to 15 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 10 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 4.2 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 4s
Hydrologic Soil Group: D
Ecological site: R010XY007ID - Loamy 12-16 PZ
Hydric soil rating: No

64—Gem-Rock outcrop complex, 5 to 40 percent slopes

Map Unit Setting

National map unit symbol: 2qbn
Elevation: 2,500 to 5,000 feet
Mean annual precipitation: 12 to 17 inches
Mean annual air temperature: 45 to 50 degrees F
Frost-free period: 110 to 140 days
Farmland classification: Not prime farmland

Map Unit Composition

Gem and similar soils: 75 percent
Rock outcrop: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Gem

Setting

Landform: Lava flows, lava plains
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loess over bedrock derived from tuff and/or basalt

Typical profile

A - 0 to 7 inches: gravelly clay loam
Bt - 7 to 18 inches: clay
Bk - 18 to 23 inches: gravelly loam
R - 23 to 33 inches: bedrock

Properties and qualities

Slope: 5 to 40 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 10 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 4.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: D
Ecological site: R010XY007ID - Loamy 12-16 PZ
Hydric soil rating: No

Description of Rock Outcrop

Typical profile

R - 0 to 60 inches: bedrock

Properties and qualities

Slope: 5 to 40 percent
Depth to restrictive feature: 0 inches to lithic bedrock

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8
Hydrologic Soil Group: D
Hydric soil rating: Unranked

91—Lankbush-Brent sandy loams, 30 to 65 percent slopes

Map Unit Setting

National map unit symbol: 2qcm
Elevation: 2,000 to 5,500 feet
Mean annual precipitation: 8 to 15 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 100 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Lankbush and similar soils: 40 percent
Brent, south aspect, and similar soils: 30 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Lankbush

Setting

Landform: Stream terraces, fan remnants
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Mixed alluvium and/or lacustrine deposits and/or loess

Typical profile

A - 0 to 11 inches: sandy loam
Bt - 11 to 30 inches: loam
Bk - 30 to 60 inches: sandy loam

Properties and qualities

Slope: 30 to 65 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None

Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 5.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: A
Ecological site: R011XY008ID - South Slope 10-12 PZ
Hydric soil rating: No

Description of Brent, South Aspect

Setting

Landform: Stream terraces, fan remnants
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from igneous rock

Typical profile

A - 0 to 18 inches: loam
Bt - 18 to 29 inches: clay
Btk - 29 to 40 inches: clay
2Bk - 40 to 46 inches: gravelly clay loam
3C - 46 to 64 inches: gravelly loamy coarse sand

Properties and qualities

Slope: 30 to 65 percent
Depth to restrictive feature: 12 to 19 inches to abrupt textural change
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 3.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: D
Ecological site: R011XY008ID - South Slope 10-12 PZ
Hydric soil rating: No

169—Searles-Ladd complex, 30 to 65 percent slopes

Map Unit Setting

National map unit symbol: 2q7z

Elevation: 2,700 to 5,500 feet
Mean annual precipitation: 9 to 18 inches
Mean annual air temperature: 45 to 52 degrees F
Frost-free period: 100 to 140 days
Farmland classification: Not prime farmland

Map Unit Composition

Searles and similar soils: 45 percent
Ladd and similar soils: 40 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Searles

Setting

Landform: Mountain slopes
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Colluvium over bedrock derived from granite and/or basalt and/or rhyolite

Typical profile

A - 0 to 9 inches: gravelly loam
Bt1 - 9 to 14 inches: gravelly sandy clay loam
Bt2 - 14 to 30 inches: very gravelly sandy clay loam
R - 30 to 40 inches: bedrock

Properties and qualities

Slope: 30 to 65 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 3.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: C
Ecological site: R010XY001ID - North Slope Loamy 12-16 PZ FEID-PSSPS
Hydric soil rating: No

Description of Ladd

Setting

Landform: Mountain slopes
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Colluvium derived from granite

Typical profile

A - 0 to 14 inches: loam
Bt - 14 to 72 inches: sandy clay loam

Properties and qualities

Slope: 30 to 65 percent

Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: High (about 10.9 inches)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: C
Ecological site: R010XY001ID - North Slope Loamy 12-16 PZ FEID-PSSPS
Hydric soil rating: No

171—Searles-Rock outcrop complex, 30 to 80 percent slopes

Map Unit Setting
National map unit symbol: 2q82
Elevation: 2,700 to 6,200 feet
Mean annual precipitation: 9 to 14 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 50 to 100 days
Farmland classification: Not prime farmland

Map Unit Composition
Searles, stony surface, and similar soils: 55 percent
Rock outcrop: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Searles, Stony Surface

Setting
Landform: Mountain slopes
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Colluvium over bedrock derived from granite and/or basalt and/or rhyolite

Typical profile
A - 0 to 9 inches: gravelly loam
Bt1 - 9 to 14 inches: gravelly sandy clay loam
Bt2 - 14 to 30 inches: very gravelly sandy clay loam
R - 30 to 40 inches: bedrock

Properties and qualities
Slope: 30 to 80 percent
Surface area covered with cobbles, stones or boulders: 0.1 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 3.7 inches)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: C
Ecological site: R010XY001ID - North Slope Loamy 12-16 PZ FEID-PSSPS
Hydric soil rating: No

Description of Rock Outcrop

Typical profile
R - 0 to 60 inches: bedrock

Properties and qualities
Slope: 30 to 80 percent
Depth to restrictive feature: 0 inches to lithic bedrock

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8
Hydrologic Soil Group: D
Hydric soil rating: Unranked

3058—Quailridge-Fortbois complex, 35 to 90 percent slopes

Map Unit Setting
National map unit symbol: 2185h
Elevation: 2,720 to 3,830 feet
Mean annual precipitation: 12 to 15 inches
Mean annual air temperature: 48 to 52 degrees F
Frost-free period: 120 to 155 days
Farmland classification: Not prime farmland

Map Unit Composition
Quailridge and similar soils: 50 percent
Fortbois and similar soils: 30 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Quailridge

Setting
Landform: Hillslopes
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Sandy lacustrine deposits

Typical profile

A - 0 to 4 inches: loamy coarse sand
Bt1 - 4 to 8 inches: sandy clay loam
Bt2 - 8 to 19 inches: coarse sandy loam
E and Bt - 19 to 46 inches: stratified loamy coarse sand to sandy clay loam
C - 46 to 60 inches: fine gravelly coarse sand

Properties and qualities

Slope: 35 to 65 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 3.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: A
Ecological site: R011XA014ID - Sandy 8-14 PZ ARTRT/HECOC8-ACHY
Hydric soil rating: No

Description of Fortbois

Setting

Landform: Hillslopes
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Sandy lacustrine deposits

Typical profile

A1 - 0 to 2 inches: loamy sand
A2 - 2 to 7 inches: loamy sand
Bw - 7 to 11 inches: sandy loam
BC - 11 to 17 inches: loamy sand
C - 17 to 60 inches: sand

Properties and qualities

Slope: 50 to 90 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Available water supply, 0 to 60 inches: Very low (about 3.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: A
Ecological site: R011XY011ID - Sand 8-12 PZ ARTRT/ACHY

Hydric soil rating: No

3061—Quailridge-Hullsgulch-Cranegulch complex, 15 to 50 percent slopes

Map Unit Setting

National map unit symbol: 2185l
Elevation: 2,680 to 3,960 feet
Mean annual precipitation: 13 to 16 inches
Mean annual air temperature: 48 to 52 degrees F
Frost-free period: 120 to 155 days
Farmland classification: Not prime farmland

Map Unit Composition

Quailridge and similar soils: 35 percent
Hullsgulch and similar soils: 30 percent
Cranegulch and similar soils: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Quailridge

Setting

Landform: Hillslopes
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Sandy lacustrine deposits

Typical profile

A - 0 to 4 inches: loamy coarse sand
Bt1 - 4 to 8 inches: sandy clay loam
Bt2 - 8 to 19 inches: coarse sandy loam
E and Bt - 19 to 46 inches: stratified loamy coarse sand to sandy clay loam
C - 46 to 60 inches: fine gravelly coarse sand

Properties and qualities

Slope: 25 to 50 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 3.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: A
Ecological site: R011XA014ID - Sandy 8-14 PZ ARTRT/HECOC8-ACHY
Hydric soil rating: No

Description of Hullsgulch

Setting

Landform: Hillslopes
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Sandy lacustrine deposits

Typical profile

A - 0 to 5 inches: loamy coarse sand
BA - 5 to 12 inches: coarse sandy loam
Bt1 - 12 to 19 inches: sandy clay loam
Bt2 - 19 to 25 inches: coarse sandy loam
Bt3 - 25 to 38 inches: coarse sandy loam
E/Bt1 - 38 to 53 inches: stratified loamy coarse sand to sandy clay loam
E/Bt2 - 53 to 60 inches: stratified fine gravelly coarse sand to fine gravelly sandy clay loam

Properties and qualities

Slope: 15 to 50 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 4.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: B
Ecological site: R011XA014ID - Sandy 8-14 PZ ARTRT/HECOC8-ACHY
Hydric soil rating: No

Description of Cranegulch

Setting

Landform: Hillslopes
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loamy lacustrine deposits

Typical profile

A1 - 0 to 3 inches: loam
A2 - 3 to 11 inches: loam
Bt1 - 11 to 14 inches: sandy clay loam
Bt2 - 14 to 22 inches: sandy clay
Bt3 - 22 to 33 inches: clay
Bt4 - 33 to 50 inches: sandy clay
Bt5 - 50 to 60 inches: clay loam

Properties and qualities

Slope: 15 to 50 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 2 percent
Available water supply, 0 to 60 inches: High (about 9.3 inches)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: C
Ecological site: R010XY007ID - Loamy 12-16 PZ
Hydric soil rating: No

5027—Dobson-Roney complex, 35 to 90 percent slopes

Map Unit Setting
National map unit symbol: 2162r
Elevation: 2,660 to 5,490 feet
Mean annual precipitation: 13 to 17 inches
Mean annual air temperature: 46 to 51 degrees F
Frost-free period: 90 to 150 days
Farmland classification: Not prime farmland

Map Unit Composition
Dobson and similar soils: 50 percent
Roney, dry, and similar soils: 35 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Dobson

Setting
Landform: Hillslopes, canyons
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Colluvium derived from granodiorite over granodiorite

Typical profile
A - 0 to 2 inches: fine gravelly coarse sandy loam
Bw - 2 to 12 inches: fine gravelly coarse sandy loam
BC - 12 to 14 inches: fine gravelly loamy coarse sand
R - 14 to 24 inches: bedrock

Properties and qualities
Slope: 35 to 90 percent
Depth to restrictive feature: 10 to 20 inches to lithic bedrock
Drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)

Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 1.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8
Hydrologic Soil Group: D
Ecological site: R011XY018ID - South Slope Granitic 8-12 PZ ARTRT/PSSPS
Hydric soil rating: No

Description of Roney, Dry

Setting

Landform: Hillslopes
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Colluvium derived from granodiorite over granodiorite

Typical profile

A1 - 0 to 2 inches: fine gravelly coarse sandy loam
A2 - 2 to 12 inches: fine gravelly coarse sandy loam
AB - 12 to 17 inches: fine gravelly coarse sandy loam
Bw - 17 to 30 inches: fine gravelly coarse sandy loam
R - 30 to 40 inches: bedrock

Properties and qualities

Slope: 35 to 90 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 2.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: B
Ecological site: R010XY008ID - South Slope Granitic 12-16 PZ PUTR2/PSSPS
Hydric soil rating: No

References

American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.

American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

National Research Council. 1995. Wetlands: Characteristics and boundaries.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_054262

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577

Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053580

Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.

United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.

United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374

United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf

TECHNICAL MEMORANDUM

TO:	Ada County
COPIES:	Larry Kine, SVP, LLC Kerstin Dettrich, Camber Services Merissa Davis, BC&A Senior Biologist File
FROM:	Sammy McConkie, Biologist Bowen Collins & Associates
DATE:	May 28, 2025
SUBJECT:	Shadow Valley Planned Community – Slickspot Peppergrass Evaluation

INTRODUCTION

This evaluation has been prepared by Bowen Collins & Associates (BC&A), on behalf of SVP, LLC, for the Shadow Valley Planned Community in Ada County, Idaho (see Site Location Maps, Appendix A). SVP, LLC is planning a low-density community northeast of the city of Eagle in Ada County, about five miles from the Boise National Forest. Per Ada County requirements, slickspot peppergrass (*Lepidium papilliferum*), a federally listed species, must be evaluated for potential impacts resulting from the proposed project which is the purpose of this memo.

HABITAT REQUIREMENTS

Slickspot peppergrass (*Lepidium papilliferum*) grows almost exclusively in slick spots in arid landscapes of southern Idaho. Slick spots occur where there is a concentration of clay at the soil's surface. These areas may retain water after storm events, and salinity is often high. Due to these harsh growing conditions, slick spots are mostly devoid of vegetation save a few species, including Slickspot peppergrass. Slick spots may be detected using aerial imagery due to their lack of vegetation.

HABITAT ASSESSMENT

The site was evaluated via desktop and in person for various wildlife and plant species. Site visits were conducted by BC&A biologists Merissa Davis and Elena Capson on September 10-11, 2025, and by BC&A biologists Elena Capson and Samantha McConkie on April 16-17, 2025, further confirmed findings. Although the project area is in arid, southern Idaho, no slick spots are present. Most of the project area was covered in vegetation consisting of grasses and shrubs (see Site Photos in Appendix C). The few areas that were detected as devoid of vegetation were due to sandy, loose soil, rather than the presence of clay. As there is a lack of slick spots, there is no suitable habitat in the project area for this species.

CONCLUSION

There is no suitable habitat for slickspot peppergrass as described above. As such, they are not expected to be present and there should be *no effect* to slickspot peppergrass as a result of the development of the planned community.

Appendix A

Site Location Figures

LEGEND

Shadow Valley Planned Community (550 ac)

Upper Area

Lower Area

W Av

55

N Horseshoe Bend Rd

N High Valley Way

Shadow Valley Golf Course

N Spring Creek Ln

W Brookside Ln

N Power Way

N Broken Horn Rd

W Echanove D

W Mirror Pond Dr

W Sparks Lake Dr

W Suttle Lake Dr

W Dry Creek Rd

BOWEN COLLINS & ASSOCIATES	SVP, LLC SHADOW VALLEY PLANNED COMMUNITY	SITE LOCATION	NORTH: NORTH	SCALE: 0 500 1,000 Feet	FIGURE NO. 1A

P:\Shadow Valley\834-24-01 Shadow Valley Planned Community\3.0 GIS\3.4 APRX\Shadow Valley Baseline.aprx Smcconkie 5/27/2025

L E G E N D

Shadow Valley Planned Community (550 ac)

3400
3400
3200
3200
3000
3000
3200
3000
55
3300
3100
2800
3000
2900
3200
3000
2900
2900
2800
HORSE
3200
W STACK ROCK DR
BASIN WAY
W BROOKSIDE LN
N MOUNT SHADOW LN
N SPRING CREEK LN
Spring Valley Creek

Imagery: USGS Eagle ID, Quad
USGS Pearl ID, Quad

BOWEN COLLINS ASSOCIATES	SVP, LLC SHADOW VALLEY PLANNED COMMUNITY	TOPOGRAPHY	NORTH:	SCALE: 0 250 500 Feet	FIGURE NO. 1B

P:\Shadow Valley\834-24-01 Shadow Valley Planned Community\3.0 GIS\3.4 APRX\Shadow Valley Baseline.aprx Smcconkie 5/27/2025

Appendix B

Site Photos

L E G E N D

- Shadow Valley Planned Community (550 ac)
- Photo Points

PP1
PP2
PP3
PP4
PP5
PP6
PP7
PP8

BOWEN COLLINS & ASSOCIATES

SVP, LLC

SHADOW VALLEY PLANNED COMMUNITY

PHOTO POINTS

NORTH:

SCALE: 0 250 500 Feet

FIGURE NO. 2

P:\Shadow Valley\834-24-01 Shadow Valley Planned Community\3.0 GIS\3.4 APRX\Shadow Valley Baseline.aprx Smcconkie 5/27/2025



Photo Point 1



Photo Point 1



Photo Point 1

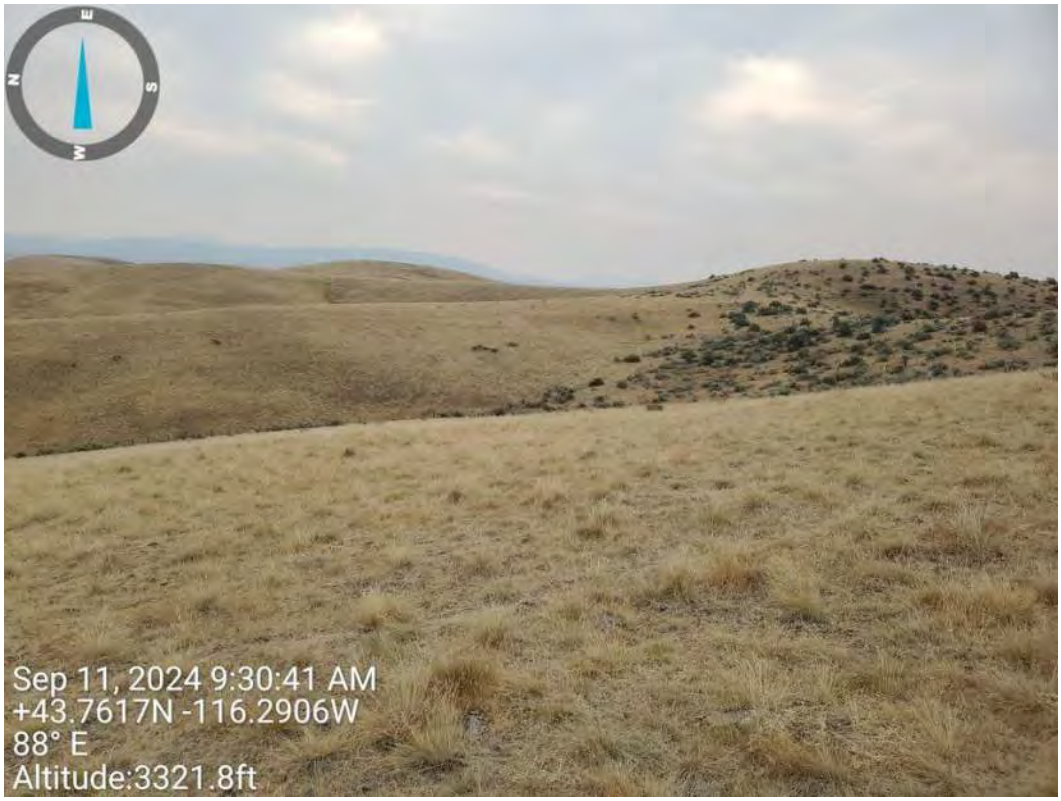


Photo Point 2



Photo Point 2



Photo Point 2



Photo Point 2



Photo Point 3



Photo Point 3



Photo Point 3



Photo Point 3



Photo Point 4



Photo Point 4



Photo Point 4



Photo Point 4



Photo Point 5



Photo Point 5

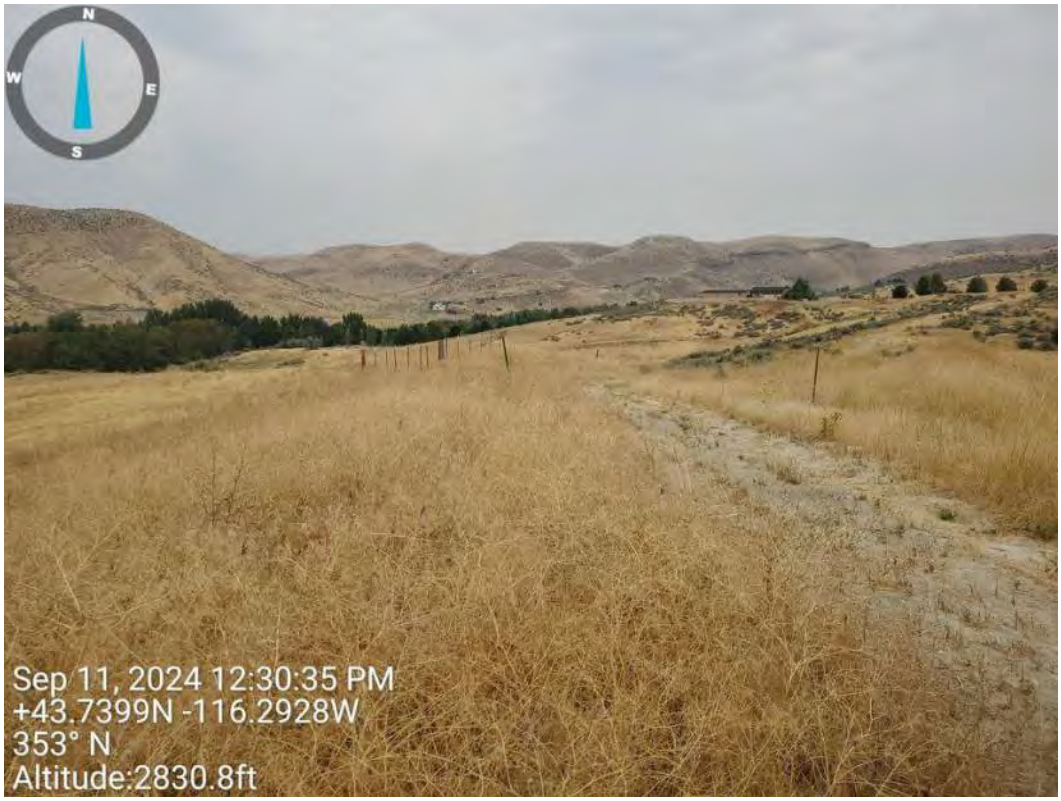


Photo Point 5

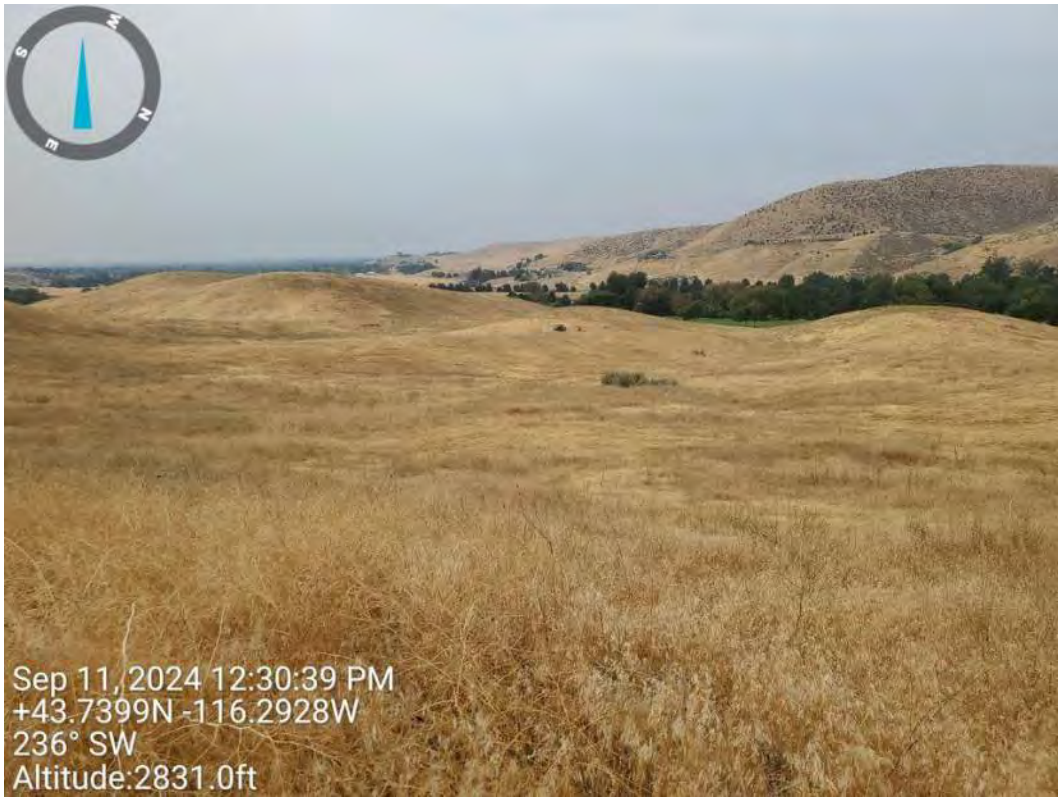


Photo Point 6



Photo Point 7



Photo Point 7



Photo Point 7

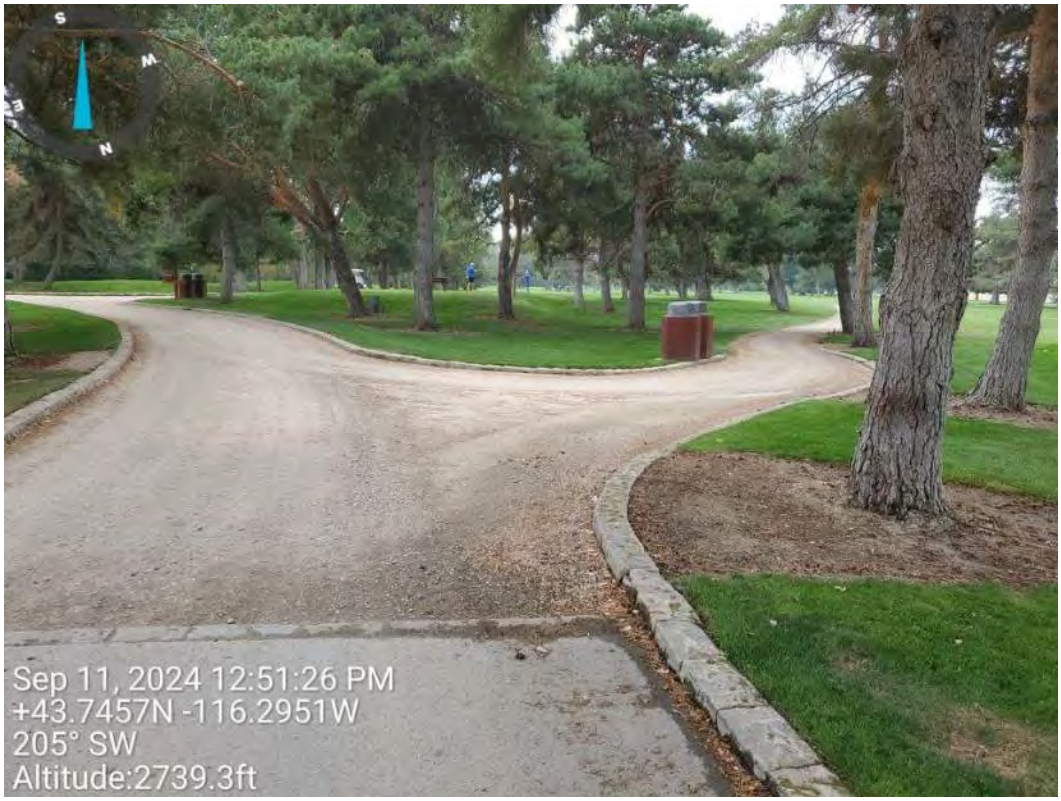


Photo Point 8



Photo Point 8



Photo Point 8



Photo Point 8

Miranda Gold, President
Alexis Pickering, Vice-President
Kent Goldthorpe, Commissioner
Dave McKinney, Commissioner
Patricia Nilsson, Commissioner

June 2, 2025

TO: Kerstin Dettrich
Camber Services, LLC

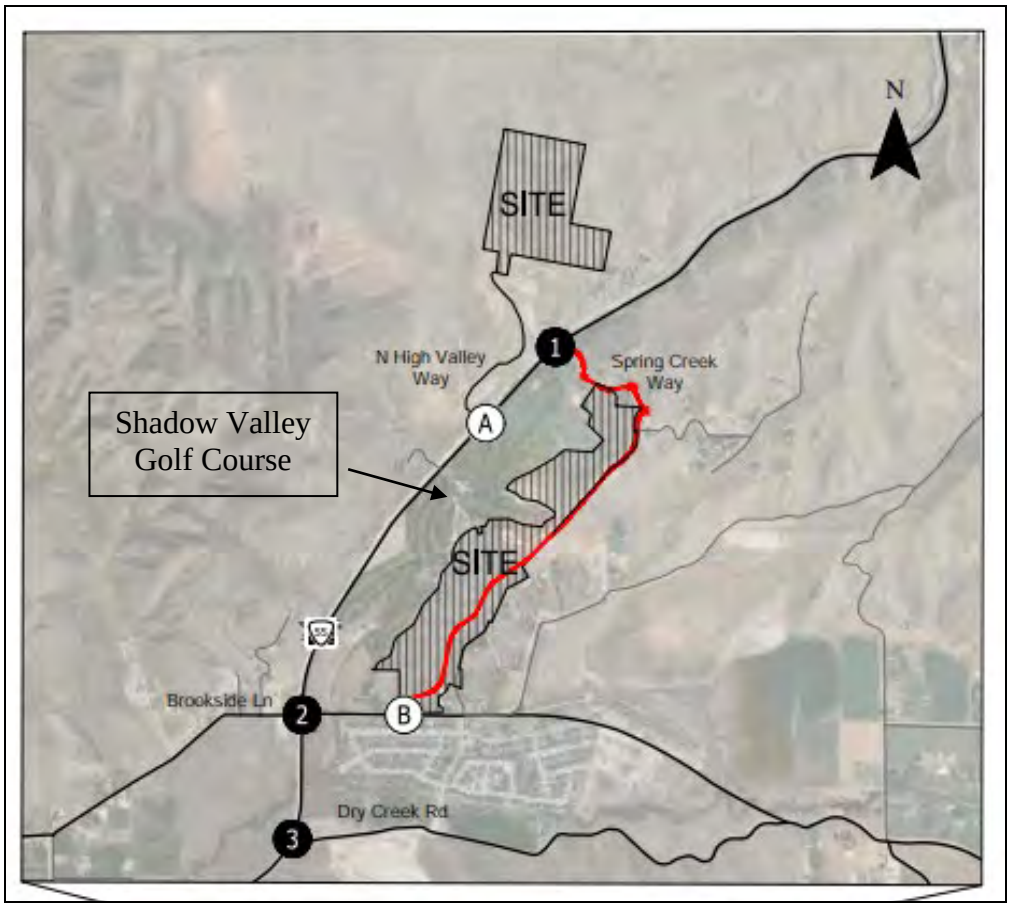
FROM: Mindy Wallace, AICP
Planning Review Supervisor

SUBJECT: Shadow Valley Planned Community 202402701-PC/MAS24-0001

Introduction

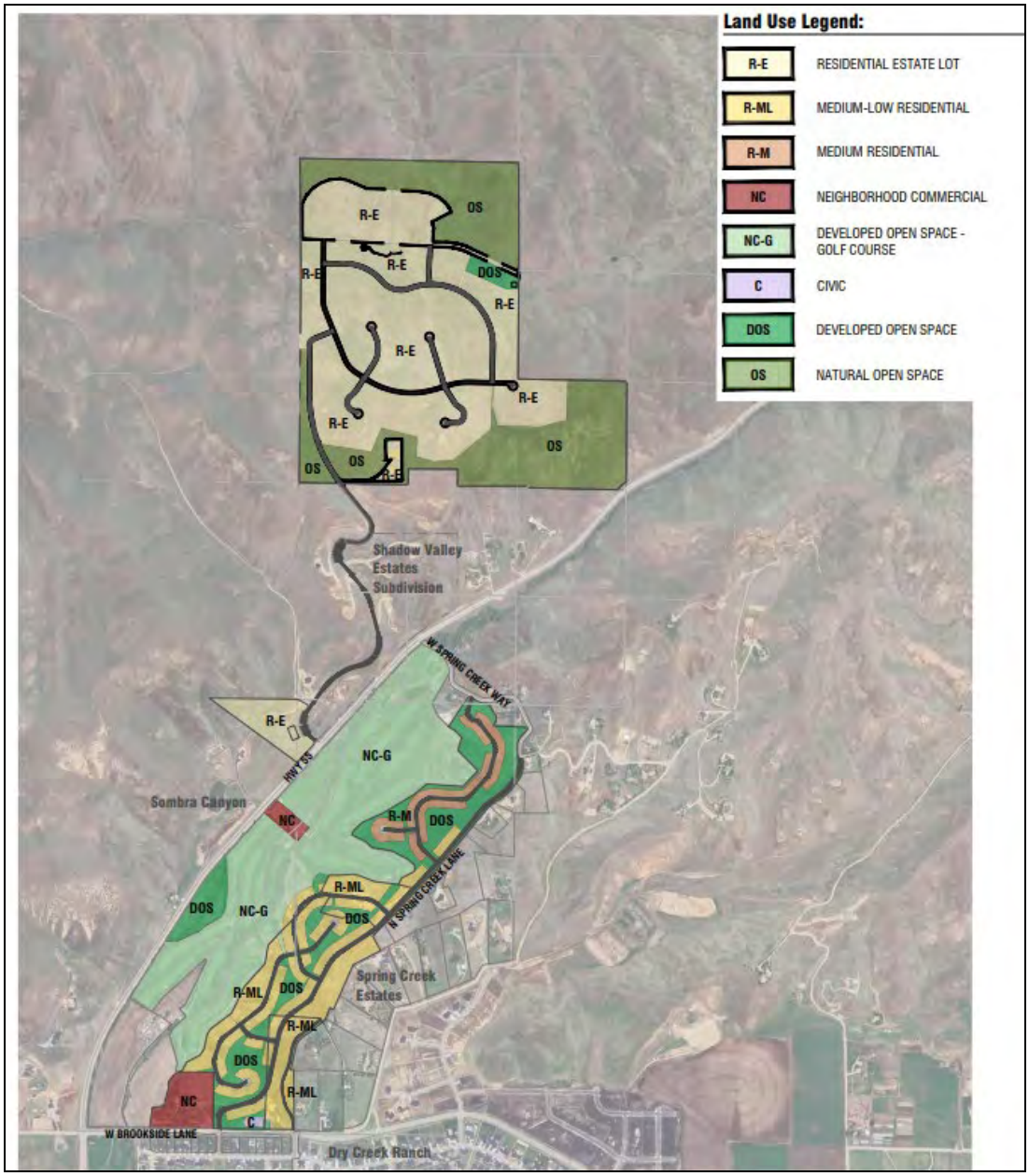
SVP LLC is requesting approval of the Shadow Valley Planned Community.
The planned community is proposed to consist of approximately 560 acres and is located on the east and west sides of SH-55 generally in the vicinity of Shadow Vally Golf Course.

Vicinity Map



Shadow Valley Planned Community is proposed to consist of 395 residential housing units, and 280 acres of community open space. The applicant anticipates beginning construction of the planned community in 2026/2027 with built out by 2034. The applicant plans to construction of approximately 20 home per year on the west side and 30 homes on the east side for a total of 40 to 60 homes per year.

Concept Plan



A planned community application in Ada County is similar to a Specific Area Plan in the City of Boise. The intent is to establish standards and guidelines for future preliminary plat phases. As individual preliminary plats are submitted under this planned community, the Ada County Highway District (ACHD) will provide detailed analysis of street layout, street design and construction, and will be a signatory on the plat. For the current application, ACHD is a recommending body to Ada County.

ACHD Comments and Recommendations

1. Capital Improvement Plan (CIP)/Integrated Five Year Work Plan (IFYWP)

There are no roadways, bridges or intersections in the general vicinity of the project that are in the Integrated Five Year Work Plan (IFYWP).

- Beacon Light Road is listed in the CIP as an unfunded project to be widened to 3-lanes from Eagle Road to Horseshoe Bend Road between 2031 and 2035.

2. Traffic Impact Study

The purpose of the study was to provide a roadway and intersection analysis for the full build out of the Shadow Valley Planned Community and to highlight roadway and intersection improvements due to site generated traffic at full build out of the site.

Traffic Impact Study Area

The traffic impact study area for the Shadow Valley Planned Community included the following intersections and roadway segment.

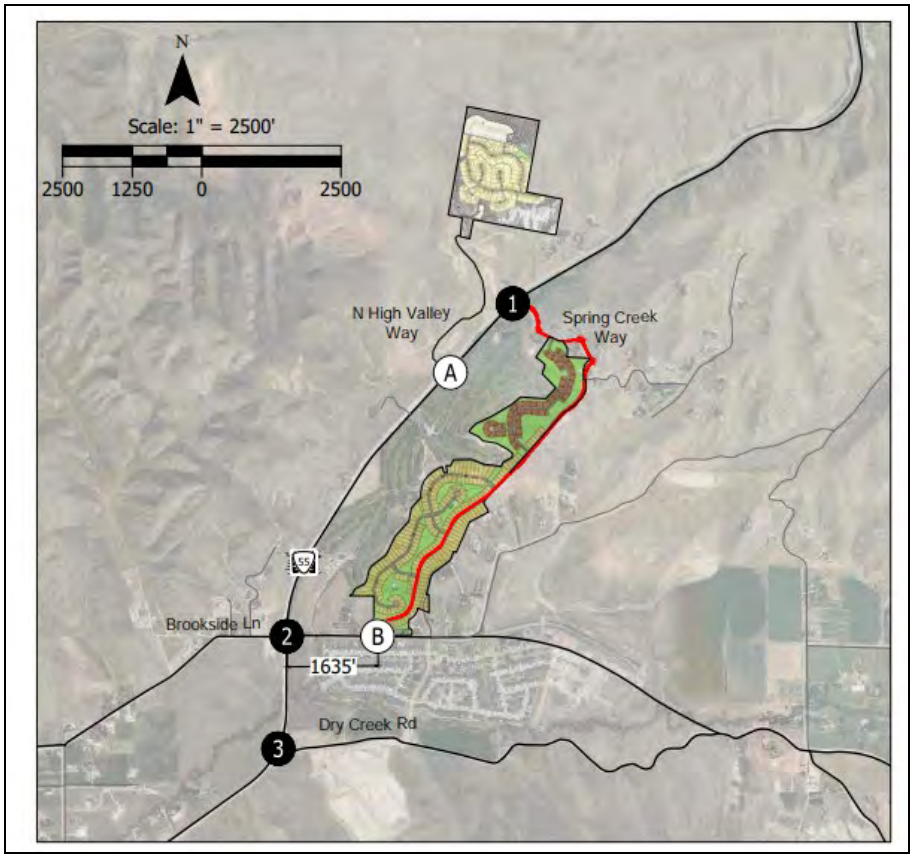
Intersections:

- Spring Creek Way and SH-55
- High Valley Way and SH-55
- Dry Creek Road and SH-55
- Site access

Roadway Segment:

- Spring Creek Lane

TIS Study Area Intersections and Roadway Segment



The applicant's TIS analyzed the impacts of the subject development and identified the street and intersection improvements necessary to address the projected impacts. A complete executive summary of the study is included in attachment 3. Below is an identification of the scope:

- Trip Generation of the proposed developments
- Site traffic distribution and traffic assignment
- Recommended Mitigation

ACHD Comment: District Traffic Services and Planning Review staffs have reviewed the submitted traffic impact study for accuracy in results and assumptions as well as for completeness. ACHD comments and recommendations are noted below.

3. Trip Generation and Trip Capture

a. Land Use Assumptions

i. 395 dwellings units
   1. 307 single family dwelling units detached
   2. 88 single family dwelling units attached

b. Total Trip Generation

i. At the time of full build-out in 2034 the Shadow Valley Planned Community is anticipated to generate:
   1. 3,575 vehicle trips per day – total trips
      a. 906 vehicle trips per day – west side
      b. 2,067 vehicle trips per day – east side
   2. 345 vehicles per hour during the PM peak hour – total trips
      a. 67 vehicles per hour during PM peak hour – west side
      b. 191 vehicles per hour during PM peak hour – east side

ii. No trip capture was assumed in the traffic impact study as the planned community is comprised of only residential land uses.

4. Trip Distribution

a. The submitted traffic impact study estimates that 95% of the site generated trips will travel north/south on SH-55 south of Spring Creek Way and that 5% will travel north/south from Spring Creek Way. The trip distributed was based on COMPASS's 2040 regional travel demand model.

Trip Distribution



5. Recommended Mitigation

The traffic impact study notes the following improvements are needed to maintain ACHD's Level of Service Planning Thresholds under 2030 total traffic conditions.

- Dry Creek Road/SH-55 Intersection – The construction of the Green "T" intersection and associated widening of SH-55 to two through lanes (4 lanes) between Beacon Light and Brookside Lane by Boise Hunter Homes and Idaho Transportation Department (ITD) will mitigate the traffic impacts of the development. Therefore, no mitigation is recommended as part of this application.

  ITD has indicated that the widening of SH-55 to two through lanes (4 lanes) will be completed in 2 phases. The first phase is between Dry Creek Road and just south Brookside Lane at the bridge. This widening is being done in conjunction with the installation of the Green "T" intersection (blue). For the second phase ITD has a project planned to complete the remaining widening of SH-55 between Floating Feather and Brookside Lane in 2029 (pink).



- The widening of SH-55 described above also mitigates impacts to the Brookside Lane/SH-55 intersection.

- Spring Creek Way/SH-55 Intersection – The traffic impact study recommends the construction of a northbound dedicated right turn lane and southbound center left turn lane on SH-55 at Spring Creek Way. SH-55 is under the jurisdiction of ITD. If ITD allows the construction of the turn lanes, all approvals and permitting for the construction will need to be processed through them.

- High Valley Way/SH-55 Intersection – The traffic impact study recommends the construction of a northbound center left turn lane on SH-55 at High Valley Way. SH-55 is under the jurisdiction of ITD. If ITD allows the construction of the turn lane, all approvals and permitting for the construction will need to be processed through them.

6. SH-55

a. SH-55 is under the jurisdiction of the Idaho Transportation Department (ITD). The applicant Ada County and ITD should work together to determine if any additional right-of-way or improvements on SH-55 are needed to serve the site.

b. **Staff Comments:** To provide access to the west side of the planned community the applicant has proposed using an existing local street, High Valley Way, to access the site. High Valley Way was constructed as part of Shadow Valley Estate Subdivision (originally entitled in 2017). As part of approvals for that development the approach for High Valley Way onto SH-55 was approved by ITD as temporary access and limited to 11 residential lots.

The applicant will need to work with ITD to modify their current agreement for High Valley Road to allow additional residential lots to be accessed off the temporary access and/or redesign the west side of the planned community to accommodate any conditions or limitations established by ITD. Written documentation of any revised agreements or conditions should be provided to ACHD as part of a future preliminary plat applications for the west side of the planned community which includes the extension of High Valley Way.

The traffic impact study recommends the construction of a northbound dedicated right turn lane and southbound center left turn lane on SH-55 at Spring Creek Way and a northbound center left turn lane on SH-55 at High Valley Way. If allowed by ITD it is recommended that these turn lanes be constructed as part of a future development application.

7. Foothill Development

a. **Staff Comments/Recommendations:** Roadways on both the east and west sides of the proposed planned community will be constructed in the foothills. Staff is generally supportive of the construction of internal local streets for future preliminary plat phases within the Shadow Valley planned community, as long as there are no modifications or variance requests for any ACHD policies during the review of preliminary plats and construct drawings.

Additionally, for the roadways to be dedicated to ACHD they will need to be designed and constructed to meet ACHD's Foothills policy in effect at the time of plan submittal. If at any time a roadway cannot be designed and constructed meeting ACHD standards, then those roadways should be constructed as private roads.

This may require the applicant to go back to Ada County Development Services for modifications to their entitlements.

West Side of SH-55

8. Access – High Valley Way

a. **Policy: Maximum Traffic on one Access:** District Policy 7207.3.3 states that if a proposed development only has one access to a public street that is a local street, or if it proposes to extend public streets from existing development with only one local street access to the public street system, the maximum forecast ADT to be allowed at any point on the local street access is 1,000 and is subject to fire department requirements for the provision of a secondary access. This volume may be reduced or increased based on information received from the lead land use agency, the applicable fire department, and/or emergency services. The District will also take into consideration the following items when determining whether or not to reduce or increase the maximum allowable ADT: railroad crossings, canal crossings, topography (foothills vs. flat land), pedestrian connectivity, location of schools, etc.

b. **Staff Comments/Recommendations:** The applicant has proposed extending High Valley Way, an existing local street, into the site to provide access for the west side of the planned community. High Valley Way is proposed to provide sole access to site until additional access can be provided through the future development of adjacent parcels. Because of this, High Valley Way will be limited to 1,000 trips per day consistent with ACHD's Maximum Traffic on One Access policy.

In 2017 ACHD previously approved 11 residential building lots as part of Shadow Valley Estates Subdivision, therefore, this development will be limited to the final platting of 90 single family residential building lots or the land uses that equate to 900 vehicle trips per day on the west side of SH-55. ACHD will not recommend a variance or modification of policy to allow more than 1,000 trips per day on High Valley Way. This is due to the site's location and concerns associated with the potential for wildland fires in the vicinity of the site.

ACHD has not received any comments from emergency service providers regarding this proposal. Because of this the applicant should be required to provide written documentation from the appropriate fire district that they approve of the proposal to allow one roadway to serve the site. This documentation should be provided as part of a future preliminary plat application.

9. Collector Roadway

a. Policy: ACHD Master Street Map: ACHD Policy Section 3111. requires the Master Street Map (MSM) to guide the right-of-way acquisition, collector street requirements, and specific roadway features required through development. The MSM identifies a new collector roadway that would extend though the northern proportion of the site between SH-55 and Willow Creek Road. The roadway is listed as Foothills Collector typology and cross sections to be determined in the future.

Street Section and Right-of-Way Policy: District policy 7206.5.2 states that the standard right-of-way width for collector streets shall typically be 50 to 70-feet, depending on the location and width of the sidewalk or multi-use path and the location and use of the roadway. The right-of-way width may be reduced, with District approval, if the sidewalk or multi-use path is located within an easement; in which case the District will require a minimum right-of-way width that extends 2-feet behind the back-of-curb on each side.

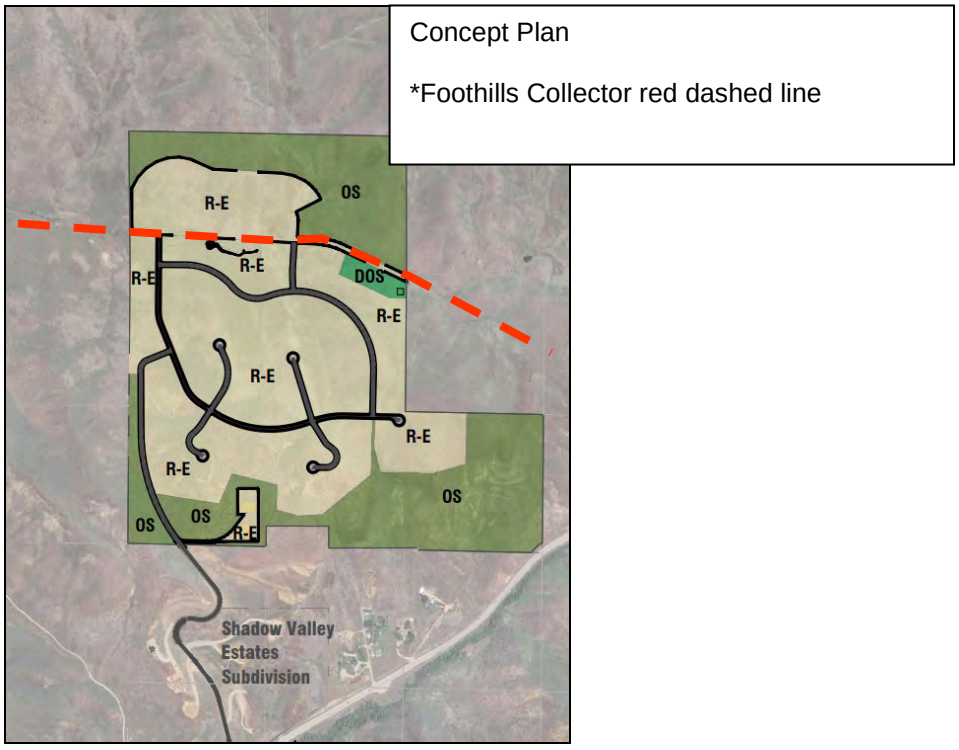
The standard street section shall be 47-feet (back-of-curb to back-of-curb). This width typically accommodates a single travel lane in each direction, a continuous center left-turn lane, and bike lanes. If a multi-use path is determined to be the required treatment, the street section shall be reduced to 37-feet. If it is determined a continuous center left-turn lane is not appropriate and a path is installed, the street section may be reduced to 26-feet.

b. Comments/Recommendations: ACHD's MSM identifies a new foothills collector roadway, with a to be determined cross section. This collector would extend though the northern portion of the parcel as shown below.

MSM Collector Vicinity Map



*Approximate site in red and MSM Foothills Collector gray dashed line.



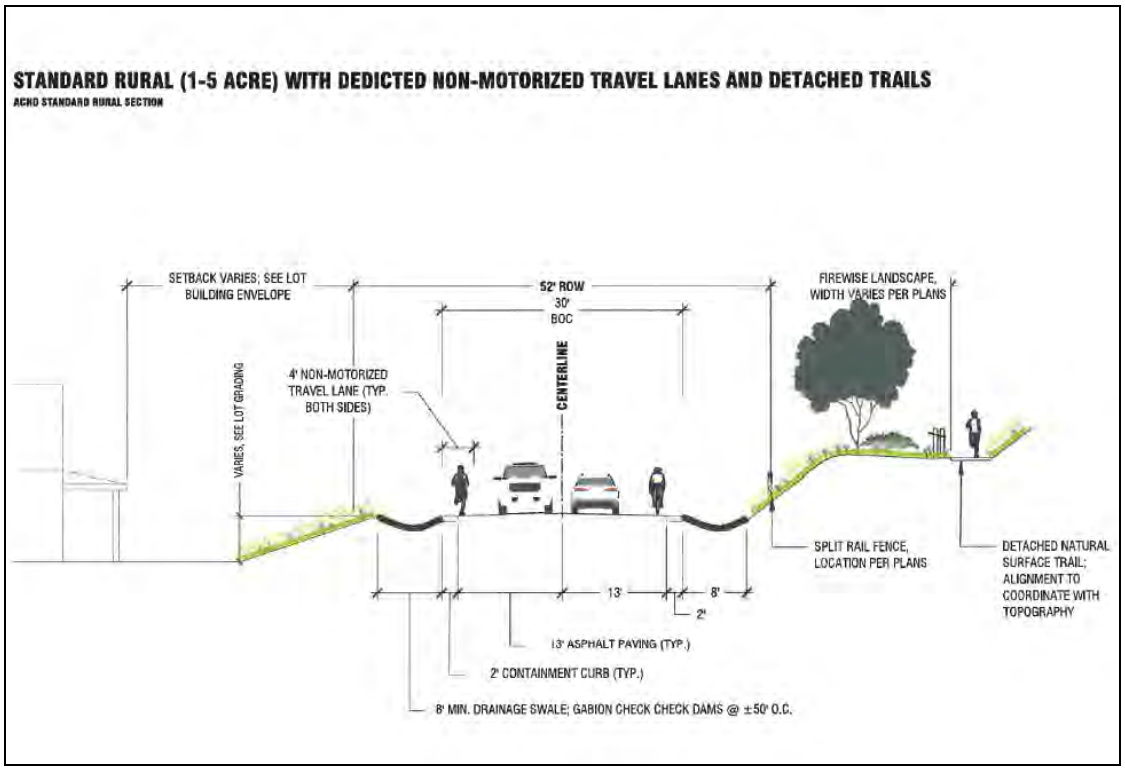
As part of a future development application ACHD will make a determination regarding the construction of this collector roadway though the northern portion of the site. It is unclear as to whether or not the foothills collector roadway shown on the MSM can be constructed meeting ACHD's policies and standards. If it is infeasible to construct the collector roadway as public street, then it would be removed from the MSM and the applicant would need to work with adjacent property owners to obtain additional access to serve the site.

Until a determination on the constructability of the roadway is made it is recommended that the applicant preserve a 54-foot wide section of land though the northern portion of planned community as shown on the images above to accommodate the possible construction of the collector roadway in the future. No permanent structures should be located within this area.

If it is determined that the collector roadway can be constructed, consistent with the MSM, the applicant will be required to construct the new collector roadway through the site. The exact alignment and design of the collector roadway will be determined with future preliminary plat applications.

10. Internal Local Streets

The applicant is proposing to construct the extension of High Valley Way and other internal public streets as 30-foot wide rural street sections with 26-feet of pavement, 2-foot wide ribbon curb, and drainage swales.



The applicant's proposal is consistent with ACHD's Rural Street Section policy for lots 1 acre or greater and less than 5 acres per dwelling unit. As noted above, the construction of public streets will be supported as long as there are no modifications or variance requests for any ACHD policies during the review of preliminary plats and construct drawings and roadways proposed to be dedicated to ACHD be designed and constructed to meet ACHD's Foothills policy in effect at the time of plan submittal.

If lot sizes less than 1 acre per dwelling until are proposed, then standard 33-foot wide local street sections should be constructed with vertical curb, gutter, and 5-foot wide concrete sidewalk consistent with ACHD's local street policies.

If at any time a roadway cannot be designed and constructed meeting ACHD standards, then those roadways should be constructed as private roads.

East Side of SH-55

11. Brookside Lane

Brookside Lane abuts the south property line and provides signalized access to SH-55 at the Brookside Lane/SH-55 intersection. ACHD's MSM identifies Brookside Lane as a residential arterial roadway.

As part of a future development application, the applicant should be required to construct a 5-foot wide detached concrete sidewalk or 10-foot wide MUP on Brookside Lane abutting the site.

The applicant has proposed accessing the east side of the Shadow Valley Planned Community with the construction of a new public street intersection, Spring Creek Lane, on to Brookside Lane.

Although not recommended in the TIS, staff recommends the construction of a center left turn lane on Brookside Lane at Spring Creek Lane. This will provide space for vehicles to queue while waiting to turn left onto Spring Creek Way without impacting eastbound through traffic. It is likely that a majority of proposed planned community and those living in the Spring Creek Estates will use this intersection as it will provide direct access to the signalized intersection of Brookside Lane and SH-55.

Direct access to Brookside Lane, other than Spring Creek Lane will be prohibited. The site should be designed to access the neighborhood commercial portion of the planned community from Spring Creek Lane.

12. Spring Creek Way

Spring Creek Way intersects SH-55 and is proposed to provide access to the east side of the Shadow Valley Planned Community.

As part of a future development application, the applicant should be required to improve Spring Creek Lane abutting the site with standard frontage improvements including the construction of curb, gutter, and sidewalk.

The off-site portions of Spring Creek Way are already improvement with 24-feet of pavement and gravel shoulders consistent with District Policy.

The applicant should be required to evaluate if additional guardrails or guardrail modifications are warranted on Spring Creek Way between SH-55 and the Spring Creek Lane consistent with the most current addition of the AASHTO Roadside Design Guide and submit this evaluation with the construction plan submittal to ACHD and include the guardrail construction plans as applicable.

13. Spring Creek Lane

The applicant has proposed constructing a new north/south local street, Spring Creek Lane, to run between Brookside Lane and Spring Creek Way. The traffic impact study estimates that the east side of the planned community is anticipated to generate 2,687 trips per day all which would need to use Spring Creek Way to enter and exit the development. Spring Creek Lane is anticipated to carry more than site generated traffic as it will allow access for the residents of Spring Creek Estates access to the signalized intersection of Brookside Lane and SH-55. ACHD's local street policies limit new local to a maximum of 1,000 trips per day.

Therefore, staff recommends that Spring Creek Lane be classified as a collector roadway and constructed as a 36-foot wide 2 lane residential collector roadway with vertical curb, gutter, and 7-foot wide attached (or 5-foot wide detached sidewalk). If Ada County requires 10-foot wide

MUP's instead of on-street bike lanes the pavement width may be reduced to 26-feet. On-street parking and front-on housing are prohibited on collector roadways.

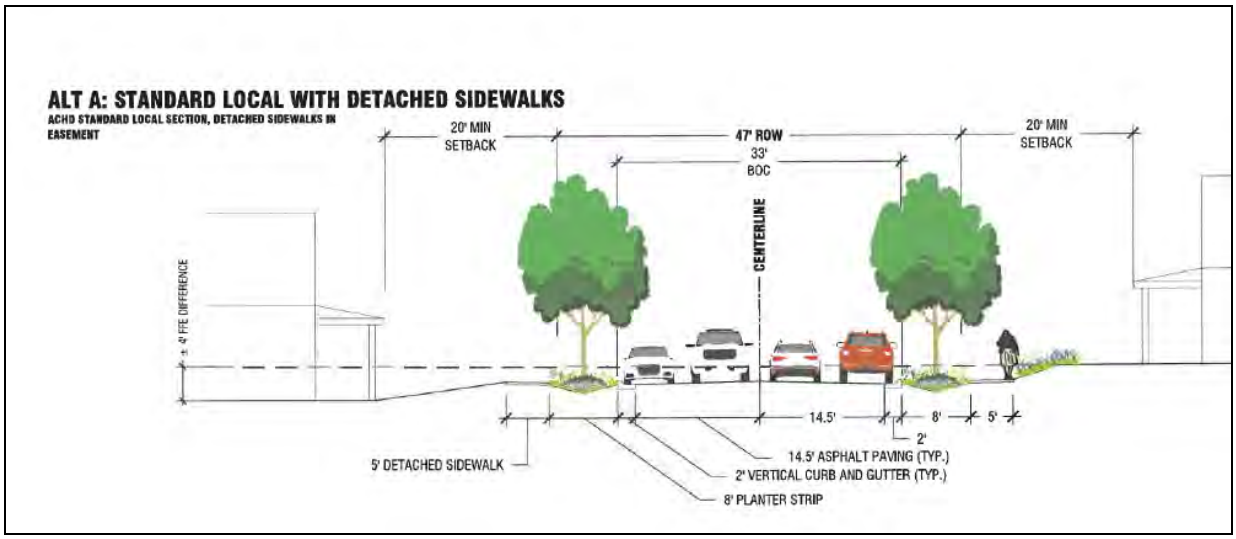
Additionally, Spring Creek Lane is proposed to extend over a mile in length, requiring traffic calming. The site should be redesigned to discourage excessive speeds by using passive design elements. Speed humps, valley gutters, stop signs, and cross drains are not an acceptable tool for traffic calming new collector streets.

Street sections and traffic calming will be reviewed with each preliminary plat to ensure compliance with District policy at that time.

As an alternative to constructing public streets that meet ACHD policies and standards private streets may be constructed.

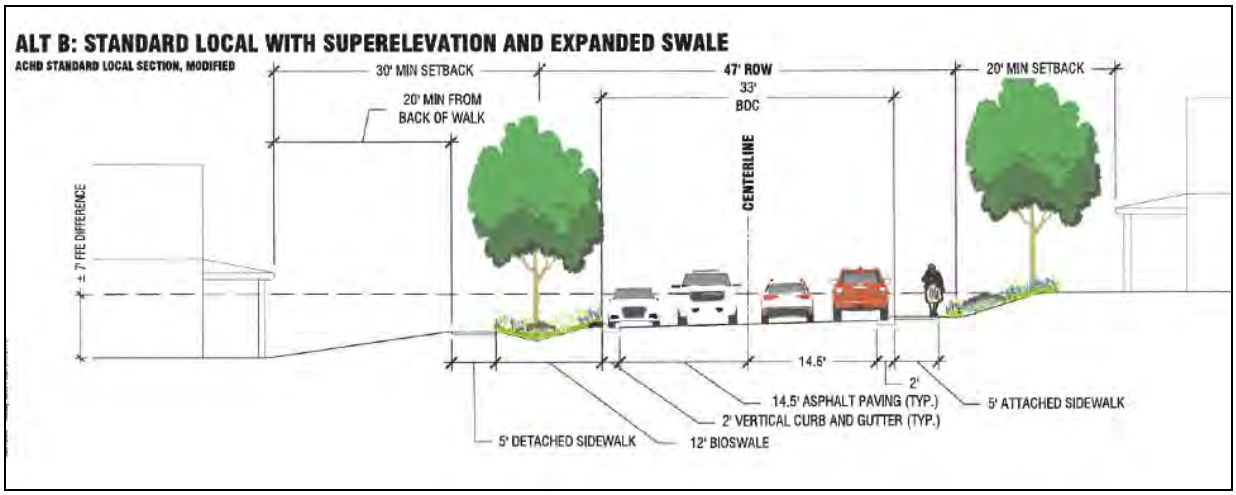
14. Internal Local Streets

The applicant has proposed two different local street sections for the east side of the Shadow Valley Planned Community. One is ACHD's standard 33-foot wide local street section with vertical curb, gutter, an 8-foot wide planter strip and 5-foot wide detached concrete sidewalks.



Staff is supportive of the proposal to construct ACHD's Standard local street sections for the internal local streets.

The other is a modified local street section with superelevation and an expanded roadside swale.



The applicant's proposal for the modified superelevated street section with roadside swales does not meet District and will not be approved for public streets within the development. New local public streets should not be superelevated, and roadside swales are not allowed on local streets with lots less than 1 acre in size.

As an alternative to constructing public streets that meet ACHD policies and standards private streets may be constructed.

15. Summary/Disclaimer

a. Below is a summary of the primary issues that will be required to be addressed with future preliminary plats:

i. Disclaimer: No waiver or modification of policy is approved or recommended unless specifically called out by policy section and specifically approved in this report. Additional requirements may be required at each preliminary plat phase.

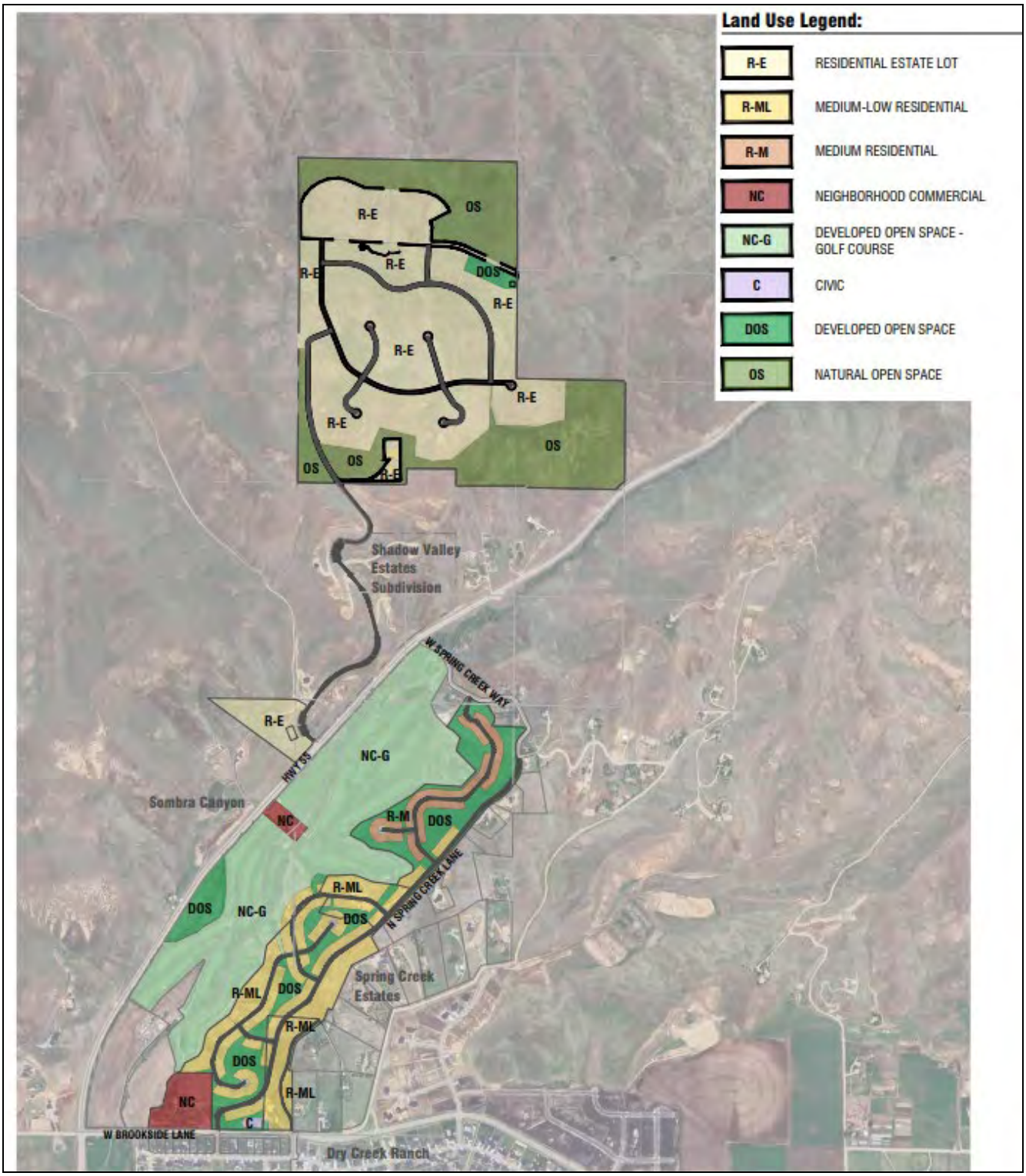
Attachments

1. Vicinity Map
2. Concept Plan
3. Traffic Study Summary

Vicinity Map



Concept Plan



Traffic Study Summary

TURN LANE WARRANTS

Turn lane warrants were analyzed for the Spring Creek Way / SH-55 and High Valley Way / SH-55 intersections. The warrant analysis for turn lanes on SH-55 was based on ITD's *Traffic Manual* (Reference 2). *Attachment I provides the turn lane warrant worksheets for each turn lane evaluated in this analysis.* Table 12 presents the results of the turn lane analysis.

Table 12. Turn Lane Analysis Results

Site Access	Proposed Access Type	Turn Lane	Warranted
Spring Creek Way / SH-55	Full-movement, stop-control	NB Right-Turn Lane	**Yes**
		SB Left-Turn Lane	**Yes**
High Valley Way / SH-55	Full-movement, stop-control	NB Left-Turn Lane	**Yes**
		SB Right-Turn Lane	No

SUMMARY AND RECOMMENDATIONS

The results of the memorandum indicate that the proposed Shadow Valley Development can be constructed while maintaining acceptable levels of service and safety on the surrounding transportation system if the appropriate mitigations are in place. The findings of this analysis and recommended mitigations are discussed below.

Summary

Year 2025 Existing Traffic Conditions

All study intersections were found to operate at acceptable operating standards during the existing weekday a.m., weekday p.m., and Friday p.m. peak hours except for the following:

- **Dry Creek Road / SH-55**:
  - WBL movement operates at LOS F during all three time periods and nearing capacity.
    - Mitigation: Construct a signalized Green-T at the Dry Creek Road / SH-55 intersection. This mitigation is already conditioned for the Dry Creek Ranch Development.

Year 2030 Background Traffic Conditions

All study intersections were found to operate at acceptable operating standards during the existing weekday a.m., weekday p.m., and Friday p.m. peak hours except for the following:

- **Spring Creek Way / SH-55**:
  - The WBLR movement operates at LOS F but well under capacity during all three time periods.
    - Mitigation: Construct a TWLTL to allow a two-stage left turn onto SH-55.
- **Brookside Lane / SH-55**:
  - The overall intersection operates over capacity in the weekday p.m. and Friday p.m. peak hour.
    - Mitigation: Widen SH-55 southbound to two (2) through lanes. This mitigation is already conditioned on the Avimor Development.

- **Dry Creek Road / SH-55**:
  - The WBL movement operates over capacity in all three time periods.
    - Mitigation: No additional mitigations recommended beyond the previous mitigation.

Year 2030 Total Traffic Conditions

All study intersections were found to operate at acceptable operating standards during the existing weekday a.m., weekday p.m., and Friday p.m. peak hours except for the following:

- **Spring Creek Way / SH-55**:
  - The WBLR movement operates at LOS F but is well under capacity during all three time periods.
    - Mitigation: No additional mitigations recommended beyond the previous mitigation.
- **Brookside Lane / SH-55**:
  - The overall intersection operates over capacity in the weekday p.m. and Friday p.m. peak hour.
    - Mitigation: No additional mitigations recommended beyond the previous mitigation.
- **Dry Creek Road / SH-55**:
  - The WBL movement operates over capacity in all three time periods.
    - Mitigation: No additional mitigations recommended beyond the previous mitigation.
- **High Valley Way / SH-55**:
  - The EBLR operates at LOS E and F during the weekday p.m. and Friday peak hours, respectively, but well under capacity.
    - Mitigation: No mitigation is recommended.

Turn Lane Warrants

Based on the analysis, the following turn lanes are warranted:

- **Spring Creek Way / SH-55**:
  - Northbound right-turn lane
  - Southbound left-turn lane
- **High Valley Way / SH-55**:
  - Northbound left-turn lane