The included maps for this evaluation are for the previous lot configuration.

Soils and Geology
And Wastewater Treatment System
Evaluation

For

Wyoming Estates
3050 N. Curtis Road

Final

February 27, 2020

please review the soils and geology report requirements as well as the OWTS report requirements. The report as submitted does not meet the LDC requirements.

Julia M. Murphy MS, PG
Professional Geologist

GWI
Groundwater Investigations LLC
11590 Black Forest Road Ste 15
Colorado Springs, CO 80908
(719) 338-1805

PROJECT DESCRIPTION

The following presents Soils and Geology for the proposed Wyoming Estates Minor Subdivision (Project Site) located in the SE ¼ of the NE ¼ of Section 33, Township 13 South, Range 64 West of the 6th P.M. in the County of El Paso (Figure 1).

The Project Site is comprised 40.01 acres of vacant land to be subdivided into 4 single- family residential RR-5 (Figure 2). The water supply for each lot will be from individual wells and wastewater will be treated by individual non-evaporative septic systems.

GEOLOGY

The Project Site is located within the Falcon Quadrangle near the southeastern edge of the Denver Basin, a geologic structural depression. This asymmetrical structural basin is shallow-dipping toward the northeast. The uppermost/surfical deposits are unconsolidated Quaternary eolian deposits which include Lots 1, 3 and 4 and the western portion of Lot 2; the northeast corner of the Project Site (eastern portion of Lot 2) are older gravels and alluvium (Figure 3). These are underlain in vertical succession, by the Denver, Arapahoe and Laramie Fox Hills Aquifers. Residential Wells in the area can be found completed in the Denver and Arapahoe Aquifers. The base of the Denver Aquifer is about 490 feet below ground surface (bgs) and the Arapahoe Aquifer is from about 515 (top) to 1000 ft bgS (CDSS, SB5).

The Project Site generally slopes to the northeast ranging from 1% to 9%. In the southwest corner, drainage is to the southeast. Figure 4 provides the Project Site Surface Contours.

SOILS

The National Resource Conservation Service (NRCS) has identified three soil types with a northeast trend on the Property (Figure 5).

Type	Description	Percent Coverage
8	Blakeland Loamy Sand, 1 to 9 percent Slope	46.8
19	Columbine gravelly sandy loam sand, 0 to 3 % slopes	1.8
95	Truckton Sandy Loams,1 to 9 percent Slope	51.4

Attachment 1 provides a complete description of the soils. The soil is classified a "well" to "excessively well" drained. Runoff potential is low with no ponding or flooding which is consistent with historical aerial photos.

FIELD INVESTIGATIONS

OTWS

Field investigations at the Project Site consisted of excavating two profile pits at each proposed lot (8 total) to identify onsite wastewater treatment system (OWTS) locations (PARR 2018,), Figure 6. The OWTS profile pits were excavated to a maximum depth of 8.5 feel below the ground surface. Samples were collected from select intervals and evaluated for soil properties. At locations tested on Lots 2, 3 and 4, a conventional, non-engineered onsite wastewater treatment system was determined to be acceptable. At the locations tested within Lot 1, results indicate that an engineered onsite wastewater treatment system is needed. Table 1 summarized the field investigation results. Attachment 3 provides the detained soil engineering reports.

Pavement Design

Two test holes were evaluated for a proposed gravel roadway for pavement design (Raiper, 2019 Figure 7). Soil samples were collected for testing which included sieve analysis and Atterberg limits in addition to determining resistance values (R-values). The results are summarized in Table 2.

TABLE 1
Summry of Soils Testing for Onsite Wastewater Treatment

Depth (ft.)	Sample Interval	3050 Curtis Road, Lot 4 80831						
		USDA Soil Texture	USDA Soil Structure - Shape	Soil Structure Grade	Redoximorphic Features Present? (Y/N)	Soil Type (from Table 9 in O-14)	% Rock Frag.	Color
		Topsoil						
Lot 4	Pit1							
2		Sandy Clay Loam	Granular	Strong	No	Type 3 (LTAR = 0.35) Treatment Level 1	<35%	10YR 3/2 (Moist)
4								
6		Sandy Loam	Granular	Moderate	No	Type 2 (LTAR = 0.60) Treatment Level 1	<35%	10YR 5/3 (Moist)
8								
Lot 4	PIT2							
2		Sandy Clay Loam	Granular	Strong	No	Type 3 (LTAR = 0.35) Treatment Level 1	<35%	10YR 3/2 (Moist)
4								
6								
8								

Depth (ft.)	Sample Interval	3050 Curtis Road, Lot 1, 80831						
		USDA Soil Texture	USDA Soil Structure - Shape	Soil Structure Grade	Redoximorphic Features Present? (Y/N)	Soil Type (from Table 9 in O-14)	% Rock Frag.	Color
		Topsoil						
Lot 1	Pit1							
2		Sandy Loam	Granular	Moderate	No	Type 2 (LTAR = 0.60) Treatment Level 1	<35%	10YR 3/3 (Moist)
4								
6		Clay	Blocky	Strong	No	Type 4 (LTAR = 0.20) Treatment Level 1	<35%	2.5Y 5/4 (Moist)
8								
Lot 1	PIT2							
2		Sandy Loam	Granular	Moderate	No	Type 2 (LTAR = 0.60) Treatmen	<35%	10YR 3/3 (Moist)
4								
6		Clay	Blocky	Strong	No	Type 4 (LTAR = 0.20) Treatmen t Level 1	<35%	2.5Y 5/4 (Moist)
8								

Depth (ft.)	Sample Interval	3050 Curtis Road, Lot 2, 80831						
		USDA Soil Texture	USDA Soil Structure - Shape	Soil Structure Grade	Redoximorphic Features Present? (Y/N)	Soil Type (from Table 9 in O-14)	% Rock Frag.	Color
		Topsoil						
Lot 2	Pit1							
Lot 4								
4		Sandy Clay Loam	Granular	Strong	No	Type 3 (LTAR = 0.35) Treatmen t Level 1	<35%	10YR 4/3 (Moist)
6								
8								
Lot 2	Pit2							
2		Sandy Clay Loam	Granular	Strong	No	Type 3 (LTAR = 0.35) Treatmen t Level 1	<35%	10YR 4/3 (Moist)
4								
6								
8								

Depth (ft.)	Sample Interval	3050 Curtis Road, Lot 3, 80831						
		USDA Soil Texture	USDA Soil Structure - Shape	Soil Structure Grade	Redoximorphic Features Present? (Y/N)	Soil Type (from Table 9 in O-14)	% Rock Frag.	Color
		Topsoil						
Lot 3	Pit1							
2		Sandy Clay Loam	Granular	Moderate	No	Type 3 (LTAR = 0.35)	<35%	10YR 2/2 (Moist)
		Sandy Clay Loam	Blocky	Strong	No	Type 3 (LTAR = 0.35)	<35%	2.5Y 3/3 (Moist)
4								
6		Sandy Clay Loam	Blocky	Moderate	No	Type 3 (LTAR = 0.35) Treatmen t Level 1	<35%	2.5Y 4/3 (Moist)
8								
Lot 3	Pit2							
2		Sandy Clay Loam	Granular	Moderate	No	Type 3 (LTAR = 0.35) Treatmen t Level 1	<35%	2.5Y 4/3 (Moist)
4								
6								
8								

TABLE 2

Location	Depth (ft)	Plasticity Index	%Passing #200	Moisture Content (%)	USCS Soil Classification	Tested R-Value
TP1	1-3	NP	26	4.2	SM	76
TP1	8-10	6	30	5.1	SC-SM	-
TP2	1-3	NP	17	3.6	SM	-
TP2	3-5	NP	20	3.5	SM	-

It was reported for the locations tested, "there was a very (low) potential for swell due to the sandy composition of site soils which consist of non-plastic to low plasticity silty sand and silty clayey sand soils with low percentage of particles passing the #200 sieve screen. Therefore, there is no need to provide any additional stabilization or treatments to subgrade soils" (Raiper, 2019)

GROUNDWATER

Groundwater was not encountered in any of the OWTS test pit and was not evident in the profile test pits a week following excavation. There are no existing wells on the Project Site. Shallow alluvial wells in the area occur in the older gravels and alluviums to the northeast (Soil Type 19 on Figure 5, Qgo Figure 3) which are also on the eastern portion of Lot 3. USGS reported groundwater levels in a Well labeled as SCO1306433AAA1 and located just north of Lot 3. Groundwater levels were measured consistently over the last 40 years and consistently occurs at an elevation of about 6480 ft amsl (Attachment 2) approximately 20 feet below the northeast corner of Lot 3. Based on review of the geology, well reports, and surface drainage, this Is likely the location /elevation of the highest water table underlying at the Project Site.

GEOLOGIC HAZARDS

The Project Site was evaluated for geologic hazards that may impact development. Hazards identified in the El Paso County Land Development Code including: Mining, wildfire, highwater table or polluted water, landfills, fill areas, contamination; airports and major utility facilities, and landslides were not identified on the Project Site. The National Flood Hazard map delineated the Property and surrounding area an "area of Minimal Flood Hazard" (FEMA 2018). The Project Site is not located in a flood plain (Figure 8).

Erosion

The soils at the Project Site are susceptible to erosion. Currently, the property is covered with prairie grass. Construction will enhance erosion potential however the slopes are mild and once the disturbed surface is revegetated, erosion should be low.

Expansive Soils

Expansive soils were not present within the soils samples collected at the 8 profile pits. The spoils were described as having a sandy composition, non-plastic to low plastic sands, silty clayey sandy soil. Due to the potential for variability, additional borings will be necessary prior to foundation excavation and subsequently re-evaluated upon completion of the foundation excavation and prior to the placement of any framework.

Mineral Resources

The Project Site is not included in the maps of aggregate deposits or known mineral resources. Colorado Geological Mineral Derivative Map indicates a low potential for the Project Site to contain economically viable mineral resources.

Conclusion

The Project Site is compatible with the proposed development of single-family residential lots. Soils tested on Lot 1 were identified as requiring an engineered individual wastewater treatment system. Hazards are minimal and can be mitigated by standard practices.

REFERENCES

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Morgan, Mathew L. and White, Johnathan L. 2012. Geologic Map of the Falcon Quadrangle, El Paso County Colorado. Colorado Geological Survey. Open File Report 12-05.

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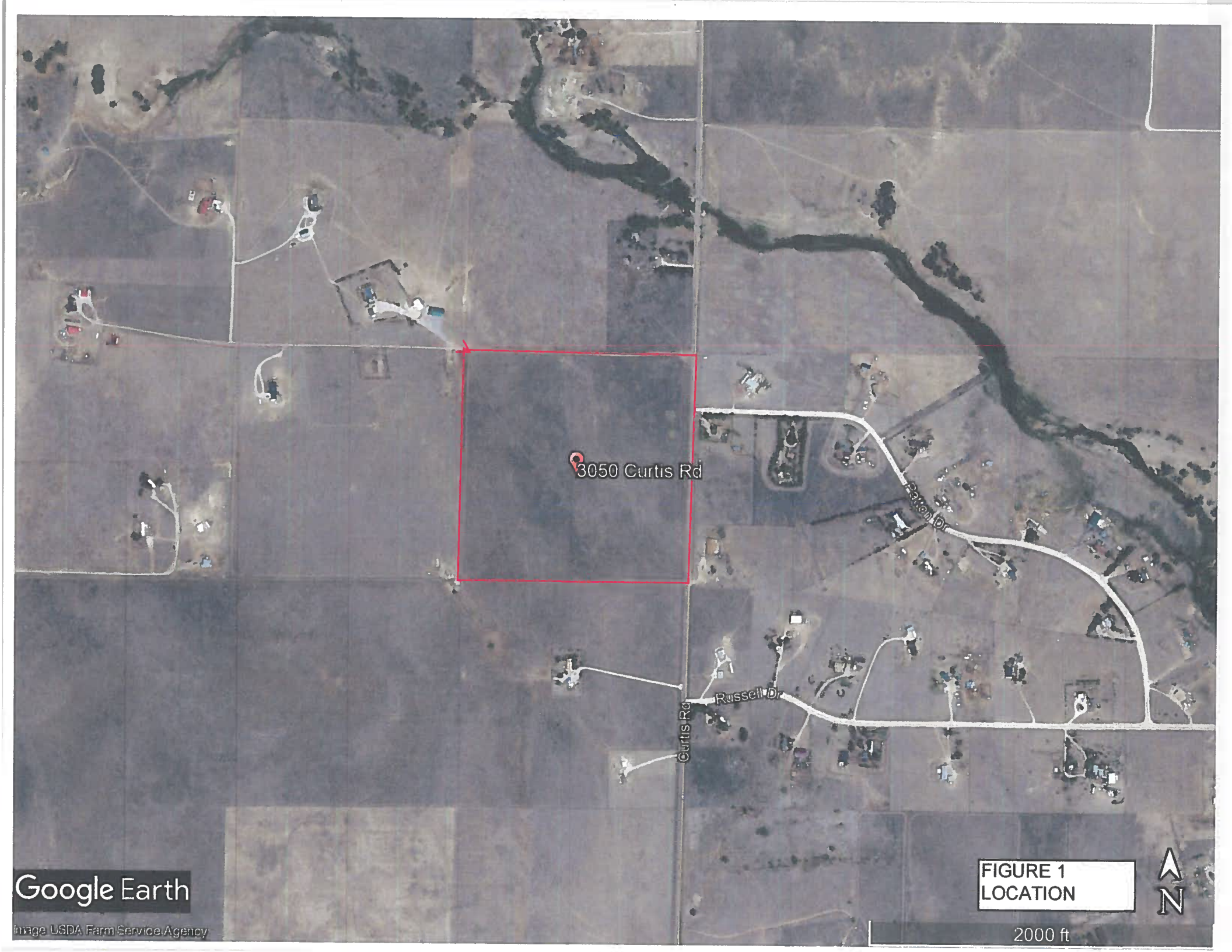
Parr Engineering and Consulting Inc. September 27, 2018. Profile Pits Subdivision JN 18.394, 18.395, 18.396, 18.397

Rapier, Delbert , Protex, Geotechnical Pavement Design, Curtis Road and David Road Job No. 8619, January 9, 2019.

Schwochow, S.D; et al. 1974. Atlas of Sand, Gravel, and Quarry Aggregate Resources, Colorado Front Range Counties. Colorado Geological Survey, Special Publication 5-B.

Thorson, Jon P., 2003. *Geologic Map of the Black Forest Quadrangle, El Paso County, Colorado.* Colorado Geological Survey Open -File Report 03-06.


3050 Curtis Rd
Patton Dr
Russell Dr
Curtis Rd
Google Earth
Image USDA Farm Service Agency
FIGURE 1
LOCATION
N
2000 ft

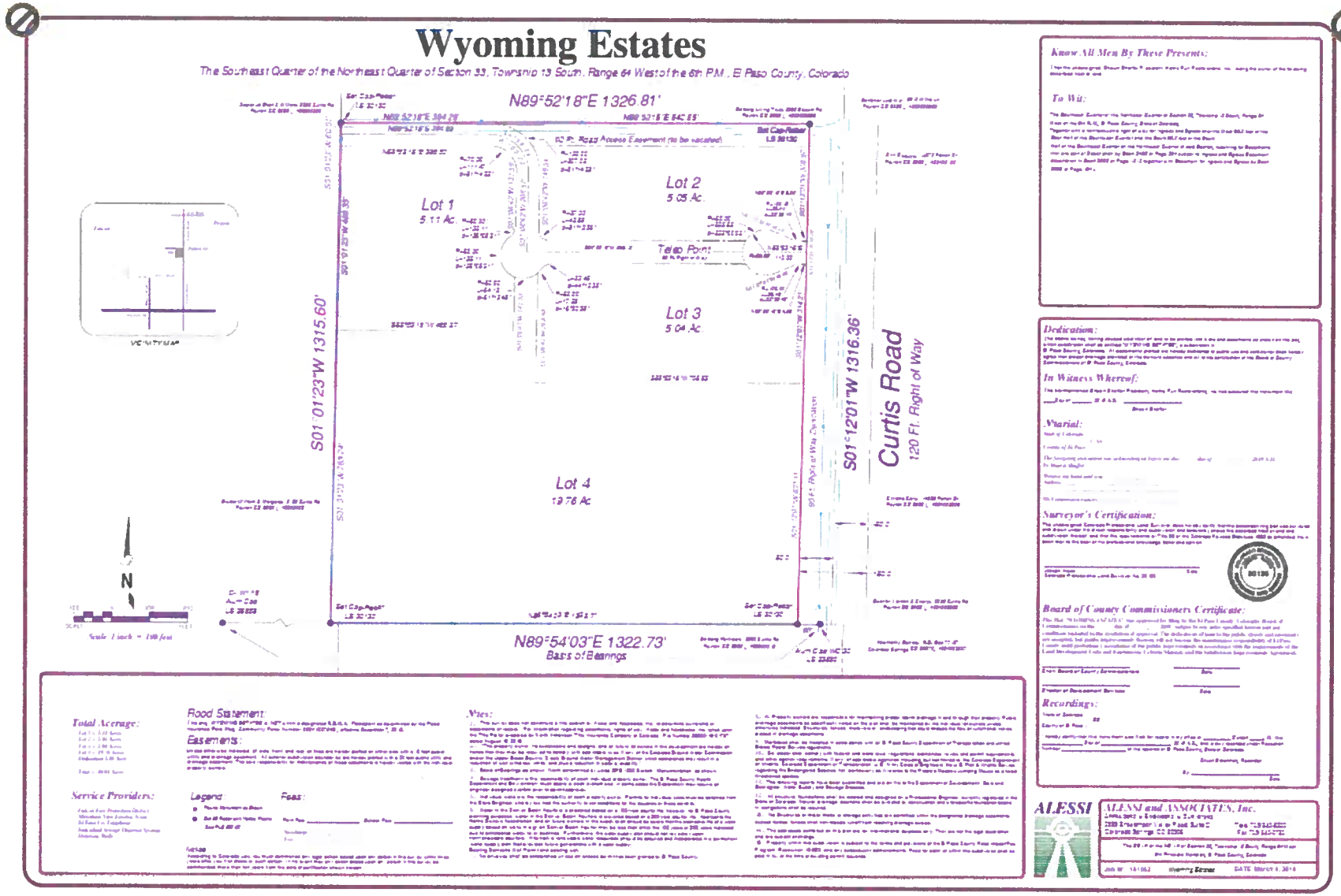
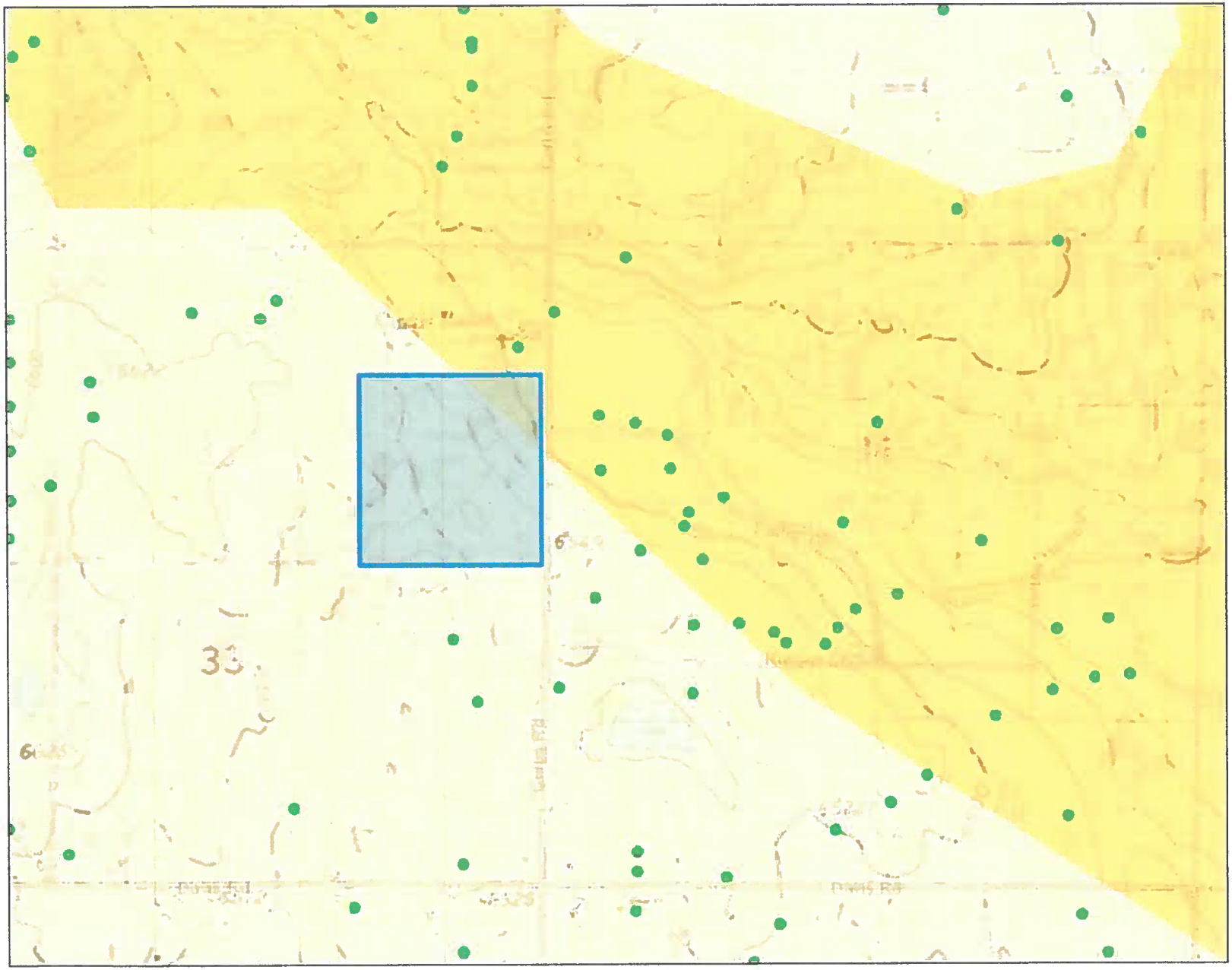


FIGURE 2
Wyoming Estates

CDSS
Colorado's Decision Support Systems

Wyoming Estates



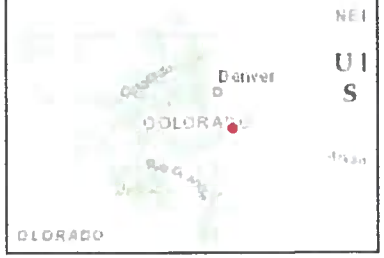
Legend

- Well Constructed
- Confluence Point
- Source Water Route Framewo
- County

Colorado Geology (Tweto)

- Qa
- Qg
- Qgo
- Qe
- Qeo
- Qd
- Qdo
- Ql
- Qb
- QTsa
- QTa
- To

Location



Notes

Depositional Boundary
Eolian Deposits and Older Gravels and Alluvium (NE)

FIGURE 3

2,339 0 1,169 2,339 Feet

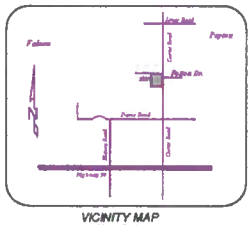
1: 14,032

This product is for informational purposes and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.

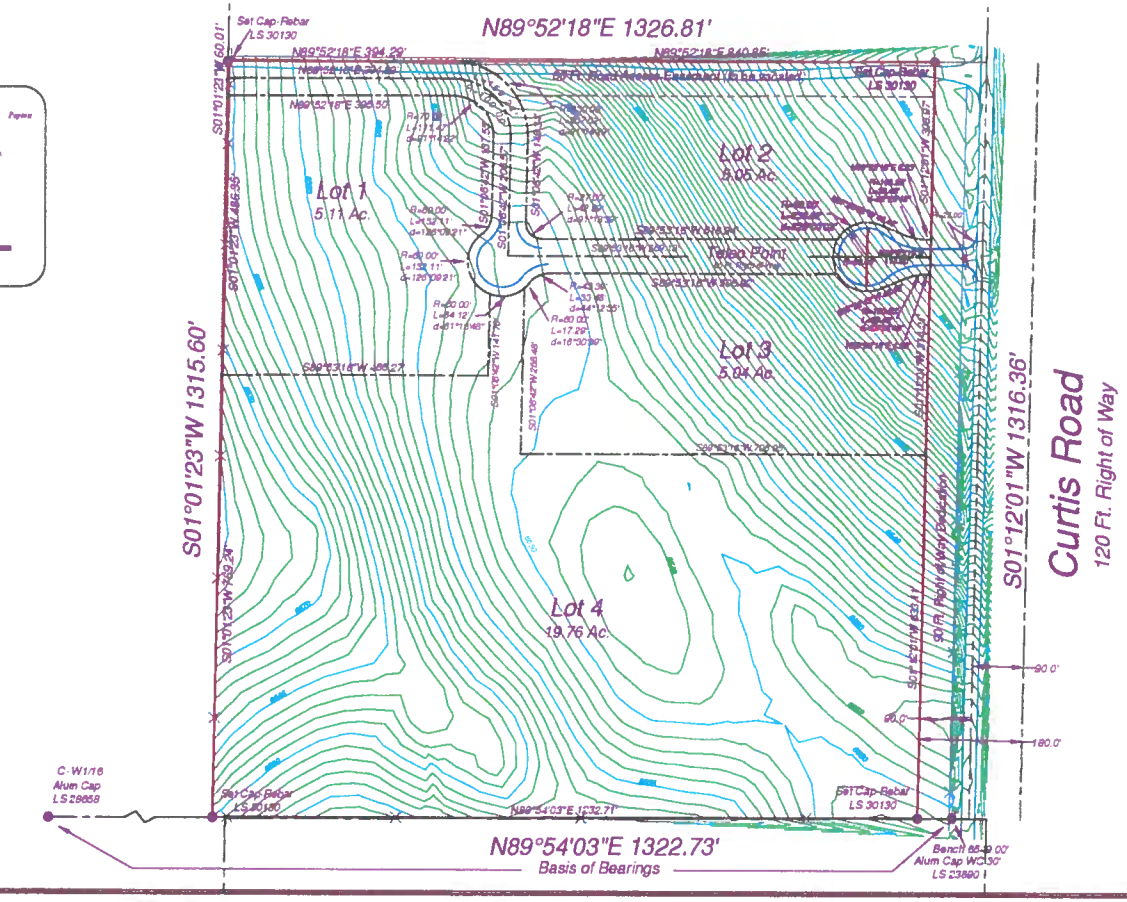
Date Prepared: 5/20/2019 4:44:19 PM

Wyoming Estates - Preliminary

The Southeast Quarter of the Northeast Quarter of Section 33, Township 13 South, Range 64 West of the 6th P.M., El Paso County, Colorado



VICINITY MAP
Not to Scale



Know All Men By These Presents:

That the undersigned, Shawn Shaffer President, Home Run Restorations, Inc., being the owner of the following described tract of land

To Wit:

The Southeast Quarter of the Northeast Quarter of Section 33, Township 13 South, Range 64 West of the 6th P.M., El Paso County, State of Colorado.
Together with a non-exclusive right of way for Ingress and Egress over the West 60.0 feet of the East Half of the Southeast Quarter and the South 60.0 feet of the South Half of the Southeast Quarter of the Northeast Quarter of said Section, reserving for Easements that are part of Description by Book 2053 at Page 334 subject to Ingress and Egress Easement description in Book 3982 at Page 1212 together with Easement for Ingress and Egress by Book 3938 at Page 1541

Dedication:

The above owner, having caused said tract of land to be platted into a lots and easements as shown on the plat, which subdivision shall be entitled "WYOMING ESTATES", a subdivision in El Paso County, Colorado. All easements platted are hereby dedicated to public use and said owner does hereby agree that proper drainage provided at the owner's expense and all to the satisfaction of the Board of County Commissioners of El Paso County, Colorado.

In Witness Whereof:

The aforementioned Shawn Shaffer President, Home Run Restorations, Inc. has executed this instrument this ___ Day of _____, 2019 A.D. _____
Shawn Shaffer

Notarial:

State of Colorado)
) SS
County of El Paso)

The foregoing instrument was acknowledged before me this ____ day of _____ 2019 A.D. by Shawn Shaffer

Witness my hand and seal _____
Address _____

My Commission expires _____

Surveyor's Certification:

The undersigned Colorado Professional Land Surveyor does hereby certify that the accompanying plat was surveyed and drawn under his direct responsibility and supervision and accurately shows the described tract of land and subdivision thereof, and that the requirements of Title 38 of the Colorado Revised Statutes 1983 as amended, have been met to the best of his professional knowledge, belief and opinion.

_____ Date
Joseph Alessi
Colorado Professional Land Surveyor No. 30130

Board of County Commissioners Certificate:

This Plat "WYOMING ESTATES" was approved for filing by the El Paso County, Colorado Board of Commissioners on the ____ day of _____, 2019, subject to any notes specified hereon, and any conditions included in the resolution of approval. The dedications of land to the public streets and easements are accepted, but public improvements thereon will not become the maintenance responsibility of El Paso County until preliminary acceptance of the public improvements in accordance with the requirements of the Land Development Code and Engineering Criteria Manual, and the Subdivision Improvements Agreement.

_____ _____
Chair, Board of County Commissioners Date

_____ _____
Director of Development Services Date

Recordings:

State of Colorado)
) SS
County of El Paso)

I hereby certify that this instrument was filed for record in my office at ____ o'clock ____ M. this ____ Day of _____, 2019 A.D., and is duly recorded under Reception Number _____ of the records of El Paso County, State of Colorado

Chuck Broerman, Recorder

By: _____ Date

Total Acerage:

Lot 1 = 5.11 Acres
Lot 2 = 5.05 Acres
Lot 3 = 5.04 Acres
Lot 4 = 19.76 Acres
Dedication 3.01 Acres

Total = 40.01 Acres

Service Providers:

Falcon Fire Protection District
Mountain View Electric Assoc.
El Paso Co. Telephone
Individual Sewage Disposal Systems
Domestic Wells

Flood Statement:

The site, WYOMING ESTATES is NOT within a designated F.E.M.A. Floodplain as determined by the Flood Insurance Rate Map, Community Panel Number 8604100754G, effective December 7, 2018

Easements:

Unless otherwise indicated, all side, front, and rear lot lines are hereby platted on either side with a 10 foot public utility and drainage easement. All exterior subdivision boundaries are hereby platted with a 20 foot public utility and drainage easement. The sole responsibility for maintenance of these easements is hereby vested with the individual property owners.

Legend:

- Found Monument as Shown
- Set #8 Rebar with Yellow Plastic Cap PLS #30130

Fees:

Park Fee _____ School Fee: _____
Bridge Fee: _____
Park Fee: _____

Notice:

According to Colorado Law you must commence any legal action based upon any defect in this survey within three years after you first discover such defect. In no event may any action based upon any defect in this survey be commenced more than ten years from the date of certification shown hereon.

Notes:

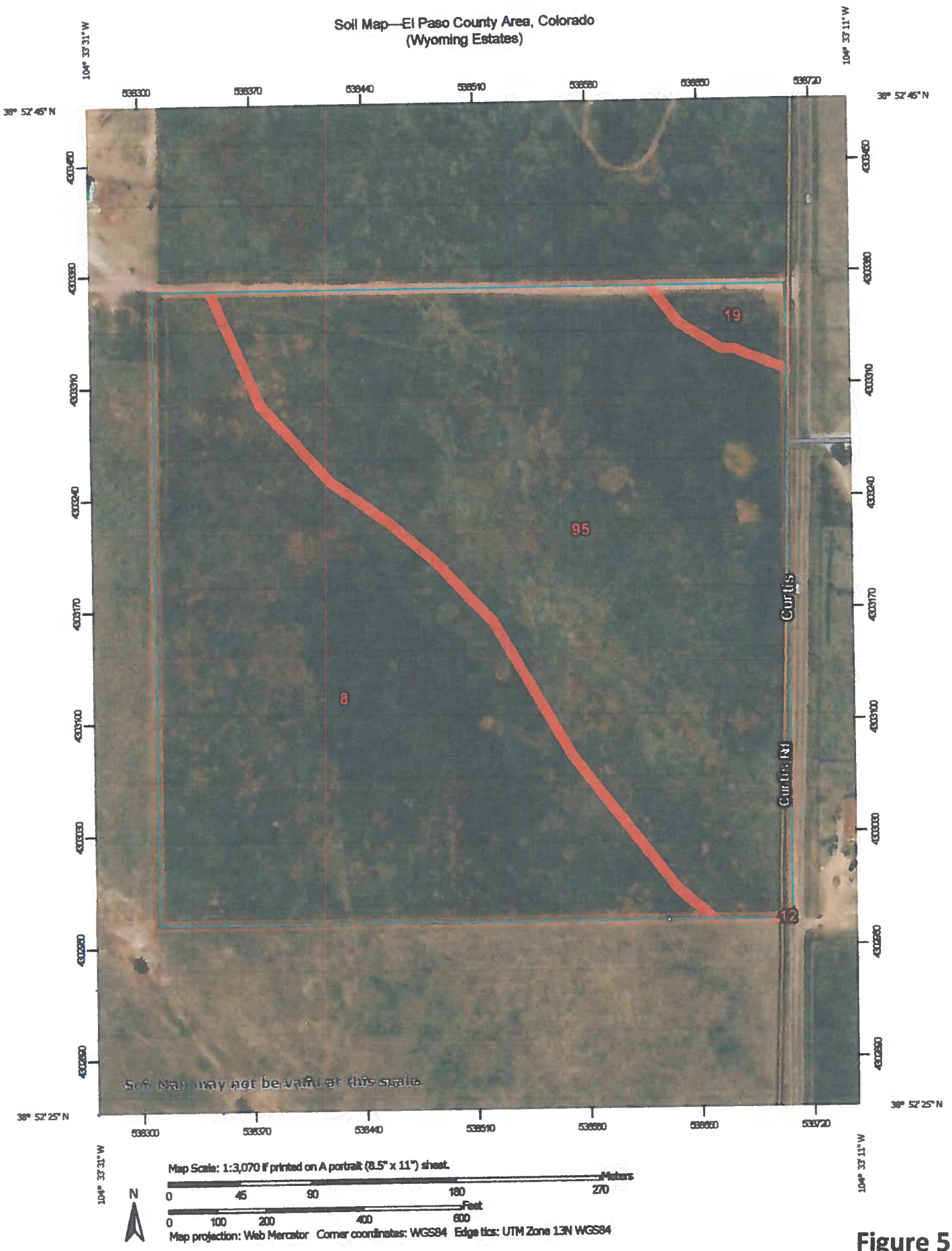
1. The survey does not constitute a title search by Alessi and Associates, Inc. to determine ownership or easements of record. For information regarding easements, rights of way, Alessi and Associates, Inc. relied upon the Title Policy prepared by North American Title Insurance Company of Colorado, File Number 36200-16-0797, dated August 15, 2016.
2. "The property owner, its successors and assigns, and all future lot owners in this development are hereby on notice that they may be required to comply with applicable rules, if any of the Colorado Ground Water Commission and/or the Upper Black Squirrel Creek Ground Water Management District, which compliance may result in a reduction of well withdrawal limits, and thus a reduction in water availability."
3. Basis of Bearings as shown, North determined by Leica GPS 1200 System. Monumentation as shown.
4. Sewage treatment is the responsibility of each individual property owner. The El Paso County Health Department and Environment must approve each system and, in some cases the Department may require an engineer designed system prior to permit approval.
5. Individual wells are the responsibility of each property owner. Permits for individual wells must be obtained from the State Engineer who by law has the authority to set conditions for the issuance of these permits.
6. Water in the Denver Basin Aquifers is allocated based on a 100-year aquifer life, however for El Paso County planning purposes, water in the Denver Basin Aquifers is alleviated based on a 300-year aquifer life. Applicants, the Home Owners Association, and all future owners in the subdivision should be aware that the economic life of a water supply based on wells in a given Denver Basin Aquifer may be less than either the 100 years or 300 years indicated due to anticipated water level declines. Furthermore, the water supply plan should not rely solely upon non-renewable aquifers. Alternative renewable water resources should be acquired and incorporated in a permanent water supply plan that provides future generations with a water supply.
Existing Domestic Well Permit and existing well
7. No driveway shall be established unless an access permit has been granted by El Paso County
8. All Property owners are responsible for maintaining proper storm drainage in and through their property. Public drainage easements are as specifically noted on the plat shall be maintained by the individual lot owners unless otherwise indicated. Structures, fences, materials or landscaping that could impede the flow of runoff shall not be placed in drainage easements.
9. Mailboxes shall be installed in accordance with all El Paso County Department of Transportation and United States Postal Service regulations.
10. Developer shall comply with federal and state laws, regulations, ordinances, review and permit requirements, and other agency requirements, if any, of applicable agencies including, but not limited to, the Colorado Department of Wildlife, Colorado Department of Transportation, U.S. Army Corps of Engineers, the U.S. Fish & Wildlife Service regarding the Endangered Species Act, particularly as it relates to the Preble's Meadow Jumping Mouse as a listed threatened species.
11. The following reports have been submitted and are on file at the Department of Development: Soils and Geological, Water Supply and Sewage Disposal.
12. All structural foundations shall be located and designed by a Professional Engineer currently registered in the State of Colorado. Natural drainage locations shall be avoided by construction and site-specific foundation/septic investigations shall be required.
13. No Structures or major material storage activities are permitted within the designated drainage easements, except fences. fences shall not impede runoff from reaching drainage swales.
14. The addresses exhibited on this plat are for informational purposes only. They are not the legal description and are subject of change.
15. Property within this subdivision is subject to the terms and provisions of the El Paso County Road Impact Fee Program (Resolution 12-362) and any subsequent amendments. Fees for each lot within the subdivision shall be paid in full at the time of building permit issuance.

ALESSI and ASSOCIATES, Inc.
APPRAISERS • ENGINEERS • SURVEYORS
2989 Broadmoor Valley Road, Suite C
Colorado Springs, CO 80906
Telephone 719/540-8832
Fax 719/540-2781

The SE1/4 of the NE 1/4 of Section 33, Township 13 South, Range 64 West 6th Principle Meridian, El Paso County, Colorado

Job No. 191002 Wyoming Estates Preliminary DATE March 4, 2019

Figure 4



USDA Natural Resources Conservation Service

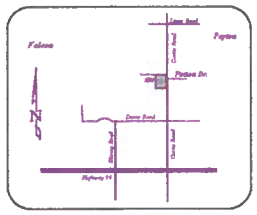
Web Soil Survey
National Cooperative Soil Survey

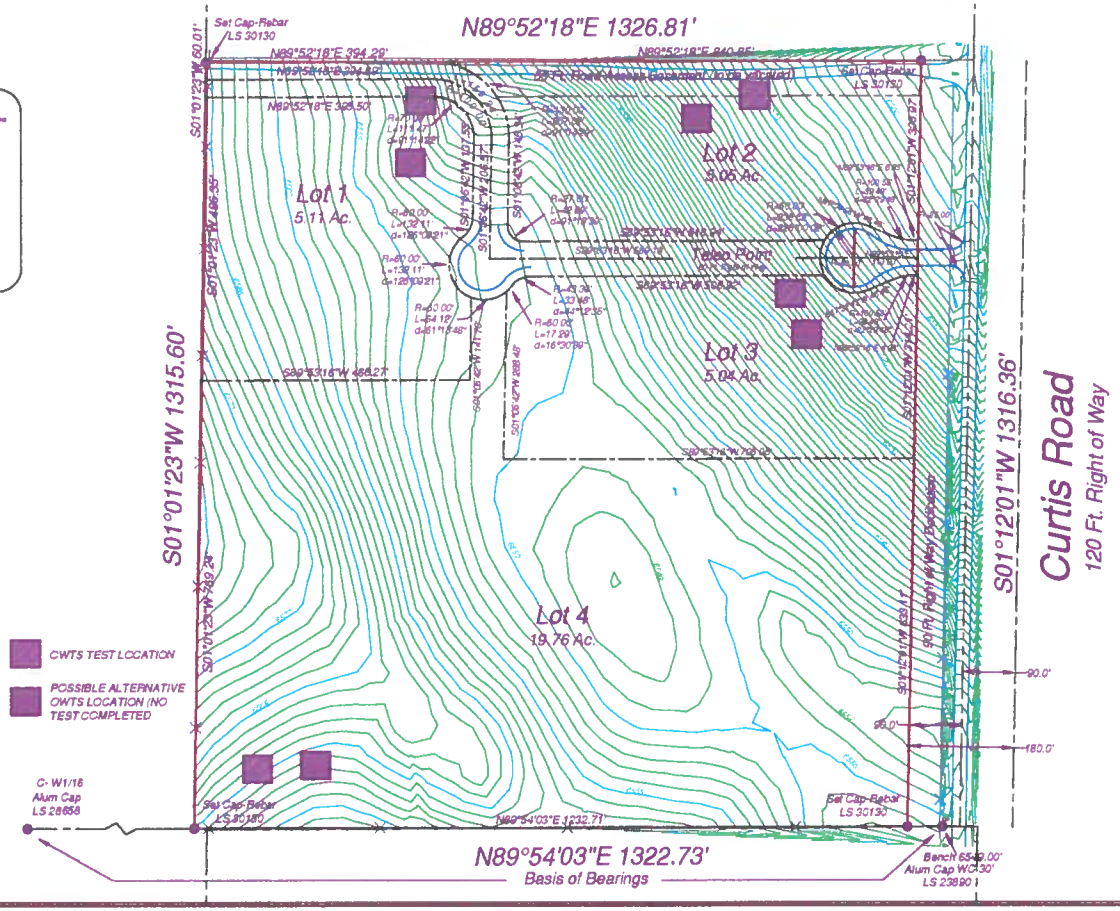
Figure 5

FIGURE 6

Wyoming Estates - Preliminary

The Southeast Quarter of the Northeast Quarter of Section 33, Township 13 South, Range 64 West of the 6th P.M., El Paso County, Colorado





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Together with a non-exclusive right of way for Ingress and Egress over the West 60.0 feet of the East Half of the Southeast Quarter and the South 60.0 feet of the South Half of the Southeast Quarter of the Northeast Quarter of said Section, reserving for Easements that are part of Description by Book 2453 at Page 534 subject to Ingress and Egress Easement description in Book 3352 at Page 1212 together with Easement for Ingress and Egress by Book 3958 at Page 1541

Dedication:

The above owner, having caused said tract of land to be platted into a lots and easements as shown on the plat, which subdivision shall be entitled "WYOMING ESTATES", a subdivision in El Paso County, Colorado. All easements platted are hereby dedicated to public use and said owner does hereby agree that proper drainage provided at the owner's expense and all to the satisfaction of the Board of County Commissioners of El Paso County, Colorado

In Witness Whereof:

The aforementioned Shawn Shaffer President, Home Run Restorations, Inc. has executed this instrument this
___Day of _____, 2019 A.D _____
Shawn Shaffer

Notarial:

State of Colorado)
) SS
County of El Paso)

The foregoing instrument was acknowledged before me this ____ day of _____ 2019 A.D., by Shawn Shaffer

Witness my hand and seal _____
Address _____
_____
My Commission expires _____

Surveyor's Certification:

The undersigned Colorado Professional Land Surveyor does hereby certify that the accompanying plat was surveyed and drawn under his direct responsibility and supervision and accurately shows the described tract of land and subdivision thereof and that the requirements of Title 38 of the Colorado Revised Statutes 1985 as amended, have been met to the best of his professional knowledge, belief and opinion.

_____ Date
Joseph Aviles
Colorado Professional Land Surveyor No. 30130

Board of County Commissioners Certificate:

The Plat "WYOMING ESTATES" was approved for filing by the El Paso County, Colorado Board of Commissioners on the ____ day of _____, 2019, subject to any notes specified hereon and any conditions included in the resolution of approval. The dedications of land to the public streets and easements are accepted, but public improvements thereon will not become the maintenance responsibility of El Paso County until preliminary acceptance of the public improvements in accordance with the requirements of the Land Development Code and Engineering Criteria Manual, and the Subdivision Improvements Agreement.

_____ _____
Chair, Board of County Commissioners *Date*

_____ _____
Director of Development Services *Date*

Recordings:

State of Colorado)
) SS
County of El Paso)

I hereby certify that this instrument was filed for record in my office at _____ O'clock ____ M. this ____ Day of _____, 2019 A.D., and is duly recorded under Reception Number _____ of the records of El Paso County, State of Colorado

Chuck Broerman, Recorder

By _____ Date

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Lot 1 = 5.11 Acres
Lot 2 = 5.05 Acres
Lot 3 = 5.04 Acres
Lot 4 = 19.76 Acres
Dedication 5.05 Acres

Total = 40.01 Acres

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Mountain View Electric Assoc.
El Paso Co. Telephone
Individual Sewage Disposal Systems
Domestic Wells

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Unless otherwise indicated, all side, front, and rear lot lines are hereby platted on either side with a 10 foot public utility and drainage easement. All exterior subdivision boundaries are hereby platted with a 20 foot public utility and drainage easement. The sole responsibility for maintenance of these easements is hereby vested with the individual property owners.

Legend:

- *Found Monument as Shown*
- *Set #6 Rebar with Yellow Plastic Cap PLS #30130*

Fees:

Park Fee _____ *School Fee* _____
Surcharge: _____
Fee: _____

Notice:

According to Colorado Law you must commence any legal action based upon any defect in this survey within three years after you first discover such defect. In no event may any action based upon any defect in this survey be commenced more than ten years from the date of certification shown hereon.

Notes:

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2. "The property owner, its successors and assigns, and all future lot owners in the development are hereby on notice that they may be required to comply with applicable rules, if any, of the Colorado Ground Water Commission and/or the Upper Black Squirrel Creek Ground Water Management District, which compliance may result in a reduction of well extraction limits and thus a reduction in water use liability."
3. Basis of Bearings as shown, North determined by Leica GPS 1200 System. Monumentation, as shown.
4. Sewage treatment is the responsibility of each individual property owner. The El Paso County Health Department and Environment must approve each system and, in some cases the Department may require an engineer designed system prior to permit approval.
5. Individual wells are the responsibility of each property owner. Permits for individual wells must be obtained from the State Engineer who by law has the authority to set conditions for the issuance of these permits
6. Water in the Denver Basin Aquifers is allocated based on a 100-year aquifer life, however, for El Paso County planning purposes, water in the Denver Basin Aquifers is alowated based on a 300-year aquifer life. Applicants, the Home Owners Association, and all future owners in this subdivision should be aware that the economic life of a water supply based on wells in a given Denver Basin Aquifer may be less than either the 100 years or 300 years indicated due to anticipated water level declines. Furthermore, the water supply plan should not rely solely upon non-renewable aquifers. Alternative renewable water resources should be acquired and incorporated in a permanent water supply plan that provides future generations with a water supply.
Existing Domestic Well Permit and existing well.
7. No driveway shall be established unless an access permit has been granted by El Paso County
8. All Property owners are responsible for maintaining proper storm drainage in and through their property. Public drainage easements as specifically noted on the plat shall be maintained by the individual lot owners unless otherwise indicated. Structures, fences, materials or landscaping that could impede the flow of runoff shall not be placed in drainage easements.
9. Mailboxes shall be installed in accordance with all El Paso County Department of Transportation and United States Postal Service regulations.
10. Developer shall comply with federal and state laws, regulations, ordinances, review and permit requirements and other agency requirements, if any, of applicable agencies including, but not limited to, the Colorado Department of Wildlife, Colorado Department of Transportation, U.S. Army Corps of Engineers, the U.S. Fish & Wildlife Service regarding the Endangered Species Act, particularly as it relates to the Preble's Meadow Jumping Mouse as a listed threatened species.
11. The following reports have been submitted and are on file at the Department of Development: Soils and Geological, Water Supply and Sewage Disposal.
12. All structural foundations shall be located and designed by a Professional Engineer currently registered in the State of Colorado. Natural drainage locations shall be avoided by construction and site-specific foundation/egress investigations shall be required.
13. No Structures or major material storage activities are permitted within the designated drainage easements except fences. Fences shall not impede runoff from reaching drainage swales.
14. The addresses exhibited on this plat are for informational purposes only. They are not the legal description and are subject of change.
15. Property within the subdivision is subject to the terms and provisions of the El Paso County Road Impact Fee Program (Resolution 12-382) and any subsequent admendments. Fees for each lot within this subdivision shall be paid in full at the time of building permit issuance

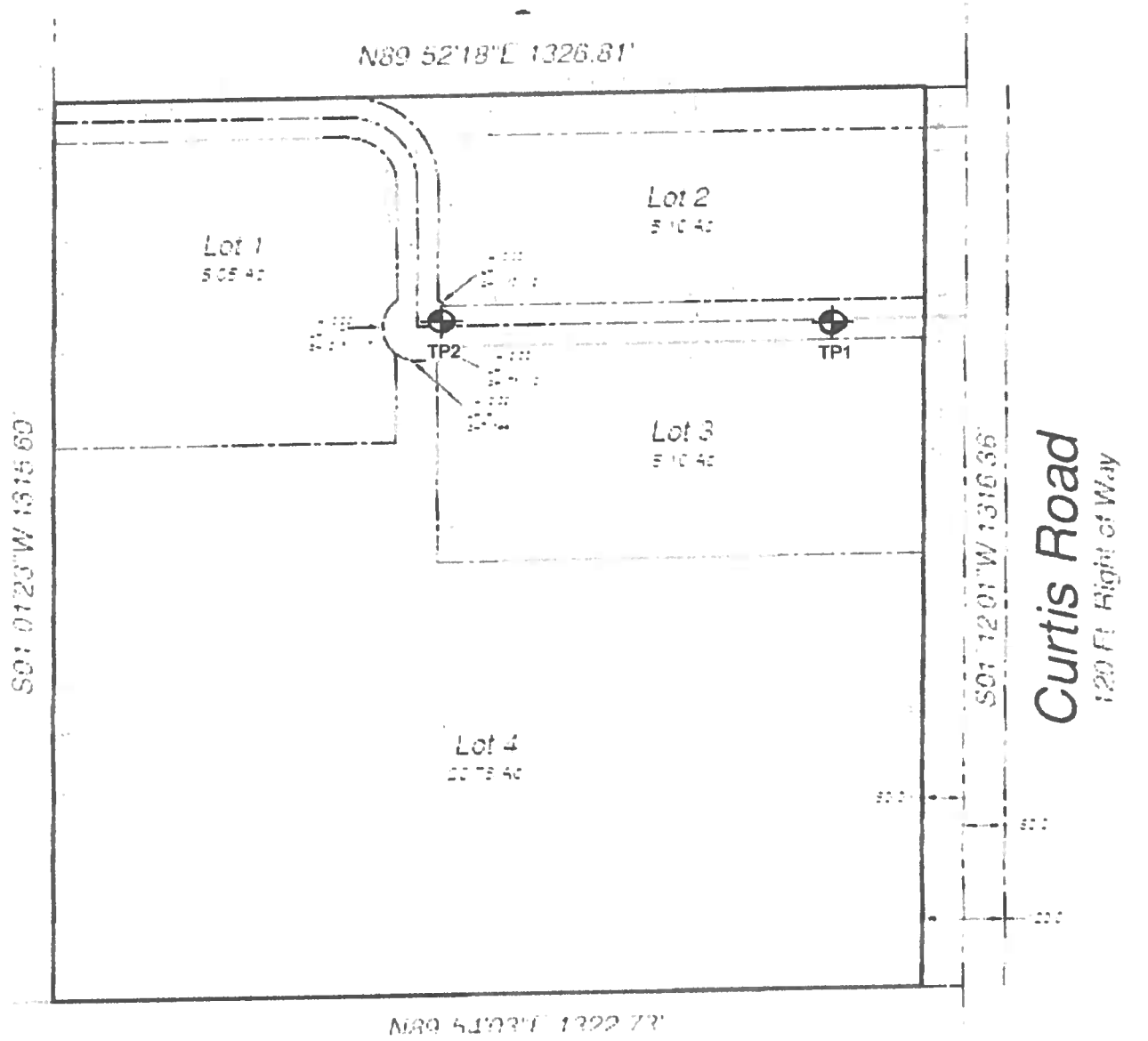
ALESSI

ALESSI and ASSOCIATES, Inc.
ENGINEERS • SURVEYORS
2989 Broadmoor Valley Road, Suite C
Colorado Springs, CO 80906
Tele. 719/540-8832
Fax 719/540-2781

The SE¼ of the NE 1/4 of Section 33, Township 13 South, Range 64 West 6th Principle Meridian, El Paso County, Colorado

Job No.191062 *Wyoming Estates Preliminary* DATE March 4, 2019

FIGURE 7
Pavement Design Test Pit Locations



Legend:

Approximate Backhoe Test Pit Excavation

Site Plan

Scale: N.T.S.	Drawn by: KR	Date: 1/9/18

Curtis Road and David Road

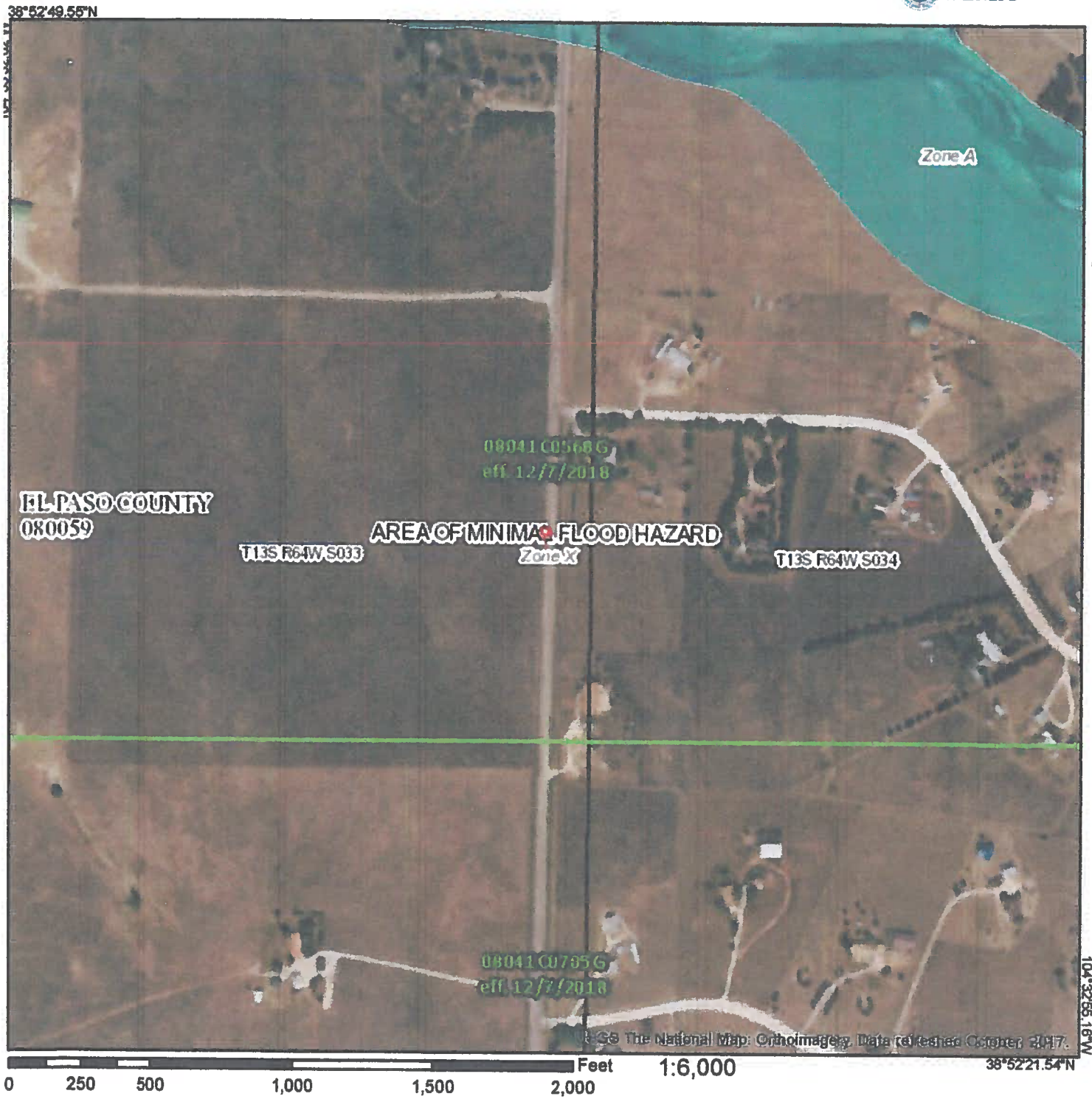
3050 Curtis Road

El Paso, Colorado

ProTeX Job No.: 8619

National Flood Hazard Layer FIRMette Figure 8

FEMA



Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

- **SPECIAL FLOOD HAZARD AREAS**
  - Without Base Flood Elevation (BFE) *Zone A, V, A99*
  - With BFE or Depth *Zone AE, AO, AH, VE, AR*
  - Regulatory Floodway
- **OTHER AREAS OF FLOOD HAZARD**
  - 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
  - Future Conditions 1% Annual Chance Flood Hazard *Zone X*
  - Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
  - Area with Flood Risk due to Levee *Zone D*
- **OTHER AREAS**
  - NO SCREEN Area of Minimal Flood Hazard *Zone X*
  - Effective LOMRs
  - Area of Undetermined Flood Hazard *Zone*
- **GENERAL STRUCTURES**
  - Channel, Culvert, or Storm Sewer
  - Levee, Dike, or Floodwall
- **OTHER FEATURES**
  - 20.2 / 17.5 Cross Sections with 1% Annual Chance
  - Water Surface Elevation
  - Coastal Transect
  - 513 Base Flood Elevation Line (BFE)
  - Limit of Study
  - Jurisdiction Boundary
  - Coastal Transect Baseline
  - Profile Baseline
  - Hydrographic Feature
- **MAP PANELS**
  - Digital Data Available
  - No Digital Data Available
  - Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 4/25/2019 at 12:54:03 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

ATTACHMENT 1

SOILS

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: El Paso County Area, Colorado
Survey Area Data: Version 16, Sep 10, 2018

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 7, 2016—Aug 17, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
8	Blakeland loamy sand, 1 to 9 percent slopes	18.2	46.8%
12	Bresser sandy loam, cool, 3 to 5 percent slopes	0.0	0.0%
19	Columbine gravelly sandy loam, 0 to 3 percent slopes	0.7	1.8%
95	Truckton loamy sand, 1 to 9 percent slopes	20.0	51.4%
Totals for Area of Interest		**38.9**	**100.0%**

El Paso County Area, Colorado

8—Blakeland loamy sand, 1 to 9 percent slopes

Map Unit Setting

National map unit symbol: 369v
Elevation: 4,600 to 5,800 feet
Mean annual precipitation: 14 to 16 inches
Mean annual air temperature: 46 to 48 degrees F
Frost-free period: 125 to 145 days
Farmland classification: Not prime farmland

Map Unit Composition

Blakeland and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Blakeland

Setting

Landform: Hills, flats
Landform position (three-dimensional): Side slope, talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from sedimentary rock and/or eolian deposits derived from sedimentary rock

Typical profile

A - 0 to 11 inches: loamy sand
AC - 11 to 27 inches: loamy sand
C - 27 to 60 inches: sand

Properties and qualities

Slope: 1 to 9 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Somewhat excessively drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 5 percent
Available water storage in profile: Low (about 4.5 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: A
Ecological site: Sandy Foothill (R049BY210CO)
Hydric soil rating: No

Minor Components

Other soils

Percent of map unit:
Hydric soil rating: No

Pleasant

Percent of map unit:
Landform: Depressions
Hydric soil rating: Yes

Data Source Information

Soil Survey Area: El Paso County Area, Colorado
Survey Area Data: Version 16, Sep 10, 2018

El Paso County Area, Colorado

19—Columbine gravelly sandy loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 367p
Elevation: 6,500 to 7,300 feet
Mean annual precipitation: 14 to 16 inches
Mean annual air temperature: 46 to 50 degrees F
Frost-free period: 125 to 145 days
Farmland classification: Not prime farmland

Map Unit Composition

Columbine and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Columbine

Setting

Landform: Flood plains, fan terraces, fans
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium

Typical profile

A - 0 to 14 inches: gravelly sandy loam
C - 14 to 60 inches: very gravelly loamy sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Very low (about 2.5 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: A
Ecological site: Gravelly Foothill (R049BY214CO)
Hydric soil rating: No

Minor Components

Fluvaquentic haplaquolls

Percent of map unit:
Landform: Swales

Hydric soil rating: Yes

Pleasant

Percent of map unit:
Landform: Depressions
Hydric soil rating: Yes

Other soils

Percent of map unit:
Hydric soil rating: No

Data Source Information

Soil Survey Area: El Paso County Area, Colorado
Survey Area Data: Version 16, Sep 10, 2018

El Paso County Area, Colorado

95—Truckton loamy sand, 1 to 9 percent slopes

Map Unit Setting

National map unit symbol: 36bd
Elevation: 6,000 to 7,000 feet
Mean annual precipitation: 14 to 16 inches
Mean annual air temperature: 46 to 50 degrees F
Frost-free period: 125 to 145 days
Farmland classification: Not prime farmland

Map Unit Composition

Truckton and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Truckton

Setting

Landform: Hills, flats
Landform position (three-dimensional): Side slope, talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Arkosic alluvium derived from sedimentary rock and/or arkosic residuum weathered from sedimentary rock

Typical profile

A - 0 to 8 inches: loamy sand
Bt - 8 to 24 inches: sandy loam
C - 24 to 60 inches: coarse sandy loam

Properties and qualities

Slope: 1 to 9 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 6.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 5.4 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: A
Ecological site: Sandy Foothill (R049BY210CO)
Hydric soil rating: No

Minor Components

Other soils

Percent of map unit:
Hydric soil rating: No

Pleasant

Percent of map unit:
Landform: Depressions
Hydric soil rating: Yes

Data Source Information

Soil Survey Area: El Paso County Area, Colorado
Survey Area Data: Version 16, Sep 10, 2018

ATTACHMENT 2

GROUNDWATER LEVEL

COLORADO
Division of Water Resources
Department of Natural Resources

GROUNDWATER DETAILS

Well Name: SC01306433AAA1
Permit Number:
WDID:
Data Source: USGS

Location Number: SC01306433AAA1
USGS Site ID: 385250104331301
Applicant/Contact:

Physical Location

Dist N/S	Dist E/W	Q10	Q40	Q160	Sec	Township	Range	PM	UTMx	UTMy	Location Accuracy
518 N	76 E		NE	NE	33	13.0 S	64.0 W	S	538682.5	4303607.1	GPS

Division: 2 District: 10
County: EL PASO
Designated Basin: UPPER BLACK SQUIRREL CREEK
Management District: UPPER BLACK SQUIRREL

Construction Information

Surface Elevation (ft): 6488.58
Well Depth (ft): 75.00
Depth to Base of Grout (ft):
Depth to Top of Perforated Casing (ft):
Depth to Bottom of Perforated Casing (ft):
Source Aquifer(s):

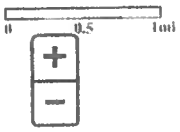
Well Measurement Summary

Start Date: 03/14/1979 End Date: 10/02/2018
Number of Measurements: 34

Ten Most Recent Readings

Date	Depth to Water Feet Below Land Surface	Elevation of Water (ft)	Change From Previous Measure (ft)
10/02/2018	7.97	6480.61	-1.19
04/21/2016	6.78	6481.80	-1000005.78
05/15/2015	-999999.00	1006487.58	1000007.20
10/02/2014	8.20	6480.38	0.77
03/27/2012	8.97	6479.61	-1.32
05/21/2010	7.65	6480.93	-0.31
04/14/2009	7.34	6481.24	0.12
05/30/2007	7.46	6481.12	-0.14
04/05/2006	7.32	6481.26	-0.30
04/21/2005	7.02	6481.56	0.00

USGS
science for a changing world
Groundwater Watch



DESCRIPTION:
Latitude 38°52'49.7", Longitude 104°33'14.5" NAD83
El Paso County, Colorado, Hydrologic Unit 11020004
Well depth: 75.1 feet
Hole depth: 75.1 feet
Land surface altitude: 6,485.00feet above NGVD29.

AVAILABLE DATA:

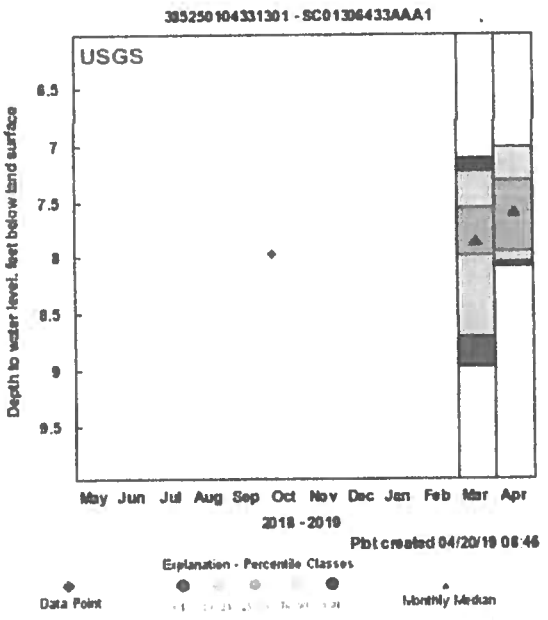
Data Type	Begin Date	End Date	Count
Field groundwater-level measurements	1979-03-14	2018-10-02	37

Additional Data Sources		Begin Date	End Date	Count
Groundwater Watch	**offsite**	1979	2018	37

OPERATION:
Record for this site is maintained by the USGS Colorado Water Science Center
Email questions about this site toColorado Water Science Center Water-Data Inquiries

Project Site

Groundwater Watch Help Page



Most recent data value: 7.97 on 10/2/2018
Period of Record Monthly Statistics for 385250104331301
Depth to water level, feet below land surface
All Approved Continuous & Periodic Data Used In Analysis
Note: Highlighted values in the table indicate closest statistic to the most recent data value.

Month	Lowest Median	10th %ile	25th %ile	50th %ile	75th %ile	90th %ile	Highest Median	Number of Years
Mar	8.97	8.71	7.98	7.87	7.56	7.23	7.11	13
Apr	8.08	8.04	7.95	7.61	7.32	7.02	7.02	15

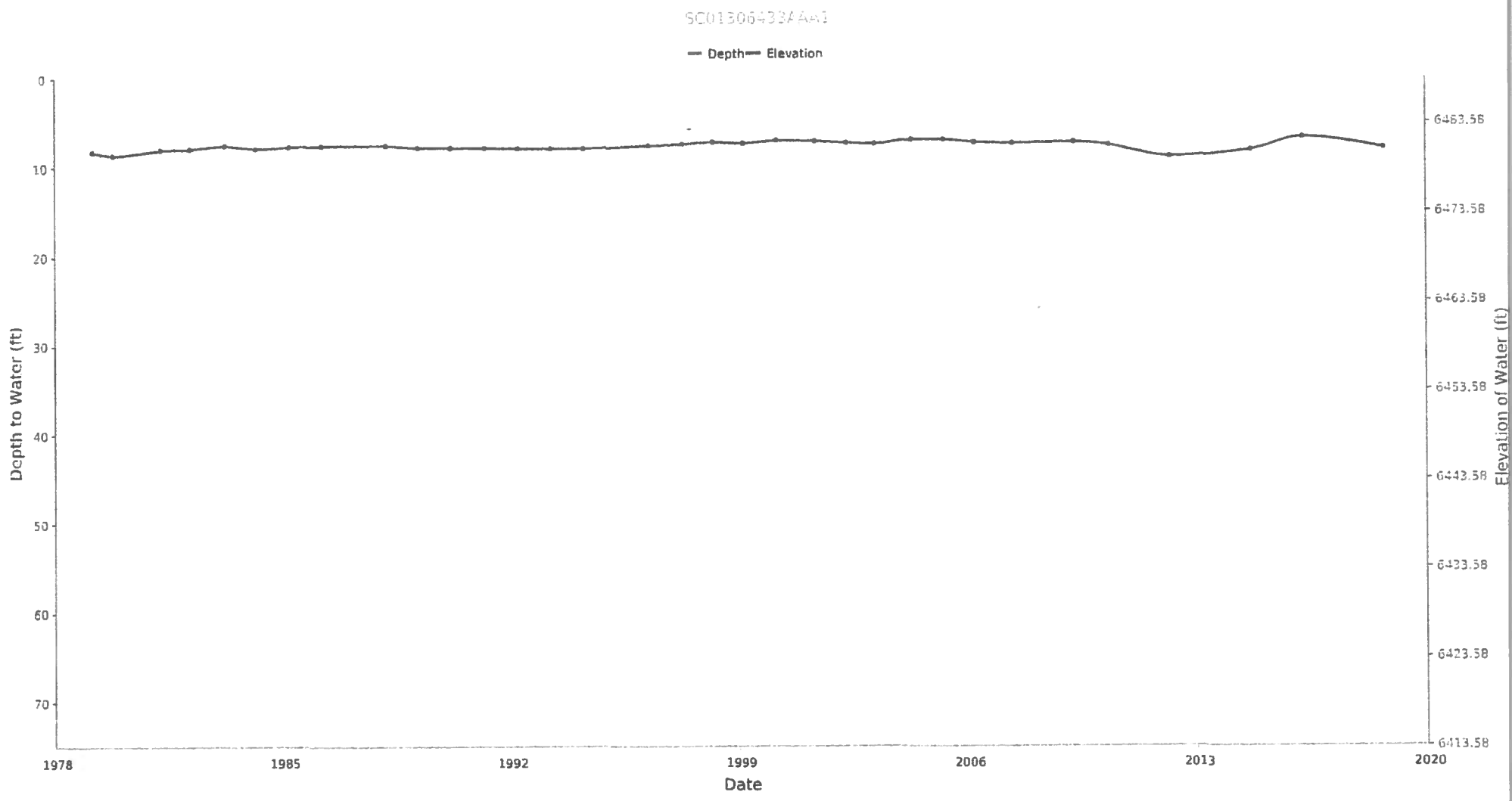
As of 4/19/2019 16:51-2

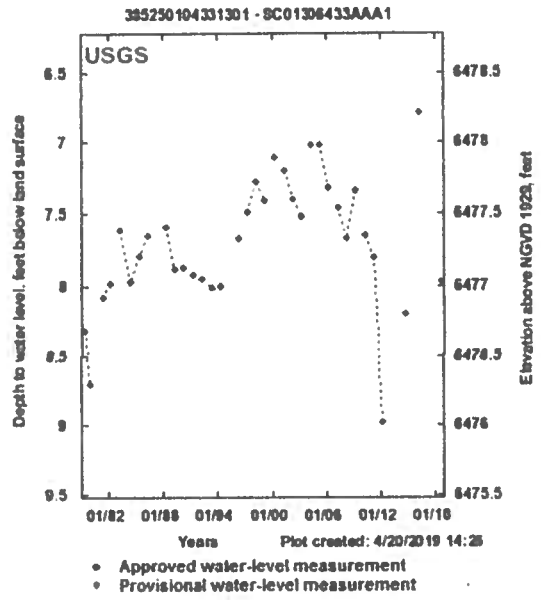
Statistics Options

View month/year statistics

Summary for Period of Record Periodic Water Levels
Depth to water level, feet below land surface
Approved Periodic Water Level Values

Begin Date	End Date	Number of Values
03/14/79	10/02/18	37


SC013064334A01
Depth
Elevation
0
10
20
30
40
50
60
70
Depth to Water (ft)
6483.58
6473.58
6463.58
6453.58
6443.58
6433.58
6423.58
6413.58
Elevation of Water (ft)
1978
1985
1992
1999
2006
2013
2020
Date



Highest WL	Date of Highest WL	Lowest WL	Date of Lowest WL
6.78	04/21/16	8.97	03/27/12

Groundwater Levels Options

USGS View latest data on NWISWeb

Download groundwater levels in text format

*References to non-Department of the Interior (DOI) products do not constitute an endorsement by the DOI.

U.S. Department of the Interior | U.S. Geological Survey
URL: https://groundwaterwatch.usgs.gov/AWLSites.asp
Page Contact Information: Contact the USGS Office of Groundwater
Last update: Friday, August 10, 2018 at 08:39

USA.gov TAKE PRIDE IN AMERICA

Page displayed in 0.398 seconds.

ATTACHMENT 3

SOIL SAMPLES OWTS

PARR ENGINEERING & CONSULTING, INC.

Christopher L. Parr, P.E. Principal
11590 Black Forest Road, Suite 10, Colorado Springs, CO 80908
Office: 719-494-0404 Cell: 719-659-1313

STA SOIL EVALUATION

Date: September 27, 2018 **Job:** JN: 18.395

Site Location: 3050 Curtis Road, Lot 1
Peyton, CO 80831
(Lot number updated 6/7/19)

Purpose of Investigation: To determine general subsurface soil conditions at the site location & to formulate design criteria for the proposed On-Site Wastewater Treatment system (OWTS)

Field Procedure: The materials in the various strata of the soil profile pit were visually classified in accordance with the U.S. Department of Agriculture (USDA) standards.

COLORADO LICENSED JARED ROBERT DUMKE 54410 PROFESSIONAL ENGINEER
09-27-18

Profile Pit	YES
Perc Test	-

Date: (Profile Eval) September 18, 2018
Excavator Homeowner
Evaluator R.J & S.D.

Depth to Groundwater (permanent or seasonal) Pit #1: Not Reached
Depth to Groundwater (permanent or seasonal) Pit #2: Not Reached

Depth to Bedrock - Pit #1: Not Reached
Depth to Bedrock - Pit #2: Not Reached

Other Terrain Features or Soil Conditions: See Attached Site Map

Endorsement: Jared R. Dumke, P.E.

Profile Pit 1	
Latitude:	38°52'41.42"N
Longitude:	104°33'25.06"W
Layer	Soil Type & LTAR
0 - 1'-0"	Topsoil
1'-0" - 6'-0"	Type 2 (LTAR=0.60)
6'-0" - 8'-6"	Type 4 (LTAR=0.20)
-	-

Profile Pit 2	
Latitude:	38°52'41.10"N
Longitude:	104°33'24.94"W
Layer	Soil Type & LTAR
0 - 1'-0"	Topsoil
1'-0" - 3'-0"	Type 2 (LTAR=0.60)
3'-0" - 8'-6"	Type 4 (LTAR=0.20)
-	-

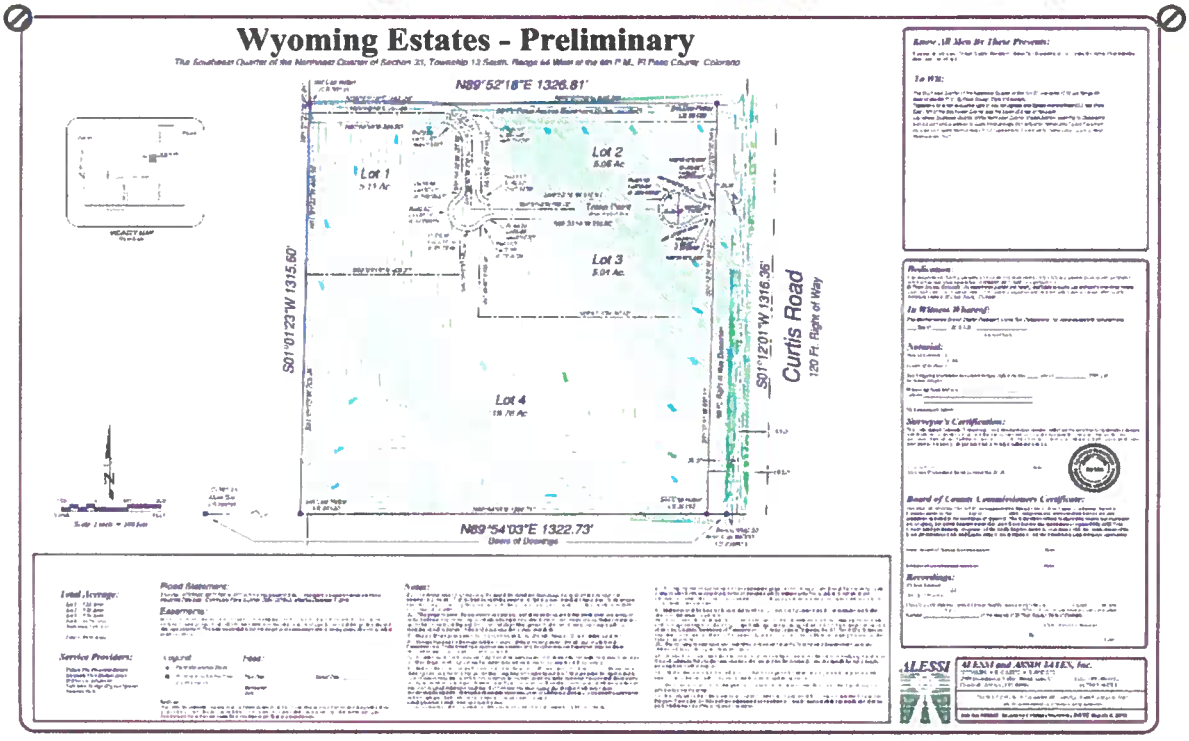
			Location	
			Latitude:	Longitude:
Perc #1	N/A	Min./In.	-	-
Perc #2	N/A	Min./In.	-	-
Perc #3	N/A	Min./In.	-	-
	Average: N/A	Min./In.		

Recommendations: (1) An Engineered On-Site Wastewater Treatment system (OWTS) is required for this location due to: Soil Type 4 identified in the treatment zone of Profile Pit #1 & Profile Pit #2.

PARR ENGINEERING & CONSULTING, INC.

Christopher L. Parr, P.E. Principal
11590 Black Forest Road, Suite 10, Colorado Springs, CO 80908
Office: 719-494-0404 Cell: 719-659-1313

Google Site Map



Parr Engineering & Consulting, Inc.
11590 Black Forest Road, Suite 10
Colorado Springs, Colorado 80908
Phone: 719-494-0404

Profile Pit - Log	
Job Number:	18.395
Date Evaluated:	09/18/18
Profile Pit#:	Pit #1

Excavator:	Homeowner	Total Depth:	8'-6"
Logged By:	R.J. & S.D.	STA Slope & Direction:	N 45° E @ 4%
Method:	Profile Pit	Latitude:	38°52'41.42"N
Equipment:	Excavator	Longitude:	104°33'25.06"W

3050 Curtis Road, Lot 1, 80831

Depth (ft.)	Sample Interval	USDA Soil Texture	USDA Soil Structure - Shape	Soil Structure Grade	Redoximorphic Features Present? (Y/N)	Soil Type (from Table 9 in O-14)	% Rock Frag.	Color
		Topsoil						
2		Sandy Loam	Granular	Moderate	No	**Type 2 (LTAR = 0.60) Treatment Level 1**	<35%	10YR 3/3 (Moist)
4								
6								
8		Clay	Blocky	Strong	No	**Type 4 (LTAR = 0.20) Treatment Level 1**	<35%	2.5Y 5/4 (Moist)
10		**Total Depth= 8'-6"**						

Evidence of Groundwater:	**Not Reached**
Depth to Bedrock:	**Not Reached**

Additional Notes:

PARR ENGINEERING & CONSULTING, INC.

Christopher L. Parr, P.E. Principal
11590 Black Forest Road, Suite 10, Colorado Springs, CO 80908
Office: 719-494-0404 Cell: 719-659-1313

STA SOIL EVALUATION

Date: September 27, 2018 **Job:** JN: 18.396

Site Location: 3050 Curtis Road, Lot 2
Peyton, CO 80831
(Lot number updated 6/7/19)

Purpose of Investigation: To determine general subsurface soil conditions at the site location & to formulate design criteria for the proposed On-Site Wastewater Treatment system (OWTS)

Field Procedure: The materials in the various strata of the soil profile pit were visually classified in accordance with the U.S. Department of Agriculture (USDA) standards.

COLORADO LICENSED JARED ROBERT DUMKE 09-27-18 54410 PROFESSIONAL ENGINEER

Profile Pit	YES
Perc Test	-

Date: (Profile Eval) September 18, 2018
Excavator Homeowner
Evaluator R.J & S.D.

Depth to Groundwater (permanent or seasonal) Pit #1: Not Reached
Depth to Groundwater (permanent or seasonal) Pit #2: Not Reached

Depth to Bedrock - Pit #1: Not Reached
Depth to Bedrock - Pit #2: Not Reached

Other Terrain Features or Soil Conditions: See Attached Site Map

Endorsement: Jared R. Dumke, P.E.

Profile Pit 1	
Latitude:	38°52'40.93"N
Longitude:	104°33'18.76"W
Layer	Soil Type & LTAR
0 - 1'-0"	Topsoil
1'-0" - 8'-6"	Type 3 (LTAR=0.35)
-	-
-	-

Profile Pit 2	
Latitude:	38°52'41.21"N
Longitude:	104°33'18.03"W
Layer	Soil Type & LTAR
0 - 1'-0"	Topsoil
1'-0" - 8'-6"	Type 3 (LTAR=0.35)
-	-
-	-

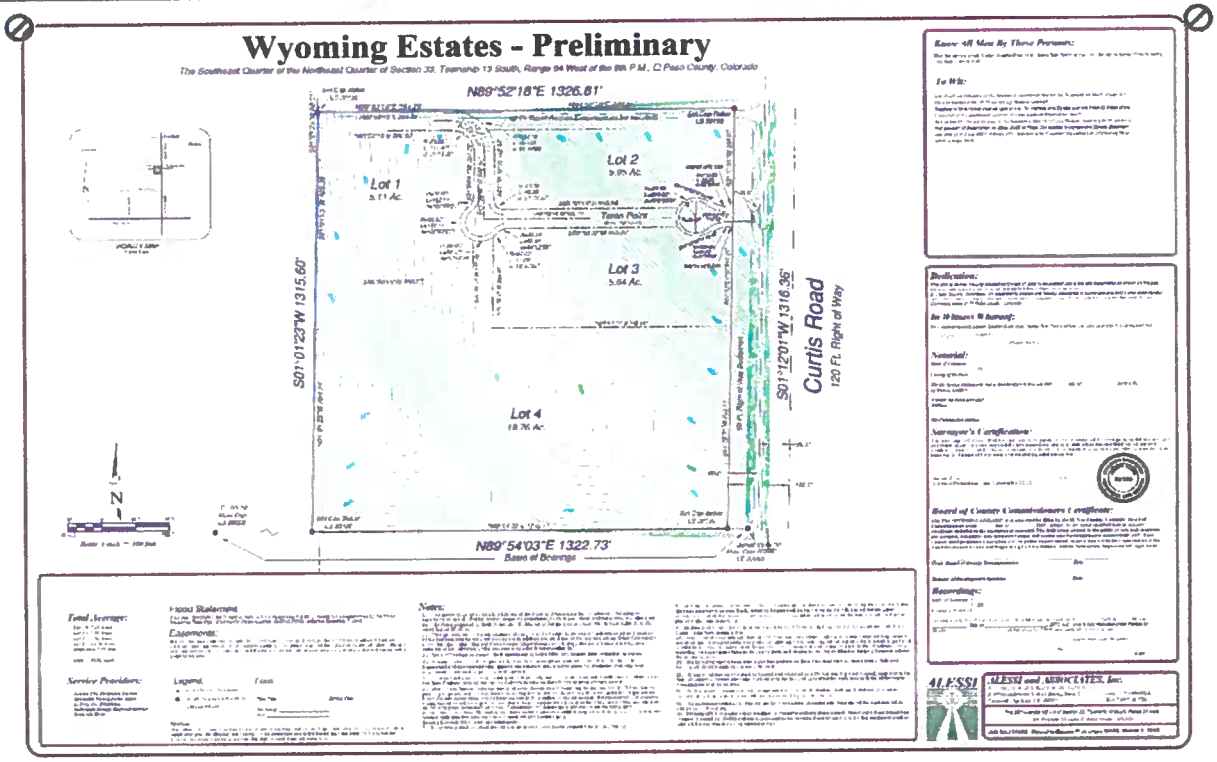
			Location	
			Latitude:	Longitude:
Perc #1	N/A	Min./In.	-	-
Perc #2	N/A	Min./In.	-	-
Perc #3	N/A	Min./In.	-	-
Average:	N/A	Min./In.		

Recommendations: (1) A conventional, non-engineered On-Site Wastewater Treatment system (OWTS) is acceptable for this site.

PARR ENGINEERING & CONSULTING, INC.

Christopher L. Parr, P.E. Principal
11590 Black Forest Road, Suite 10, Colorado Springs, CO 80908
Office: 719-494-0404 Cell: 719-659-1313

Google Site Map



Parr Engineering & Consulting, Inc.
11590 Black Forest Road, Suite 10
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Phone: 719-494-0404

Profile Pit - Log

Job Number:	18.395
Date Evaluated:	09/18/18
Profile Pit#:	Pit #2

Excavator:	Homeowner	Total Depth:	8'-6"
Logged By:	R.J. & S.D.	STA Slope & Direction:	N 25° E @ 4%
Method:	Profile Pit	Latitude:	38°52'41.10"N
Equipment:	Excavator	Longitude:	104°33'24.94"W

3050 Curtis Road, Lot 1, 80831

Depth (ft.)	Sample Interval	USDA Soil Texture	USDA Soil Structure - Shape	Soil Structure Grade	Redoximorphic Features Present? (Y/N)	Soil Type (from Table 9 in O-14)	% Rock Frag.	Color
		Topsoil						
2		Sandy Loam	Granular	Moderate	No	**Type 2 (LTAR = 0.60) Treatment Level 1**	<35%	10YR 3/3 (Moist)
4		Clay	Blocky	Strong	No	**Type 4 (LTAR = 0.20) Treatment Level 1**	<35%	2.5Y 5/4 (Moist)
6								
8								
10		**Total Depth= 8'-6"**						

Evidence of Groundwater:	**Not Reached**
Depth to Bedrock:	**Not Reached**

Additional Notes:

Parr Engineering & Consulting, Inc.
11590 Black Forest Road, Suite 10
Colorado Springs, Colorado 80908
Phone: 719-494-0404

Profile Pit - Log	
Job Number:	18.396
Date Evaluated:	09/18/18
Profile Pit#:	Pit #1

Excavator:	Homeowner	Total Depth:	8'-6"
Logged By:	R.J. & S.D.	STA Slope & Direction:	N 35° E @ 4%
Method:	Profile Pit	Latitude:	38°52'40.93"N
Equipment:	Excavator	Longitude:	104°33'18.76"W

3050 Curtis Road, Lot 2, 80831

Depth (ft.)	Sample Interval	USDA Soil Texture	USDA Soil Structure - Shape	Soil Structure Grade	Redoximorphic Features Present? (Y/N)	Soil Type (from Table 9 in O-14)	% Rock Frag.	Color
		Topsoil						
2		Sandy Clay Loam	Granular	Strong	No	**Type 3 (LTAR = 0.35) Treatment Level 1**	<35%	10YR 4/3 (Moist)
4								
6								
8								
10		**Total Depth= 8'-6"**						

Evidence of Groundwater:	**Not Reached**
Depth to Bedrock:	**Not Reached**

Additional Notes:

Parr Engineering & Consulting, Inc.
11590 Black Forest Road, Suite 10
Colorado Springs, Colorado 80908
Phone: 719-494-0404

Profile Pit - Log	
Job Number:	18.396
Date Evaluated:	09/18/18
Profile Pit#:	Pit #2

Excavator:	Homeowner	Total Depth:	8'-6"
Logged By:	R.J. & S.D.	STA Slope & Direction:	N 35° E @ 4%
Method:	Profile Pit	Latitude:	38°52'41.21"N
Equipment:	Excavator	Longitude:	104°33'18.03"W

3050 Curtis Road, Lot 2, 80831

Depth (ft.)	Sample Interval	USDA Soil Texture	USDA Soil Structure - Shape	Soil Structure Grade	Redoximorphic Features Present? (Y/N)	Soil Type (from Table 9 in O-14)	% Rock Frag.	Color
		Topsoil						
2		Sandy Clay Loam	Granular	Strong	No	**Type 3 (LTAR = 0.35) Treatment Level 1**	<35%	10YR 4/3 (Moist)
4								
6								
8								
		Total Depth= 8'-6"						
10								

Evidence of Groundwater:	**Not Reached**
Depth to Bedrock:	**Not Reached**

Additional Notes:

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STA SOIL EVALUATION

Date: September 27, 2018 **Job:** JN: 18.397

Site Location: 3050 Curtis Road, Lot 3
Peyton, CO 80831
(Lot number updated 6/7/19)

Purpose of Investigation: To determine general subsurface soil conditions at the site location & to formulate design criteria for the proposed On-Site Wastewater Treatment system (OWTS)

Field Procedure: The materials in the various strata of the soil profile pit were visually classified in accordance with the U.S. Department of Agriculture (USDA) standards.

COLORADO LICENSED JARED ROBERT DUMKE 09-27-18 54410 PROFESSIONAL ENGINEER

Profile Pit	YES
Perc Test	-

Date: (Profile Eval) September 18, 2018
Excavator Homeowner
Evaluator R.J & S.D.

Depth to Groundwater (permanent or seasonal) Pit #1: Not Reached
Depth to Groundwater (permanent or seasonal) Pit #2: Not Reached

Depth to Bedrock - Pit #1: Not Reached
Depth to Bedrock - Pit #2: Not Reached

Other Terrain Features or Soil Conditions: See Attached Site Map

Endorsement: Jared R. Dumke, P.E.

Profile Pit 1	
Latitude:	**38°52'37.92"N**
Longitude:	**104°33'17.81"W**
Layer	Soil Type & LTAR
0 - 1'-0"	Topsoil
1'-0" - 2'-6"	**Type 3 (LTAR=0.35)**
2'-6" - 4'-0"	**Type 3 (LTAR=0.35)**
4'-0" - 8'-6"	**Type 3 (LTAR=0.35)**

Profile Pit 2	
Latitude:	**38°52'37.81"N**
Longitude:	**104°33'16.94"W**
Layer	Soil Type & LTAR
0 - 1'-0"	Topsoil
1'-0" - 8'-6"	**Type 3 (LTAR=0.35)**
-	-
-	-

			Location	
			Latitude:	Longitude:
Perc #1	N/A	Min./In.	-	-
Perc #2	N/A	Min./In.	-	-
Perc #3	N/A	Min./In.	-	-
	Average: N/A	Min./In.		

Recommendations: **(1) A conventional, non-engineered On-Site Wastewater Treatment system (OWTS) is acceptable for this site.**

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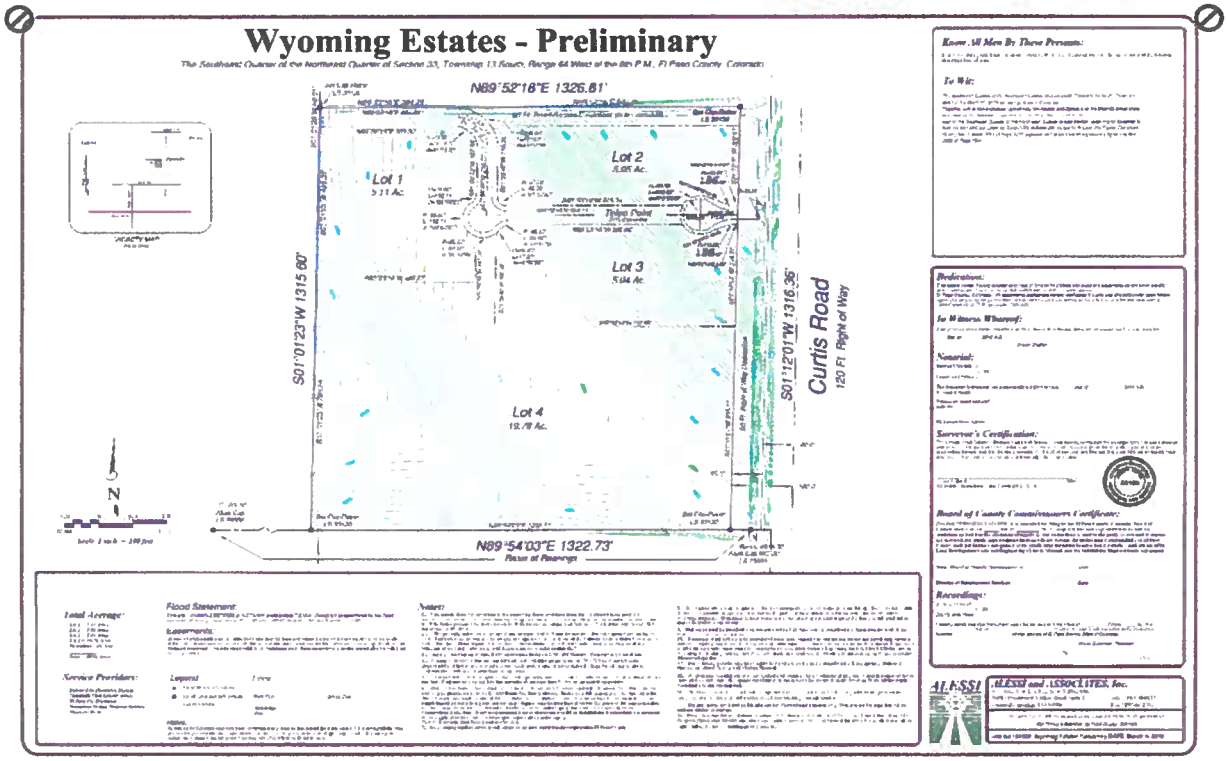
Google Site Map



Parr Engineering & Consulting, Inc.
11590 Black Forest Road, Suite 10
Colorado Springs, Colorado 80908
Phone: 719-494-0404

Profile Pit - Log

Job Number:	18.397
Date Evaluated:	09/18/18
Profile Pit#:	Pit #1

Excavator:	Homeowner	Total Depth:	8'-6"
Logged By:	R.J. & S.D.	STA Slope & Direction:	N 35° E @ 5%
Method:	Profile Pit	Latitude:	38°52'37.92"N
Equipment:	Excavator	Longitude:	104°33'17.81"W

3050 Curtis Road, Lot 3, 80831

Depth (ft.)	Sample Interval	USDA Soil Texture	USDA Soil Structure - Shape	Soil Structure Grade	Redoximorphic Features Present? (Y/N)	Soil Type (from Table 9 in O-14)	% Rock Frag.	Color
		Topsoil						
2		Sandy Clay Loam	Granular	Moderate	No	**Type 3 (LTAR = 0.35)**	<35%	10YR 2/2 (Moist)
4		Sandy Clay Loam	Blocky	Strong	No	**Type 3 (LTAR = 0.35)**	<35%	2.5Y 3/3 (Moist)
6		Sandy Clay Loam	Blocky	Moderate	No	**Type 3 (LTAR = 0.35) Treatment Level 1**	<35%	2.5Y 4/3 (Moist)
8								
10		**Total Depth= 8'-6"**						

Evidence of Groundwater:	**Not Reached**
Depth to Bedrock:	**Not Reached**

Additional Notes:

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Phone: 719-494-0404

Profile Pit - Log

Job Number:	18.397
Date Evaluated:	09/18/18
Profile Pit#:	Pit #2

Excavator:	Homeowner	Total Depth:	8'-6"
Logged By:	R.J. & S.D.	STA Slope & Direction:	N 35° E @ 5%
Method:	Profile Pit	Latitude:	38°52'37.81"N
Equipment:	Excavator	Longitude:	104°33'16.94"W

3050 Curtis Road, Lot 3, 80831

Depth (ft.)	Sample Interval	USDA Soil Texture	USDA Soil Structure - Shape	Soil Structure Grade	Redoximorphic Features Present? (Y/N)	Soil Type (from Table 9 in O-14)	% Rock Frag.	Color
		Topsoil						
2		Sandy Clay Loam	Granular	Moderate	No	**Type 3 (LTAR = 0.35) Treatment Level 1**	<35%	2.5Y 4/3 (Moist)
4								
6								
8								
10		**Total Depth= 8'-6"**						

Evidence of Groundwater:	**Not Reached**
Depth to Bedrock:	**Not Reached**

Additional Notes:

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Christopher L. Parr, P.E. Principal
11590 Black Forest Road, Suite 10, Colorado Springs, CO 80908
Office: 719-494-0404 Cell: 719-659-1313

STA SOIL EVALUATION

Date: September 27, 2018 **Job:** JN: 18.394

Site Location: 3050 Curtis Road, Lot 4
Peyton, CO 80831
(Lot number updated 6/7/19)

Purpose of Investigation: To determine general subsurface soil conditions at the site location & to formulate design criteria for the proposed On-Site Wastewater Treatment system (OWTS)

Field Procedure: The materials in the various strata of the soil profile pit were visually classified in accordance with the U.S. Department of Agriculture (USDA) standards.

COLORADO LICENSED JARED ROBERT DUMKE PROFESSIONAL ENGINEER
09-27-18
54410

Profile Pit	YES
Perc Test	-

Date: (Profile Eval) September 18, 2018
Excavator Homeowner
Evaluator R.J & S.D.

Depth to Groundwater (permanent or seasonal) Pit #1: Not Reached
Depth to Groundwater (permanent or seasonal) Pit #2: Not Reached

Depth to Bedrock - Pit #1: Not Reached
Depth to Bedrock - Pit #2: Not Reached

Other Terrain Features or Soil Conditions: See Attached Site Map

Endorsement: Jared R. Dumke, P.E.

Profile Pit 1	
Latitude:	38°52'31.31"N
Longitude:	104°33'28.35"W
Layer	Soil Type & LTAR
0 - 1'-0"	Topsoil
1'-0" - 5'-0"	Type 3 (LTAR=0.35)
5'-0" - 8'-0"	Type 2 (LTAR=0.60)
-	-

Profile Pit 2	
Latitude:	38°52'30.60"N
Longitude:	104°33'27.64"W
Layer	Soil Type & LTAR
0 - 1'-0"	Topsoil
1'-0" - 8'-6"	Type 3 (LTAR=0.35)
-	-
-	-

			Location	
			Latitude:	Longitude:
Perc #1	N/A	Min./In.	-	-
Perc #2	N/A	Min./In.	-	-
Perc #3	N/A	Min./In.	-	-
	Average: N/A	Min./In.		

Recommendations: (1) A conventional, non-engineered On-Site Wastewater Treatment system (OWTS) is acceptable for this site.

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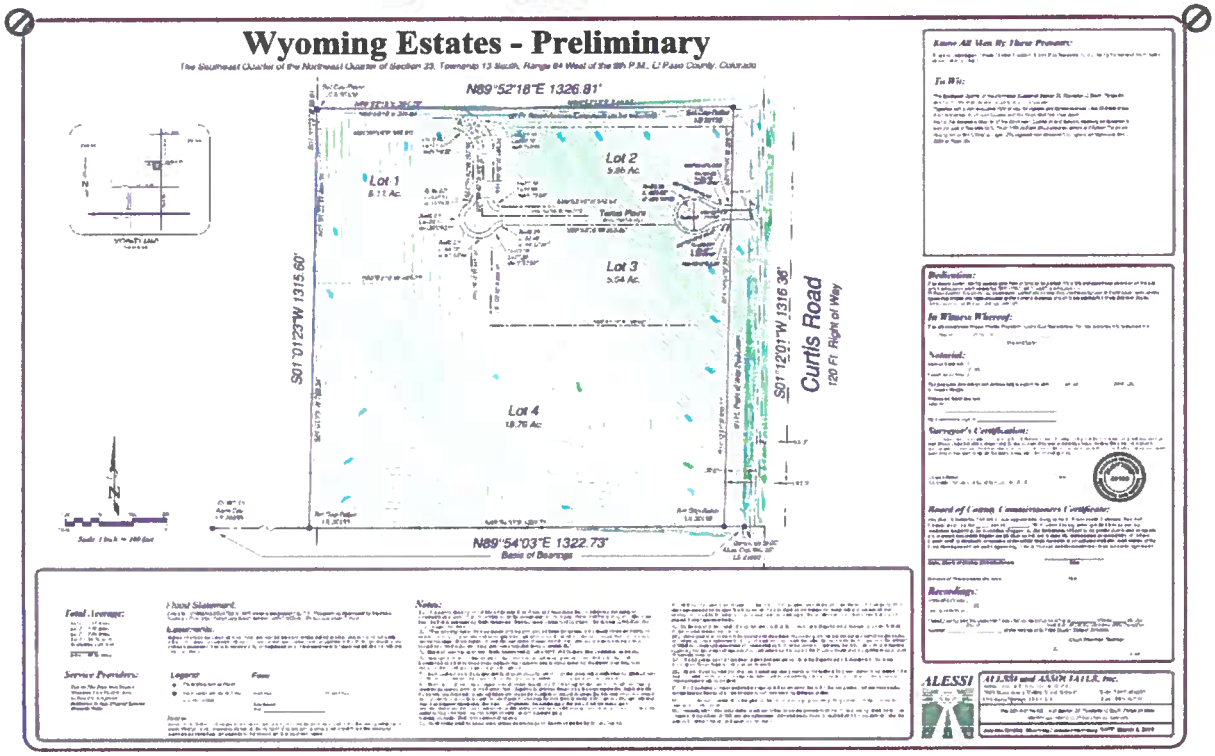
Google Site Map



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Phone: 719-494-0404

Profile Pit - Log	
Job Number:	18.394
Date Evaluated:	09/18/18
Profile Pit#:	Pit #1

Excavator:	Homeowner	Total Depth:	8'-0"
Logged By:	R.J. & S.D.	STA Slope & Direction:	S @ 3%
Method:	Profile Pit	Latitude:	38°52'31.31"N
Equipment:	Excavator	Longitude:	104°33'28.35"W

3050 Curtis Road, Lot 4, 80831

Depth (ft.)	Sample Interval	USDA Soil Texture	USDA Soil Structure - Shape	Soil Structure Grade	Redoximorphic Features Present? (Y/N)	Soil Type (from Table 9 in O-14)	% Rock Frag.	Color
		Topsoil						
2		Sandy Clay Loam	Granular	Strong	No	**Type 3 (LTAR = 0.35) Treatment Level 1**	<35%	10YR 3/2 (Moist)
4								
6		Sandy Loam	Granular	Moderate	No	**Type 2 (LTAR = 0.60) Treatment Level 1**	<35%	10YR 5/3 (Moist)
8								
10		**Total Depth= 8'-0"**						

Evidence of Groundwater:	**Not Reached**
Depth to Bedrock:	**Not Reached**

Additional Notes:

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Colorado Springs, Colorado 80908
Phone: 719-494-0404

Profile Pit - Log

Job Number:	18.394
Date Evaluated:	09/18/18
Profile Pit#:	Pit #2

Excavator:	Homeowner	Total Depth:	8'-6"
Logged By:	R.J. & S.D.	STA Slope & Direction:	S @ 3%
Method:	Profile Pit	Latitude:	38°52'30.60"N
Equipment:	Excavator	Longitude:	104°33'27.64"W

3050 Curtis Road, Lot 4, 80831

Depth (ft.)	Sample Interval	USDA Soil Texture	USDA Soil Structure - Shape	Soil Structure Grade	Redoximorphic Features Present? (Y/N)	Soil Type (from Table 9 in O-14)	% Rock Frag.	Color
		Topsoil						
2		Sandy Clay Loam	Granular	Strong	No	**Type 3 (LTAR = 0.35) Treatment Level 1**	<35%	10YR 3/2 (Moist)
4								
6								
8								
10		**Total Depth= 8'-6"**						

Evidence of Groundwater:	**Not Reached**
Depth to Bedrock:	**Not Reached**

Additional Notes: