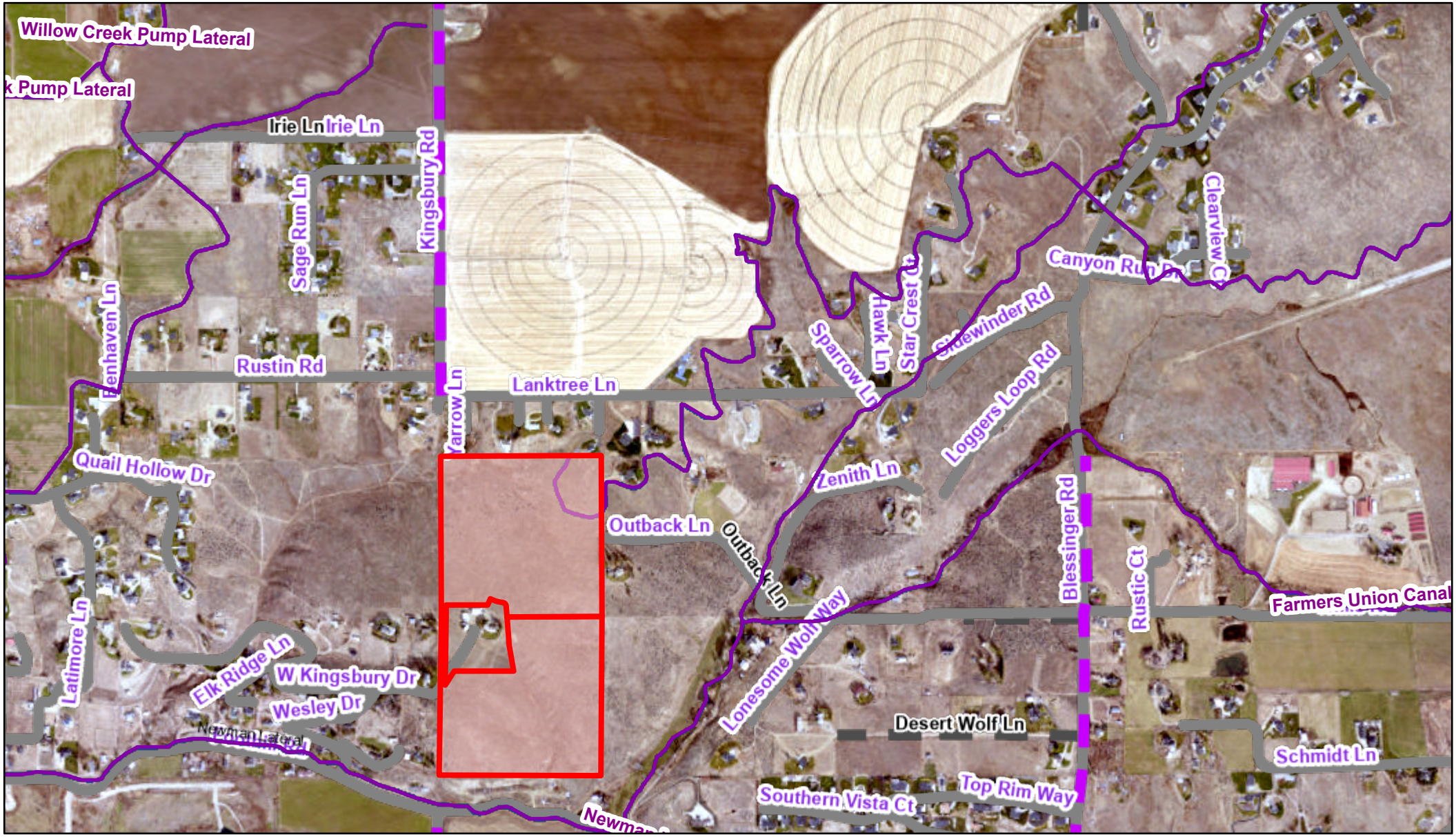
Canyon County, ID Web Map



6/27/2023, 9:58:13 AM

- Multiple Parcel Search _Query result
- Hydro_NHDFlowline
- Hydro_NHDFlowline
- CC_PrivateRoads

CanyonCountyRoads

- Roads

ITDFunctionalClassification

- Major Collector

Canyon County Imagery_2019

- Red: Band_1
- Green: Band_2
- Blue: Band_3

1:18,056

0 0.1 0.2 0.4 mi

0 0.17 0.35 0.7 km

Bureau of Land Management, State of Oregon, State of Oregon DOT, State of Oregon GEO, Esri Canada, Esri, HERE, Garmin, INCREMENT P, USGS, METI/NASA, EPA, USDA

Canyon County, ID

Bureau of Land Management, State of Oregon, State of Oregon DOT, State of Oregon GEO, Esri Canada, Esri, HERE, Garmin, INCREMENT P, USGS, METI/NASA, EPA, USDA | COMPASS | Nampa GIS | City of Nampa |

MASTER APPLICATION

CANYON COUNTY DEVELOPMENT SERVICES DEPARTMENT

111 North 11th Avenue, #140, Caldwell, ID 83605
www.canyonco.org/dsd.aspx Phone: 208-454-7458 Fax: 208-454-6633

PROPERTY OWNER	OWNER NAME: LWD. Development, INC
	MAILING ADDRESS: 210 E Murray Street, Boise 83714
	PHONE: 208-941-2688 EMAIL: nate.mitchell@ymail.com

I consent to this application and allow DSD staff / Commissioners to enter the property for site inspections. If owner(s) are a business entity, please include business documents, including those that indicate the person(s) who are eligible to sign.

Signature: Vice President *Date:* 1-12-2022

(AGENT) ARCHITECT ENGINEER BUILDER	CONTACT NAME: TODD LAKEY
	COMPANY NAME: BORTON-LAKEY
	MAILING ADDRESS: 141 E CARLTON AVE MERIDIAN, ID
	PHONE: 208-908-4415 EMAIL: todd@borton-lakey.com

SITE INFO	STREET ADDRESS: 7924 West Kingsbury Drive
	PARCEL #: A LOT SIZE/AREA: 72.18 AC
	LOT: BLOCK: SUBDIVISION:
	QUARTER: SW 1/4 SECTION: 35 TOWNSHIP: 5N RANGE: 2W
	ZONING DISTRICT: FLOODZONE (YES/NO): NO

HEARING LEVEL APPS	____CONDITIONAL USE	____COMP PLAN AMENDMENT	X CONDITIONAL REZONE
	X ZONING AMENDMENT (REZONE)	____DEV. AGREEMENT MODIFICATION	____VARIANCE > 33%
	____MINOR REPLAT	____VACATION	____APPEAL
	____SHORT PLAT SUBDIVISION	X PRELIMINARY PLAT SUBDIVISION	____FINAL PLAT SUBDIVISION

DIRECTORS DECISION APPS	____ADMINISTRATIVE LAND DIVISION	____EASEMENT REDUCTION	____SIGN PERMIT
	____PROPERTY BOUNDARY ADJUSTMENT	____HOME BUSINESS	____VARIANCE 33% >
	____PRIVATE ROAD NAME	____TEMPORARY USE	____DAY CARE
	____OTHER____		

CASE NUMBER: CR2022-0003 DATE RECEIVED: 3.4.22

RECEIVED BY: SD2022-0011 APPLICATION FEE: $3245 CK MO CC CASH

CL

SD $2010.00
CR $1,235.00
$3245.00

Revised 1/3/21

BORTON - LAKEY

~ *LAW AND POLICY* ~
141 E. Carlton Ave., Meridian, Idaho 83642
(208) 908-4415 (office) (208) 493-4610 (fax)

February 28, 2022

Canyon County Development Services
1115 Albany St.
Caldwell, ID 83605

RE: LWD Development, Inc. Conditional Rezone to R1 and Preliminary Plat

Dear Development Services:

I am writing on behalf of my client LWD Development, Inc. in support of our request that the property be conditionally rezoned from Agriculture "A" to "CR-1" Single Family Residential and that the county also approve the preliminary plat for the project. We are also proposing to execute a development agreement with the county which will include conditions regarding the development of the property. The subject property consists of approximately 72 acres and is located at the southern terminus of portion of Kingsbury Rd. that extends south from Purple Sage Rd. This property is part of an extended area of dry ground running along the top of the bluff North and East of Middleton. The subject property contains varying topography that has not been farmed. This rezone does not take farm ground out of production. Some of these lands have been used to graze cattle historically but not in the recent past. These dry rolling hills throughout the area have been developed into quality rural estate parcels.

My client is proposing to develop 46 residential estate lots on the subject property which yields a density of approximately 0.63 dwelling units (DU) per acre. The lot sizes range from 1 to 4.96 acres with most lots being between 1-1.5 acres in size. The project will have an HOA and CCR's that maintain the quality of the project and support larger custom built homes. This project will extend Kingsbury further to the south from Purple Sage Rd. to the edge of the applicant's property. This is a benefit to the highway district and the public. The project also provides further connectivity with the subdivision adjacent to the West. This will be a high end residential estate project with custom built homes that will fit well with the other homes in the residential developments adjacent to this project and in the immediate area. The property is located near the southern edge of the bluff that extends West to East in this area. The site contains varying topography and based on that topography the extension of Kingsbury Road does not follow the section line. In meeting with the neighbors, they also strongly preferred that the Kingsbury extension not follow the section line but meander through this new development. The highway district staff also viewed this approach favorably.

The character of the area consists of residential estate parcels. There are numerous very compatible acre plus residential development and estate type lots in the area. The County's Future Land Use Map designates the subject property for residential use. The subject property is also located in the area of impact for the City of Middleton. We met with the City and they did not object to our proposed rezone. The Future Land Use Map for the City of Middleton shows that the property is located within the large Residential designation area comprising the northern portion of the future land use map. There is existing RR and R-1 zoning in the area. Much of the existing RR was approved and developed under prior ordinances, some going back to the 1970's, when the RR zoning allowed one acre lots thus the smaller lot sizes in the 1-2 acre range in the nearby RR zoning. The Willowbrook conditional rezone to the North for CR-RR consists of 463 acres and allows two dwelling units per acre with community wells or city water. We are providing connectivity to the subdivision being developed adjacent to the west. This proposed rezone fits well with the character of the area. Our desire is to align with the county development on top of the bench and not to follow the higher density levels preferred by the City of Middleton and City of Star for residential uses. Our proposal is more consistent with the nearby Canyon County development and the higher density residential use under the city. This property is in the area that is specifically planned and designated by the County as the proper location for our proposed type of low-density residential growth to occur.

This proposal is strongly supported by the County's Comprehensive Plan. The County's Comprehensive Plan describes the purpose of the areas classified as "Residential" on the land use map as follows:

"The residential designation is a zone specifically set aside for residential development. A minimum lot size is established in order to accommodate a septic system and well on the same parcel."

The plan goes on to note that Impact Areas are negotiated between the City and County and are areas where growth outside city limits may occur.

The following goals and policies in the Canyon County 2020 Comprehensive Plan support the application.

PROPERTY RIGHTS

Goals:

1. Canyon County will ensure that land use policies, restrictions, conditions and fees do not violate private property rights or create unnecessary technical limitations on the use of property.

Policies:

1. No person shall be deprived of private property without due process of law.
8. Promote orderly development that benefits the public good and protects the individual with a minimum of conflict.

11. Property owners shall not use their property in a manner that negatively impacts upon the surrounding neighbors or neighborhoods.

POPULATION

Goals

Goal 1. Consider population growth trends when making land use decisions.

Goal 2. To encourage economic expansion and population growth throughout the county plus increase economic diversity for continued enhancement of our quality of life to meet citizen needs.

Goal 3. To guide future growth in order to enhance the quality and character of the county while providing and improving the amenities and services available to Canyon County residents.

This proposal is certainly at the low end of the planned density for the property. The area could develop into much higher density in the future as the cities of Middleton and Star grow and city services become available. Impact areas are appropriate for residential growth. In this case the City of Middleton has planned this property for residential development. The City of Star has planned the area for higher density residential and has approved annexation of property near the subject property. It is also worth noting that most development occurs in the city and involves small more dense development; however, not everyone wants to live on those smaller urban lots. There is a large demand for these larger sized parcels and this type of development is generally supported by the neighbors.

ECONOMIC DEVELOPMENT

Goals

5. To ensure that land use policies, ordinances and processes allow for a viably economic environment for development.

Policies

6. Encourage commercial and residential development in a controlled, planned, and constructive manner, which will enhance, not destroy, the existing lifestyle and environmental beauty of Canyon County.

LAND USE

The property is in the designated Residential area in the comprehensive plan. The Land Use component of the Comprehensive Plan specifically states the following:

"The residential designation is a zone specifically set aside for residential development."

"Residential development should be encouraged **in or near** Areas of City Impact or **within areas that demonstrate a development pattern of residential land uses."**

"Development close to urban areas where public utilities and central services are more accessible should be encouraged. **However, there are certain land use patterns that exist in the county that provide suitable residential development for a rural lifestyle."**

The Land Use Component of the Comprehensive Plan states that "residential development should be encouraged in or near Areas of City Impact or within areas that demonstrate a development pattern of residential land uses." As previously mentioned this property is in the area of impact of the City of Middleton. The area and immediate vicinity has experienced an extensive pattern of similar county approved lower density residential development. There are some agricultural uses in the area but with this property's rolling topography and lack of irrigation water rights most of the land like this property has historically remained in sage brush and may have been used for grazing but not agricultural production. The property around the subject property has been developed into residential uses per the residential zoning some area still in sage brush. This project will not present any negative impact on existing agricultural uses in the area as it is consistent with the character of the area. The nearest significant property in Ag use is the property to the north that is the subject property under the Willowbrook conditional rezone that allows up to two dwelling units per acre.

LAND USE

Goals

1. To provide for the orderly growth and accompanying development of the resources within the county that is compatible with the surrounding area.

5. Achieve a land use balance, which recognizes that existing agricultural uses and non-agricultural development may occur in the same area.

6. Designate areas where rural type residential development will likely occur and recognize areas where agricultural development will likely occur.

Policies

1. Review all residential, commercial and industrial development proposals to determine the land use compatibility and impact to surrounding areas.

2. Encourage orderly development of subdivisions and individual land parcels and require development agreements when appropriate.

This project is proposed in the area designated for Residential Uses. It is also in an Impact Area. Agricultural uses are no longer the planned use or priority for this property. The Agricultural provisions of the Land Use section of the Comprehensive Plan also note that residential and higher density development should occur in the impact areas. Although this is not higher density the area is appropriate for residential development of this type. We recognize that there are still agricultural operations being conducted in the area. The property to the north that is being farmed is the same property approved in the Willowbrook rezone for up to two dwelling units per acre via its CRR zoning and applicable development agreement. There are some agricultural operations to the south below the bench but there is also higher density city development proceeding in that area. The subject property is separated significantly from the city development and Ag uses to the south by the elevation related to the bluff. This property is on top of the bench and city services are not readily available and this project. The subject property is separated from and will not impact those remaining Ag operations below the bench. Idaho's right to farm laws protect those operations as they are lawfully conducted. The subject property has significant slopes in some areas and is not viable farm ground for crop production. It also has no irrigation water rights. It consists mostly of sage bush and has not been used to raise crops to our knowledge.

HOUSING

Goals

1. Encourage opportunities for a diversity of housing choices in Canyon County.

Policies

1. Encourage a variety of housing choices that meet the needs of families, various age groups and incomes.

As mentioned these will be larger high quality homes on larger parcels. The vast majority of growth in Canyon County is occurring within the various cities and is much smaller in size and more dense than our proposed rural estate parcels. The comprehensive plan recognizes that not everyone wants to live on a city sized urban lot. Canyon County is known for its more rural residential living opportunities. There remains a high demand and need for these types of acreage estate lots with a limited supply compared to demand. These acreage lots provide a diversity or variety of housing choices compared to all the urban higher density growth occurring in the cities. These higher value properties will provide needed tax revenue to support public services and generate less demand for services in light of their tax contribution compared to the higher density residential property that has a lower property value.

The subject property is located deep within the area designated for residential use. The county in its comprehensive plan has recognized that this area is more appropriate for

residential use – thus the residential designation. The property is in the impact area for the city of Middleton. The area has experienced significant residential growth and uses. The area also has historic and recent residential zoning – both R1 and RR in the area that generated similar lot sizes. The property is not farm ground and has not been in agricultural production. Based on the property's location in the impact area, that it is not farm ground, the county's residential designation for the area and the existing residential uses and zoning in the vicinity this proposed CR-1 zoning is more appropriate than the current A zoning designation for this property.

We are proposing a development agreement to accompany the conditional rezone. Our preliminary plat lays out the project. We are proposing to include the following conditions in the development agreement:

1. Comply with the applicable requirements of the federal, state and local agencies with jurisdiction.

2. The project on the Subject Property will be limited to 46 residential lots.

The proposed preliminary plat conforms with the requirements of the Canyon County subdivision ordinance. The subject property is not in the nitrate priority area. We will comply with the requirements of Southwest District Health (SWDH), the Highway District and Idaho Department of Water Resources (IDWR) regarding the development of this property. We have lots ranging in size from 1 acre to 4.96 acres in the plat. Therefore, we believe we have more than sufficient area on each lot to meet the requirements of SWDH for well and septic. Ultimately SWDH and the highway district have to approve and sign the final plat and this may result in a reduction in the number of lots.

I would respectfully request that the County approve my client's application for a conditional rezone to CR-1, a development agreement and a preliminary plat pertaining to the Subject Property which lies in the area designated and planned for residential development by the County.

Sincerely,

BORTON-LAKEY LAW AND POLICY

Todd M. Lakey

RECORDING REQUESTED BY AND
WHEN RECORDED MAIL TO:

THORNTON BYRON LLP
P.O. BOX 7156
BOISE, IDAHO 83707-1156

2021-085657
RECORDED
12/17/2021 08:53 AM
CHRIS YAMAMOTO
CANYON COUNTY RECORDER
Pgs=4 SCARDENAS $15.00
TYPE: DEED
THORNTON BYRON LLP
ELECTRONICALLY RECORDED

SPACE ABOVE THIS LINE FOR RECORDER'S USE ONLY

WARRANTY DEED
(Kingsbury Parcel A)

For Value Received, Richard M. Phillips, an unmarried man ("Grantor"), does hereby grant, bargain, sell and convey unto LWD Development, Inc., an Idaho corporation ("Grantee"), whose current address is 210 Murray Street, Boise, Idaho 83714, all of his right, title and interest in and to that certain real property located in Canyon County, Idaho, more particularly described on Exhibit A attached hereto and made a part hereof.

TO HAVE AND TO HOLD the said premises with its appurtenances unto Grantee and its heirs and assigns forever. And Grantor does hereby covenant to and with Grantee that Grantor is the owner in fee simple of the said premises; that the said premises is free from all encumbrances except the current year's taxes, levies and assessments, and except U.S. Patent reservations, restrictions, easements of record and easements visible upon the premises, and that Grantor will warrant and defend the same from all claims whatsoever.

IN WITNESS WHEREOF, Grantor has hereunto subscribed his name to this instrument effective the 16th day of December, 2021.

Grantor:

Richard M. Phillips

EXHIBIT A
LEGAL DESCRIPTION

A portion of the SW 1/4 of the SW 1/4 of Section 35, T.5N., R.2W. of Boise Meridian, Canyon County, Idaho and a portion of Government Lot 4 of Section 2, T.4N., R.2W. of the Boise Meridian, Canyon County, Idaho more particularly described as follows:

BEGINNING at a common corner of said Section 2 and said Section 35;

thence along the West boundary line of said Section 35 North 00°20'12" East, 1,317.87 feet to the S 1/16 corner of said Section 35;

thence along the North boundary line of said SW 1/4 of the SW 1/4 of Section 35 South 89°43'05" East, 1,320.81 feet to the SW 1/16 corner of said Section 35;

thence along the East boundary line of said SW 1/4 of the SW 1/4 of Section 35 South 00°18'55" West, 1,317.61 feet to the NE corner of said Government Lot 4 of Section 2;

thence along the East boundary line of said Government Lot 4 South 00°55'56" West, 1,303.61 feet to the SE corner of said Government Lot 4;

thence South boundary line of said Government Lot 4 North 89°15'01" West, 1,329.90 feet to the SW corner of said Government Lot 4;

thence along the West boundary line of said Government Lot 4 North 01°19'00" East, 1,292.62 feet to the **POINT OF BEGINNING.** Containing 79.47 acres, more or less.

EXCEPTING THEREFROM:

A portion of the SW 1/4 of the SW 1/4 of Section 35, T.5N., R.2W. of Boise Meridian, Canyon County, Idaho and a portion of Government Lot 4 of Section 2, T.4N., R.2W. of the Boise Meridian, Canyon County, Idaho more particularly described as follows:

Commencing at a common corner of said Section 2 and said Section 35;

thence along the West boundary line of said Section 35 North 00°20'12" East, 99.07 feet;

thence leaving said West boundary line South 89°37'39" East, 40.00 feet to the **REAL POINT OF BEGINNING;**

thence continuing South 89°37'39" East, 342.46 feet; thence

North 22°51'51" East, 54.33 feet;

thence 106.89 feet along the arc of a non-tangent curve to the left, said curve having a radius of 278.12 feet, a central angle of 22°01'17" and a long chord which bears South 72°59'21" East, 106.24 feet;

STATE OF IDAHO)
SS.
COUNTY OF ADA)

On this 16th day of December, 2021, before me, the undersigned Notary Public in and for the State of Idaho, personally appeared Richard M. Phillips, known or identified to me to be the person who executed the within and foregoing instrument, and acknowledged to me that he executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year in this certificate first above written.

NOTARY PUBLIC, State of Idaho
Residing at: Nampa, Idaho
Commission expires: November 13, 2025

thence 45.48 feet along the arc of said reverse curve to the right, said curve having a radius of 32.50 feet, a central angle of 80°10'20" and a long chord which bears South 43°54'50" East, 41.86 feet;

thence South 03°49'39" East, 311.37 feet;

thence 32.02 feet along the arc of curve to the left, said curve having a radius of 330.00 feet, a central angle of 05°33'32" and a long chord which bears South 06°36'26" East, 32.00 feet;

thence South 09°23'12" East, 185.38 feet;

thence South 10°03'06" East, 7.66 feet;

thence North 89°25'51" West, 488.90 feet;

thence South 33°28'05" West, 135.44 feet;

thence North 01°19'00" East, 555.19 feet to a point on the North boundary line of said Section 2;

thence North 00°20'12" East, 99.38 feet to the **REAL POINT OF BEGINNING.**
Containing 6.66 acres, more or less.

CONTAINING A NET OF 72.81 ACRES, MORE OR LESS.

SUBDIVISION WORKSHEET

CANYON COUNTY DEVELOPMENT SERVICES DEPARTMENT
111 North 11th Avenue, #140, Caldwell, ID 83605
www.canyonco.org/dsd.aspx Phone: 208-454-7458 Fax: 208-454-6633

GENERAL

1. **HOW MANY LOTS ARE YOU PROPOSING?**
   Residential 46 Non-buildable _____ Common 1

2. **AVERAGE LOT SIZE OF THE RESIDENTIAL PARCELS**
   52,471 SF ACRES

IRRIGATION

1. **IRRIGATION WATER IS PROVIDED VIA:** INDIVIDUAL WELLS
   ☒ Irrigation Well ☐ Surface Water

2. **WHAT PERCENTAGE OF THE PROPERTY HAS WATER?** _____%

3. **HOW MANY INCHES OF WATER ARE AVAILABLE TO PROPERTY?** _____

4. **HOW DO YOU PLAN TO RETAIN STORM AND EXCESS WATER ON EACH LOT?**

   _____

   _____

5. **HOW DO YOU PLAN TO PROCESS STORM WATER / EXCESS IRRIGATION WATER PRIOR TO IT ENTERING THE ESTABLISHED DRAINAGE SYSTEM?**

   _____

   _____

ROADS

1. **ROADS WITHIN THE DEVELOPMENT WILL BE:**
   ☒ Public ☐ Private ☐ N/A

*** Private Road names must be approved by the County and the private road application submitted with the Preliminary Plat***

HILLSIDE DEVELOPMENT

1. **OF THE TOTAL LOTS REQUESTED, HOW MANY OF THE LOTS WILL CONTAIN SLOPES GREATER THAN 15%?**
   Residential 30 Non-Buildable N/A Common Ø

2. **WILL THE PROPOSED ROAD (S) BE LOCATED WITHIN ANY AREA THAT HAS SLOPES GREATER THAN 15%?**
   ☐ YES ☒ NO

***If YES, a grading plan is required.**

SUBDIVISION WORKSHEET

CANYON COUNTY DEVELOPMENT SERVICES DEPARTMENT
111 North 11th Avenue, #140, Caldwell, ID 83605
www.canyonco.org/dsd.aspx Phone: 208-454-7458 Fax: 208-454-6633

SUBDIVISIONS WITHIN AN AREA OF CITY IMPACT

1. **WILL YOU BE REQUESTING WAIVERS OF SUBDIVISION IMPROVEMENT REQUIREMENTS FROM THE CITY?**
   [X] YES [ ] NO

2. **IF YES, WHICH WAIVERS WILL YOU BE REQUESTING?**
   [X] CURBS [X] GUTTERS [X] SIDEWALKS [X] STREETLIGHTS [X] LANDSCAPING

PRELIMINARY DEVELOPMENT PLAN / PRELIMINARY PLAT

CLOUD NINE ESTATES

A PARCEL OF LAND BEING LOCATED IN THE SW 1/4 OF SW 1/4 OF SECTION 35, T. 5N., R. 2W., BOISE MERIDIAN
CANYON COUNTY IDAHO
JULY 2021

NOTES:

- BENCHMARKS -

CONTROL POINT 5/8" IRON PIN
NORTHING: 9718.86
EASTING: 7620.20
ELEVATION: 2570.07

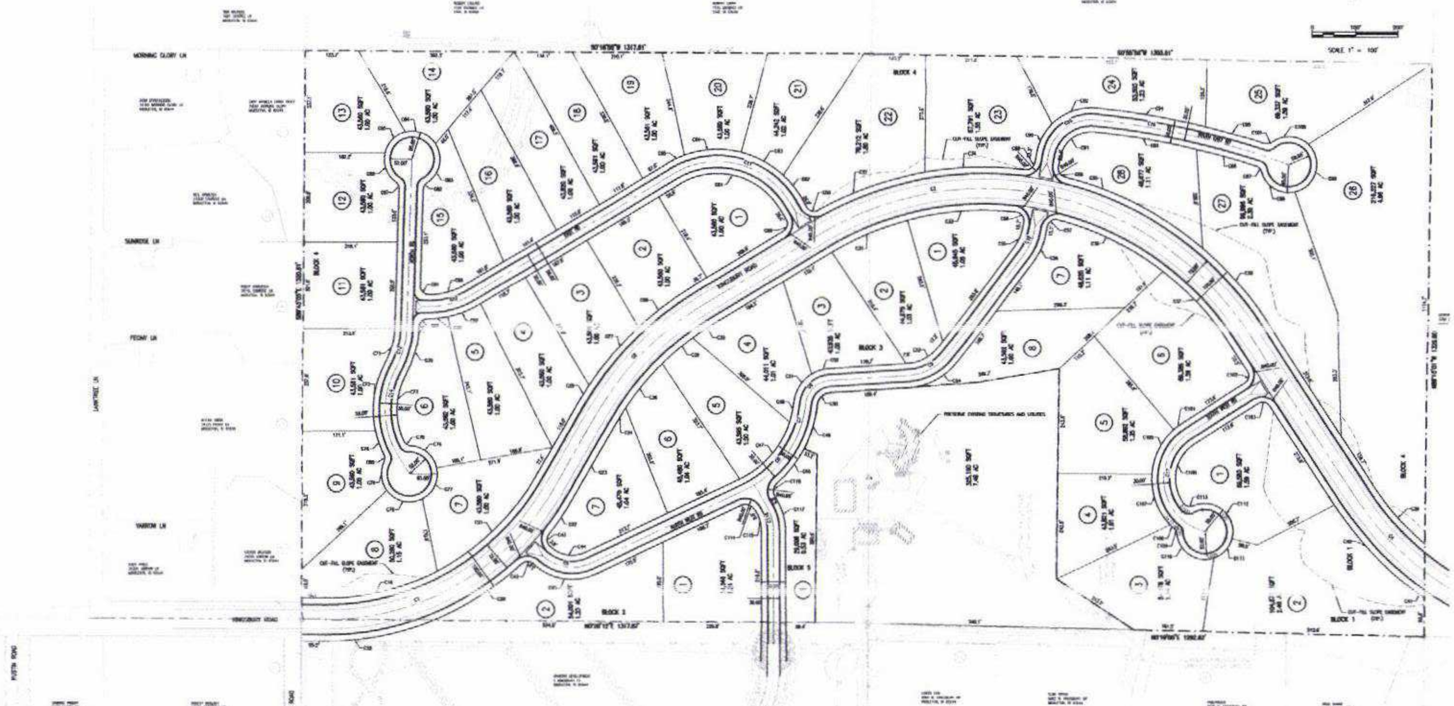
PRELIMINARY DEVELOPMENT FEATURES

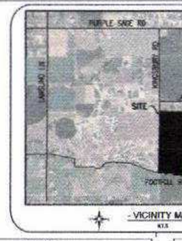
- LEGEND -

MANAGER

SURVEYOR

ENGINEER





Curve Table

Curve #	Length	Radius	Delta	CHORD BEARING	CHORD LENGTH
C1	644.48	610.18	060.5180	S39° 57' 02"E	614.54
C2	364.88	715.11	029.2410	S45° 35' 17"E	361.01
C3	1132.25	738.21	088.1178	S13° 05' 39"W	1023.83
C4	248.91	710.68	019.8050	S47° 13' 03"W	245.67
C5	118.32	100.00	067.7927	S08° 43' 31"W	111.54
C6	160.68	250.12	036.8075	S43° 34' 29"E	157.93
C7	96.13	250.12	022.0214	S72° 59' 21"E	95.54
C8	84.88	60.30	080.1723	S43° 34' 30"E	77.92
C9	104.57	122.00	049.1082	S28° 22' 34"E	101.39
C10	58.01	125.00	026.5902	S66° 13' 31"E	57.49
C11	314.16	200.00	090.0000	S14° 01' 57"W	282.84
C12	113.76	200.00	032.5907	S14° 40' 20"E	112.24
C13	94.67	200.03	027.1164	S74° 48' 04"E	93.78
C14	197.84	200.00	056.6758	N89° 45' 00"W	189.87
C15	148.48	100.00	085.0705	S36° 50' 27"E	135.21
C16	462.15	1800.00	014.7108	S12° 54' 00"W	460.88
C17	291.66	125.00	133.6868	S80° 18' 35"W	229.85
C18	276.34	560.00	028.3000	S14° 15' 55"E	274.16
C19	258.27	655.57	022.5731	S10° 53' 56"E	256.60
C20	244.50	660.19	021.2267	S37° 43' 08"E	243.19
C21	320.80	560.19	032.8113	S43° 40' 24"E	316.44
C22	101.41	660.47	008.7973	S65° 40' 31"E	101.31
C23	193.39	9328759.65	000.0012	S60° 17' 31"E	193.39
C24	48.80	665.11	004.2900	N58° 03' 40"W	48.78
C25	52.43	765.11	003.9261	S58° 14' 44"E	52.42
C26	133.70	667.60	011.4802	S50° 09' 25"E	133.54
C27	177.38	765.11	013.2741	S49° 38' 44"E	176.98
C28	180.79	784.36	013.0508	N38° 59' 17"W	180.40
C29	82.23	663.66	007.0577	S40° 25' 34"E	82.15
C30	63.66	665.11	005.4837	N53° 47' 34"W	63.63
C31	190.02	686.07	015.8227	S37° 07' 05"E	189.41
C32	264.72	786.21	019.2915	S18° 41' 13"E	263.47
C33	256.83	686.21	021.4440	S04° 27' 47"E	250.33
C34	234.67	786.21	017.1016	S01° 29' 34"E	233.80
C35	363.88	786.12	026.5076	S27° 08' 22"W	360.46
C36	273.67	686.19	022.8764	S26° 00' 37"W	272.16
C37	235.57	664.21	019.6888	S17° 17' 57"W	234.41
C38	229.96	786.21	016.7585	S48° 46' 18"W	229.14
C39	181.38	690.08	015.7302	N49° 27' 35"E	180.82
C40	204.28	760.68	015.9059	N47° 12' 03"E	202.85
C41	36.37	760.68	002.7392	S38° 52' 42"W	36.36
C42	30.00	20.00	085.9534	N00° 21' 18"W	27.27
C43	30.00	20.00	085.9534	S85° 35' 54"W	27.27
C44	85.19	72.00	067.7927	S08° 43' 31"W	80.31
C45	151.17	128.00	067.6651	S08° 39' 42"W	142.53
C46	89.33	278.12	018.4038	S52° 46' 38"E	88.95
C47	181.73	222.12	046.8760	N48° 36' 32"W	176.70

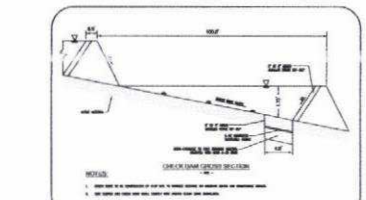
Curve Table

Curve #	Length	Radius	Delta	CHORD BEARING	CHORD LENGTH
C48	46.34	222.12	011.9530	N78° 01' 24"W	46.25
C49	106.86	278.12	022.0214	S72° 59' 21"E	106.24
C50	45.48	32.50	085.1723	S43° 34' 30"E	41.86
C51	81.27	88.50	052.6182	N67° 41' 27"W	78.45
C52	42.56	88.50	027.5541	S17° 36' 17"E	42.15
C53	80.57	94.00	049.1082	N08° 22' 54"W	78.12
C54	128.56	150.00	049.1082	S08° 22' 54"E	124.67
C55	45.02	97.00	026.5902	N80° 13' 31"W	44.61
C56	71.01	153.00	026.5902	S80° 13' 31"E	70.37
C57	32.86	20.00	094.1317	S32° 27' 38"E	29.29
C58	32.86	20.00	094.1317	S53° 24' 29"W	29.29
C59	30.85	20.00	085.3652	N14° 50' 58"E	27.88
C60	31.42	20.00	089.9995	S70° 58' 04"E	28.28
C61	270.18	173.00	090.0000	N14° 01' 57"E	243.34
C62	96.51	208.00	018.7143	N50° 40' 31"E	96.35
C63	112.56	228.00	028.2857	S28° 10' 31"W	111.42
C64	134.08	228.00	033.6225	S03° 00' 08"E	132.65
C65	43.95	226.00	011.0540	[illegible]	43.87
C66	91.70	172.00	030.5456	N15° 41' 41"W	90.61
C67	92.36	229.20	020.5955	S21° 57' 36"E	91.84
C68	47.85	228.00	012.0256	S05° 38' 30"E	47.77
C69	30.98	19.99	089.8252	N44° 00' 13"W	27.97
C70	107.30	228.00	026.9651	N74° 57' 38"W	106.32
C71	82.26	172.00	027.3883	N75° 08' 33"W	81.48
C72	162.85	228.00	040.8243	S81° 52' 20"E	159.41
C73	160.27	172.00	053.3866	N88° 06' 24"W	154.54
C74	58.53	228.00	014.6578	S70° 20' 06"W	58.17
C75	21.35	20.00	061.1556	N34° 37' 15"E	20.35
C76	83.50	85.00	073.6014	N40° 50' 38"E	77.87
C77	84.52	85.00	074.5044	S80° 06' 12"E	78.88
C78	92.71	65.00	081.7235	S13° 00' 38"W	85.05
C79	96.46	85.00	065.5435	S84° 06' 30"W	85.53
C80	18.66	20.00	053.0829	N80° 00' 00"W	18.19
C81	31.71	20.00	090.8438	N45° 00' 00"E	28.49
C82	18.41	20.00	052.6161	S80° 34' 04"E	[illegible]
C83	102.38	85.00	069.2583	N07° 53' 03"W	92.12
C84	80.58	85.00	071.0753	S21° 20' 07"W	75.97
C85	71.32	65.00	062.8704	S40° 37' 34"E	67.80
C86	76.12	65.00	067.1007	N80° 33' 18"E	71.85
C87	19.41	20.00	055.6581	N62° 46' 51"E	18.66
C88	30.22	20.00	086.5867	N38° 13' 37"W	27.43
C89	30.22	20.00	086.5867	S57° 10' 50"W	27.43
C90	78.65	128.00	034.8378	N62° 03' 25"W	76.85
C91	106.90	72.00	085.0705	S36° 59' 27"E	97.35
C92	117.00	128.00	050.1326	S19° 31' 18"E	108.46
C93	242.52	1772.00	007.8415	S59° 27' 55"W	242.33
C94	257.54	1828.00	008.0721	N02° 34' 30"E	257.33

Curve Table

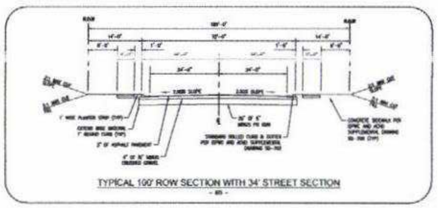
Curve #	Length	Radius	Delta	CHORD BEARING	CHORD LENGTH
C95	141.49	1828.00	004.4347	S15° 50' 03"W	141.45
C96	142.44	1772.00	004.6056	S15° 41' 20"W	142.41
C97	18.81	20.00	056.7575	S46° 27' 14"W	18.01
C98	98.01	65.00	087.2750	N31° 06' 41"E	88.71
C99	140.38	65.00	123.7492	N34° 23' 58"W	114.65
C100	90.98	65.00	080.1983	S82° 27' 36"W	83.74
C101	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
C102	31.42	20.00	089.9978	N77° 50' 55"W	28.28
C103	31.41	20.00	089.9966	N12° 08' 55"E	28.28
C104	23.75	153.00	008.8936	S37° 17' 40"E	23.72
C105	117.82	153.00	044.0481	N63° 46' 00"W	114.75
C106	155.40	97.00	091.7914	S78° 44' 44"E	139.31
C107	128.44	153.00	048.0985	S70° 08' 34"W	124.70
C108	13.48	153.00	005.0483	S43° 38' 04"W	13.48
C109	14.99	20.00	042.9452	S62° 35' 50"W	14.64
C110	116.37	65.00	102.5881	N32° 42' 52"E	101.44
C111	64.31	65.00	056.6819	N48° 55' 18"W	61.72
C112	145.77	85.00	128.4926	S48° 28' 10"W	117.69
C113	27.62	20.00	079.1190	N15° 47' 58"E	25.48
C114	39.74	27.00	084.3222	N18° 50' 25"E	36.25
C115	38.77	72.00	030.8487	N74° 34' 30"E	38.30
C116	53.84	100.00	030.8487	N74° 34' 30"E	53.19
C117	69.02	128.00	030.8487	N74° 34' 30"E	68.09
C118	37.52	27.00	079.6153	S87° 02' 38"E	34.57

BEFORE DIGGING, CALL DIGLINE AT 1-800-342-1585

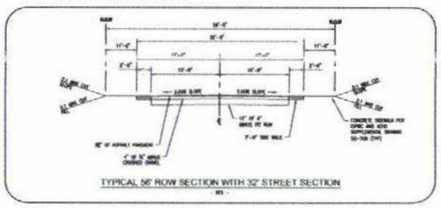


CHECK DAM GRADE SECTION

NOTES:



TYPICAL 100' ROW SECTION WITH 34' STREET SECTION



TYPICAL 56' ROW SECTION WITH 32' STREET SECTION

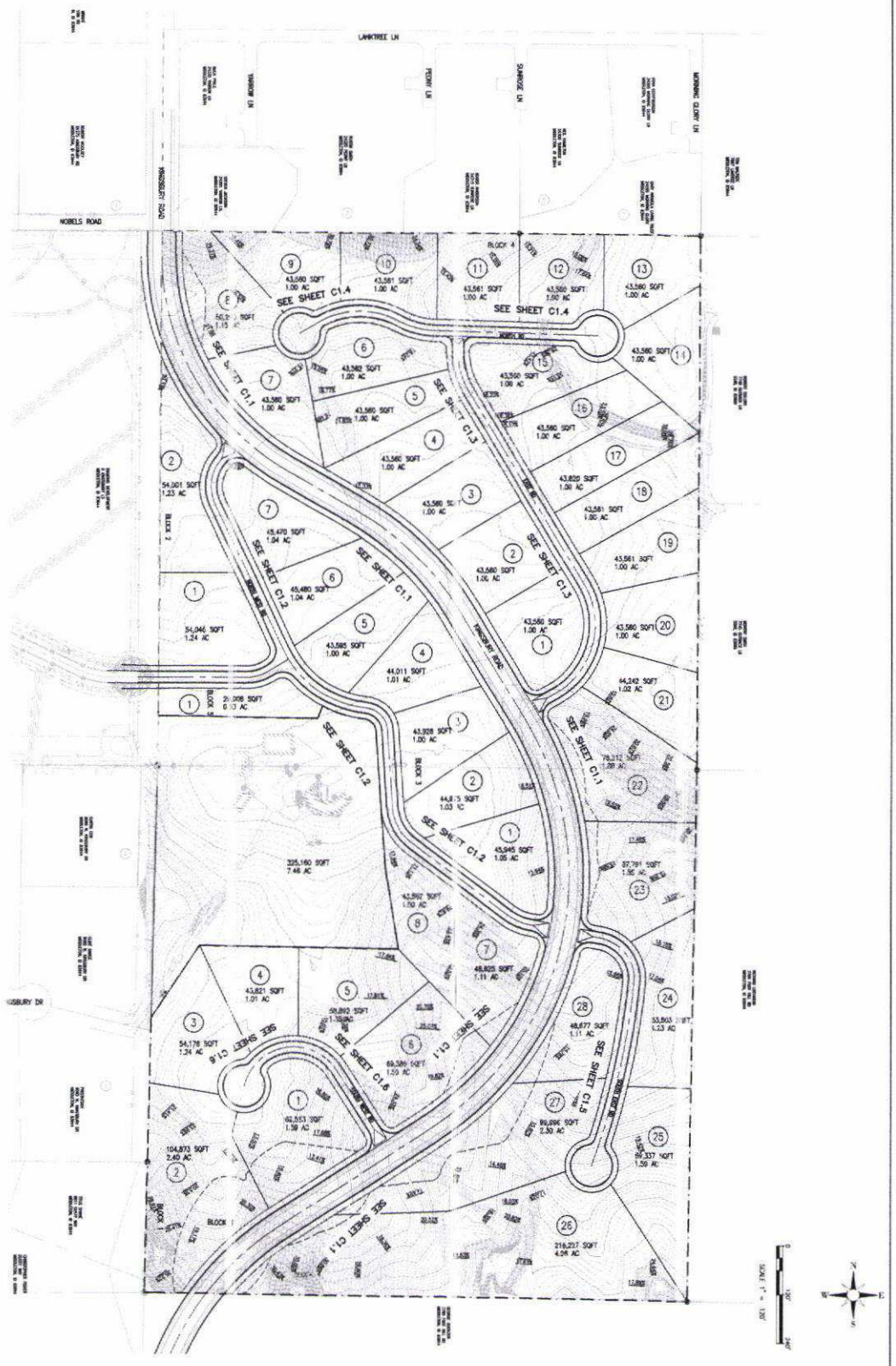
PRELIMINARY PLAT FOR
CLOUD NINE ESTATES

CK ENGINEERING

LOT DIMENSION
PLAN VIEW

SHEET

P1.0



BEFORE DIGGING, CALL DIGLINE AT 1-800-342-1585

SHEET C1.0

CK ENGINEERING
1300 E. STATE ST., SUITE 102
EAGLE, ID 83616
PHONE 208-939-1992

DRAWN BY: MB
CHECKED BY: CSK
DATE: 06/18/21
FILE: CHISBURY RD SUBD_8-5-21_CUT_FILL_EX.DWG
DIR: J:\CAD\CHISBURY RD SUBDIVISION\PLAT\CUT-FILL EXHIBIT

CUT–FILL EXHIBIT
PLAN VIEW

CLOUD NINE ESTATES
MIDDLETON, CANYON COUNTY, IDAHO

REVISIONS:

LOTS WITH 15% OR GREATER GRADE

BLOCK 1: 1, 2, 5, 6, 7, 8

BLOCK 2: 2

BLOCK 3: 1, 2 ,7

BLOCK 4: 4, 5, 6, 7, 8, 9, 10, 11, 12, 15, 16, 17, 21, 22, 23, 24, 25, 26, 27, 28

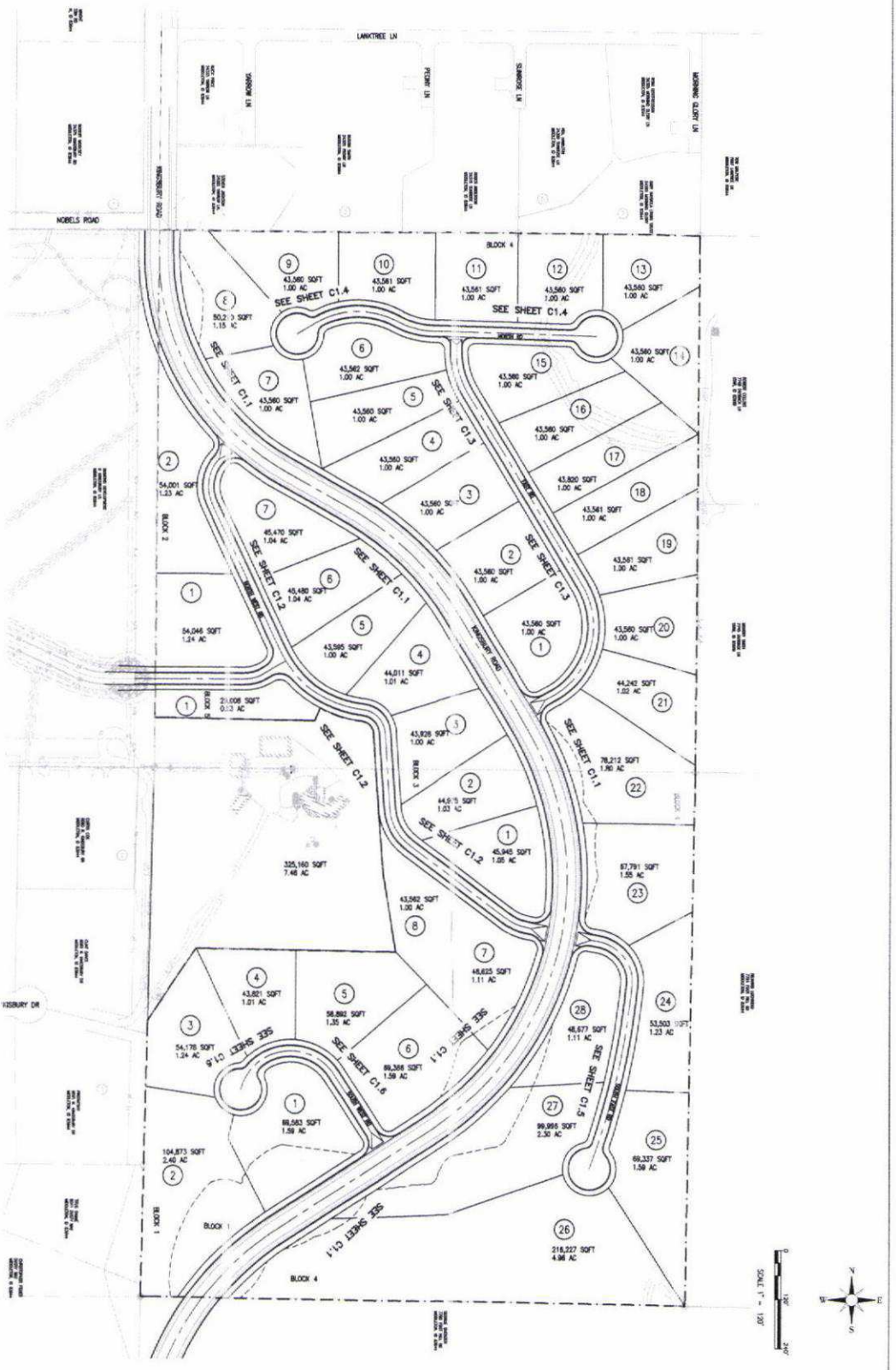
BLOCK 5: NONE

TOTAL: 30

LOT SLOPE EXHIBIT

DRAWN BY: AKB
CHECKED BY: CSK
DATE: 01/ 2/22
FILE: KINGSBURY RD 100FT ROW -9-21_CUT_FILL_EXLDWG
DIR:

CK ENGINEERING
1300 E. STATE ST., SUITE 102
EAGLE, ID 83616
PHONE 208-639-1992



BEFORE DIGGING, CALL DIGLINE AT 1-800-342-1585

SHEET C1.0

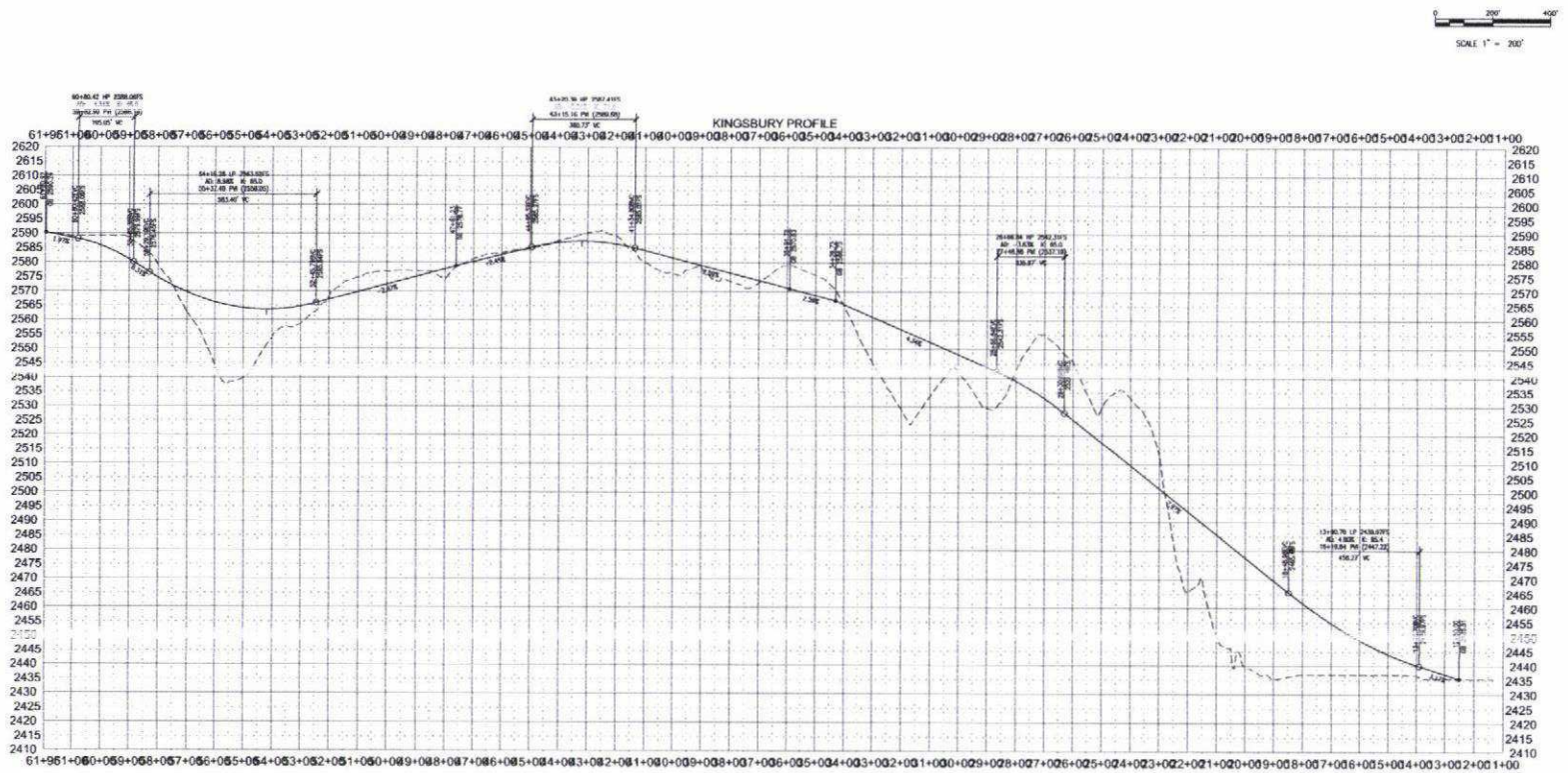
CK ENGINEERING
1300 E. STATE ST., SUITE 102
EAGLE, ID 83616
PHONE 208-639-1993

DRAWN BY: MRB
CHECKED BY: CSK
DATE: 09/16/21
FILE:
DIR:

CUT-FILL EXHIBIT
PLAN VIEW

CLOUD NINE ESTATES
MIDDLETON, CANYON COUNTY, IDAHO

REVISIONS:



BEFORE DIGGING, CALL DIGLINE AT 1-800-342-1585

REVISIONS:

CLOUD NINE ESTATES
MIDDLETON, CANYON COUNTY, IDAHO

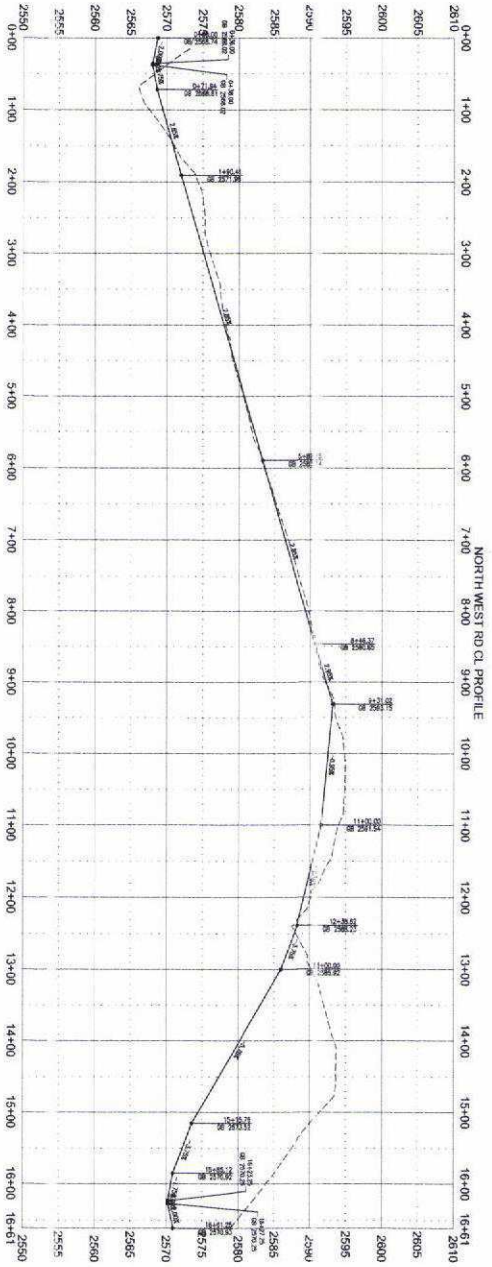
KINGSBURY ROAD
PROFILE

CX ENGINEERING
1300 E. [illegible] STE 102
EAGLE, ID 83616
PHONE: 208-939-1982

DRAWN BY: MB
CHECKED BY: JSK
DATE: 8.30.21
FILE: [illegible]
DIR: [illegible]

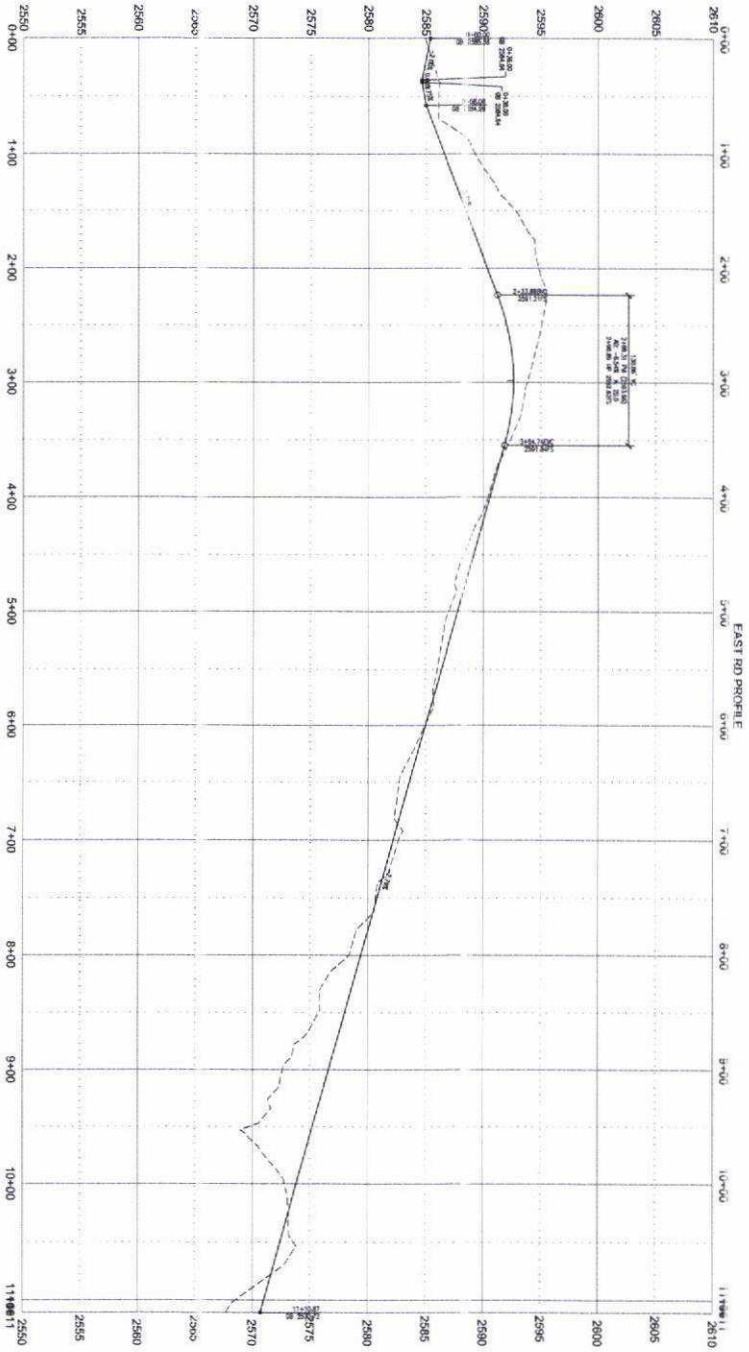
IDAHO
9412
10/9/21
CHAD D. KNEELAND

SHEET
C1.1



BEFORE DIGGING, CALL DIGLINE AT 1-800-342-1585

SHEET C1.2	**CK ENGINEERING** 1300 E. STATE ST., SUITE 102 EAGLE, ID 83616 PHONE 208-938-1992 DRAWN BY: MSR CHECKED BY: CSK DATE: 9/10/21 FILE: [illegible] DIR: [illegible]	NORTHWEST ROAD PROFILE	CLOUD NINE ESTATES MIDDLETON, CANYON COUNTY, IDAHO	REVISIONS:



SCALE 1" = 50'

BEFORE DIGGING, CALL DIGLINE AT 1-800-342-1585

SHEET C1.3

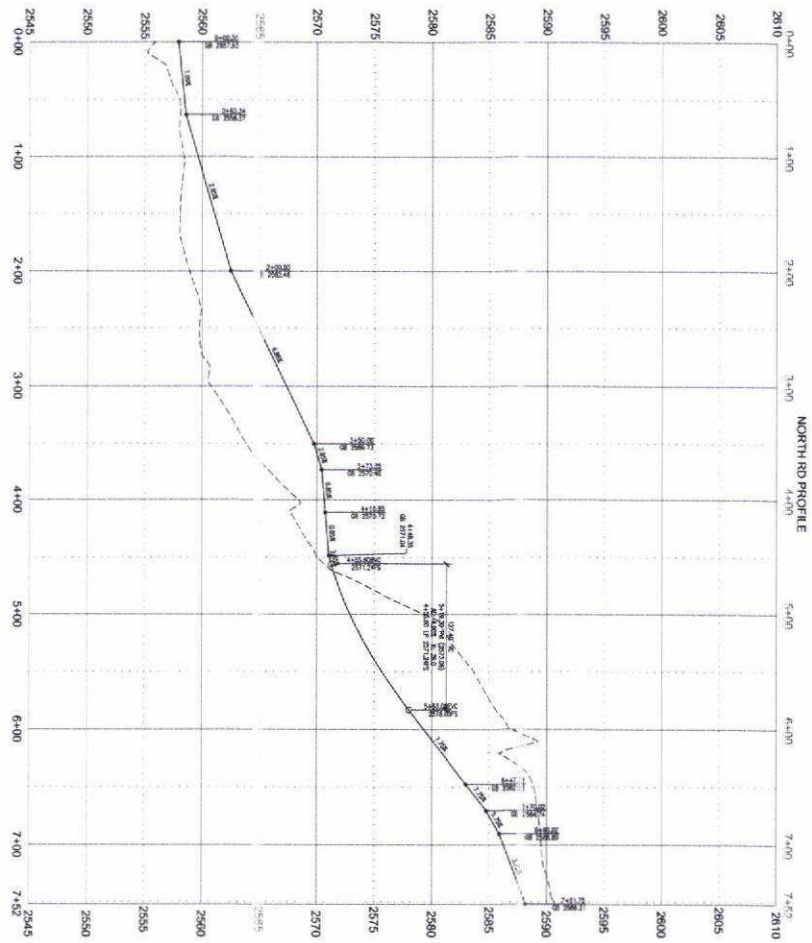
CK ENGINEERING
1300 E. STATE ST., SUITE 102
EAGLE, ID 83616
PHONE 208-939-1992

DRAWN BY: MB
CHECKED BY: CSK
DATE: 5/19/21
FILE:
DIR:

EAST ROAD PROFILE

CLOUD NINE ESTATES
MIDDLETON, CANYON COUNTY, IDAHO

REVISIONS:



SCALE: 1" = 50'

BEFORE DIGGING, CALL DIGLINE AT 1-800-342-1585

SHEET C1.4

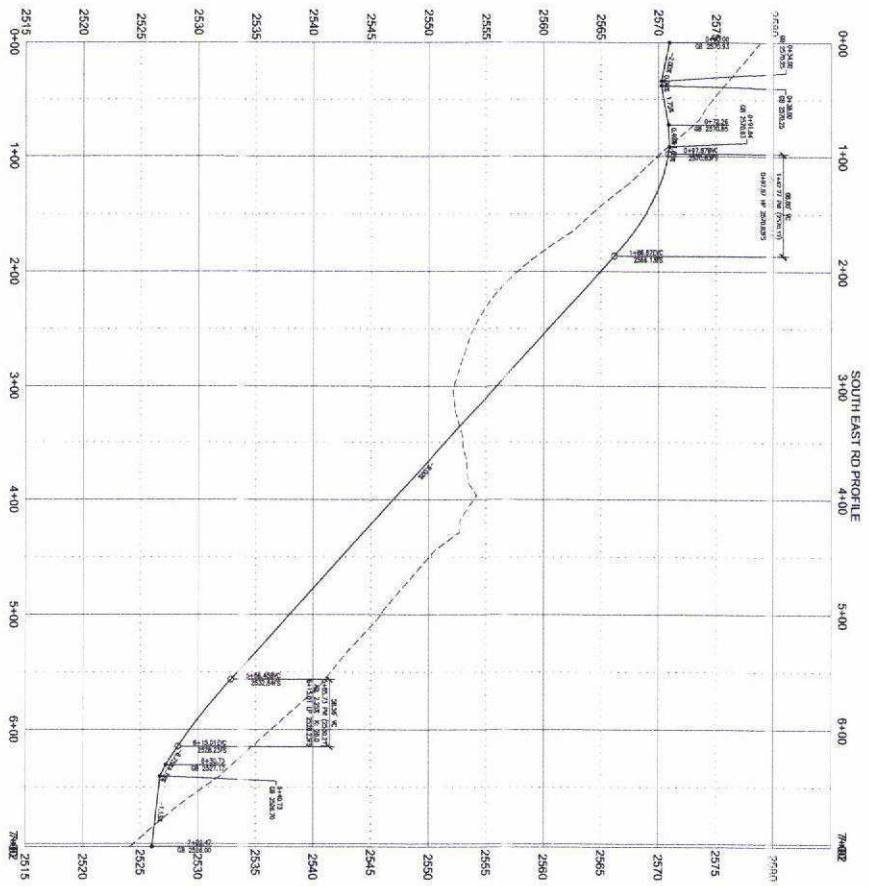
CK ENGINEERING
1300 E. STATE ST., SUITE 102
EAGLE, ID 83616
PHONE 208-939-1992

DRAWN BY: MB
CHECKED BY: CK
DATE: 8/16/21
FILE:
DIR:

NORTH ROAD PROFILE

CLOUD NINE ESTATES
MIDDLETON, CANYON COUNTY, IDAHO

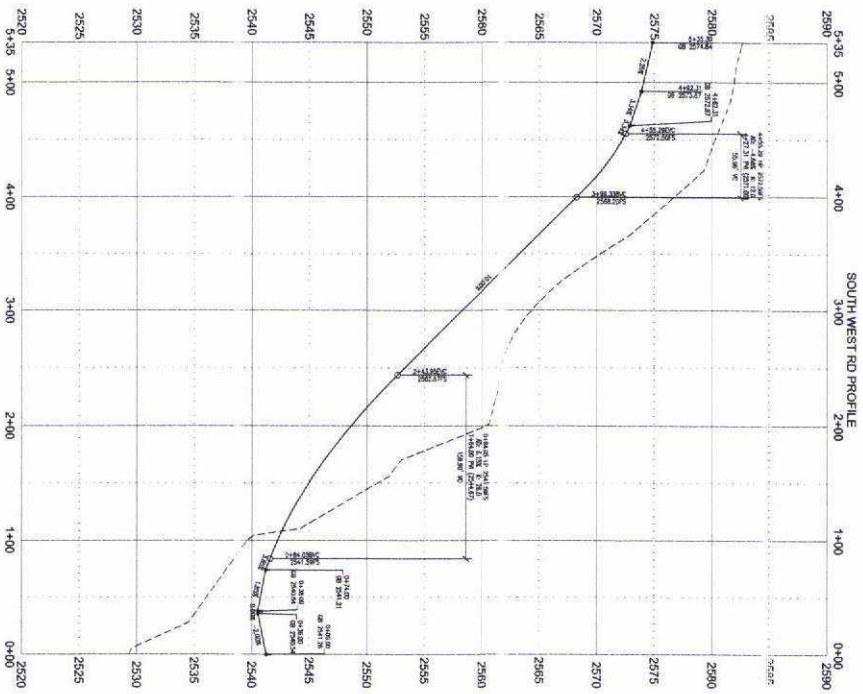
REVISIONS:



SCALE: 1" = 50'

BEFORE DIGGING, CALL DIGLINE AT 1-800-342-1585

SHEET C1.5	**CK ENGINEERING** 1300 E. STATE ST., SUITE 102 EAGLE, ID 83616 PHONE: 208-639-1992 DRAWN BY: MB CHECKED BY: CK DATE: 9/10/21 FILE: [illegible] DIR: [illegible]	SOUTHEAST ROAD PROFILE	CLOUD NINE ESTATES MIDDLETON, CANYON COUNTY, IDAHO	REVISIONS:



SCALE 1" = 50'

BEFORE DIGGING, CALL DIGLINE AT 1-800-342-1585

SHEET C1.6	9412	CK ENGINEERING 1500 E. STATE ST., SUITE 102 EAGLE, ID 83616 PHONE 208-639-1992 DRAWN BY: AKB CHECKED BY: SBL DATE: 9/15/21 FILE: DIR:	SOUTHWEST ROAD PROFILE	CLOUD NINE ESTATES MIDDLETON, CANYON COUNTY, IDAHO	REVISIONS:

LOTS WITH 15% OR GREATER GRADE

BLOCK 1: 1, 2, 5, 6, 7, 8

BLOCK 2: 2

BLOCK 3: 1, 2 ,7

BLOCK 4: 4, 5, 6, 7, 8, 9, 10, 11, 12, 15, 16, 17, 21, 22, 23, 24, 25, 26, 27, 28

BLOCK 5: NONE

TOTAL: 30

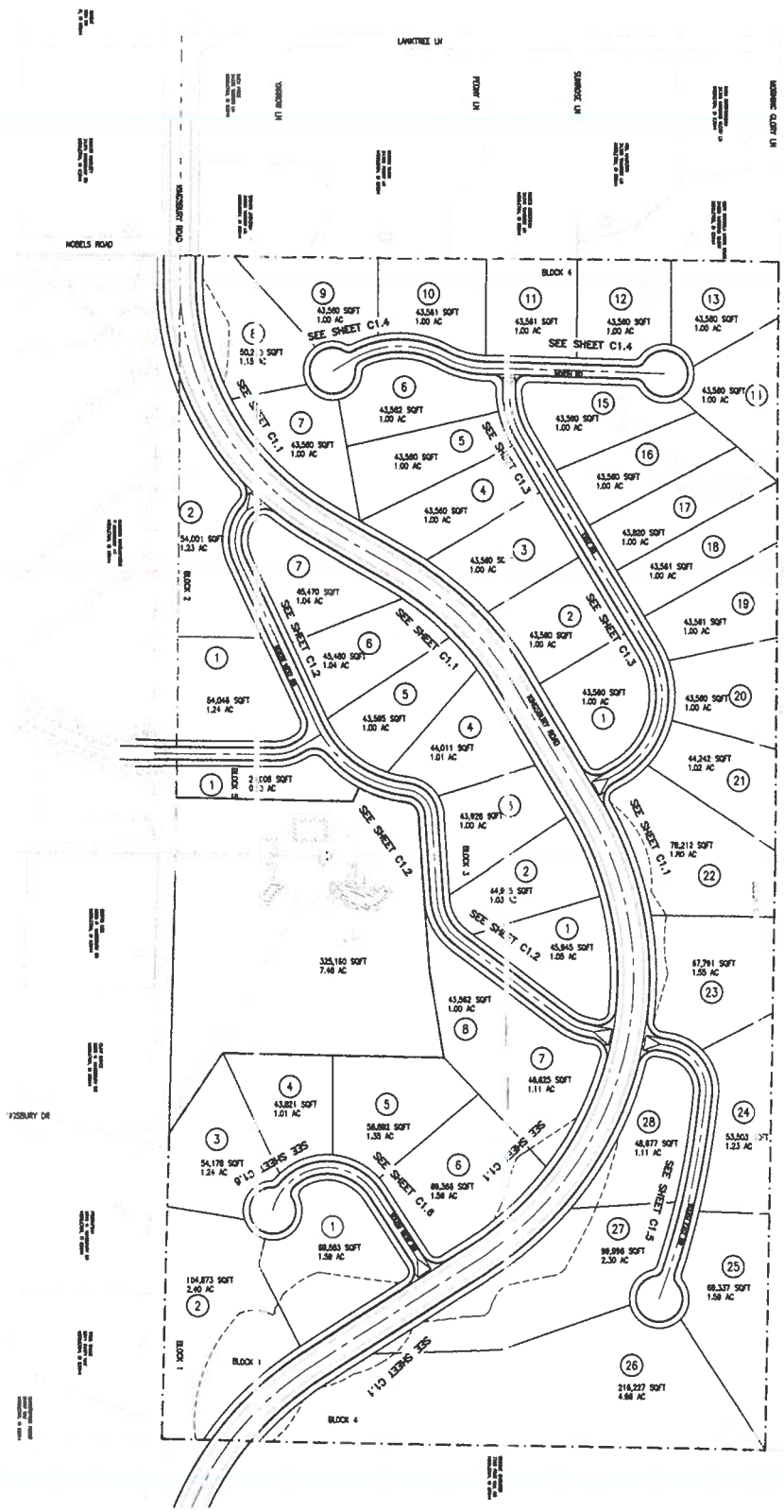
LOT SLOPE EXHIBIT

DRAWN BY: AKB
CHECKED BY: CSK
DATE: 01/ 2/22
FILE: KINGSBURY RD 100FT ROW, I-B-21_CUT_FILL_EXLOWE
DIR:

CK ENGINEERING
1300 E. STATE ST., SUITE 102
EAGLE, ID 83616
PHONE 208-639-1992

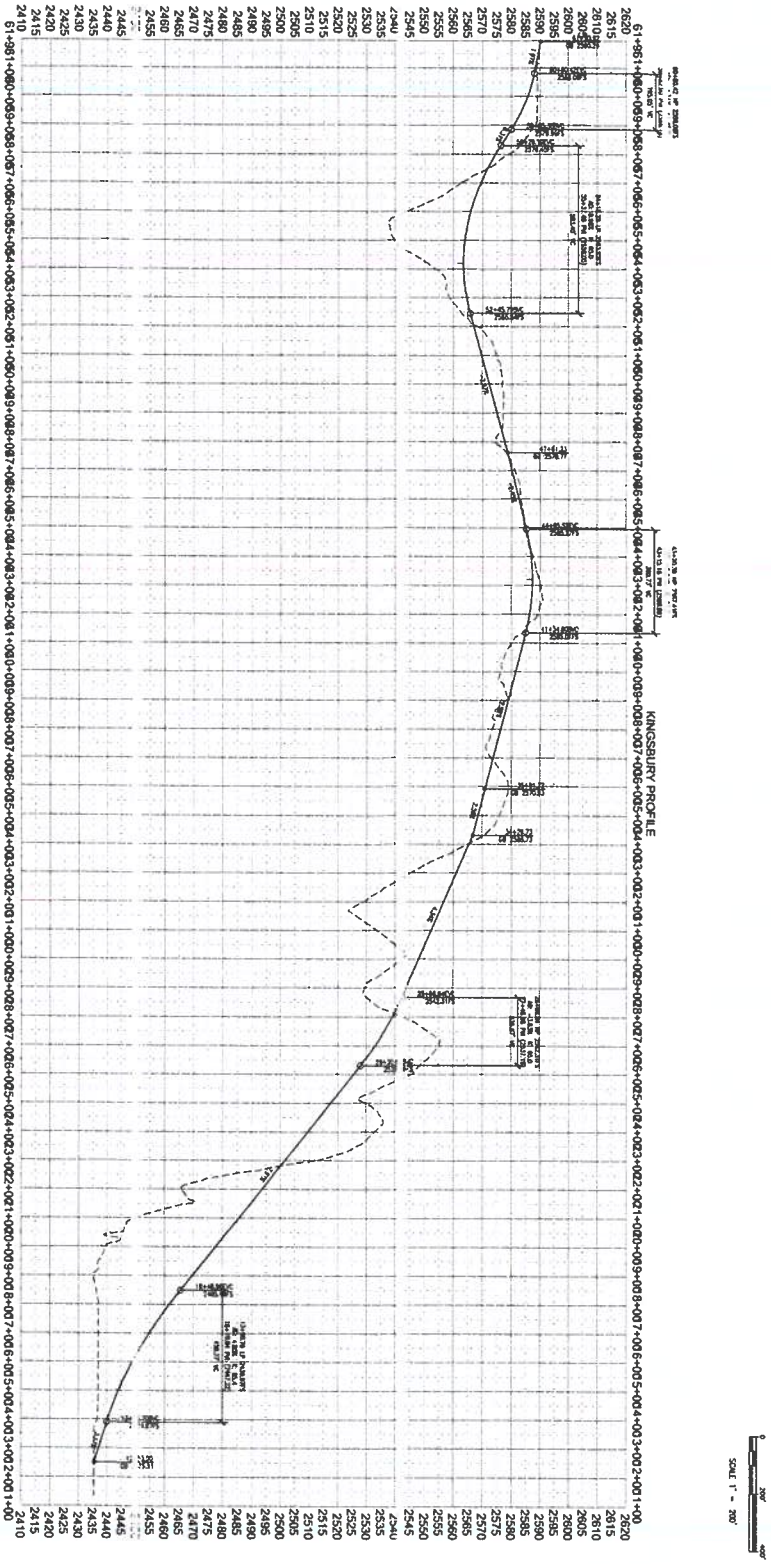
SCANNED

Initial: Date:



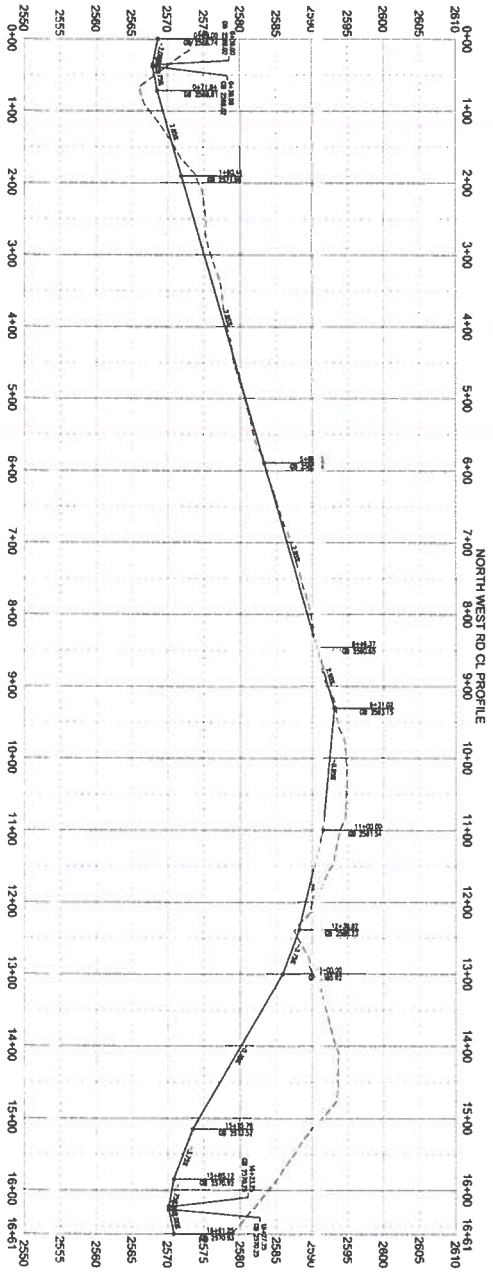
BEFORE DIGGING, CALL DIGLINE AT 1-800-342-1585

SHEET				
C1.0		**CK ENGINEERING** 1300 E. STATE ST., SUITE 122 EAGLE, ID 83616 PHONE 208-938-1992 DRAWN BY: AKB CHECKED BY: CSK DATE: 09/30/21 FILE: [illegible] DIR: [illegible]	CUT-FILL EXHIBIT PLAN VIEW	CLOUD NINE ESTATES MIDDLETON, CANYON COUNTY, IDAHO	REVISIONS:



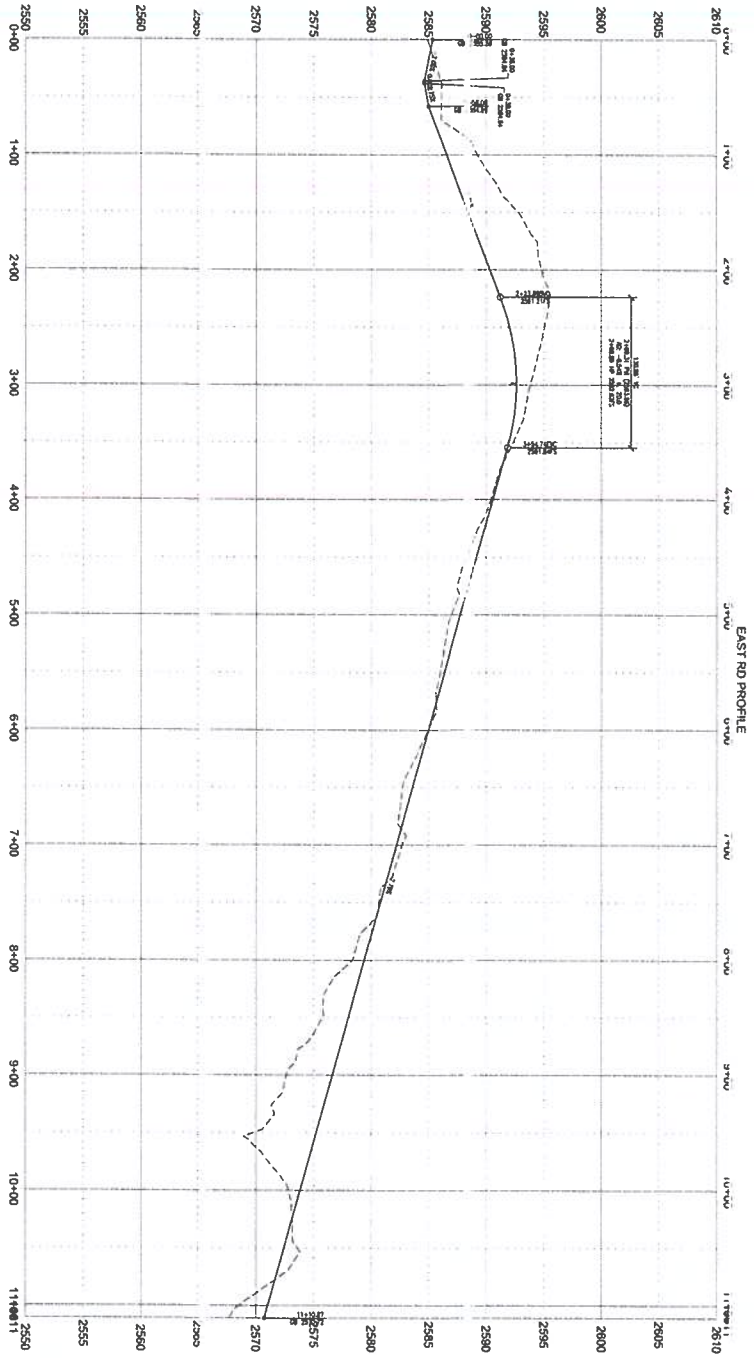
BEFORE DIGGING, CALL DIGLINE AT 1-800-342-1585

SHEET C1.1	CK ENGINEERING 1300 E. STATE ST., SUITE 102 EAGLE, ID 83616 PHONE 208-939-1992 DRAWN BY: CHECKED BY: DATE: FILE: DIR:	KINGSBURY ROAD PROFILE	CLOUD NINE ESTATES MIDDLETON, CANYON COUNTY, IDAHO	REVISIONS:



BEFORE DIGGING, C ALL DIGLINE AT 1-800-342-1585

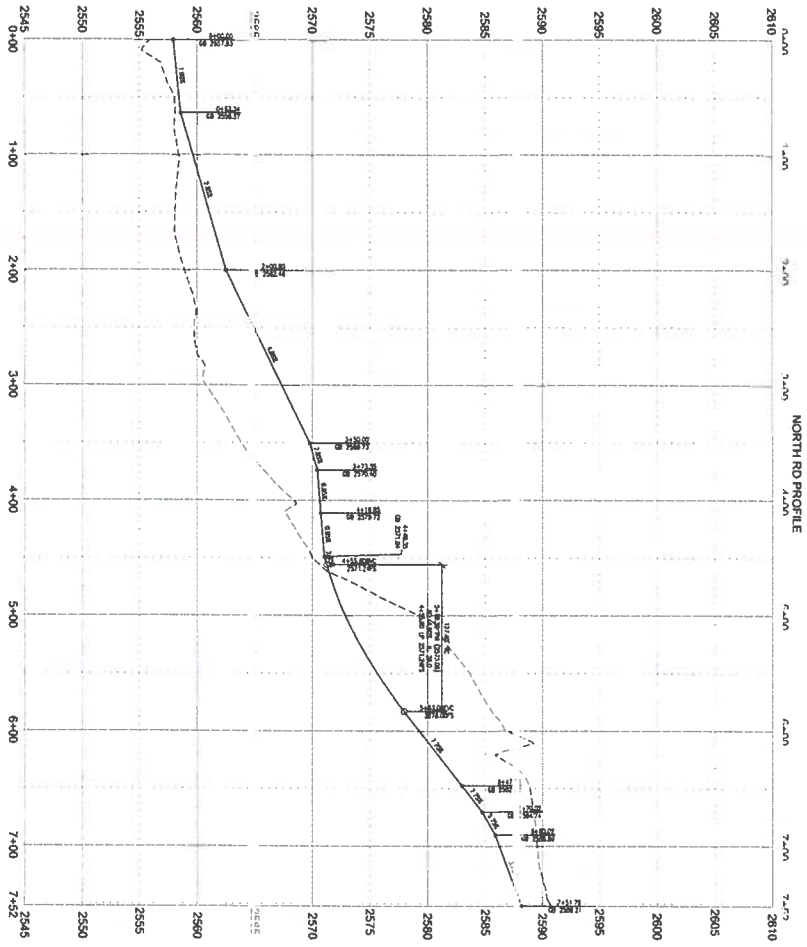
SHEET C1.2	CK ENGINEERING 1300 E. STATE ST., SUITE 102 EAGLE, ID 83616 PHONE 208-938-1992 DRAWN BY: MCR CHECKED BY: CBK DATE: 8/10/21 FILE:	NORTHWEST ROAD PROFILE	CLOUD NINE ESTATES MIDDLETON, CANYON COUNTY, IDAHO	REVISIONS:



SCALE: 1" = 50'

BEFORE DIGGING, CALL DIGLINE AT 1-800-342-1585

SHEET C1.3	9412	CK ENGINEERING 1300 E. STATE ST., SUITE 102 EAGLE, ID 83616 PHONE 208-938-1992 DRAWN BY: ___ CHECKED BY: CSK DATE: 9/10/21 FILE: ___ DIR: ___	EAST ROAD PROFILE	CLOUD NINE ESTATES MIDDLETON, CANYON COUNTY, IDAHO	REVISIONS:

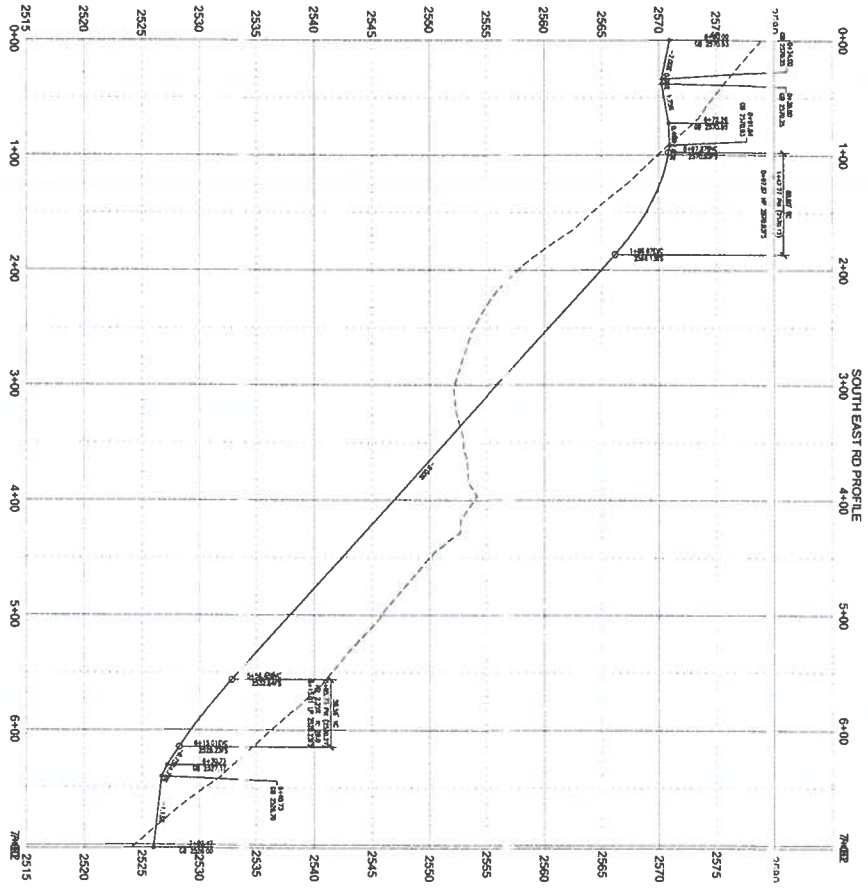


SCALE 1" = 50'

BEFORE DIGGING, CALL DIGLINE AT 1-800-342-1585

SHEET C1.4	CK ENGINEERING 1300 E. STATE ST., SUITE 102 EAGLE, ID 83616 PHONE 208-939-1992 DRAWN BY: MB CHECKED BY: CSK DATE: 9/15/21 FILE: [illegible] DIR: [illegible]	NORTH ROAD PROFILE	CLOUD NINE ESTATES MIDDLETON, CANYON COUNTY, IDAHO	REVISIONS:

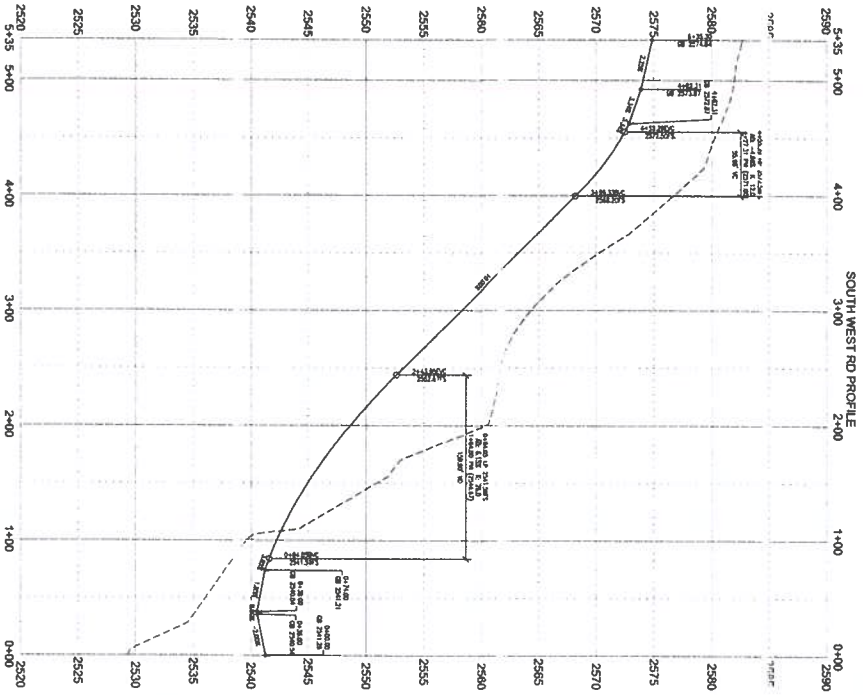
SCANNED
Initial: Date:



SCALE 1" = 50'

BEFORE DIGGING, CALL DIGLINE AT 1-800-342-1585

SHEET C1.5	CK ENGINEERING 1500 E. STATE ST., SUITE 102 EAGLE, ID 83616 PHONE 208-938-1992 DRAWN BY: CHECKED BY: DATE: FILE:	SOUTHEAST ROAD PROFILE	CLOUD NINE ESTATES MIDDLETON, CANYON COUNTY, IDAHO	REVISIONS:



BEFORE DIGGING, C ALL DIGLINE AT 1-800-342-1585

SHEET C1.6	CK ENGINEERING 1300 E. STATE ST., SUITE 102 EAGLE, ID 83616 PHONE 208-938-1992 DRAWN BY: AGB CHECKED BY: CSK DATE: 9/10/21 FILE: [illegible] CAD: [illegible]	SOUTHWEST ROAD PROFILE	CLOUD NINE ESTATES MIDDLETON, CANYON COUNTY, IDAHO

REVISIONS:

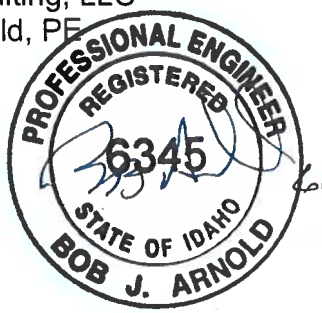
SITE
CONSULTING, LLC

Nate Mitchell
LWD Development
210 East Murray Street
Boise, Idaho 83712

Re: **Geotechnical Recommendation Report**
Proposed Cloud Nine Subdivision
Kingsbury Road – Star, Idaho

Nate:
Based upon our observations and research documented herein, your proposed Cloud Nine Subdivision is geotechnically feasible. Recommendations for civil design of this project are included herein. We look forward to assisting with your soils related engineering and quality control needs as this project proceeds to design and construction. Should you have any questions please contact our office at your convenience.

Respectfully submitted.
SITE Consulting, LLC
Bob J. Arnold, PE



6/30/22

SITE
CONSULTING, LLC

EXECUTIVE SUMMARY

CLEARING & GRUBBING - Grubbing depths can be expected to average 2 to 8 inches in order to remove organic materials. This is to be adjusted in the field at the time of construction. Deeper excavation can be anticipated along the fences, ditch, and where larger trees and bushes are present.

PAVEMENT DESIGN – An R-value sample of the sand / silt surface soils was gathered and submitted to a specialty material testing laboratory. Based upon a result of R=20, A traffic Index of TI=7, and CCHD's design method, a pavement section of 3.0" / 6.0" / 9.0" is recommended for residential streets within this development. This section is to increase to 12.0" of subbase for Kingsbury Road. The decision to reduce pavement section thickness from CCHD standard sections should be made at the time of construction based upon actual subgrade conditions and predicted weather impacts.

STORM WATER DISPOSAL – It is reported that accumulated storm water will be directed to either the onsite ponds, standard infiltration facilities or roadside swales. Such facilities are to be designed based upon a maximum allowed design percolation rate of P=1 inches/hour. Excavation at each location is to confirm no cemented materials are present in the three feet below injection depth.

GROUNDWATER – Research indicates that groundwater is greater than 100 feet deep and therefore will not impact or be impacted by the planned development.

STRUCTURAL FILL – Existing surface soils, free of organic materials, can be used as structural fill. It is noted that these soils may become too wet to effectively compact in wet weather. Compaction of any fill placed within building pads or right of ways must exceed 97 to 100% of the maximum dry density as determined by Standard Proctor (ASTM D-698). See Report for specific requirements. Structural fill must pass compaction testing and visual inspection for stability. Fill that passes compaction but is observed to rut or deflect under construction traffic is to be rejected.

LOT SPECIFIC GEOTECHNICAL REPORTS – are recommended for all lots where the building pad or driveway is atop land with an existing slope exceeding 10% and any lot where a basement is planned.

FOUNDATION DESIGN – Code allowed bearing pressures of up to 1500 psf are available on the native soils and tested and approved structural fills consisting of native soils or geotechnical engineer approved imported material. Foundations outside crawlspaces are to be sealed with mopped, sprayed, or rolled on sealer and embedded at least 24 inches below adjacent grade for frost protection. Basements are not allowed without lot specific geotechnical analysis and recommendations.

SITE
CONSULTING, LLC

FOUNDATION BACKFILL - Building Code requires that soils used to back fill foundations meet the compaction requirements stated above. Low-density foundation backfill has been shown to be a major contributing factor to water accumulating in crawlspaces throughout the Treasure Valley. Homebuilders are required to properly backfill all foundations. This is especially critical where structural fill has been placed below the foundations, sidewalks, patios, driveways, and access steps or porches.

FOUNDATION ELEVATION - Foundation elevation and site grading must conform to the requirements of the Building Code. Elevation and grading must promote drainage away from the foundation. Landscaping should be designed to promote drainage away from foundations. Flowerbeds and landscaped areas must be designed such that irrigation water and roof runoff is not retained against foundations.

DRAINAGE - Foundation drains are not required in this development. Roof gutters are recommended with down spouts directed away from foundations and not onto foundation backfill soils. Proper design and maintenance of sprinkler systems is required. Excessive watering may lead to water entering the crawl spaces/basements. Drip type sprinkler heads should be used in flowerbeds near foundations. Lawn area sprinklers should not spray toward foundations or cause water to accumulate near foundations.

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TABLE OF CONTENTS

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INTRODUCTION

Purpose and Scope

This report presents our geotechnical investigation and resulting recommendations for the proposed Cloud Nine Subdivision. The subject property is located north of Foothill Road, south of Lanktree Lane, and east of Elkridge Road. There is a gap in Kingsbury Road between Lanktree and Foothill. This property includes 72 acres to the east of that gap. The proposed project includes construction of most of Kingsbury Road between Lanktree and Foothill. A total of 45 single-family residential lots are planned. The subject property includes the two parcels in the table below and shown in the following aerial photo:

Parcel Information

#	Parcel #	Acres
N	R-3762400000	38.7
S	R-3382700000	34.1
		72.8

The above information was gathered from the Canyon County Assessors database through landprodata.com.

The inset property at 7924 West Kingsbury is not a part of the proposed development.

Google Earth Aerial Photo

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The purpose of this investigation was to evaluate the subsurface soil conditions and provide recommendations for building the proposed subdivision and the single-family residential structures. This field investigation included subsurface exploration by means of a track-mounted excavator supplied by the client. Soil samples were gathered, and test pit logs were generated by SITE's field staff. Selected soil samples were submitted to our in-house soils' laboratory for testing. After the field investigation and laboratory testing was completed, all available field and laboratory test data was reviewed, the general data and assumed design information was evaluated, and this report was prepared. This report summarizes our research and recommendations regarding the geotechnical aspects of the project.

Authorization

Authorization to proceed with this geotechnical investigation was received from the client on or around May 1, 2022. Authorization to proceed and the use of the provided recommendations indicate the client's and the design team's acceptance of the scope of work, warranty, limitations & general conditions provided herein and within our standard geotechnical proposal.

Warranty and Limitations

The exploration and evaluation of subsurface conditions documented herein is considered sufficient to form a basis for the provided recommendations. The provided recommendations are based on the available soil information and preliminary design details either assumed or furnished by the client and his civil design team. It is warranted that these recommendations have been promulgated after being prepared in accordance with locally accepted professional engineering and geotechnical engineering practice. No other warranties are implied or expressed.

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RESEARCH & BACKGROUND

Field Investigation

As per your authorization, on May 11, 2022, SITE staff supervised the excavation of thirteen test pits on the subject property. Test pits were specifically located atop ridges where material will be harvested to be used as structural fill and in the draws between the ridges where structural fill will be placed. Fills up to 30 feet deep are anticipated on this project. Our staff gathered representative samples from the spoil piles during excavation of each test pit. The samples were placed in plastic bags, labeled with test pit number and depth, and transported to the laboratory for additional testing. Sieve Analysis, Moisture Content, and Liquid Limit, Plastic Limit & Plasticity Index testing were performed on selected samples. All tests were performed in general accordance with the appropriate ASTM test methods.

Observed Subsurface Conditions

At the time of our investigation, the site surface was firm and stable. Subsurface conditions in the test pits were generally similar in the areas explored. The organic layer varies from 2-8 inches thick, with some sage brush roots reaching depths of two feet. Typical soils encountered in the upper sixteen feet of the soil profile are silty sand or sandy silt. In a few test pits, a weakly cemented layer was encountered. In others, lean clays or fine gravel was present in the silt / sand matrix. Encountered layering is indicated on the log prepared for each test pit. The test pit logs, with all completed labwork, are in the Appendix. It is noted that groundwater was not encountered in any of our test pits. A well log for the inset property at 7924 Kingsbury was found on the IDWR website. This well log indicates the groundwater beneath the property is 200 feet deep.

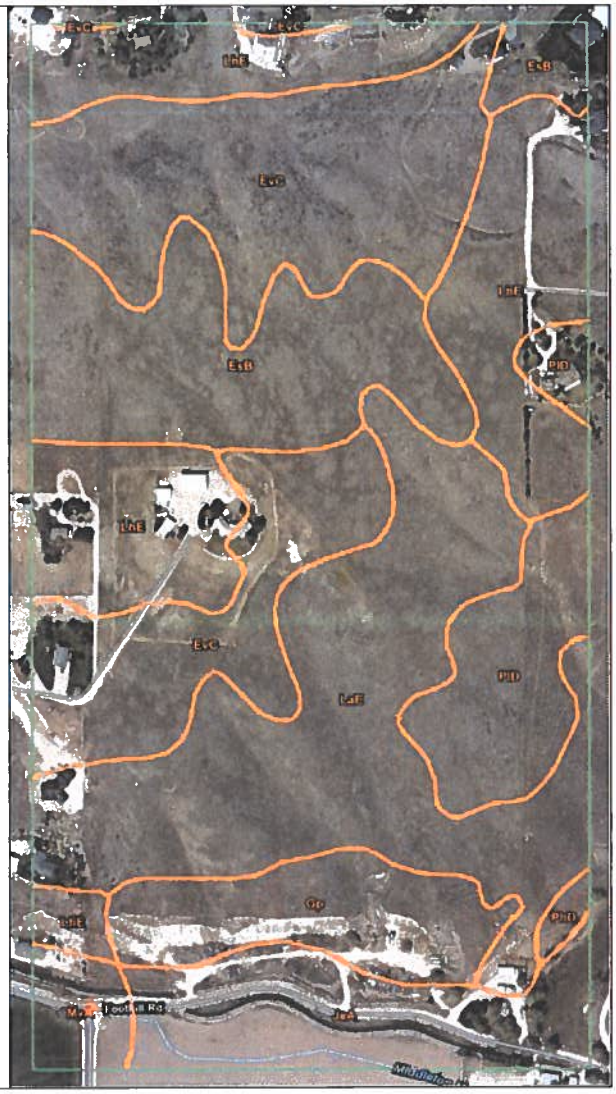
While no fat clay soils were encountered in the test pits, lean clay soils were encountered in numerous test pits. This matches well with the Canyon County Soil Survey, (USDA-Natural Resource Conservation Service) mapping for the subject property. This source indicates the principle onsite soils to be Lankbush Sandy Loam (40%) and Elijah-Vickery Silt Loam (23%). Both of these soils have a silty clay loam or sandy clay loam below the shallow surface layer. Groundwater was not encountered in any test pit.

CANYON COUNTY SOILS SURVEY

Canyon Area, Idaho (ID665)

Canyon Area, Idaho (ID665)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
EsB	Elijah-Chilcott silt loams, 1 to 3 percent slopes	17.1	13.1%
EvC	Elijah-Vickery silt loams, 3 to 7 percent slopes	30.4	23.4%
Gp	Gravel pit	8.2	6.3%
JeA	Jenness loam, 0 to 1 percent slopes	10.6	8.1%
LaE	Lankbush sandy loam, 12 to 30 percent slopes	27.4	21.0%
LhE	Lankbush-Power complex, 12 to 30 percent slopes	24.7	19.0%
MvA	Moulton loam, 0 to 1 percent slopes	2.5	1.9%
PhD	Power silt loam, 7 to 12 percent slopes	0.6	0.4%
PlD	Power-Lankbush silt loams, 7 to 12 percent slopes	8.8	6.7%
Totals for Area of Interest		**130.2**	**100.0%**



Site Hydrology

Two IDWR well logs have been included in the Appendix. One is for the inset property and the second is for a property on Foothills Road. Well Logs indicate the groundwater on the property can be expected to be 200 feet deep near the center of the site and 100 feet deep at the south, lowest, end. No spring was observed or reported on the subject property. It is anticipated that accumulated storm run-off will be directed to roadside swales which are acceptable.

DESIGN & CONSTRUCTION RECOMMENDATIONS

General Earthwork

All native soils that are free of organic matter and expansive clays are acceptable for use as fill. Removal of the majority of the organic materials will require grubbing of 2-8 inches of surface soils. Deeper removal of tree and sage brush roots can be anticipated. Removal of all organic material is required in all areas to receive structural fill. The depth of grubbing is to be adjusted and inspected during construction to ensure that organic materials are properly removed from beneath future pavements, structural fills, and residential foundations. After proper grubbing, the surface is to be proof rolled and inspected by the project geotechnical consultant. Deflecting areas are to be over excavated as directed at the time of construction. Native silt / sand soils removed from cut areas and proposed right of ways can be utilized as structural fill. These materials can also be used in proposed roadways and future building pads.

If used for fill, the surface soil will require moisture contents within two percent of optimum for effective compaction. These soils will easily become too wet or too dry for effective compaction and can be expected to perform poorly if wet and subjected to rubber tired equipment. If construction is to occur during wet weather or wet surface soil conditions, low-pressure, (tracked), construction equipment is recommended. Rutting caused by the contactor using rubber-tired equipment on a wet subgrade can be

expected and should be repaired at contractor expense. This information is to be supplied to earthwork contractors prior to construction.

Structural fills are to be compacted to an average of 100% of the maximum dry density by ASTM D698, Standard Proctor, with no test below 97% compaction. If structural fill is to be placed on residential lots, the fill is to extend laterally outside foundations a distance equal to the depth of structural fill. Structural fill should be placed in uniform, thin horizontal lifts, moisture conditioned as necessary, and compacted to the above requirements. Compaction testing to confirm proper compaction is recommended. Inspection at the time of testing is to confirm stability. Rutting, deflecting, or excessively wet materials are to be rejected and repaired regardless of passing compaction tests. Any onsite wells or septic tanks are to be abandoned as per IDWR and IDEQ requirements.

Excavations

Shallow excavations and trenches that do not exceed four feet in depth may be constructed with side slopes approaching vertical. Below this depth it is recommended that slopes not exceed a vertical to horizontal ratio of one to one. The ability of soils on site to maintain a vertical or near vertical excavation over any extended period can be quite variable. This information is provided for planning purposes. It is our opinion that maintaining safe working conditions is the responsibility of the contractor. Jobsite conditions such as soil moisture content, weather condition, earth movements and equipment type and operation can all affect slope stability. All excavations should be sloped or braced as required by applicable local, state, and federal requirements.

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Pavement Section

It is anticipated that an R-Value of R > 20 will be obtained on the native silt/sand soils that will be exposed as the subgrade or used to fill the roadways. Based upon this R-Value, a Traffic Index of TI=7, and the CCHD Design Method, the following pavement section is recommended for interior subdivision streets.

Material Layer	Internal Streets	Kingsbury Road
HMA Pavement	3.0"	3.0"
Base Coarse (¾" minus)	6.0"	6.0"
Subbase (Pitrun)	9.0"	12.0"

Materials meeting the requirements of ISPWC & / or CCHD are required for any work within this project.

Lot Specific Evaluation

After lot layout is completed, a lot specific geotechnical investigation and recommendation report is recommended for any building pad atop a ten percent or greater slope. Any lot contemplating a basement should also prepare a lot specific geotechnical report. The recommendations below apply to all other lots unless a lot specific report is prepared.

Foundation System

The proposed single-family residential structures may be supported on conventional, continuous, and isolated pad foundations founded upon the native soils or upon structural fill extending to these soils. Based upon proper placement and compaction of structural fill, bearing pressures of up to 1500 psf are allowed for foundations founded on the native soils or upon properly placed and compacted structural fill. Either crawlspaces or slab on grade floors are acceptable.

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Retaining Wall Design

Any retaining walls used for landscaping or site grading are to be constructed of materials that allow water to flow through the wall or must include a draining system behind the wall that will prevent the accumulation of water. The ground surface above the walls is to be graded to promote drainage away from or around the wall. Based on using non-expansive, native sand / silt soils for backfilling, the recommended lateral earth pressures are P_0 = 45 psf/f and Pa = 60 psf/f. Both values assume backfill is level for a distance equal to the height of the wall. Soil density of 120 pcf can be assumed for additional soil surcharge. A friction coefficient, f =0.30 is recommended for construction atop native soils.

Setbacks & Slopes

Residential foundations are to be ten feet from the crown of slopes steeper than 2:1. Foundations and Isolated pads, supporting upper floors or decks can be constructed in the face of the slope provided the above lateral cover is provided. Reducing this lateral cover will require lot/building specific investigation and recommendations by a geotechnical engineer. Constructed slopes below foundations or retaining walls are to be over built and then cut to not steeper than 2:1. Fill placed on slopes is to be placed on parallel terraces that slope (>2%) back toward the hillside. The height of filled terraces is not to exceed 1/3 the width of the terrace. Cut slopes can be constructed at 1.5:1 provided sloped surfaces are protected from erosion. Steeper slopes will require site specific investigation / recommendation or the use of retaining walls.

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Slab on Grade Concrete

Care must be taken so that all excavations below both interior and exterior slab on grade concrete are properly backfilled in accordance with the structural fill recommendations. This is critical where a slab or foundation will extend over utility trenches or retaining wall backfill. Trenches and wall backfill areas are to be filled in lifts and benched each lift so that fill is not placed against a vertical soil face greater than three feet tall. Testing is to confirm that compaction has been achieved. Areas of excessive yielding should be excavated and backfilled with structural fill. Any fill used to increase the elevation of slab on grade concrete should meet the requirement for structural fill. Slab on grade floors, sidewalks and pavements should be placed atop a mat of at least four inches of granular structural fill materials. This depth is to increase to one foot when concrete is to be placed over fat clays soils. This is required to prevent seasonal heaving of sidewalks, patios, and driveways. ISPWC ¾" base is acceptable for this mat. The mat shall be compacted to the requirement for structural fill. All slabs should be suitably reinforced to make them as rigid as possible. Proper joints should be provided at the junctions of the slab and foundation system so that independent movement can occur without causing damage.

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Storm Water

It is recommended that storm runoff be directed away from all open excavations and not be allowed to puddle on subgrade soils. It is understood that storm water will be directed to roadside swales. It is recommended that the facilities be designed based upon a percolation rate of P = 1 inch/hour. Confirmation of percolation rates is required at the time of construction. It may be possible to increase the design rate and thereby reduce the size of storm water facilities at that time.

Underground Utilities

It is not anticipated that excavators will experience any difficulties excavating the onsite materials. Research indicates groundwater is greater than 100 feet below the existing ground surface and therefore dewatering of utility trenches should be anticipated.

Inspection & Testing

Inspection should confirm removal of all foundation and slab concrete from demolition of any onsite structures. A qualified engineer or his representative should monitor fill placement to ensure the work is performed in accordance with these recommendations. Testing should be performed in accordance with ASTM Test Methods D3017-88 and D2922-91 (nuclear densometer) or approved alternate. For mass filling, moisture - density testing shall be performed on each lift of compacted fill for every 5000 square feet of surface area or one test per lot per lift, whichever is greater. Trench backfills and right of ways are to be tested to ISPWC requirements. It is noted that structural fill can pass compaction tests and still be unacceptable if pumping, rutting, or deflecting under vehicle or foot traffic. If foundations are to be constructed atop structural fill, compaction reports are to be provided to the City of Eagle Building Department and the assigned inspector.

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Contractor Inspections

This report has been prepared with the intent to provide specific design information to the developer and the civil engineering consultant. It is not intended to act as any contractors "Due Diligence" or subsurface inspection prior to estimating construction costs or actual construction.

General Comments

After the plans and specifications for construction are completed, it is recommended that this consultant be provided the opportunity to review the final design and specifications. This review will confirm that the earthwork recommendations have been properly interpreted and implemented. At that time, it may be necessary to submit supplementary recommendations. This review is a part of this service and will not result in additional invoicing unless additional research and recommendations are needed.

Testing and inspection services are recommended herein. Proper quality control during construction is required to confirm materials and methods and thereby obtain a desirable finished product. Monitoring and testing should also be performed to verify suitability of materials used for structural fills and to confirm proper demolition, subgrade grubbing, subgrade stability, and proper placement and compaction of fills. Any deviations from the herein described subsurface conditions must be brought to the attention of this consultant.

This report has been prepared for the exclusive use of the client and their retained design consultants. Findings and recommendations within this report are for specific application to the proposed construction described herein and apply only to the property identified. Client may duplicate this report as needed or additional copies will be provided upon proper client authorization.

Appendix Follows

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APPENDIX

Preliminary Plat

Aerial Photo with Test Pit Locations

Test Pit Logs (13)

Soil Log Legend

IDWR Well Logs (2)

Abbreviations & Acronyms

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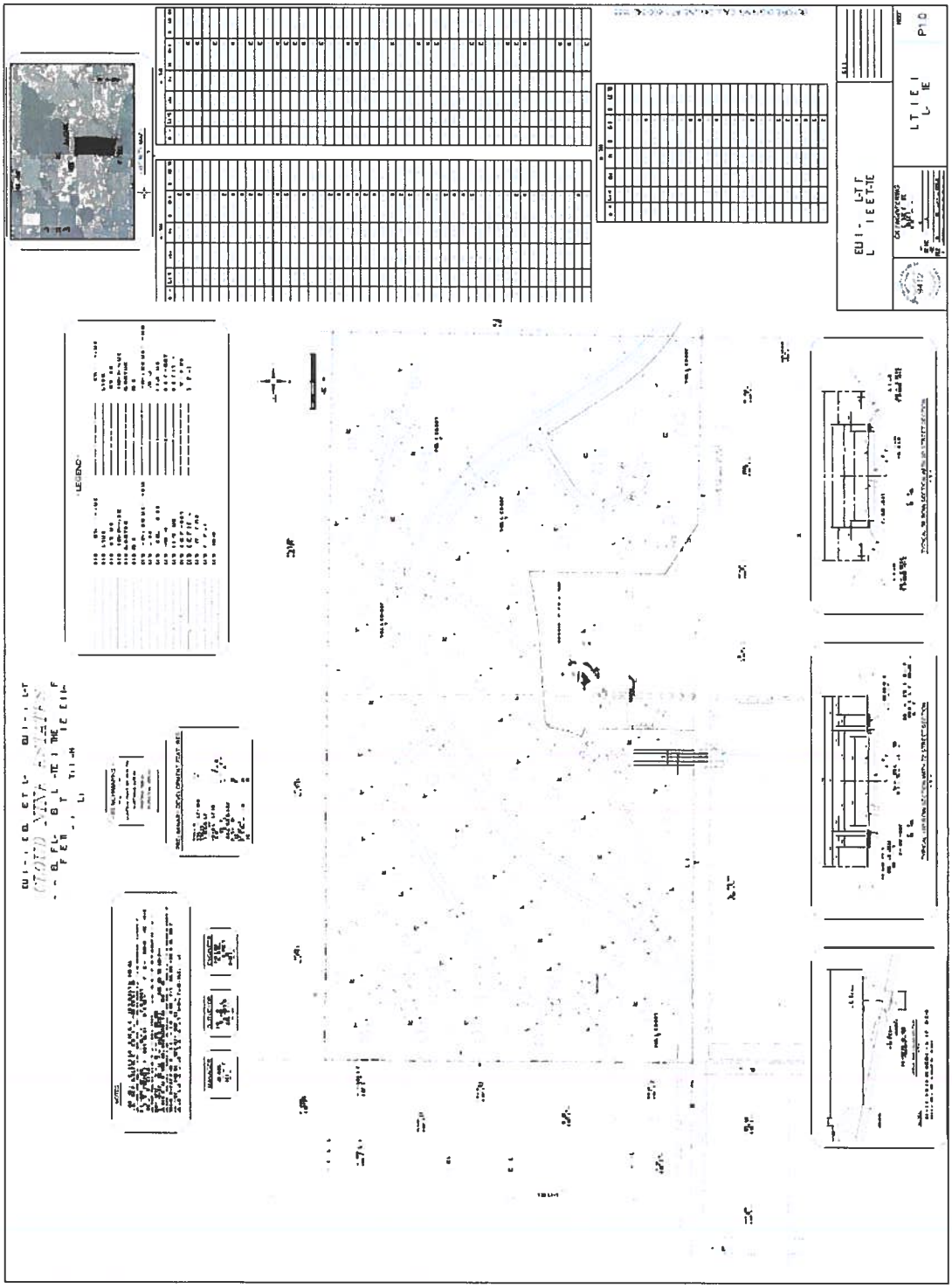
PRELIMINARY PLAT



Supplied by client

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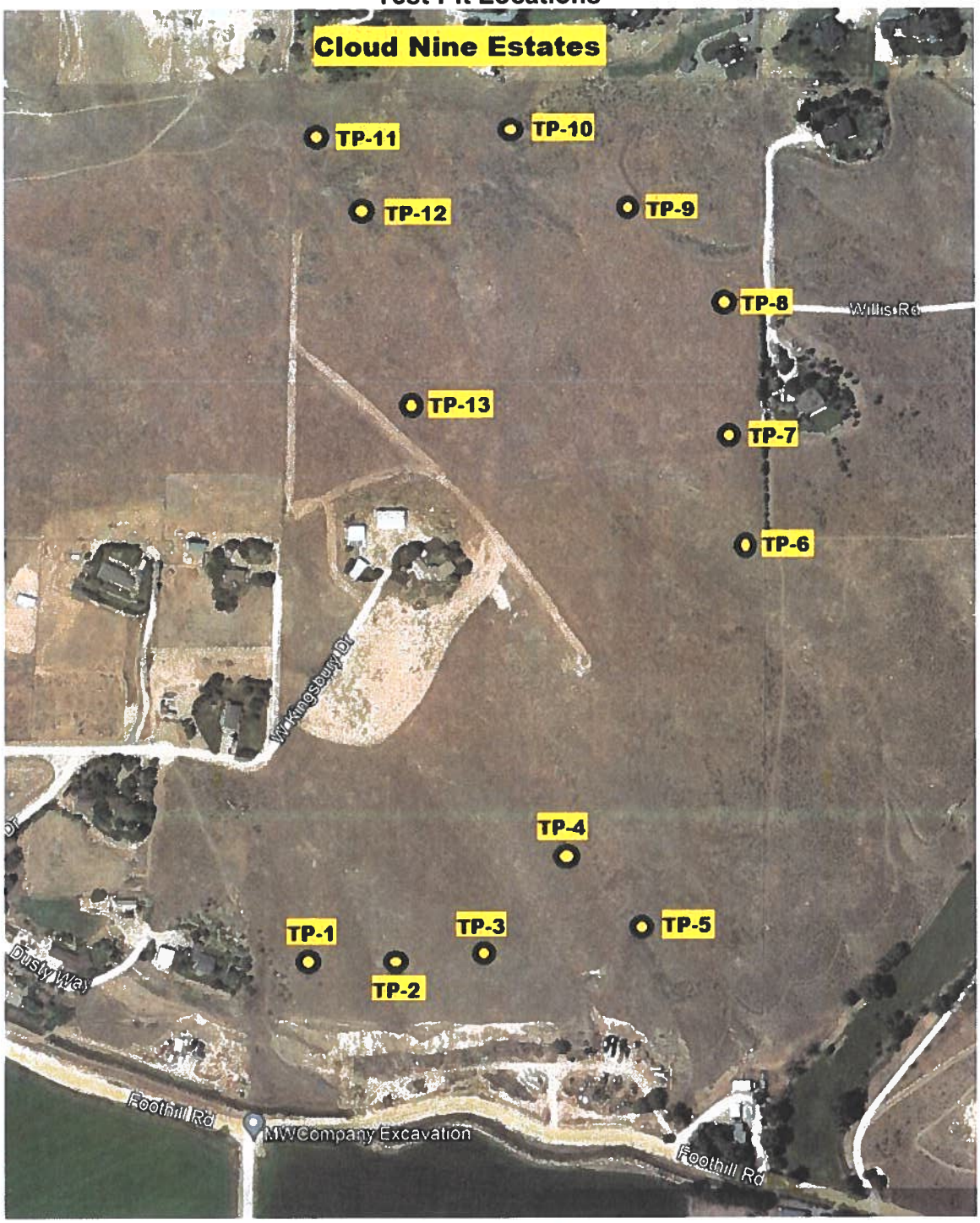
AERIAL PHOTO

Test Pit Locations



Google Earth

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TEST PIT LOG

Test Pit:	TP-1	File #:	22837-A
Client:	LWD Development, Inc.	Date Excavated:	05/11/22
Project:	Cloud Nine Subdivision	Excavated By:	Wagner Excavation
Location:	See Aerial Photo	Logged By:	J. Meusch-SITE

DEPTH	SOILS DESCRIPTION										
(feet)	3/4"	1/2"	3/8"	# 4	# 10	# 40	#100	#200	%M	LL	PI
0.0-4.0	Brown/Tan, Moist, Firm, Silty, SAND (SM) with a 4-6" Rootzone / organic Layer										
2.0		100	99	95	85	55	36	26.8	9.7	NP	NP
4.0-10.0	Red/Tan, Moist, Firm, Sandy, Silt										
10.0-14.0	Red/Tan, Moist, Firm, Silty, Sand										
14.0	Bottom of Excavation @ 14.0' No Ground Water Encountered No Monitoring Well in Place										

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TEST PIT LOG

Test Pit:	TP-2	File #:	22837-A
Client:	LWD Development, Inc.	Date Excavated:	05/11/22
Project:	Cloud Nine Subdivision	Excavated By:	Wagner Excavation
Location:	See Aerial Photo	Logged By:	J. Meusch-SITE

DEPTH	SOILS DESCRIPTION										
(feet)	3/4"	1/2"	3/8"	# 4	# 10	# 40	#100	#200	%M	LL	PI
0.0-2.0	Brown/Tan, Dry, Firm, Sand & Silt with a 4-6" Rootzone / organic Layer										
2.0-5.0	Tan, Moist, Firm, Sandy, SAND (SM)										
4.0				100	99	76	38	21.2	5	NP	NP
5.0-9.0	Brown/Tan, Moist, Firm, Sandy SILT (ML)										
7.0				100	99	93	75	58.4	18.7	NP	NP
9.0-11.0	Brown/Red, Moist, Firm, Sandy, SILT (ML)										
10.0				100	99	96	85	74.2	25.5	29	5
11.0-13.0	Brown/Tan, Moist, Firm, Sandy, SILT (ML)										
12.0				100	99	98	91	83.3	29	32	7
13.0-17.0	Brown/Tan, Moist, Firm, Silty, SAND (SM)										
14.0			100	99	95	63	46	38.9	12.6	NP	NP
17.0	Bottom of Excavation @ 17.0' No Ground Water Encountered No Monitoring Well in Place										

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TEST PIT LOG

Test Pit:	TP-3	File #:	22837-A
Client:	LWD Development, Inc.	Date Excavated:	05/11/22
Project:	Cloud Nine Subdivision	Excavated By:	Wagner Excavation
Location:	See Aerial Photo	Logged By:	J. Meusch-SITE

DEPTH	SOILS DESCRIPTION										
(feet)	3/4"	1/2"	3/8"	# 4	# 10	# 40	#100	#200	%M	LL	PI
0.0-5.0	Brown/Tan, Moist, Firm, Sand, Clay, Silt with a 4-6" Rootzone / organic Layer										
5.0-9.0	Brown/Tan, Moist, Very Firm, Cemented, Silty, SAND (SM)										
6.0			100	99	95	75	55	46.3	10.8	24	3
9.0-13.0	Brown/Tan, Moist, Firm, Sandy, Silt										
13.0-16.0	Brown/Tan, Moist, Firm, Silty, Sand										
16.0	Bottom of Excavation @ 16.0' No Ground Water Encountered No Monitoring Well in Place										

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TEST PIT LOG

Test Pit:	TP-4	File #:	22837-A
Client:	LWD Development, Inc.	Date Excavated:	05/11/22
Project:	Cloud Nine Subdivision	Excavated By:	Wagner Excavation
Location:	See Aerial Photo	Logged By:	J. Meusch-SITE

DEPTH	SOILS DESCRIPTION										
(feet)	3/4"	1/2"	3/8"	# 4	# 10	# 40	#100	#200	%M	LL	PI
0.0-5.0	Brown, Moist, Firm, Blocky, Sand, Clay, Silt (ML-CL) with a 4-6" Rootzone / organic Layer										
4.0 & "R"			100	99	95	72	48	37.8	5.5	26	7
5.0-7.0	Brown, Moist, Firm, Blocky, Sand, Silt, Clay (CL)										
6.0	100	98	98	97	96	92	82	74.5	20	46	21
7.0-14.0	Tan, Moist, Firm, Sandy, Silt										
14.0-17.0	Brown/Tan, Moist, Firm, Silty, Sand										
17.0	Bottom of Excavation @ 17.0' No Ground Water Encountered No Monitoring Well in Place										

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TEST PIT LOG

Test Pit:	TP-5	File #:	22837-A
Client:	LWD Development, Inc.	Date Excavated:	05/11/22
Project:	Cloud Nine Subdivision	Excavated By:	Wagner Excavation
Location:	See Aerial Photo	Logged By:	J. Meusch-SITE

DEPTH	SOILS DESCRIPTION										
(feet)	3/4"	1/2"	3/8"	# 4	# 10	# 40	#100	#200	%M	LL	PI
0.0-4.0	Tan, Dry, Firm, Blocky, Sandy, Silt with a 4-6" Rootzone / organic Layer										
4.0-9.0	Brown/Tan, Moist, Firm, Cemented, Sand & Silt										
9.0-13.0	Brown/Tan, Moist, Firm, Sandy, Silt										
13.0-16.0	Brown/Tan, Moist, Firm, Silty, Sand										
16.0	Bottom of Excavation @ 16.0' No Ground Water Encountered No Monitoring Well in Place										

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TEST PIT LOG

Test Pit:	TP-6	File #:	22837-A
Client:	LWD Development, Inc.	Date Excavated:	05/11/22
Project:	Cloud Nine Subdivision	Excavated By:	Wagner Excavation
Location:	See Aerial Photo	Logged By:	J. Meusch-SITE

DEPTH	SOILS DESCRIPTION										
(feet)	3/4"	1/2"	3/8"	# 4	# 10	# 40	#100	#200	%M	LL	PI
0.0-5.0	Brown, Moist, Firm, Sandy, Silt with a 4-6" Rootzone / organic Layer										
5.0-7.0	Brown/Red, Moist, Firm, Sticky, Sand & Clay										
7.0-11.0	Brown/Tan, Moist, Firm, Blocky, Sand & Clay										
11.0-16.0	Brown/Red, Moist, Firm, Silty, Sand (SM)										
14.0	100	99	98	96	76	31	19	15.8	5.7	NP	NP
16.0	Bottom of Excavation @ 16.0' No Ground Water Encountered No Monitoring Well in Place										

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TEST PIT LOG

Test Pit:	TP-7				File #:		22837-A				
Client:	LWD Development, Inc.				Date Excavated:		05/11/22				
Project:	Cloud Nine Subdivision				Excavated By:		Wagner Excavation				
Location:	See Aerial Photo				Logged By:		J. Meusch-SITE				
DEPTH	SOILS DESCRIPTION										
(feet)	3/4"	1/2"	3/8"	# 4	# 10	# 40	#100	#200	%M	LL	PI
0.0-5.0 (Proctor)	Brown, Moist, Firm, Blocky, Sandy, SILT (ML) with a 4-6" Rootzone / organic Layer Standard Proctor – 94.5pcf @ 23.4 % moisture										
3.0			100	99	92	75	64	55.7	16.2	NP	NP
5.0-8.0	Brown/Tan, Moist, Very Firm, Cemented, Sand & Silt										
8.0-13.0	Brown/Red, Moist, Firm, Sandy, Silt										
13.0-16.0	Brown/Tan, Moist, Firm, Silty, Sand										
16.0	Bottom of Excavation @ 16.0' No Ground Water Encountered No Monitoring Well in Place										

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TEST PIT LOG

Test Pit:	TP-8	File #:	22837-A
Client:	LWD Development, Inc.	Date Excavated:	05/11/22
Project:	Cloud Nine Subdivision	Excavated By:	Wagner Excavation
Location:	See Aerial Photo	Logged By:	J. Meusch-SITE

DEPTH	SOILS DESCRIPTION										
(feet)	3/4"	1/2"	3/8"	# 4	# 10	# 40	#100	#200	%M	LL	PI
0.0-6.0	Brown, Moist, Firm, Silty, SAND (SM) with a 4-6" Rootzone / organic Layer										
5.0		100	96	84	71	51	39	31.8	20	NP	NP
6.0-11.0	Brown/Tan, Moist, Firm, Sand & Silt with gravel										
11.0-14.0	Brown/Tan, Moist, Firm, Blocky, Sand & Clay										
14.0	Bottom of Excavation @ 14.0' No Ground Water Encountered No Monitoring Well in Place										

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TEST PIT LOG

Test Pit:	TP-9	File #:	22837-A
Client:	LWD Development, Inc.	Date Excavated:	05/11/22
Project:	Cloud Nine Subdivision	Excavated By:	Wagner Excavation
Location:	See Aerial Photo	Logged By:	J. Meusch-SITE

DEPTH	SOILS DESCRIPTION										
(feet)	3/4"	1/2"	3/8"	# 4	# 10	# 40	#100	#200	%M	LL	PI
0.0-1.0	Brown, Moist, Firm, Sand, Clay, Silt with a 4-6" Rootzone / organic Layer										
1.0-4.0	Brown/Red, Moist, Very Firm, Cemented, Silty, SAND (SM)										
3.0		100	99	92	71	28	14	11.4	8.1	NP	NP
4.0-10.0	Red/Tan, Moist, Firm, Cemented, SAND (SM)										
9.0			100	95	71	26	12	9.5	6.2	NP	NP
10.0-13.0	Red/Tan, Moist, Firm, SAND (SP)										
12.0			100	94	71	19	9	8.7	5.5	NP	NP
13.0-16.0	Tan, Moist, Firm, SAND with gravel (SP)										
14.0	100	98	97	93	74	41	19	8.4	5.2	NP	NP
16.0	Bottom of Excavation @ 16.0' No Ground Water Encountered No Monitoring Well in Place										

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TEST PIT LOG

Test Pit:	TP-10	File #:	22837-A
Client:	LWD Development, Inc.	Date Excavated:	05/11/22
Project:	Cloud Nine Subdivision	Excavated By:	Wagner Excavation
Location:	See Aerial Photo	Logged By:	J. Meusch-SITE

DEPTH	SOILS DESCRIPTION										
(feet)	3/4"	1/2"	3/8"	# 4	# 10	# 40	#100	#200	%M	LL	PI
1.0-5.0	Brown, Moist, Firm, Sand & Silt with a 4-6" Rootzone / organic Layer										
5.0-9.0	Brown, Moist, Firm, Sandy, SILT (ML)										
6.0			100	99	96	70	56	50.3	15.1	31	7
9.0-12.0	Brown/Red, Moist, Firm, Blocky, Sandy, Clay/Silt										
12.0-16.0	Brown/Red, Moist, Firm, Silty Sand										
16.0	Bottom of Excavation @ 16.0' No Ground Water Encountered No Monitoring Well in Place										

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TEST PIT LOG

Test Pit:	TP-11	File #:	22837-A
Client:	LWD Development, Inc.	Date Excavated:	05/11/22
Project:	Cloud Nine Subdivision	Excavated By:	Wagner Excavation
Location:	See Aerial Photo	Logged By:	J. Meusch-SITE

DEPTH	SOILS DESCRIPTION										
(feet)	3/4"	1/2"	3/8"	# 4	# 10	# 40	#100	#200	%M	LL	PI
0.0-3.0	Brown, Moist, Firm, Clayey, Gravelly, SAND (SC) with a 4-6" Rootzone / organic Layer										
2.0	92	84	78	70	59	44	34	29.0	6.5	31	11
3.0-5.0	Brown/Tan, Moist, Firm, Blocky, Sand & Clay										
5.0-9.0	Brown/Tan, Moist, Firm, Sandy, Silt										
9.0-12.0	Red/Tan, Moist, Firm, Sticky, Sand, Silt & Clay										
12.0-16.0	Brown/Tan, Moist, Firm, Blocky, Silty, Sand										
16.0	Bottom of Excavation @ 16.0' No Ground Water Encountered No Monitoring Well in Place										

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TEST PIT LOG

Test Pit:	TP-12	File #:	22837-A
Client:	LWD Development, Inc.	Date Excavated:	05/11/22
Project:	Cloud Nine Subdivision	Excavated By:	Wagner Excavation
Location:	See Aerial Photo	Logged By:	J. Meusch-SITE

DEPTH	SOILS DESCRIPTION										
(feet)	3/4"	1/2"	3/8"	# 4	# 10	# 40	#100	#200	%M	LL	PI
0.0-5.0	Brown/Tan, Moist, Firm, Sand & Silt with gravel with a 4-6" Rootzone / organic Layer										
5.0-7.0	Brown, Moist, Firm, Blocky, Clayey, SAND (SC)										
6.0	100	96	83	90	79	57	49	44.7	8.9	36	13
7.0-10.0	Brown/Red, Moist, Firm, Sand, Silt										
10.0-16.0	Brown/Red, Moist, Firm, Cemented, Sand & Silt										
16.0	Bottom of Excavation @ 16.0' No Ground Water Encountered No Monitoring Well in Place										

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TEST PIT LOG

Test Pit:	TP-13	File #:	22837-A
Client:	LWD Development, Inc.	Date Excavated:	05/11/22
Project:	Cloud Nine Subdivision	Excavated By:	Wagner Excavation
Location:	See Aerial Photo	Logged By:	J. Meusch-SITE

DEPTH	SOILS DESCRIPTION										
(feet)	3/4"	1/2"	3/8"	# 4	# 10	# 40	#100	#200	%M	LL	PI
0.0-5.0	Brown/Tan, Moist, Firm, Sand & Silt with gravel with a 4-6" Rootzone / organic Layer										
5.0-10.0	Red/Tan, Moist, Firm, Sand & Silt										
10.0-13.0	Brown/Red, Moist, Firm, Cemented, Silty, SAND (SM)										
12.0		100	99	94	81	60	43	31.0	16.5	NP	NP
13.0-16.0	Brown/Red, Moist, Firm, Silty, Sand										
16.0	Bottom of Excavation @ 16.0' No Ground Water Encountered No Monitoring Well in Place										

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SOIL LOG LEGEND

UNIFIED SOIL CLASSIFICATION SYSTEM

(ASTM STANDARD TEST METHOD D 2487 FOR CLASSIFICATION OF SOIL FOR ENGINEERING PURPOSES)

MAJOR DIVISIONS				TYPICAL DESCRIPTIONS
COARSE GRAINED SOILS < 50% - #500	GRAVEL & GRAVELLY SOILS <50% - #4	< 5% - #500	GW	Well-graded gravel, gravel-sand mixture, little or no fines.
			GP	Poorly graded gravel, gravel sand mixture, little or no fines
		5-12% -#500	GM	Silty gravel, gravel-sand-silt mixtures
		> 12% - #500	GC	Clayey gravel, gravel-sand-clay mixtures
	SAND & SANDY SOILS ≥ 50% - # 4	< 5% - #500	SW	Well-graded sand, gravelly sand, little or no fines.
			SP	Poorly graded sand, gravelly sand, little or no fines
		>12% - #500	SM	Silty sand, sand-silt mixtures
			SC	Clayey sand, sand-clay mixtures
FINE GRAINED SOILS ≥ 50% - #500	SILTS AND CLAYS LL < 50%	INORGANIC	ML	Inorganic silt and very fine sand, rock flour, silty or clayey fine sand or clayey silt with slight plasticity
			CL	Lean clay-low to medium plasticity, gravelly clay, sandy clay, silty clay
		ORGANIC	OL	Organic silt and organic silty clay of low plasticity
	SILTS AND CLAYS LL ≥ 50%	INORGANIC	MH	Elastic silt, micaceous or diatomaceous fine sand or silty soil.
			CH	Fat clay - high plasticity
		ORGANIC	OH	Organic clay-med. or high plasticity: organic silt
HIGHLY ORGANIC SOILS			PT	Peat, humus, swamp soil with high organic content

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DESIGN SECTION CALCULATIONS

(ITD-Value Method)

Project: Cloud Nine Subdivision
Kingsbusy Road - Star, Idaho
Client: LWD Development

File No.: 22837-A
Calc By: B. Arnold
Date: 06/24/22

Design Thickness Equation:

T = 0.0032 (TI) (100-R)(12) = GE (inches)

T= Design Thickness
GE = Gravel Equivalent

TI = Traffic Index = 7 By Design Manual
R = R-Value = 20 Assumed

GE= 22 Inches

ACHD HMA, 3/4" Base and Aggregate Subbase

	Actual Thickness		Equivalent Thickness		
HMA Thickness =	3.0	Inches	HMA=	7.5	Inches
3/4" Base Thickness =	6.0	Inches	RBE=	6.6	Inches

Calculated Aggregate Subbase Thickness Equation:

Subbase Thickness=SB=GE-HMA-RBE

SB= 7.9 Inches

RECOMMENDED DESIGN SECTION

HMA = 3.0 inches
3/4" BASE = 6.0 inches
SUBBASE = 9.0 inches

R=20 assumes topsoil is removed and pavements are constructed atop the cemented silt soils

208-440-6276 * info@siteconsultingllc.com (33) Post Office Box 190537 * Boise, Idaho 83719

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DESIGN SECTION CALCULATIONS

(ITD-Value Method)

Project: Cloud Nine Subdivision
Kingsbusy Road - Star, Idaho
Client: LWD Development

File No.: 22837-A
Calc By: B. Arnold
Date: 06/24/22

Design Thickness Equation:

T = 0.0032 (TI) (100-R)(12) = GE (inches)

T= Design Thickness
GE = Gravel Equivalent

TI = Traffic Index = 8 By Design Manual
R = R-Value = 20 Assumed

GE= 25 Inches

ACHD HMA, 3/4" Base and Aggregate Subbase

	Actual Thickness		Equivalent Thickness		
HMA Thickness =	3.0	Inches	HMA=	7.5	Inches
3/4" Base Thickness =	6.0	Inches	RBE=	6.6	Inches

Calculated Aggregate Subbase Thickness Equation:

Subbase Thickness=SB=GE-HMA-RBE

SB= 10.9 Inches

RECOMMENDED DESIGN SECTION

HMA = 3.0 inches
3/4" BASE = 6.0 inches
SUBBASE = 12.0 inches

R=20 assumes topsoil is removed and pavements are constructed atop the cemented silt soils

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IDWR WELL LOG

7924 Kingsbury Drive

(Address on log is Wrong)

Form 238 7
5/07

IDAHO DEPARTMENT OF WATER RESOURCES

WELL DRILLER'S REPORT

1. WELL TAG NO D 008359*
Drilling Permit No 393024
Water right or injection well #
2. OWNER Richard Phillips
Name
Address 210 E Murry St
City Boise State ID Zip 83714
3. WELL LOCATION
Twp 04 North ☑ or South ☐ Rge 02 East ☐ or West ☑
Sec 2 ¼ NW ¼ NW ¼
Govt Lot County Canyon
Lat 43 ° 43.256 (Deg and decimal minutes)
Long 116 ° 33.090 (Deg and decimal minutes)
Address of Well Site 7942 Kingsbury Dr
City Middleton
Lot Blk Sub Name
4. USE:
☑ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation ☐ Thermal ☐ Injection
☐ Other
5. TYPE OF WORK:
☑ New well ☐ Replacement well ☐ Modify existing well
☐ Abandonment ☐ Other
see start card
6. DRILL METHOD
☑ Air Rotary ☐ Mud Rotary ☐ Cable ☐ Other
7. SEALING PROCEDURES:

Seal material	From (ft)	To (ft)	Quantity (sacks or cu ft)	Placement method
Bent 3/4 Chip	0	40	1750	Pour

8. CASING/LINER

Diameter (inches)	From (ft)	To (ft)	Gauge/ Schedule	Material	Casing	Liner	Threaded	Welded
6"	+2	336	250	Steel	☑	☐	☐	☑
					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐

Was drive shoe used? ☑ Y ☐ N Shoe Depth(s) 336'
9. PERFORATIONS/SCREENS
Perforations ☐ Y ☐ N Method
Manufactured screen ☑ Y ☐ N Type Johnson Stainless
Method of installation Wash Down

From (ft)	To (ft)	Slot size	Number	Diameter (inches)	Material	Gauge or Schedule
243	253	020		5"	Stainless	

Length of Headpipe 14'8" Length of Tailpipe 8"
Packer ☑ Y ☐ N Type K-Packer
10. FILTER PACK:

Size Material	From (ft)	To (ft)	Quantity (sacks or cu ft)	Placement method

11. FLOWING ARTESIAN
Flowing Artesian? ☐ Y ☑ N Artesian Pressure (PSIG)
Describe control device

12. STATIC WATER LEVEL and WELL TESTS
Depth first water encountered (ft) 200 Static water level (ft) 150'
Water temp (°F) Cold Bottom hole temp (°F)
Describe access port

Well test

Drawdown (feet)	Discharge (gpm)	Test duration (minutes)	Test method: Pump	Bailer	Air	Flowing artesian
350	70	120	☐	☐	☑	☐
			☐	☐	☐	☐

Water quality test or comments

13. LITHOLOGIC LOG and/or repairs or abandonment

Bore Dia (in)	From (ft)	To (ft)	Remarks, lithology or description of repairs or abandonment, water temp	Water Y	Water N
12"	0	2	Clay		X
12"	2	40	Sandy Clay		X
6"	40	97	Sandy Clay		X
6"	97	133	Gravel & Sand		X
6"	133	167	Clay		X
6"	167	195	Sand Dry		X
6"	195	200	Clay		X
6"	200	237	Sand w/Clay Streaks	X	
6"	237	245	Fine Sand	X	
6"	245	260	Brown Clay		X
6"	260	353	Medium Fine Sand	X	
6"	353	355	Brown Clay		X

RECEIVED
MAR 10 2020
WATER RESOURCES
WESTERN REGION

Completed Depth (Measured) 353'
Date Started 2/20/2020 Date Completed 2/26/2020

14. DRILLER'S CERTIFICATION
I/We certify that all minimum well construction standards were complied with at the time the rig was removed
Company Name McLoren Well Drilling, LLC Lic No 641
*Principal Driller Date
*Driller Josh McLoren Date
*Operator I Date
Operator I Date
* Signature of Principal Driller and rig operator are required

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IDWR WELL LOG

8116 Foothill Drive

Below Property to south

63

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

RECEIVED
SEP 05 2019
WATER RESOURCES
WESTERN REGION

1. WELL TAG NO. D 0083068
Drilling Permit No. 890931
Water right or injection well #

2. OWNER Shawn & Matt Simms
Name
Address 348 Old Emmett Rd.
City Emmett State Id. Zip 83617

3. WELL LOCATION:
Twp 4 North ☑ or South ☐ Rge 2 East ☐ or West ☑
Sec 3 1/4 SE 1/4 NE 1/4
Subdivision Lot Block
Lot 43 : 43:041 (Deg. and Decimal minutes)
Long 116 : 33:319 (Deg. and Decimal minutes)
Address of Well Site 8116 Foothill Rd City Middleton
Additional location information (optional)
Lot Blk Sub Name

4. USE:
☑ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation ☐ Thermal ☐ Injection
☐ Other

5. TYPE OF WORK:
☑ New well ☐ Replacement well ☐ Modify existing well
☐ Abandoned ☐ Other

6. DRILL METHOD:
☑ Air Rotary ☐ Mud Rotary ☐ Cable ☐ Other

7. SEALING PROCEDURES

Seal material	From (ft)	To (ft)	Quantity (sacks or cubic feet)	Placement method (tremie or pour)
7/8 bent	0	21	22 Bags	Dry Pour
Hard Cement	21	38	22 3/4 Bags	pumped Tremie pipe

8. CASING/LINER:

Diameter (inches)	From (ft)	To (ft)	Casing Schedule	Material	Casing ☑	Liner ☐	Drive shoe ☐	Welded ☑
6	+2	114	120	Steel	☑	☐	☐	☑
					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐

Was drive shoe used? ☑ Y ☐ N Shoe Depth(s) 124'

9. PERFORATIONS/SCREENS:
Perforations ☐ Y ☐ N Method
Manufactured screen ☑ Y ☐ N Type Johnson
Method of installation Wash DN Valve

Type	From (ft)	To (ft)	Slot size	Number	Diameter (inches)	Material	Casing or Schedule
	116	131	16	6" Tele		S.S.	

Length of Hole Pipe 5' Length of Tailpipe 0
Packer ☑ Y ☐ N Type 3-R16

10. FILTER PACK:

Filter Material	From (ft)	To (ft)	Quantity (cubic ft)	Placement method

11. FLOWING ARTESIAN:
Flowing Artesian? ☐ Y ☑ N Artesian Pressure (PSI) _____
Describe control device _____

12. STATIC WATER LEVEL and WELL TESTS:
Depth first water encountered (ft) 102 Static water level (ft) 20
Water temp. (°F) 65 Bottom hole temp (°F) _____
Describe access port Steel Well Cap

Well test:

Estimated yield	Discharge or pump rate	Test duration (minutes)
120	45	2 Hrs.

Test method: Pump ☐ Bailer ☐ Air ☑ Flowing artesian ☐

Water quality test or comments: _____

13. LITHOLOGIC LOG and/or repairs or abandonment:

Bore Dia (in)	From (ft)	To (ft)	Remarks: lithology or description of repairs or abandonment, water temp.	Water Y	Water N
10.5	0	12	gravel		—
	12	35	gravel & Clay		—
6	35	42	gravel & Sand		—
	42	99	Heaving Sand & Clay	—	—
	99	103	Tan Clay		—
	103	106	Fine Silty Sand	—	—
	106	111	Frac rock Clay		—
	111	119	Course Gravel Sand	—	—
	119	125	Tan Clay		—
	125	131	Med Brn Sand	—	
			(Screen was Stamped 16 slot, gauge to 15 slot)		

Completed Depth (Measurable) 131 Ft.
Date Started 8/15/19 Date Completed 8/22/19

14. DRILLER'S CERTIFICATION:
We certify that all reasonable and practicable standards were complied with at the time the rig was removed.

Company Name Precision Well Drilling Co. No. 572
*Principal Driller Date 8/31/19
*Driller Date 8-31-19
*Operator Date 8-31-19
Operator I Date

* Signature of Principal Driller and rig operator are required

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ABBREVIATIONS AND ACRONYMS

AASHTO	American Association of State Highway & Transportation Officials
ACHD	Ada County Highway District
ASTM	American Society for Testing and Materials
BH	Bore Hole
HMA	Hot Mix Asphaltic Concrete
IBC	International Building Code
IDWR	Idaho Department of Water Resources
IDEQ	Idaho Department of Environmental Quality
ISPWC	Idaho Standard for Public Works Construction
ITD	Idaho Transportation Department
NP	Non-Plastic
PCC	Portland Cement Concrete
PCF	Pounds per Cubic Foot
PSF	Pounds per Square Foot
TP	Test Pit
USCS	Unified Soil Classification System

Nothing Follows

CK ENGINEERING P.C.
Civil Engineering * Project Management

DRAINAGE CALCULATION NARRATIVE FOR:

CLOUD NINE ESTATES SUBDIVISION

CANYON COUNTY IDAHO

August 10, 2022

CK Engineering 1300 E. State St Suite 102 Eagle, ID 83616
208.639.1992 Office

Cloud Nine Estates Subdivision is located in the SW ¼ of the SW ¼ of section 35 Township 5N., Range 2W., Canyon County Idaho. The project is located north of the intersection of Foothills Road and Kingsbury Road and south and east of Nobels Road and Kingsbury Road. This project contains approximately 72 acres and all of the lots will be 1 acre or larger.

CK Engineering has worked extensively with Canyon County Highway District to design an alignment of Kingsbury Road from Foothills Road up to the existing end of Kingsbury Road. All existing roads in this area contain stormwater with simple borrow ditches.

All lots within this subdivision will be required to contain all their storm water onsite. The only area that will generate storm water runoff will be the new streets. The new streets will have borrow ditches. Shown on the preliminary plat is a section for Check Dams. In front of the down stream side of the Check Dams will be drainage areas that will be excavated to free drainage materials that will allow the borrow ditches to drain. The entire storm drain system will be design to the requirements of the Canyon County Highway District No. 4.

Attached to this narrative is the Geotechnical engineering report and the ACHD's standard drawing BMP 30 for spacing of check dam structures within the borrow ditches.

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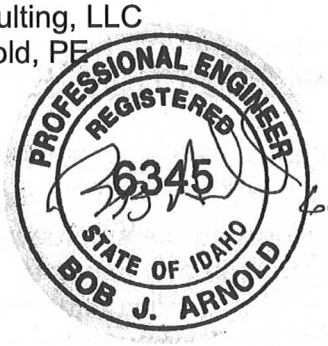
Nate Mitchell
LWD Development
210 East Murray Street
Boise, Idaho 83712

Re: **Geotechnical Recommendation Report**
Proposed Cloud Nine Subdivision
Kingsbury Road – Star, Idaho

Nate:
Based upon our observations and research documented herein, your proposed Cloud Nine Subdivision is geotechnically feasible. Recommendations for civil design of this project are included herein. We look forward to assisting with your soils related engineering and quality control needs as this project proceeds to design and construction. Should you have any questions please contact our office at your convenience.

Respectfully submitted.
SITE Consulting, LLC
Bob J. Arnold, PE



6/30/22

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FOUNDATION BACKFILL - Building Code requires that soils used to back fill foundations meet the compaction requirements stated above. Low-density foundation backfill has been shown to be a major contributing factor to water accumulating in crawlspaces throughout the Treasure Valley. Homebuilders are required to properly backfill all foundations. This is especially critical where structural fill has been placed below the foundations, sidewalks, patios, driveways, and access steps or porches.

FOUNDATION ELEVATION - Foundation elevation and site grading must conform to the requirements of the Building Code. Elevation and grading must promote drainage away from the foundation. Landscaping should be designed to promote drainage away from foundations. Flowerbeds and landscaped areas must be designed such that irrigation water and roof runoff is not retained against foundations.

DRAINAGE - Foundation drains are not required in this development. Roof gutters are recommended with down spouts directed away from foundations and not onto foundation backfill soils. Proper design and maintenance of sprinkler systems is required. Excessive watering may lead to water entering the crawl spaces/basements. Drip type sprinkler heads should be used in flowerbeds near foundations. Lawn area sprinklers should not spray toward foundations or cause water to accumulate near foundations.

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INTRODUCTION

Purpose and Scope

This report presents our geotechnical investigation and resulting recommendations for the proposed Cloud Nine Subdivision. The subject property is located north of Foothill Road, south of Lanktree Lane, and east of Elkridge Road. There is a gap in Kingsbury Road between Lanktree and Foothill. This property includes 72 acres to the east of that gap. The proposed project includes construction of most of Kingsbury Road between Lanktree and Foothill. A total of 45 single-family residential lots are planned. The subject property includes the two parcels in the table below and shown in the following aerial photo:

Parcel Information

#	Parcel #	Acres
N	R-3762400000	38.7
S	R-3382700000	34.1
		72.8

The above information was gathered from the Canyon County Assessors database through landprodata.com.

The inset property at 7924 West Kingsbury is not a part of the proposed development.

Google Earth Aerial Photo

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RESEARCH & BACKGROUND

Field Investigation

As per your authorization, on May 11, 2022, SITE staff supervised the excavation of thirteen test pits on the subject property. Test pits were specifically located atop ridges where material will be harvested to be used as structural fill and in the draws between the ridges where structural fill will be placed. Fills up to 30 feet deep are anticipated on this project. Our staff gathered representative samples from the spoil piles during excavation of each test pit. The samples were placed in plastic bags, labeled with test pit number and depth, and transported to the laboratory for additional testing. Sieve Analysis, Moisture Content, and Liquid Limit, Plastic Limit & Plasticity Index testing were performed on selected samples. All tests were performed in general accordance with the appropriate ASTM test methods.

Observed Subsurface Conditions

At the time of our investigation, the site surface was firm and stable. Subsurface conditions in the test pits were generally similar in the areas explored. The organic layer varies from 2-8 inches thick, with some sage brush roots reaching depths of two feet. Typical soils encountered in the upper sixteen feet of the soil profile are silty sand or sandy silt. In a few test pits, a weakly cemented layer was encountered. In others, lean clays or fine gravel was present in the silt / sand matrix. Encountered layering is indicated on the log prepared for each test pit. The test pit logs, with all completed labwork, are in the Appendix. It is noted that groundwater was not encountered in any of our test pits. A well log for the inset property at 7924 Kingsbury was found on the IDWR website. This well log indicates the groundwater beneath the property is 200 feet deep.

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Site Hydrology

Two IDWR well logs have been included in the Appendix. One is for the inset property and the second is for a property on Foothills Road. Well Logs indicate the groundwater on the property can be expected to be 200 feet deep near the center of the site and 100 feet deep at the south, lowest, end. No spring was observed or reported on the subject property. It is anticipated that accumulated storm run-off will be directed to roadside swales which are acceptable.

DESIGN & CONSTRUCTION RECOMMENDATIONS

General Earthwork

All native soils that are free of organic matter and expansive clays are acceptable for use as fill. Removal of the majority of the organic materials will require grubbing of 2-8 inches of surface soils. Deeper removal of tree and sage brush roots can be anticipated. Removal of all organic material is required in all areas to receive structural fill. The depth of grubbing is to be adjusted and inspected during construction to ensure that organic materials are properly removed from beneath future pavements, structural fills, and residential foundations. After proper grubbing, the surface is to be proof rolled and inspected by the project geotechnical consultant. Deflecting areas are to be over excavated as directed at the time of construction. Native silt / sand soils removed from cut areas and proposed right of ways can be utilized as structural fill. These materials can also be used in proposed roadways and future building pads.

If used for fill, the surface soil will require moisture contents within two percent of optimum for effective compaction. These soils will easily become too wet or too dry for effective compaction and can be expected to perform poorly if wet and subjected to rubber tired equipment. If construction is to occur during wet weather or wet surface soil conditions, low-pressure, (tracked), construction equipment is recommended. Rutting caused by the contactor using rubber-tired equipment on a wet subgrade can be

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Pavement Section

It is anticipated that an R-Value of R > 20 will be obtained on the native silt/sand soils that will be exposed as the subgrade or used to fill the roadways. Based upon this R-Value, a Traffic Index of TI=7, and the CCHD Design Method, the following pavement section is recommended for interior subdivision streets.

Material Layer	Internal Streets	Kingsbury Road
HMA Pavement	3.0"	3.0"
Base Coarse (¾" minus)	6.0"	6.0"
Subbase (Pitrun)	9.0"	12.0"

Materials meeting the requirements of ISPWC & / or CCHD are required for any work within this project.

Lot Specific Evaluation

After lot layout is completed, a lot specific geotechnical investigation and recommendation report is recommended for any building pad atop a ten percent or greater slope. Any lot contemplating a basement should also prepare a lot specific geotechnical report. The recommendations below apply to all other lots unless a lot specific report is prepared.

Foundation System

The proposed single-family residential structures may be supported on conventional, continuous, and isolated pad foundations founded upon the native soils or upon structural fill extending to these soils. Based upon proper placement and compaction of structural fill, bearing pressures of up to 1500 psf are allowed for foundations founded on the native soils or upon properly placed and compacted structural fill. Either crawlspaces or slab on grade floors are acceptable.

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Slab on Grade Concrete

Care must be taken so that all excavations below both interior and exterior slab on grade concrete are properly backfilled in accordance with the structural fill recommendations. This is critical where a slab or foundation will extend over utility trenches or retaining wall backfill. Trenches and wall backfill areas are to be filled in lifts and benched each lift so that fill is not placed against a vertical soil face greater than three feet tall. Testing is to confirm that compaction has been achieved. Areas of excessive yielding should be excavated and backfilled with structural fill. Any fill used to increase the elevation of slab on grade concrete should meet the requirement for structural fill. Slab on grade floors, sidewalks and pavements should be placed atop a mat of at least four inches of granular structural fill materials. This depth is to increase to one foot when concrete is to be placed over fat clays soils. This is required to prevent seasonal heaving of sidewalks, patios, and driveways. ISPWC ¾" base is acceptable for this mat. The mat shall be compacted to the requirement for structural fill. All slabs should be suitably reinforced to make them as rigid as possible. Proper joints should be provided at the junctions of the slab and foundation system so that independent movement can occur without causing damage.

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Contractor Inspections

This report has been prepared with the intent to provide specific design information to the developer and the civil engineering consultant. It is not intended to act as any contractors "Due Diligence" or subsurface inspection prior to estimating construction costs or actual construction.

General Comments

After the plans and specifications for construction are completed, it is recommended that this consultant be provided the opportunity to review the final design and specifications. This review will confirm that the earthwork recommendations have been properly interpreted and implemented. At that time, it may be necessary to submit supplementary recommendations. This review is a part of this service and will not result in additional invoicing unless additional research and recommendations are needed.

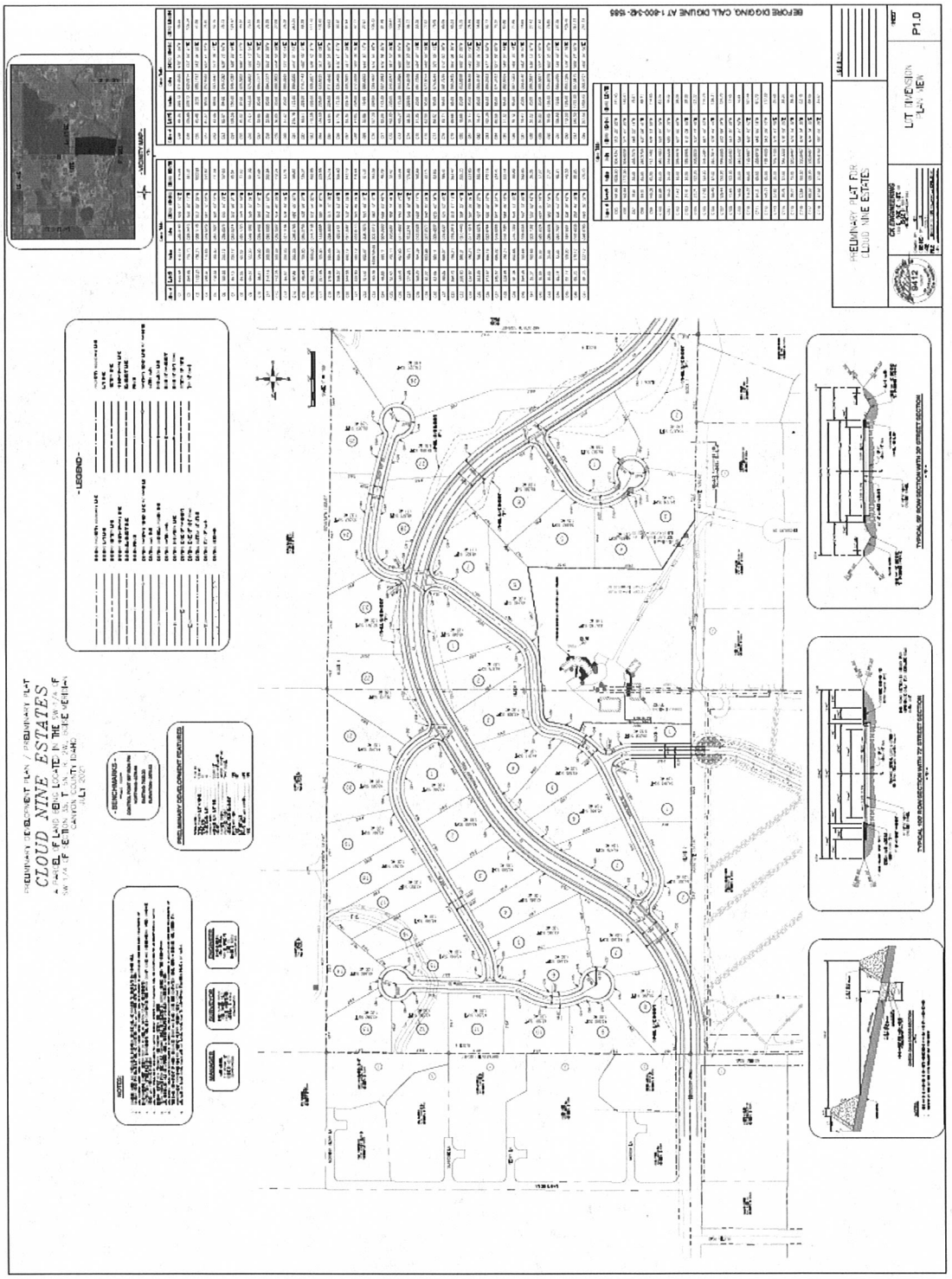
Testing and inspection services are recommended herein. Proper quality control during construction is required to confirm materials and methods and thereby obtain a desirable finished product. Monitoring and testing should also be performed to verify suitability of materials used for structural fills and to confirm proper demolition, subgrade grubbing, subgrade stability, and proper placement and compaction of fills. Any deviations from the herein described subsurface conditions must be brought to the attention of this consultant.

This report has been prepared for the exclusive use of the client and their retained design consultants. Findings and recommendations within this report are for specific application to the proposed construction described herein and apply only to the property identified. Client may duplicate this report as needed or additional copies will be provided upon proper client authorization.

Appendix Follows

SITE CONSULTING, LLC

PRELIMINARY PLAT



Supplied by client

208-440-6276 * info@siteconsultingllc.com (17) Post Office Box 190537 * Boise, Idaho 83719

SITE
CONSULTING, LLC

TEST PIT LOG

Test Pit:	**TP-1**	**File #:**	**22837-A**
Client:	**LWD Development, Inc.**	**Date Excavated:**	**05/11/22**
Project:	**Cloud Nine Subdivision**	**Excavated By:**	**Wagner Excavation**
Location:	**See Aerial Photo**	**Logged By:**	**J. Meusch-SITE**

DEPTH	SOILS DESCRIPTION										
(feet)	3/4"	1/2"	3/8"	# 4	# 10	# 40	#100	#200	%M	LL	PI
0.0-4.0	Brown/Tan, Moist, Firm, Silty, SAND (SM) with a 4-6" Rootzone / organic Layer										
2.0		100	99	95	85	55	36	26.8	9.7	NP	NP
4.0-10.0	Red/Tan, Moist, Firm, Sandy, Silt										
10.0-14.0	Red/Tan, Moist, Firm, Silty, Sand										
14.0	Bottom of Excavation @ 14.0' No Ground Water Encountered No Monitoring Well in Place										

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TEST PIT LOG

Test Pit:	TP-3	File #:	22837-A
Client:	LWD Development, Inc.	Date Excavated:	05/11/22
Project:	Cloud Nine Subdivision	Excavated By:	Wagner Excavation
Location:	See Aerial Photo	Logged By:	J. Meusch-SITE

DEPTH	SOILS DESCRIPTION										
(feet)	3/4"	1/2"	3/8"	# 4	# 10	# 40	#100	#200	%M	LL	PI
0.0-5.0	Brown/Tan, Moist, Firm, Sand, Clay, Silt with a 4-6" Rootzone / organic Layer										
5.0-9.0	Brown/Tan, Moist, Very Firm, Cemented, Silty, SAND (SM)										
6.0			100	99	95	75	55	46.3	10.8	24	3
9.0-13.0	Brown/Tan, Moist, Firm, Sandy, Silt										
13.0-16.0	Brown/Tan, Moist, Firm, Silty, Sand										
16.0	Bottom of Excavation @ 16.0' No Ground Water Encountered No Monitoring Well in Place										

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TEST PIT LOG

Test Pit:	TP-5	File #:	22837-A
Client:	LWD Development, Inc.	Date Excavated:	05/11/22
Project:	Cloud Nine Subdivision	Excavated By:	Wagner Excavation
Location:	See Aerial Photo	Logged By:	J. Meusch-SITE

DEPTH	SOILS DESCRIPTION										
(feet)	3/4"	1/2"	3/8"	# 4	# 10	# 40	#100	#200	%M	LL	PI
0.0-4.0	Tan, Dry, Firm, Blocky, Sandy, Silt with a 4-6" Rootzone / organic Layer										
4.0-9.0	Brown/Tan, Moist, Firm, Cemented, Sand & Silt										
9.0-13.0	Brown/Tan, Moist, Firm, Sandy, Silt										
13.0-16.0	Brown/Tan, Moist, Firm, Silty, Sand										
16.0	Bottom of Excavation @ 16.0' No Ground Water Encountered No Monitoring Well in Place										

SITE CONSULTING, LLC

TEST PIT LOG

Test Pit:	**TP-7**	**File #:**	**22837-A**
Client:	**LWD Development, Inc.**	**Date Excavated:**	**05/11/22**
Project:	**Cloud Nine Subdivision**	**Excavated By:**	**Wagner Excavation**
Location:	**See Aerial Photo**	**Logged By:**	**J. Meusch-SITE**

DEPTH	SOILS DESCRIPTION										
(feet)	3/4"	1/2"	3/8"	# 4	# 10	# 40	#100	#200	%M	LL	PI
0.0-5.0 (Proctor)	Brown, Moist, Firm, Blocky, Sandy, SILT (ML) with a 4-6" Rootzone / organic Layer Standard Proctor – 94.5pcf @ 23.4 % moisture										
3.0			100	99	92	75	64	55.7	16.2	NP	NP
5.0-8.0	Brown/Tan, Moist, Very Firm, Cemented, Sand & Silt										
8.0-13.0	Brown/Red, Moist, Firm, Sandy, Silt										
13.0-16.0	Brown/Tan, Moist, Firm, Silty, Sand										
16.0	Bottom of Excavation @ 16.0' No Ground Water Encountered No Monitoring Well in Place										

SITE CONSULTING, LLC

TEST PIT LOG

Test Pit:	TP-9	File #:	22837-A
Client:	LWD Development, Inc.	Date Excavated:	05/11/22
Project:	Cloud Nine Subdivision	Excavated By:	Wagner Excavation
Location:	See Aerial Photo	Logged By:	J. Meusch-SITE

DEPTH	SOILS DESCRIPTION										
(feet)	3/4"	1/2"	3/8"	# 4	# 10	# 40	#100	#200	%M	LL	PI
0.0-1.0	Brown, Moist, Firm, Sand, Clay, Silt with a 4-6" Rootzone / organic Layer										
1.0-4.0	Brown/Red, Moist, Very Firm, Cemented, Silty, SAND (SM)										
3.0		100	99	92	71	28	14	11.4	8.1	NP	NP
4.0-10.0	Red/Tan, Moist, Firm, Cemented, SAND (SM)										
9.0			100	95	71	26	12	9.5	6.2	NP	NP
10.0-13.0	Red/Tan, Moist, Firm, SAND (SP)										
12.0			100	94	71	19	9	8.7	5.5	NP	NP
13.0-16.0	Tan, Moist, Firm, SAND with gravel (SP)										
14.0	100	98	97	93	74	41	19	8.4	5.2	NP	NP
16.0	Bottom of Excavation @ 16.0' No Ground Water Encountered No Monitoring Well in Place										

SITE
CONSULTING, LLC

TEST PIT LOG

Test Pit:	**TP-11**	**File #:**	**22837-A**
Client:	**LWD Development, Inc.**	**Date Excavated:**	**05/11/22**
Project:	**Cloud Nine Subdivision**	**Excavated By:**	**Wagner Excavation**
Location:	**See Aerial Photo**	**Logged By:**	**J. Meusch-SITE**

DEPTH	SOILS DESCRIPTION										
(feet)	3/4"	1/2"	3/8"	# 4	# 10	# 40	#100	#200	%M	LL	PI
0.0-3.0	Brown, Moist, Firm, Clayey, Gravelly, SAND (SC) with a 4-6" Rootzone / organic Layer										
2.0	92	84	78	70	59	44	34	29.0	6.5	31	11
3.0-5.0	Brown/Tan, Moist, Firm, Blocky, Sand & Clay										
5.0-9.0	Brown/Tan, Moist, Firm, Sandy, Silt										
9.0-12.0	Red/Tan, Moist, Firm, Sticky, Sand, Silt & Clay										
12.0-16.0	Brown/Tan, Moist, Firm, Blocky, Silty, Sand										
16.0	Bottom of Excavation @ 16.0' No Ground Water Encountered No Monitoring Well in Place										

SITE CONSULTING, LLC

TEST PIT LOG

Test Pit:	TP-13	File #:	22837-A
Client:	LWD Development, Inc.	Date Excavated:	05/11/22
Project:	Cloud Nine Subdivision	Excavated By:	Wagner Excavation
Location:	See Aerial Photo	Logged By:	J. Meusch-SITE

DEPTH	SOILS DESCRIPTION										
(feet)	3/4"	1/2"	3/8"	# 4	# 10	# 40	#100	#200	%M	LL	PI
0.0-5.0	Brown/Tan, Moist, Firm, Sand & Silt with gravel with a 4-6" Rootzone / organic Layer										
5.0-10.0	Red/Tan, Moist, Firm, Sand & Silt										
10.0-13.0	Brown/Red, Moist, Firm, Cemented, Silty, SAND (SM)										
12.0		100	99	94	81	60	43	31.0	16.5	NP	NP
13.0-16.0	Brown/Red, Moist, Firm, Silty, Sand										
16.0	Bottom of Excavation @ 16.0' No Ground Water Encountered No Monitoring Well in Place										

SITE
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DESIGN SECTION CALCULATIONS

(ITD-Value Method)

Project: **Cloud Nine Subdivision**
Kingsbusy Road - Star, Idaho
Client: **LWD Development**

File No.: **22837-A**
Calc By: **B. Arnold**
Date: **06/24/22**

Design Thickness Equation:

T = 0.0032 (TI) (100-R)(12) = GE (inches)

T=	**Design Thickness**	**TI =**	**Traffic Index =**	**7**	**By Design Manual**
GE =	**Gravel Equivalent**	**R =**	**R-Value =**	**20**	**Assumed**

GE= 22 Inches

ACHD HMA, 3/4" Base and Aggregate Subbase

	Actual Thickness		Equivalent Thickness		
HMA Thickness =	**3.0**	**Inches**	**HMA=**	**7.5**	**Inches**
3/4" Base Thickness =	**6.0**	**Inches**	**RBE=**	**6.6**	**Inches**

Calculated Aggregate Subbase Thickness Equation:

Subbase Thickness=SB=GE-HMA-RBE

SB= 7.9 Inches

RECOMMENDED DESIGN SECTION

HMA = 3.0 inches
3/4" BASE = 6.0 inches
SUBBASE = 9.0 inches

R=20 assumes topsoil is removed and pavements are constructed atop the cemented silt soils

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IDWR WELL LOG

7924 Kingsbury Drive

(Address on log is Wrong)

Form 238-7
6/07

63

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

1. WELL TAG NO. D 0083591
Drilling Permit No. 893024
Water right or injection well #

2. OWNER: Richard Phillips
Name
Address 210 E Murry St
City Boise State ID Zip 83714

3.WELL LOCATION:
Twp. 04 North ☑ or South ☐ Rge. 02 East ☐ or West ☑
Sec. 2 1/4 NW 1/4 NW 1/4
Gov't Lot County Canyon
Lat. 43 ° 43.256 (Deg. and Decimal minutes)
Long. 116 ° 33.090 (Deg. and Decimal minutes)
Address of Well Site 7942 Kingsbury Dr
City Middleton
Lot Blk. Sub. Name

4. USE:
☑ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation ☐ Thermal ☐ Injection
☐ Other

5. TYPE OF WORK:
☑ New well ☑ Replacement well ☐ Modify existing well - see start card
☐ Abandonment ☐ Other

6. DRILL METHOD:
☑ Air Rotary ☐ Mud Rotary ☐ Cable ☐ Other

7. SEALING PROCEDURES:

Seal material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method/procedure
Bent. 3/4 Chip	0	40	1750	Pour

8. CASING/LINER:

Diameter (nominal)	From (ft)	To (ft)	Gauge/ Schedule	Material	Casing	Liner	Threaded	Welded
6"	+2	336	.250	Steel	☑	☐	☐	☑
					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐

Was drive shoe used? ☑ Y ☐ N Shoe Depth(s) 336'

9. PERFORATIONS/SCREENS:
Perforations ☐ Y ☐ N Method
Manufactured screen ☑ Y ☐ N Type Johnson Stainless
Method of installation Wash Down

From (ft)	To (ft)	Slot size	Number/ft	Diameter (nominal)	Material	Gauge or Schedule
243	253	.020		5"	Stainless	

Length of Headpipe 14'8" Length of Tailpipe 8"
Packer ☑ Y ☐ N Type K-Packer

10.FILTER PACK:

Filter Material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method

11. FLOWING ARTESIAN:
Flowing Artesian? ☐ Y ☑ N Artesian Pressure (PSIG)
Describe control device

12. STATIC WATER LEVEL and WELL TESTS:
Depth first water encountered (ft) 200 Static water level (ft) 150'
Water temp. (°F) Cold Bottom hole temp. (°F)
Describe access port
Well test:

Drawdown (feet)	Discharge or yield (gpm)	Test duration (minutes)
350	70	120

Test method: Pump ☐ ☐ Bailer ☐ ☐ Air ☑ ☐ Flowing artesian ☐ ☐
Water quality test or comments:

13. LITHOLOGIC LOG and/or repairs or abandonment:

Bore Dia. (in)	From (ft)	To (ft)	Remarks, lithology or description of repairs or abandonment, water temp.	Water Y	Water N
12"	0	2	Clay		X
12"	2	40	Sandy Clay		X
6"	40	97	Sandy Clay		X
6"	97	133	Gravel & Sand		X
6"	133	167	Clay		X
6"	167	195	Sand Dry		X
6"	195	200	Clay		X
6"	200	237	Sand w/Clay Streaks	X	
6"	237	245	Fine Sand	X	
6"	245	260	Brown Clay		X
6"	260	353	Medium Fine Sand	X	
6"	353	355	Brown Clay		X

RECEIVED
MAR 10 2020
WATER RESOURCES
WESTERN REGION

Completed Depth (Measurable) 353'
Date Started: 2/20/2020 Date Completed 2/26/2020

14. DRILLER'S CERTIFICATION:
I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Company Name McLeran Well Drilling, LLC Co. No. 641
*Principal Driller Dan Date
*Driller Josh McLeran Date
*Operator I Date
Operator I Date

* Signature of Principal Driller and rig operator are required.

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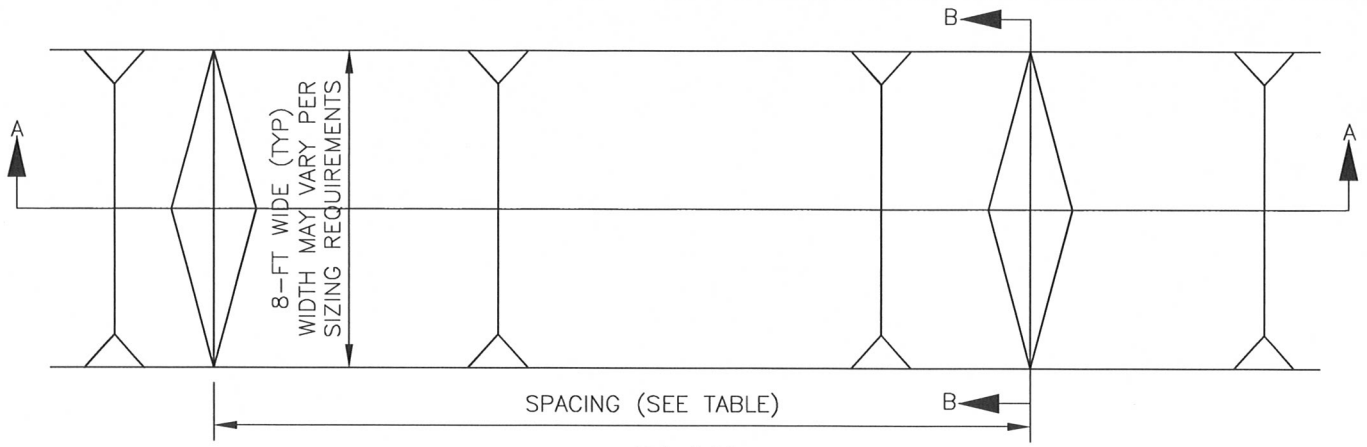
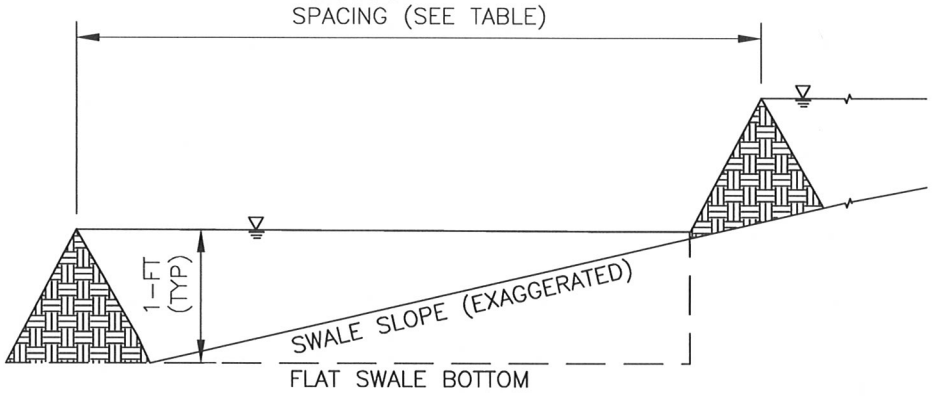
ABBREVIATIONS AND ACRONYMS

AASHTO	American Association of State Highway & Transportation Officials
ACHD	Ada County Highway District
ASTM	American Society for Testing and Materials
BH	Bore Hole
HMA	Hot Mix Asphaltic Concrete
IBC	International Building Code
IDWR	Idaho Department of Water Resources
IDEQ	Idaho Department of Environmental Quality
ISPWC	Idaho Standard for Public Works Construction
ITD	Idaho Transportation Department
NP	Non-Plastic
PCC	Portland Cement Concrete
PCF	Pounds per Cubic Foot
PSF	Pounds per Square Foot
TP	Test Pit
USCS	Unified Soil Classification System

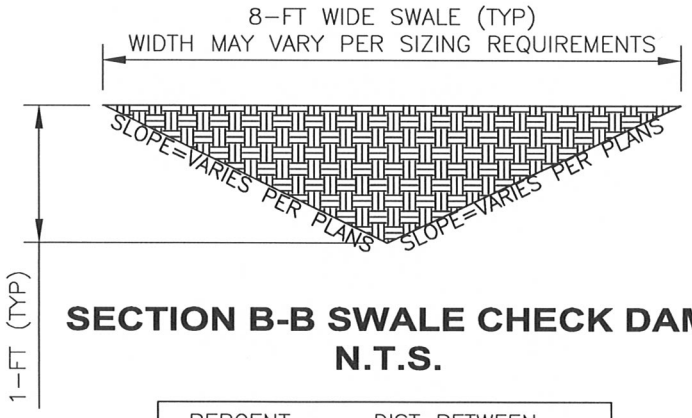
Nothing Follows



PLAN
N.T.S.



SECTION A-A
N.T.S.



SECTION B-B SWALE CHECK DAM
N.T.S.

PERCENT SLOPE	DIST BETWEEN CHECK DAMS (FT)
1%	100
2%	50
3%	33
4%	25
>=5%, 10% MAX	20

NOTES:
1. CHECK DAMS TO BE CONSTRUCTED OF CLAY SOIL TO MINIMIZE SEEPAGE OR COBBLES FOR CONVEYANCE SWALES. OTHER MATERIALS MAY BE USED FOR CHECK DAMS WITH ACHD WRITTEN APPROVAL
2. SIDE SLOPES AND CHECK DAMS SHALL COMPLY WITH AASHTO CLEAR ZONE GUIDELINES

2017 ACHD STORMWATER DESIGN GUIDELINES	BIORETENTION SWALE CHECK DAMS	STANDARD DRAWING BMP 30 SHEET 3 OF 3

SLOPE STABILIZATION AND REVEGETATION PLAN & REPORT
for
CLOUD 9 SUBDIVISION

Address:
7924 W Kingsbury Dr.
Middleton, ID 83644

PREPARED BY:

SOUTH BECK & BAIRD

South Landscape Architecture P.C.
Dba South Beck & Baird
Landscape Architecture P.C.

2002 S. Vista Ave
Boise, ID 83705
208.342.2999 Office

sla@slaboise.com
www.slaboise.com

STATE OF IDAHO
JOHN D. ROTERS
LA - 16827
3/28/23
LICENSED LANDSCAPE ARCHITECT

Project No. 19-069

March 28, 2023

GENERAL OVERVIEW

This report outlines recommended revegetation and slope stabilization measures for disturbed cut and fill slopes within the project limits as defined on the accompanying plan (Exhibit 'B'). These recommendations are made to prevent short term and long-term soil erosion as well as to provide aesthetic revegetation which will blend with the existing natural surrounding area. The measures include revegetation and hydro mulching procedures following topsoil distribution and fine grading. The area to be revegetated consists of disturbed areas related to grading for the lot leveling and road construction and any other areas disturbed in the process of construction. The slopes to be affected vary widely in degree and aspect. The existing vegetation consists primarily of foothills grass lands with native dryland shrubs scattered throughout. Grasses and forbs make up the majority of the ground plane consistent with the surrounding areas. Introduced species of weeds are also present and vary in number, location, and type.

GENERAL EARTHWORK

All work shall be limited to the area required for construction with minimal, if any, disturbance to the surrounding natural slope or vegetation. All finished grades shall be smooth and rounded to ensure a natural transition between new and existing grades. Refer to civil plans for grading and drainage requirements.

SOUTH BECK& BAIRD

SITE PREPERATION

Earthwork process should begin with clearing large shrubs from the areas to be disturbed. Woody stems and branches shall be chipped on site to improve the amount of organic material in the topsoil. Natural topsoil occurs at varying depths on the project site. The topsoil should be excavated and stockpiled at designated storage areas prior to the proposed grading operations.

TOPSOIL DISTRIBUTION

Once the general earthwork is complete and rough grading has been accomplished, the topsoil should be redistributed over the area to a minimum depth of six (6) inches, or as allowed by availability of on-site topsoil. Where needed, slopes should be graded with serration to hold topsoil adequately. Topsoil should be spread and lightly compacted utilizing a small cleated tractor moving perpendicular to the contours or another method with equal capability. It is our recommendation that any necessary mechanical means of perimeter erosion and sedimentation control be in place prior to beginning site disturbance. Prior to construction a Storm Water Pollution Prevention Plan and Erosion & Sedimentation Control Plan shall be developed and implemented. For additional information and requirements please refer to these documents.

Once topsoil has been distributed and graded, revegetation seeding shall follow immediately. In order to eliminate surface crusting and to facilitate better root penetration, the surface should be scarified prior to seeding.

SEEDING

Apply seed to the project site by hydroseeding. All seed to be sourced from an appropriate climate of origin matching the project site. The following information provides material and execution for Seeding.

Seed Mixture:	**Pure Live Seed % Mix**
JUNE PRARIEGRASS	20%
ROADCREST WHEATGRASS	20%
BLUEGRAMMA GRASS	5%
BUFFALOGRASS	10%
BIG SHERMAN BLUEGRASS	20%
MICROCLOVER	5%
SHEEPS FESCUE	15%
HARD FESCUE	5%

TOTAL SEED

INSTALL @ 35 LBS / ACRE ON SLOPES LESS THAN 10%
INSTALL @ 50 LBS / ACRE ON SLOPES GREATER THAN 10%

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FERTIL-FIBER MULCH MATERIAL

Grow Nutribase from "Quattro Environmental", a composted poultry-based mulch material free of growth or germination inhibiting ingredients. Apply at the rate of 2000 lbs. per acre.

ORGANIC SOIL AMENDMENT

Grow Nutribase from "Quattro Environmental" (or approved equal) applied at 5 gallons per acre.

TACKIFIER

Mulch tackifier soil stabilizer – Ecology controls M-Binder. Tackifier applied at the rate of 80 lbs. per acre.
Granite Seed
1697 West 2100 North
P.O. Box 177
Lehi, Utah 84043
1-800-768-4433
(or approved equal)

EROSION CONTROL BLANKETS

a. "Bonterra" Erosion Blankets with Jute netting by Terra Enterprises P.O. Box 9485 Moscow, Idaho 83843 208-882-9489 (or approved equal) Polypropylene products are not acceptable. Select Blanket type based on slope per manufacturers recommendations.
b. Staples: 16 gauge, 8" long "U" shaped securing pins. 2 staples per square yard.

HYDROSEEDING

Mix specified seed and organic soil amendment in water per manufacturer's recommendations. Apply seeded slurry evenly in two intersection directions. Do not hydroseed area in excess of that which can be mulched on same day. Keep off roads, walks, structures and areas not to be seeded. Clean up these areas. After hydroseed, mulch slope with 2000 lbs. per acre of fertile-fiber mulch material and 80 lbs. per acre of tackifier.

Immediately following mulch and tackifier, cover seeded slopes greater than 2:1 with erosion control blankets. Install top to bottom per manufacturer's recommendations. Anchor blankets loosely and in full contact with the soil stapled every 12" along the top edge and every 24"-36" along the sides and middle. Overlap blanket edges approximately 6" and staple. Install blankets so edge overlaps are shingled away from prevailing winds. Overlap blanket ends 6", upper blanket over lower blanket, and staple using five staples. Cut excess blanket with scissors and anchor at end of slope.

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MAINTENANCE

Immediately reseed areas which show bare spots. Minimum acceptable plant coverage is 80 percent after one growing season. Protect seeded areas with warning signs during maintenance period. The seed will require approximately ninety (90) days of favorable growing conditions to germinate and become established for successful survival with normal minimal summer precipitation.

SEEDING TIME

The optimal seeding time shall be in fall, between mid-September and mid-October. If seeding is applied too early or too late and proper germination is not realized prior to fall dormancy, then reseeding shall be applied in early spring, as soon as soil is workable (not muddy) between March and mid-May. This planting time provides the optimum weather conditions for seed germination and seedling survival rate. Seeding after November 20, 'dormant seeding' ensures that the seed does not germinate prior to freezing winter temperatures and seed should be in place for the early spring rains. Do NOT seed from June through August.

WATER

This project will rely primarily upon natural precipitation for seed germination and establishment. The natural precipitation at the site provides marginal moisture for revegetation efforts. If deemed necessary, contractor will provide supplemental water to ensure proper seed germination during low precipitation times of year.

FERTILIZATION

Fertilization is not recommended for reclamation seeding due to promotion of weed competition. If weeds are apparent, contact landscape architect for weed removal requirements.

EROSION CONTROL

Under normal circumstances and adherence to the construction practices described in the specifications, the above recommended erosion control measure should provide a stable slope condition. To avoid incidental erosion, it is imperative that the slopes, once prepared, remain undisturbed until seeding germinates and is established.

An 80% vegetation cover is required to control erosion. Surface conditions should be monitored daily. If erosion detrimental to the slope is observed or anticipated due to excessive rainfall, remedial measures shall be implemented as required. Refer to the Storm Water Pollution Prevention Plan and the Erosion and Sediment Control Plan for additional requirements.

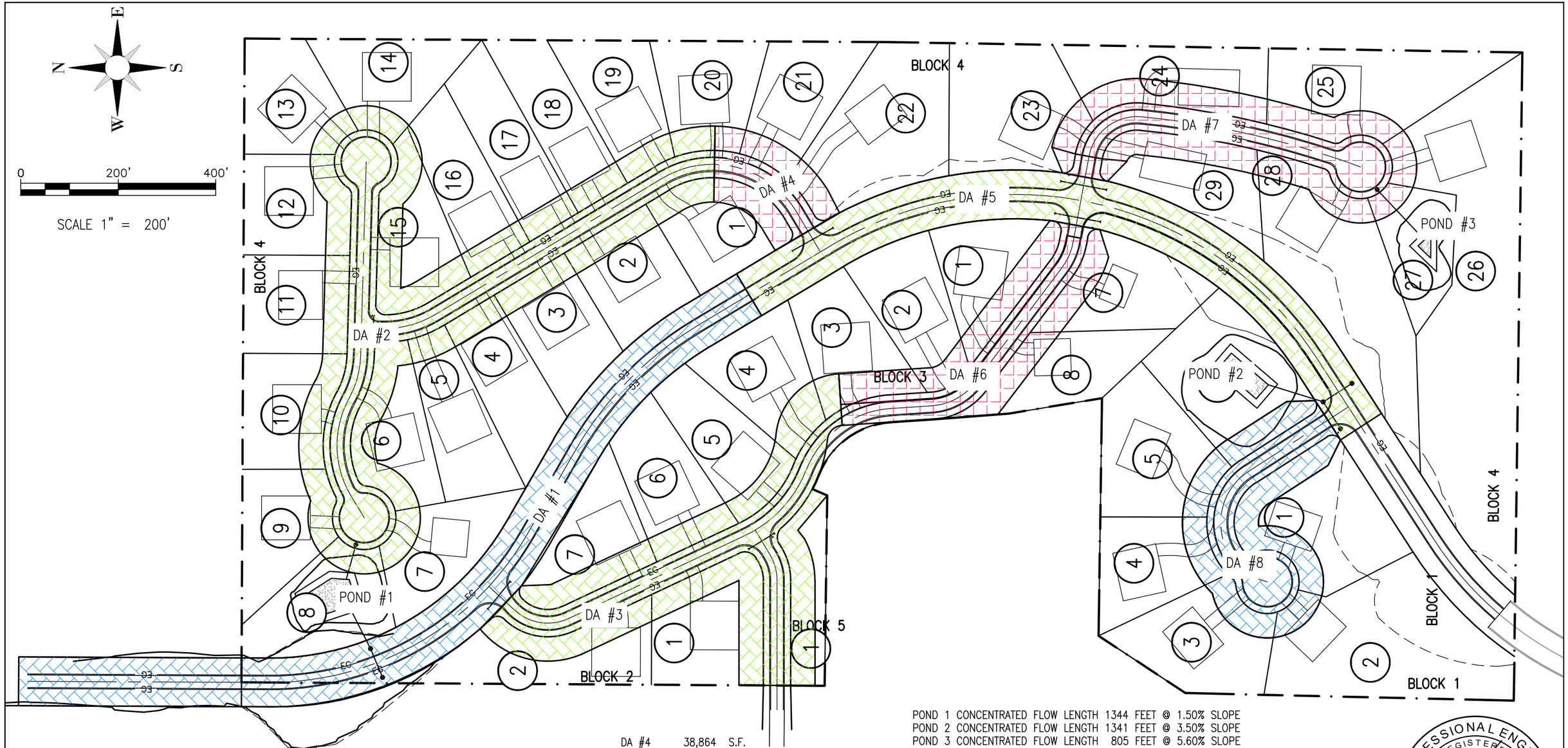
SOUTH BECK& BAIRD

EXHIBIT 'A' – EXISTING VEGETATION IMAGES:

SOUTH BECK& BAIRD

EXHIBIT 'B' - PROPOSED REVEGETATION PLAN, SHEETS L1.1 AND L1.2:

(SEE ATTACHED)



DA #1	183,155 S.F.	DA #4	38,864 S.F.	DA #7	125,618 S.F.
DA #2	281,928 S.F.	DA #5	149,420 S.F.		
DA #3	168,659 S.F.	DA #6	90,195 S.F.		
		DA #8	98,991 S.F.		

TOTAL AREA FOR POND 1 = 633,742 S.F.

TOTAL AREA FOR POND 2 = 377,470 S.F.

TOTAL AREA FOR POND 3 = 125,618 S.F.

POND 1 CONCENTRATED FLOW LENGTH 1344 FEET @ 1.50% SLOPE
POND 2 CONCENTRATED FLOW LENGTH 1341 FEET @ 3.50% SLOPE
POND 3 CONCENTRATED FLOW LENGTH 805 FEET @ 5.60% SLOPE

PROFESSIONAL ENGINEER
REGISTERED
9412
10/04/23
STATE OF IDAHO
CHAD S. KINKELA

CLOUD NINE ESTATES
CANYON COUNTY, STAR, IDAHO

DRAINAGE EXHIBIT

REVISIONS:

DRAWN BY: AKB
CHECKED BY: CSK
DATE: 10/04/23
FILE: DRAINGAGE AREAS.DWG
DIR: D:\NATE MITCHEL\KINGBURY SUBDIVISION\CK DWG'S\PRE-ENG

CK ENGINEERING
1300 E. STATE ST., SUITE 102
EAGLE, ID 83616
PHONE 208-639-1992

Preliminary Drainage Calculations

For

Cloud Nine Estates

Canyon County Idaho

10/3/2023

CK ENGINEERING P.C.
Civil Engineering * Project Management

CLOUD NINE ESTATES STORM DRAIN NARRATIVE

Cloud Nine Estates Subdivision located in Canyon County Idaho. This memo is intended to be a narrative for the preliminary design of the storm drain system for the installation of roads within the proposed preliminary plat.

On the attached drainage area exhibit the site has been broken into 8 different drainage areas. Drainage areas 1-3 will drain to pond 1. A time of concentration was calculated using the distance from DA #2 to at lot 20 down to the pond 1. Drainage area 1 is the entire 100 foot right of way and a runoff coefficient of 0.95 was used over the entire area for the future ultimate build out of Kingbury Road.

Pond 1 volume was calculated using ACHD's spread sheet and a calculated time of concentration. Pond 1 has a calculated storage volume of 22,742 cubic feet. Time to drain 95% of the 100 year storm volume was calculated as follows: (22,742)(0.95)=21,604.9 cubic feet. Geotech report states 1 inch per hour percolation rate. Pond bottom needs to be 5,400 sq feet. (21,604.9)/(5400)(1/12) = 48 hours to drain.

Drainage areas 4, 5, 6 and 8 will drain to pond 2. A time of concentration was calculated using the distance from DA 6 in front of lot 3 down to pond 2. Drainage area 5 is the 100 foot right-of-way for Kingbury Road and a runoff coefficient of 0.95 was used over the entire area for the future ultimate build out of Kingbury Road.

Pond 2 volume was calculated using ACHD's spread sheet and a calculated time of concentration. Pond 2 has a calculated storage volume of 15,785 cubic feet. Time to drain 95% of the 100 year storm volume was calculated as follows: (15,785)(.95)=14,995.75 cubic feet. Geotech report states 1 inch per hour percolation rate. Pond bottom needs to be 3,800 square feet. (14,995.75)/(3,800)(1/12) = 47.35 hours.

Drainage area 7 will drain to pond 3. A time of concentration was calculated using the distance from the northern most end of drainage area 7 in front of lot 23 down to pond 3. 50 feet of lot frontage plus 805 feet of borrow ditch.

Pond 3 volume was calculated using ACHD's spread sheet and a calculated time of concentration. Pond 3 has a calculated storage volume of 2,492 cubic feet. Time to drain 95% of the 100 year storm volume was calculated as follows: (2,492)(0.95%)=2,367.40 cubic feet. Geotech report states 1 inch per hour percolation rate. Pond bottom need to be 650 square feet. (2,367.40)/(650)(1/12)=43.70 hours.

CK Engineering 1300 E. State St Suite 102 Eagle, ID 83616
208.639.1992 Office
chad@ck-engineers.com

CK ENGINEERING P.C.
Civil Engineering * Project Management

Please see the attached drainage calculations and drainage area exhibit.

10/4/2023

Chad S. Kinkela, P.E.
CK Engineering P.C.

CK Engineering 1300 E. State St Suite 102 Eagle, ID 83616
208.639.1992 Office
chad@ck-engineers.com

ACHD Calculation Sheet for Finding Peak Discharge/Volume - Rational Method

NOTE: This worksheet is intended to be a guideline to standardize ACHD checking of drainage calculations and shall not replace the Engineer's calculation methodology. These calculations shall establish a minimum requirement. The Engineer's methodology must result in facilities that meet or exceed these calculations in order to be accepted.

Steps for Peak Discharge Rate using the Rational Method calculated for post-development

Calculate Post-Development Flows (for pre-development flows, increase number of storage facilities to create new tab)

User input in yellow cells.

1 **Project Name** Cloud Nine Pond 1

2 Is area drainage basin map provided? YES
(map must be included with stormwater calculations)

3 Enter Design Storm (100-Year or 25-Year With 100-Year Flood Route) 100

4 Enter number of storage facilities (25 max)

Click to Show More Subbasins ☐

		Subbasin 1	Subbasin 2	Subbasin 3	Subbasin 4	Subbasin 5	Subbasin 6	Subbasin 7	Subbasin 8	Subbasin 9	Subbasin 10
5 Area of Drainage Subbasin (SF or Acres)	SF	183,155	281,928	168,659	0						
	Acres	14.55									
6 Determine the Weighted Runoff Coefficient (C)		0.95	0.25	0.25	0.00						
C=[(C1xA1)+(C2xA2)+(CnxAn)]/A	Weighted Avg	0.45									

7 Calculate Overland Flow Time of Concentration in Minutes (Tc) or use default 10 min — User Calculate: 10 Min.

ID	Pipe Size (in)	Slope (ft/ft)	Intercept Coeff.	Length	Manning n	Hydraulic Radius A/Wet Perm	Flow Velocity V (fps)	Flow Time (min)
	Segment 1: Pipe Flow							
a	0	0		0	0.000	0.00		
	Segment 2: Gutter Shallow Concentrated Flow							
b		0.015	0.691	1,343			2.8	8.0
	Segment 3: Overland Sheet Flow By TR-55, < 300-ft							
c		0.010		50	0.250		2.7	18.2
						Computed Tc =		26.2
						User-Entered Tc =		26.2

8 Determine the average rainfall intensity (i) from IDF Curve based on Tc — i = 1.58 in/hr

9 Calculate the Post-Development peak discharge (QPeak) — Q_{peak} = 10.40 cfs

10 Calculate total runoff vol (V) (for sizing primary storage) — V = 22,742 ft^3
V = Ci (Tc=60)Ax3600

11 Calculate Volume of Runoff Reduction Vrr
Enter Percentile Storm I (95th percentile = 0.60 in) — 95th 0.60 in
Enter Runoff Reduction Vol (95th Percentile=0.60-in x Area x C) — V_{rr} = 14,214 ft^3

12 Detention: Approved Discharge Rate to Surface Waters (if applicable) — cfs

13 Volume Summary
Surface Storage: Basin
Basin Forebay — V = 2,274 ft^3
Primary Treatment/Storage Basin — V = 20,468 ft^3
Subsurface Storage
Volume Without Sediment Factor (See BMP 20 Tab) — V = 22,742 ft^3

Estimated Runoff Coefficients for Various Surface

Type of Surface	Runoff Coefficients "C
Business	
Downtown areas	0.70-0.95
Urban neighborhoods	0.50-0.70
Residential	
Single Family	0.35-0.50
Multi-family	0.60-0.75
Residential (rural)	0.25-0.40
Apartment Dwelling Areas	0.70
Industrial and Commercial	
Light areas	0.80
Heavy areas	0.90
Parks, Cemeteries	0.10-0.25
Playgrounds	0.20-0.35
Railroad yard areas	0.20-0.40
Unimproved areas	0.10-0.30
Streets	
Asphalt	0.95
Concrete	0.95
Brick	0.95
Roofs	0.95
Gravel	0.75
Fields: Sandy soil	Soil Type

Slope	A	B	C	D
Flat: 0-2%	0.04	0.07	0.11	0.
Average: 2-6%	0.09	0.12	0.15	0.
Steep:>6%	0.13	0.18	0.23	0.

Adapted from ASCE

ACHD Calculation Sheet for Finding Peak Discharge/Volume - Rational Method

NOTE: This worksheet is intended to be a guideline to standardize ACHD checking of drainage calculations and shall not replace the Engineer's calculation methodology. These calculations shall establish a minimum requirement. The Engineer's methodology must result in facilities that meet or exceed these calculations in order to be accepted.

Steps for Peak Discharge Rate using the Rational Method calculated for post-development

Calculate Post-Development Flows (for pre-development flows, increase number of storage facilities to create new tab)

User input in yellow cells.

1 **Project Name** **Cloud Nine Pond 2**

2 Is area drainage basin map provided? **YES**
(map must be included with stormwater calculations)

3 Enter Design Storm (100-Year or 25-Year With 100-Year Flood Route) **100**

4 Enter number of storage facilities (25 max)

Click to Show More Subbasins ☐

		Subbasin 1	Subbasin 2	Subbasin 3	Subbasin 4	Subbasin 5	Subbasin 6	Subbasin 7	Subbasin 8	Subbasin 9	Subbasin 10
5 Area of Drainage Subbasin (SF or Acres)	SF	0	0	0	38,864	149,420	90,195	0	98,991		
	Acres	8.67									
6 Determine the Weighted Runoff Coefficient (C)		0.00	0.00	0.30	0.25	0.95	0.25	0.25	0.25		
C=[(C1xA1)+(C2xA2)+(CnxAn)]/A	Weighted Avg	0.53									

7 Calculate Overland Flow Time of Concentration in Minutes (Tc) or use default 10 min — User Calculate: 10 Min.

ID	Pipe Size (in)	Slope (ft/ft)	Intercept Coeff.	Length	Manning n	Hydraulic Radius A/Wet Perm	Flow Velocity V (fps)	Flow Time (min)
	Segment 1: Pipe Flow							
a	0	0		0	0.000	0.00		
	Segment 2: Gutter Shallow Concentrated Flow							
b		0.350	0.491	1,341			9.5	2.3
	Segment 3: Overland Sheet Flow By TR-55, < 300-ft							
c		0.010		50	0.250		2.7	18.2
							Computed Tc =	20.6
							User-Entered Tc =	20.6

Estimated Runoff Coefficients for Various Surface	
Type of Surface	Runoff Coefficients "C
Business	
Downtown areas	0.70-0.95
Urban neighborhoods	0.50-0.70
Residential	
Single Family	0.35-0.50
Multi-family	0.60-0.75
Residential (rural)	0.25-0.40
Apartment Dwelling Areas	0.70
Industrial and Commercial	
Light areas	0.80
Heavy areas	0.90
Parks, Cemeteries	0.10-0.25
Playgrounds	0.20-0.35
Railroad yard areas	0.20-0.40

8 Determine the average rainfall intensity (i) from IDF Curve based on Tc	i	1.81		in/hr
9 Calculate the Post-Development peak discharge (QPeak)	Q_{peak}	8.27		cfs
10 Calculate total runoff vol (V) (for sizing primary storage)	V	15,785		ft^3
V = Ci (Tc=60)Ax3600				
11 Calculate Volume of Runoff Reduction Vrr				
Enter Percentile Storm I (95th percentile = 0.60 in)		95th	0.60	in
Enter Runoff Reduction Vol (95th Percentile=0.60-in x Area x C)	V_{rr}	9,866		ft^3
12 Detention: Approved Discharge Rate to Surface Waters (if applicable)				cfs
13 Volume Summary				
Surface Storage: Basin				
Basin Forebay	V	1,579		ft^3
Primary Treatment/Storage Basin	V	14,207		ft^3
Subsurface Storage				
Volume Without Sediment Factor (See BMP 20 Tab)	V	15,785		ft^3

Unimproved areas	0.10-0.30			
Streets				
Asphalt	0.95			
Concrete	0.95			
Brick	0.95			
Roofs	0.95			
Gravel	0.75			
Fields: Sandy soil	Soil Type			
Slope	A	B	C	D
Flat: 0-2%	0.04	0.07	0.11	0.
Average: 2-6%	0.09	0.12	0.15	0.
Steep:>6%	0.13	0.18	0.23	0.
Adapted from ASCE				

ACHD Calculation Sheet for Finding Peak Discharge/Volume - Rational Method

NOTE: This worksheet is intended to be a guideline to standardize ACHD checking of drainage calculations and shall not replace the Engineer's calculation methodology. These calculations shall establish a minimum requirement. The Engineer's methodology must result in facilities that meet or exceed these calculations in order to be accepted.

Steps for Peak Discharge Rate using the Rational Method calculated for post-development

Calculate Post-Development Flows (for pre-development flows, increase number of storage facilities to create new tab)

User input in yellow cells.

1 **Project Name** **Cloud Nine Pond 3**

2 Is area drainage basin map provided? **YES**
(map must be included with stormwater calculations)

3 Enter Design Storm (100-Year or 25-Year With 100-Year Flood Route) **100**

4 Enter number of storage facilities (25 max)

Click to Show More Subbasins ☐

		Subbasin 1	Subbasin 2	Subbasin 3	Subbasin 4	Subbasin 5	Subbasin 6	Subbasin 7	Subbasin 8	Subbasin 9	Subbasin 10
5 Area of Drainage Subbasin (SF or Acres)	SF	0	0	0	0	0	0	125,618	0		
	Acres	2.88									
6 Determine the Weighted Runoff Coefficient (C)		0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.00		
C=[(C1xA1)+(C2xA2)+(CnxAn)]/A	Weighted Avg	0.25									

7 Calculate Overland Flow Time of Concentration in Minutes (Tc) or use default 10 min — User Calculate ____ 10 Min.

ID	Pipe Size (in)	Slope (ft/ft)	Intercept Coeff.	Length	Manning n	Hydraulic Radius A/Wet Perm	Flow Velocity V (fps)	Flow Time (min)
	Segment 1: Pipe Flow							
a	0	0		0	0.000	0.00		
	Segment 2: Gutter Shallow Concentrated Flow							
b		0.350	0.491	805			9.5	1.4
	Segment 3: Overland Sheet Flow By TR-55, < 300-ft							
c		0.010		50	0.250		2.7	18.2
						Computed Tc =		19.7
						User-Entered Tc =		20.6

Estimated Runoff Coefficients for Various Surface	
Type of Surface	Runoff Coefficients "C
Business	
Downtown areas	0.70-0.95
Urban neighborhoods	0.50-0.70
Residential	
Single Family	0.35-0.50
Multi-family	0.60-0.75
Residential (rural)	0.25-0.40
Apartment Dwelling Areas	0.70
Industrial and Commercial	
Light areas	0.80
Heavy areas	0.90
Parks, Cemeteries	0.10-0.25
Playgrounds	0.20-0.35
Railroad yard areas	0.20-0.40

8 Determine the average rainfall intensity (i) from IDF Curve based on Tc — i — **1.81** — in/hr

9 Calculate the Post-Development peak discharge (QPeak) — Q_{peak} — **1.30** — cfs

10 Calculate total runoff vol (V) (for sizing primary storage) — V — **2,492** — ft^3

V = Ci (Tc=60)Ax3600

11 Calculate Volume of Runoff Reduction Vrr

Enter Percentile Storm I (95th percentile = 0.60 in) — **95th** — **0.60** in

Enter Runoff Reduction Vol (95th Percentile=0.60-in x Area x C) — V_{rr} — **1,557** — ft^3

12 Detention: Approved Discharge Rate to Surface Waters (if applicable) — cfs

13 Volume Summary

Surface Storage: Basin			
Basin Forebay	V	249	ft^3
Primary Treatment/Storage Basin	V	2,242	ft^3
Subsurface Storage			
Volume Without Sediment Factor (See BMP 20 Tab)	V	2,492	ft^3

Unimproved areas	0.10-0.30			
Streets				
Asphalt	0.95			
Concrete	0.95			
Brick	0.95			
Roofs	0.95			
Gravel	0.75			
Fields: Sandy soil	Soil Type			
Slope	A	B	C	D
Flat: 0-2%	0.04	0.07	0.11	0.
Average: 2-6%	0.09	0.12	0.15	0.
Steep:>6%	0.13	0.18	0.23	0.
Adapted from ASCE				

BEFORE DIGGING, CALL DIGLINE AT 1-800-342-1585

REVISIONS:

CLOUD NINE ESTATES
MIDDLETON, CANYON COUNTY, IDAHO

GRADING EXHIBIT

CK ENGINEERING
1300 E. STATE ST., SUITE 102
EAGLE, ID 83616
PHONE 208-639-1992

DRAWN BY: AKB
CHECKED BY: CSK
DATE: 08/08/22
FILE: 500-KS-PRGRAD.DWG
DIR: D:\KATE MITCHELL\KINGSBURY SUBDIVISION\CK DWG'S

SHEET
EX1.0

N
W E
S

0 50' 100'
SCALE 1" = 50'

S89°43'05"E 1320.81'

876.32'

444.49'

S00°16'55"W 1317.61'

BLOCK 4

SEE SHEET EX1.1

SEE SHEET EX1.1

SEE SHEET EX1.0

SEE SHEET EX1.2

N
W E
S

0 50' 100'

SCALE 1" = 50'

BEFORE DIGGING, CALL DIGLINE AT 1-800-342-1585

REVISIONS:

CLOUD NINE ESTATES
MIDDLETON, CANYON COUNTY, IDAHO

GRADING EXHIBIT

CK ENGINEERING
1300 E. STATE ST., SUITE 102
EAGLE, ID 83616
PHONE 208-639-1992

DRAWN BY: AKB
CHECKED BY: CSK
DATE: 08/08/22
FILE: 500-HS-PREGRAD.DWG
DIR: J:\NATE MITCHELVONGBURY SUBDIVISION\CK DWG'S

SHEET
EX1.1

BEFORE DIGGING, CALL DIGLINE AT 1-800-342-1585

REVISIONS:

CLOUD NINE ESTATES
MIDDLETON, CANYON COUNTY, IDAHO

GRADING EXHIBIT

CK ENGINEERING
1300 E. STATE ST., SUITE 102
EAGLE, ID 83616
PHONE 208-939-1992

DRAWN BY: AKB
CHECKED BY: CSK
DATE: 08/08/22
FILE: 500-KS-PRGRAD.DWG
DIR: D:\KATE MITCHELL\KINGBURY SUBDIVISION\CK DWG'S

SHEET
EX1.2

KELLER ASSOCIATES

100 E Bower Street, Suite 110
Meridian, ID 83642
(208) 288-1992

January 17, 2023

Mr. Devin Krasowski
County Engineer
Development Services Department
111 North 11th Ave. #140
Caldwell, Idaho 83605

Re: Cloud Nine Estates Subdivision Preliminary Plat Application

Dear Mr. Krasowski,

Keller Associates, Inc. has reviewed the Preliminary Plat for the Cloud Nine Estates Subdivision dated 12/9/2021. We reviewed the applicant's package for conformance with the Canyon County Code Ordinance Article 17. We have the following comments in order for the applicant to satisfy the County's requirements:

1. Vicinity map does not appear to be accurate. It shows the property extending all the way to Foothill Road, but there is a parcel between the subject property and Foothill Road. Update the Vicinity Map.
2. The vicinity map suggests the development includes the 7.46-acre lot that contains the existing home, but the plat suggests that property is excluded. Which is correct? Update either plat or vicinity map to be consistent.
3. Will Kingsbury Road be connected to the existing Foothill Road on the south? If so, show that connection in the preliminary plat package.
4. County code requires the vicinity map to be drawn to scale.
5. Drainage plan needs to address how runoff will be retained onsite for lots that have steep slopes in close proximity to the property boundary to demonstrate how runoff will be retained on site. Example lots include Lot 9, 11, 12, 23, and 26 Blk 4.
6. A house pad on Lot 12, Blk 4 appears to be placed in the middle of a historic drainage corridor. How will drainage be conveyed through this lot without compromising the proposed structure?
7. Site topographic contours suggest there may be local drainage corridors throughout the property that convey stormwater through and off the property. Please provide a statement if that is or is not the case. If it is, provide a plan how those drainage patterns will be maintained and protected including any drainage easements.
8. Provide name, book, and page number for any recorded adjacent subdivisions having a common boundary.
9. Property owner information for the property to the south is cut off. Please correct.

10. Show the name of the connecting road to the west on the plat.
11. Label all roads as either public or private on the plat.
12. County code requires that utility easements be shown on the plat.
13. County code requires that the compacted shoulder be at least 3’ beyond the edge of pavement.
14. The geotechnical report recommends a pavement thickness of 3 inches for the local streets. Update the typical section to match those recommendations.
15. Provide a slope stabilization and re-vegetation plan as required by County code.
16. Historic irrigation lateral, drain, and ditch flow patterns shall be maintained unless approved in writing by the local irrigation district or ditch company.
17. Finish grades at subdivision boundaries shall match existing finish grades. Runoff shall be maintained on subdivision property unless otherwise approved.
18. Plat shall comply with requirements of the local highway district.
19. Plat shall comply with Southwest District Health requirements.

We recommend that **conditions 1 through 15 listed above be addressed prior to approval of the Preliminary Plat.** Any variance or waivers to the Canyon County standards, ordinances, or policies must be specifically approved in writing by the County. Approval of the above-referenced Preliminary Plat, when granted, does not relieve the Registered Professional Land Surveyor or the Registered Professional Engineer of those responsibilities.

If you have any questions, please do not hesitate to call Keller Associates at (208) 244-5065.

Sincerely,

KELLER ASSOCIATES, INC.

Justin Walker, P.E.
County Engineer

cc: File

CK ENGINEERING P.C.
Civil Engineering * Project Management

TRANSMITAL

DATE: March 31st, 2023

TO: Keller Associates Inc
100 E Bower Street, Suite 110
Meridian, Idaho, 83642
Attn: Justin Walker

RE: Cloud Nine Estates Subdivision Preliminary Plat App

Justin,

Please see the below responses to your review on the Cloud Nine Estates Subdivision dated January 17, 2023.

1. Vicinity Map has been updated to show parcel as requested.
2. The Vicinity Map has been updated to exclude the out parcel.
3. CHD4 would like to see how this connection could be made in the future but a connection will not be made with this subdivision.
4. Vicinity map has been updated to be shown to scale.
5. Please see updated grading and drainage plan showing added grading to retain storm runoff on each lots.
6. According to the property owner, it is not believed that there is any historical drainage running through this property. The grading plan has been updated to include retention of storm water on each lot.
7. According to the property owner, it is not believed that there is any historical drainage running through this property. The grading plan has been updated to include retention of storm water on each lot.
8. See P-Plat Cover Page showing added book and page numbers of nearby subdivisions.
9. Property Owners should be more clear.
10. Existing street names have been added.

CK Engineering 1300 E. State St Suite 102 Eagle, ID 83616
208.869.0590 mobile
chad@ck-engineers.com

11. Roads have been listed as either public or private.
12. All lot utility easements have been added to the lots.
13. We have updated the section to show a 3ft gravel shoulder.
14. The pavement thickness has been updated.
15. Slope stabilization and re-vegetation plan has been added to plat submittal.
16. Understood. No historic drainage is located on site per property owner.
17. Understood. Please see attached updated grading plan.
18. Understood
19. Understood.

If more is needed, please let me know

Thanks and have a great day.

Chad Kinkela

RECEIVED BY:_____

CK Engineering 1300 E. State St Suite 102 Eagle, ID 83616
208.869.0590 mobile
chad@ck-engineers.com

PRELIMINARY DEVELOPMENT PLAN / PRELIMINARY PLAT

CLOUD NINE ESTATES

A PARCEL OF LAND BEING LOCATED IN THE SW 1/4 OF SW 1/4 OF SECTION 35, T. 5N., R. 2W., B.M. CANYON COUNTY IDAHO

MARCH 2023

NOTES:

1. DOMESTIC WATER AND PRESSURIZED IRRIGATION SERVICE WILL BE PROVIDED TO EACH LOT VIA PRIVATE WELL.
2. SANITARY SEWER FOR EACH LOT WILL BE PROCESSED USING AN ON-SITE SEPTIC TANK SYSTEM.
3. ALL DOMESTIC WATER WELLS AND SANITARY SEWER SEPTIC SYSTEMS WILL BE INSTALLED IN ACCORDANCE WITH THE IDAHO DEPARTMENT OF ENVIRONMENTAL QUALITY, SECTION 58.01.03 AS WELL AS CANYON COUNTY REQUIREMENTS.
4. CONSTRUCTION OF THE FOLLOWING IMPROVEMENTS WILL BE IN COMPLIANCE WITH CANYON COUNTY CODES AND SPECIFICATIONS: WATER; DRAINAGE; SEWER; AND PRESSURE IRRIGATION.
5. ALL STREETS SHALL BE IN DEDICATION TO CANYON HIGHWAY DISTRICT NO.4 ROADWAYS WILL BE CONSTRUCTED TO AT LEAST MINIMUM CANYON HIGHWAY DISTRICT NO.4 STANDARDS. SEE ROADWAY SECTION, THIS SHEET.
6. STORM DRAINAGE FROM THE PUBLIC ROADWAYS SHALL BE COLLECTED IN BORROW DITCHES WITHIN THE RIGHT-OF-WAY.
7. ALL RESIDENCES WILL BE OUTFITTED WITH A RESIDENTIAL FIRE SPRINKLER PROTECTION SYSTEM.
8. ALL EXISTING WELLS ARE APPROXIMATE IN LOCATION. ALL WELL ABANDONMENT SHALL BE COMPLETED IN ACCORDANCE WITH THE REQUIREMENTS OF THE IDAHO DEPARTMENT OF WATER RESOURCES (IDWR) AND IDAHO CODE. THE CONTRACTOR SHALL RETAIN A LICENSED WELL DRILLER FOR ABANDONMENT. COORDINATE WITH ROB WHITNEY AT IDWR WESTERN REGION. (334-2190).
9. ALL R&DR ON LOCAL RURAL ROADS ARE 20'. LOCAL RURAL ROAD TO CUL-DE-SAC TRANSITION HAVE A 20' RADIUS.

SCALE 1" = 100'

- BENCHMARKS -

-NAVD 1988-

CONTROL POINT 5/8" IRON PIN

NORTHING: 9276.68

EASTING: 7820.20

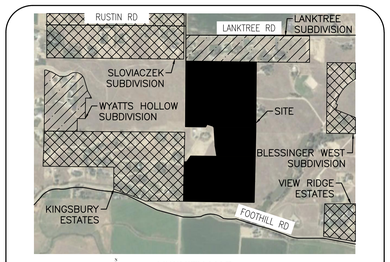
ELEVATION: 2570.02

PRELIMINARY DEVELOPMENT FEATURES

TOTAL ACRES	71.99 AC
TOTAL COMMON LOT ACREAGE	0.66 AC
TOTAL LOTS	47
SINGLE FAMILY LOTS	46
COMMON LOTS	1
AVERAGE BLDG. LOT SIZE	52,649 SF
DENSITY	0.63 UNITS/ACRE
CURRENT ZONING	CANYON COUNTY AG
PROPOSED ZONING	"R-4" RURAL
GENERAL UTILITY EASEMENT	
FRONT	
FROM EXTERIOR OF LOT	10FT
FROM INTERIOR OF LOT	5FT
LOT SET BACK	
FRONT, REAR, AND CORNER	20FT
SIDE	10FT

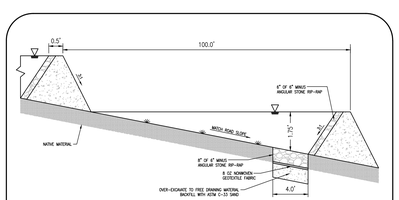
- LEGEND -

EXISTING PROPERTY BOUNDARY LINE	PROPERTY BOUNDARY LINE
EXISTING LOT LINE	LOT LINE
EXISTING SECTION LINE	SECTION LINE
EXISTING RIGHT-OF-WAY LINE	RIGHT-OF-WAY LINE
EXISTINGEASEMENT LINE	EASEMENT LINE
EXISTINGFENCE	FENCE
EXISTING SANITARY SEWER LINE W/ MANHOLE	SANITARY SEWER LINE W/ MANHOLE
EXISTING GAS LINE	WATER MAIN
EXISTING OVERHEAD POWER LINE	IRRIGATION LINE
EXISTING WATER MAIN	EDGE OF PAVEMENT
EXISTING IRRIGATION LINE	EDGE OF DIRT ROAD
EXISTING EDGE OF PAVEMENT	BOTTOM OF DITCH
EXISTING EDGE OF DIRT ROAD	TOP OF BANK
EXISTING BOTTOM OF DITCH	
EXISTING TOP OF BANK	
EXISTING SIDEWALK	



- VICINITY MAP -

MANAGER	SURVEYOR	ENGINEER
NATE MITCHEL 210 MURRAY ST BOISE, ID 83714 208-941-2688	IDAHO SURVEY GROUP GREG CARTER P.L.S. 1450 E. WATERTOWER MERIDIAN, ID 83642 208-846-8570	CK-ENGINEERING CHAD KINKELA 1300 E. STATE ST SUITE 102 EAGLE, ID 83616 208-639-1992

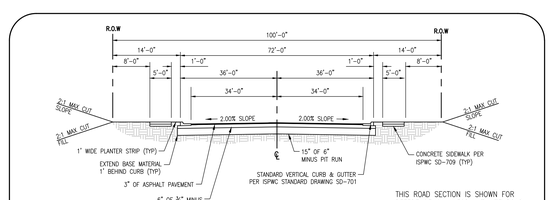


CHECK DAM CROSS SECTION

- NTS -

NOTES:

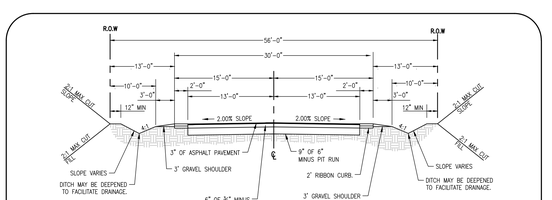
1. CHECK DAMS TO BE CONSTRUCTED OF CLAY SOIL TO MINIMIZE SEEPAGE OR ANGULAR ROCKS FOR CONVEYANCE SWALES.
2. SIDE SLOPES AND CHECK DAMS SHALL COMPLY WITH ASHTO CLEAR ZONE GUIDELINES.



THIS ROAD SECTION IS SHOWN FOR REFERENCE ONLY FOR ULTIMATE ROAD BUILD OUT.

TYPICAL 100' ROW SECTION WITH 72' STREET SECTION

- NTS -



TYPICAL 56' ROW SECTION WITH 30' STREET SECTION

- NTS -

BEFORE DIGGING, CALL DIGLINE AT 1-800-342-1585

PRELIMINARY PLAT FOR CLOUD NINE ESTATES

REVISIONS:
1. CANYON COUNTY COMMENTS 12-09-2021

PROFESSIONAL ENGINEER — 9412 — 4/3/23 — STATE OF IDAHO — CHAD S. KINKELA

CK ENGINEERING
1300 E. STATE ST., SUITE 102
EAGLE, ID 83616
PHONE 208-639-1992

DRAWN BY: AKB
CHECKED BY: CSK
DATE: 03/14/23
FILE: KINGSBURY RD 7-PLAT + 100FT ROW_TEST.DWG
DIR: S:\AKE WFDOC\KINGSBURY SUBDIVISION\PRELIMINARY PLAT\CONCEPT DRAWING 100FT ROW...

LOT DIMENSION PLAN VIEW

SHEET P1.0

Curve Table					
Curve #	Length	Radius	Delta	CHORD BEARING	CHORD LENGTH
C1	644.48	610.19	060.5160	S29° 57' 02"E	614.94
C2	364.96	715.11	029.2410	S45° 35' 17"E	361.01
C3	1132.25	736.21	088.1178	S13° 05' 29"W	1023.92
C4	246.91	710.68	019.9059	S47° 12' 03"W	245.67
C5	118.32	100.00	067.7927	S08° 43' 31"W	111.54
C6	160.68	250.12	036.8076	S43° 34' 29"E	157.93
C7	96.13	250.12	022.0214	S72° 59' 21"E	95.54
C8	84.66	60.50	080.1723	S43° 54' 50"E	77.92
C9	104.57	122.00	049.1082	S28° 22' 54"E	101.39
C10	58.01	125.00	026.5902	S66° 13' 51"E	57.49
C11	314.16	200.00	090.0000	S14° 01' 57"W	282.84
C12	113.76	200.00	032.5907	S14° 40' 20"E	112.24
C13	94.67	200.03	027.1164	S74° 49' 04"E	93.78
C14	197.84	200.00	056.6766	N89° 45' 00"W	189.87
C15	148.48	100.00	085.0705	S36° 59' 27"E	135.21
C16	462.15	1800.00	014.7108	S12° 54' 00"W	460.88
C17	291.66	125.00	133.6868	S80° 18' 25"W	229.86
C18	276.94	560.69	028.3000	S13° 15' 38"E	274.14
C19	258.27	655.57	022.5721	S10° 53' 56"E	256.60
C20	244.58	660.19	021.2267	S32° 43' 06"E	243.19
C21	320.80	560.19	032.8113	S43° 49' 24"E	316.44
C22	101.41	660.47	008.7973	S55° 49' 31"E	101.31
C23	193.39	9328759.65	000.0012	S60° 12' 31"E	193.39
C24	49.80	665.11	004.2900	N58° 03' 49"W	49.79
C25	52.43	765.11	003.9261	S58° 14' 44"E	52.42
C26	133.76	667.60	011.4802	S50° 09' 25"E	133.54
C27	177.26	765.11	013.2741	S49° 38' 44"E	176.86
C28	160.79	764.36	012.0528	N36° 59' 17"W	160.49
C29	92.22	663.98	007.9577	S40° 25' 24"E	92.15
C30	63.66	665.11	005.4837	N33° 42' 34"W	63.63
C31	190.02	688.07	015.8227	S23° 02' 05"E	189.41
C32	264.72	786.21	019.2919	S19° 41' 13"E	263.47
C33	256.83	686.21	021.4440	S04° 22' 47"E	255.33
C34	234.67	786.21	017.1016	S01° 29' 24"E	233.80
C35	363.69	786.12	026.5076	S27° 08' 22"W	360.46
C36	273.97	686.19	022.8764	S26° 02' 37"W	272.16
C37	235.57	686.22	019.6686	S47° 18' 57"W	234.41
C38	229.96	786.21	016.7585	S48° 46' 16"W	229.14
C39	181.38	660.68	015.7302	N48° 23' 33"E	180.82
C40	264.28	760.68	019.9059	N47° 12' 03"E	262.95
C41	36.37	760.68	002.7392	S35° 52' 42"W	36.36
C42	30.00	20.00	085.9534	N00° 21' 18"W	27.27
C43	30.00	20.00	085.9534	S85° 35' 54"W	27.27
C44	85.19	72.00	067.7927	S08° 43' 31"W	80.31
C45	151.17	128.00	067.6651	S08° 39' 42"W	142.53
C46	89.33	278.12	018.4038	S52° 46' 36"E	88.95
C47	181.73	222.12	046.8760	N48° 36' 32"W	176.70

Curve Table					
Curve #	Length	Radius	Delta	CHORD BEARING	CHORD LENGTH
C48	46.34	222.12	011.9530	N78° 01' 24"W	46.25
C49	106.89	278.12	022.0214	S72° 59' 21"E	106.24
C50	45.48	32.50	080.1723	S43° 54' 50"E	41.86
C51	81.27	88.50	052.6182	N57° 41' 27"W	78.45
C52	42.56	88.50	027.5541	S17° 36' 17"E	42.15
C53	80.57	94.00	049.1082	N28° 22' 54"W	78.12
C54	128.56	150.00	049.1082	S28° 22' 54"E	124.67
C55	45.02	97.00	026.5902	N66° 13' 51"W	44.61
C56	71.01	153.00	026.5902	S66° 13' 51"E	70.37
C57	32.86	20.00	094.1317	S32° 27' 36"E	29.29
C58	32.86	20.00	094.1317	S53° 24' 29"W	29.29
C59	30.85	20.00	088.3652	N14° 50' 59"E	27.88
C60	31.42	20.00	089.9995	S75° 58' 04"E	28.28
C61	270.18	172.00	090.0000	N14° 01' 57"E	243.24
C62	66.51	228.00	016.7143	N50° 40' 31"E	66.28
C63	112.56	228.00	028.2857	S28° 10' 31"W	111.42
C64	134.59	228.00	033.8225	S03° 00' 08"E	132.65
C65	43.99	228.00	011.0540	N25° 26' 26"W	43.92
C66	91.70	172.00	030.5456	N15° 41' 41"W	90.61
C67	82.39	229.20	020.5955	S21° 57' 38"E	81.94
C68	47.85	228.00	012.0256	S05° 38' 35"E	47.77
C69	30.98	19.99	088.8252	N44° 00' 13"W	27.97
C70	107.30	228.00	026.9651	N74° 53' 39"W	106.32
C71	82.26	172.09	027.3883	N75° 06' 35"W	81.48
C72	162.85	228.00	040.9243	S81° 52' 26"E	159.41
C73	160.27	172.00	053.3896	N88° 06' 24"W	154.54
C74	58.33	228.00	014.6578	S70° 20' 06"W	58.17
C75	21.35	20.00	061.1556	N34° 37' 15"E	20.35
C76	83.50	65.00	073.6014	N40° 50' 38"E	77.87
C77	84.52	65.00	074.5044	S65° 06' 12"E	78.69
C78	92.71	65.00	081.7235	S13° 00' 38"W	85.05
C79	68.68	65.00	060.5435	S84° 08' 39"W	65.53
C80	18.88	20.08	053.8828	N90° 00' 00"W	18.19
C81	31.71	20.00	090.8439	N45° 00' 00"E	28.49
C82	19.41	20.00	055.6181	S60° 34' 04"E	18.66
C83	102.39	65.00	090.2503	N77° 53' 02"W	92.12
C84	80.56	65.00	071.0153	S21° 29' 00"W	75.51
C85	71.32	65.00	062.8704	S45° 27' 34"E	67.80
C86	76.12	65.00	067.1002	N69° 33' 18"E	71.85
C87	19.41	20.00	055.6181	N63° 48' 51"E	18.66
C88	30.22	20.00	086.5867	N36° 13' 57"W	27.43
C89	30.22	20.00	086.5867	S57° 10' 50"W	27.43
C90	78.05	128.00	034.9379	N62° 03' 25"W	76.85
C91	106.90	72.00	085.0705	S36° 59' 27"E	97.35
C92	112.00	128.00	050.1326	S19° 31' 18"E	108.46
C93	242.52	1772.00	007.8415	S09° 27' 55"W	242.33
C94	257.54	1828.00	008.0721	N09° 34' 50"E	257.33

Curve Table					
Curve #	Length	Radius	Delta	CHORD BEARING	CHORD LENGTH
C95	141.49	1828.00	004.4347	S15° 50' 03"W	141.45
C96	142.44	1772.00	004.6058	S15° 41' 20"W	142.41
C97	19.81	20.00	056.7575	S46° 22' 14"W	19.01
C98	99.01	65.00	087.2759	N31° 06' 41"E	89.71
C99	140.39	65.00	123.7462	N74° 23' 59"W	114.65
C100	90.98	65.00	080.1993	S03° 37' 39"W	83.74
C101	19.03	20.00	054.5226	N09° 12' 39"W	18.32
C102	31.42	20.00	089.9978	N77° 50' 55"W	28.28
C103	31.41	20.00	089.9966	N12° 08' 55"E	28.28
C104	23.75	153.00	008.8930	S37° 17' 46"E	23.72
C105	117.62	153.00	044.0481	N63° 46' 00"W	114.75
C106	155.40	97.00	091.7914	S78° 44' 44"E	139.31
C107	128.44	153.00	048.0995	S70° 09' 34"W	124.70
C108	13.48	153.00	005.0483	S43° 35' 08"W	13.48
C109	14.99	20.00	042.9432	S62° 31' 59"W	14.64
C110	116.37	65.00	102.5801	N32° 42' 52"E	101.44
C111	64.31	65.00	056.6919	N48° 55' 18"W	61.72
C112	145.77	65.00	128.4926	S40° 29' 10"W	117.09
C113	27.62	20.00	079.1190	N15° 47' 58"E	25.48
C114	39.74	27.00	084.3222	N16° 59' 25"E	36.25
C115	38.77	72.00	030.8487	N74° 34' 32"E	38.30
C116	53.84	100.00	030.8487	N74° 34' 32"E	53.19
C117	68.92	128.00	030.8487	N74° 34' 32"E	68.09
C118	37.52	27.00	079.6153	S81° 02' 28"E	34.57

BEFORE DIGGING, CALL DIGLINE AT 1-800-342-1585

PRELIMINARY PLAT FOR
CLOUD NINE ESTATES

REVISIONS:

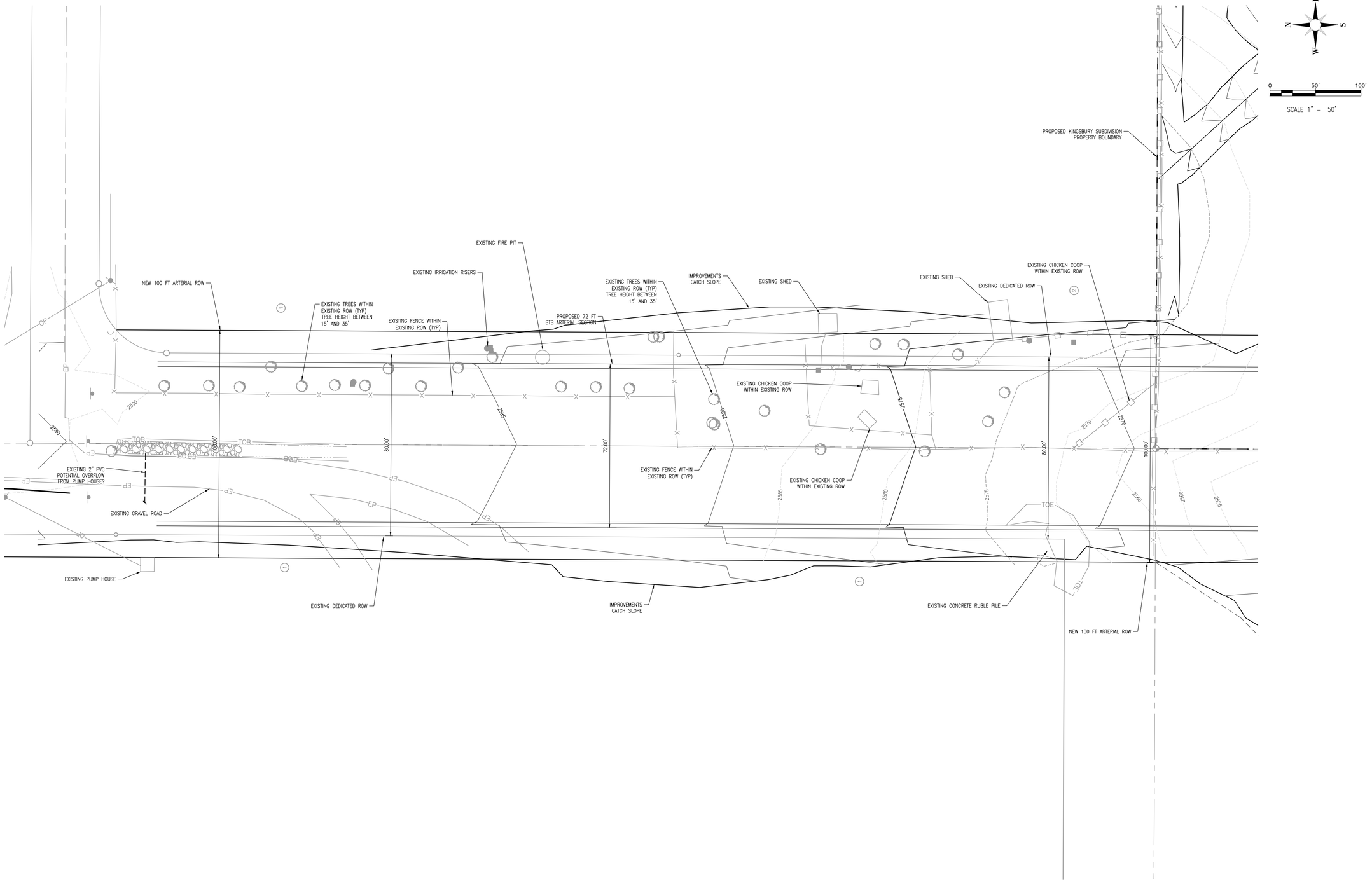
PROFESSIONAL ENGINEER
CHAD S. KINNEY
9412
4/3/23
STATE OF IDAHO

CK ENGINEERING
1300 E. STATE ST., SUITE 102
EAGLE, ID 83616
PHONE 208-639-1992

DRAWN BY: AKB
CHECKED BY: CSK
DATE: 12/09/21
FILE: KINGSBURY RD P-PLAT + 100FT ROW_TEST.DWG
DIR: D:\MCE WORKS\KINGSBURY SUBDIVISION\PRELIMINARY PLAT\CONCEPT DRAWING 100FT ROW...

LOT DIMENSION
PLAN VIEW

SHEET
P1.1



BEFORE DIGGING, CALL DIGLINE AT 1-800-342-1585

REVISIONS:

CLOUD NINE ESTATES
MIDDLETON, CANYON COUNTY, IDAHO

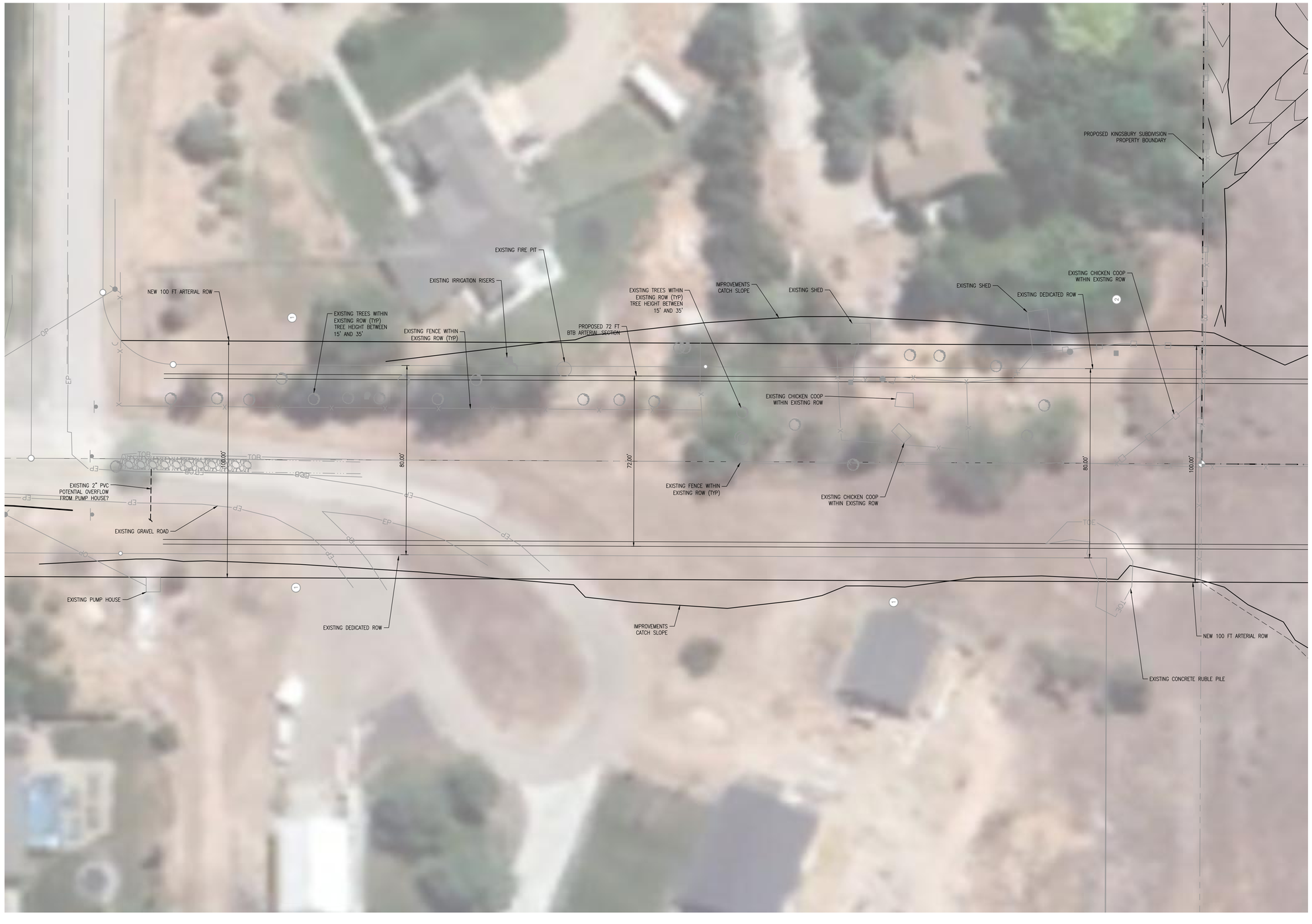
EXISTING ROW EXHIBIT

CK ENGINEERING
1300 E. STATE ST., SUITE 102
EAGLE, ID 83616
PHONE: 208-639-1992

DRAWN BY: AKB
CHECKED BY: CSK
DATE: 03/06/23
FILE: KS-PRE-GRAD.DWG
DIR: D:\KATE MITCHELL\KINGBURY SUBDIVISION\CK DWG'S

PROFESSIONAL ENGINEER
9412
4/3/23
STATE OF IDAHO
CHAD S. KINKELA

SHEET
P1.2



BEFORE DIGGING, CALL DIGLINE AT 1-800-342-1585

REVISIONS:

CLOUD NINE ESTATES
MIDDLETON, CANYON COUNTY, IDAHO

EXISTING ROW EXHIBIT

CK ENGINEERING
1300 E. STATE ST., SUITE 102
EAGLE, ID 83616
PHONE 208-639-1992

DRAWN BY: AKB
CHECKED BY: CSK
DATE: 03/06/23
FILE: KS-PRE-GRAD.DWG
DIR: J:\NATE MITCHELL\KINGSBURY SUBDIVISION\CK DWG'S

PROFESSIONAL ENGINEER
9412
4/3/23
STATE OF IDAHO
CHAD S. KINKELA

SHEET
P1.3

BEFORE DIGGING, CALL DIGLINE AT 1-800-342-1585

REVISIONS:

CLOUD NINE ESTATES
MIDDLETON, CANYON COUNTY, IDAHO

PRELIMINARY GRADING EXHIBIT
(NOT FOR CONSTRUCTION)

CK ENGINEERING
1300 E. STATE ST., SUITE 102
EAGLE, ID 83616
PHONE: 208-639-1992

DRAWN BY: AKB
CHECKED BY: CSK
DATE: 03/06/23
FILE: KS-PRE-GRAD.DWG
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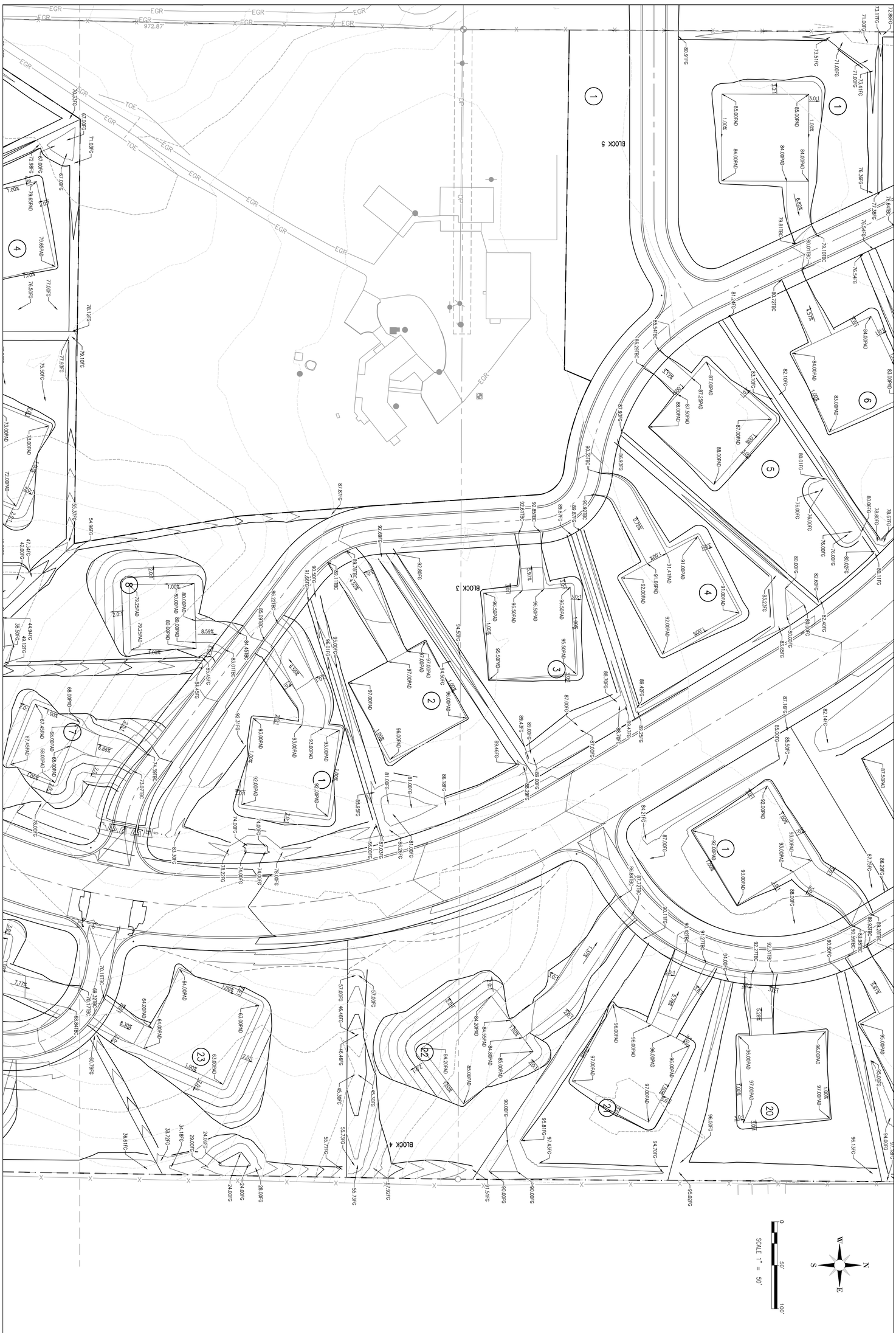
PROFESSIONAL ENGINEER
STATE OF IDAHO
9412
4/3/23
CHAD S. KINKELA

SHEET
P1.4



BEFORE DIGGING, CALL DIGLINE AT 1-800-342-1585

SHEET P1.5

PROFESSIONAL ENGINEER — CHRIS S. KINKELA — 9412 — 4/23

CK ENGINEERING
1300 E. STATE ST., SUITE 102
EAGLE, ID 83616
PHONE 208-639-1992

DRAWN BY: AKB
CHECKED BY: CSK
DATE: 03/06/23
FILE: KS-PRE-GRAD.DWG
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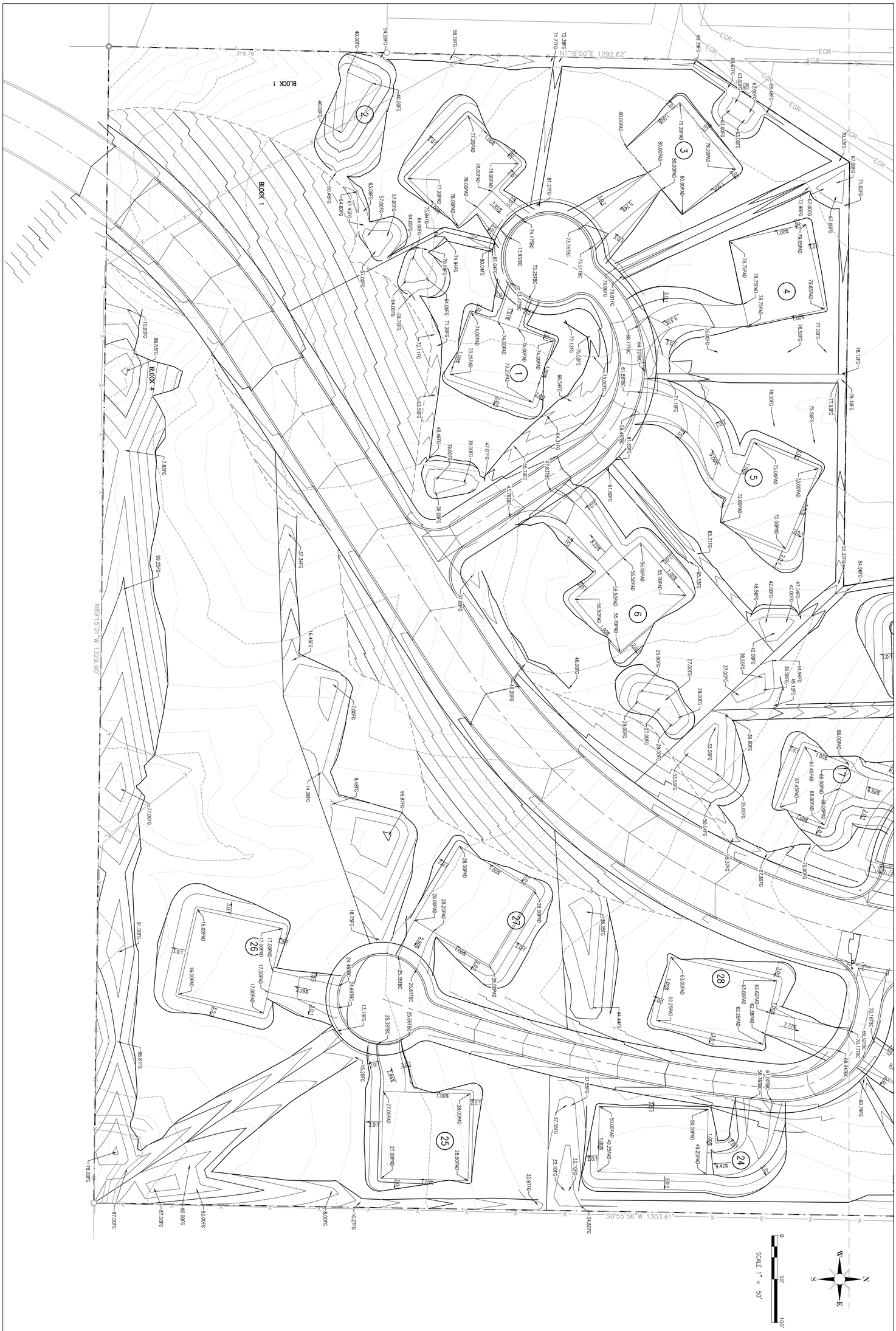
PRELIMINARY GRADING EXHIBIT
(NOT FOR CONSTRUCTION)

CLOUD NINE ESTATES
MIDDLETON, CANYON COUNTY, IDAHO

REVISIONS:



BEFORE DIGGING, CALL DIGLINE AT 1-800-342-1585

SHEET
P1.6

PROFESSIONAL ENGINEER
CHRISTOPHER S. KINKELA
9412
04/23
STATE OF IDAHO

CK ENGINEERING
1300 E. STATE ST., SUITE 102
EAGLE, ID 83616
PHONE 208-639-1992

DRAWN BY: AKB
CHECKED BY: CSK
DATE: 03/06/23
FILE: KS-PRE-GRAD.DWG
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PRELIMINARY GRADING EXHIBIT
(NOT FOR CONSTRUCTION)

CLOUD NINE ESTATES
MIDDLETON, CANYON COUNTY, IDAHO

REVISIONS:

= GREEN AREA DELINEATES AREA THAT IS GREATER THAN 15.00% GRADE

0 120' 240'

SCALE 1" = 120'

BEFORE DIGGING, CALL DIGLINE AT 1-800-342-1585

REVISIONS:

CLOUD NINE ESTATES
MIDDLETON, CANYON COUNTY, IDAHO

CUT-FILL EXHIBIT
PLAN VIEW

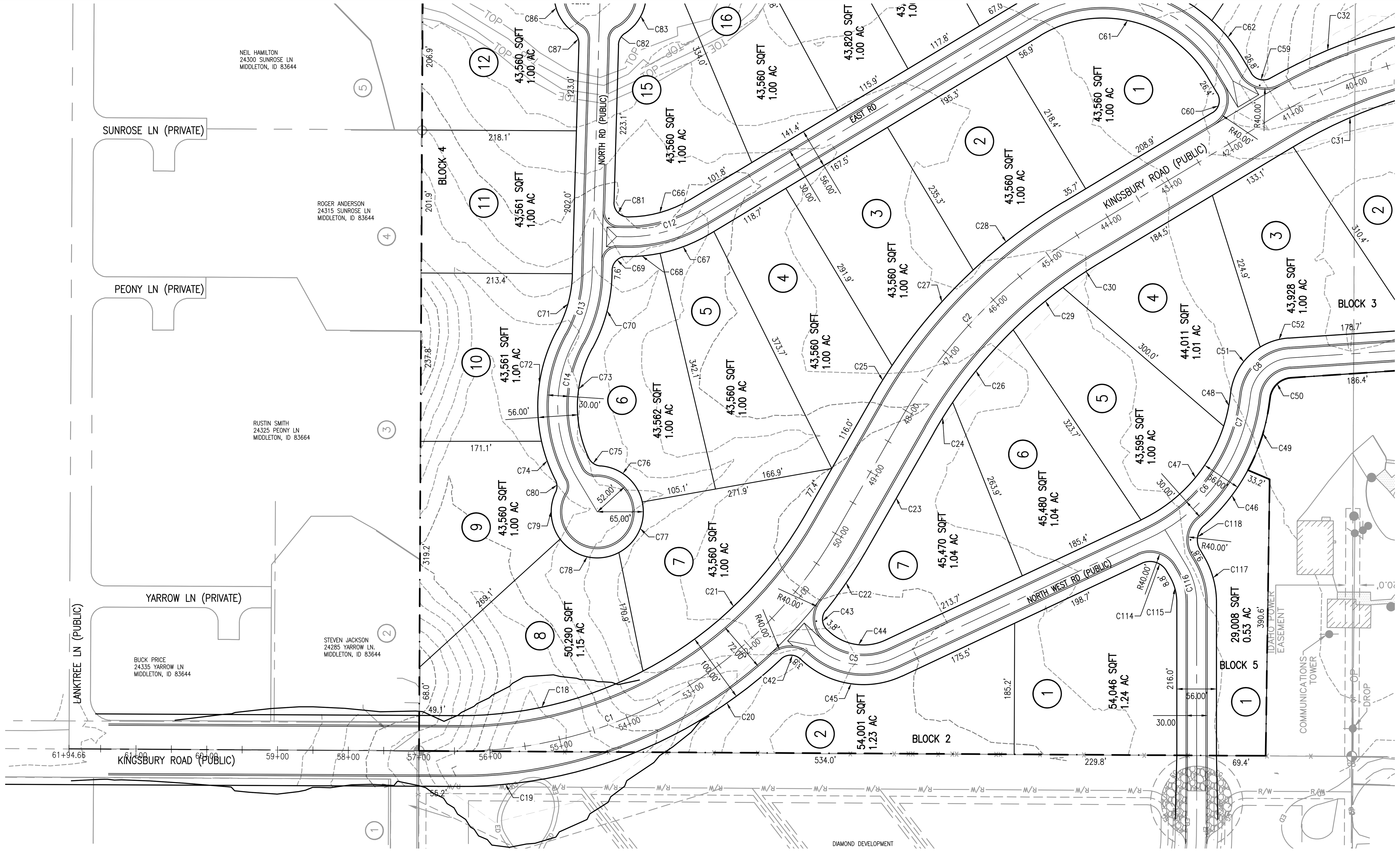
CK ENGINEERING
1300 E. STATE ST., SUITE 102
EAGLE, ID 83616
PHONE 208-639-1992

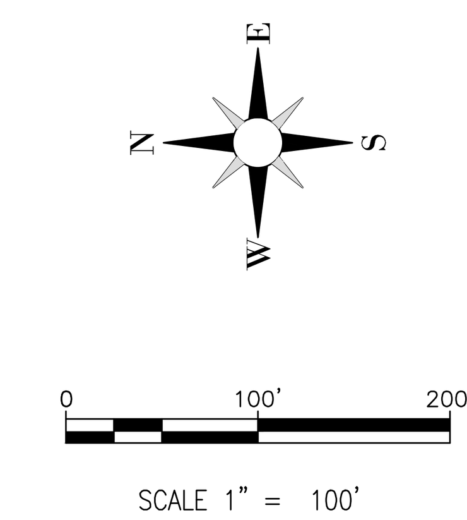
DRAWN BY: AKB
CHECKED BY: CSK
DATE: 03/31/23
FILE: KINGSBURY RD P-PLAT + 100FT ROW_TEST.DWG
DIR: J:\CKE_WORK\KINGSBURY SUBDIVISION\PLANNING_PLAT\PLOTSHEET_DRAWINGS_100FT ROW

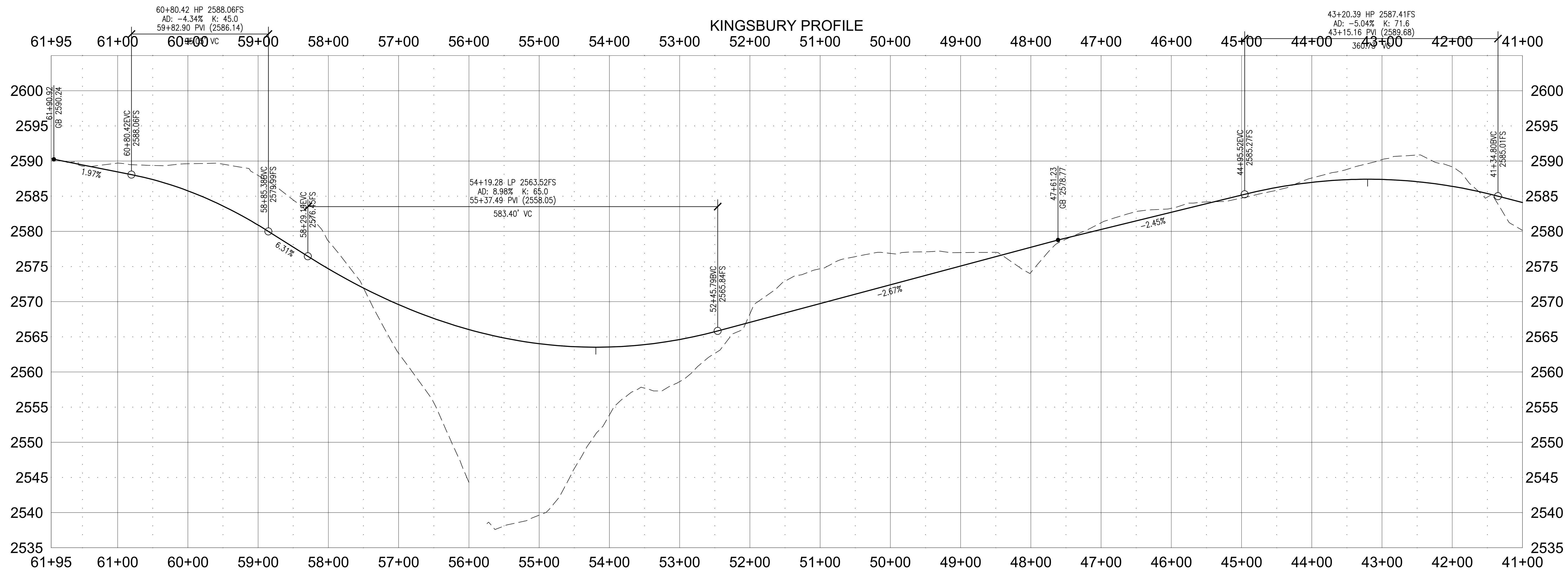
PROFESSIONAL ENGINEER
9412
4/3/23
STATE OF IDAHO
CHAD S. KINKELA

SHEET
P1.7

BEFORE DIGGING, CALL DIGLINE AT 1-800-342-1585







REVISIONS:

CLOUD NINE ESTATES
MIDDLETON, CANYON COUNTY, IDAHO

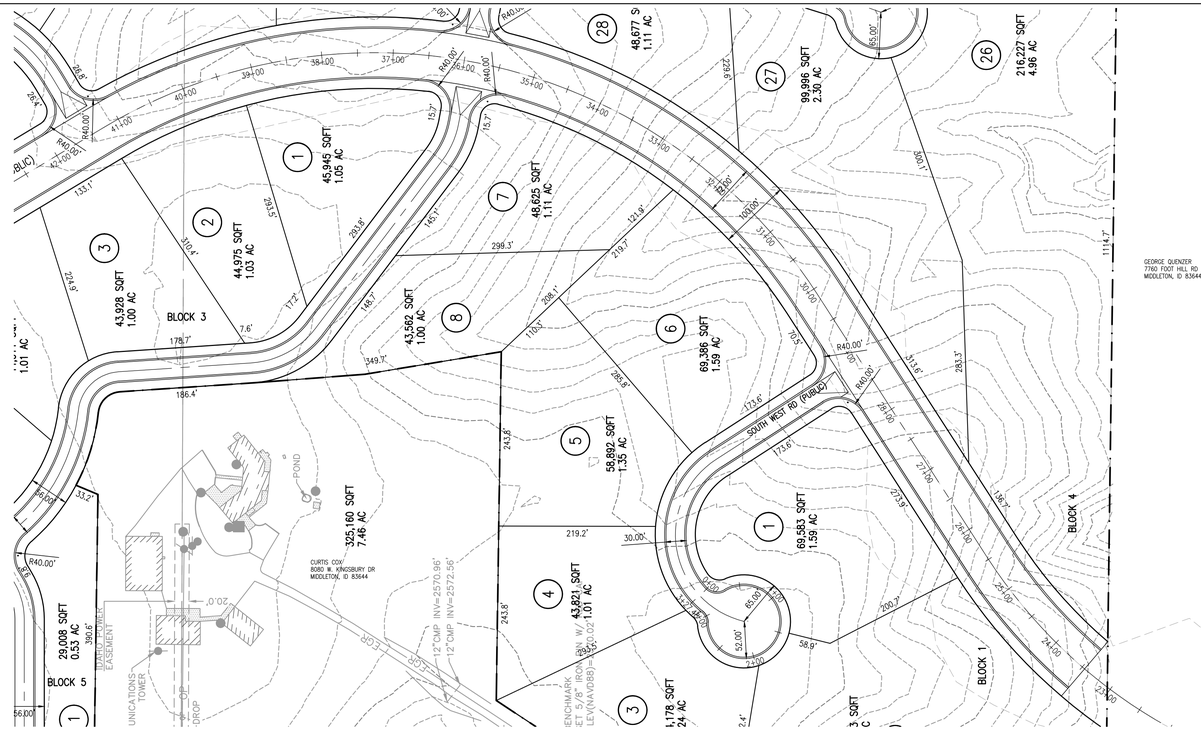
PRELIMINARY KINGSBURY
ROAD PROFILE
(NOT FOR CONSTRUCTION)

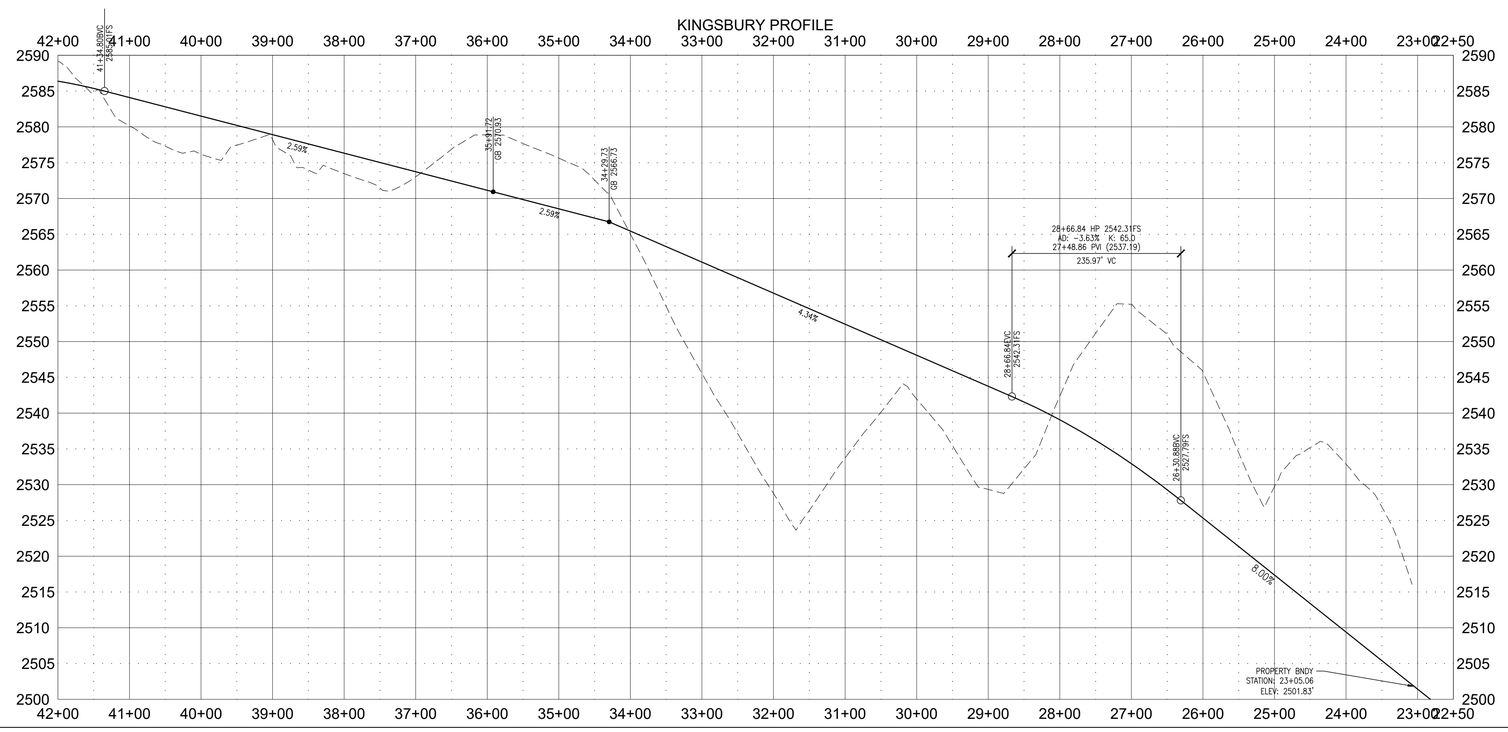
CK ENGINEERING
1300 E. STATE ST., SUITE 102
EAGLE, ID 83616
PHONE 208-639-1992

DRAWN BY: AKB
CHECKED BY: CSK
DATE: 3/31/23
FILE: KINGSBURY RD P-PLAT + 100FT ROW_TEST.DWG
DIR: D:\NATE MITCHEL\KINGBURY SUBDIVISION\PRELIMINARY PLAT\CONCEPT DRAWINGS 100FT ROW

PROFESSIONAL ENGINEER
REGISTERED
9412
4/3/23
STATE OF IDAHO
CHAD S. KINKELA

SHEET
P1.8





BEFORE DIGGING, CALL DIGLINE AT 1-800-342-1585

REVISIONS:

CLOUD NINE ESTATES
MIDDLETON, CANYON COUNTY, IDAHO

PRELIMINARY KINGSBURY ROAD PROFILE
(NOT FOR CONSTRUCTION)

CK ENGINEERING
1300 E. STATE ST., SUITE 102
EAGLE, ID 83616
PHONE 208-939-1992

DRAWN BY: AKB
CHECKED BY: CSK
DATE: 3/31/23
FILE: KINGSBURY RD P-PLAT + 100FT ROW_TEST.DWG
DIR: J:\CIVIL WORK\LANDDEV SUBDIVISION\PRELIMINARY PLAT\DWGS\ 24X36(ANSI D) 100FT ROW

PROFESSIONAL ENGINEER
REGISTERED
9412
4/3/23
STATE OF IDAHO
CHAD S. KINKELA

SHEET
P1.9

GENERAL NOTES

1. ACCORDING TO THE EPA "CONSTRUCTION GENERAL PERMIT" A NOTICE OF INTENT (NOI) WILL BE REQUIRED BECAUSE THIS DEVELOPMENT "IS PART OF A LARGER COMMON PLAN OF DEVELOPMENT OR SALE THAT WILL ULTIMATELY DISTURB EQUAL TO OR GREATER THAN ONE (1) ACRE ...". A NOTICE OF INTENT (NOI) MUST BE FILED BY BOTH THE OWNER AND THE CONTRACTOR.
2. REFERENCE THE ACCOMPANYING STORM WATER POLLUTION PREVENTION PLAN FOR FURTHER REQUIREMENTS.
3. ALL BMPs SHALL CONFORM TO THE STATE OF IDAHO CATALOG OF STORM WATER BEST MANAGEMENT PRACTICES MANUAL.
4. CONTRACTOR SHALL HAVE PLANS AT WORKSITE STAMPED "APPROVED FOR CONSTRUCTION" BY THE CITY OF MIDDLETON PUBLIC WORKS DEPARTMENT AND CANYON COUNTY PUBLIC WORKS DEPARTMENT.
5. ANY CHANGE FROM THE PLANS SHALL BE APPROVED BY THE DESIGNER AND THE GOVERNING AGENCIES AS APPLICABLE.
6. CONTRACTOR SHALL CONTACT DIGLINE 48 HOURS PRIOR TO ANY EXCAVATION. 1-800-342-1585
7. ALL CONSTRUCTION IN THE RIGHT-OF-WAY SHALL CONFORM TO THE LATEST EDITION OF THE ISPWC AND THE ACHD SUPPLEMENTAL SPECIFICATIONS. NO EXCEPTIONS TO DISTRICT POLICY, STANDARDS, AND THE ISPWC WILL BE ALLOWED UNLESS SPECIFICALLY AND PREVIOUSLY APPROVED IN WRITING BY THE DISTRICT.
8. SEE GRADING AND DRAINAGE PLANS FOR SUPPLEMENTAL INFORMATION.
9. THIS DRAWING HAS BEEN PREPARED BASED UPON INFORMATION PROVIDED, IN PART BY OTHERS. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE, SOUTH BECK AND BAIRD LANDSCAPE ARCHITECTURE CANNOT ASSURE ITS ACCURACY AND THUS IS NOT RESPONSIBLE FOR THE ACCURACY OF THIS DRAWING OR FOR ANY ERRORS OR OMISSIONS WHICH MAY HAVE BEEN INCORPORATE INTO IT AS A RESULT. SOUTH BECK AND BAIRD LANDSCAPE ARCHITECTURE ASSUMES NO LIABILITY FOR ANY MISINFORMATION.
10. ALL BASE ESC MEASURES (INLET PROTECTION, PERIMETER SEDIMENT CONTROL, GRAVEL CONSTRUCTION ENTRANCES, ETC.) MUST BE IN PLACE, FUNCTIONAL, AND APPROVED IN AN INITIAL INSPECTION, PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITIES.
11. CONSTRUCTION ENTRANCES SHALL BE INSTALLED AT THE BEGINNING OF CONSTRUCTION AND MAINTAINED FOR THE DURATION OF THE PROJECT. ADDITIONAL MEASURES INCLUDING, BUT NOT LIMITED TO, STREET SWEEPING, AND VACUUMING, MAY BE REQUIRED TO INSURE THAT ALL PAVED AREAS ARE KEPT CLEAN FOR THE DURATION OF THE PROJECT.
12. RUN-ON AND RUN-OFF CONTROLS SHALL BE IN PLACE AND FUNCTIONING PRIOR TO BEGINNING SUBSTANTIAL CONSTRUCTION ACTIVITIES. RUN-ON AND RUN-OFF CONTROL MEASURES INCLUDE; SLOPE DRAINS (WITH OUTLET PROTECTION), CHECK DAMS, SURFACE ROUGHENING, AND BANK STABILIZATION.
13. RESPONSIBLE PERSON(S) SHALL BE RESPONSIBLE TO MAKE FIELD ADJUSTMENTS AS NECESSARY TO ACCOMMODATE CONSTRUCTION ACTIVITIES AND MEET ALL LOCAL, STATE AND FEDERAL REQUIREMENTS.

PLANTING SOIL NOTES

1. TOPSOIL REQUIREMENTS: ASTM D 5268, PH RANGE OF 5.5 TO 7, FOUR PERCENT ORGANIC MATERIAL MINIMUM, FREE OF STONES 1/2 INCH OR LARGER IN ANY DIMENSION, AND OTHER EXTRANEOUS MATERIALS HARMFUL TO PLANT GROWTH.
2. TOPSOIL SOURCE: REUSE EXISTING TOPSOIL STOCKPILED ON THE SITE. SUPPLEMENT WITH IMPORTED TOPSOIL WHEN QUANTITIES ARE INSUFFICIENT. VERIFY SUITABILITY AND CONDITION OF TOPSOIL AS A GROWING MEDIUM.
   - A. STRIP EXISTING TOPSOIL FROM ALL AREAS OF THE SITE TO BE DISTURBED. TOPSOIL SHALL BE FERTILE, FRIABLE, NATURAL LOAM, SURFACE SOIL, REASONABLY FREE OF SUBSOIL, CLAY LUMPS, BRUSH, WEEDS AND OTHER LITTER, AND FREE OF ROOTS, STUMPS, ORGANIC MATTER LARGER THAN 1/2 INCHES IN ANY DIMENSION, AND OTHER EXTRANEOUS OR TOXIC MATTER HARMFUL TO PLANT GROWTH. TOPSOIL SHALL BE SCREENED TO ACHIEVE THIS REQUIREMENT.
3. REPRESENTATIVE SAMPLES OF PLANTING SOILS SHALL BE TESTED FOR ACIDITY, FERTILITY, ORGANIC MATTER AND GENERAL TEXTURE BY A RECOGNIZED COMMERCIAL OR GOVERNMENT AGENCY. SUBMIT TOPSOIL ANALYSIS TEST RESULTS FROM TESTING LABORATORY WITH RECOMMENDATIONS FOR IT TO MEET REQUIREMENTS.TO THE LANDSCAPE ARCHITECT'S REPRESENTATIVE BY THE CONTRACTOR. ALL TOPSOIL SHALL BE AMENDED TO ACHIEVE SPECIFIED PH AND ORGANIC REQUIREMENTS. RE-TEST TOPSOIL PRIOR TO FINAL COMPLETION TO ENSURE REQUIREMENTS HAVE BEEN MET.
4. AT A MINIMUM, PREPARE SOIL IN ALL AREAS BY SPREADING A 15-15-15 FERTILIZER AT 7.5 POUNDS PER 1000 SQUARE FEET OF SURFACE AREA AND AN MANURE COMPOST (OR APPROVED EQUAL) AT 3 CUBIC YARDS PER 1000 SQUARE FEET OF SURFACE AREA OVER FINISH GRADE AND ROTO-TILL INTO TOP 6" OF SOIL. FOLLOW ALL IMPROVEMENT RECOMMENDATIONS OF SOIL TEST RESULTS. TOPSOIL SHALL BE A LOOSE, FRIABLE, SANDY LOAM, CLEAN AND FREE OF TOXIC MATERIALS, NOXIOUS WEEDS, WEED SEEDS, ROCKS, GRASS OR OTHER FOREIGN MATERIAL AND A HAVE A PH OF 5.5 TO 7.0. IF ONSITE TOPSOIL DOES NOT MEET THESE MINIMUM STANDARDS, CONTRACTOR IS RESPONSIBLE TO EITHER:
   - A. PROVIDE APPROVED IMPORTED TOPSOIL, OR
   - B. IMPROVE ON-SITE TOPSOIL WITH METHODS APPROVED BY THE LANDSCAPE ARCHITECT.
5. IF IMPORTED TOPSOIL FROM OFF-SITE SOURCES IS REQUIRED, ENSURE IT IS FERTILE, FRIABLE, NATURAL LOAM, SURFACE SOIL, REASONABLY FREE OF SUBSOIL, CLAY LUMPS, BRUSH, WEEDS AND OTHER LITTER, AND FREE OF ROOTS, STUMPS, STONES LARGER THAN 2 INCHES IN ANY DIMENSION, AND OTHER EXTRANEOUS OR TOXIC MATTER HARMFUL TO PLANT GROWTH.
   - A. OBTAIN TOPSOIL FROM LOCAL SOURCES OR FROM AREAS HAVING SIMILAR SOIL CHARACTERISTICS TO THOSE FOUND ON THE PROJECT SITE. OBTAIN TOPSOIL ONLY FROM NATURALLY, WELL-DRAINED SITES WHERE TOPSOIL OCCURS AT A DEPTH OF NOT LESS THAN 4 INCHES.
   - B. REPRESENTATIVE SAMPLES SHALL BE TESTED FOR ACIDITY, FERTILITY, TOXICITY, ORGANIC MATTER, AND GENERAL TEXTURE BY A RECOGNIZED COMMERCIAL OR GOVERNMENT AGENCY AND COPIES OF THE TESTING AGENCY'S FINDINGS AND RECOMMENDATIONS SHALL BE FURNISHED TO THE OWNER'S REPRESENTATIVE BY THE CONTRACTOR. NO TOPSOIL SHALL BE DELIVERED IN A FROZEN OR MUDDY CONDITION. ACIDITY/ALKALINITY RANGE - PH. 5.5 TO 7.6.
6. NO TOPSOIL SHALL BE PLACED WHILE IN A FROZEN OR MUDDY CONDITION.
7. PLACE TOPSOIL IN AREAS WHERE REQUIRED TO OBTAIN THICKNESS AS SCHEDULED. PLACE TOPSOIL DURING DRY WEATHER. PROVIDE ADDITIONAL IMPORTED TOPSOIL REQUIRED TO BRING SURFACE TO PROPOSED FINISH GRADE, AS REQUIRED.
8. IMMEDIATELY CLEAN UP ANY TOPSOIL OR OTHER DEBRIS ON THE SITE CREATED FROM LANDSCAPE OPERATIONS AND DISPOSE OF PROPERLY OFF SITE.
9. TOPSOIL STOCKPILE LOCATIONS TO BE COVERED COORDINATE WITH EROSION AND SEDIMENT CONTROL PLAN.
10. ALL GRAVEL, SUBBASE, AND OTHER IMPORTED FILL MATERIALS OTHER THAN TOPSOIL SHALL ONLY BE STOCKPILED IN PROPOSED IMPERVIOUS AREAS. NO GRAVEL OR ROCK MATERIALS SHALL BE STOCKPILED OR TEMPORARILY PLACED IN PROPOSED LANDSCAPE AREAS TO PREVENT LANDSCAPE AREAS FROM BEING CONTAMINATED WITH ROCK MATERIALS. CONTRACTOR SHALL SUBMIT A DETAILED STOCKPILE PLAN TO LANDSCAPE ARCHITECT AND OWNER FOR APPROVAL PRIOR TO ANY EARTHWORK OPERATIONS.

RIGHT OF WAY LANDSCAPE NOTES

1. COORDINATE ALL DRAINAGE AREAS AND UTILITIES WITH TREE LOCATIONS AND ADJUST PER FIELD CONDITIONS.
2. TREES SHALL NOT BE PLANTED WITHIN THE 10'-0" CLEAR ZONE OF ALL STORM DRAIN PIPE, STRUCTURES, OR FACILITIES.
3. ANY PERENNIAL TREES OR PLANTS THAT WILL EXTEND ROOTS DEEPER THAN 18" SHALL BE PROHIBITED OVER UNDERGROUND SEEPAGE BEDS, INFILTRATION FACILITIES OR PIPING SYSTEMS.
4. SEEPAGE BEDS AND OTHER STORM DRAINAGE FACILITIES MUST BE PROTECTED FROM ANY AND ALL CONTAMINATION DURING THE CONSTRUCTION AND INSTALLATION OF THE LANDSCAPE IRRIGATION SYSTEM.
5. ALL TREES TO BE LOCATED A MINIMUM OF 5 FEET OR GREATER FROM THE BACK OF ANY SIDEWALK.
6. TRIM ALL TREES WITHIN VISION TRIANGLES TO 8' ABOVE FINISH GRADE TO MEET LOCAL JURISDICTIONAL STANDARDS.

WEED ABATEMENT

1. ALL AREAS TO BE PLANTED OR HYDROSEEDED SHALL HAVE WEED ABATEMENT OPERATIONS PERFORMED ON THEM PRIOR TO PLANTING OR HYDROSEEDING.
2. CONTRACTOR SHALL SPRAY ALL EXPOSED WEEDS WITH 'ROUND-UP' (CONTACT HERBICIDE) OR APPROVED EQUAL.
3. DO NOT WATER FOR AT LEAST SEVEN (7) DAYS. REMOVE EXPOSED WEEDS FROM THE SITE.
4. CONTRACTOR SHALL OPERATE THE AUTOMATIC IRRIGATION SYSTEM FOR A PERIOD OF FOURTEEN (14) DAYS. AT CONCLUSION OF THIS WATERING PERIOD, DISCONTINUE WATERING FOR THREE TO FIVE (3-5) DAYS.
5. APPLY SECOND APPLICATION OF 'ROUND-UP' TO ALL EXPOSED WEEDS. APPLY IN STRICT CONFORMANCE WITH MANUFACTURER'S SPECIFICATIONS AND INSTRUCTIONS. DO NOT WATER FOR AT LEAST SEVEN (7) DAYS. REMOVE WEEDS FROM THE SITE.
6. IF ANY EVIDENCE OF WEED GERMINATION EXISTS AFTER TWO (2) APPLICATIONS, CONTRACTOR SHALL BE DIRECTED TO PERFORM A THIRD APPLICATION.
7. AT THE TIME OF PLANTING AND HYDROSEEDING, ALL PLANTING AREAS SHALL BE WEED FREE.
8. COORDINATE WITH CIVIL FOR ALL WEED ABATEMENT REQUIREMENTS

DISCLAIMER:

THESE SITE DISTURBANCE PLANS HAVE BEEN PREPARED FOR THE CONTRACTOR/ OWNER IN FULL COMPLIANCE WITH THE GOVERNING AUTHORITY'S SITE DISTURBANCE ORDINANCE. THE REQUIRED REGULATORY ITEMS HAVE BEEN INCORPORATED INTO THIS PARTICULAR PROJECT IN GOOD FAITH. SOUTH BECK AND BAIRD LANDSCAPE ARCHITECTURE CAN NOT BE HELD RESPONSIBLE FOR INACCURATE BASE INFORMATION PROVIDED BY OTHERS, UNACCEPTABLE CONSTRUCTION METHODS, OR SITE MODIFICATIONS MADE WITHOUT CONSULTING SOUTH BECK AND BAIRD LANDSCAPE ARCHITECTURE ALL LIABILITY WILL BE ASSUMED BY THE OWNER/CONTRACTOR IF A FINAL INSPECTION OF THE PROJECT HAS NOT BEEN PERFORMED BY SOUTH BECK AND BAIRD LANDSCAPE ARCHITECTURE AND IDENTIFIED DEFICIENCIES CORRECTED BY THE CONTRACTOR/OWNER.

REVEGETATION LEGEND

- DRAINAGE FLOW DIRECTION
- 1050 PROPOSED CONTOURS
- 1050 EXISTING CONTOURS
- CONSTRUCTION LIMITS, EXTENTS OF SITE DISTURBANCE
- EDGE OF GRAVEL
- EDGE OF PAVEMET
- CURB AND GUTTER LOCATION
- ACCESSIBLE RAMP LOCATION WITH DETECTABLE WARNING SURFACE
- NEW CONCRETE FLATWORK

CALLOUT LEGEND

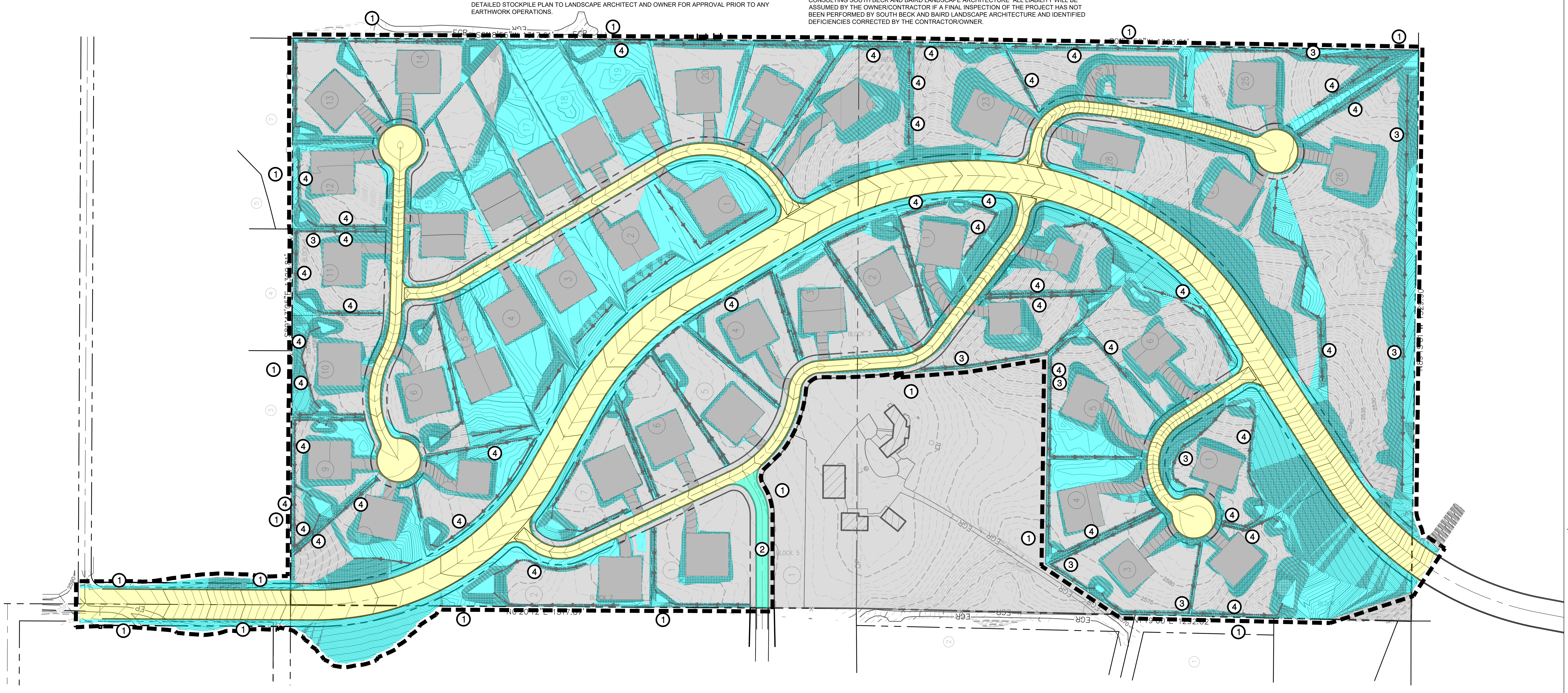
1. SAVE AND PROTECT ALL EXISTING TREES WITHIN THE DISTURBANCE AREA WHERE GRADES WILL REMAIN WITHIN 6" OF EXISTING. ADJUST GRADES AROUND PERIMETER OF DRIPLINE WHERE POSSIBLE WHILE MAINTAINING A MAXIMUM 2:1 SLOPE. SEE TREE PROTECTION NOTES AND DETAIL, SHEET L1.2 FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
2. FUTURE ROADWAY CONNECTION. STABILIZE AS SHOWN.
3. ADD ARMORED DRAINAGE WAY TO ENTIRE LENGTH OF THIS DRAINAGE DITCH, SEE DETAIL5/L1.2.
4. PROVIDE CHECK DAMS ENTIRE LENGTH OF THIS DRAINAGE DITCH, SEE DETAIL 6/L1.2.

REVEGETATION MATERIALS LEGEND

- PROPOSED DRYLAND SEEDING AREAS, BMP#21, EXTEND DRYLAND SEEDING TO ALL DISTURBED SOILS AS NEEDED. EXTEND SEEDING APPROXIMATELY 6-12" BEYOND DISTURBED AREAS. SEE NOTES FOR ADDITIONAL INFORMATION.
- RETAIN AND PROTECT EXISTING NATIVE VEGETATION
- GORILLA SNOT SOIL STABILIZER ON ALL LEVEL AREAS OF PROPOSED BUILDING PADS
- PROPOSED IMPERVIOUS SURFACES
- EROSION BLANKETS FOR AREAS WITH 2:1 SLOPES OR GREATER, SEE DETAIL 4/L1.2.
- SURFACE ROUGHENING FOR AREAS BETWEEN 3:1 AND 2:1 SLOPES, SEE DETAIL 3/L1.2.

CAUTION NOTICE

THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE LOCAL UTILITY LOCATION CENTER AT LEAST 48 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATIONS OF THE UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.



SLOPE STABILIZATION AND REVEGETATION PLAN

SCALE: 1" = 120'-0"

STAMP: STATE OF IDAHO JOHN D. ROTERS LICENSED LANDSCAPE ARCHITECT LA - 16827 3/28/23

DATE: 03/28/2023

811 Know what's below. Call before you dig. CALL 2 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES

SOUTH BECK& BAIRD
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REVISIONS:		
No.	Date	Description

REVEGETATION PLANS

Cloud Nine

7924 W Kingsbury Dr. Middleton, Idaho 83644

DRAWN BY: AWJ

CHECKED BY: JDR

PROJECT NUMBER 19-069

SHEET: L1.1

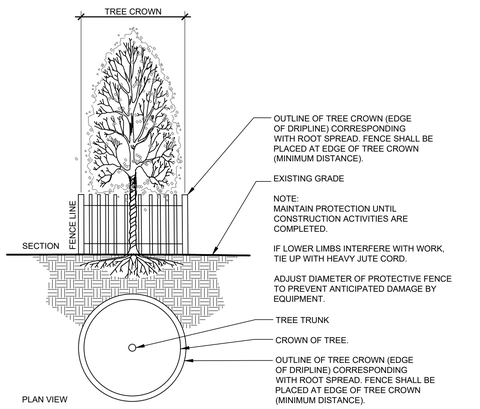
Preliminary Plat

THE PROFESSIONAL SERVICES OF THE DESIGN PROFESSIONAL ARE UNDERTAKEN FOR AND ARE PERFORMED IN THE INTEREST OF "THE CLIENT" NO CONTRACTUAL OBLIGATION IS ASSUMED BY THE DESIGN PROFESSIONAL FOR THE BENEFIT OF ANY OTHER PERSON INVOLVED IN THE PROJECT.

USER:ADAM JOHNSTON LOCATION:Z:\PROJECTS\DICK PHILLIPS\19-069 KINGSBURY\CAD\SHEETS\19-069 REVEG PLAN.DWG PRINT DATE:3/30/2023 5:45 PM

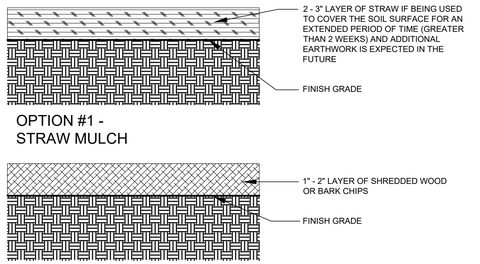
TREE PROTECTION NOTES:

1. PROTECT THE CRITICAL ROOT ZONE (THE AREA DIRECTLY BELOW THE DRIPLINE OF THE TREE) OF THE TREES TO REMAIN ON SITE BY:
   a. CONSTRUCTING A TEMPORARY CHAINLINK FENCE AROUND THE CRITICAL ROOT ZONE OF THE TREE TO BE PROTECTED PRIOR TO DEMOLITION, CONSTRUCTION, OR ANY SITE WORK.
   b. NOT ALLOWING COMPACTION BY EQUIPMENT TRAFFIC DURING CONSTRUCTION OR DURING DEMOLITION.
   c. NOT ALLOWING CONCRETE TRUCKS TO RINSE WITHIN THE PROTECTION AREA, OR ANYWHERE NEAR EXISTING TREE ROOTS OR IN PLANNED PLANTING BEDS AREAS. SEE EROSION AND SEDIMENT CONTROL PLAN FOR APPROVED CONCRETE WASHOUT AREAS.
   d. NOT STOCKPILING MATERIALS, DEBRIS, OR DIRT WITHIN THE TREE PROTECTION AREA.
   e. WATERING WITHIN THE CRITICAL ROOT ZONE FROM MID-APRIL TO MID-OCTOBER AT THE RATE OF NOT LESS THAN THE EQUIVALENT OF 1-1/2" OF WATER OVER THE ENTIRE AREA PER WEEK.
   f. NOT TRENCHING, EXCAVATING, FILLING, OR OTHERWISE DISTURBING THE SOIL WITHIN THE CRITICAL ROOT ZONE.
   g. ADJUST PROPOSED IMPROVEMENT LOCATIONS AS REQUIRED TO AVOID DAMAGING TREE ROOTS.
2. PROTECT THE CROWN AND TRUNK OF TREES TO BE RETAINED BY:
   a. OPERATING EQUIPMENT IN SUCH A WAY AS TO AVOID CONTACT WITH TREE TRUNKS OR BRANCHES.
   b. HAVING TREES PRUNED BY A LICENSED ARBORIST.
3. ALL TREES THAT ARE DAMAGED, DESTROYED OR REMOVED DURING CONSTRUCTION SHALL BE MITIGATED USING THE MITIGATION STANDARDS AS SET FORTH IN THE CURRENT CITY CODE.



1 TREE PROTECTION DETAIL

NOT TO SCALE

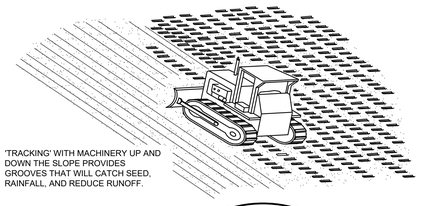


NOTES:

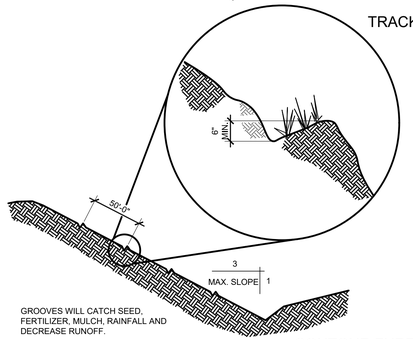
1. PREPARE SOIL SURFACE AND SEED WITH RECOMMENDED SEED MIX PRIOR TO APPLICATION OF THE MULCH.
2. ALL MULCHING SHALL COVER 100% OF THE GROUND SURFACE.
3. MULCHES GENERALLY REDUCE THE FERTILITY OF THE SOIL THEREFORE, FERTILIZER TREATMENTS MAY BE REQUIRED.

2 MULCH

NOT TO SCALE


'TRACKING' WITH MACHINERY UP AND DOWN THE SLOPE PROVIDES GROOVES THAT WILL CATCH SEED, RAINFALL, AND REDUCE RUNOFF.

TRACKING

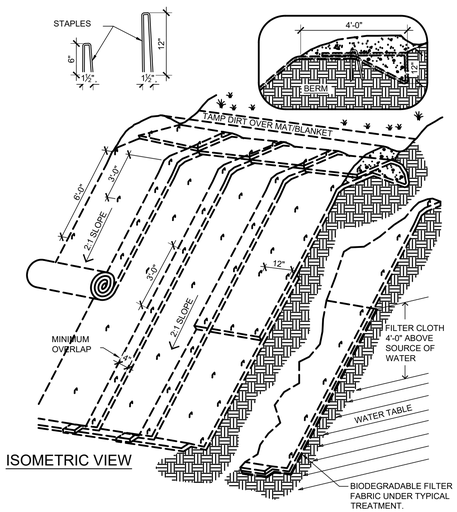


GROOVES WILL CATCH SEED, FERTILIZER, MULCH, RAINFALL AND DECREASE RUNOFF.

CONTOUR FURROWS

3 SURFACE ROUGHENING

NOT TO SCALE



ISOMETRIC VIEW

WET SLOPE LINING

1. SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS, AND GRASS.
2. MATS/ BLANKETS SHALL HAVE GOOD SOIL CONTACT.
3. LAY BLANKETS LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH THE SOIL. DO NOT STRETCH.
4. MATS/BLANKETS SHALL BE INSTALLED VERTICALLY DOWNSLOPE.

4 EROSION BLANKETS AND TURF REINFORCEMENT MATS

NOT TO SCALE

SITE REVEGETATION REPORT

THE FOLLOWING RE-VEGETATION PLAN IS TO ESTABLISH COVER OVER ANY CUT AND FILL SLOPES WHICH ARE DISTURBED BY CONSTRUCTION WITHIN THE PROPERTY BOUNDARIES OF THE CLOUD NINE SUBDIVISION WHICH IS TO REMAIN IN A NATURAL AND NON-IRRIGATED STATE. THESE RECOMMENDATIONS ARE MADE TO PREVENT SHORT-TERM AND LONG-TERM SOIL EROSION AS WELL AS TO PROVIDE A MORE AESTHETICALLY PLEASING SLOPE WHICH WILL BLEND WITH THE SURROUNDING AREA. IT IS NOT INTENDED FOR OTHER ORNAMENTALLY LANDSCAPED AND IRRIGATED AREAS OF THE SITE.

THE SITE IS LOCATED AT 7924 W KINGSBURY DR. MIDDLETON, ID 83644, THE SOUTHWESTERN PROPERTY CORNER IS DUE NORTH OF THE INTERSECTION OF KINGSBURY DRIVE AN FOOTHILL ROAD ENCOMPASSING TWO 40 ACRE PARCELS THE SECOND BEING DIRECTLY ADJACENT ON THE NORTH. THE PROPOSED CONSTRUCTION IS LOCATED ON THE SITE OF EXISTING FOOTHILLS GRASS LAND AND IS GENERALLY A SOUTH AND EAST FACING SLOPE. WHILE THE SITE IS CURRENTLY VEGETATED WITH NATIVE GRASSES THERE ARE A FEW SCATTER WOODY SPECIES SCATTERED THROUGHOUT. THE SITE IS PREDOMINANTLY COVERED WITH FOOTHILLS SAGEBRUSH AND ANNUAL GRASSES INCLUDING BLUEBUNCH WHEATGRASS, SANDBERG BLUEGRASS, BOTTLEBRUSH SQUIRREL TAIL AND CHEAT GRASS. SEVERAL HERBACEOUS WEED SPECIES INCLUDING SNAKEWEED AND SUNFLOWERS AND RABBIT BRUSH ARE ALSO ON THE SITE. THERE ARE SOME SCATTERED CLUMPS OF PERENNIAL WHEAT GRASSES (APPEARS TO BE SLENDER WHEATGRASS). THIS IS NOTED AS THE SEEDS OF THE ANNUAL GRASSES WILL BE IN THE SOILS, WILL GERMINATE, AND DOMINATE THE DISTURBED AREAS DURING THE FIRST YEARS OF RE-VEGETATION. THE PROPOSED GRASSES TAKE LONGER TO ESTABLISH BUT SHOULD CONTROL THE LESS DESIRABLE SPECIES IN THE LONG RUN.

GENERAL EARTHWORK

ALL WORK SHALL BE LIMITED TO THE AREA REQUIRED FOR CONSTRUCTION WITH MINIMAL DISTURBANCE TO THE NATURAL SLOPE OR VEGETATION OUTSIDE THESE LIMITS. CUT OR FILL SLOPES SHALL NOT EXCEED 2:1 AND ALL TOES AND CROWNS OF FINISHED SLOPES SHALL BE SMOOTH AND ROUNDED TO REFLECT A MORE NATURAL TRANSITION TO MEET EXISTING SLOPES.

SITE PREPARATION

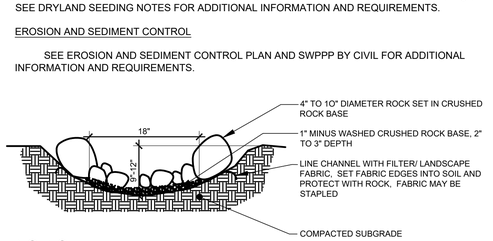
ONCE THE GENERAL EARTHWORK AND CONSTRUCTION IS COMPLETED, TOPSOIL SHALL BE RE-DISTRIBUTED OVER ALL SLOPES AND AREAS DISTURBED WHICH ARE TO BE RE-VEGETATED. TOPSOIL SHOULD BE SPREAD AND COMPACTED BY HAND. THIS OPERATION SHOULD BE DONE JUST PRIOR TO THE SEEDING OPERATION.

VEGETATION SELECTION

REDUCTION OF EROSION CAN BE ACCOMPLISHED BY ESTABLISHING DENSE FIBROUS ROOTS. IT IS RECOMMENDED THAT NATIVE AND DROUGHT TOLERANT PLANT MATERIALS BE USED. A VARIETY OF MATERIAL SHOULD BE USED TO PROVIDE PERMANENT, SELF-PERPETUATING COVER TO REDUCE SURFACE EROSION. IT IS AGAIN NOTED, THAT DUE TO THE LARGE AMOUNT OF EXISTING ANNUAL GRASSES ON THE EXISTING SLOPES, THERE WILL BE A SIGNIFICANT GROWTH OF THESE GRASS IN THE FIRST YEARS OF RE-VEGETATION. SEE DRYLAND SEEDING NOTES FOR ADDITIONAL INFORMATION AND REQUIREMENTS.

EROSION AND SEDIMENT CONTROL

SEE EROSION AND SEDIMENT CONTROL PLAN AND SWPPP BY CIVIL FOR ADDITIONAL INFORMATION AND REQUIREMENTS.

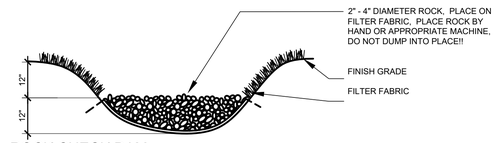


NOTES:

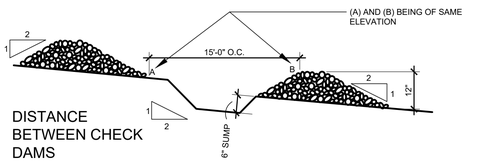
1. LOCATE CENTERLINE OF DRAINAGE WAY IN NATURALLY OCCURRING FLOW LINES OR DEVELOP DRAINAGE WAY IN LOW POINTS OF SOIL SURFACE.

5 ARMORED DRAINAGEWAY

NOT TO SCALE



ROCK CHECK DAM



DISTANCE BETWEEN CHECK DAMS

NOTES:

1. INSPECT DAMS ON A REGULAR BASIS AND AFTER RUNOFF PRODUCING STORMS. REPAIR AS NECESSARY TO ENSURE DAMS REMAIN IN GOOD WORKING CONDITION.

6 CHECK DAM

NOT TO SCALE

DEFENSIBLE SPACE DRYLAND SEEDING REQUIREMENTS

GENERAL OVERVIEW

THIS REPORT OUTLINES RECOMMENDED REVEGETATION AND SLOPE STABILIZATION MEASURES FOR DISTURBED CUT AND FILL SLOPES WITHIN THE PROJECT LIMITS AS DEFINED ON THE ACCOMPANYING PLAN WHICH WILL BE SEEDED WITH THE DRYLAND SEED MIX AND NOT IRRIGATED. THESE RECOMMENDATIONS ARE MADE TO PREVENT SHORT TERM AND LONG TERM SOIL EROSION AS WELL AS TO PROVIDE AN AESTHETIC REVEGETATION WHICH WILL BLEND WITH THE EXISTING NATURAL SURROUNDING AREA. THE MEASURES INCLUDE REVEGETATION AND HYDROMULCHING PROCEDURES FOLLOWING TOPSOIL DISTRIBUTION AND FINE GRADING. THE AREA TO BE REVEGETATED CONSISTS OF ALL DISTURBED AREAS RELATED TO GRADING FOR CONSTRUCTION AND ANY OTHER AREAS DISTURBED IN THE PROCESS OF CONSTRUCTION. THE SLOPES TO BE AFFECTED VARY WIDELY IN DEGREE AND ASPECT.

GENERAL EARTHWORK

ALL WORK SHALL BE LIMITED TO THE AREA REQUIRED FOR CONSTRUCTION WITH MINIMAL, IF ANY, DISTURBANCE TO THE SURROUNDING NATURAL SLOPE OR VEGETATION. ALL FINISHED GRADES SHALL BE SMOOTH AND ROUNDED TO ENSURE A NATURAL TRANSITION BETWEEN NEW AND EXISTING GRADES. REFER TO GRADING AND DRAINAGE PLANS FOR ADDITIONAL REQUIREMENTS.

SITE PREPARATION

EARTHWORK PROCESS SHOULD BEGIN WITH CLEARING LARGE SHRUBS FROM THE AREAS TO BE DISTURBED. WOODY STEMS AND BRANCHES SHALL BE CHIPPED ON SITE TO IMPROVE THE AMOUNT OF ORGANIC MATERIAL IN THE TOP SOIL. NATURAL TOPSOIL OCCURS AT VARYING DEPTHS ON THE PROJECT SITE. THE TOPSOIL SHOULD BE EXCAVATED AND STOCKPILED AT DESIGNATED STORAGE AREAS PRIOR TO THE PROPOSED GRADING OPERATIONS.

TOPSOIL DISTRIBUTION

ONCE THE GENERAL EARTHWORK IS COMPLETE AND ROUGH GRADING HAS BEEN ACCOMPLISHED, THE TOPSOIL SHOULD BE REDISTRIBUTED OVER THE AREA TO MINIMUM DEPTHS AS SPECIFIED. WHERE NEEDED, SLOPES SHOULD BE GRADED WITH SERRATION TO HOLD TOPSOIL ADEQUATELY. TOPSOIL SHOULD BE SPREAD AND LIGHTLY COMPACTED UTILIZING A SMALL CLEATED TRACTOR MOVING PERPENDICULAR TO THE CONTOURS OR ANOTHER METHOD WITH EQUAL CAPABILITY. IT IS OUR RECOMMENDATION THAT ANY NECESSARY MECHANICAL MEANS OF EROSION CONTROL BE IN PLACE PRIOR TO BEGINNING SITE DISTURBANCE.

ONCE TOPSOIL HAS BEEN DISTRIBUTED AND GRADED, REVEGETATION SEEDING SHALL FOLLOW IMMEDIATELY. IN ORDER TO ELIMINATE SURFACE CRUSTING AND TO FACILITATE BETTER ROOT PENETRATION, THE SURFACE SHOULD BE SCARIFIED PRIOR TO SEEDING.

SEEDING

APPLY SEED TO THE PROJECT SITE BY HYDROSEEDING.
THE FOLLOWING INFORMATION PROVIDES MATERIAL AND EXECUTION FOR SEEDING.

SEED MIXTURE:	PURE LIVE SEED % MIX
JUNE PRARIEGRASS	20%
ROADCREST WHEATGRASS	20%
BLUEGRAMMA GRASS	5%
BUFFALOGRASS	10%
BIG SHERMAN BLUEGRASS	20%
MICROCLOVER	5%
SHEEPS FESCUE	15%
HARD FESCUE	5%

SEEDING RATE
INSTALL @ 35 LBS / ACRE ON SLOPES LESS THAN 10%
INSTALL @ 50 LBS / ACRE ON SLOPES GREATER THAN 10%

FIBER MULCH MATERIAL

GROW NUTRIBASE FROM "QUATTRO ENVIRONMENTAL", A COMPOSTED POULTRY BASED MULCH MATERIAL FREE OF GROWTH OR GERMINATION INHIBITING INGREDIENTS. APPLY AT THE RATE OF 2000 LBS. PER ACRE.

ORGANIC SOIL AMENDMENT

GROW NUTRIBOOST FROM "QUATTRO ENVIRONMENTAL" (OR APPROVED EQUAL) APPLIED AT 5 GALLONS PER ACRE.

TACKIFIER

MULCH TACKIFIER SOIL STABILIZER - ECOLOGY CONTROLS M-BINDER. TACKIFIER APPLIED AT THE RATE OF 80 LBS. PER ACRE.
GRANITE SEED
1697 WEST 2100 NORTH
P.O. BOX 177
LEHI, UTAH 84043
1-800-768-4433
(OR APPROVED EQUAL)

HYDROSEEDING

MIX SPECIFIED SEED AND ORGANIC SOIL AMENDMENT IN WATER PER MANUFACTURER'S RECOMMENDATIONS. APPLY SEEDED SLURRY EVENLY IN TWO INTERSECTION DIRECTIONS. DO NOT HYDROSEED AREA IN EXCESS OF THAT WHICH CAN BE MULCHED ON SAME DAY. KEEP OFF ROADS, WALKS, STRUCTURES AND AREAS NOT TO BE SEEDED. CLEAN UP THESE AREAS. AFTER HYDROSEED, MULCH SLOPE WITH 2000 LBS. PER ACRE OF FERTILE-FIBER MULCH MATERIAL AND 80 LBS. PER ACRE OF TACKIFIER.

MAINTENANCE

IMMEDIATELY RESEED AREAS WHICH SHOW BARE SPOTS. MINIMUM ACCEPTABLE PLANT COVERAGE IS 80 PERCENT AFTER ONE GROWING SEASON. PROTECT SEEDED AREAS WITH WANING SIGNS DURING MAINTENANCE PERIOD. THE SEED WILL REQUIRE APPROXIMATELY NINETY (90) DAYS OF FAVORABLE GROWING CONDITIONS TO GERMINATE AND BECOME ESTABLISHED FOR SUCCESSFUL SURVIVAL WITH NORMAL MINIMAL SUMMER PRECIPITATION.

SEEDING TIME

THE OPTIMAL SEEDING TIME SHALL BE IN FALL, BETWEEN MID SEPTEMBER AND MID OCTOBER. IF SEEDING IS APPLIED TOO EARLY OR TOO LATE AND PROPER GERMINATION IS NOT REALIZED PRIOR TO FALL DORMANCY, THEN RESEEDING SHALL BE APPLIED IN EARLY SPRING, AS SOON AS SOIL IS WORKABLE (NOT MUDDY) BETWEEN MARCH AND MID MAY. THIS PLANTING TIME PROVIDES THE OPTIMUM WEATHER CONDITIONS FOR SEED GERMINATION AND SEEDLING SURVIVAL RATE. SEEDING AFTER NOVEMBER 20, 'DORMANT SEEDING' INSURES THAT THE SEED DOES NOT GERMINATE PRIOR TO FREEZING WINTER TEMPERATURES AND SEED SHOULD BE IN PLACE FOR THE EARLY SPRING RAINS.

WATER

THE CONTRACTOR WILL PROVIDE SUPPLEMENTAL WATER TO ENSURE PROPER SEED GERMINATION.

FERTILIZATION

FERTILIZATION IS NOT RECOMMENDED FOR RECLAMATION SEEDING DUE TO PROMOTION OF WEED COMPETITION. IF WEEDS ARE APPARENT, CONTACT LANDSCAPE ARCHITECT FOR WEED REMOVAL REQUIREMENTS.

EROSION CONTROL

UNDER NORMAL CIRCUMSTANCES AND ADHERENCE TO THE CONSTRUCTION PRACTICES DESCRIBED IN THE SPECIFICATIONS, THE ABOVE RECOMMENDED EROSION CONTROL MEASURE SHOULD PROVIDE A STABLE SLOPE CONDITION. TO AVOID INCIDENTAL EROSION, IT IS IMPERATIVE THAT THE SLOPES, ONCE PREPARED, REMAIN UNDISTURBED UNTIL SEEDING GERMINATES AND IS ESTABLISHED.

AN 80% VEGETATION COVER IS RECOMMENDED TO CONTROL EROSION. SURFACE CONDITIONS SHOULD BE MONITORED DAILY. IF EROSION DETRIMENTAL TO THE SLOPE IS OBSERVED OR ANTICIPATED DUE TO EXCESSIVE RAINFALL, REMEDIAL MEASURES SHALL BE IMPLEMENTED AS REQUIRED. REFER TO THE STORM WATER POLLUTION PREVENTION PLAN FOR ADDITIONAL REQUIREMENTS.

STAMP:
STATE OF IDAHO
JOHN D. ROYER
LA - 16827
3/28/23
LANDSCAPE ARCHITECT

DATE:
03/28/2023

811 Know what's below. Call before you dig.
CALL AT LEAST 48 HOURS BEFORE YOU BEGIN EXCAVATION TO HAVE UNDERGROUND MEMBER UTILITIES LOCATED

SOUTH BECK & BAIRD
South Landscape Architecture P.C.
Dba South Beck & Baird Landscape Architecture P.C.
2002 S. Vista Ave
Boise, ID 83705
208.342.2999 Office
sla@saboise.com
www.sabboise.com

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REVISIONS:

No.	Date	Description

THE PROFESSIONAL SERVICES OF THE DESIGN PROFESSIONAL HAS BEEN PERFORMED IN THE INTEREST OF THE CLIENT. NO CONTRACTUAL OBLIGATIONS ASSUMED BY THE DESIGN PROFESSIONAL FOR THE BENEFIT OF ANY OTHER PERSON EXCEPT AS IN THE PROJECT.

REVEGETATION PLANS
Cloud Nine
7924 W Kingsbury Dr. Middleton, Idaho 83644

DRAWN BY: AWJ
CHECKED BY: JDR
PROJECT NUMBER: 19-069
SHEET: L1.2

Preliminary Plat

USER:ADAM JOHNSTON LOCATION:Z:\PROJECTS\DICK PHILLIPS\19-069 KINGSBURY\CAD\SHEETS\19-069 REVEG PLAN.DWG PRINT DATE:3/28/2023 5:45 PM

KELLER ASSOCIATES

100 E Bower Street, Suite 110
Meridian, ID 83642
(208) 288-1992

April 14, 2023

Mr. Devin Krasowski
County Engineer
Development Services Department
111 North 11th Ave. #140
Caldwell, Idaho 83605

Re: Cloud Nine Estates Subdivision Preliminary Plat Application

Dear Mr. Krasowski,

Keller Associates, Inc. has reviewed the Preliminary Plat for the Cloud Nine Estates Subdivision dated 4/3/2023. We reviewed the applicant's package for conformance with the Canyon County Code Ordinance Article 17. We have the following comments in order for the applicant to satisfy the County's requirements:

1. Label East Road as public or private on the plat.
2. Historic irrigation lateral, drain, and ditch flow patterns shall be maintained unless approved in writing by the local irrigation district or ditch company.
3. Finish grades at subdivision boundaries shall match existing finish grades. Runoff shall be maintained on subdivision property unless otherwise approved.
4. Plat shall comply with requirements of the local highway district.
5. Plat shall comply with Southwest District Health requirements.

We recommend that **the Preliminary Plat be approved with the conditions above.** Any variance or waivers to the Canyon County standards, ordinances, or policies must be specifically approved in writing by the County. Approval of the above-referenced Preliminary Plat, when granted, does not relieve the Registered Professional Land Surveyor or the Registered Professional Engineer of those responsibilities.

If you have any questions, please do not hesitate to call Keller Associates at (208) 244-5065.

Sincerely,

KELLER ASSOCIATES, INC.

Justin Walker, P.E.
County Engineer

cc: File

PRELIMINARY DEVELOPMENT PLAN / PRELIMINARY PLAT

CLOUD NINE ESTATES

A PARCEL OF LAND BEING LOCATED IN THE SW 1/4 OF SW 1/4 OF SECTION 35, T. 5N., R. 2W., B.M. CANYON COUNTY IDAHO

OCTOBER 2023

Add a Note that all building needs to be within building envelope area as noted on plat.

NOTES:

1. DOMESTIC WATER AND PRESSURIZED IRRIGATION SERVICE WILL BE PROVIDED TO EACH LOT VIA PRIVATE WELL.
2. SANITARY SEWER FOR EACH LOT WILL BE PROCESSED USING AN ON-SITE SEPTIC TANK SYSTEM.
3. ALL DOMESTIC WATER WELLS AND SANITARY SEWER SEPTIC SYSTEMS WILL BE INSTALLED IN ACCORDANCE WITH THE IDAHO DEPARTMENT OF ENVIRONMENTAL QUALITY, SECTION 58.01.03 AS WELL AS CANYON COUNTY REQUIREMENTS.
4. CONSTRUCTION OF THE FOLLOWING IMPROVEMENTS WILL BE IN COMPLIANCE WITH CANYON COUNTY CODES AND SPECIFICATIONS: WATER; DRAINAGE; SEWER; AND PRESSURE IRRIGATION;
5. ALL STREETS SHALL BE IN DEDICATION TO CANYON HIGHWAY DISTRICT NO.4 ROADWAYS WILL BE CONSTRUCTED TO AT LEAST MINIMUM CANYON HIGHWAY DISTRICT NO.4 STANDARDS. SEE ROADWAY SECTION, THIS SHEET.
6. STORM DRAINAGE FROM THE PUBLIC ROADWAYS SHALL BE COLLECTED IN BORROW DITCHES WITHIN THE RIGHT-OF-WAY.
7. ALL RESIDENCES WILL BE OUTFITTED WITH A RESIDENTIAL FIRE SPRINKLER PROTECTION SYSTEM.
8. ALL EXISTING WELLS ARE APPROXIMATE IN LOCATION. ALL WELL ABANDONMENT SHALL BE COMPLETED IN ACCORDANCE WITH THE REQUIREMENTS OF THE IDAHO DEPARTMENT OF WATER RESOURCES (IDWR) AND IDAHO CODE. THE CONTRACTOR SHALL RETAIN A LICENSED WELL DRILLER FOR ABANDONMENT. COORDINATE WITH ROB WHITNEY AT IDWR WESTERN REGION (334-2190).
9. ALL RNDR ON LOCAL RURAL ROADS ARE 20'. LOCAL RURAL ROAD TO CUL-DE-SAC TRANSITION HAVE A 20' RADIUS.
10. DIRECT LOT ACCESS TO KINGSBURY ROAD SHALL BE PROHIBITED.
11. THIS DEVELOPMENT WILL ONLY BE RESPONSIBLE FOR CONSTRUCTION OF A TWO LANE RURAL SECTION PER ACCHD-101 WITHIN THE PROPOSED 100 FOOT RIGHT-OF-WAY FOR KINGSBURY ROAD.
12. LOT 6 BLOCK 1 AND LOTS 9 AND 27 BLOCK 4 ARE DESIGNATED FOR STORM WATER RETENTION LOTS.
13. THE HOMEOWNERS ASSOCIATION "HOA", UNDERLYING PROPERTY OWNER OR ADJACENT PROPERTY OWNER IS RESPONSIBLE FOR ALL STORM DRAINAGE FACILITIES OUTSIDE THE RIGHT-OF-WAY, INCLUDING ALL ROUTINE AND HEAVY MAINTENANCE.
14. NO SECONDARY DWELLINGS SHALL BE ALLOWED WITHOUT AN APPROVED CONDITIONAL USE PERMIT.

- BENCHMARKS -

-NAVD 1988-

CONTROL POINT 5/8" IRON PIN

NORTHING: 9276.68

EASTING: 7820.20

ELEVATION: 2570.02

PRELIMINARY DEVELOPMENT FEATURES

TOTAL ACRES	72.06 AC
TOTAL COMMON LOT ACREAGE	0.66 AC
TOTAL LOTS	48
SINGLE FAMILY LOTS	44
COMMON LOTS	1
STORM DRAIN LOTS	3
AVERAGE BLDG. LOT SIZE	50,437 SF
DENSITY	0.61 UNITS/ACRE
CURRENT ZONING	CANYON COUNTY AG
PROPOSED ZONING	"R-1" RURAL
GENERAL UTILITY EASEMENT	
FRONT	
FROM EXTERIOR OF LOT	10FT
FROM INTERIOR OF LOT	5FT
LOT SET BACK	
FRONT, REAR, AND CORNER	20FT
SIDE	10FT

Show in acres.

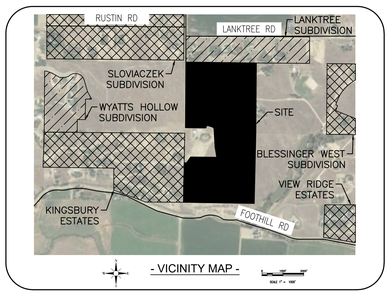
Current Zoning is CR-R1. Remove Proposed Zoning.

Please take these out. They could vary if code changes.

Is this needed?

- LEGEND -

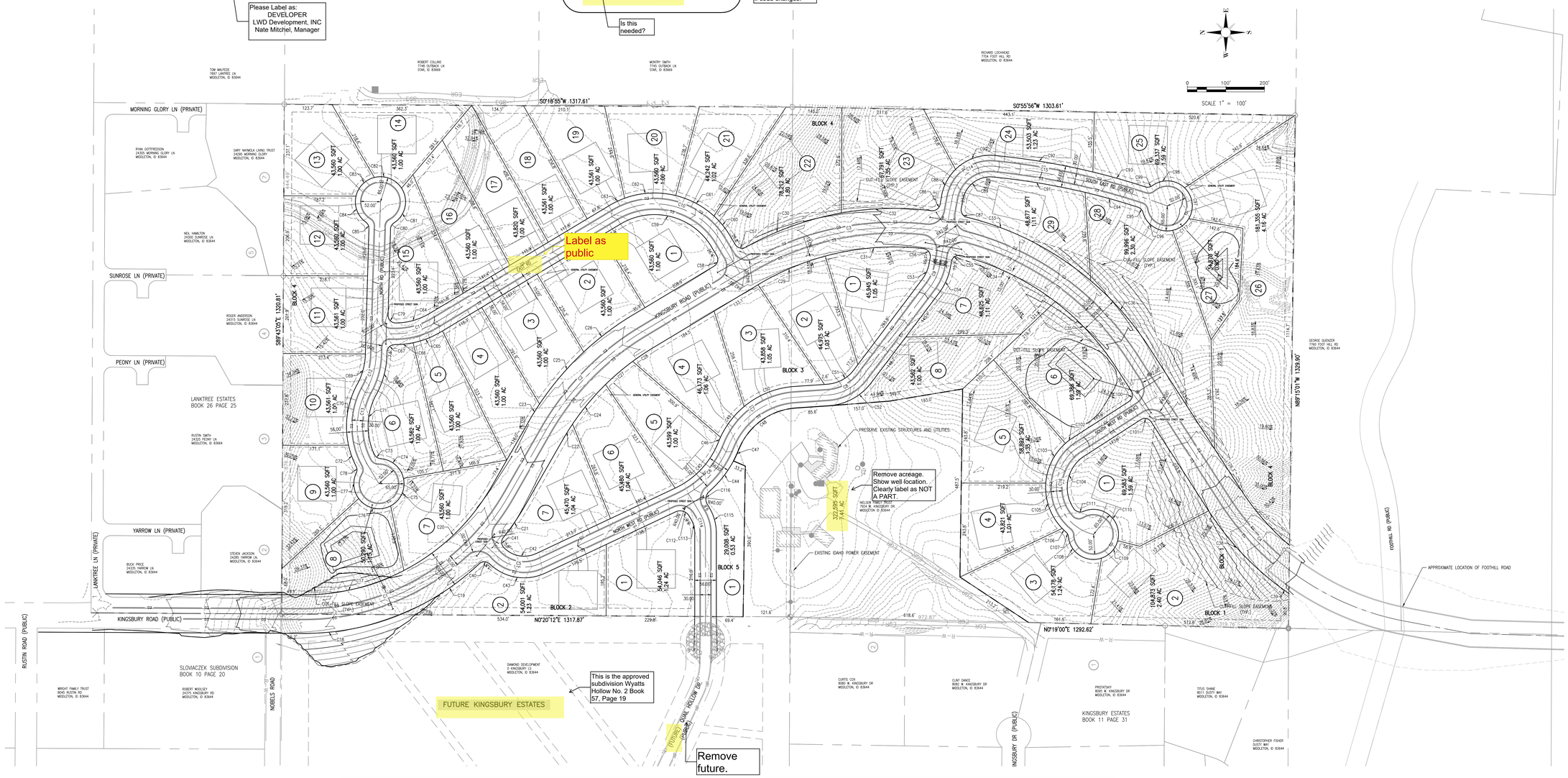
EXISTING PROPERTY BOUNDARY LINE	PROPERTY BOUNDARY LINE
EXISTING LOT LINE	LOT LINE
EXISTING SECTION LINE	SECTION LINE
EXISTING RIGHT-OF-WAY LINE	RIGHT-OF-WAY LINE
EXISTINGEASEMENT LINE	EASEMENT LINE
EXISTINGFENCE	FENCE
EXISTING SANITARY SEWER LINE W/ MANHOLE	SANITARY SEWER LINE W/ MANHOLE
EXISTING GAS LINE	WATER MAIN
EXISTING OVERHEAD POWER LINE	IRRIGATION LINE
EXISTING WATER MAIN	EDGE OF PAVEMENT
EXISTING IRRIGATION LINE	EDGE OF DIRT ROAD
EXISTING EDGE OF PAVEMENT	BOTTOM OF DITCH
EXISTING EDGE OF DIRT ROAD	TOP OF BANK
EXISTING BOTTOM OF DITCH	
EXISTING TOP OF BANK	
EXISTING SIDEWALK	

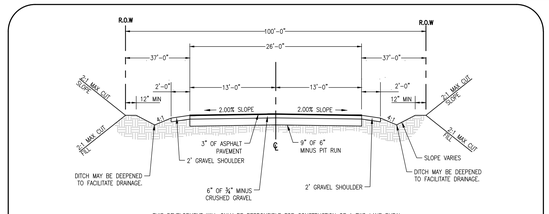


- VICINITY MAP -

MANAGER	SURVEYOR	ENGINEER
NATE MITCHEL	IDAHO SURVEY GROUP	CK-ENGINEERING
210 MURRAY ST	GREG CARTER P.L.S.	CHAD KINKELA
BOISE, ID 83714	1450 E. WATERTOWER	1300 E. STATE ST
208-941-2688	MERIDIAN, ID 83642	SUITE 102
	208-846-8570	EAGLE, ID 83616
		208-639-1992

Please Label as:
DEVELOPER
LWD Development, INC
Nate Mitchel, Manager

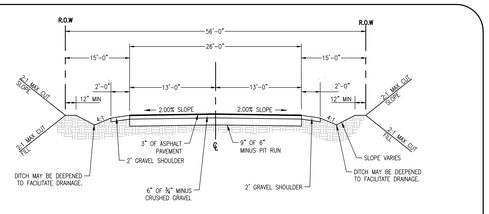




THIS DEVELOPMENT WILL ONLY BE RESPONSIBLE FOR CONSTRUCTION OF A TWO LANE RURAL SECTION PER ACCHD-101 WITHIN THE PROPOSED 100 FOOT RIGHT-OF-WAY FOR KINGSBURY ROAD.

TYPICAL 100' ROW SECTION WITH 26' STREET SECTION

- NTS -



TYPICAL 56' ROW SECTION WITH 26' STREET SECTION

- NTS -

BEFORE DIGGING, CALL DIGLINE AT 1-800-342-1585

PRELIMINARY PLAT FOR CLOUD NINE ESTATES

REVISIONS:
1. CANYON COUNTY COMMENTS 12-09-2021
2. CANYON HIGHWAY DISTRICT #4 07-10-2023
3. CANYON HIGHWAY DISTRICT #4 09-26-2023
4. CANYON HIGHWAY DISTRICT #4 04-14-2025

PROFESSIONAL ENGINEER 9412 04/16/25 STATE OF IDAHO CHAD S. KINKELA

CK ENGINEERING
1300 E. STATE ST., SUITE 102
EAGLE, ID 83616
PHONE 208-639-1992

DRAWN BY: AKB & HN
CHECKED BY: CSK
DATE: 04/16/25
FILE: KINGSBURY RD 7-PLAT + 100FT ROW_TEST.DWG
DIR: D:\NATE MITCHEL\KINGSBURY SUBDIVISION\PRELIMINARY PLAT\CONCEPT DRAWING\ 100FT ROW...

LOT DIMENSION PLAN VIEW

SHEET P1.0

Canyon County, 111 North 11th Avenue, #310, Caldwell, ID 83605
▪ Engineering Division ▪

Preliminary Plat Check-List (CCZO §07-17-09)

Applicant:	**Case Number:**
Subdivision Name:	**Plat Date (Review #):**

Review Required by Planning:		**Review Required by Engineering:**		**Review Required by Both:**	

GENERAL REVIEW ITEMS	**Meets Code / Comments**	
	Planning	**Engineering**
1. Complete the initial review of all information given graphically and by note on the plat.	Meets	
2. Check for compliance with FCOs and/or Development Agreement from the entitlement process, if applicable.	Meets	
3. Check for compliance with CCO Chapter 9 - Areas of City Impact. Chapter 9 lists requirements unless waived.	Star Waiver	
4. Check for applicable agency comments. These comments could have been made at the entitlement stage or after.	Meets	
5. Make note of agencies that should be noticed if not typically included on the notice list and pass the information along to the planner.	Meets	
Items A through E below are directly from CCZO 07-17-09. Italicized items are checklist items related to requirements found in the ordinance and may not be strictly required.		
A. FORM OF PRESENTATION	**Meets Code / Comments**	
	Planning	**Engineering**
1. Scale of Drawing (No more than 1" = 100' unless approved by DSD before submission).	Meets	
2. Size of Drawing (No larger than 24' x 36"). • *Obtain an electronic version of all submittals.*	Meets	
B. IDENTIFICATION AND DESCRIPTIVE DATA	**Meets Code / Comments**	
	Planning	**Engineering**
1. Proposed name of the subdivision and its location by section, township, and range. • *Name of sub needs to be reserved through DSD GIS*	Meets	
2. Reference by dimension and bearing to a section corner or quarter section corner.	Meets	
3. Name, address, and phone number of the developer.	Fix	
4. Name, address, and phone number of the person preparing the plat.	Meets	
5. North arrow.	Meets	
6. Date of preparation.	Meets	

7. Revision block showing dates if any revisions subsequent to the original preparation date. The revision block shall be part of the title block, which shall be placed along the right edge of the drawing sheet.	Meets	
8. The vicinity map is drawn to scale, clearly showing the proposed subdivision location in relationship to adjacent subdivisions, main arterial routes, collector streets, etc. • *Check for consistency between the pre-plat and the vicinity map.*	Meets	

C. EXISTING CONDITIONS DATA	**Meets Code / Comments**	
	Planning	**Engineering**
1. Two-foot contours are shown unless otherwise approved; show all areas in excess of 15% slope.		
2. Location of water wells, streams, canals, irrigation laterals, private ditches, washes, lakes, or other water features; direction of flow; location and extent of known areas subject to inundation.		
3. Location, widths, and names of all platted streets, railroads, utility rights of way of public record, public areas, permanent structures to remain, including water wells and municipal corporation lines within or adjacent to the tract. • *Future use of remaining wells, if applicable*		
4. Name, book, and page numbers of any recorded adjacent subdivisions having a common boundary with the tract.	Meets	
5. Existing zoning classification, by note. • *Proposed zoning, by note, if new zoning is being proposed concurrently with a pre-plat application*	Fix	
6. Approximate acreage of the tract, by note.	Fix	
7. Boundary dimensions of the tract.	Meets	
8. Names and addresses of adjoining property owners within three hundred (300) feet of the exterior boundary of the tract.	Meets	
D. PROPOSED CONDITIONS DATA	**Meets Code / Comments**	
	Planning	**Engineering**
1. Road layout, including location, width, and proposed names of roads, alleys, pathways, easements, and roadway connections, if any, to an adjoining platted tract. • *Confirmation that the highway district will allow proposed access if new access is on an arterial* • *Check the ownership of the access location if a separate lot* • *Check the alignment of stub streets with adjacent developments, if applicable.* • Private roads shall not have direct access to arterials or local roads within a platted subdivision (ACCHD 2020.040) • Private road names need to be reserved through DSD GIS. Private roads require a separate application. • Public road names must be checked for availability with DSD GIS • *If typical sections are shown, make sure they are consistent with what will be required*	Meets	

2. Typical lot dimensions including curvilinear data to scale; each lot numbered individually; the total number of lots by type and grand total. A private road must be a lot. • *Curve table is present and matches the data shown graphically* • *Minimum lot size* • *Average lot size (calculated as total residential area divided by the number of residential lots)* • *Check block numbering* • *Consider any phasing shown*	Meets	
3. Location, width, and use of easements • *Provide documentation of or reference to any existing easements, especially access easements for existing parcels that are part of the plat.* • *Show easements for all shared infrastructure*	Meets	
4. Designation of all land to be dedicated or reserved for public use, with use indicated	Meets	
5. If the plat includes land for which multi-family, commercial, or industrial use is proposed, such areas shall be clearly designated together with existing zoning classification and status of zoning change, if any	N/A	
6. If the proposed subdivision is part of a larger area intended for development, a development master plan of the entire area shall be provided	N/A	
7. Appropriate information that sufficiently details the proposed development within any special development area, such as hillside, PUD, flood plain, cemetery, manufactured home, large-scale development, hazardous, and unique areas of development • *Check mapping layers for the above special development items. Include wetland and natural drainage ways.* • *Consider recommended conditions related to special development areas and related reports*	Meets	
8. All roads must be labeled as either "private" or "public" behind or beneath the road name	Fix	
E. PROPOSED UTILITY METHODS	**Meets Code / Comments**	
	Planning	**Engineering**
1. **Sewage:** A statement as to the type of proposed sanitary sewage facilities • *Preliminary location/layout of proposed sewage facilities* • *Nutrient-Pathogen study if required by SWDH* • *If sewage facilities will be shared, provide preliminary arrangements for future operation and maintenance of the facilities, including financial arrangements. Also include a preliminary sewer plan. DSD should complete a high-level feasibility review of shared utilities*		
2. **Water Supply:** A statement as to the type of proposed water supply facilities • *Preliminary location/layout of proposed potable water facilities* • *If potable water facilities will be shared, provide preliminary arrangements for future operation and maintenance of the facilities, including financial arrangements. Also include a preliminary potable water plan. DSD should complete a high-level feasibility review of shared utilities*		

3. **Storm Water Disposal:** A statement as to the type of storm water disposal facilities, which may include evidence as may be required relative to the design and operation of the proposed storm water system • *Include a statement that all stormwater shall be retained on site, if appropriate* • *Consider any required protection for roadside swales during home construction and/or long-term protection from landscaping, roadside parking, regrading/filling swale, etc.* • *Maintenance easements for storm drain facilities treating drainage from public roads should be in place*		
4. **Irrigation System:** A statement as to the proposed irrigation system, which may include evidence as may be required relative to the design and operation of any proposed irrigation system • Irrigation Supply and Distribution Systems: The developer shall disclose, pursuant to Idaho Code section 31-3805, and file as part of the preliminary plat with DSD, evidence that an adequate irrigation supply and distribution system to serve the land within the plat to be recorded will be provided and must include consideration of using existing water rights that go with the land being platted. Such evidence shall include, but not be limited to, the following: - Copies of the plans of the proposed distribution system for the lots and areas to be served in the proposed development; and - Copies of the community association's or similar organization's documents, which may be required precedent to the establishment of an irrigation distribution system within the proposed development.		
5. **Utility Easement:** The utility easement width shall be a minimum of ten (10) feet from the exterior boundaries and five (5) feet from the interior boundaries. Utility easements shall be shown graphically on the plat.		

GENERAL RECOMMENDED CONDITIONS

1. Finish grades at subdivision boundaries shall match existing finish grades. Runoff shall be maintained on subdivision property unless otherwise approved.
2. Development shall comply with the requirements of the local highway district. Evidence shall include written correspondence from the highway district before the first public hearing held for the preliminary plat and the highway district's signature on the final plat.
3. Development shall comply with irrigation district requirements. Evidence shall include written correspondence from the irrigation district before the first public hearing held for the preliminary plat and before the Board of County Commissioners' signature on the final plat.
4. Development shall comply with Southwest District Health requirements. Evidence shall include written correspondence from Southwest District Health before the first public hearing held for the preliminary plat and Southwest District Health's signature on the final plat.
5. Development shall comply with Fire District requirements. Evidence shall include written correspondence from the Fire District before the first public hearing held for the preliminary plat and before the Board of County Commissioners' signature on the final plat.
6. After preliminary plat approval applicant shall provide GIS data containing georeferenced lot line and roadway linework to be included in Development Services GIS mapping. (Solo pre-plats only)

Date Reviewed	Reviewer
6/9/25	Michelle Barron

Engineering Notes

Planning Notes

PRELIMINARY DEVELOPMENT PLAN / PRELIMINARY PLAT

CLOUD NINE ESTATES

PARCELS OF LAND BEING LOCATED IN THE SW 1/4 OF SW 1/4 OF SECTION 35, T. 5N., R. 2W., AND NW 1/4 OF NW 1/4 OF SECTION 2, T. 4N., R. 2W., B.M. CANYON COUNTY IDAHO

JUNE 2025

NOTES:

1. DOMESTIC WATER AND PRESSURIZED IRRIGATION SERVICE WILL BE PROVIDED TO EACH LOT VIA PRIVATE WELL.
2. SANITARY SEWER FOR EACH LOT WILL BE PROCESSED USING AN ON-SITE SEPTIC TANK SYSTEM.
3. ALL DOMESTIC WATER WELLS AND SANITARY SEWER SEPTIC SYSTEMS WILL BE INSTALLED IN ACCORDANCE WITH THE IDAHO DEPARTMENT OF ENVIRONMENTAL QUALITY, SECTION 58.01.03 AS WELL AS CANYON COUNTY REQUIREMENTS.
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5. ALL STREETS SHALL BE IN DEDICATION TO CANYON HIGHWAY DISTRICT NO.4 ROADWAYS WILL BE CONSTRUCTED TO AT LEAST MINIMUM CANYON HIGHWAY DISTRICT NO.4 STANDARDS. SEE ROADWAY SECTION. THIS SHEET.
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8. ALL EXISTING WELLS ARE APPROXIMATE IN LOCATION. ALL WELL ABANDONMENT SHALL BE COMPLETED IN ACCORDANCE WITH THE REQUIREMENTS OF THE IDAHO DEPARTMENT OF WATER RESOURCES (IDWR) AND IDAHO CODE. THE CONTRACTOR SHALL RETAIN A LICENSED WELL DRILLER FOR ABANDONMENT. COORDINATE WITH ROB WHITNEY AT IDWR WESTERN REGION (334-2190).
9. ALL RADII ON LOCAL RURAL ROADS ARE 20'. LOCAL RURAL ROAD TO CUL-DE-SAC TRANSITION HAVE A 20' RADIUS.
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13. THE HOMEOWNERS ASSOCIATION "HOA", UNDERLYING PROPERTY OWNER OR ADJACENT PROPERTY OWNER IS RESPONSIBLE FOR ALL STORM DRAINAGE FACILITIES OUTSIDE THE RIGHT-OF-WAY, INCLUDING ALL ROUTINE AND HEAVY MAINTENANCE.
14. NO SECONDARY DWELLINGS SHALL BE ALLOWED WITHOUT AN APPROVED CONDITIONAL USE PERMIT.
15. ALL BUILDINGS NEED TO BE WITHIN BUILDING ENVELOPE AREA AS NOTE ON THE PLAT.

- BENCHMARKS -

-NAVD 1988-

CONTROL POINT 5/8" IRON PIN

NORTHING: 9276.68

EASTING: 7820.20

ELEVATION: 2570.02

PRELIMINARY DEVELOPMENT FEATURES

TOTAL ACRES	72.06 AC
TOTAL COMMON LOT ACREAGE	0.66 AC
TOTAL LOTS	48
SINGLE FAMILY LOTS	44
COMMON LOTS	1
STORM DRAIN LOTS	3
AVERAGE BLDG. LOT SIZE	1.16 ACRES
DENSITY	0.61 UNITS/ACRE
CURRENT ZONING	CR-R1
GENERAL UTILITY EASEMENT FROM EXTERIOR OF LOT	10FT
FROM INTERIOR OF LOT	5FT

DEVELOPER

LWD DEVELOPMENT, INC.
NATE MITCHELL, MANAGER
210 MURRAY ST
BOISE, ID 83714
208-941-2668

SURVEYOR

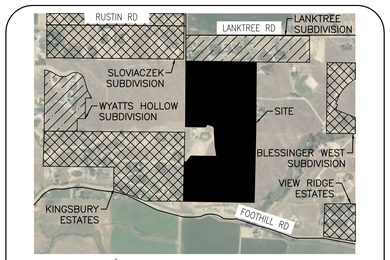
IDAHO SURVEY GROUP
GREG CARTER P.L.S.
1450 E. WATERTOWER
MERIDIAN, ID 83642
208-846-8570

ENGINEER

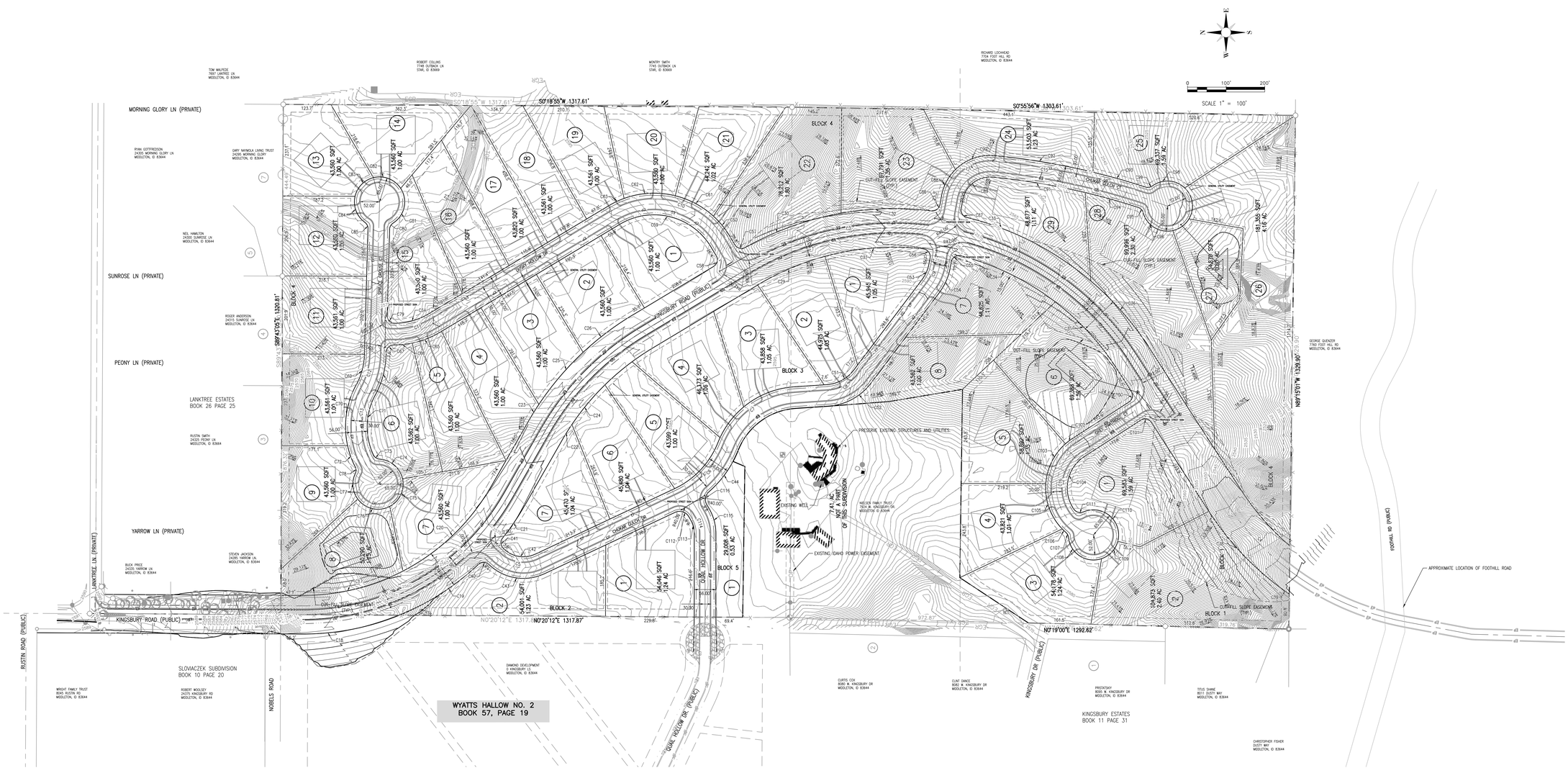
CK-ENGINEERING
CHAD KINKELA
1300 E. STATE ST
SUITE 102
EAGLE, ID 83616
208-639-1992

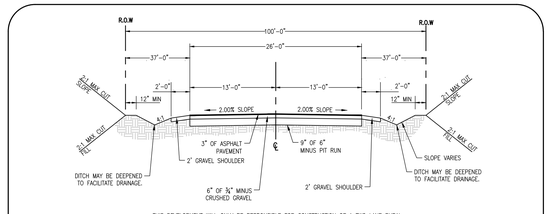
- LEGEND -

EXISTING PROPERTY BOUNDARY LINE	PROPERTY BOUNDARY LINE
EXISTING LOT LINE	LOT LINE
EXISTING SECTION LINE	SECTION LINE
EXISTING RIGHT-OF-WAY LINE	RIGHT-OF-WAY LINE
EXISTINGEASEMENT LINE	EASEMENT LINE
EXISTINGFENCE	FENCE
EXISTING SANITARY SEWER LINE W/ MANHOLE	SANITARY SEWER LINE W/ MANHOLE
EXISTING GAS LINE	WATER MAIN
EXISTING OVERHEAD POWER LINE	IRRIGATION LINE
EXISTING WATER MAIN	EDGE OF PAVEMENT
EXISTING IRRIGATION LINE	EDGE OF DIRT ROAD
EXISTING EDGE OF PAVEMENT	BOTTOM OF DITCH
EXISTING EDGE OF DIRT ROAD	TOP OF BANK
EXISTING BOTTOM OF DITCH	
EXISTING TOP OF BANK	
EXISTING SIDEWALK	



- VICINITY MAP -

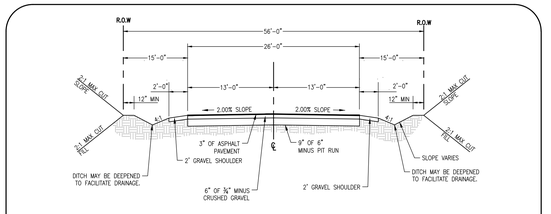




THIS DEVELOPMENT WILL ONLY BE RESPONSIBLE FOR CONSTRUCTION OF A TWO LANE RURAL SECTION PER ACCHD-101 WITHIN THE PROPOSED 100 FOOT RIGHT-OF-WAY FOR KINGSBURY ROAD.

TYPICAL 100' ROW SECTION WITH 26' STREET SECTION

- NTS -



TYPICAL 56' ROW SECTION WITH 26' STREET SECTION

- NTS -

BEFORE DIGGING, CALL DIGLINE AT 1-800-342-1585

PRELIMINARY PLAT FOR CLOUD NINE ESTATES

REVISIONS:
1. CANYON COUNTY COMMENTS 12-09-2021
2. CANYON HIGHWAY DISTRICT #4 07-10-2023
3. CANYON HIGHWAY DISTRICT #4 09-26-2023
4. CANYON HIGHWAY DISTRICT #4 04-14-2025

PROFESSIONAL ENGINEER 9412 6/10/25 STATE OF IDAHO CHAD S. KINKELA

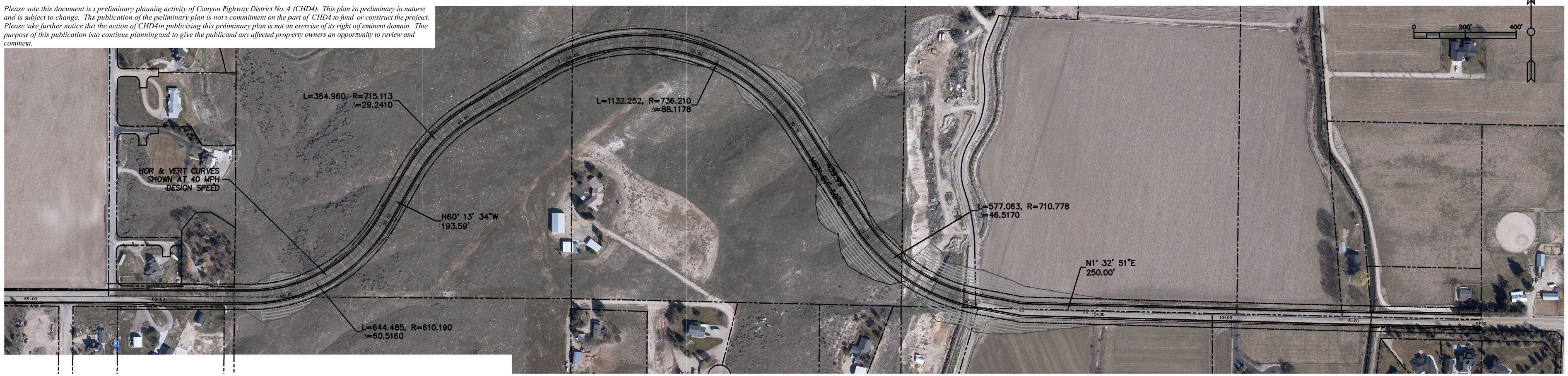
CK ENGINEERING
1300 E. STATE ST., SUITE 102
EAGLE, ID 83616
PHONE 208-639-1992

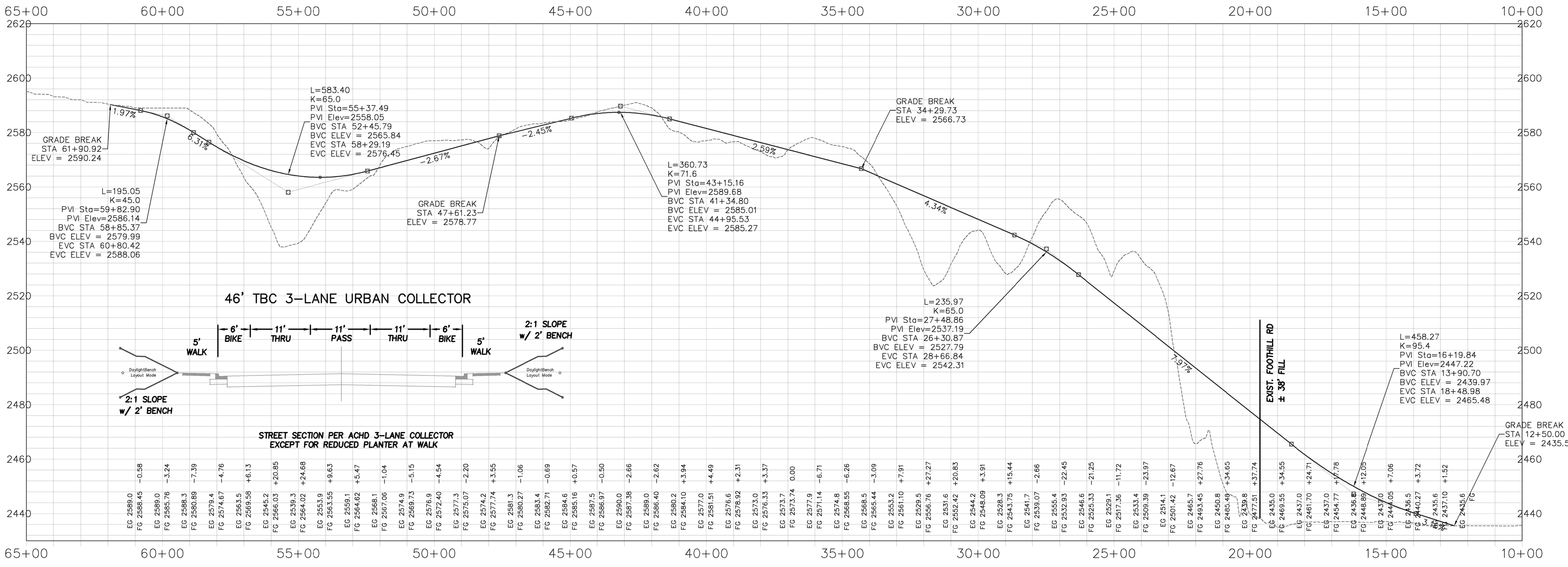
DRAWN BY: AKB & HN
CHECKED BY: CSK
DATE: 04/16/25
FILE: KINGSBURY RD 7-PLAT + 100FT ROW-ENGINEERING
DIR: S:\AKB_WORK\KINGSBURY SUBDIVISION\PRELIMINARY PLAT\CONCEPT DRAWING 100FT ROW...

LOT DIMENSION PLAN VIEW

SHEET P1.0

Please note this document is a preliminary planning activity of Canyon Highway District No. 4 (CHD4). This plan is preliminary in nature and is subject to change. This publication of the preliminary plan is not a commitment on the part of CHD4 to fund or construct the project. Please take further notice that the action of CHD4 in publicizing this preliminary plan is not an exercise of its right of eminent domain. The purpose of this publication is to continue planning and to give the public and any affected property owners an opportunity to review and comment.





KINGSBURY RD EXTENSION
FOOTHILL TO LANKTREE

CANYON HIGHWAY DISTRICT NO. 4
15435 Hwy. 44
Caldwell, Idaho 83607
Phone: 208.454.8135
Fax: 208.454.2008

CAD FILE:	KINGSBURY MEANDER.dwg
PROJ. #:	
DRAWING NO. :	
DRAWN BY:	CEH
DESIGN BY:	CEH
CHECKED BY:	
ONE INCH	AT FULL SIZE, IF NOT ONE INCH, SCALE ACCORDINGLY
SCALE OF SHEET	
HOR SCALE:	SCALEBAR
VER SCALE:	N/A

KINGSBURY RD CONCEPT 8% / 45 MPH*

PLAN & PROFILE

LAST UPDATED: DEC 2, 2020

SHEET 1 OF 1

Michelle Barron

From: Shawn Nickel <snickel@staridaho.org>
Sent: Tuesday, June 3, 2025 7:31 AM
To: Nate Mitchell; Michelle Barron
Subject: [External] RE: Cloud Nine Estates

Good morning, Nate. The City of Star herby waives the development requirements for street width, sidewalks and streetlights for the Cloud Nine Estates Subdivision, located within Star's Area of City Impact. Please let me know if I can be of further assistance.

Thanks.

Shawn

SHAWN L NICKEL
PLANNING DIRECTOR AND ZONING ADMINISTRATOR
CITY OF STAR
SNICKEL@STARIDAHO.ORG
208-286-7247 exT. 3004
OFFICE HOURS: MONDAY THRU THURSDAY 6AM-4PM

From: Nate Mitchell <nate.mitchell@ymail.com>
Sent: Thursday, May 29, 2025 4:09 PM
To: Shawn Nickel <snickel@staridaho.org>; Michelle Barron <michelle.barron@canyoncounty.id.gov>
Subject: Cloud Nine Estates

Shawn,
As you are aware we have been working on approvals for a Plat that is in Canyon County jurisdiction and is in your City Area of Impact. Canyon County staff has asked me to confirm with the City of Star that you are willing to waive your development standard for street design, sidewalks, and street lights. Please address any comments to my self and Michelle Baron at Canyon County (cc'd on this email).

Thanks,

Nate Mitchell
208-941-2688