

# **MEMO**

**Date:** March 22, 2022

**To:** Robb MacDonald, Engineering Department  
T.J. Frans, Engineering Department  
Alan Perry, Fire Marshal  
Chris Bryant, Building Department  
Dave Wright, Police Department  
Dave Marston, Mapping Department  
Angie Hopf, Mapping Department  
Bailey Barnes, Mapping Department  
Vallivue School District  
Pioneer Irrigation District  
Nampa Meridian Irrigation District  
Compass Idaho  
Caldwell Transportation  
Brown Bus Company  
Canyon Highway District #4  
Idaho Transportation Department  
Valley Regional Transit  
Idaho Power  
Intermountain Gas  
Bureau of Reclamation, Snake River Area Office  
USPS Caldwell

**From:** Alex Jones, Planner Technician  
Caldwell P & Z Department

**RE: Case Number CPM21-000002/ANN21-000014/ZON21-000005/SUB21-000041/SUP21-000015: Arrowrock Farms**

Please review the attached application and information and provide us with your written input. We request that you e-mail any comments as soon as possible but no later than **Friday, April 15, 2022.**

E-mail: [P&Z@cityofcaldwell.org](mailto:P&Z@cityofcaldwell.org)

**Case Number CPM21-000002/ANN21-000014/ ZON21-000005/ SUB21-000041/SUP21-000015:** Trilogy Development is requesting a Comprehensive Plan Map Amendment for 10.99 acres to modify the designation from HC (Highway Corridor) to (Medium Density Residential). Concurrently a request for annexation of 37.92 acres including parcels R3270901100 (approximately 17.77 acres) and R32709011B0 (approximately 17.4 acres) with zoning designations of R2 (Medium Density Residential) for 10.99 acres and HC (Highway Corridor) for approximately 27 acres and a Preliminary Plat for **Arrowrock Farms Subdivision**, consisting of 39 single family lots, 58 townhome lots, 22-4plex lots (88 residential units) and three (3) commercial lots. Additionally requested is a Special Use Permit for the townhomes proposed for the HC (Highway Corridor) zone. The property is designated as Highway Corridor in the 2040 Comprehensive Plan. The subject property is located northwestern corner of Karcher Rd and S. Indiana Ave and south of Kingsview Est No 2.

This case is scheduled to be presented before the **Caldwell Hearing Examiner on Tuesday, April 26, 2022 at 7:00 pm.**

We will assume that you have no objections, concerns or comments if you do not reply to this request within the requested timeframe. If you have any questions, you may contact me at 208-455-4604.



# CITY OF Caldwell, Idaho

Planning &  
Zoning  
Hearing  
Review  
Application

## Type of Review Requested

- Annexation/Deannexation
- Appeal/Amendment
- Comprehensive Plan Map Change
- Design Review
- Ordinance Amendment
- Rezone
- Special Use Permit
- Subdivision- Preliminary Plat
- Subdivision- Final Plat
- Subdivision- Short Plat
- Time Extension
- Variance
- Other \_\_\_\_\_

**STAFF USE ONLY:**

File Number(s): Ann21-000014

Arrowrock Farms

Project Name: \_\_\_\_\_

Date Filed: 10/25/21 Date Complete: \_\_\_\_\_

Related Files: Sub21-000041

2021-00005  
Sup21-000015

## Subject Property Information

Address: 0 INDIANA AVE CALDWELL, ID 83607 Parcel Number(s): R3270901100 +

Subdivision: \_\_\_\_\_ Block: \_\_\_\_\_ Lot: \_\_\_\_\_ Acreage: 17.77 37.92 Zoning: HC + R2

Prior Use of the Property: Agriculture

Proposed Use of the Property: residential, commercial, open space

## Applicant Information

Applicant Name: Jane Suggs Phone: 208-602-6941

Address: 9840 W. Overland Road, Suite 120 City: Boise State: ID Zip: 83709

Email: jane@gemstateplanning.com Cell: 208-602-6941

Owner Name: VERTREES ROBERT AND JACKIE LIVING TRUST Phone: \_\_\_\_\_

Address: VERTREES ROBERT TRUSTEE 5467 W ASTONTE D DR City: MERIDIAN State: ID Zip: 83646

Email: \_\_\_\_\_ Cell: \_\_\_\_\_

Agent Name: (e.g., architect, engineer, developer, representative) Gem State Planning

Address: 9840 W. Overland Road, Suite 120 Suite 120 City: Boise State: ID Zip: 83709

Email: jane@gemstateplanning.com Cell: \_\_\_\_\_

## Authorization

Print Applicant Name: Jane Suggs

Applicant Signature: \_\_\_\_\_ Date: 10/22/2021

AI



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- Other \_\_\_\_\_

<b>STAFF USE ONLY:</b>	
File Number(s):	<u>Sub21-000041</u>
Project Name:	<u>Arrowrock Farm</u>
Date Filed:	<u>10/22/21</u> Date Complete: _____
Related Files:	<u>Ann21-000014</u>

20121-000005  
Sup21-000015

## Subject Property Information

Address: 0 INDIANA AVE CALDWELL, ID 83607 Parcel Number(s): R 32709011 B0 +  
 Subdivison: \_\_\_ Block: \_\_\_ Lot: \_\_\_ Acreage: 1.777 37.92 Zoning: HC + R2  
 Prior Use of the Property: Agriculture  
 Proposed Use of the Property: residential, commercial and open space

## Applicant Information

Applicant Name: Jane Suggs Phone: 208-602-6941  
 Address: 9840 W. Overland Road, Suite 120 City: Boise State: ID Zip: 83709  
 Email: jane@gemstateplanning.com Cell: 208-602-6941

Owner Name: VERTREES ROBERT AND JACKIE LIVING TRUST Phone: \_\_\_\_\_  
 Address: VERTREES ROBERT TRUSTEE 5467 W ASTONTE D DR MERIDIAN, ID 83646 City: MERIDIAN State: ID Zip: 83646  
 Email: \_\_\_\_\_ Cell: \_\_\_\_\_

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 Address: 9840 W. Overland Road, Suite 120 Suite 120 City: Boise State: ID Zip: 83709  
 Email: jane@gemstateplanning.com Cell: \_\_\_\_\_

## Authorization

Print Applicant Name: Jane Suggs  
 Applicant Signature: \_\_\_\_\_ Date: 10/22/2021

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# CITY OF Caldwell, Idaho

Planning &  
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- Other \_\_\_\_\_

<b>STAFF USE ONLY:</b>	
File Number(s):	<u>Z021-00005</u>
Project Name:	<u>Arrow Rock Farm</u>
Date Filed:	<u>10/22/21</u> Date Complete: _____
Related Files:	<u>ANN21-000014</u>

Su B21-000041  
Sup21-000015

## Subject Property Information

Address: 0 INDIANA AVE CALDWELL, ID 83607 Parcel Number(s): R3270901100

Subdivision: \_\_\_\_\_ Block: \_\_\_\_\_ Lot: \_\_\_\_\_ Acreage: 17.73 10.99 Zoning: R-2

Prior Use of the Property: Agriculture

Proposed Use of the Property: residential, commercial, open space

## Applicant Information

Applicant Name: Jane Suggs Phone: 208-602-6941

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- Variance
- Other \_\_\_\_\_

### STAFF USE ONLY:

File Number(s): Sup21-000015

Project Name: Arrow Rock Farm

Date Filed: 10/22/21 Date Complete: \_\_\_\_\_

Related Files: Ann21-000014

SUB21-000041  
ZON21-000005

## Subject Property Information

Address: 0 INDIANA AVE CALDWELL, ID 83607 Parcel Number(s): R3270901100

Subdivision: \_\_\_ Block: \_\_\_ Lot: \_\_\_ Acreage: 26.93 Zoning: HC

Prior Use of the Property: Agriculture

Proposed Use of the Property: residential, commercial and open space townhomes in the H-C zone

## Applicant Information

Applicant Name: Jane Suggs Phone: 208-602-6941

Address: 9840 W. Overland Road, Suite 120 City: Boise State: ID Zip: 83709

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Email: jane@gemstateplanning.com Cell: \_\_\_\_\_

## Authorization

Print Applicant Name: Jane Suggs

Applicant Signature: \_\_\_\_\_ Date: 10/22/2021

AI

# Gem State Planning, LLC

October 22, 2021

Mr. Jerome Mapp, Director  
City of Caldwell Planning and Zoning  
621 Cleveland Boulevard  
Caldwell, Idaho 83605

Subject: Arrowrock Farm Subdivision (aka Vertrees property)  
Applications for Annexation, Rezone and Preliminary Plat

Dear Mr. Mapp:

On behalf of Trilogy Development, please accept the attached applications and support materials for Arrowrock Farm Subdivision, a mixed use development with commercial lots and a mix of housing opportunities; located on the northwest corner of Hwy 55/Karcher Road and Indiana Boulevard (3N, 3W, Section 10). We are requesting annexation of 37.92 acres into the City of Caldwell with a mix of land uses, including 39 single family homes, 58 townhomes, 22 4plex lots (88 units) and 3 commercial lots. The resulting density of Arrowrock Farms is 4.9 dwelling units/acre (using annexation area). Density is 5.25 du/acre without commercial acreage of 2.68 acres.

## **Annexation/Comprehensive Plan**

The Caldwell Comprehensive Plan Future Land Use Map designates this property as Highway Corridor (H-C) due to its location along Karcher Road. The comprehensive plan suggests uses such as commercial, light industrial, office and high density residential, and notes that the function of Karcher Road should not be compromised.

We are requesting the Highway Corridor (H-C) zone for most of the development site. The H-C zone is a mixed use zone that is allowable in the similarly described H-C Comprehensive Plan designation. The H-C zone will include the commercial, multi-family and townhomes. A Special Use Permit is included for the townhome lots in the H-C zone.

Due to the location of the property adjacent to two single family subdivisions, Kingsview Estates to the north and Quail Ridge to the northwest, we are requesting annexation of a portion of the site as R-2. This is the same zoning as the adjacent subdivisions and this zone will allow a reasonable and attractive transition to the H-C zone with the townhome lots, multi-family lots and commercial lots in the remaining portion of Arrowrock Farm. The legal descriptions for the two zoning designations are include in our application package.

## **Preliminary Plat**

As shown on the Preliminary Plat, Arrowrock Farm Subdivision includes 39 single family lots. These lots meet the size and lot dimension for the R-2 zone. (Caldwell Zoning Code 10-02-03) The single family lots then transition to townhome lots. The 58 townhouses are 2 story, front

**9839 W. Cable Car Street, Suite 101, Boise, Idaho 83709**

A2

loaded, single family attached homes constructed in groups of 3 or 4 homes. These lots range in size from 2600 sf to 3807 sf. We have provided additional off-street parking space for the townhome lots (even though this is requirement in Planned Unit Developments, not standard subdivisions).

The 22 multi-family lots are for 2 story 4plexes, with 2 units down and 2 units upstairs. The 4plex units are a mix of 1 BR/1BA, 2 BR/2BA and 3 BR/2BA. There are 182 standard and 10 handicap parking spaces for the 88 dwelling units, for just over 2 parking spaces per unit for residents and guests.

In the commercial area, we are showing 3 buildable lots, 3 common lots and 1 driveway lot, totaling 2.68 acres. This area may be sold to a commercial user and the orientation of the lots and buildable area may change.

### **Open Space**

Arrowrock Farm will have ample open spaces and amenities. This new community will include over 11.8% open space, not including drainage lots, buffers on Karcher and Indiana or the Deer Flat Caldwell Lateral easement that is over 2.2 acres. A 10' asphalt pathway along the south side of the Lateral will connect to the path in the Quail Ridge Subdivision to the north.

Residents will enjoy a playground and picnic shelter in the centrally located open space on Lot 6, Block 5. A shade structure on Lot 10, Block 4, at the Baneberry Street entry, will provide a gathering area for residents and guests. We are excited to include a pickleball court on Lot 29, Block 1, which is sure to be a "hit".

A clubhouse, playground and parking area, located on Lot 44, Block 1, will serve the 4plex residents. These amenities are conveniently located and provide a nice space for the kids' birthday parties and other community events.

### **Streets and Utilities**

Indiana Avenue is a Minor Arterial and Karcher Road/Hwy 55 is a Principal Arterial, according to the Caldwell Functional Street Classification Map. These major roadways will allow useful access to all points north, south, east and west. We are planning for two connections to Indiana Avenue, along with connecting to the stub streets, Carl Port Way and Aptos Avenue, in the adjacent subdivisions as required. The southern access to Indiana Ave will afford immediate access to the commercial properties in Block 7 and to the 4plex units. Baneberry Avenue, an attractive tree lined street with a landscape median, will be the main entry to Arrowrock Farm.

Sewer, water and pressurized irrigation will be provided to each lot. The Deer Flat-Caldwell Lateral is covered by a 70' wide easement. The Lateral will remain open. As noted previously, a connecting pathway will be constructed along the south side of the Lateral. The single family homes and townhomes that abut the Lateral will be fenced as shown on the landscape plan.

**9839 W. Cable Car Street, Suite 101, Boise, Idaho 83709**



## Landscaping

Landscaping is integral to the mix of residential uses in Arrowrock Farm Subdivision. Buffers and open areas will include significant planting beds and a variety of trees that can be irrigated with drip irrigation. We have included a detailed landscape plan and color rendering with our application.

## Neighborhood Meeting

A well-attended neighborhood meeting was held on Monday, August 23, 2021, at 6 pm. The meeting was held on site. The development was called Rocky Ridge at the time of the meeting and the sign-up sheet is attached. The neighbors were concerned about traffic that may travel through their neighborhood, the loss of the farm that can be seen from their homes and the density of the proposed development.

Soon after the neighborhood meeting, we sent the sign-up sheet to a representative of the Quail Ridge HOA. We also emailed a copy of page 2 of the Preliminary Plat to all the attendees of the neighborhood meeting who provided email addresses.

We have continued email correspondence with Brett and Yvette Darney, the owners of the 2 acre out-parcel that abuts Arrowrock Farm. Mr. Darney had questions about irrigation and fencing around his property. He was also interested in the timing of the construction.

## Summary

Arrowrock Farm Subdivision is an attractive mixed-use development that meets the requirements of the Comprehensive Plan, while recognizing and respecting the adjacent single family residential uses.

We appreciate the Planning Staff acceptance of our application as we await the completion of our Traffic Impact Study. We are happy to revise our applications if the TIS warrants any changes. We look forward to working with you through the approval process. Please contact me if you have questions about our applications or Arrowrock Farm Subdivision.

Sincerely,

  
Jane Suggs

cc: Shawn Brownlee, Trilogy Development

**9839 W. Cable Car Street, Suite 101, Boise, Idaho 83709**

A2

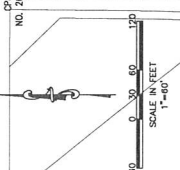
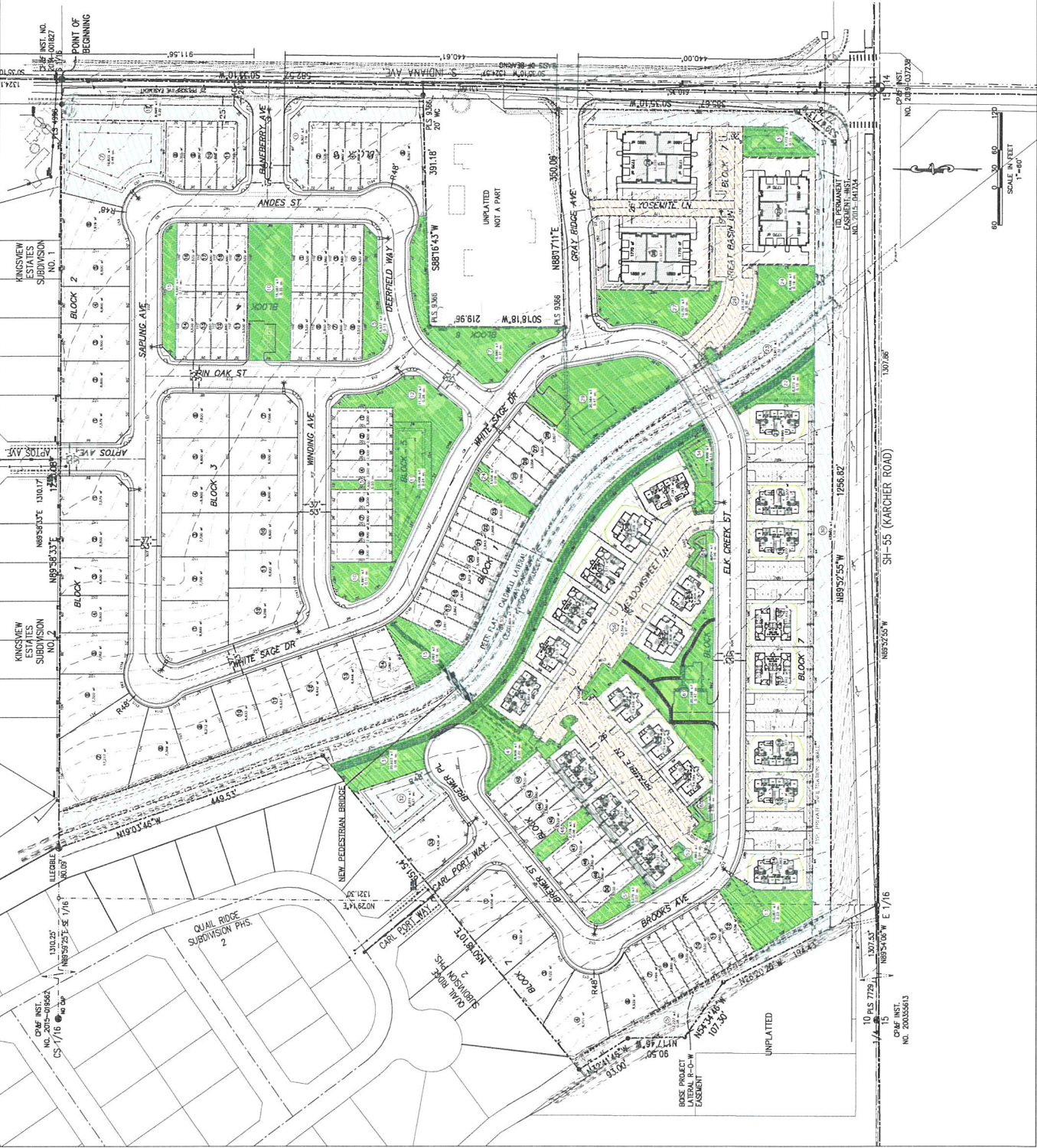




**PRELIMINARY PLAT FOR  
ARROWROCK FARM SUBDIVISION**  
LOCATED IN THE SW 1/4 OF SECTION 10  
T.33N., R.24W., B.M. 10027  
CLAYWELL, CANYON COUNTY, IDAHO

**PLAT LEGEND**

- BOUNDARY
- LOCAL UTILITY
- LOT NUMBER
- LOT AREA
- BLOCK NUMBER
- STREET NAME
- STREET PLACEMENT
- STREET PLACEMENT
- SEWER LINE
- STREET LIGHT LINE
- STREET LIGHT LOCATION
- GRAVEL PAVEMENT
- PAVEMENT



BASE PROJECT  
NO. 200355813

CS 7/18 @ 1/16

10 PLS 7729

1307337

NO. 200355813

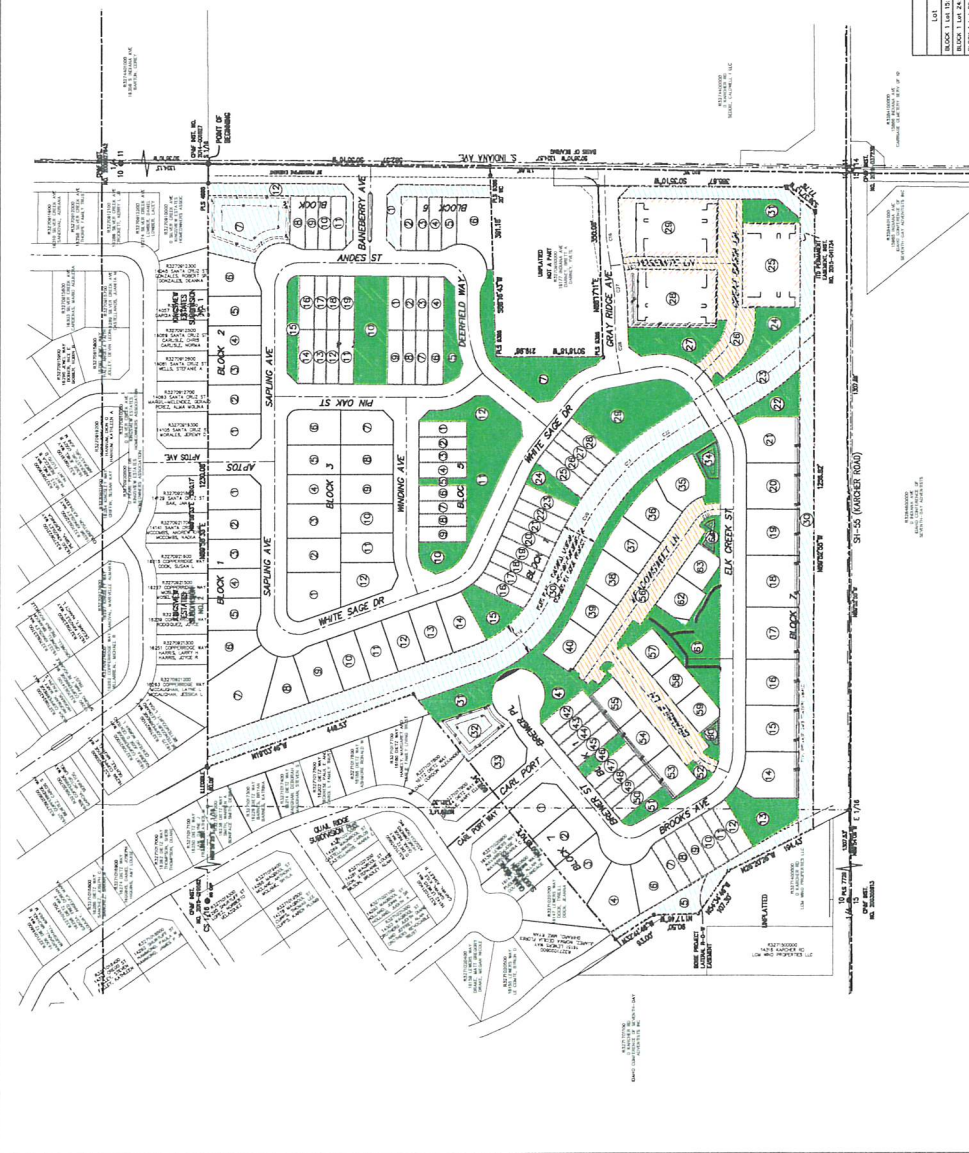
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**PRELIMINARY PLAT FOR  
ARROWROCK FARM SUBDIVISION**  
LOCATED IN THE SE 1/4 OF SECTION 10  
T.25N. R.33W. S.10E. DECATUR COUNTY, INDIANA  
CALDWELL, INDIANA 2021

Alley Engineering, Inc.  
Civil Engineering/Planning/CADD  
1001 S. 10th St., Suite 100  
Decatur, IN 46733  
Phone: 317.425.1111  
Fax: 317.425.1112



ADJACENT OWNERS & TABLES  
ARROWROCK FARM SUBDIVISION  
TRILOGY DEVELOPMENT, INC.



Common Lots	Description	Common Lots	Description
Block 1 Lot 1	1000 SFR R-2	Block 1 Lot 21	2000 Township
Block 1 Lot 2	1000 SFR R-2	Block 1 Lot 22	2000 Township
Block 1 Lot 3	1000 SFR R-2	Block 1 Lot 23	2000 Township
Block 1 Lot 4	1000 SFR R-2	Block 1 Lot 24	2000 Township
Block 1 Lot 5	1000 SFR R-2	Block 1 Lot 25	2000 Township
Block 1 Lot 6	1000 SFR R-2	Block 1 Lot 26	2000 Township
Block 1 Lot 7	1000 SFR R-2	Block 1 Lot 27	2000 Township
Block 1 Lot 8	1000 SFR R-2	Block 1 Lot 28	2000 Township
Block 1 Lot 9	1000 SFR R-2	Block 1 Lot 29	2000 Township
Block 1 Lot 10	1000 SFR R-2	Block 1 Lot 30	2000 Township
Block 1 Lot 11	1000 SFR R-2	Block 1 Lot 31	2000 Township
Block 1 Lot 12	1000 SFR R-2	Block 1 Lot 32	2000 Township
Block 1 Lot 13	1000 SFR R-2	Block 1 Lot 33	2000 Township
Block 1 Lot 14	1000 SFR R-2	Block 1 Lot 34	2000 Township
Block 1 Lot 15	1000 SFR R-2	Block 1 Lot 35	2000 Township
Block 1 Lot 16	1000 SFR R-2	Block 1 Lot 36	2000 Township
Block 1 Lot 17	1000 SFR R-2	Block 1 Lot 37	2000 Township
Block 1 Lot 18	1000 SFR R-2	Block 1 Lot 38	2000 Township
Block 1 Lot 19	1000 SFR R-2	Block 1 Lot 39	2000 Township
Block 1 Lot 20	1000 SFR R-2	Block 1 Lot 40	2000 Township

Common Lots	Description	Curve #	Radius Length	Curve #	Radius Length
Block 1 Lot 10	1000 SFR R-2	C1	1000.00	C10	2000.00
Block 1 Lot 11	1000 SFR R-2	C2	1000.00	C11	2000.00
Block 1 Lot 12	1000 SFR R-2	C3	1000.00	C12	2000.00
Block 1 Lot 13	1000 SFR R-2	C4	1000.00	C13	2000.00
Block 1 Lot 14	1000 SFR R-2	C5	1000.00	C14	2000.00
Block 1 Lot 15	1000 SFR R-2	C6	1000.00	C15	2000.00
Block 1 Lot 16	1000 SFR R-2	C7	1000.00	C16	2000.00
Block 1 Lot 17	1000 SFR R-2	C8	1000.00	C17	2000.00
Block 1 Lot 18	1000 SFR R-2	C9	1000.00	C18	2000.00
Block 1 Lot 19	1000 SFR R-2	C10	2000.00	C19	2000.00
Block 1 Lot 20	1000 SFR R-2	C11	2000.00	C20	2000.00

Common Lots	Description	Curve #	Radius Length	Curve #	Radius Length
Block 2 Lot 1	1000 SFR R-2	C21	1000.00	C30	2000.00
Block 2 Lot 2	1000 SFR R-2	C22	1000.00	C31	2000.00
Block 2 Lot 3	1000 SFR R-2	C23	1000.00	C32	2000.00
Block 2 Lot 4	1000 SFR R-2	C24	1000.00	C33	2000.00
Block 2 Lot 5	1000 SFR R-2	C25	1000.00	C34	2000.00
Block 2 Lot 6	1000 SFR R-2	C26	1000.00	C35	2000.00
Block 2 Lot 7	1000 SFR R-2	C27	1000.00	C36	2000.00
Block 2 Lot 8	1000 SFR R-2	C28	1000.00	C37	2000.00
Block 2 Lot 9	1000 SFR R-2	C29	1000.00	C38	2000.00
Block 2 Lot 10	1000 SFR R-2	C30	2000.00	C39	2000.00
Block 2 Lot 11	1000 SFR R-2	C31	2000.00	C40	2000.00

ASBP

**PRELIMINARY ENGINEERING FOR  
ARROWROCK FARM SUBDIVISION**

LOCATED IN THE SE 1/4 OF SECTION 10  
T.33N., R.37W., S.M.  
CALDWELL, CALDWELL COUNTY, IDAHO  
2021

Alley Engineering, Inc.  
Civil Engineering/Planning/CADD  
8772  
8772



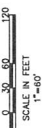
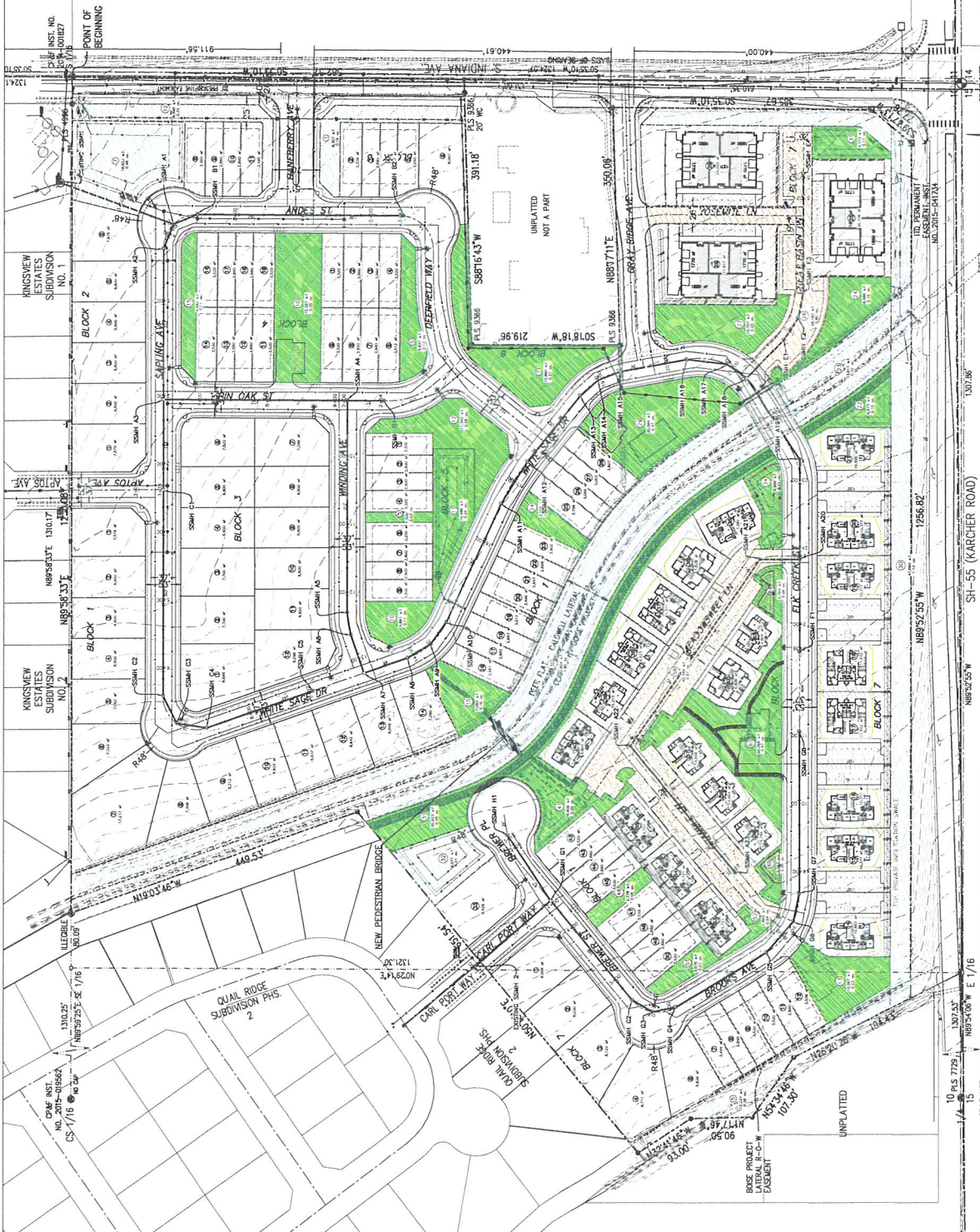
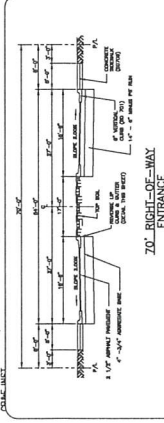
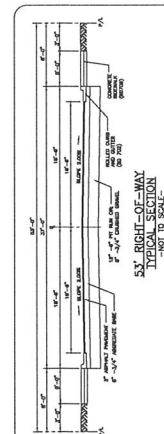
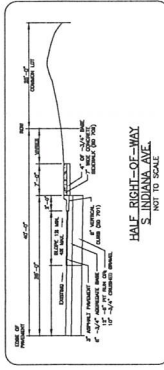
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DRAWN BY:  
DATE: 08/20/2021

REVISIONS  
NO. DATE DESCRIPTION

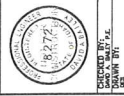
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PROJECT: ARROWROCK FARM SUBDIVISION  
SHEET: PP-4

**PLAT LEGEND**

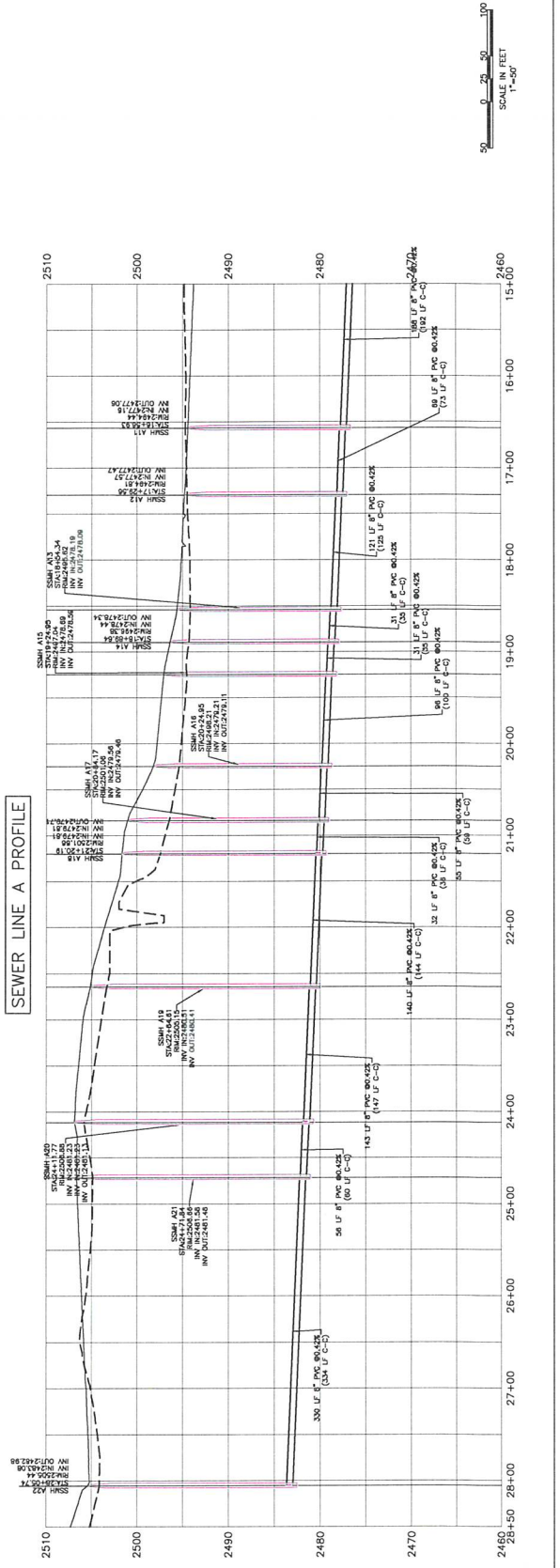
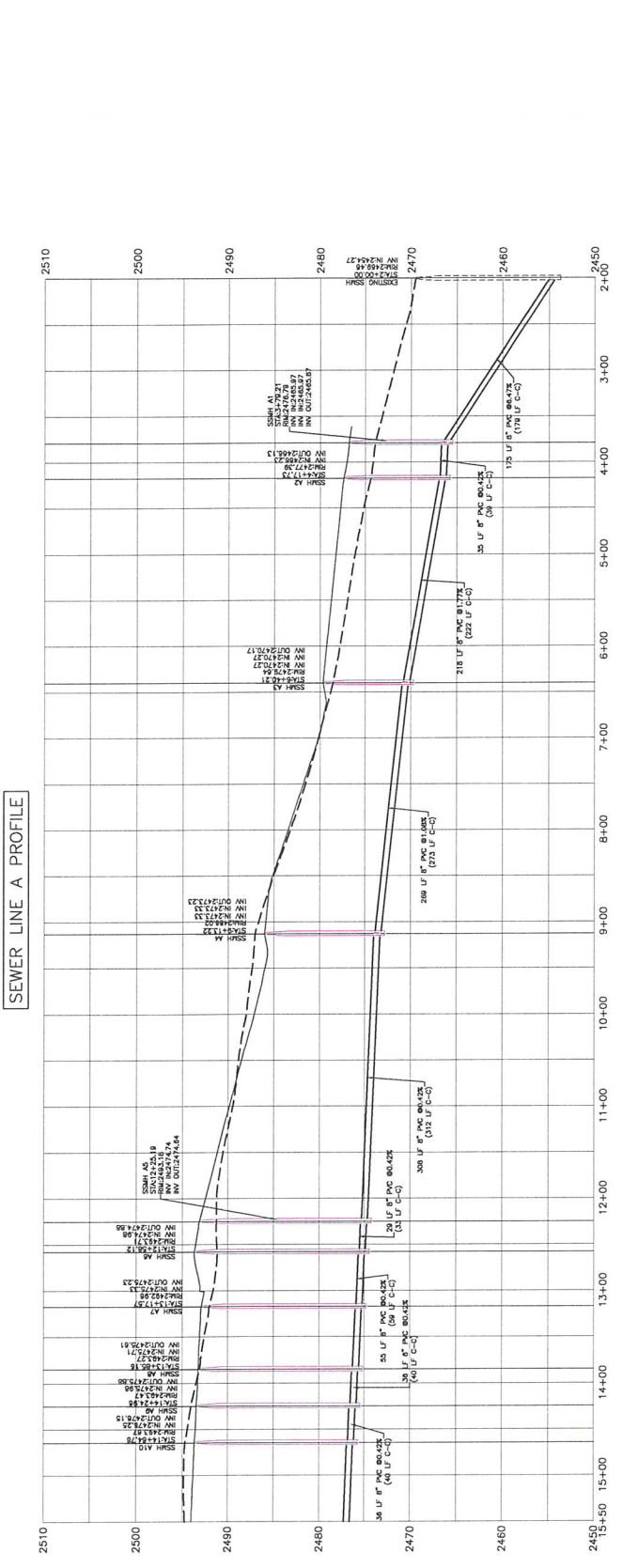
- BOUNDARY
- ROAD CENTERLINE
- LOT NUMBER
- LOT AREA
- PLANNED
- EXISTING
- STREET CENTERLINE
- STREET NAME
- WATER LINE
- SEWER LINE
- PERMANENT EASEMENT
- FLOW ARROW



*ASP*

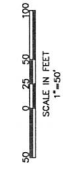


REVISIONS  
 NO. DATE DESCRIPTION



SEWER LINE A PROFILE

SEWER LINE A PROFILE



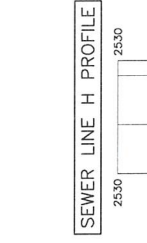
ASB

WANT: PRELIMINARY SEWER PROFILES  
SCALE IN FEET 1"=50'

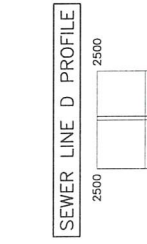
CHICAGO, ILL.  
VALLEY ENGINEERING, INC.

Civil Engineering/Planning/CADD  
1117 N. WASHINGTON ST.  
CHICAGO, IL 60610

SEWER LINE B PROFILE



SEWER LINE D PROFILE



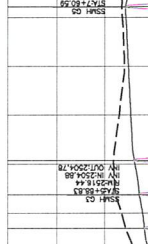
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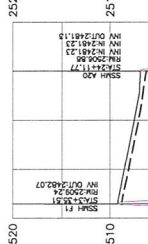
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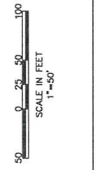
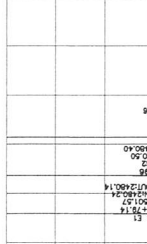
SEWER LINE G PROFILE



SEWER LINE F PROFILE



SEWER LINE E PROFILE

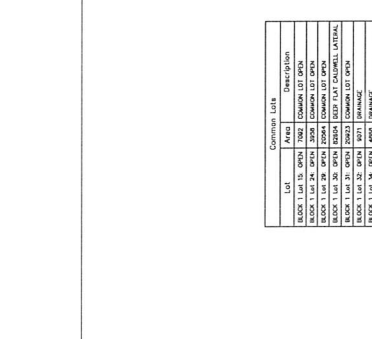


ASP

**98 Alley Engineering, Inc.**  
Civil Engineering/Planning/CADD  
303 S. 11th St., Suite 100  
Caldwell, Indiana 46022  
Tel: (765) 686-2213  
Fax: (765) 686-2214

INDIANA  
STATE DEPARTMENT OF  
COMMERCE  
DIVISION OF LANDS  
AND CONSERVATION

DATE: \_\_\_\_\_  
PROJECT: \_\_\_\_\_  
SHEET: \_\_\_\_\_



Lot	Area	Description
Block 1, Lot 1	...	...
Block 1, Lot 2	...	...
Block 1, Lot 3	...	...
Block 1, Lot 4	...	...
Block 1, Lot 5	...	...
Block 1, Lot 6	...	...
Block 1, Lot 7	...	...
Block 1, Lot 8	...	...
Block 1, Lot 9	...	...
Block 1, Lot 10	...	...
Block 1, Lot 11	...	...
Block 1, Lot 12	...	...
Block 1, Lot 13	...	...
Block 1, Lot 14	...	...
Block 1, Lot 15	...	...
Block 1, Lot 16	...	...
Block 1, Lot 17	...	...
Block 1, Lot 18	...	...
Block 1, Lot 19	...	...
Block 1, Lot 20	...	...
Block 1, Lot 21	...	...
Block 1, Lot 22	...	...
Block 1, Lot 23	...	...
Block 1, Lot 24	...	...
Block 1, Lot 25	...	...
Block 1, Lot 26	...	...
Block 1, Lot 27	...	...
Block 1, Lot 28	...	...
Block 1, Lot 29	...	...
Block 1, Lot 30	...	...
Block 1, Lot 31	...	...
Block 1, Lot 32	...	...
Block 1, Lot 33	...	...
Block 1, Lot 34	...	...
Block 1, Lot 35	...	...
Block 1, Lot 36	...	...
Block 1, Lot 37	...	...
Block 1, Lot 38	...	...
Block 1, Lot 39	...	...
Block 1, Lot 40	...	...
Block 1, Lot 41	...	...
Block 1, Lot 42	...	...
Block 1, Lot 43	...	...
Block 1, Lot 44	...	...
Block 1, Lot 45	...	...
Block 1, Lot 46	...	...
Block 1, Lot 47	...	...
Block 1, Lot 48	...	...
Block 1, Lot 49	...	...
Block 1, Lot 50	...	...
Block 1, Lot 51	...	...
Block 1, Lot 52	...	...
Block 1, Lot 53	...	...
Block 1, Lot 54	...	...
Block 1, Lot 55	...	...
Block 1, Lot 56	...	...
Block 1, Lot 57	...	...
Block 1, Lot 58	...	...
Block 1, Lot 59	...	...
Block 1, Lot 60	...	...
Block 1, Lot 61	...	...
Block 1, Lot 62	...	...
Block 1, Lot 63	...	...
Block 1, Lot 64	...	...
Block 1, Lot 65	...	...
Block 1, Lot 66	...	...
Block 1, Lot 67	...	...
Block 1, Lot 68	...	...
Block 1, Lot 69	...	...
Block 1, Lot 70	...	...
Block 1, Lot 71	...	...
Block 1, Lot 72	...	...
Block 1, Lot 73	...	...
Block 1, Lot 74	...	...
Block 1, Lot 75	...	...
Block 1, Lot 76	...	...
Block 1, Lot 77	...	...
Block 1, Lot 78	...	...
Block 1, Lot 79	...	...
Block 1, Lot 80	...	...
Block 1, Lot 81	...	...
Block 1, Lot 82	...	...
Block 1, Lot 83	...	...
Block 1, Lot 84	...	...
Block 1, Lot 85	...	...
Block 1, Lot 86	...	...
Block 1, Lot 87	...	...
Block 1, Lot 88	...	...
Block 1, Lot 89	...	...
Block 1, Lot 90	...	...
Block 1, Lot 91	...	...
Block 1, Lot 92	...	...
Block 1, Lot 93	...	...
Block 1, Lot 94	...	...
Block 1, Lot 95	...	...
Block 1, Lot 96	...	...
Block 1, Lot 97	...	...
Block 1, Lot 98	...	...
Block 1, Lot 99	...	...
Block 1, Lot 100	...	...

PLAT LEGEND

- LOT BOUNDARY
- RIGHT OF WAY
- ADJACENT LOT BOUNDARY
- PROPERTY NUMBER
- CROSSING
- WATER SUPPLY
- SEWER LINE
- UTILITY LINE
- PROPOSED FLOW ARROW

SHEET DESCRIPTION

- PP-1 COVER SHEET, INDEX, VICINITY MAP, NOTES
- PP-2 PRELIMINARY PLAT LAYOUT
- PP-3 ADJACENT LOT CURVE AND LOT TABLES
- PP-4 PRELIMINARY ENGINEER'S PLAN
- PP-5 PRELIMINARY SEWER PROFILES
- PP-6 PRELIMINARY SEWER PROFILES

SCALE IN FEET  
1"=100'

INDEX

1. NO DIRECT LOT ACCESS SHALL BE ALLOWED TO INDIANA AVE.
2. COLLECTOR MAINS SHALL BE PROVIDED TO ALL LOTS BY CALDWELL COUNTY PUBLIC UTILITIES DEPARTMENT.
3. THE PROPOSED PAVEMENT SHALL BE AS SHOWN ON THESE PLANS AND SHALL BE CONSIDERED TO BE PART OF THE IMPROVEMENTS.
4. THE PROPOSED SEWER LINES SHALL BE 15" DIA. VENTED CERAMIC TILE WITH 15" DIA. VENTED CERAMIC TILE MANHOLES AT 50' INTERVALS.
5. THE PROPOSED WATER MAINS SHALL BE 8" DIA. VENTED GALVANIZED IRON PIPE WITH 8" DIA. VENTED GALVANIZED IRON PIPE MANHOLES AT 50' INTERVALS.
6. ALL UTILITIES SHALL BE DEEPER THAN THE PROPOSED GRADE OF THE FINISH GRADE SURFACE.
7. ALL UTILITIES SHALL BE DEEPER THAN THE PROPOSED GRADE OF THE FINISH GRADE SURFACE.
8. ALL UTILITIES SHALL BE DEEPER THAN THE PROPOSED GRADE OF THE FINISH GRADE SURFACE.
9. ALL UTILITIES SHALL BE DEEPER THAN THE PROPOSED GRADE OF THE FINISH GRADE SURFACE.
10. ALL UTILITIES SHALL BE DEEPER THAN THE PROPOSED GRADE OF THE FINISH GRADE SURFACE.
11. ALL UTILITIES SHALL BE DEEPER THAN THE PROPOSED GRADE OF THE FINISH GRADE SURFACE.
12. ALL UTILITIES SHALL BE DEEPER THAN THE PROPOSED GRADE OF THE FINISH GRADE SURFACE.
13. ALL UTILITIES SHALL BE DEEPER THAN THE PROPOSED GRADE OF THE FINISH GRADE SURFACE.
14. ALL UTILITIES SHALL BE DEEPER THAN THE PROPOSED GRADE OF THE FINISH GRADE SURFACE.
15. ALL UTILITIES SHALL BE DEEPER THAN THE PROPOSED GRADE OF THE FINISH GRADE SURFACE.
16. ALL UTILITIES SHALL BE DEEPER THAN THE PROPOSED GRADE OF THE FINISH GRADE SURFACE.

ARROWROCK FARM SUBDIVISION  
TRILogy DEVELOPE  
INC.

PP-1

*ASD*

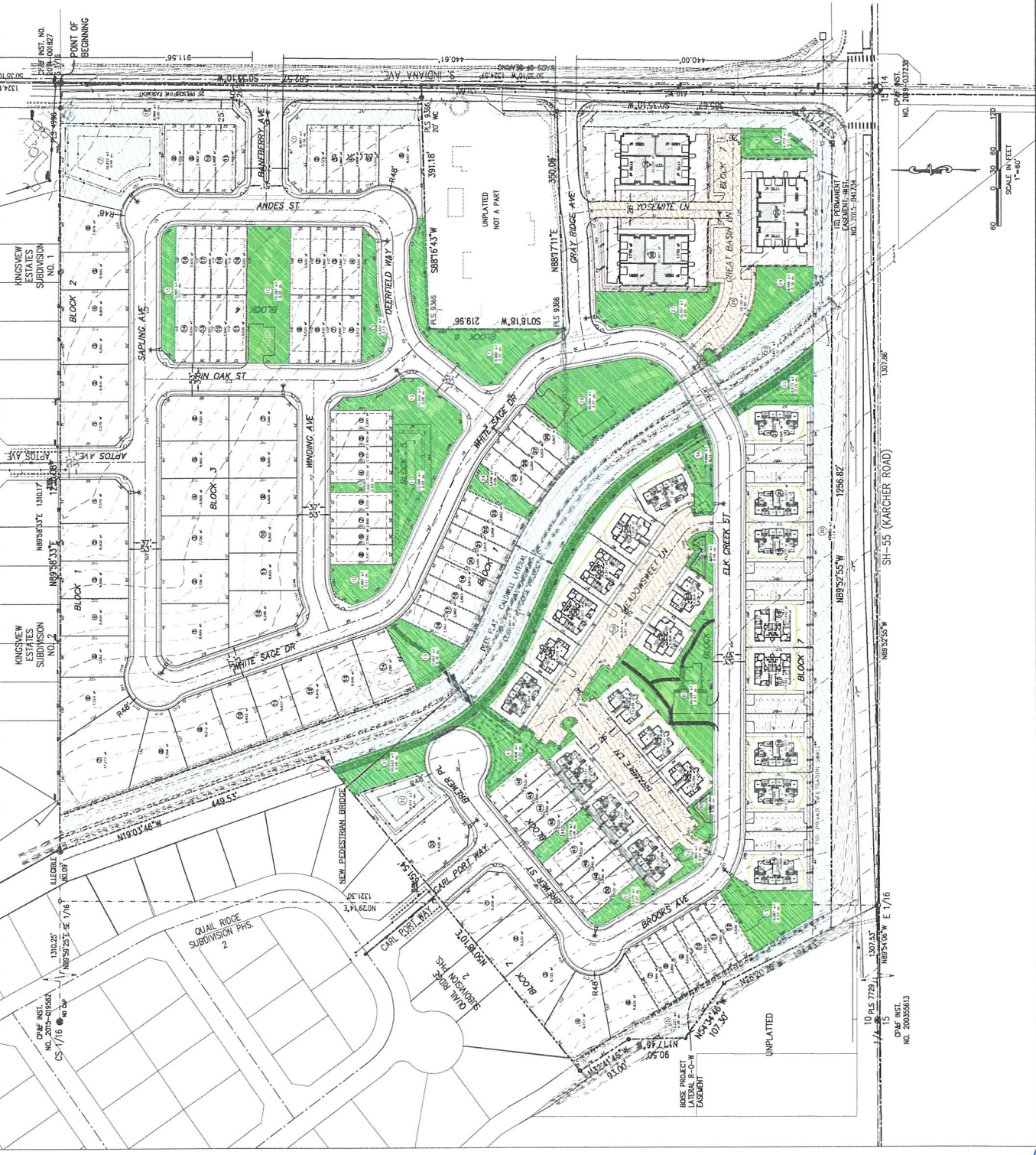


**PRELIMINARY PLAT FOR  
ARROWROCK FARM SUBDIVISION**  
LOCATED IN THE SE 1/4 OF SECTION 10  
T.3N., R.3E., COUNTY, INDIANA  
COLUMBIA COUNTY, INDIANA



DATE: 07/17/16  
PROJECT: ARROWROCK FARM SUBDIVISION  
SHEET: PP-2

- PLAT LEGEND**
- BOUNDARY
  - IDEAL CENTERLINE
  - LOT NUMBER
  - LOT AREA
  - BLOCK NUMBER
  - SECTION NUMBER
  - STREET NAME
  - STREET WIDTH
  - OTHER LINE
  - PROPOSED IMPROVEMENT
  - PROPOSED UTILIZATION
  - FLOW DIRECTION

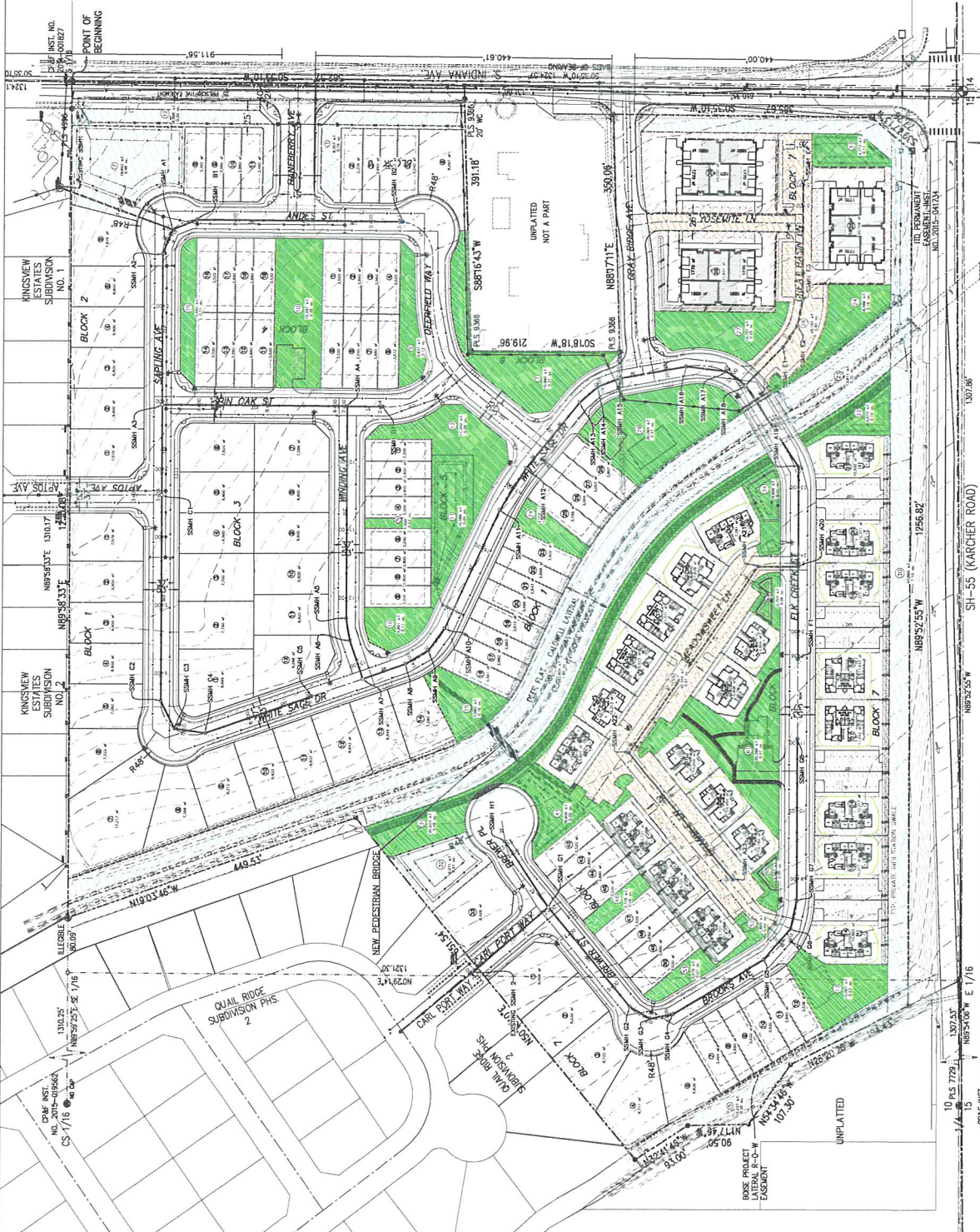


*ASB*



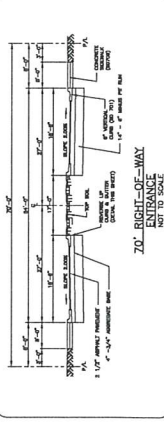
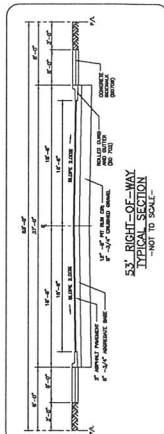
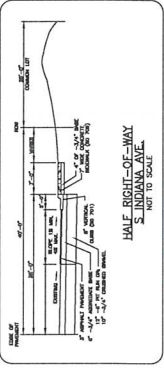


**PRELIMINARY ENGINEERING FOR  
ARROWROCK FARM SUBDIVISION**  
LOCATED IN THE SE 1/4 OF SECTION 10  
T.33N., R.37E., B.1E., CLATSOP COUNTY, OREGON



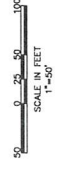
**PLAT LEGEND**

- BOUNDARY
- BOUNDARY OF TUBING
- LOT NUMBER
- LOT NUMBER
- BLOCK NUMBER
- BLOCK NUMBER
- STREET NAME
- STREET NAME
- WATER LINE
- WATER LINE
- SEWER LINE
- SEWER LINE
- PROPOSED SUBDIVISION
- PROPOSED SUBDIVISION
- FLOW ARROW
- FLOW ARROW

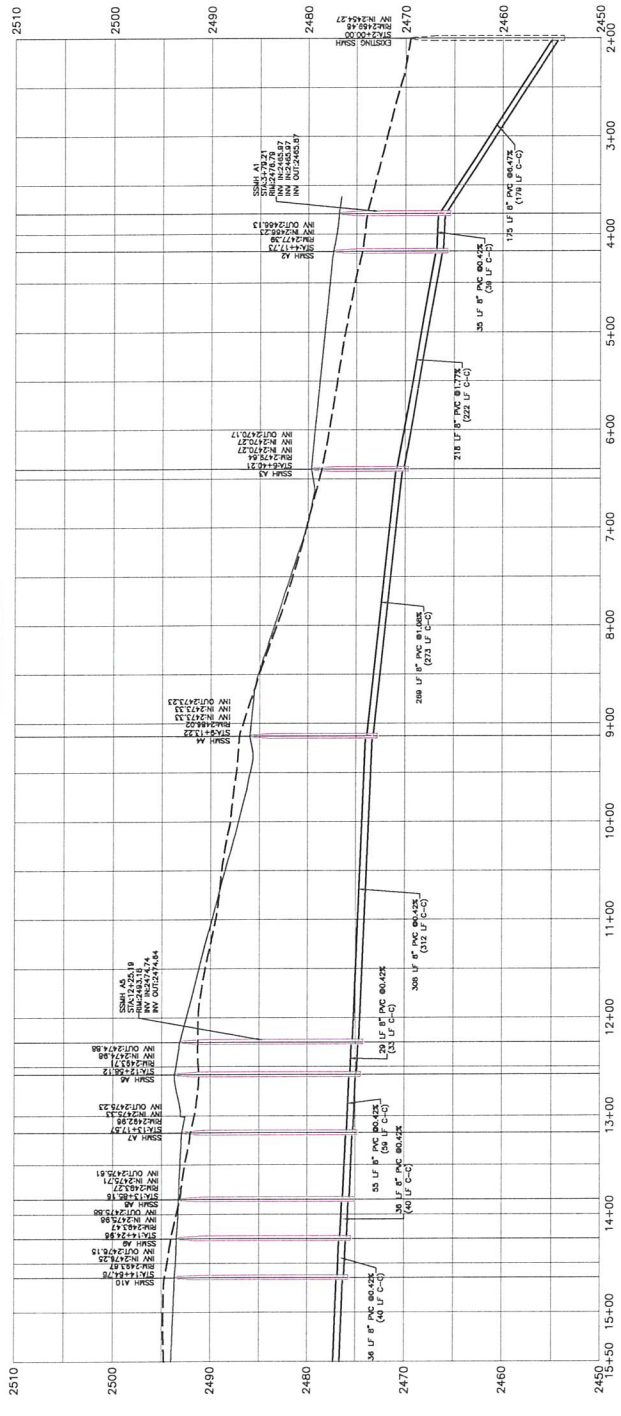


*ASP*

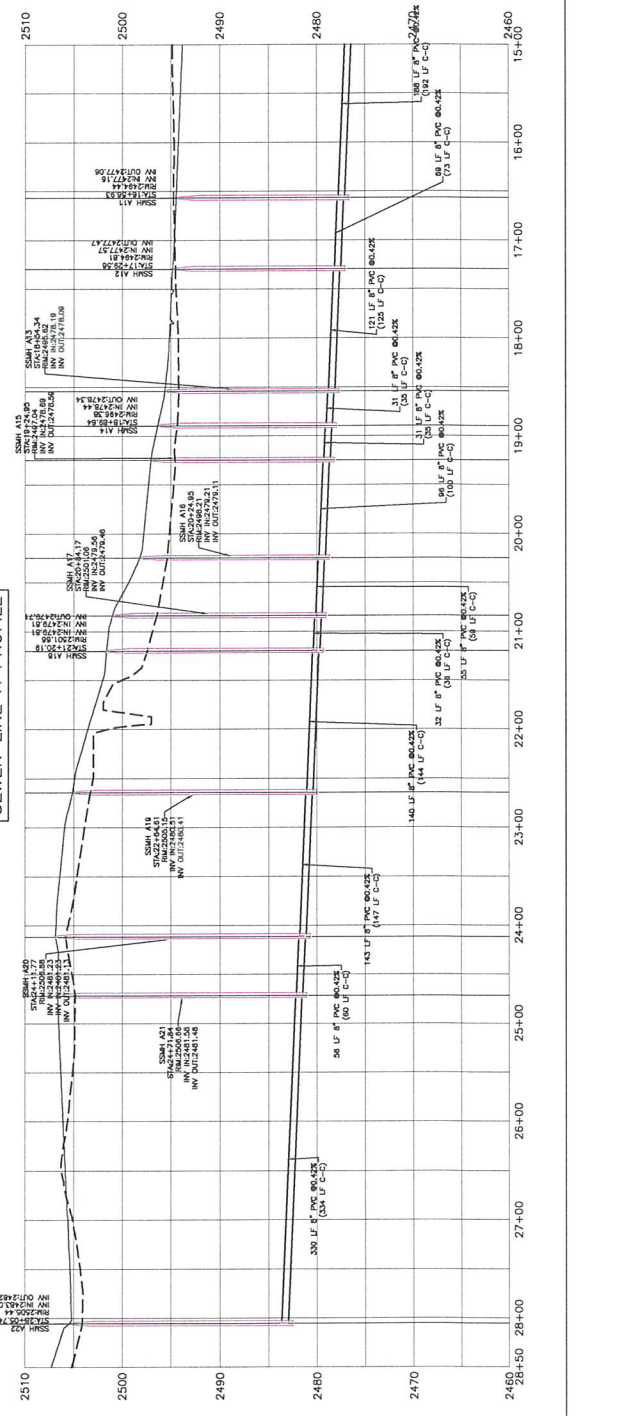
REVISED	DATE	DESCRIPTION



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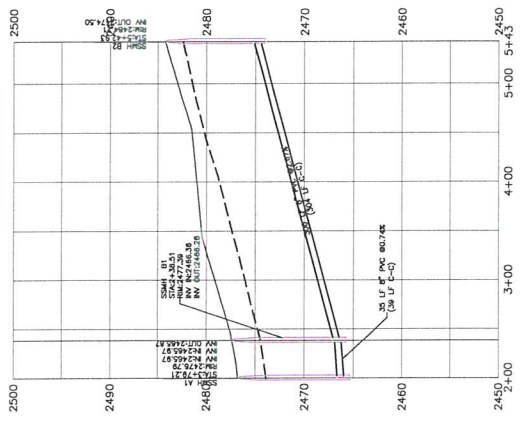


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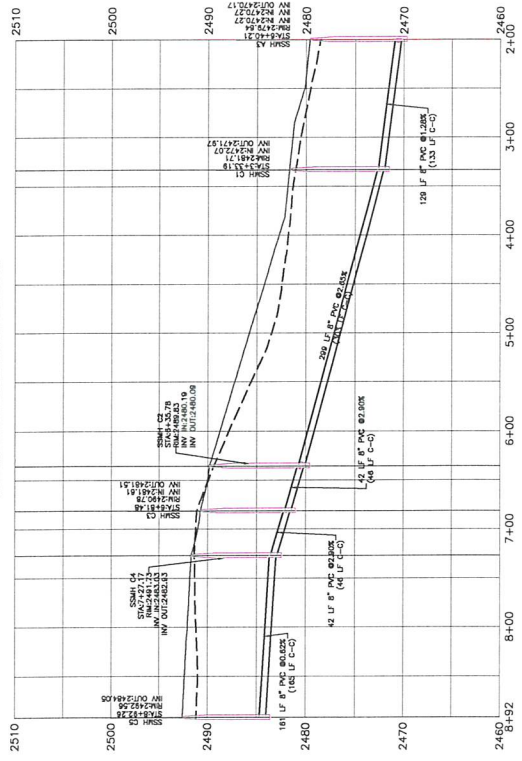


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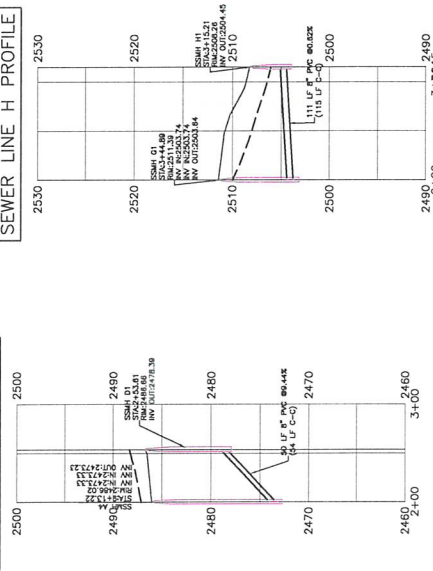
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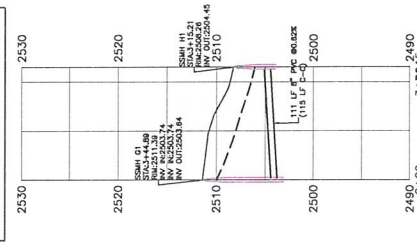
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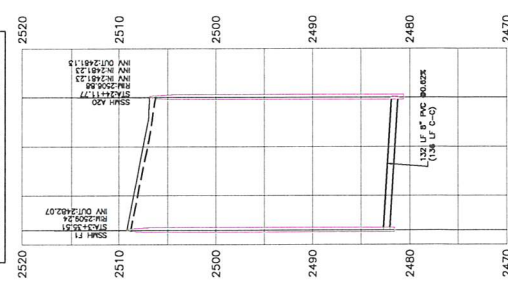
SEWER LINE D PROFILE



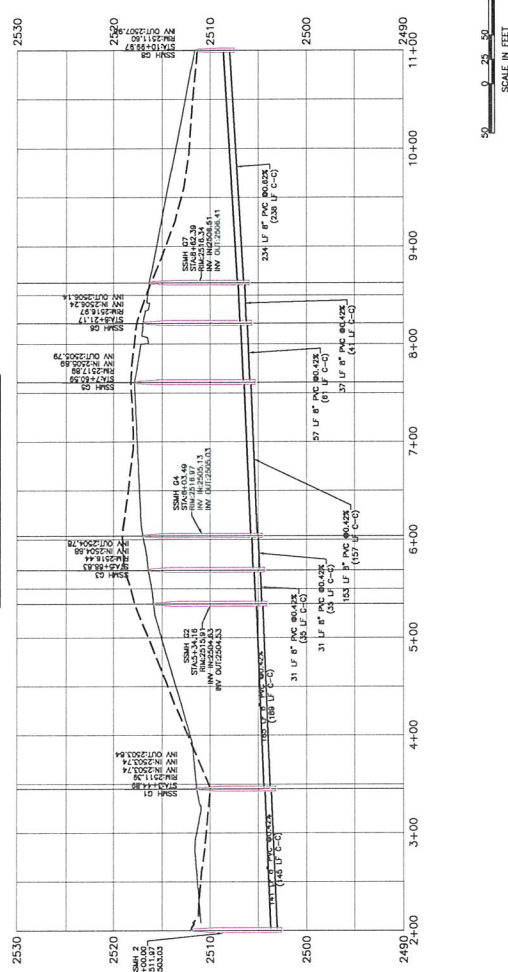
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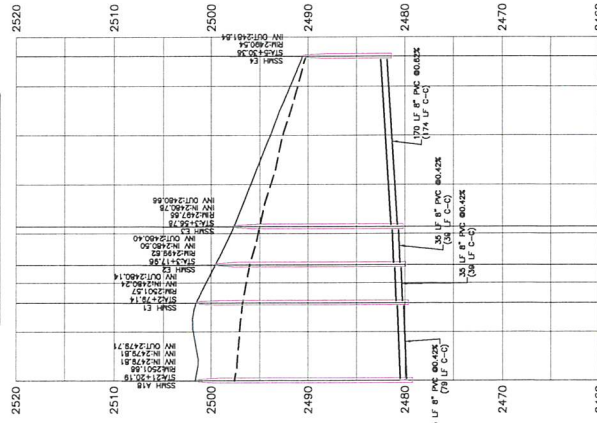
SEWER LINE F PROFILE



SEWER LINE G PROFILE



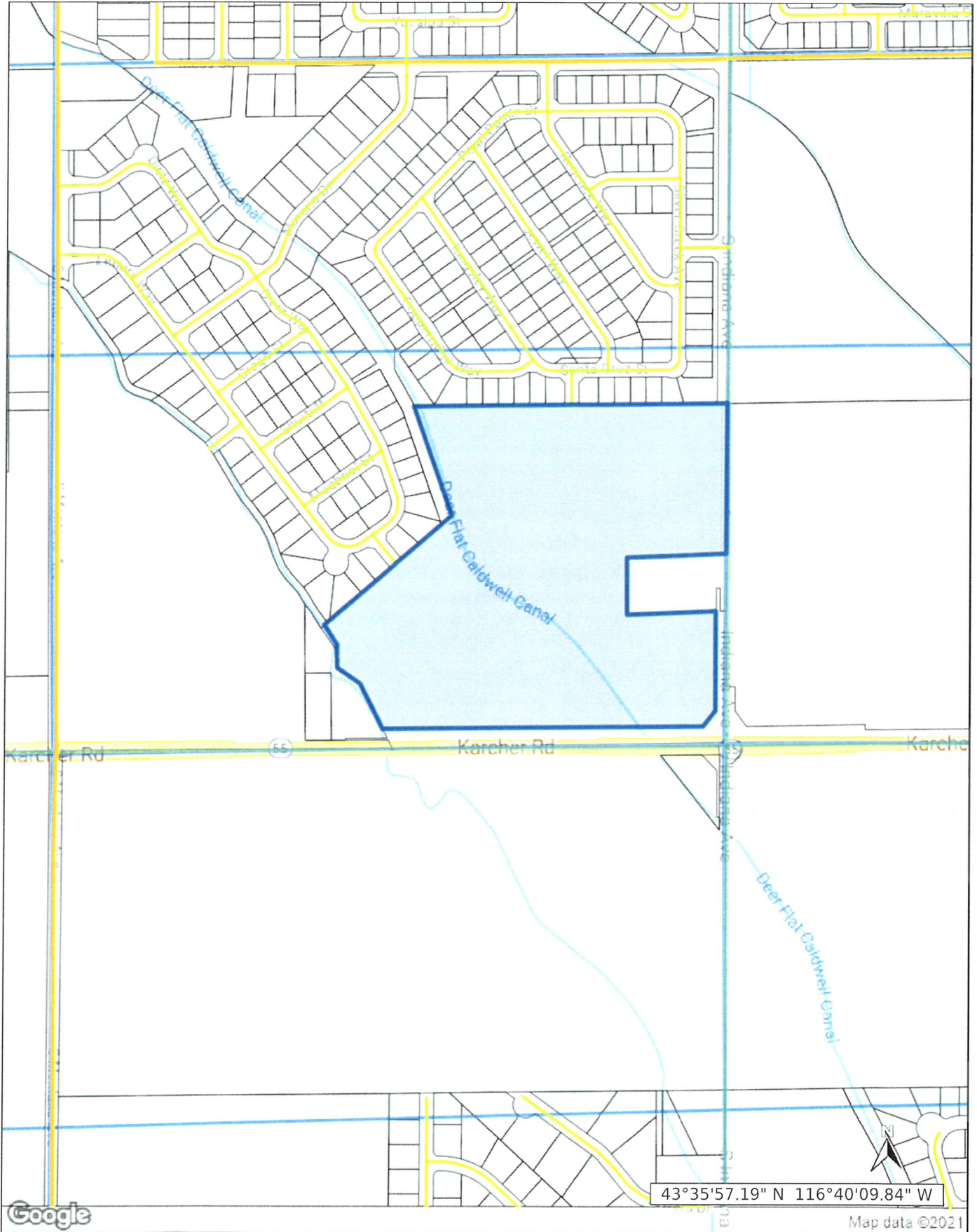
SEWER LINE E PROFILE



SCALE IN FEET  
1"=50'

ASD

# vertrees Property Vicinity Map



A4

Rocky Ridge Subdivision  
**Neighborhood Meeting**  
 Monday, August 23, 2021  
 6 pm

Name	Address	Email / Phone
1. Mike Marshall	16386 Dietz	marismich2004@yahoo.com
2. Tammy Ashmore	16188 Dietz Way	tashmore@sbcglobal.net
3. Angela Coughlin	14404 Tewkes St	acrc3113@hotmail.com
4. Maria Gonzales	14343 Crego St	mariq57gonzales@live.com
5. Geronimo Ibarra	14277 Moreno Dr	daibarra@cablone.net
6. Diana Medeiros	14258 Moreno Dr	DSP.Patience@gmail.com
7. Mary K Sprague	16164 Dietz Way	MESPR@Q.com
8. Brian & Wanda Thompson	14386 Moreno Dr.	brian.thompson@att.net
9. TJ Karren & Kristal Mann	14362 Moreno Dr.	Squidink208@gmail.com 208-697-2244
10. Daniel Badger	16356 Kingsley Way	dernwb@gmail.com <del>gmail.com</del> <del>gmail.com</del>
11. Tania Kimball	16322 Dietz Way	208-985-4417 tavkim76@gmail.com
12. Vaughn Kimball	16322 Dietz Way	vaughnkimball@mail.weber.edu
13. Sheri & Randy Thompson	16262 Dietz Way	DLRST@AOL.com

AS

14. Robert + Jackie Vertrees

15. Navarro 16139 Lewers Way navarro.mariela19@gmail.com

16. Don Higgins 16274 Dietz way dhig@comcast.net

A.P.S  
make  
copy of  
this

17. Sarah Sanchez 16286 Dietz way sj983607@yahoo.com

18. Larry Sawyer 16345 Lewers way Sawyer907@gmail.com

19. Bruce Ashmore 16265 LEWERSWAY bashmore@hogpals.com

20. Don & Pat Wyatt 14333 SHURTLEIFF ST / DON WYATT 4567 MAX.COM

21. Ron Ashmore 16188 Dietz way / splashmore@sbcglobal.net

22. John Cotsenmoyer 16277 Lewers Way / bikerbanker@onemain.com

23. Brad and Stephanie Wilson 14281 magbool St. b.wilson@idcourts.net

24. \_\_\_\_\_

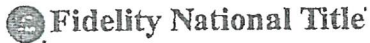
25. \_\_\_\_\_

26. \_\_\_\_\_

27. \_\_\_\_\_

28. \_\_\_\_\_





Escrow No.: 34602018663-BB

2021-020451  
 RECORDED  
 03/22/2021 01:06 PM  
 CHRIS YAMAMOTO  
 CANYON COUNTY RECORDER  
 Pgs=4 EHOWELL \$45.00  
 TYPE: MTG D OF T  
 FIDELITY NATIONAL TITLE EAGLE - 485  
 ELECTRONICALLY RECORDED

### WARRANTY DEED

#### FOR VALUE RECEIVED

Robert Vertrees and Jackie Vertrees, Trustees of the Robert and Jackie Vertrees Living Trust dated April 3, 2001 and restated October 6, 2006

GRANTOR(S), does(do) hereby GRANT, BARGAIN, SELL AND CONVEY unto:

Endurance Holdings, LLC, an Idaho Limited Liability Company

GRANTEE(S), whose current address is: 1977 E Overland Rd, Meridian, ID 83642

the following described real property in Canyon County, Idaho, more particularly described as follows, to wit:

SEE EXHIBIT "A" ATTACHED HERETO AND MADE A PART HEREOF

TO HAVE AND TO HOLD the said premises, with their appurtenances unto the said heirs and assigns forever. And the said Grantor(s) does(do) hereby covenant to and with the said Grantee(s), that Grantor(s) is/are the owner(s) in fee simple of said premises; that said premises are free from all encumbrances EXCEPT those to which this conveyance is expressly made subject and those made, suffered or done by the Grantee(s); and subject to reservations, restrictions, dedications, easements, rights of way and agreements, (if any) of record, and general taxes and assessments, (including irrigation and utility assessments, if any) for the current year, which are not yet due and payable, and that Grantor(s) will warrant and defend the same from all lawful claims whatsoever.

IN WITNESS WHEREOF, the undersigned have executed this document on the date(s) set forth below.

Effective this 22nd day of March, 2021.

Robert Vertrees and Jackie Vertrees, Trustees of the Robert and Jackie Vertrees Living Trust dated April 3, 2001 and restated October 6, 2006

BY: Robert W. Vertrees  
Robert Vertrees  
Trustee

BY: Jackie Vertrees  
Jackie Vertrees  
Trustee

ALC

Electronically Recorded  
Stamped First Page Now  
Incorporated As Part of  
The Original Document

**WARRANTY DEED**

**FOR VALUE RECEIVED**

**Robert Vertrees and Jackie Vertrees, Trustees of the Robert and Jackie Vertrees Living Trust dated April 3, 2001 and restated October 6, 2006**

GRANTOR(S), does(do) hereby GRANT, BARGAIN, SELL AND CONVEY unto:

**Endurance Holdings, LLC, an Idaho Limited Liability Company**

GRANTEE(S), whose current address is: **1977 E Overland Rd, Meridian, ID 83642**

the following described real property in Canyon County, Idaho, more particularly described as follows, to wit:

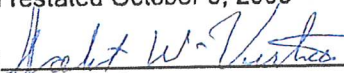
SEE EXHIBIT "A" ATTACHED HERETO AND MADE A PART HEREOF

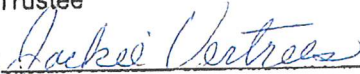
TO HAVE AND TO HOLD the said premises, with their appurtenances unto the said heirs and assigns forever. And the said Grantor(s) does(do) hereby covenant to and with the said Grantee(s), that Grantor(s) is/are the owner(s) in fee simple of said premises; that said premises are free from all encumbrances EXCEPT those to which this conveyance is expressly made subject and those made, suffered or done by the Grantee(s); and subject to reservations, restrictions, dedications, easements, rights of way and agreements, (if any) of record, and general taxes and assessments, (including irrigation and utility assessments, if any) for the current year, which are not yet due and payable, and that Grantor(s) will warrant and defend the same from all lawful claims whatsoever.

IN WITNESS WHEREOF, the undersigned have executed this document on the date(s) set forth below.

Effective this 22nd day of March, 2021.

Robert Vertrees and Jackie Vertrees, Trustees of the Robert and Jackie Vertrees Living Trust dated April 3, 2001 and restated October 6, 2006

BY:   
Robert Vertrees  
Trustee

BY:   
Jackie Vertrees  
Trustee



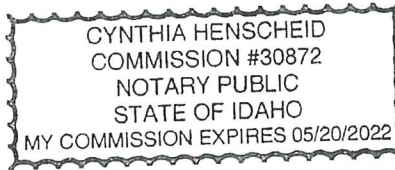
**WARRANTY DEED**

(continued)

STATE OF Idaho, COUNTY OF Ada, -ss.

On this 19 day of March, 2021, before me, the undersigned, a Notary Public in and for said State, personally appeared Robert Vertrees, known or identified to me to be the person whose name is subscribed to the within instrument, as the Trustee of The Robert and Jackie Vertrees Living Trust dated April 3, 2001 and restated October 6, 2006 and acknowledged to me that he/she executed the same as such Trustee.

Signature: \_\_\_\_\_  
Name: \_\_\_\_\_  
Residing at: \_\_\_\_\_  
My Commission Expires: \_\_\_\_\_

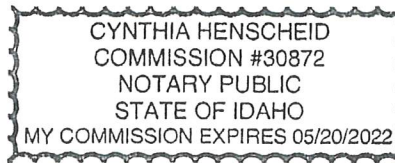


(SEAL)

STATE OF Idaho, COUNTY OF Ada, -ss.

On this 19 day of March, 2021, before me, the undersigned, a Notary Public in and for said State, personally appeared Jackie Vertrees, known or identified to me to be the person whose name is subscribed to the within instrument, as the Trustee The Robert and Jackie Vertrees Living Trust dated April 3, 2001 and restated October 6, 2006 and acknowledged to me that he/she executed the same as such Trustee.

Signature: \_\_\_\_\_  
Name: \_\_\_\_\_  
Residing at: \_\_\_\_\_  
My Commission Expires: \_\_\_\_\_



ALB

**EXHIBIT A**

Order No.: 34602018663

Legal Description  
Vertrees Property - Takedown Parcel

A parcel located in the South 1/2 of the Southeast 1/4 of Section 10, Township 3 North, Range 3 West, Boise Meridian, Canyon County, Idaho, and more particularly described as follows:

Commencing at a Brass Cap monument marking the Southeast corner of the Southeast 1/4 of said Section 10, from which a 5/8 inch diameter iron pin marking the Northeast corner of said Southeast 1/4 bears North 0°35'10" East, a distance of 2648.70 feet; thence North 89°52'55" West, along the Southerly boundary of said Southeast 1/4, a distance of 338.46 feet to a point; thence

Leaving said Southerly boundary North 0°07'05" East, a distance of 75.00 feet to a point on the Northerly right-of-way of State Highway 55 as shown in Warranty Deed Instrument No. 2015-041732, Records of Canyon County, Idaho, and being the POINT OF BEGINNING; thence along said Northerly right-of-way

North 89°52'55" West, along a line being 75.00 feet North of and parallel to the Southerly boundary of said Southeast 1/4, a distance of 1006.72 feet to a point on the Westerly boundary of that parcel as shown on Record of Survey Instrument No. 200666412, Records of Canyon County, Idaho; thence Leaving said Northerly right-of-way and along said Westerly boundary the following described courses and distance:

North 26°20'26" West, a distance of 194.43 feet to a point; thence

North 54°34'46" West, a distance of 107.30 feet to a point;

Thence

North 1°17'46" West, a distance of 90.50 feet to a point; thence

North 32°41'46" West, a distance of 93.00 feet to a point on the Southerly boundary of QUAIL RIDGE SUBDIVISION PHASE 2, as shown in Book 44 of Plats on Page 44, Records of Canyon County, Idaho; thence along said Southerly boundary

North 50°18'10" East, a distance of 651.54 feet to a 5/8 inch diameter iron pin marking the Southeast corner of said QUAIL RIDGE SUBDIVISION PHASE 2; thence

Along the Easterly boundary of said QUAIL RIDGE SUBDIVISION PHASE 2,

North 19°03'46" West, a distance of 449.53 feet to a point on the Southerly boundary of KINGSVIEW ESTATES SUBDIVISION NO. 2, as shown in Book 38 of Plats on Page 43, Records of Canyon County, Idaho; thence along said Southerly boundary

North 89°58'33" East, a distance of 718.41 feet to a point; thence leaving said Southerly boundary

South 44°15'33" West, a distance of 740.66 feet to a point on the centerline of the Deer Flat Caldwell Lateral; thence

Along said centerline the following described courses and distances;

South 18°54'06" East, a distance of 31.80 feet to a point; thence

A distance of 210.68 along the arc of a 255.00 foot radius curve left, said curve having a central angle of 47°20'13" and a long chord bearing South 42°34'13" East, a distance of 204.74 feet to a point; thence

South 66°14'20" East, a distance of 86.28 feet to a point; thence

A distance of 343.61 feet along the arc of a 565.00 foot radius curve right, said curve having a central angle of 34°50'42" and a long chord bearing South 48°48'59" East, a distance of 338.34 feet to a point; thence

South 31°23'37" East, a distance of 163.79 feet to a point; thence

*Alc*

## EXHIBIT A

(continued)

A distance of 78.14 feet along the arc of a 535.00 foot radius curve left, said curve having a central angle of  $8^{\circ}22'05''$  and a long chord bearing South  $35^{\circ}34'40''$  East, a distance of 78.07 feet to a point; thence South  $39^{\circ}45'43''$  East, a distance of 99.40 feet to the POINT OF BEGINNING.

AL

200688892

RECORDED

5 NOV 3 PM 3 45

RECEIVED  
JAN 11 2007  
RECORDS  
CITY OF CALDWELL  
ID

QUITCLAIM DEED

ROBERT VERTREES and JACKIE VERTREES, husband and wife, as joint tenants, hereinafter "Grantors," do release and forever quitclaim unto ROBERT VERTREES and JACKIE VERTREES, trustee of the ROBERT AND JACKIE VERTREES LIVING TRUST dated April 3, 2001 and restated October 6, 2006, whose address is 2320 Sunset Ave., Caldwell, Idaho 83605, hereinafter "Grantees," and to their heirs and assigns, all right, title and interest which Grantors now have or may hereafter acquire in the following described real property situated in Canyon County, State of Idaho, to-wit:

See attached Exhibit "A" attached hereto and by this reference made a part hereof.

TO HAVE AND TO HOLD, all and singular the said premises, together with the appurtenances, unto Grantee, and to its heirs and assigns forever.

WITNESS the hand of said Grantors this 31 day of Oct, 2006.

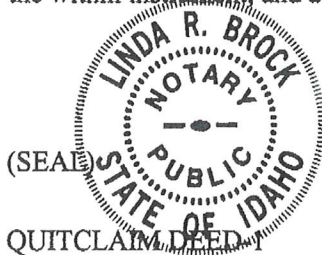
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ROBERT VERTREES

[Signature]  
JACKIE VERTREES

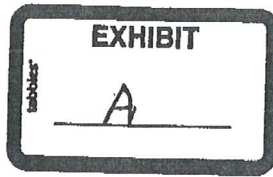
REQUEST  
TYPE Quitclaim  
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Fee \$9.00  
[Signature]

STATE OF IDAHO )  
 )  
 ) :ss  
County of Canyon )

On this 31 day of Oct, in the year 2006, before me, Linda R. Brock, a Notary Public, personally appeared ROBERT VERTREES and JACKIE VERTREES, known or identified to me to be the persons whose names are subscribed to the within instrument, and acknowledged to me that they executed the same.



[Signature]  
Notary Public for Idaho  
Commission expires: 3/27/07



A parcel located in the S  $\frac{1}{2}$  of the SE  $\frac{1}{4}$  of Section 10, Township 3 North, Range 3 West, Boise Meridian, Canyon County, Idaho, and more particularly described as follows:

Commencing at a 5/8 inch diameter iron pin marking the northeast corner of the SE  $\frac{1}{4}$  of said Section 10, from which a brass cap monument marking the southeast corner of said Section 10 bears S  $0^{\circ}35'10''$  W a distance of 2648.70 feet;

Thence S  $0^{\circ}35'10''$  W along the easterly boundary of said SE  $\frac{1}{4}$  a distance of 1324.13 feet to a point marking the northeast corner of said S  $\frac{1}{2}$  of the SE  $\frac{1}{4}$  and the **POINT OF BEGINNING**;

Thence continuing along said easterly boundary S  $0^{\circ}35'10''$  W a distance of 582.57 feet to a point being witnessed by a  $\frac{1}{2}$  inch diameter iron pin that bears S  $88^{\circ}16'43''$  W a distance of 20.00 feet from said point;

Thence leaving said easterly boundary S  $88^{\circ}16'43''$  W a distance of 391.18 feet to a  $\frac{1}{2}$  inch diameter iron pin;

Thence S  $0^{\circ}18'18''$  W a distance of 219.96 feet to a  $\frac{1}{2}$  inch diameter iron pin;

Thence N  $88^{\circ}17'11''$  E a distance of 390.09 feet to a point on the easterly boundary of said S  $\frac{1}{2}$  of the SE  $\frac{1}{4}$ , said point being witnessed by a  $\frac{1}{2}$  inch diameter iron pin that bears S  $88^{\circ}17'11''$  W a distance of 20.00 feet from said point;

Thence S  $0^{\circ}35'10''$  W along said easterly boundary a distance of 488.96 feet to a point being witnessed by a 5/8 inch diameter iron pin that bears N  $89^{\circ}52'55''$  W a distance of 40.00 feet from said point;

Thence N  $89^{\circ}52'55''$  W along a line 33.00 feet north of and parallel to the southerly boundary of said S  $\frac{1}{2}$  of the SE  $\frac{1}{4}$  a distance of 1324.55 feet to a 5/8 inch diameter iron pin;

Thence leaving said line N  $26^{\circ}20'26''$  W a distance of 241.35 feet to a 5/8 inch diameter iron pin;

Thence N  $54^{\circ}34'46''$  W a distance of 107.30 feet to a 5/8 inch diameter iron pin;

Thence N  $1^{\circ}17'46''$  W a distance of 90.50 feet to a 5/8 inch diameter iron pin;

Thence N  $32^{\circ}41'46''$  W a distance of 93.00 feet to a 5/8 inch diameter iron pin;

Thence N  $50^{\circ}18'10''$  E a distance of 651.54 feet to a 5/8 inch diameter iron pin;

Thence N  $19^{\circ}03'46''$  W a distance of 449.53 feet to a 5/8 inch diameter iron pin on the northerly boundary of said S  $\frac{1}{2}$  of the SE  $\frac{1}{4}$ ;

AL

Thence N 89°58'33" E along said northerly boundary a distance of 1230.08 feet to the **POINT OF BEGINNING.**

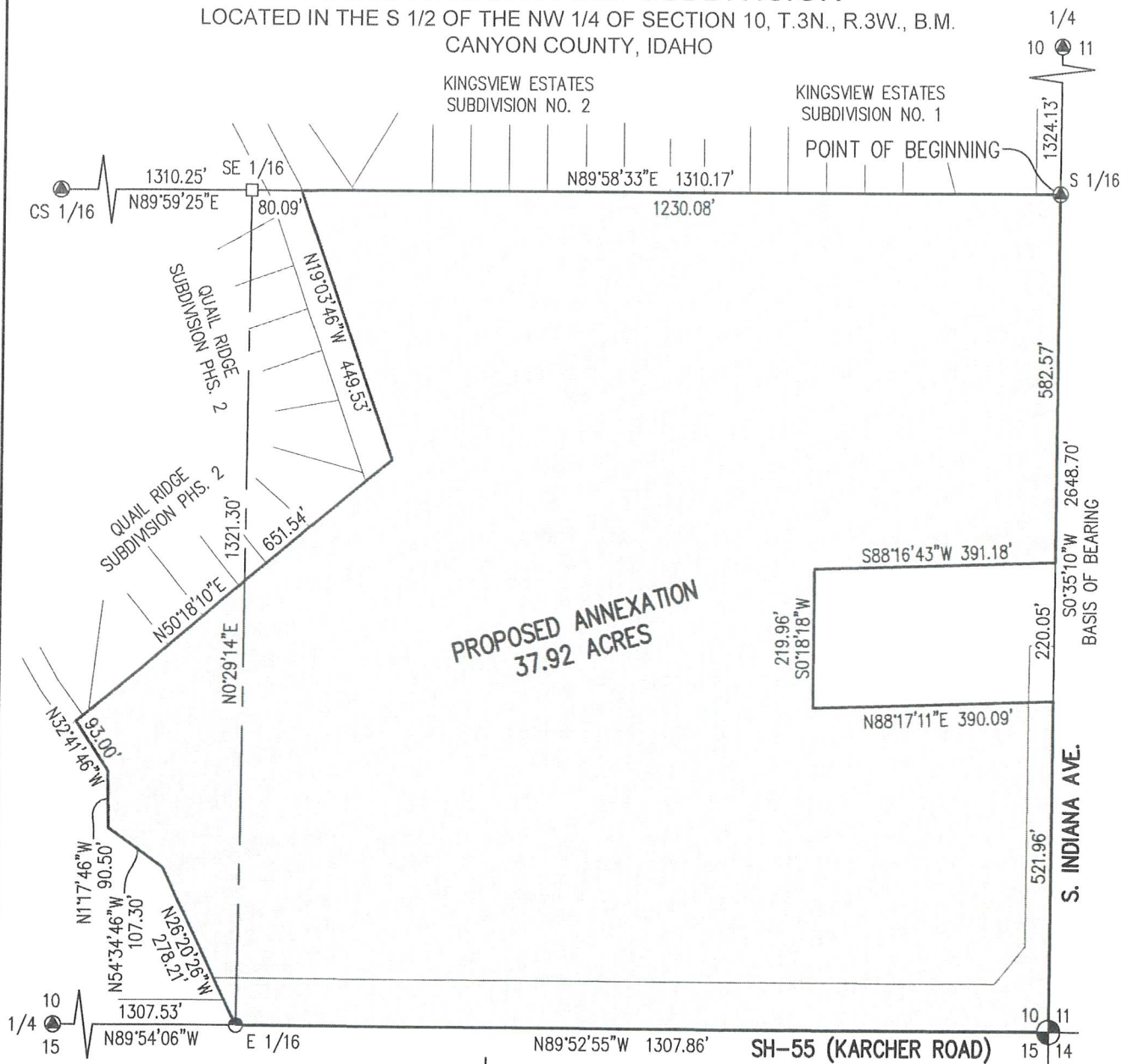
This parcel contains 36.93 acres and is subject to any easements existing or in use.

ALB

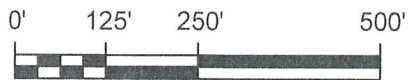
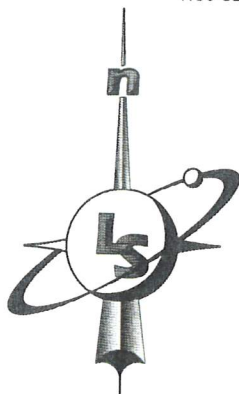


# PROPOSED ANNEXATION ARROWROCK FARM SUBDIVISION

LOCATED IN THE S 1/2 OF THE NW 1/4 OF SECTION 10, T.3N., R.3W., B.M.  
CANYON COUNTY, IDAHO



**PROPOSED ANNEXATION  
37.92 ACRES**



**LandSolutions**  
Land Surveying and Consulting

231 E. 5TH ST., STE. A  
MERIDIAN, ID 83642  
(208) 288-2040 (208) 288-2557 fax  
www.landsolutions.biz

JOB NO. 20-101

*ALB*

**Legal Description**  
**Proposed Annexation**  
**Arrowrock Farm Subdivision**

A parcel located in the S ½ of the SE ¼ of Section 10, Township 3 North, Range 3 West, Boise Meridian, Canyon County, Idaho, and more particularly described as follows:

Commencing at a 5/8 inch diameter iron pin marking the northeast corner of the SE ¼ of said Section 10, from which a Brass Cap monument marking the southeast corner of said SE ¼ bears S 0°35'10" W a distance of 2648.70 feet;

Thence along the easterly boundary of said SE ¼ S 0°35'10" W a distance of 1324.13 feet to a 5/8 inch diameter iron pin marking the northeast corner of the S ½ of said SE ¼, the **POINT OF BEGINNING**;

Thence continuing along said easterly boundary S 0°35'10" W a distance of 582.57 feet to a point;

Thence leaving said boundary S 88°16'43" W a distance of 391.18 feet to a point;

Thence S 0°18'18" W a distance of 219.96 feet to a point;

Thence N 88°17'11" E a distance of 390.09 feet to a point on the easterly boundary of said S ½ of the SE ¼;

Thence along said easterly boundary S 0°35'10" W a distance of 521.96 feet to the southeast corner of said S ½ of the SE ¼;

Thence along the southerly boundary of said S ½ of the SE ¼ N 89°52'55" W a distance of 1307.86 feet to the southwest corner of the SE ¼ of the SE ¼ of said Section 10;

Thence leaving said boundary N 26°20'26" W a distance of 278.21 feet to a point on the westerly boundary of that parcel as shown on Record of Survey Instrument No. 200666412, records of Canyon County, Idaho;

Thence along said westerly boundary the following described courses and distance:

Thence N 54°34'46" W a distance of 107.30 feet to a point;

Thence N 1°17'46" W a distance of 90.50 feet to a point;

Thence N 32°41'46" W a distance of 93.00 feet to a point on the southerly boundary of Quail Ridge Subdivision Phase 2 as shown in Book 44 of Plats on Page 44, records of Canyon County, Idaho;

Thence along said southerly boundary N 50°18'10" E a distance of 651.54 feet to a 5/8 inch diameter iron pin marking the southeast corner of said Quail Ridge Subdivision Phase 2;

Thence along the easterly boundary of said Quail Ridge Subdivision Phase 2 N 19°03'46" W a distance of 449.53 feet to a point on the southerly boundary of Kingsview Estates Subdivision No.

2 as shown in Book 38 of Plats on Page 43, records of Canyon County, Idaho, also being the northerly boundary of said S ½ of the SE ¼;

Thence along said boundary, and along the southerly boundary of Kingsview Estates Subdivision No. 2, as shown in Book 37 of Plats on Page 16, records of Canyon County, Idaho, N 89°58'33" E a distance of 1230.08 feet to the **POINT OF BEGINNING**.

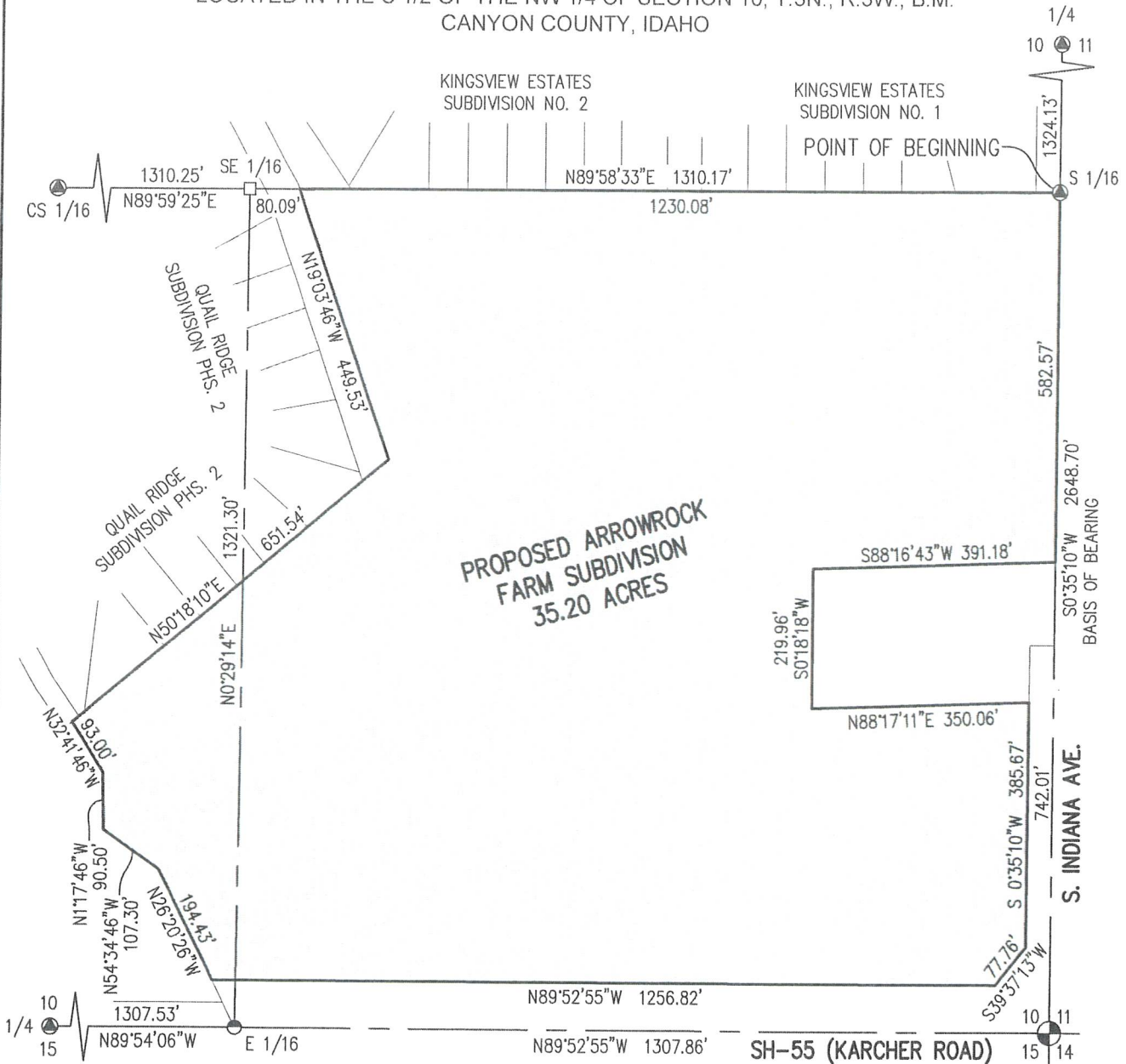
This parcel contains 37.92 acres more or less.

Clinton W. Hansen, PLS  
Land Solutions, PC  
October 19, 2021

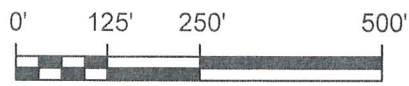
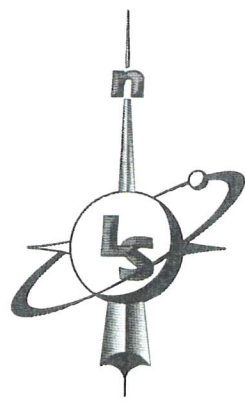


# PROPOSED ARROWROCK FARM SUBDIVISION

LOCATED IN THE S 1/2 OF THE NW 1/4 OF SECTION 10, T.3N., R.3W., B.M.  
CANYON COUNTY, IDAHO



**PROPOSED ARROWROCK  
FARM SUBDIVISION  
35.20 ACRES**



## LandSolutions

Land Surveying and Consulting

231 E. 5TH ST., STE. A  
MERIDIAN, ID 83642  
(208) 288-2040 (208) 288-2557 fax  
www.landsolutions.biz

JOB NO. 20-101

*ALD*

Legal Description  
**Proposed Arrowrock Farm Subdivision**

A parcel located in the S  $\frac{1}{2}$  of the SE  $\frac{1}{4}$  of Section 10, Township 3 North, Range 3 West, Boise Meridian, Canyon County, Idaho, and more particularly described as follows:

Commencing at a  $\frac{5}{8}$  inch diameter iron pin marking the northeast corner of the SE  $\frac{1}{4}$  of said Section 10, from which a Brass Cap monument marking the southeast corner of said SE  $\frac{1}{4}$  bears S  $0^{\circ}35'10''$  W a distance of 2648.70 feet;

Thence along the easterly boundary of said SE  $\frac{1}{4}$  S  $0^{\circ}35'10''$  W a distance of 1324.13 feet to a  $\frac{5}{8}$  inch diameter iron pin marking the northeast corner of the S  $\frac{1}{2}$  of said SE  $\frac{1}{4}$ , the **POINT OF BEGINNING**;

Thence continuing along said easterly boundary S  $0^{\circ}35'10''$  W a distance of 582.57 feet to a point;

Thence leaving said boundary S  $88^{\circ}16'43''$  W a distance of 391.18 feet to a point;

Thence S  $0^{\circ}18'18''$  W a distance of 219.96 feet to a point;

Thence N  $88^{\circ}17'11''$  E a distance of 350.06 feet to a point on the westerly right-of-way of S. Indiana Avenue;

Thence along said right-of-way the following courses and distances:

Thence S  $0^{\circ}35'10''$  W a distance of 385.67 feet to a point

Thence S  $39^{\circ}37'13''$  W a distance of 77.76 feet to a point on the northerly right-of-way of State Highway 55;

Thence along said northerly right-of-way N  $89^{\circ}52'55''$  W along a line being 75.00 feet north of and parallel to the southerly boundary of said SE  $\frac{1}{4}$  a distance of 1256.82 feet to a point on the westerly boundary of that parcel as shown on Record of Survey Instrument No. 200666412, records of Canyon County, Idaho;

Thence leaving said northerly right-of-way and along said westerly boundary the following described courses and distance:

Thence N  $26^{\circ}20'26''$  W a distance of 194.43 feet to a point;

Thence N  $54^{\circ}34'46''$  W a distance of 107.30 feet to a point;

Thence N  $1^{\circ}17'46''$  W a distance of 90.50 feet to a point;

Thence N  $32^{\circ}41'46''$  W a distance of 93.00 feet to a point on the southerly boundary of Quail Ridge Subdivision Phase 2 as shown in Book 44 of Plats on Page 44, records of Canyon County, Idaho;

Thence along said southerly boundary N 50°18'10" E a distance of 651.54 feet to a 5/8 inch diameter iron pin marking the southeast corner of said Quail Ridge Subdivision Phase 2;

Thence along the easterly boundary of said Quail Ridge Subdivision Phase 2 N 19°03'46" W a distance of 449.53 feet to a point on the southerly boundary of Kingsview Estates Subdivision No. 2 as shown in Book 38 of Plats on Page 43, records of Canyon County, Idaho, also being the northerly boundary of said S ½ of the SE ¼;

Thence along said boundary, and along the southerly boundary of Kingsview Estates Subdivision No. 2, as shown in Book 37 of Plats on Page 16, records of Canyon County, Idaho, N 89°58'33" E a distance of 1230.08 feet to the **POINT OF BEGINNING**.

This parcel contains 35.20 acres more or less.

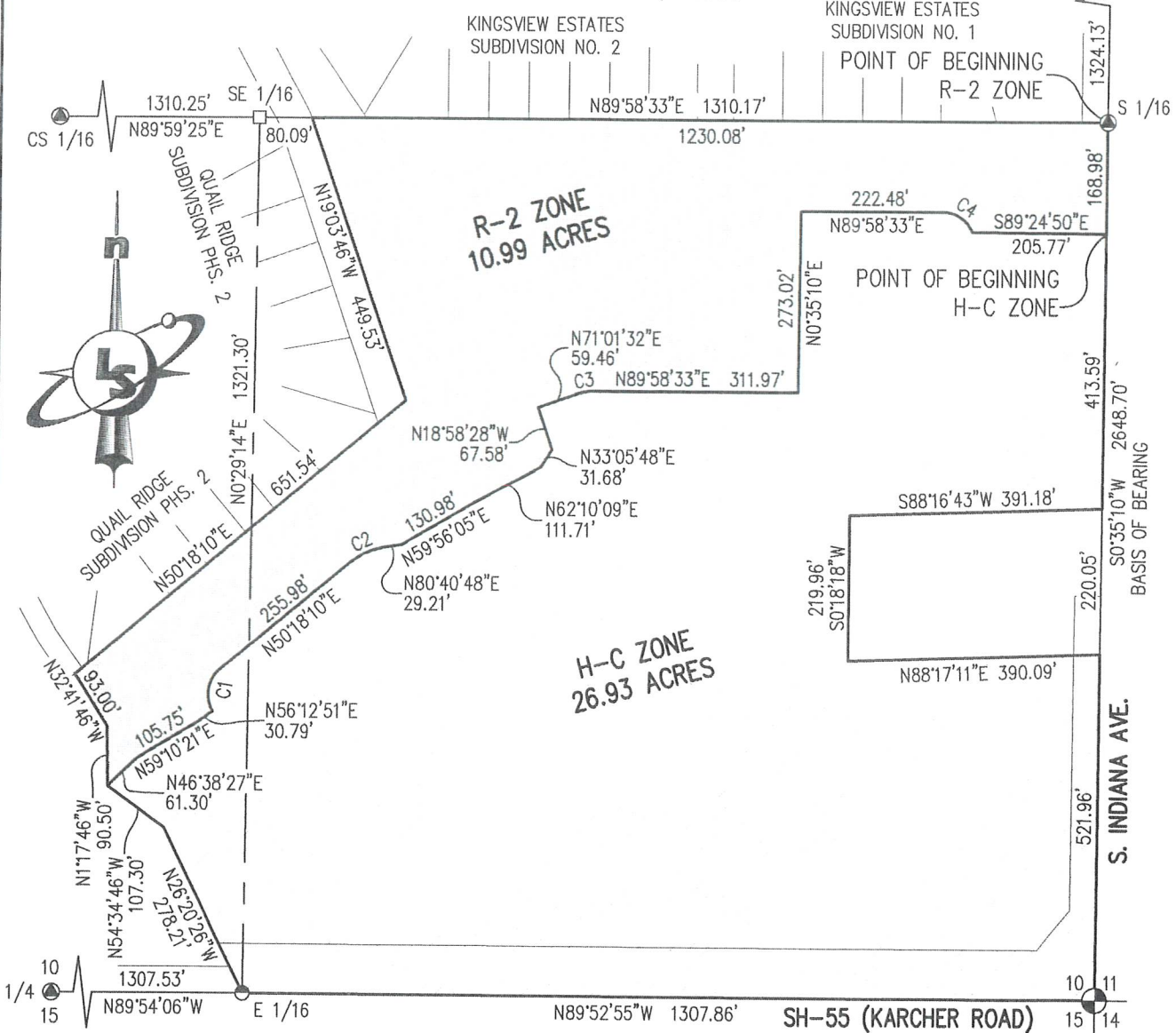
Clinton W. Hansen, PLS  
Land Solutions, PC  
October 19, 2021



# PROPOSED REZONE

## ARROWROCK FARM SUBDIVISION

LOCATED IN THE S 1/2 OF THE NW 1/4 OF SECTION 10, T.3N., R.3W., B.M.  
CANYON COUNTY, IDAHO



CURVE TABLE					
CURVE	LENGTH	RADIUS	DELTA	BEARING	CHORD
C1	70.80'	50.00'	81°07'49"	N9°44'16"E	65.03'
C2	53.02'	100.00'	30°22'37"	N65°29'29"E	52.40'
C3	33.07'	100.00'	18°57'01"	N80°30'03"E	32.92'
C4	58.27'	50.00'	66°46'03"	S56°38'25"E	55.02'



**LandSolutions**  
Land Surveying and Consulting

231 E 5TH ST., STE. A  
MERIDIAN, ID 83642  
(208) 288-2040 (208) 288-2557 fax  
www.landsolutions.biz

*Alb*

**Legal Description**  
**Arrowrock Farm Subdivision**  
**Proposed H-C Zone**

A parcel located in the S ½ of the SE ¼ of Section 10, Township 3 North, Range 3 West, Boise Meridian, Canyon County, Idaho, and more particularly described as follows:

Commencing at a 5/8 inch diameter iron pin marking the northeast corner of the SE ¼ of said Section 10, from which a Brass Cap monument marking the southeast corner of said SE ¼ bears S 0°35'10" W a distance of 2648.70 feet;

Thence along the easterly boundary of said SE ¼ S 0°35'10" W a distance of 1324.13 feet to a 5/8 inch diameter iron pin marking the northeast corner of the S ½ of said SE ¼;

Thence continuing along said easterly boundary S 0°35'10" W a distance of 168.98 feet to the **POINT OF BEGINNING**;

Thence continuing along said easterly boundary S 0°35'10" W a distance of 413.59 feet to a point;

Thence leaving said boundary S 88°16'43" W a distance of 391.18 feet to a point;

Thence S 0°18'18" W a distance of 219.96 feet to a point;

Thence N 88°17'11" E a distance of 390.09 feet to a point on the easterly boundary of said S ½ of the SE ¼;

Thence along said easterly boundary S 0°35'10" W a distance of 521.96 feet to the southeast corner of said S ½ of the SE ¼;

Thence along the southerly boundary of said S ½ of the SE ¼ N 89°52'55" W a distance of 1307.86 feet to the southwest corner of the SE ¼ of the SE ¼ of said Section 10;

Thence leaving said boundary N 26°20'26" W a distance of 278.21 feet to a point on the westerly boundary of that parcel as shown on Record of Survey Instrument No. 200666412, records of Canyon County, Idaho;

Thence continuing along said westerly boundary N 54°34'46" W a distance of 107.30 feet to a point;

Thence leaving said parcel boundary N 46°38'27" E a distance of 61.30 feet to a point;

Thence N 59°10'21" E a distance of 105.75 feet to a point;

Thence N 56°12'51" E a distance of 30.79 feet to a point on a curve;

Thence a distance of 70.80 feet along the arc of a 50.00 foot radius non-tangent curve right, said curve having a central angle of 81°07'49" and a long chord bearing N 9°44'16" E a distance of 65.03 feet to a point of tangency;



Thence N 50°18'10" E a distance of 255.98 feet to a point of curvature;

Thence a distance of 53.02 feet along the arc of a 100.00 foot radius curve right, said curve having a central angle of 30°22'37" and a long chord bearing N 65°29'29" E a distance of 52.40 feet to a point of tangency;

Thence N 80°40'48" E a distance of 29.21 feet to a point;

Thence N 59°56'05" E a distance of 130.98 feet to a point;

Thence N 62°10'09" E a distance of 111.71 feet to a point;

Thence N 33°05'48" E a distance of 31.68 feet to a point;

Thence N 18°58'28" W a distance of 67.58 feet to a point;

Thence N 71°01'32" E a distance of 59.46 feet to a point of curvature;

Thence a distance of 33.07 feet along the arc of a 100.00 foot radius curve right, said curve having a central angle of 18°57'01" and a long chord bearing N 80°30'03" E a distance of 32.92 feet to a point of tangency;

Thence N 89°58'33" E a distance of 311.97 feet to a point;

Thence N 0°35'10" E a distance of 273.02 feet to a point;

Thence N 89°58'33" E a distance of 222.48 feet to a point of curvature;

Thence a distance of 58.27 feet along the arc of a 50.00 foot radius curve right, said curve having a central angle of 66°46'03" and a long chord bearing S 56°38'25" E a distance of 55.02 feet to a point;

Thence S 89°24'50" E a distance of 205.77 feet to the **POINT OF BEGINNING**.

This parcel contains 26.93 acres more or less.

Clinton W. Hansen, PLS  
Land Solutions, PC  
October 19, 2021





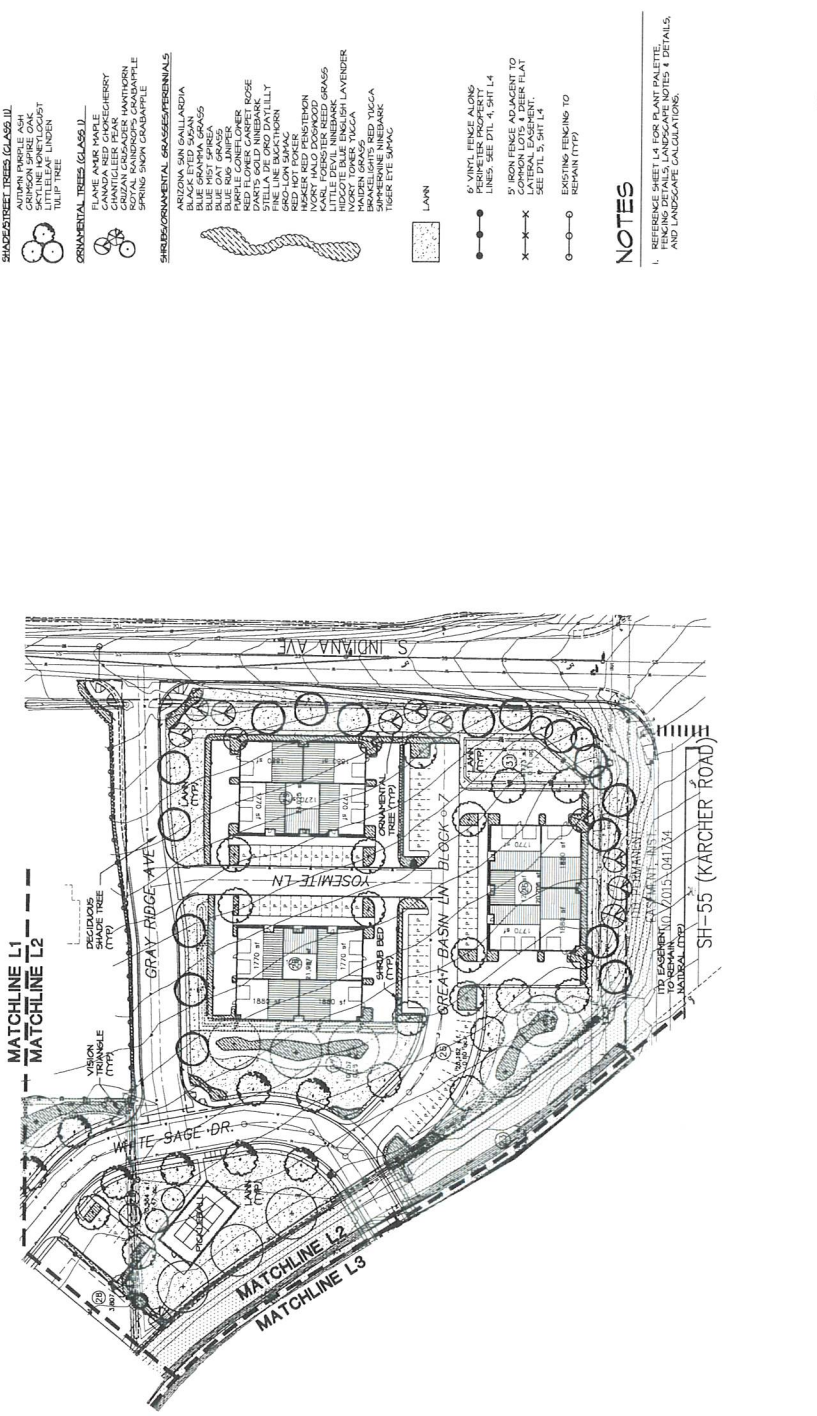


Valley Engineering, Inc.  
 Civil Engineering Planning CADD  
 1116 E 14TH STREET SUITE 201  
 TULSA, OK 74104  
 PHONE: 918-438-1113  
 FAX: 918-438-1113  
 WWW.VALENG.COM

REVISIONS  
 NO. DATE DESCRIPTION  
 1 10/20/21 STREET NAMES  
 CHECKED BY:  
 DATE: 5/13/21  
 DRAWN BY:  
 DATE: 5/13/21

PLANT PALETTE  
 REFERENCE SHEET L4)  
 COMMON NAME  
 EVERGREEN TREES  
 AUSTRIAN PINE  
 NORWAY SPRUCE  
 SKY HIGH JUNIPER  
 VANDERBILT'S PINE  
 SHADE TREES (CLASS III)  
 BLOODGOOD LONDON PLANETREE  
 SWAMP OAK  
 SHADE/TREE TREES (CLASS III)  
 AUTUMN PINKLE ASH  
 GAMBON SPIRE OAK  
 LITTLELEAF LINDEN  
 TULIP TREE  
 ORNAMENTAL TREES (CLASS II)  
 FLAKE AMAR MAPLE  
 REDBERRY  
 CHANTICLEER PEAR  
 SYRIAN CAJONGER HAWTHORN  
 SPRING SNOW GRABAPPLE  
 SHRUBS/ORNAMENTAL GRASSES/PERENNIALS  
 ARIZONA SAN GALLARDIA  
 BLACK EYED SUGAN  
 BLUE STAR HYDRANGEA  
 BLUE STAR SPREA  
 BLUE STAR SPREA  
 BLUE STAR JUNIPER  
 PURPLE CONIFLOER ROSE  
 DARK GOLD NINEBARK  
 FINE LINE BUCKTHORN  
 GRASS-LONG SUKAC  
 INK AND BERRY  
 INK AND BERRY  
 KARL FOSTER NEED GRASS  
 LITTLE DEVIL NINEBARK  
 NORTON'S YUCCA  
 NORTON'S YUCCA  
 BRANDELIGHTS RED YUCCA  
 BRANDELIGHTS RED YUCCA  
 TURKISH BLUE GRASS

NOTES  
 1. REFERENCE SHEET L4 FOR PLANT PALETTE, MATERIALS & DETAILS, AND LANDSCAPE CALCULATIONS.



MATCHLINE L1  
 MATCHLINE L2  
 MATCHLINE L3  
 SH-55 (KARCHER ROAD)  
 S INDIANNA AVE  
 GRAY RIDGE AVE  
 YOSEMITE LN  
 GREASY BASIN LN  
 WHITE SAGE DR

OWNER  
 VENTURE PARTNERS & JACKIE  
 LAMCO TRUST  
 5467 W. ASTONTE DR.  
 MERIDIAN, IDAHO 83616

DEVELOPER  
 TRILGY DEVELOPMENT, INC.  
 8837 W. LOGAN BLVD. SUITE 101  
 BOISE, IDAHO 83709  
 (208) 895-8858

JENSEN BELTS ASSOCIATES  
 1116 E 14TH STREET SUITE 201  
 TULSA, OK 74104  
 (918) 438-1113

SCALE 1" = 30'

NORTH

A8



NO.	DATE	DESCRIPTION
1	10/20/21	STREET NAMES
2		
3		
4		
5		
6		
7		
8		
9		
10		

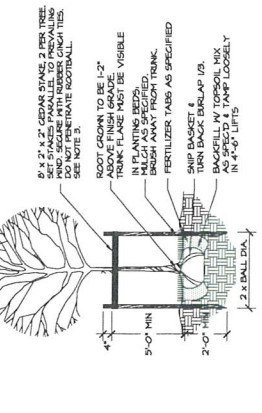
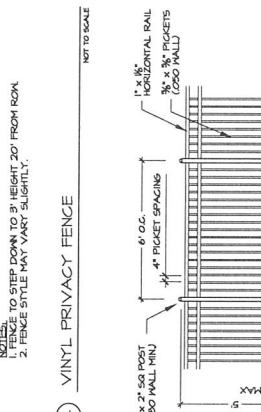
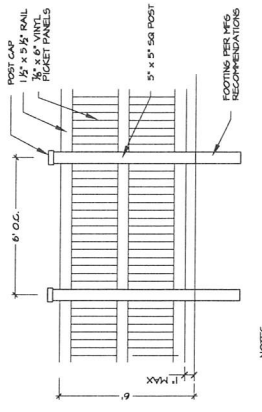
**PLANT PALETTE**

SYM.	COMMON NAME	BOTANICAL NAME	SIZE
	EVERGREEN TREES		
	AUSTRIAN PINE	PINUS NIGRA	6-8" HT. B&B
	NORWAY SPRUCE	PICEA ABIES	6-8" HT. B&B
	VANDERWAL'S PINE	PINUS TILIAEOLUS VANDERWALSI	6-8" HT. B&B
	SHADE TREES (CLASS III)		
	BLOODGOOD LONDON PLANETREE	PLATANUS X ACERIFOLIA 'BLOODGOOD'	2" CAL. B&B
	SHADE TREES (CLASS II)		
	AUTUMN MAPLE	FRAXINUS AMERICANA 'AUTUMN MAPLE'	2" CAL. B&B
	ROYAL HAINDRUP	GEORGES ROSEAU X G. ALBA 'CAMPICHOUD'	2" CAL. B&B
	LITTELL'S LINDRIN	TILIA CORDATA	2" CAL. B&B
	NIP TREE	LINDSAYA TULIPIFERA	2" CAL. B&B
	FLAME ACER MAPLE	AGER BIGNONIA 'FLAME'	6-8" HT. MULTI-STEM
	GIANTLER PEAR	PERSEA CALLENTANA 'GIANTLER'	2" CAL. B&B
	ROYAL HAINDRUP	GEORGES ROSEAU X G. ALBA 'CAMPICHOUD'	2" CAL. B&B
	SPRING SHAM CRABAPPLE	MALUS SPRINGROYAL	2" CAL. B&B
	SHRUBS/ORNAMENTAL GRASSES/PERENNIALS		
	ARIZONA SAN SAILLARDIA	GALLANDRIA X ARIZONA SAN	1 GAL.
	BLUE GRAMA GRASS	BOERHAAVIA	1 GAL.
	BLUE MIST SPIREA	CANTOPIERIS GLANDULOSA 'BLUE MIST'	3 GAL.
	BLUE RUG JUNIPER	JUNIPERUS HORIZONTALIS 'MILTON'	3 GAL.
	RED TULIP	SCILLA MARITIMA 'RED TULIP'	1 GAL.
	DARTS GOLD NINESPARK	PHYSCALOPUS OPALIFOLIOUS 'DARTS GOLD'	3 GAL.
	FINE LINE BACCARIS	BACCARIS LINEATA 'FINE LINE'	3 GAL.
	RED HOT POKER	KNIPHOFIA PLUMEA 'RED HOT POKER'	5 GAL.
	MARGER RED PENSTEMON	PENSTEMON DIGITALIS 'MARGER RED'	1 GAL.
	KAREL FOEBSTER REED GRASS	CAALANOPSIS ABBONONACEA 'K.F.'	1 GAL.
	HIDDITE BLUE ENGLISH LAVENDER	LAVANDULA ANOSTHOLICA 'HIDDITE BLUE'	3 GAL.
	NORDIA TOWER TEUCCA	TEUCCA FILAMENTOSA 'TOWER TOWER'	3 GAL.
	BRAZALEIGH REED TEUCCA	TEUCCA FILAMENTOSA 'BRAZALEIGH REED'	3 GAL.
	NINESPARK	PHYSCALOPUS OPALIFOLIOUS 'NINESPARK'	3 GAL.
	TIGER EYE SPINNAK	BRUNNIA SPINNAK 'TIGER EYE SPINNAK'	5 GAL.

- 5' BORN FENCE ADJACENT TO COMMON LOTS & DEER FLAT LINES. SEE DET. 4, THIS SHEET. SEE DET. 5, THIS SHEET.
- EXISTING FENCING TO REMAIN (TYP)
- LANE
- 4" VISION TRIANGLES ALONG PERMETER PROPERTY LINES. SEE DET. 4, THIS SHEET.
- 5' BORN FENCE ADJACENT TO COMMON LOTS & DEER FLAT LINES. SEE DET. 4, THIS SHEET. SEE DET. 5, THIS SHEET.

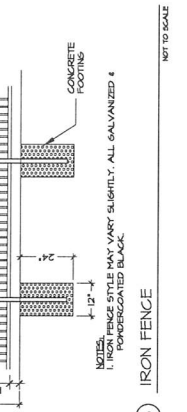
**NOTES**

- ALL LANDSCAPE SHALL BE INSTALLED IN ACCORDANCE WITH THE CITY OF CALDWELL ORDINANCE REQUIREMENTS.
- ALL PLANTING AREAS TO BE WATERED WITH AN AUTOMATIC UNDERGROUND IRRIGATION SYSTEM.
- NO TREES SHALL BE PLANTED WITHIN THE 10-FOOT CLEAR ZONE OF ALL ACID STORM DRAIN PIPE STRUCTURES. ALL CULVERTS IN PAVED DRIVEWAYS MUST BE PROTECTED FROM ANY AND ALL CONTAMINATION DURING CONSTRUCTION. ALL PLANTING SHALL BE PLANTED WITHIN THE 10-FOOT CLEAR ZONE OF ALL ACID STORM DRAIN PIPE STRUCTURES. ADJACENT TO DRIVEWAYS TO HAVE A ROOT BALL THAT DOES NOT EXCEED 10" IN DIAMETER. NO LANE SOIL SHALL BE PLANTED IN DRIVEWAYS. ALL PLANTING SHALL BE PLANTED WITHIN THE 10-FOOT CLEAR ZONE OF ALL ACID STORM DRAIN PIPE STRUCTURES. LANDSCAPE ACCORDING TO THE ADA COUNTY HIGHWAY DISTRICT STORMWATER MANAGEMENT BASIN REVEGETATION GUIDANCE MANUAL (OCTOBER 2017) IN APPENDIX D.
- NO TREES SHALL IMPAIR THE 40' VISION TRIANGLES AT ALL INTERSECTIONS. NO CONIFEROUS TREES OR SHRUBS SHALL BE PLANTED WITHIN THE 40' VISION TRIANGLES. ALL PLANTING SHALL BE RESPONSIBLE FOR PROVIDING TREE CANOPIES TO MEET ACID DEPOSITION REQUIREMENTS. TREES SHALL BE PLANTED NO CLOSER THAN 50' FROM INTERSECTION STOP SIGNS.
- CLASS II TREES AND LANDSCAPE IN FRONT OF BUILDINGS LOTS ON INTERIOR STREETS TO BE COVERED DURING CONSTRUCTION ON THESE LOTS. TREE LOCATIONS MAY BE ALTERED TO ACCOMMODATE DRIVEWAYS AND UTILITY LINES. TREES MUST BE CLASS II AND NOT BE PLANTED WITHIN 5' OF WATER METERS OR UNDERGROUND UTILITY LINES.
- PLANT LIST IS REPRESENTATIVE AND SUBJECT TO ADDITIONS AND/OR SUBSTITUTIONS OF SIMILAR SPECIES THAT ARE SUBJECT TO CITY FORESTERS PRE-APPROVAL. PLANTING BED DESIGN AND QUANTITIES MAY BE ALTERED AS MUCH AS POSSIBLE AT LEAST HALF WAY DOWN THE BALL OF THE TREE. ALL INTERIOR LOTS TO BE COMPLETELY REPAVED FROM TREES.
- ALL EXISTING TREES TO BE REMOVED.



**NOTES:**

- TREES PLANTED IN TRIP AREAS. REMOVE TRIP 9" DIA. FROM TREE TRUNK.
- REMOVE BRILAP AND TRIP BASKETS FROM THE TOP 1/3 OF ALL ROOT BALLS AFTER STAKING OF TREES TO BE THE CONTRACTORS OPTION. LINE COMPLETELY REMOVED RESPONSIBLE TO INSURE THAT ALL TREES ARE PLANTED STRAIGHT AND REMAIN STRAIGHT THROUGHOUT THE YEAR WARRANTY PERIOD. ALL STAKING SHALL BE REMOVED AT THE END OF THE YEAR WARRANTY PERIOD.
- TREES PLANTED IN TRIP AREAS. REMOVE TRIP 9" DIA. FROM TREE TRUNK.



**SHRUB PLANTING**

NOT TO SCALE

**LANDSCAPE CALCULATIONS**

LOCATION	BUFFER WIDTH	LENGTH	REQUIRED	PROVIDED
5. INDIANA AVE.	25'	6,252.71'	25' x 12,505.42' = 312,635.5	25' x 12,505.42' = 312,635.5
54-55 (CARSCHE RD)	30'	1,407.30'	93 TREES	66 TREES
COMMON AREAS		1,407.71'	103 SHRUBS	103+ SHRUBS
TOTAL NUMBER OF TREES			50 TREES	400 TREES

**DEVELOPMENT DATA**

TOTAL AREA	34.86 ACRES
5F RESIDENTIAL LOTS	38
4-FLEX LOTS	22 (80 UNITS)
COMMERCIAL LOTS	3
TOTAL LOTS	104
EXISTING ZONING	EXISTING COUNTY
PROPOSED ZONING	HIGHWAY MIXED USE/R2

**OWNER**  
 VERREES, ROBERT & JACKIE  
 5487 W. ASTOR DR.  
 MERIDIAN, IDAHO 83448

**DEVELOPER**  
 TRILGY DEVELOPMENT  
 9839 S. STATE ST.  
 BOISE, IDAHO 83729  
 (208) 893-8858


**DATE:** 9-13-2021  
**SHEET:** 14

# Property Owner Acknowledgement

I, Endurance Holdings LLC, the record owner for real property addressed as 0 Indiana Blvd. / R32709011B0, am aware of, in agreement with, and give my permission to Gem State Planning, to submit the accompanying application(s) pertaining the that property.

1. I agree to indemnify, defend and hold the City of Caldwell and its employees harmless from any claim or liability resulting from any dispute as to the statement(s) contained herein or as to the ownership of the property which is the subject of the application.
2. I hereby grant permission to City of Caldwell staff to enter the subject property for the purpose of site inspection(s) related to processing said application(s).

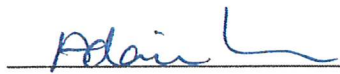
Dated this 18<sup>th</sup> day of October, 20 21

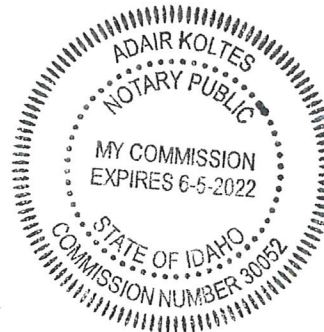
  
(Signature)

## CERTIFICATE OF VERIFICATION

STATE OF IDAHO )  
 ) ss.  
County of Canyon )

I, Adair Koltes, a Notary Public, do hereby certify that on this 18<sup>th</sup> day of October, 2021, personally appeared before me Corey Barton, known or identified to me to be the person whose name is subscribed to the foregoing instrument, who, being by me first duly sworn, declared that she signed the foregoing document, and that the statements therein contained are true.

  
NOTARY PUBLIC FOR IDAHO  
Residing at Nampa, ID  
My Commission Expires 6-05-22



# Property Owner Acknowledgement

I, Robert & Jackie Vertrees Living Trust, the record owner for real property addressed as 0 Indiana Blvd. / R3270901100, am aware of, in agreement with, and give my permission to Gem State Planning, to submit the accompanying application(s) pertaining to the that property.

1. I agree to indemnify, defend and hold the City of Caldwell and its employees harmless from any claim or liability resulting from any dispute as to the statement(s) contained herein or as to the ownership of the property which is the subject of the application.
2. I hereby grant permission to City of Caldwell staff to enter the subject property for the purpose of site inspection(s) related to processing said application(s).

Dated this 21 day of October, 2021

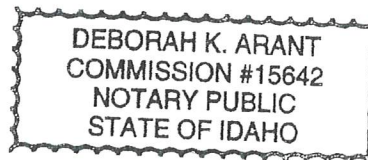
Robert W. Vertrees  
(Signature)  
Jackie Vertrees

## CERTIFICATE OF VERIFICATION

STATE OF IDAHO )  
Ada ) ss.  
County of Canyon )

I, Deborah K Arant a Notary Public, do hereby certify that on this 21 day of October, 2021, personally appeared before me Robert + Jackie Vertrees, known or identified to me to be the person whose name is subscribed to the foregoing instrument, who, being by me first duly sworn, declared that she signed the foregoing document, and that the statements therein contained are true.

Deborah K Arant  
NOTARY PUBLIC FOR IDAHO  
Residing at Meridian ID  
My Commission Expires 12-5-24





Preliminary Engineering Report

*For*

**Vertrees Subdivision**

Caldwell, Idaho

SEWER/WATER

IRRIGATION

STORM DRAINAGE



PROJECT NO: C2020-032

DATE: 05-06-2021

DEVELOPER  
Trilogy Development  
9839 W. Cable Car St.,  
Suite 101  
Boise, ID 83709  
(208) 895-8858

- The proposed subdivision is located in Caldwell, Idaho. The project site is 35.2 acres and will be subdivided into 42 single-family lots, 58 townhouse lots, 22 4-plex lots (88 units), 3 commercial lots and a number of common lots. The total number of proposed dwelling units is 188.

### Sewer

- There is an existing 10" sewer running along the northwest corner of the site and in Indiana.
- An 8" line will tie into the existing sewer in the northwest corner and will serve the majority of the site. This line will need to cross the Deer Flat-Caldwell Lateral.
- An extension of an existing 8" line in Carl Port Way will serve some of the lots in the western portion of the site.

### Water

- There is an existing line in Indiana, assumed to be 12".
- New 8" mains will be constructed through the subdivision. An 8" water main will cross the Deer Flat-Caldwell Lateral.

### Gravity Irrigation

- The Deer Flat-Caldwell Lateral runs through the site as labeled on the preliminary plat. There is a 70' easement. There are two (2) proposed crossings:
  - One (1) roadway consisting of a culvert, water main crossing, sewer crossing, and pressure irrigation crossing.
  - One (1) pedestrian bridge crossing.
- The Forest Canal runs along the far west boundary. No improvements are proposed within the easement for the canal.
- There are a number of private irrigation ditches/deliveries:
  - There's a takeout from the Forest Canal that is used to water the eastern portion of the site. This line can likely be abandoned but may need to be tiled to the Deer Flat-Caldwell Canal.
  - There's a takeout in the south portion of the Deer Flat-Caldwell Canal that is tiled east along Karcher. This line shall be protected in place.
  - There's a takeout in the south portion of the Deer Flat-Caldwell Canal that feeds a concrete ditch that is used for irrigation of the portion of the project east of the Deer Flat-Caldwell Canal. This line will need to be tiled through the site. Preliminary irrigation piping is shown for this line.

### Pressurized Irrigation

- Coordination with Caldwell will be required regarding construction of a new pump station or tying into an existing pump station. The Kingsview pump station is just northeast of the site and the Millagro pump station is north of the site, across Indiana.
- The project will be served by the Caldwell Municipal Irrigation District, with pressure irrigation mains located in the roadways.
- Water rights for the project are 21.09 miners inches, provided by NMID and delivered by BPBC. As Caldwell requires 1"acre, a supplemental well will be required.

### **Grading & Drainage**

- Drainage systems will be designed per City of Caldwell Stormwater Policy.
- Geotechnical report dated 09/11/2006 has been received; groundwater in the relative vicinity is known and is a relevant design criterion. Surface drainage facilities will almost certainly be needed. Surface drainage ponds have been designed in common lots as required by City of Caldwell Drainage Policy.
  - Groundwater should be monitored during the irrigation season.
  - Preliminary plat shows distributed drainage basins with subsurface drainage piping for stormwater conveyance.
- Preliminary drainage calculations are attached.

### **Attachments**

1. Preliminary drainage calculations
2. Preliminary drainage map
3. Water rights
4. Geotechnical report

# Vertrees Drainage Calculations

Updated: 5/6/2021

Drainage Area	Drainage Areas										Drains to SG Trap:	Drains to Pond:
	Area (sf)	Area (acres)	Runoff Coefficient (estimated)	Time of Conc (min) (estimated)	100-Yr Rainfall Intensity (in/hr)	25-Yr Rainfall Intensity (in/hr)	Q100 (cfs)	Q25 (cfs)	Q100 Combined (cfs)	110% of Q100 (cfs)		
1	687661	15.787	0.50	30	1.82	1.39	14.37	10.97	14.37	15.80		Pond 1
2	144859	3.326	0.50	30	1.82	1.39	3.03	2.31	3.03	3.33		Pond 2
3	42649	0.979	0.95	30	1.82	1.39	1.69	1.29	1.69	1.86		Pond 3
4	134208	3.081	0.50	30	1.82	1.39	2.80	2.14	2.80	3.08		Pond 4
5	6980	0.160	0.50	30	1.82	1.39	0.15	0.11	0.15	0.16		Pond 5
6	53757	1.234	0.50	30	1.82	1.39	1.12	0.86	1.12	1.24		Pond 6
7	27380	0.629	0.50	30	1.82	1.39	0.57	0.44	0.57	0.63		Pond 7
8	39152	0.899	0.90	30	1.82	1.39	1.47	1.12	1.47	1.62		Pond 8
9		0.000	0.50	30	1.82	1.39	0.00	0.00	0.00	0.00		Pond 9
10		0.000	0.50	30	1.82	1.39	0.00	0.00	0.00	0.00		Pond 10
11		0.000	0.50	30	1.82	1.39	0.00	0.00	0.00	0.00		Pond 11
12			0.50	30	1.82	1.39	0.00	0.00	0.00	0.00		Pond 12
13		0.000	0.50	30	1.82	1.39	0.00	0.00	0.00	0.00		Pond 13
14		0.000	0.50	30	1.82	1.39	0.00	0.00	0.00	0.00		Pond 14
			0.50	30	1.82	1.39	0.00	0.00	0.00	0.00		Pond 15

IC	Caldwell IDF	
	100-Year	25-Year
10	3.11	2.37
15	2.62	2.00
20	2.15	1.50
25	1.90	1.45
30	1.82	1.39
60	1.15	0.88



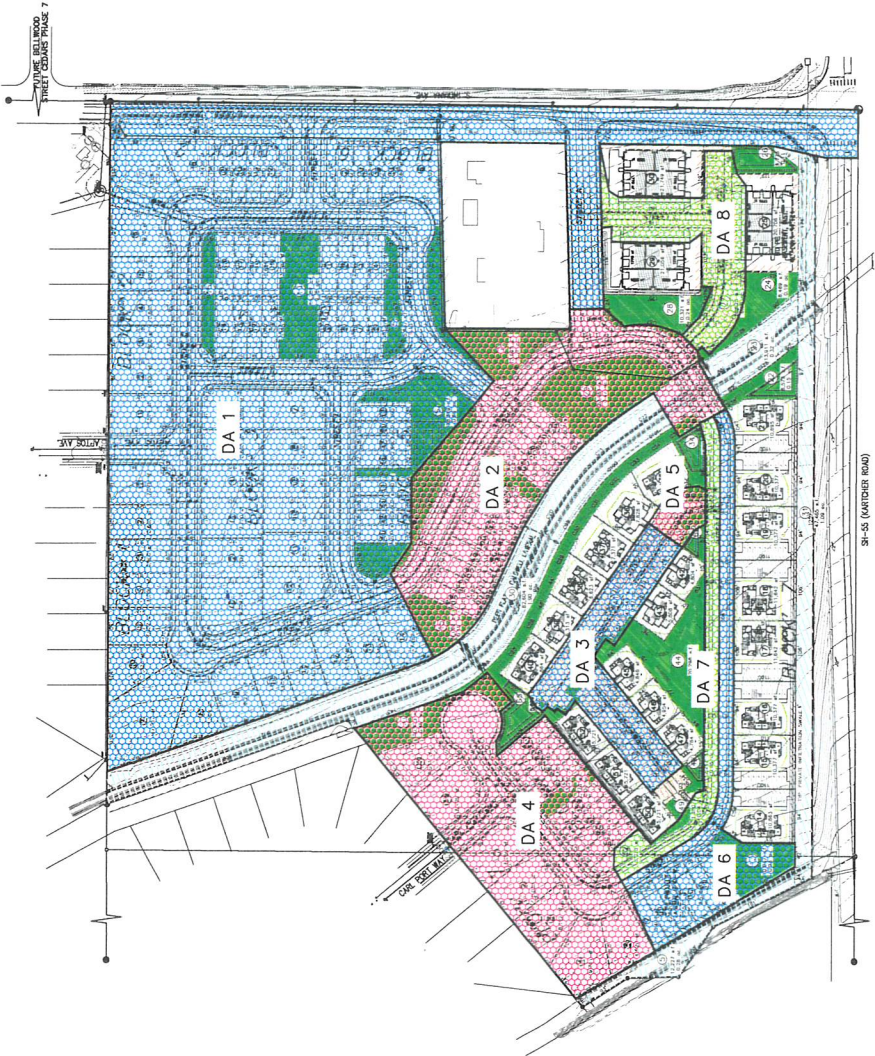
**DRAINAGE MAP**  
VERTREES SUBDIVISION  
TRILOGY DEVELOPMENT, INC.

NO.	DATE	DESCRIPTION



Checked By: TRAVIS W. BITT, P.E.  
 Date: 12/15/15  
 Civil Engineering/Planning/CADD  
 Valley Engineering, Inc.  
 11425 DARTMOUTH BLVD., SUITE 200  
 DALLAS, TEXAS 75244  
 WWW.VALLEENGINEERING.COM

DATE: 12/15/15  
 DRAWN BY: JACOB  
 CHECKED BY: TRAVIS  
 PROJECT NO: 150000001



SR-52 (DARTMOUTH ROAD)

BLOCK 7

SR-52 (DARTMOUTH ROAD)

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**NAMPA & MERIDIAN IRRIGATION DISTRICT**  
**1503 FIRST STREET SOUTH, NAMPA, ID 83651-4395**  
**Assessment Number Report**

**Assessment #**  
**2303 - -**

MailTo: VERTREES, ROBERT-JACKIE LIVING TRUST  
 5467 W ASTONTE DR  
 MERIDIAN ID 83646-7109

Deeded\_1: VERTREES, ROBERT-JACKIE LIVING TRUST

Property Address: INDIANA AVE  
 CALDWELL ID

Canyon County Parcel #: 32709011 0

Legal Description:  
 BEG SE COR SEC 10 3N 3W, TH W 1307.9 FT, TH N 703.7 FT, TH N 50\* E 301.7 FT, TH N 18\* W 456.7 FT, TH N 28\* W 159 FT, TH E 1210 FT M/L, TH S 578.08 FT, TH W 391.16 FT, TH S 220 FT, TH E 390.02 FT, TH S 521.92 FT TO BEG

Status: Active	Actual Acres: 35.92	<u>Tax Roll 2020</u>	
Roll: Tax_Roll	District Land: No	Assessment Expense:	17.25
Tax Group: Regular	Urban Irrigation:	District Drainage:	94.53
TCCA: No	Pending Segregation: No	Ridenbaugh Maintenance:	0.00
LID:	Pending Exclusion: No	Project Maintenance:	1,710.96
Bankruptcy: No	Tax Deed: No	Urban Irrigation:	0.00
Delinquent: No			

**Water and Drainage Rights:**

Ridenbaugh Miner's Inches:		Ridenbaugh Drainage Acres:		Ridenbaugh Acre Feet:	
Ridenbaugh Acres:		Project Drainage Acres:	33.76	Project Acre Feet:	67.52
Project Miner's Inches:	21.09	Settlers Drainage Acres:		Arrowrock Acre Feet:	
Project Acres:	33.76	New York Drainage Acres:			

**Water Delivery:**

Delivery Agent	Lateral	Tap	Rotate	RMI	RA	PMI	PA
BoardControl	(none)	0	No			21.09	33.76

**Comments:**

**Notice Mailed to:**

- 2020 VERTREES, ROBERT-JACKIE LIVING TRUST  
5467 W ASTONTE DR  
MERIDIAN ID 83646-7109
- 2019 VERTREES, ROBERT-JACKIE LIVING TRUST  
5467 W ASTONTE DR  
MERIDIAN ID 83646-7109
- 2018 VERTREES, ROBERT-JACKIE LIVING TRUST  
5467 W ASTONTE DR  
MERIDIAN ID 83646-7109
- 2017 VERTREES, ROBERT-JACKIE LIVING TRUST  
5467 W ASTONTE DR  
MERIDIAN ID 83646-7109
- 2016 VERTREES, ROBERT-JACKIE  
2320 SUNSET AVE  
CALDWELL ID 83605-5151
- 2015 VERTREES, ROBERT W  
2320 SUNSET ave  
CALDWELL ID 83605-5151
- 2014 VERTREES, ROBERT W  
2320 SUNSET ave  
CALDWELL ID 83605-5151

**NAMPA & MERIDIAN IRRIGATION DISTRICT  
1503 FIRST STREET SOUTH, NAMPA, ID 83651-4395**

Assessment #

**Assessment Number Report**

2303 - -

2013 VERTREES, ROBERT W  
2320 SUNSET ave  
CALDWELL ID 83605-5151

2012 VERTREES, ROBERT W  
2320 SUNSET ave  
CALDWELL ID 83605-5151

2011 VERTREES, ROBERT W  
2320 SUNSET ave  
CALDWELL ID 83605-5151

2010 VERTREES, ROBERT W  
2320 SUNSET  
CALDWELL ID 83605-5151

2009 VERTREES, ROBERT W  
2320 SUNSET  
CALDWELL ID 83605-5151

2008 VERTREES, ROBERT W  
2320 SUNSET  
CALDWELL ID 83605-5151

2007 VERTREES, ROBERT W  
2320 SUNSET  
CALDWELL ID 83605-5151

2006 VERTREES, ROBERT W  
2320 SUNSET  
CALDWELL ID 83605-5151

2005 VERTREES, ROBERT W  
2320 SUNSET  
CALDWELL ID 83605-5151

2004 VERTREES, ROBERT W  
2320 SUNSET  
CALDWELL ID 83605-5151

2003 VERTREES, ROBERT W  
2320 SUNSET  
CALDWELL ID 83605-5151

2002 VERTREES, ROBERT W  
2320 SUNSET  
CALDWELL ID 83605-5151

2001 VERTREES, ROBERT W  
2320 SUNSET  
CALDWELL ID 83605-5151

2000 VERTREES, ROBERT W  
2320 SUNSET  
CALDWELL ID 83605

**History Log:**

12. Update (15-May-2017 02:33 PM koconnor)

Changed From:

Name/Address:

Modified:

Type: MailTo

Name: VERTREES, ROBERT-JACKIE LIVING TRUST

Address: GENERAL DELIVERY

City: CALDWELL

State: ID

Zip: 83605-9999



**NAMPA & MERIDIAN IRRIGATION DISTRICT  
1503 FIRST STREET SOUTH, NAMPA, ID 83651-4395**

**Assessment #**

**Assessment Number Report**

**2303 - -**

-----  
11. Update (18-Oct-2016 09:38 AM sburnham)

Changed From:

Legal Description: BEG SE COR SEC 10 3N 3W, TH W 1307.9 FT, TH N 703.7 FT, TH N 50\* E 301.7 FT, TH N 18\* W 456.7 FT, TH N 28\* W 159 FT, TH E 1210 FT M/L, TH S 578.08 FT, TH W 391.16 FT, TH S 220 FT, TH E 390.02 FT, TH S 521.92 FT TO BEG

Name/Address:

Modified:

Type: Deeded\_1

Name: ROBERT & JACKIE VERTREES LIVING TRUST

Address:

City:

State:

Zip:

Type: MailTo

Name: VERTREES, ROBERT-JACKIE

Address: 2320 SUNSET AVE

City: CALDWELL

State: ID

Zip: 83605-5151

-----  
10. Update (13-Jan-2016 11:38 AM koconnor)

Instrument #: 2015011426

Changed From:

Name/Address:

Modified:

Type: MailTo

Name: VERTREES, ROBERT W

Address: 2320 SUNSET AVE

City: CALDWELL

State: ID

Zip: 83605-5151

-----  
9. Update (27-Dec-2011 02:28 PM pbecker)

Changed From:

Name/Address:

Modified:

Type: MailTo

Name: VERTREES, ROBERT W

Address: 2320 SUNSET ave

City: CALDWELL

State: ID

Zip: 83605-5151

**NAMPA & MERIDIAN IRRIGATION DISTRICT  
1503 FIRST STREET SOUTH, NAMPA, ID 83651-4395**

Assessment #

**Assessment Number Report**

2303 - -

-----  
8. Update (22-Dec-2010 04:54 PM pbecker)

Changed From:

Name/Address:

Modified:

Type: MailTo

Name: VERTREES, ROBERT W

Address: 2320 SUNSET

City: CALDWELL

State: ID

Zip: 83605-5151

-----  
7. Update (18-Sep-2007 09:34 AM TCooper)

Instrument #: 200688892

Changed From:

County Parcel #:

Name/Address:

Modified:

Type: Deeded\_1

Name: VERTREES, ROBERT W

Address:

City:

State:

Zip:

-----  
6. Migrated (03-Mar-2006 07:13 PM Migrated)

Instrument #: 200135169

-----  
5. Migrated (13-Sep-2001 12:00 AM Migrated)

Userbase reason for legal change: Changed by a Segregation.

THE S1/2 E1/2 SE 1/4 SEC 10 3N 3W, EXCEPT COM AT THE SE QTR COR  
SEC 10 3N 3W, TH W 1307.9 FT, TH N 703.7 FT TO RPB; TH CONT  
N 763.8 FT, TH S 28\*E 159 FT, TH S 18\*E 456.7 FT, TH S 50\*W  
301.7 FT TO BEG

-----  
4. Segregated (13-Sep-2001 12:00 AM Migrated)

Userbase Segregation Transaction #: PAB0708

Canceled:

Remaining In: 2303--

New: 2303D--

Remaining-In Parcel

-----  
3. Migrated (10-Oct-2000 12:00 AM Migrated)

Userbase reason for legal change: Legal Description Updated.

THE S1/2 E1/2 SE 1/4 SEC 10 3N 3W, EXCEPTING A PORTION OF THE  
SE QTR SEC 10 3N 3W, TH W 1307.9 FT, TH N 703.7 FT TO RPB; TH  
CONT N 763.8 FT, TH S 28\*E 159 FT, TH S 18\*E 456.7 FT, TH S 50\*W

**NAMPA & MERIDIAN IRRIGATION DISTRICT  
1503 FIRST STREET SOUTH, NAMPA, ID 83651-4395**

**Assessment #**

**Assessment Number Report**

**2303 - -**

301.7 FT TO BEG  
-----

2. Migrated (15-Aug-2000 12:00 AM Migrated)

Userbase reason for legal change: Changed by a Segregation.

BEG SE COR SEC 10 3N 3W, TH N 89\*39' W 1307.9 FT M/L, TH N

0\*43' E 703.7 FT, TH N 50\*32' E 301.7 FT, TH N 18\*50' W 456.7

FT, TH N 28\*32' W 159 FT, TH N ALONG W BDRY E-HF SE QTR TO PT

433.2 FT S FROM NW COR NE QTR SE QTR, TH N 45\* E 617.6 FT TO N

BDRY SE QTR, TH E 883.3 FT M/L TO NE COR SE QTR, TH S 2640 FT

M/L TO BEG  
-----

1. Segregated (15-Aug-2000 12:00 AM Migrated)

Userbase Segregation Transaction #: SGH0999

Canceled:

Remaining In: 2303--

New: 2303C--

Remaining-In Parcel  
-----



**MATERIALS  
TESTING &  
INSPECTION**

Environmental Services

Geotechnical Engineering

Construction Materials Testing

Special Inspections

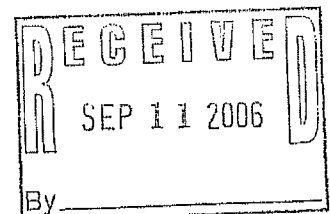
**GEOTECHNICAL ENGINEERING REPORT**

**of  
Vertrees Property  
Caldwell, Idaho**

**Prepared for:**

**LandPro Development, Inc.  
C/o Bailey Engineering, Inc  
1500 East Iron Eagle Drive  
Eagle, Idaho 83616**

**MTI File Number B61141g**





Environmental Services     Geotechnical Engineering     Construction Materials Testing     Special Inspections

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Mr. Kevin Amar  
LandPro Development, Inc.  
C/o Bailey Engineering, Inc.  
1500 East Iron Eagle Drive  
Eagle, Idaho 83616  
(208) 938-0013

**Re: Geotechnical Engineering Report  
Vertrees Property  
Caldwell, Idaho**

Gentlemen:

In compliance with your instructions, we have conducted a soils exploration and foundation evaluation for the above mentioned development. Field work for this investigation was conducted on 8 August and 24 August 2006. Data have been analyzed to evaluate pertinent geotechnical conditions. Provided geotechnical, groundwater and construction recommendations are listed in the **Table of Contents**. Results of this investigation, together with our recommendations, are to be found in the following report.

Often, because of design and construction details that occur on a project, questions arise concerning soil conditions. We would be pleased to continue our role as geotechnical engineers during project implementation. MTI also has great interest in providing materials testing and special inspection services during construction of this project. If you will advise us of the appropriate time to discuss these engineering services, we will be pleased to meet with you at your convenience.

We appreciate this opportunity to be of service to you and we look forward to working with you in the future. If you have questions please call us at (208) 376-4748.

Respectfully Submitted,  
Materials Testing & Inspection, Inc.

*Gregg Belkelman*  
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Professional Geologist  
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## INTRODUCTION

This report presents results of a geotechnical investigation and analysis in support of data utilized in design of structures as defined in the 2003 International Building Code (IBC). Information in support of groundwater and stormwater issues pertinent to the practice of Civil Engineering is included. Observations and recommendations relevant to the earthwork phase of the project are also presented.

### Project Description:

The proposed development is located south of the City of Caldwell, Ada County, Idaho, and occupies a portion of the SE $\frac{1}{4}$  SE $\frac{1}{4}$  of Section 10, Township 3 North, Range 3 West, Boise Meridian. The project will consist of development of an undetermined number of single family residential lots on an approximate 38-acre site. Roadways are anticipated to be included as part of the development. Proposed grading is presently undetermined.

### Authorization:

Authorization to perform this exploration and analysis was given in the form of verbal authorization to proceed from Mr. David Bailey to Jesse Barrus of Materials Testing and Inspection, Inc. (MTI), on 20 July 2006. Said authorization is subject to terms, conditions, and limitations described in the Professional Services Contract entered into between LandPro Development, Inc. and MTI. Our scope of services for the proposed development has been provided in our proposal dated 12 July 2006, and again below.

### Purpose:

The purpose of this Geotechnical Engineering Report is to determine various soil profile components and their engineering characteristics for use by design engineers and/or architects in:

- Preparing or verifying suitability of foundation design and placement,
- Preparing site drainage designs, and,
- Indicating issues pertaining to earthwork construction.

### Scope:

The scope of this investigation included review of geologic literature and existing available geotechnical studies of the area, review of available environmental reports, visual site reconnaissance of the immediate site, subsurface exploration, field and laboratory testing, and an engineering analysis and evaluation of foundation materials. The scope of work did not include design recommendations specific to individual residences.



### **Warranty And Limiting Conditions:**

Field observations and research reported herein are considered sufficient in detail and scope to form a reasonable basis for the purposes cited above. MTI warrants that findings and conclusions contained herein have been promulgated in accordance with generally accepted professional engineering practice in the fields of foundation engineering, soil mechanics and engineering geology, only for the site and project described in this report.

These engineering methods have been developed to provide the client with information regarding apparent or potential engineering conditions relating to the subject property within the scope cited above and are necessarily limited to conditions observed at the time of the site visit and research. The report is also limited to information available at the time it was prepared. In the event additional information is provided to MTI following the report, it will be forwarded to the client in the form received for evaluation by the client. There is a distinct possibility that conditions may exist which could not be identified within the scope of the investigation or which were not apparent during the site investigation. This report was prepared for the exclusive use of LandPro Development, Inc.. and their retained design consultants ("Client"). Conclusions and recommendations presented in this report are based upon agreed-upon scope of work outlined in the report and Contract for Professional Services between Client and Materials Testing and Inspection, Inc. ("Consultant"). Use or misuse of this report, or reliance upon findings hereof by parties other than the Client, is at their own risk. Neither Client nor Consultant make representation of warranty to such other parties as to accuracy or completeness of this report or suitability of its use by such other parties for purposes whatever, known or unknown to Client or Consultant. Neither Client nor Consultant shall have liability to, or indemnifies or holds harmless third parties for losses incurred by actual or purported use or misuse of this report. No other warranties are implied or expressed.

### **General:**

Revisions in plans and or drawings for the proposed development from those enumerated in this report should be brought to the attention of the soils engineer to determine if changes in foundation recommendations are required. Deviations from noted subsurface conditions if encountered during construction, should also be brought to the attention of the soils engineer.

## **DESCRIPTION OF SITE**

### **Site Access:**

Access to the site may be gained via State Highway 55 from its intersection with Interstate 84 at the Karcher Road exit. Proceed west on Karcher Road approximately 5 miles to its intersection with Indiana Avenue. The site is located on the northwest corner of this intersection. Presently the site exists as undeveloped agricultural land. The location is depicted in site map plates included in the **Appendix**.





### **General Geology Of Area:**

The subject site is located within the Western Snake River Flood Plain. This geomorphological feature, within this region, consists of a broad, deeply floored, thick sequence of alluvial silts, clays, sands and gravel. These sediments typically have been deposited on Miocene (24 to 5 million years ago) basalt flows and tuffaceous sediments, the eastern most reaches of the Columbia Plateau. This thick sequence of generally fine-grained sediments, predominately derived from the Idaho Batholith, contains minor intercalated tuffs and basalt flows within the earliest deposits. Most of these sediments were placed during the latter part of the Miocene and are predominately of lacustrine origin. Lakes were created within this area as a result of basalt flow impoundments formed to the west along the ancestral Columbia River. Many of the fossil leaf forms uncovered in these lacustrine plain sediments indicate the presence of a wet tropical climate that prevailed at this time. Early Quaternary age (1.6 million years ago to present) sediments deposited on top of the lacustrine plain were apparently deposited during a time of extremely dry climactic conditions in which little water was present for removal, sorting, and deposition of the debris. With a gradual return to a wetter climate, the surrounding hills again began to erode to their present form. Locally, west of the City of Nampa, soils generally are weathered products of the Glens Ferry Formation and consist of interbedded silt, clay, and sand with minor gravel.

### **Site Topography, Drainage And Vegetation:**

The proposed development consists of approximately 38 acres of gently sloping irrigated cropland. The surface exhibits fine grained soils throughout the majority of the site. The parcel is bounded on the north by existing rural residential development, on the west by agricultural land, on the south by the Karcher Road, and on the east by Indiana avenue.

Regional drainage is north and west toward the Boise River. Stormwater drainage for the site is achieved by percolation through surficial soils. No stormwater drainage facilities are located in the vicinity of the site and the area does not receive significant off-site drainage. Vegetation throughout the area consists primarily of irrigated pasture grasses.

### **Site Climatology And Geochemistry:**

Average precipitation for the region is on the order of 10 to 12 inches per year. Annual average temperature range from 20° F to 91° F with extremes ranging from -4° F to 102° F. Average wind speed range to 11 miles per hour in spring with a prevailing direction from the southeast. Soil in the area is primarily derived from siliceous materials and exhibits low electro-chemical potential for corrosion of metals or concretes. Local aggregates are generally appropriate for Portland Cement and Lime Cement mixtures. The State Transportation Department has adopted anionic asphalt cements. The pH of surface water, groundwater, and soil in the region typically range from 7 to 9. No indication of abnormal geochemical conditions was noted on-site. Nominal frost penetration is typically on the order of 6 inches, with extremes ranging to 3 feet.



### **Geoseismic Setting:**

Soils on-site are classed as Site Class D in accordance with Chapter 16 of the 2003 edition of the IBC. Building structures on this project should be designed as per the IBC requirement for such a seismic classification. Our investigation did not reveal potential hazards resulting from earthquake motions: slope instability, liquefaction, and surface rupture because of faulting or lateral spreading. Incidence and anticipated acceleration of seismic activity in the area is low.

## **SOILS EXPLORATION**

### **Exploration And Sampling Procedures:**

The field exploration to determine engineering characteristics of subsurface materials included a reconnaissance of the project site and investigation by test pit. Test pit sites were located in the field by means of normal taping procedures from on-site features or known locations and are presumed to be accurate to within a few feet. Upon completion of investigation each test pit was backfilled in with loose excavated materials. These loose areas need to be re-excavated and compacted prior to constructing structures over them.

Samples were obtained from representative soil strata encountered in test pits. Samples obtained have been visually classified in the field by an engineer or geologist, identified according to test pit number and depth, placed in sealed containers and transported to our laboratory for additional testing. These materials have been further described in detail on logs provided in the **Appendix**. Results of field and laboratory tests are also presented on these logs. It is recommended that these logs not be used for estimating quantities because of highly interpretive results.

### **Laboratory Testing Program:**

Along with the field investigation, a supplemental laboratory testing program was conducted to determine additional pertinent engineering characteristics of subsurface materials necessary in analyzing the behavior of the proposed structures. Laboratory tests were conducted according to current applicable American Society for Testing and Materials (ASTM) specifications, and results of these tests are to be found on the accompanying logs located in the **Appendix**. The laboratory testing program for this report included Atterberg Limits Tests - ASTM designation D 4318, Grain Size Analysis - ASTM designation C 117, C 136, and Resistance R-Value and Expansion Pressure of Compacted Soils - ASTM designation D 2844.

### **Soil And Sediment Profile:**

A total of ten test pits were advanced to depths of 7.5 to 16.6 feet across the site. Because of the areal extent of the studied parcel, the developed soil profile represents only a generalized case, and variations between test pits should be anticipated:



**Lean Clay (CL)** – Brown to dark brown, dry to slightly moist, soft to hard, lean clay soils were observed at ground surface in all test pits with the exceptions of 6, 9 and 10. Organic material was present generally within the upper 4 to 16 inches. Where present lean clay soils were noted to depths of 2.4 feet.

**Silt (ML)** – Where lean clay was not encountered at the surface silt was found. If clay was present silt underlies the clay. This silt is brown to light brown, dry to slightly moist, medium stiff to hard and may show weak to strong cementation. Silt soils extended to depths of 2.7 to 8.1 feet.

**Poorly Graded Sandy Gravel (GP)** - Light brown to brown, slightly moist, poorly graded gravel sediments were observed underlying the fine grained soils in all test pits. Fine to coarse grained sand and cobbles of up to 10 inches in diameter were present within this sediment type. In test pits 4, 7, and 9 lenses of poorly graded sand were encountered. These lenses were as much as 4.8 feet thick. Poorly graded coarse grained sediments extended through the termination depths of all test pits.

Walls of each test pit were stable with the exception of those through native granular soils. Excavations through granular soils will have a propensity for sloughing or caving.

#### **Soils Survey Review:**

A review of the United States Department of Agriculture, Soil Conservation Service, Soil Survey of Canyon County Area, Idaho, 1972, indicated the site can be characterized by the Purdam silt loam soil type. This soil is well-drained, moderately slow permeability above hardpan and digging and trenching in this soil may be hampered by hardpan. The low strength, frost action potential, and high shrink-swell potential limit the construction of roads and streets, however, suitable sub-grade material can offset these limitations.

#### **Volatile Organic Scan:**

No environmental concerns were identified prior to commencement of the investigation. Therefore, soils obtained during on-site activities were not assessed for volatile organic compounds by portable photoionization detector. Samples obtained during our exploration activities exhibited no odors or discoloration typically associated with this type contamination. No groundwater was encountered.

## **SITE HYDROLOGY**

#### **General Notes:**

Existing surface drainage conditions are defined in the **Description of Site**. Information provided in this section is limited to observations made at the time of the investigation. Regional and/or local ordinances may require information beyond the scope of this report.



### **Groundwater:**

Groundwater was not encountered within the depths explored during the field investigation. Soil moistures in the test pits were generally dry to slightly moist to the depths explored. Groundwater levels in the site vicinity are controlled in large part by commercial irrigation activity and canal leakage in the local area, and are likely at their maximum elevations during the irrigation season. Estimation of seasonal groundwater fluctuation is problematic without regular monitoring. Based on the evidence of this investigation, and background knowledge of the area, it is unlikely that groundwater will be encountered during construction and is anticipated to remain at depths of greater than 20 feet below the ground surface throughout the year.

### **Soil Infiltration Rates:**

Soil permeability is a measure of the ability of a liquid to move through a soil and was not tested in the field. In this report this parameter is approximated by soil type and gradation. Of soils comprising the generalized soil profile for this study, lean clay and silt soils generally offer little permeability, with typical infiltration rates less than 2 inches per hour, though calcium carbonate cementation encountered within cemented silt soils may reduce this value to near zero. Poorly graded sandy gravel soils typically exhibit infiltration values in excess of 24 inches per hour, and percolation testing is typically not required within these soils as a result of the free-draining nature of the gravel sediment.

All infiltration facilities constructed on-site should be extended into native sandy gravel sediments. Excavation depths of approximately 8 feet should be anticipated to expose sandy gravel soils. In addition, because of the high permeability, ASTM C 33 filter sand, or equivalent, should be incorporated into design of infiltration facilities. An infiltration rate of 8 inches per hour should be used for design.

## **FOUNDATION AND PAVEMENT DISCUSSION AND RECOMMENDATIONS**

### **General Notes:**

Presently, an unknown number of residential lots are proposed for the project site. Considering typical residential construction, and subsurface conditions, it is recommended that the structures be founded upon conventional spread footings and continuous wall footings. **The following recommendations are not specific to the individual structures, but rather should be viewed as guidelines for the subdivision wide development.**

### **Foundation Design Recommendations:**

On the basis of data obtained from the site and test results from various laboratory tests performed, MTI recommends following guidelines be used for the net allowable soils bearing capacity.



Footing Depth	ASTM D 1557 Subgrade Compaction	Net Allowable Soils Bearing Capacity
Footings should bear on competent, native, cemented silt present at depths of 1.1 to 2.7 feet across the site. All surficial clay soils must be removed from below footings. <sup>1</sup>	Not required for native soil	1,500 lbs/ft <sup>2</sup>

**<sup>1</sup>Verification of bearing soils for each residence by a qualified geotechnical engineer, engineering technician, or building official at the time of construction is recommended.**

Footings should be proportioned to meet the stated bearing capacity and/or the IBC 2003 minimum requirements. Total settlement should be limited to about 1 inch with differential settlement of approximately 1/2 inch. Objectionable soil types encountered at the bottom of footing excavations should be removed and replaced with structural fill. Excessively loose or soft areas that are encountered at footing subgrade will require over-excavation and backfilling with structural fill. To minimize effects of slight differential movement that may occur because of variations in character of supporting soils, and in seasonal moisture content, MTI recommends continuous footings be suitably reinforced to make them as rigid as possible. For frost protection, the bottom of external footings should be 24 inches below finished grade.

**Crawl Space Recommendations:**

Considering the presence of shallow cemented soils across the site, all residences constructed with crawl spaces should be designed in a manner that will inhibit water in the crawl spaces. Therefore, proper grading should be considered to be critical. MTI recommends that roof drains carry storm water at least 5 feet away from each residence, and grades should be greater than 5% for a distance of 10 feet away from all residences. In addition, rain gutters should be placed around all sides of residences, and backfill around stem walls should be placed and compacted in a controlled manner.

**Recommended Pavement Sections:**

MTI collected a sample of near-surface soils for R-value testing representative of soils to depths of 1 foot below existing ground surface. A bulk sample collected from test pit 1 in the northern portion of the site, consisted of lean clay (CL) soil. This sample yielded an R value of 14. MTI has used a traffic index of 6 to determine necessary pavement cross-sections for the site. Additionally, MTI has made other assumptions for traffic loading variables based on the character of the proposed construction. The Client should review these assumptions to make sure they reflect intended use and loading of pavements both now and in the future.

**Flexible Pavement Sections**

The Idaho Method as defined in Idaho Department of Transportation's Materials Manual (section 500) was used to develop the pavement section. Calculation sheets provided in the Appendix indicate the soils values, traffic loading, and material ratios used to calculate the pavement sections. MTI recommends that all materials used in the construction of Asphaltic Concrete Pavements meet the requirements of the Idaho



Standards for Public Works Construction (ISPWC) specifications. Construction of the pavement section should be in accordance with these specifications. The following thicknesses are MINIMUM THICKNESSES for assured pavement function.

Pavement Section Component	Driveways and Parking, Residential Streets
Asphaltic Concrete	2.5 Inches
Untreated Aggregate Base	4.0 Inches
Granular Borrow	12.0 Inches
Compacted Subgrade	Not Required

Aggregate Base      Material complying with ISPWC Standards for Crushed Aggregate Materials.

Structural Subbase      Any material complying with the requirement for granular structural fill (uncrushed) as defined in ISPWC.

**Common Pavement Section Construction Issues**

The subgrade upon which above pavement sections are to be constructed must be properly stripped, compacted (if indicated), inspected and proof rolled. Proof rolling of subgrade soils should be accomplished with a heavy rubber-tired fully loaded tandem axle dump truck or equivalent. MTI anticipates that pavement areas will be subject to moderate traffic. It should be noted that surficial clay soils near to and above optimum moisture contents, may tend to pump. Pumping or soft areas must be removed and replaced with structural fill.

Fill material and compacted native subgrade soils (if required) in support of the pavement section as well as aggregates comprising the pavement section must be compacted to not less than 95% of maximum dry density indicated by ASTM D 698 for flexible pavements and by ASTM D 1557 for rigid pavements. If a material placed as a pavement section component cannot be tested by usual compaction testing methods, compaction of that material shall be approved by observed proof rolling. Minor deflections from proof rolling for flexible pavements are allowable. Deflections from proof rolling of rigid pavement support courses should not be visually detectable.

MTI recommends that rigid concrete pavement be provided for heavy garbage receptacle parking. This will eliminate damage caused by the considerable load of containers transferred onto the small steel wheels and subsequently onto the asphaltic concrete. Rigid concrete pavement should consist of Portland Cement Concrete Pavement (PCCP) generally adhering to ITD specifications for Urban Concrete. PCCP shall be 6 inches thick on a 4 inch drainage fill course, should be reinforced with welded wire fabric, and control joints shall be on 12 foot centers or less.



## CONSTRUCTION CONSIDERATIONS

### Earthwork:

Recommendations in this report are based upon structural elements of the project being founded on competent native clay-silt-sand mixtures or compacted structural fill. Structural areas should be stripped to an elevation that exposes these soil types. Excessively organic soils, deleterious materials, and/or disturbed soils generally undergo high volume changes when subjected to loads, which is detrimental to subgrade behavior in the area of pavements, floor slabs, structural fills, and foundations. It is recommended that organic and/or disturbed soils, if encountered, be removed to depths of 1 foot (minimum), and wasted or stockpiled for later use. Stripping depths should be adjusted in the field to assure that the entire root zone and/or disturbed zone (plow depths) and/or topsoil is removed, prior to placement and compaction of structural fill materials. Exact removal depths should be determined during grading operations by a qualified geotechnical representative, and shall be based upon subgrade soil type, composition, and firmness or soil stability. Identified underground storage tanks (UST), below surface utilities, wells, or septic systems must be decommissioned, removed or abandoned as deemed necessary by governing Federal, State, and local agencies. Excavations developed as the result of such removal must be backfilled with structural fill materials as defined below, and in the above section on **Floor Slab-On-Grade**.

After existing subgrade soils are excavated to design grade, proper control of subgrade conditions (i.e., moisture content) and placement and compaction of new fill (if required) should be overseen by a representative of the soils engineer (MTI). Recommendations for structural fill presented within this report can be used to minimize volume changes and differential settlements that are detrimental to the behavior of footings, pavements, and floor slabs. Sufficient density tests should be performed to properly monitor compaction. For structural fill beneath building structures one in-place density test per lift for every 5,000 square feet is recommended. In parking and driveway areas this can be decreased to one test per lift for every 10,000 square feet.

### Dry Weather:

If construction is to be conducted during what is considered "Dry" seasonal conditions, problems associated with soft soils may be avoided. However, shallow groundwater conditions, related to springtime runoff and/or late summer/early fall irrigation, may induce rutting subgrade soils. Solutions to problems associated with soft subgrade soils are outlined below. Problems may also arise because of lack of moisture in native and fill soils at time of placement. This will require addition of water to achieve near optimum moisture levels. Low cohesive soils exposed in excavations may become friable, increasing chances of sloughing or caving. Measures to control excessive dust should be considered as part of the overall health and safety management plan.



### **Wet Weather:**

If construction is to be conducted during what is considered "Wet" seasonal conditions (commonly from mid-November to April), problems associated with soft soils must be considered as part of the construction plan. During this time of year, fine grained soils such as silts and clays will become unstable with increased moisture content, and eventually deform or rut. Additionally, constant low temperatures reduce the possibility of drying soils to near optimum conditions.

### **Soft Subgrade Soils:**

Shallow fine grained subgrade soils that are high in moisture content can be expected to pump and rut under construction traffic. The following recommendations and/or options have been included for dealing with anticipated subgrade conditions:

- Track-mounted vehicles should be used to strip subgrade of root matter and other deleterious debris. Heavy rubber-tired equipment should be prohibited from operating directly on native subgrades, and in structural areas such as roadways and foundations. Construction traffic can be restricted to designated roadways that do not cross, or cross on a limited basis, proposed roadway or parking subgrades.
- During periods of wet weather, construction on-site may become very difficult if not impossible. To ensure constructability, access/haul roads should be constructed with a minimum of 2 feet of structural fill material. Fill material should consist of relatively large cobble (4 to 6 inch in diameter) with sufficient fines to fill voids.
- Instead of structural fill placement, scarification and aeration of subgrade soils can be employed to reduce the moisture content. After stripping is complete, the exposed subgrade should be ripped and/or disked to a depth of 1.5 feet and allowed to air dry for 2 to 4 weeks. Further disking should be performed on a weekly basis to aid the aeration process.
- Alternate recommendations can be provided involving lime or cement stabilization and use of geotextiles, upon request.

### **Frozen Subgrade Soils:**

Frozen subgrade soils must be allowed to thaw, or may be stripped prior to placement of structural fill materials or foundation elements. Frozen soils must be removed to depths that expose non-frozen soils and wasted or stockpiled for later use. These soils must be allowed to thaw and return to near optimum conditions prior to use as structural fill.

### **Structural Fill:**

Soils regarded as suitable for use as structural fill are those classified as GW, GP, GM, SW, SP, SM, and ML, in accordance with the Unified Soil Classification System (USCS) (ASTM D 2487). The use of silty soils (USCS designation of GM, SM, and ML) as fill may be acceptable. However, these materials require very high moisture contents for compaction and require a long time to dry out if natural moisture contents are





too high. Therefore these materials can be quite difficult to work with as moisture content, lift thickness, and compactive effort becomes difficult to control. If silty soil is used for structural fill, lift thicknesses should not exceed 6 inches (loose), and fill material moisture must be closely monitored at both the working elevation and the elevations of materials already placed. Following placement, silty soils must be protected from degradation resulting from construction traffic or subsequent construction.

Recommended granular structural fill materials, those classified as GW, GP, SW, SP, should consist of a 6 inch minus select, clean, granular soil with no more than 30% oversize (greater than  $\frac{3}{4}$  inch) material and no more than 12% fines (less than #200) and placed in layers not to exceed 9 inches in thickness. Prior to placement of structural fill materials, surfaces must be prepared as outlined in the **Construction Considerations** section. Structural fill material should be moisture-conditioned to achieve optimum moisture content prior to compaction. For structural fill below footings, areas of compacted backfill must extend outside the perimeter of the footing for a distance equal to the thickness of fill between the bottom of foundation and underlying soils, or 5 feet, whichever is less.

Each layer of structural fill must be compacted to a minimum density of 95% of maximum dry density as determined by ASTM D 1557 (for rigid structures) or D 698 (for flexible pavements). The ASTM D 1557 and D 698 test methods shall be used for samples containing up to 40% oversize particles (greater than  $\frac{3}{4}$  inch). If material contains more than 40% but less than 50% oversize particles, compaction of fill shall be confirmed by proof-rolling each lift with a 10-ton vibratory roller (or equivalent) until the *maximum density* has been achieved. Density testing shall be performed after each proof-rolling pass until the in-place density test results indicate a drop (or no increase) in the dry density, defined as the *maximum density* or "break over" point. The number of required passes shall be used as the requirement on the remainder of fill placement. Material shall contain sufficient fines to fill all void spaces, and shall not contain more than 50% oversize particles.

#### **Backfill:**

Backfill materials shall ascribe to the requirements of structural fill except that the maximum material size shall be 4 inches. In no case shall material greater than 2 inches in diameter bear directly on structural elements. Placing oversized material against rigid surfaces interferes with proper compaction. Backfill should be compacted in accordance with specifications for structural fill, except in those areas where it is determined that future settlement is not a concern, such as planter areas. In nonstructural areas, backfill must be compacted to a firm and unyielding condition.

#### **Excavations:**

Shallow excavations that do not exceed 4 feet in depth may be constructed with side slopes approaching vertical. Below this depth, it is recommended that slopes be constructed in accordance with Occupational Safety and Health Administration (OSHA) regulations, section 1926, subpart P. Based on these regulations, on-site soils are classified as type "C" soil, and excavations within these soil should be constructed at a



maximum slope of 1½ foot horizontal to 1 foot vertical (1½H:1V) for excavations up to 20 feet in height. Excavations in excess of 20 feet will require additional analysis. Note that these slope angles are considered stable for short-term conditions only, and will not be stable for long-term conditions.

Shallow, cemented fine grained soils (caliche), encountered through much of the site, may cause difficulties during foundation development and utility placement. These soils typically extended through depths of 2 to 8 feet. For deep excavations, native granular soils cannot be expected to remain in position. These materials are prone to failure and may collapse, thereby undermining upper soils layers. This is especially true when working at depths near the water table. Proper care must be taken to protect personnel and equipment.

During our subsurface exploration, test pit sidewalls generally exhibited little indication of collapse. However, some caving of granular soils occurred. Care must be taken so that excavations are properly backfilled in accordance with procedures outlined in this report. Water and loose debris should be removed from these excavations, prior to placement of fill soils or concrete.

#### **Groundwater Control:**

Special precautions may be required for control of surface runoff and subsurface seepage in general. It is recommended that runoff caused by wet weather be directed away from open excavations. On-site silty or clayey soils can be expected to become soft and pump if subjected to excessive traffic following periods of wet weather. Ponded surface water areas should be drained to allow construction to take place through methods such as trenching, sloping, crowning grades, nightly smooth drum rolling, or installation of a French-drain system. Additionally, temporary or permanent driveway sections may be constructed should wet weather be forecast.

### **GENERAL COMMENTS**

When plans and specifications are complete, or if significant changes are made in the character or location of the proposed development, consultation should be arranged as supplementary recommendations may be required. It is recommended that the service of a qualified geotechnical engineering firm be engaged to test and evaluate soils in footing excavations before placement of concrete to determine if soils meet compaction requirements. Monitoring and testing should also be performed to verify that suitable materials are used for structural fill and that proper placement and compaction is performed.



## REFERENCES

American Society for Testing Materials, 1999, Standard Test Method for Materials Finer than 75- $\mu$ m (No. 200) Sieve in Mineral Aggregates by Washing: C 117 - 95, 3 p.

American Society for Testing Materials, 1999, Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates: C 136 - 96a, 5 p.

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## **APPENDIX**

### **GEOTECHNICAL GENERAL NOTES**

### **UNIFIED SOIL CLASSIFICATION SYSTEM**

### **GEOTECHNICAL TEST PIT LOGS**

### **PAVEMENT THICKNESS DESIGN SHEETS**

### **SITE MAP PLATES**



## GEOTECHNICAL GENERAL NOTES

### SOIL PROPERTY SYMBOLS

- N:** Standard "N" penetration: Blows per foot of a 140 pound hammer falling 30" on a 2" O.D. SS.
- Qu:** Unconfined compressive strength, tons/ft<sup>2</sup>
- Qp:** Penetrometer value, unconfined compressive strength, tons/ft<sup>2</sup>
- Qc:** Cone Penetrometer value, unconfined compressive strength, pounds/in<sup>2</sup>
- V:** Vane value, ultimate shearing strength, tons/ft<sup>2</sup>
- M:** Water content, %
- LL:** Liquid Limit
- PI:** Plasticity Index
- NP:** Non-Plastic
- D:** Natural dry density, lbs/ft<sup>3</sup>
- WT:** Apparent groundwater level (at time noted after completion).

### DRILLING AND SAMPLING SYMBOLS

- SS:** Split-Spoon - 1 3/8" I.D., 2" O.D., except where noted.
- ST:** Shelby Tube - 3" O.D., except where noted.
- AU:** Auger Sample.
- DB:** Diamond Bit.
- CB:** Carbide Bit.
- GS:** Grab Sample.

### RELATIVE DENSITY AND CONSISTENCY CLASSIFICATION

Non-Cohesive Soils	Standard Penetration Resistance	Cohesive Soils	Standard Penetration Resistance
Very Loose	<4	Very Soft	<2
Loose	4-10	Soft	2-4
Medium Dense	10-30	Firm (Medium Stiff)	4-8
Dense	30-50	Stiff	8-15
Very Dense	>50	Very Stiff	15-30
		Hard	>30

### PARTICLE SIZE

<b>Boulders</b>	12 in. +	<b>Coarse Sand</b>	5 mm to 0.6 mm	<b>Silts</b>	0.074 mm to 0.005 mm
<b>Cobbles</b>	12 in. to 3 in.	<b>Medium Sand</b>	0.6 mm to 0.2 mm	<b>Clays</b>	0.005 mm & Smaller
<b>Gravel</b>	3 in. to 5 mm	<b>Fine Sand</b>	0.2 mm to 0.074 mm		



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**Unified Soil Classification System**

Major Divisions		Symbol	Soil Descriptions
Coarse Grained Soils <50% passes #200 sieve	Gravel and Gravelly Soils <50% coarse fraction passes #4 sieve	GW	Well-graded gravels, gravel-sand mixtures, little or no fines
		GP	Poorly-graded gravels, gravel-sand mixtures, little or no fines
		GM	Silty gravels, Poorly-graded gravel-sand-silt mixtures
		GC	Clayey gravels, Poorly-graded gravel-sand-clay mixtures
	Sand and Sandy Soils >50% coarse fraction passes #4 sieve	SW	Well-graded sands, gravelly sands, little or no fines
		SP	Poorly-graded sands, gravelly sands, little or no fines
		SM	Silty sands, Poorly-graded sand-gravel-silt mixtures
		SC	Clayey sands, Poorly-graded sand-gravel-clay mixtures
Fine Grained Soils >50% passes #200 sieve	Silts and Clays LL < 50	ML	Inorganic silts & very fine sands, silty or clayey fine sands, clayey silts
		CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
		OL	Organic silts and organic silt-clays of low plasticity
	Silts and Clays LL > 50	MH	Inorganic silts, micaceous or diatomaceous fine sand or silt
		CH	Inorganic clays of high plasticity, fat clays
		OH	Organic silts and clays of medium-to-high plasticity
Highly Organic Soils	PT	Peat, humus, hydric soils with high organic content	



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## GEOTECHNICAL INVESTIGATION TEST PIT LOG

Test Pit Log #: TP-1      Date Advanced: 8/8/06      Logged By: Gregg Beukelman, P.G.

Excavated By: Structman's Backhoe Service      Location: See Later Site Map Plates

Depth to Water Table: Not Encountered      Depth to Bottom Of Hole: 15.6 Feet

Depth (Feet)	Field Description, w/USCS Soil and Sediment Classification	Sample Type	Sample Depth (From-To)	Qp	Lab Test ID
0.0-1.3	<b>Lean Clay (CL):</b> <i>Light brown, slightly moist, hard, organic material to 3 inches.</i>			4.5+	
1.3-2.7	<b>Silt (ML):</b> <i>Brown, slightly moist, hard, moderately to strongly cemented, occasional cobble to 4 inches in diameter, organic material to 3 inches.</i>				
2.7-15.6	<b>Poorly Graded Sandy Gravel (GP):</b> <i>Light brown, slightly moist, dense, weakly cemented, medium to coarse grained sand, with cobbles to 4 inches in diameter. ~minor caving below 7 feet</i>				



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## GEOTECHNICAL INVESTIGATION TEST PIT LOG

Test Pit Log #: TP-2    Date Advanced: 8/8/06    Logged By: Gregg Beukelman, P.G.

Excavated By: Structman's Backhoe Service    Location: See Later Site Map Plates

Depth to Water Table: Not Encountered    Depth to Bottom Of Hole: 12.6 Feet

Depth (Feet)	Field Description, w/USCS Soil and Sediment Classification	Sample Type	Sample Depth (From-To)	Qp	Lab Test ID
0.0-2.1	<b>Lean Clay (CL):</b> <i>Light brown, dry to slightly moist, very stiff to hard, moderately to strongly cemented, occasional cobble to 4 inches in diameter, organic material to 3 inches.</i>			2.5-4.5+	
2.1-12.6	<b>Poorly Graded Sandy Gravel (GP):</b> <i>Light brown, slightly moist, medium dense to dense, weakly cemented, medium to coarse grained sand, with cobbles to 4 inches in diameter.</i> <i>~minor caving below 8.4 feet</i>				





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## GEOTECHNICAL INVESTIGATION TEST PIT LOG

Test Pit Log #: TP-3    Date Advanced: 8/8/06    Logged By: Gregg Beukelman, P.G.

Excavated By: Structman's Backhoe Service    Location: See Later Site Map Plates

Depth to Water Table: Not Encountered    Depth to Bottom Of Hole: 14.1 Feet

Depth (Feet)	Field Description, w/USCS Soil and Sediment Classification	Sample Type	Sample Depth (From-To)	Qp	Lab Test ID
0.0-2.4	<i>Lean Clay (CL): Light brown to brown, dry to slightly moist, very stiff, moderately to strongly cemented, occasional cobble to 4 inches in diameter, organic material to 3 inches.</i>	GS	1.0-1.3	2.5-4.5+	A
2.4-14.1	<i>Poorly Graded Sandy Gravel (GP): Light brown, slightly moist to moist, medium dense to dense, weakly cemented to 10.4 feet, medium to coarse grained sand, intermittent iron staining.</i>				

Lab Test ID	M	LL	PI	Sieve Analysis				
				#4	#10	#40	#100	#200
-	%	-	-					
A	13.2	48	24	86	79	70	63	55.3



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## GEOTECHNICAL INVESTIGATION TEST PIT LOG

Test Pit Log #: TP-4    Date Advanced: 8/8/06    Logged By: Gregg Beukelman, P.G.

Excavated By: Structman's Backhoe Service    Location: See Later Site Map Plates

Depth to Water Table: Not Encountered    Depth to Bottom Of Hole: 13.4 Feet

Depth (Feet)	Field Description, w/USCS Soil and Sediment Classification	Sample Type	Sample Depth (From-To)	Qp	Lab Test ID
0.0-2.0	<b>Lean Clay (CL):</b> <i>Light brown, dry, hard, organic material to 9 inches.</i>			3.75-4.5+	
2.0-8.1	<b>Silt (ML):</b> <i>Brown, dry to slightly moist, hard, moderately to strongly cemented, occasional cobble to 4 inches in diameter.</i>				
8.1-12.9	<b>Poorly Graded Sand (SP):</b> <i>Light brown to yellowish-brown, slightly moist, loose to medium dense, occasional gravel to 2 inches in diameter, medium to coarse grained sand.</i>				
12.9-13.4	<b>Poorly Graded Sandy Gravel (GP):</b> <i>Light brown, slightly moist to moist, medium dense, weakly cemented, medium to coarse grained sand.</i>				



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## GEOTECHNICAL INVESTIGATION TEST PIT LOG

Test Pit Log #: TP-5    Date Advanced: 8/8/06    Logged By: Gregg Beukelman, P.G.

Excavated By: Structman's Backhoe Service    Location: See Later Site Map Plates

Depth to Water Table: Not Encountered    Depth to Bottom Of Hole: 16.6 Feet

Depth (Feet)	Field Description, w/USCS Soil and Sediment Classification	Sample Type	Sample Depth (From-To)	Qp	Lab Test ID
0.0-1.0	<b>Lean Clay (CL):</b> <i>Brown, slightly moist, soft to stiff, organic material to 4 inches.</i>	GS	0.4-0.9	0.5-1.0	B
1.0-4.7	<b>Silt (ML):</b> <i>Brown, slightly moist, hard, moderately cemented throughout with strong cementation from 3.9 to 4.7 feet, occasional gravel to 2 inches in diameter becoming more abundant with depth.</i>			2.75	
4.7-16.6	<b>Poorly Graded Sandy Gravel (GP):</b> <i>Light brown to brown, slightly moist, medium dense, weakly cemented, medium to coarse grained sand, cobbles to 4 inches in diameter.</i>				

Lab Test ID	M	LL	PI	Sieve Analysis				
				#4	#10	#40	#100	#200
-	%	-	-					
B	15.1	45	22	99	97	95	89	80.7



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## GEOTECHNICAL INVESTIGATION TEST PIT LOG

Test Pit Log #: TP-6      Date Advanced: 8/8/06      Logged By: Gregg Beukelman, P.G.

Excavated By: Structman's Backhoe Service      Location: See Later Site Map Plates

Depth to Water Table: Not Encountered      Depth to Bottom Of Hole: 7.5 Feet

Depth (Feet)	Field Description, w/USCS Soil and Sediment Classification	Sample Type	Sample Depth (From-To)	Qp	Lab Test ID
0.0-5.8	<b>Silt (ML):</b> <i>Brown, slightly moist to moist, medium stiff to stiff, weakly cemented throughout – moderately cemented from 5.0 to 5.8 feet, organic material to 4 inches.</i>			1.0-1.75	
5.8-7.5	<b>Poorly Graded Sandy Gravel (GP):</b> <i>Light brown to brown, slightly moist, medium dense, weakly cemented, medium to coarse grained sand, cobbles to 4 inches in diameter.</i>				



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## GEOTECHNICAL INVESTIGATION TEST PIT LOG

Test Pit Log #: TP-7      Date Advanced: 8/24/06      Logged By: Monica Hunter

Excavated By: Structman's Backhoe Service      Location: See Later Site Map Plates

Depth to Water Table: Not Encountered      Depth to Bottom Of Hole: 10.2 Feet

Depth (Feet)	Field Description, w/USCS Soil and Sediment Classification	Sample Type	Sample Depth (From-To)	Qp	Lab Test ID
0.0-1.0	<b>Lean Clay (CL):</b> <i>Dark brown, dry to slightly moist, very stiff to hard, organic material to 20 inches.</i>			4.0-4.5+	
1.0-4.3	<b>Silt to Sandy Silt (ML/SM):</b> <i>Brown, dry, very stiff, moderately cemented from 1.0 to 2.3 feet, fine to medium grained sand.</i>			2.0-3.25	
4.3- 8.4	<b>Poorly Graded Sandy Gravel (GP):</b> <i>Light brown, dry to slightly moist, medium dense, weakly cemented, fine to coarse grained sand, cobbles to 10 inches in diameter.</i>				
8.4-10.2	<b>Poorly Graded Sand (SP):</b> <i>Light brown, dry to slightly moist, medium dense, fine to coarse grained sand, occasional cobbles to 10 inches in diameter.</i>				



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## GEOTECHNICAL INVESTIGATION TEST PIT LOG

Test Pit Log #: TP-8    Date Advanced: 8/24/06    Logged By: Monica Hunter

Excavated By: Structman's Backhoe Service    Location: See Later Site Map Plates

Depth to Water Table: Not Encountered    Depth to Bottom Of Hole: 9.7 Feet

Depth (Feet)	Field Description, w/USCS Soil and Sediment Classification	Sample Type	Sample Depth (From-To)	Qp	Lab Test ID
0.0-1.0	<b>Lean Clay (CL):</b> <i>Dark brown to brown, dry to slightly moist, hard, organic material to 16 inches.</i>			4.5+	
1.0-7.0	<b>Silt (ML):</b> <i>Brown, dry to slightly moist, very stiff, weakly to moderately cemented from 3.5 to 5.3 feet, fine to medium grained sand.</i>			3.0-4.0	
7.0-9.7	<b>Poorly Graded Sandy Gravel (GP):</b> <i>Light brown to brown, dry to slightly moist, medium dense, fine to coarse grained sand, cobbles to 8 inches in diameter.</i>				



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## GEOTECHNICAL INVESTIGATION TEST PIT LOG

Test Pit Log #: TP-9      Date Advanced: 8/24/06      Logged By: Monica Hunter

Excavated By: Structman's Backhoe Service      Location: See Later Site Map Plates

Depth to Water Table: Not Encountered      Depth to Bottom Of Hole: 8.4 Feet

Depth (Feet)	Field Description, w/USCS Soil and Sediment Classification	Sample Type	Sample Depth (From-To)	Qp	Lab Test ID
0.0-6.2	<b>Silt (ML):</b> <i>Light brown to brown, dry to slightly moist, hard, strong cementation from 1.2 to 3.0 feet, organic material to 15 inches.</i>			4.5+	
6.2-7.2	<b>Poorly Graded Sandy Gravel (GP):</b> <i>Light brown to brown, dry to slightly moist, medium dense, fine to coarse grained sand, cobbles to 10 inches in diameter.</i>				
7.2- 8.4	<b>Poorly Graded Sand (SP):</b> <i>Light brown to brown, dry to slightly moist, medium dense, fine to coarse grained sand, iron staining from 6.4 to 6.8 feet.</i>				



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## GEOTECHNICAL INVESTIGATION TEST PIT LOG

Test Pit Log #: TP-10    Date Advanced: 8/24/06    Logged By: Monica Hunter

Excavated By: Structman's Backhoe Service    Location: See Later Site Map Plates

Depth to Water Table: Not Encountered    Depth to Bottom Of Hole: 8.0 Feet

Depth (Feet)	Field Description, w/USCS Soil and Sediment Classification	Sample Type	Sample Depth (From-To)	Qp	Lab Test ID
0.0-3.2	<i>Silt (ML): Light brown to brown, dry to slightly moist, stiff to very stiff, fine grained sand, organic material to 5 inches.</i>			2.0-2.5	
3.2-8.0	<b>Poorly Graded Sandy Gravel (GP):</b> <i>Light brown, dry to slightly moist, medium dense, fine to coarse grained sand, cobbles to 8 inches in diameter.</i>				





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## IDAHO METHOD - PAVEMENT THICKNESS

Pavement Section Design Location: Vertrees Property

Average Daily Traffic Count: All Lanes & Both Directions  
 Design Life: 20 Years  
 Traffic Index: 6.00

Climate Factor: 1                      R-Value of Subgrade: 14.00  
 Subgrade CBR Value: -                      Subgrade Mr: -

R-Value of Aggregate Base: 80  
 R-Value of Granular Borrow: 60  
 Subgrade R-Value: 14  
 Expansion Pressure of Subgrade: 0.33  
 Unit Weight of Base Materials: 130

Total Design Life 18 ldp ESAL's: 33,131

**ASPHALTIC CONCRETE:**

Gravel Equivalent, Calculated: 0.384 Feet  
 Thickness: 0.192

Use = 0.208 Feet

Gravel Equivalent, ACTUAL: 0.42

**CRUSHED AGGREGATE BASE:**

Gravel Equivalent (Ballast): 0.768 (if only aggregate base is to be considered change B14 to B15)  
 Thickness: 0.352

Use = 0.333 Feet

Gravel Equivalent, ACTUAL: 0.749

**GRANULAR BORROW:**

Gravel Equivalent (Ballast): 1.651  
 Thickness: 1.061

Use = 1 Feet

Gravel Equivalent, ACTUAL: 1.599

**TOTAL Thickness:** 1.541  
**Thickness Required by Exp. Pressure:** 0.366 This number must be less than TOTAL Thickness

	Design Depth Inches	Substitution Ratios
Asphaltic Concrete (at least 2.5):	2.50	2.00
Asphalt Treated Base (at least 4.2):	0.00	
Cement Treated Base (at least 4.2):	0.00	
Untreated Aggregate Base (at least 4.2):	4.00	1.00
Granular Borrow (at least 4.2):	12.00	0.85



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## RESISTANCE "R" VALUE LABORATORY TEST DATA

<b>Source and Description:</b>	TP-1, 0.5'-1.2'					
<b>Date Obtained:</b>	August 9, 2006					
<b>Sample ID:</b>	5501					
<b>Sampling and Preparation:</b>	ASTM D75:		AASHTO T2:	X	AASHTO T87:	X
<b>Test Standard:</b>	ASTM D2844:		AASHTO T190:		Idaho T8:	X

Sample	A	B	C
Dry Density (lb/ft <sup>3</sup> )	110.5	108.6	107.5
Moisture Content (%)	12.7	13.4	14.4
Expansion Pressure (psi)	0.81	0.51	0.36
Exudation Pressure (psi)	319	184	88
R-Value	16	14	11

**R-Value @ 200 psi Exudation Pressure = 14**

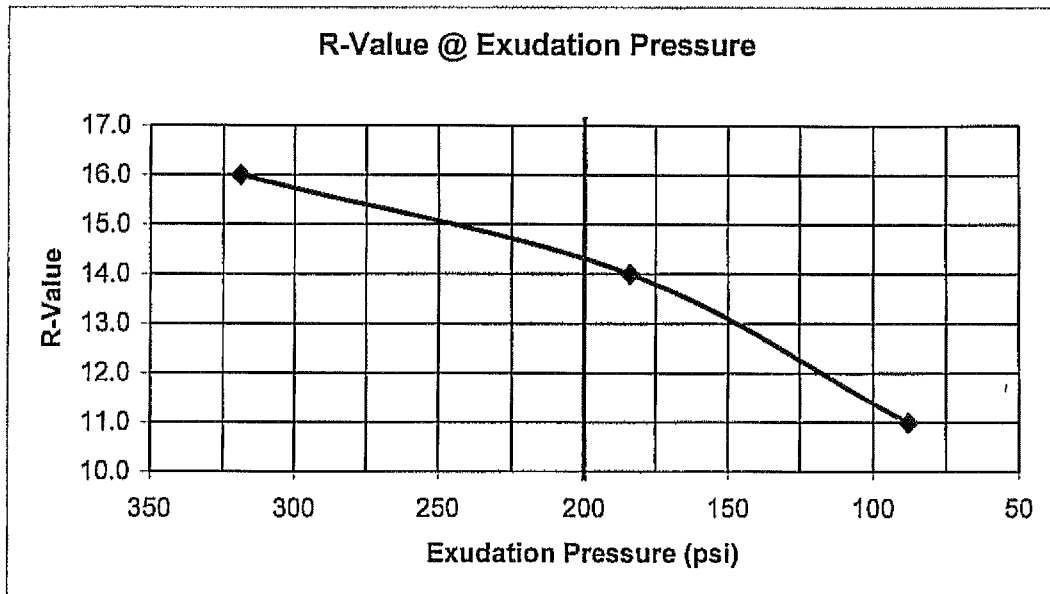


Plate 1

Topographic Map

MAP NOTES:

Lowell, Idaho  
N4330-W11637.5/7.5  
1958, Photo Revised 1971  
20 Foot Contour Intervals  
T3N, R3W, Section 10

LEGEND

Site Boundary



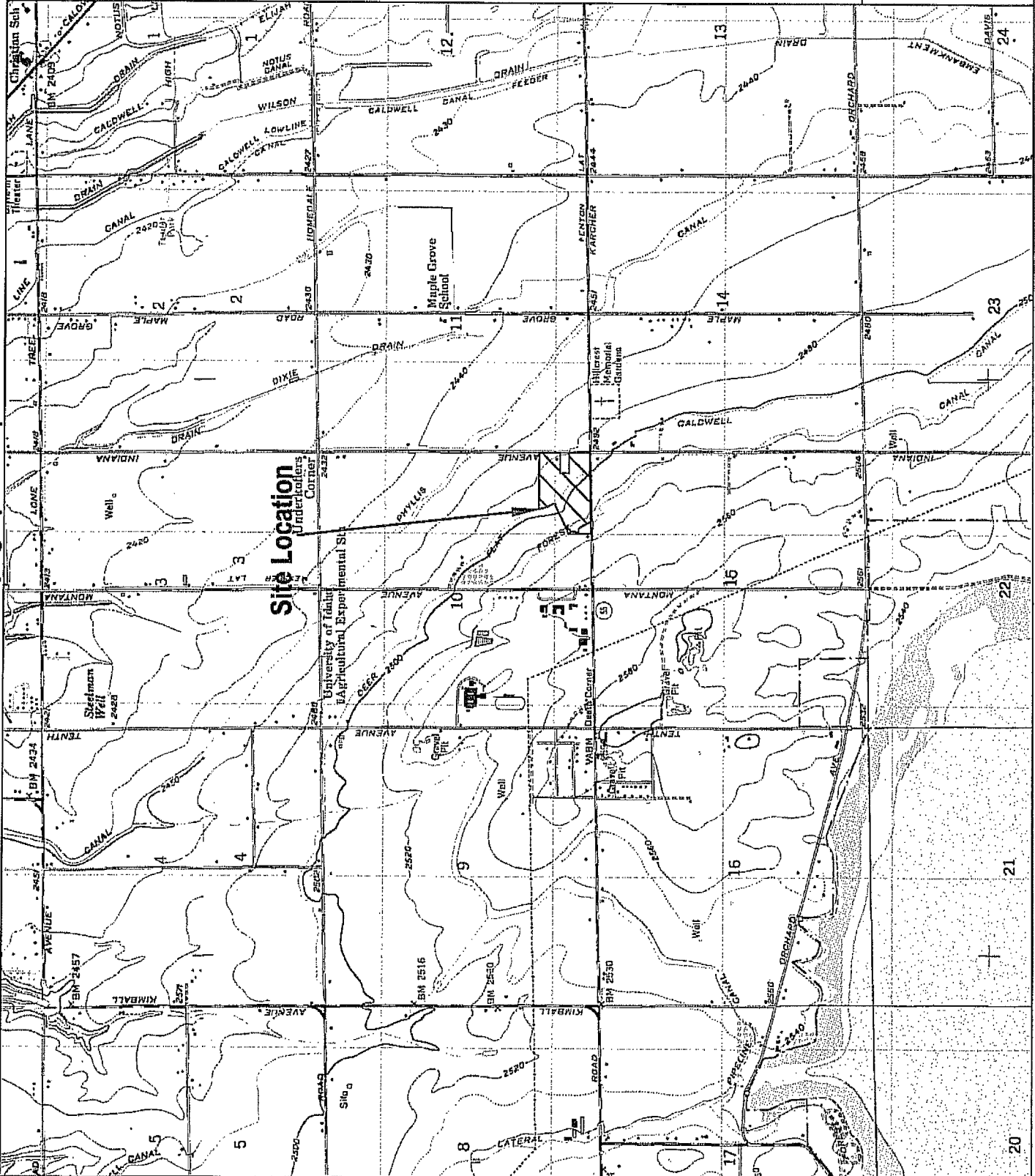
Vertrees Property  
Karcher Road and South Indiana Avenue  
Caldwell, ID

Modified from USGS by: ZBS  
24 August 2006  
Drawing: 661141g

**MATERIALS  
TESTING &  
INSPECTION**



2794 S. Victory View Way  
Boise, ID 83705-2635  
208 376-4746  
Fax: 208 322-6616  
mti@mti-id.com



Site Location  
Underlaid Corner

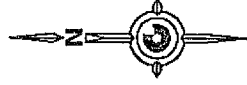
NOTES:

• Not to Scale

LEGEND

Site Boundary

MTI Test Pit Locations



Vertrees Property  
Karcher Road & South Indiana Avenue  
Caldwell, ID

Drawn by: ZBS  
24 August 2006  
Drawing: B61141g



2781 S. Victory View Way  
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