

Job No. 194864

January 18, 2024

Amended September 3, 2024

Chris Berisford  
17240 W Goshawk Rd  
Colorado Springs, CO 80908

Re: Wastewater Study  
Berisford Minor Subdivision  
E Goshawk Rd  
El Paso County, Colorado

Dear Mr. Berisford:

As requested, personnel of RMG – Rocky Mountain Group has performed a preliminary investigation and site reconnaissance at the above referenced address. It is our understanding the parcel included in this study is:

- EPC Schedule No. 5123000026, currently labeled as E. Goshawk Road, which consists of 20 acres and is zoned RR5.

It is our understanding the parcel is to be subdivided into four lots. According to the proposed lot layout, all four lots are to consist of approximately 5.0 acres. The approximate location of the site is shown on the Site Vicinity Map, Figure 1. The Proposed Lot Layout is presented in Figure 2.

This letter is to provide information for the on-site wastewater report per the On-Site Wastewater Treatment Systems (OWTS) Regulations of the El Paso County Board of Health pursuant to Chapter 8.

The following are also excluded from the scope of this report including (but not limited to) foundation recommendations, site grading/surface drainage recommendations, subsurface drainage recommendations, geologic, natural and environmental hazards such as landslides, unstable slopes, seismicity, snow avalanches, water flooding, corrosive soils, erosion, radon, wild fire protection, hazardous waste and natural resources.

### **Previous Studies and Field Investigation**

One geologic investigation was completed in conjunction with this study and is listed below:

1. *Soil and Geology Study, Berisford Minor Subdivision, E. Goshawk Road, El Paso County, Colorado*, prepared by RMG – Rocky Mountain Group, Job No. 194864, dated January 18, 2024.

## SITE CONDITIONS

Personnel of RMG performed a reconnaissance visit on December 4, 2023. The purpose of the reconnaissance visit was to evaluate the site surface characteristics including landscape position, topography, vegetation, natural and cultural features, and current and historic land uses. Two 8-foot deep test pits were performed during our reconnaissance visit. A Test Pit Location Plan is presented in Figure 3.

The site surface characteristics were observed to consist of low lying grasses, weeds, and deciduous trees are dense through the entire property. No waterways were observed onsite.

The following conditions were observed with regard to the parcel:

- A well currently **does not** exist on the existing site;
- No runoff or irrigation features anticipated to cause deleterious effects to treatment systems on the site were observed;
- No major waterways exist on the site. The entire site lies outside the designated floodway or floodplain;
- No waterways and/or drainageways were observed on the property.
- Slopes greater than 20 percent **do not** exist on the site; and
- Significant man-made cuts **do not** exist on the site.

## Treatment Areas

Treatment areas at a minimum must achieve the following:

- The treatment areas must be 4 feet above groundwater or bedrock as defined by the Definitions 8.3.4 of the Regulations of the El Paso County Board of Health, Chapter 8, *OWTS Regulations*, effective July 7, 2018;
- Prior to construction of an OWTS, an OWTS design prepared per *the Regulations of the El Paso County Board of Health, Chapter 8, OWTS Regulations* will need to be completed. A scaled site plan and engineered design will also be required prior to obtaining a building permit;
- Comply with any physical setback requirements of Table 7-1 of the El Paso County Department of Health and Environment (EPCDHE);
- Treatment areas are to be located a minimum 100 feet from any well (existing or proposed), including those located on adjacent properties per Table 7-2 per the EPCDHE;
- Treatment areas must also be located a minimum 50 feet from any spring, lake, water course, irrigation ditch, stream or wetland, and 25 feet from dry gulches;
- Other setbacks include the treatment area to be located a minimum 10 feet from property lines, cut banks and fill areas (from the crest);
- The new lots shall be laid out to ensure that the proposed OWTS does not fall within any restricted areas, (e.g. utility easements, right of ways). Based on the proposed lot layout and the information obtained from the test pit observations, each lot has a minimum of two locations for the OWTS as currently proposed.

Contamination of surface and subsurface water resources should not occur if the treatment areas are evaluated and installed according to El Paso County Health Department and State Guidelines in conjunction with proper maintenance.

## DOCUMENT REVIEW

RMG has reviewed the above referenced site plan. We have identified the soil conditions anticipated to be encountered during construction of the proposed OWTS for each proposed lot. Our review included a review of documented Natural Resource Conservation Service (NRCS) data provided by [websoilsurvey.nrcs.usda.gov](http://websoilsurvey.nrcs.usda.gov). The Soil Survey Descriptions are presented below.

A review of FEMA Map No. 08041C0310G, effective December 7, 2018, indicates that the proposed treatment areas are not located within an identified floodplain.

## SOIL EVALUATION

Personnel of RMG performed a soil evaluation to include two 8-foot deep test pits on December 4, 2023 (Test Pit TP-1 and TP-2), utilizing the visual and tactile method for the evaluation of the site soils. The test pits were excavated in areas that appeared most likely to be used for residential construction. The Test Pit Logs are presented in Figure 4.

The soil conditions as indicated by the NRCS data are anticipated to consist of:

- 26 – Elbeth sandy loam, 8 to 15 percent slopes. The Elbeth sandy loam was mapped by the USDA to encompass the entire site. Properties of the Elbeth sandy loam include well drained soils, depth of the water table is anticipated to be greater than 80 inches, runoff is anticipated to be medium, frequency of flooding and/or ponding is none, and landforms include hills. A USDA Soil Survey Map is presented in Figures 5.

Neither groundwater nor bedrock were encountered in the test pits performed by RMG.

*An OWTS is proposed for each lot and should conform to the recommendations of a future OWTS site evaluation, performed in accordance with the applicable health department codes prior to construction.* This report may require additional test pits in the vicinity of the proposed treatment field. A minimum separation of 4 feet shall be maintained from groundwater and bedrock to the infiltrative surface.

Redoximorphic features indicating the fluctuation of groundwater or higher ground water levels were not observed in the test pits. Due to the uniform soils and bedrock anticipated across the lots, a septic suitability map was not created. It should be noted, each lot has sufficient space for both primary and alternate OWTS locations. The lots are heavily forested and it is likely trees in the treatment area will need to be removed.

## CONCLUSIONS

In summary, it is our opinion the site is suitable for individual on-site wastewater treatment systems within the cited limitations. There are no foreseeable or stated construction related issues or land use changes proposed at this time.

Soil and groundwater conditions at the site are suitable for individual treatment systems. The LTAR values ranged between 0.40 and 0.80 for the onsite soils observed in the test pits. It should be noted that the LTAR values are for the test pit locations performed for this report only. The LTAR values may change throughout the site. If an LTAR value of less than 0.35 (soil types 3A to 5) or greater than 0.80 (soil type 0) is encountered at the time of the site specific OWTS evaluation, an "engineered system" will be required.

Based on the soils encountered in our test pits, soil type 4 (LTAR 0.20), "engineered systems" should be anticipated.

## LIMITATIONS

The information provided in this report is based upon the subsurface conditions observed in the profile pit excavations and accepted engineering procedures. The subsurface conditions encountered in the excavation for the treatment area may vary from those encountered in the test pit excavations. Therefore, depth to limiting or restrictive conditions, bedrock, and groundwater may be different from the results reported in this letter.

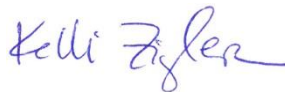
I hope this provides the information you have requested. Should you have questions, please feel free to contact our office.

Cordially,

Reviewed by,

RMG – Rocky Mountain Group

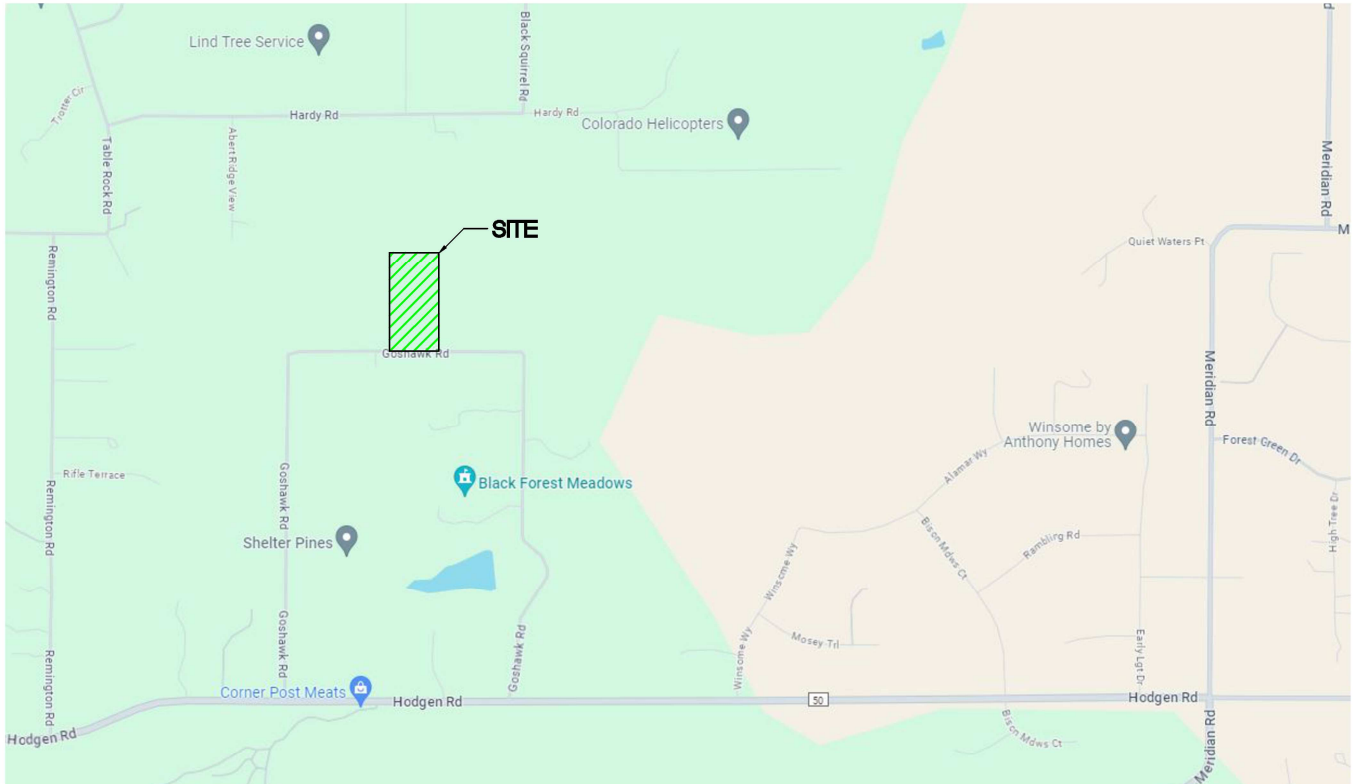
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Kelli Zigler  
Project Geologist

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Sr. Geotechnical Project Manager





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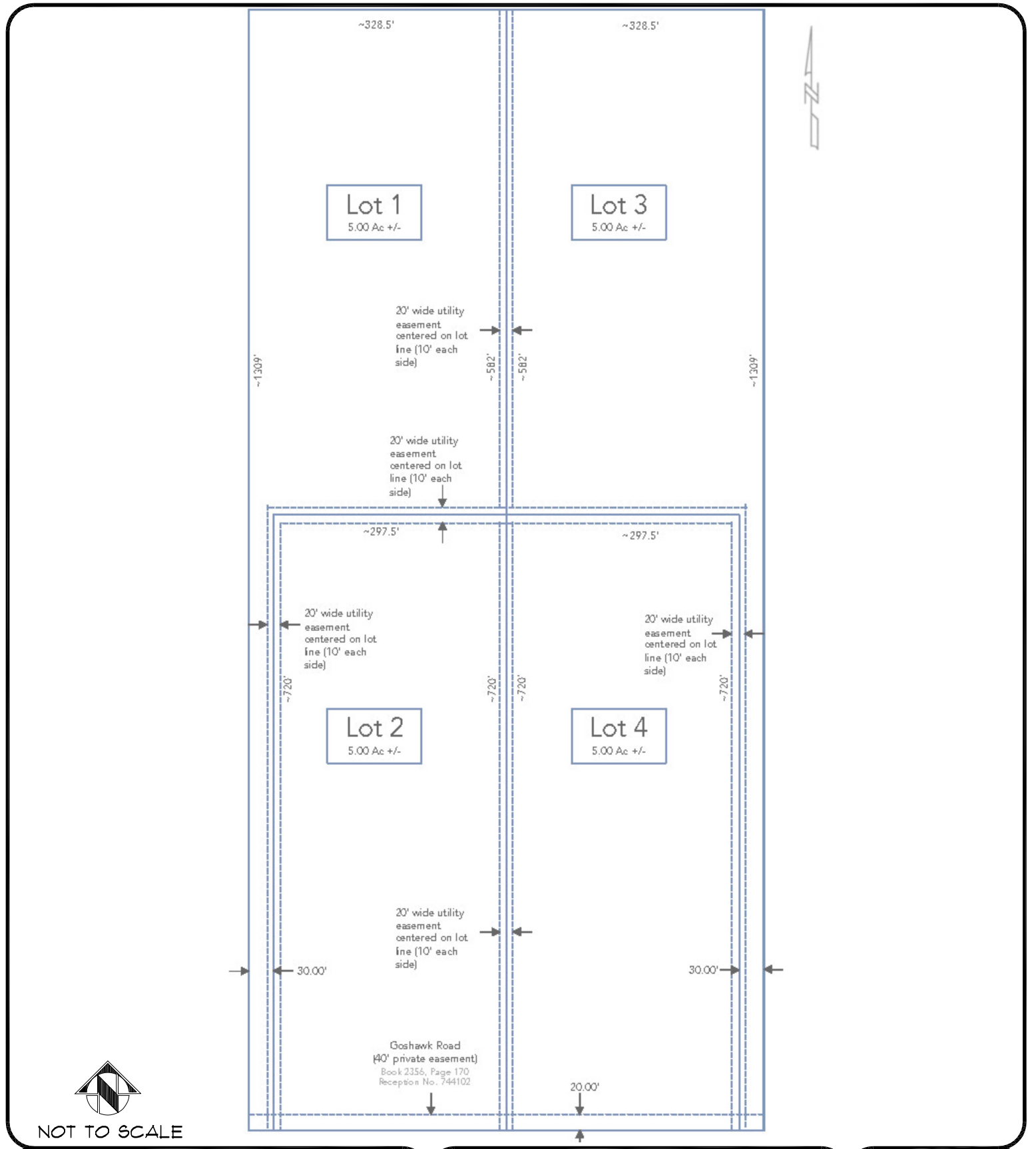
## SITE VICINITY MAP

BERISFORD MINOR SUBDIVISION  
E. GOSHAWK ROAD  
EL PASO COUNTY, COLORADO  
CHRIS BERISFORD

JOB No. 194864

FIG No. 1

DATE 1-18-2024



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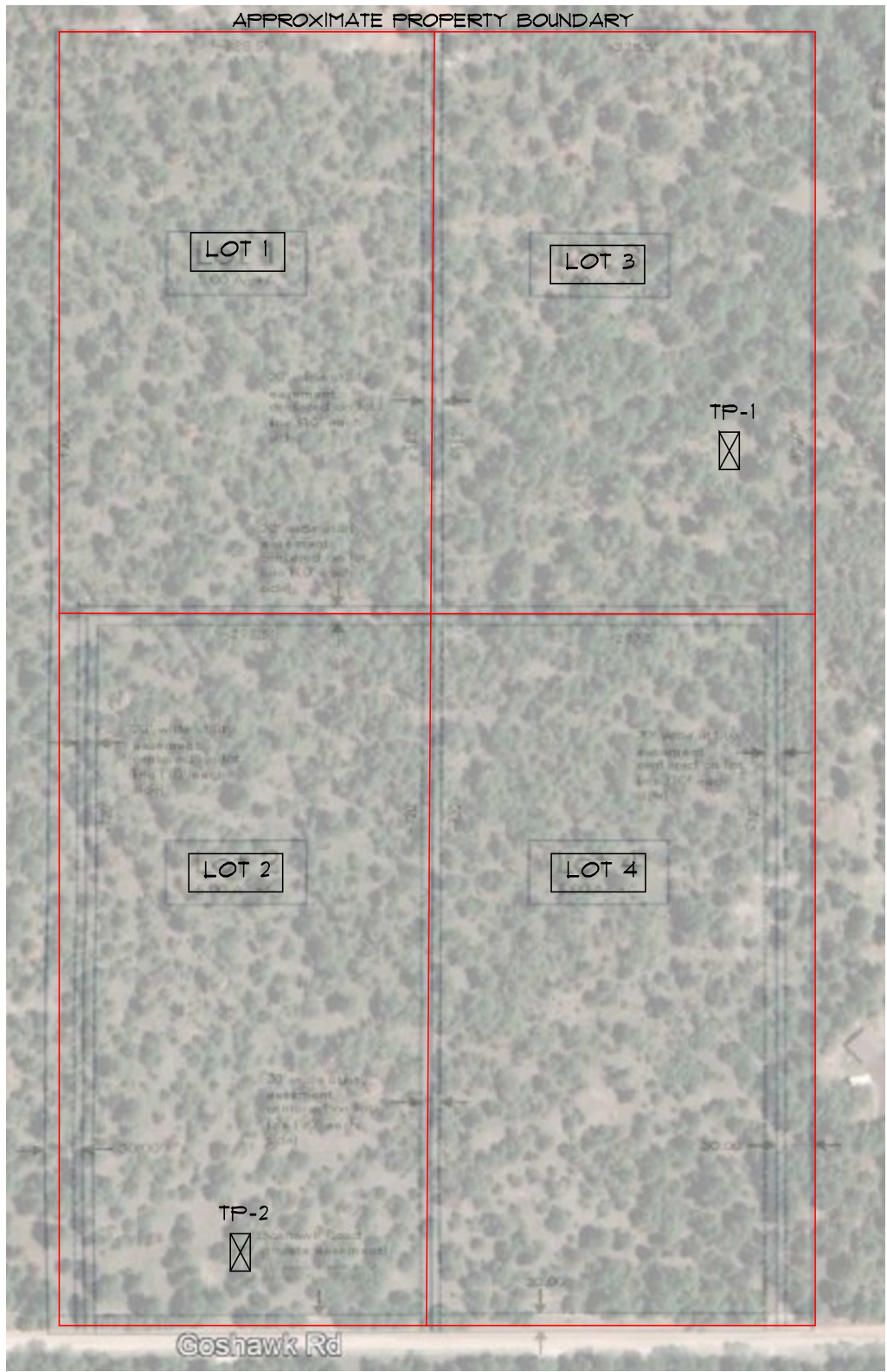
## PROPOSED LOT LAYOUT

BERISFORD MINOR SUBDIVISION  
E. GOSHAWK ROAD  
EL PASO COUNTY, COLORADO  
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FIG No. 2

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 DENOTES APPROXIMATE LOCATION OF TEST PITS

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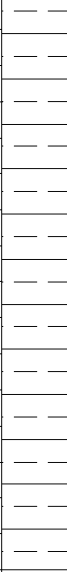
Materials Testing  
Forensics  
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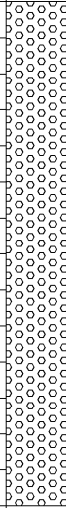
**TEST PIT  
LOCATION PLAN**  
BERISFORD MINOR SUBDIVISION  
E. GOSHAWK ROAD  
EL PASO COUNTY, COLORADO  
CHRIS BERISFORD

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FIG No. 3

DATE 1-18-2024

TEST PIT TP-1			
DATE OBSERVED: 12/04/23			
SOIL DESCRIPTION	DEPTH (FT)	SYMBOL	SOIL TYPE
0 - 8.0 FT SAND (SINGLE GRAIN, STRUCTURELESS)	2ft 4ft 6ft 8ft		1
NO GROUNDWATER NO LIMITING LAYER			

TEST PIT TP-2			
DATE OBSERVED: 12/04/23			
SOIL DESCRIPTION	DEPTH (FT)	SYMBOL	SOIL TYPE
0 - 1.0 FT SAND (SINGLE GRAIN, STRUCTURELESS)	2ft		1
1.0 - 8.0 FT SANDY CLAY (BLOCKY, MODERATE)	4ft 6ft 8ft		4
NO GROUNDWATER NO LIMITING LAYER			

### SOIL DESCRIPTIONS



SAND



SANDY CLAY

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### TEST PIT LOGS

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E. GOSHAWK ROAD  
EL PASO COUNTY, COLORADO  
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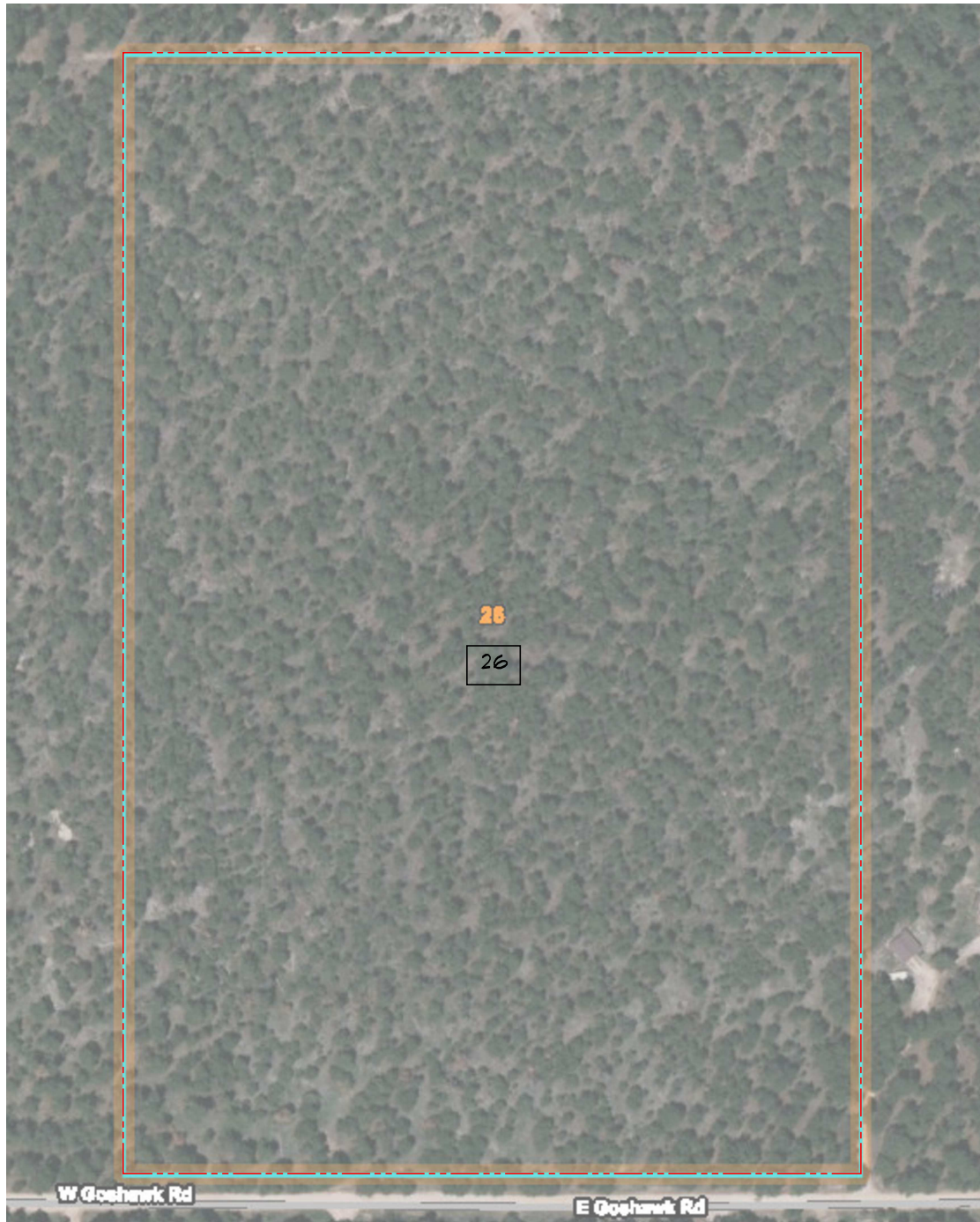
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FIG No. 4

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SHEET 1 of 1





26 - Elbeth sandy loam, 8 to 15 percent slopes



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## USDA SOIL SURVEY MAP

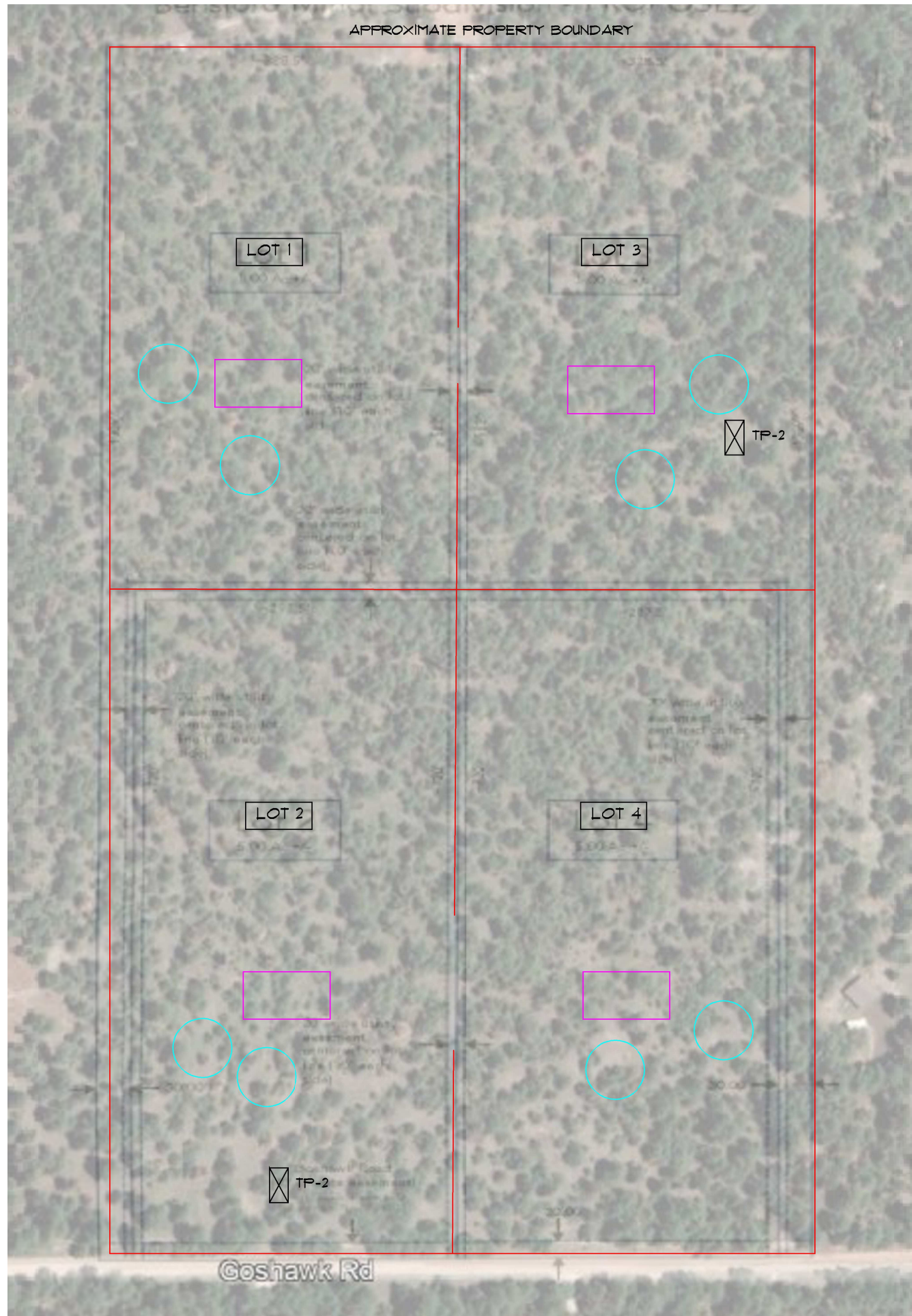
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
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FIG No. 5

DATE 1-18-2024





-  APPROXIMATE LOCATION OF HOUSE
-  APPROXIMATE LOCATION OF OWTS

**NOTE: THE CHOSEN ON-SITE WASTEWATER TREATMENT SYSTEM LOCATIONS ARE FOR ILLUSTRATION ONLY. IF THE EL PASO COUNTY HEALTH DEPARTMENT PHYSICAL SETBACK REQUIREMENTS ARE MET FOR EACH LOT, STEEP SLOPES, AND DRAINAGEWAY ARE AVOIDED THERE ARE NO RESTRICTIONS ON THE OWTS PLACEMENT**



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ENGINEER: TM  
DRAWN BY: KZ  
CHECKED BY: TM  
ISSUED: 1-18-2024

SEPTIC SUITABILITY  
MAP

SHEET No.  
**FIG-6**