El Paso County, CO
Public Health
Prevent • Promote • Protect

Environmental Health Division

1675 W. Garden of the Gods Rd., Suite 2044
Colorado Springs, CO 80907
(719) 578-3199 *phone*
(719) 575-8664 *fax*
www.elpasocountyhealth.org

CONVENTIONAL ON-SITE WASTEWATER TREATMENT SYSTEM
FINAL INSPECTION FORM

P

On-site ID: ON0049614 Tax schedule(APN) #: 713000023 Permit Type: New
Environmental Health Specialist: Kevin Bolinsky (Bex Petro) Final Inspection Date: 09.14.2018 Approved: Yes

Residential Property Information:

Owner: Aspen View Homes Address: 1905 Oleary Pt, Monument, CO 80132 Approved No. Bedrooms: 5
Water supply: Well Well Installation verified: 11.16.2018 Well Location GPS: Over 100' to Tank
Approval will be revoked if in the future any well is found to be within 50 feet of the septic tank and/or 100 feet of the soil treatment area.

Minimum System Requirements:

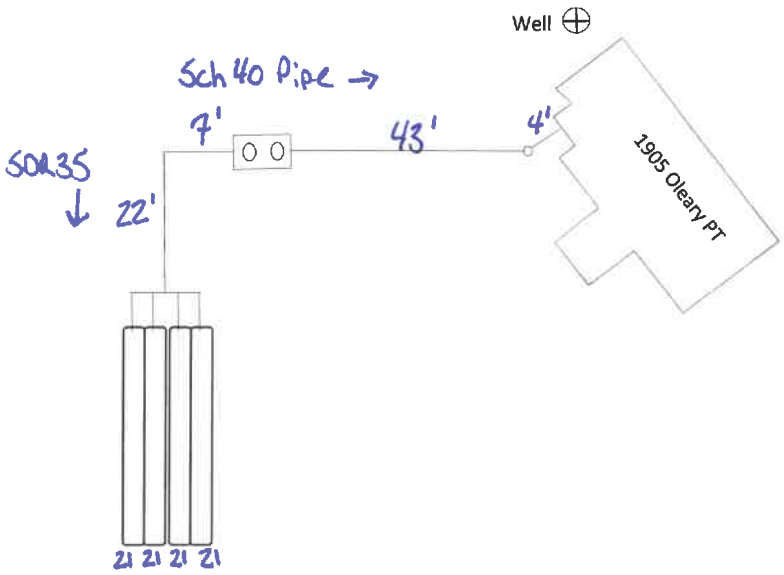
Soil (in-situ) Type: 2A **LTAR (In-situ soil):** 0.5 **Limiting Layer:** Groundwater: none Bedrock: none
OWTS Tank: Capacity (gallons): 1500 **OWTS Pump Tank:** Capacity (gallons): N/A
Soil Treatment Area (STA): Sq. Ft. (10-1): 1200 Sq. Ft. (10-2): 1440 Sq. Ft. (10-3): 1008 Sq. Ft. (with Diverter Valve): NA

Final system installation:

Licensesd Installer: Tier II Installer: Kunau Drilling LLC
Treatment Level: 1
OWTS Tank: GPS Location: 39° 2' 41.39" N, 104° 51' 50.83" W
Tank Type: New Concrete Capacity (gallon): 1500
OWTS Pump Tank:
Tank Type: NA Capacity (gallon): N/A Audio/Visual Alarm: NA
OWTS Pump: N/A
Soil Treatment Area (STA): GPS Location: 39° 2' 41.46" N, 104° 51' 52.31" W Total Sq. Ft installed: 1008

Configuration: Bed
Distribution Media: Chambers
Distribution Area Length: N/A
Media Type: Q4 Chambers (12 sq/ft)
Distribution: Gravity
Inflitrative Surface Depth: 18-30"
Distribution Area Width: N/A
Total installed: 84

Notes: Not to scale



Notify Environmental Health of any change of ownership, type of business activity, business name, or billing address by calling (719) 578-3199. Failure to notify Environmental Health may result in late penalties, Permit/License denial or revocation, and business closure. PERMITS/LICENSES TO OPERATE AND ANNUAL FEE PAYMENTS ARE NOT TRANSFERABLE. Permits become void on change of ownership. New owners must apply and pay for a new Permit(s)/License(s) prior to beginning operation.

Attn: ASPEN VIEW HOMES
1905 OLEARY PT
MONUMENT, CO 80132

El Paso County, CO
Public Health
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EL PASO COUNTY PUBLIC HEALTH
ENVIRONMENTAL HEALTH DIVISION
1675 W. GARDEN OF THE GODS ROAD, SUITE 2044
COLORADO SPRINGS, CO 80907
PHONE: (719) 578-3199 FAX: (719) 578-3188
www.elpasocountyhealth.org

NEW SYSTEM PERMIT - OWTS

Valid From 5/8/2018 To 5/8/2019

PERMITEE : ASPEN VIEW HOMES
1905 OLEARY PT
MONUMENT, CO 80132

OWNER NAME : ASPEN VIEW HOMES

Onsite ID: ON0049614
Tax Schedule # : 7130000023
Permit Issue Date: 05/08/2018
Dwelling Type: RESIDENTIAL
# of Bedrooms (if Res): 5
Proposed Use (if Comm):
Designed Gallons/Day:
Water Source: PRIVATE WELL

System Installation Requirements:

- **A Conventional non-engineered OWTS system to be installed on site, requiring a minimum of Tier I licensed installer to be named prior to final approval.**
- **System installation includes gravity fed system with chamber in bed. Minimum tank requirements 1500 gallon and 1008 sq ft of soil treatment area (84 Q4 / 68 Arc 36 chambers required).**
- **The system must be installed per approved RMG non-engineered design document #161895-3 signed and dated 2.26.2018, changes to the approved design document must be submitted and approved by Public Health prior to installation.**
- **All horizontal setbacks must be maintained through system installation. In addition system must remain completely uncovered, including the tank size, for final inspection.**
- **The well must be installed at time of final inspection, or final approval will not be given until well installation is verified.**
- **Ensure that all work is completed prior to contacting and requesting final line for inspection, otherwise additional fees may be incurred.**

This permit is issued in accordance with 25-10-106 Colorado Revised Statutes. The PERMIT EXPIRES upon completion/installation of the Onsite Wastewater Treatment System, or at the end of twelve (12) months from date of issue, whichever occurs first. If both a Building Permit and an Onsite Wastewater Treatment System Permit are issued for the same property and construction has not commenced prior to the expiration date of the Building Permit, the Onsite Wastewater Permit shall expire at the same time as the Building Permit. This permit is revocable if all stated requirements are not met. The Onsite Wastewater Treatment System must be installed by an El Paso County Licensed System Contractor, or the property owner.

The Health Officer shall assume no responsibility in case of failure or inadequacy of an Onsite Wastewater Treatment System, beyond consulting in good faith with the property owner or representative. Access to the property shall be authorized at reasonable time for the purpose of making such inspections as are necessary to determine compliance with the requirements of this law (permit).

Inspection request line: Call (719) 575-8699 before 3:30 p.m. the business day prior to the requested inspection date.

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(719) 578-3188 *fax*
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SB0009167 AR0013340 ON0046914

APPLICATION FOR AN ON-SITE WASTEWATER TREATMENT SYSTEM PERMIT

Property Information:

Property Address: 905 O'Leary Point City and Zip Monument 80132
Legal Description: Parcel No. 33
Tax Schedule #: 7130000023 Lot size: 35 acres
Is the property gated: ☐ Yes ☑ No Please provide a gate code if necessary: _____
Site Located Inside City Limits: ☐ Yes ☑ No Proposed Use: ☑ Residential ☐ Commercial
Water Supply: ☑ Well ☐ Cistern ☐ Municipal *Potential* Number of Bedrooms: _____
Has a Conditional Acceptance Document been issued for this property: ☐ Yes ☐ No ☑ Unsure

Owner Information: ☐ Primary Contact

Owner: Aspen View Homes Daytime Phone: 719.382.9433
Owners Mailing Address: 555 Middle Creek Pkwy Ste. 350 COS, CO 80921
Email Address: jcooper@aspenviewhomes.net Fax #: 719.382.9488
General Contractor: Aspen View Homes Phone/Email: 719.382.9433

OWTS Installer Information: ☐ Primary Contact

System Installer: Nunau Drilling LLC Daytime Phone: 719.683.3720
Email Address: nunaudrilling@AOL.com Licensed installer: ☑ Tier 1 ☑ Tier 2

All engineer-design systems *must* be installed by a Tier 2 licensed installer

CURRENT FEES AS APPROVED BY THE EL PASO COUNTY BOARD OF HEALTH

All payments are due at the time of application submittal; by cash, check or major credit card (Visa / MC)

☑ **New Permit:** $750.00 (EPCPH Charge) + $147.00 (EPC Planning Dept. Surcharge) + $23.00 (CDPHE Surcharge) = **$920.00**
☐ **Major Repair Permit:** $535.00 (EPCPH Charge) + $23.00 (CDPHE Surcharge) = **$558.00**
☐ **Minor Repair Permit:** $245.00 (EPCPH Charge) + $23.00 (CDPHE Surcharge) = **$268.00**

Permits expire one year from date of issuance, unless otherwise noted

***REQUIRED*: Provide a complete written scope of work to be performed on the property.**

The following documents **MUST** be included with your application.

- A soils report: including at least 1 soil profile excavation pit, in accordance with section 8.5 A-F of OWTS regulations
- A clear and legible design document: including the proposed and alternate locations, as well as system layout, labeled with all setbacks to pertinent structures and features in table 7-1.
- Provide directions to property, from a main highway, on the back side of application.

Failure to provide the above listed documents may result in denial of the permit application

I certify that the information provided on this application is in compliance with Section 8.3, Chapter 8 of the On-site Wastewater System (OWS) Regulations of the El Paso County Board of Health. I also authorize the assigned representative of El Paso County Public Health to enter onto this property in order to obtain information necessary for the issuance of a permit.

Applicant Signature: _____ Date: 4/25/18

Reviewed 2018 approved fee (12/04/2017)

Khat

- Property address or lot number must be clearly marked and visible from the road.
- Profile excavation test pit and/or soil profile holes must be clearly marked
- Proposed and alternate soil treatment areas must be protected from compaction and disturbance
- Locked gates require the gate code or lock combination be provided on front of application
- Please provide directions to the property from a main highway, by text or picture, below.

Failure to comply with the above information may result in an additional charge for a return trip.

Permit #: _____ Site Inspection date: 5/4/18

Date Approvals Rcvd: Development Services: 4/27/18 Floodplain/enumerations: 4/27/18

Design: ☒ Conventional ☐ Engineer Design Engineer: RMG

Engineer Job #: 1618195-3 Engineer Date Stamped: 2.26.18

LTAR/Soil Type: .05 / 2A Groundwater: none PP1/ none PP2 Bedrock: none PP1/ none PP2

Minimum Requirements: Tank Capacity: 1500 Soil Treatment Area: 1008

System Feed: ☒ Gravity ☐ Pump to Gravity ☐ Pressure Dosed ☐ Other: _____

System Media: ☒ Chambers ☐ Rock and Pipe ☐ Other Soil Treatment Area: ☐ Trenches ☒ Bed

Additional Comments: 420/0.5 = 1200 (LTAR) = 1440 (OA) = 1008 (84 Q4 / 48 Arc Bed)

E.H. Specialist: _____ Date: 5/7/18 ☒ Approved ☐ Denied

ROCKY MOUNTAIN GROUP

ON: 0049614
TAX: 7130000023
Final: 9/14/2018

Job No. 161895-3

February 23, 2018

Aspen View Homes
555 Middle Creek Pkwy, Ste 380
Colorado Springs, CO 80921

Re: Onsite Wastewater Treatment System Evaluation
1905 OLeary Point
Lot 3, OLeary Subdivision
El Paso County, Colorado

Dear Mr. OLeary:

As requested, personnel of RMG – Rocky Mountain Group have performed a preliminary investigation, reconnaissance, and site evaluation at the above referenced address. The purpose of this preliminary investigation and the site evaluation is to provide recommendations for an Onsite Wastewater Treatment System (OWTS). During the inspection, a total of two 8-foot deep test pits (TP) were excavated in the vicinity of the proposed treatment area and as indicated on the site plan of the OWTS design.

PRELIMINARY INVESTIGATION:

The purpose of our preliminary investigation was to review publically available and documented information related to the site. RMG has reviewed the above referenced site plan, identified the soil conditions anticipated to be encountered during construction of the proposed OWTS, and included a review of documented NRCS data provided by websoilsurvey.nrcs.usda.gov.

It is our understanding that a 5 bedroom single family residence is proposed at this site.

Based on the information provided by the client, the proposed treatment area is to be located to the north, northwest of the house. The proposed area is indicated on the Site Plan by of the OWTS Design document.

The soil conditions as indicated by the NRCS data referenced above are anticipated to consist of Ustic Torrifluvents, loamy. The Ustic Torrifluvents loamy designation is located near the front of the lot and has a typical profile of "variable" from 0 to 6 inches overlying stratified loam sandy to clay loam from 6 to 60 inches below the ground surface. The Peyton Pring complex comprised the majority of the lot and has a typical profile of sandy loam from 0 to 12 inches overlying sandy clay loam from 12 to 35 inches overlying sandy loam extending from 35 to 60 inches below the ground surface.

A review of FEMA Map No. 08041CO286F indicates that the proposed treatment area is not located within an identified flood plain.

Based on the preliminary information available for review, an estimated treatment size of 00 square feet is anticipated. This estimate was used in locating the field and profile pit excavations only and should not be considered part of the final design. Refer to the OWTS Design document for treatment area, size, and location.

Site conditions exposed during the Reconnaissance Visit and Detailed Soil Evaluation may vary from the preliminary investigation.

RECONNAISSANCE VISIT:

Personnel of RMG performed a reconnaissance visit on January 10, 2018. The purpose of this reconnaissance visit was to evaluate the site surface characteristics including landscape position, topography, vegetation, natural and cultural features, and current and historic land uses.

The site surface characteristics were observed to consist of low lying grasses and weeds across the northern portion of the lot. The southern portion of the lot is heavily covered with deciduous trees. The site slopes down to the north and northwest at approximately 1 to 10 percent across the lot. The proposed treatment area is to be located approximately 50 feet to the north, northwest of the proposed house.

No significant drainage swales, man-made cuts, or streams or waterways that would impact the treatment area were observed in the immediate vicinity of the treatment area.

The proposed well was not staked at the time of the test pit observation. Verbal discussions with Ryan O'leary on site and confirmation from Randy O'leary via electronic email denoted the well location is to be south of the staked house location and is indicated on the above referenced site plan (for reference only, the exact well location is unknown). The treatment area is to be located a minimum distance of 100 feet from the well location. If this distance cannot be maintained, contact RMG prior to proceeding. No existing wells were observed within 100 feet of the proposed treatment area.

DETAILED SOIL EVALUATION:

Personnel of RMG performed a detailed soil evaluation of two 8-foot deep test pit excavations, on January 10, 2018 (Test Pits TP-1 and TP-2), utilizing the visual and tactile method for the evaluation of the site soils. The soil profiles observed in the test pits are presented in the attached Figure 1. The location of the test pit excavations are shown on the site plan of the OWTS Design document.

Neither groundwater nor bedrock were encountered in the test pits. A minimum separation of 4 feet shall be maintained from groundwater and bedrock, if encountered, to the infiltrative surface. If groundwater and/or bedrock are encountered at shallower depths during construction of the OWTS, RMG should be contacted prior to proceeding.

Redoximorphic features indicating the fluctuation of groundwater or higher ground water levels were not observed in the test pits.

The depth of the infiltrative surface is provided in the recommendations section of this report.

There are no foreseeable or stated construction related issues or land use changes at this time.

RECOMMENDATIONS:

It is recommended that the treatment area be located in the vicinity of the test pits. Based on our observations, a long-term acceptance rate (LTAR) of 0.5 shall be used for the design of a Treatment Level 1 OWTS. The infiltrative surface shall be placed no deeper than 4 feet below the existing grade to maintain separation from any potential groundwater or bedrock. There shall be a minimum cover of 1 foot (12 inches) over all OWTS components. If the minimum or maximum depth to infiltrative surface cannot be maintained, the contractor/owner shall contact this office for revised recommendations prior to proceeding with the construction of the OWTS. Reference manufacturer's installation instructions for all components specified in the engineer designed OWTS Design document.

The location of the proposed treatment area was based on an assumed location of the home, if the proposed treatment location is be relocated additional test pit(s) may be required to verify the soil conditions prior to installation.

LIMITATIONS:

This report is only valid in conjunction with the OWTS Design document engineered by RMG. The recommendations provided in this report are 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 profile pit excavations. Therefore, depth to limiting or restrictive conditions, bedrock, and groundwater may be different from the results reported in this letter. If subsurface conditions encountered in the OWTS treatment area differ from those indicated in this report, or problems arise, RMG should be retained to review the subsurface conditions prior to any work being performed or completed.

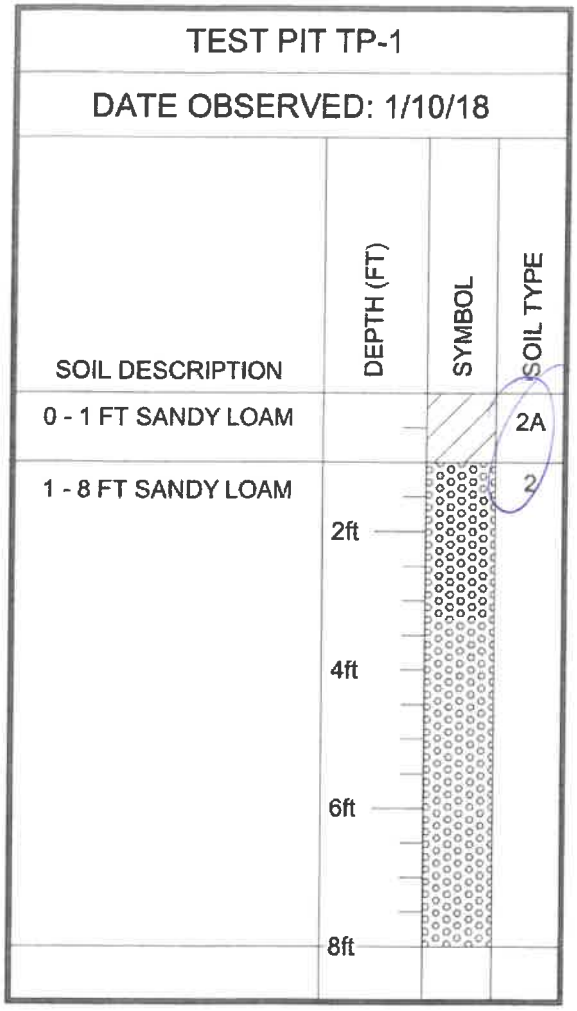
Should you have questions or require additional information, please do not hesitate to call.

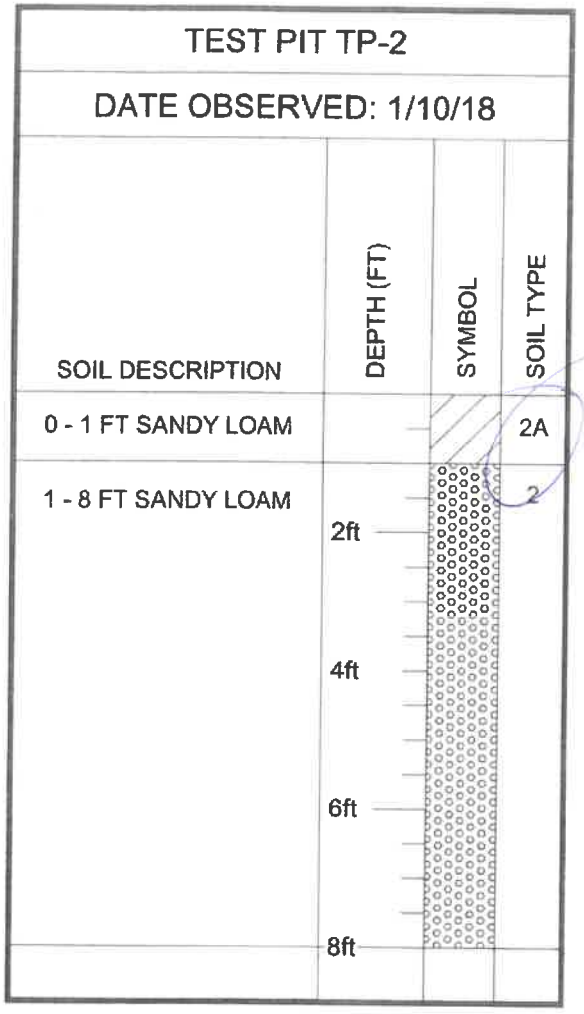
Cordially,

RMG – Rocky Mountain Group

Prepared by: Kelli Zigler
Project Geologist

Tony Munger, P.E.
Geotechnical Project Manager





SOIL DESCRIPTIONS

SANDY LOAM - MODERATE

SANDY LOAM - WEAK

ARCHITECTS RMG ENGINEERS
ROCKY MOUNTAIN GROUP

Southern Office
Colorado Springs,CO 80918
(719) 548-0600
Central Office:
Englewood, CO 80112
(303) 688-9475
Northern Office:
Greeley / Evans, CO 80620
(970) 330-1071

TEST PIT LOGS

1905 OLEARY POINT
LOT 3, OLEARY SUBDIVISION
EL PASO COUNTY, COLORADO
ASPEN VIEW POINT

JOB No. 161895-3

FIG No. 1

DATE 2-23-2018

GENERAL NOTES

1. APPLICABLE CODES

A. These general notes apply to all OWTS drawings. This project is designed in accordance with the **El Paso County Environmental Health Department** and The State of Colorado most current codes and standards.

B. All materials and workmanship shall be in accordance with applicable provisions of the codes specified above.

2. COORDINATION

A. DO NOT SCALE. The design is based on the **Onsite Wastewater Treatment System Evaluation report** by **RMG - Rocky Mountain Group** for **Aspen View Homes**, Job No. **161895**, last dated **February 23, 2018** and **Reconnaissance Site Visit** performed on **January 10, 2018**. All changes to the design and layout are required to be approved by the Engineer / Designer for inclusion into these plans. Any discrepancies shall be brought to the attention of the Engineer / Designer immediately.

B. Builders/owners shall review covenants to verify setback or land-clearing restrictions and requirements that might affect the system installation **PRIOR** to construction.

C. **RMG** has provided this design in accordance with the standards of general construction practices. However, as with all underground absorption fields, guarantee against failure is impossible. With proper installation, as outlined for this proposed construction, there remain many uncertainties, and difficulties that can still arise in the operation of the system in the future. Proper design, construction, and maintenance can assist in minimizing uncertainties, but cannot entirely eliminate them. **RMG** provides no warranty of this design or installation.

3. INSPECTIONS

A. The Engineer / Designer inspections are separate from that which is required by the County Health Department. The homeowner/contractor must ensure all **COUNTY** and **ENGINEER / DESIGNER** inspections are completed.

B. Contact Engineer / Designer a minimum of **48 hours** prior to schedule required inspections.

C. The Engineer inspections shall be as follows:
   1. The Engineer / Designer shall inspect the installation of all components of the septic system before backfill.
   2. The Engineer / Designer shall inspect the components of the septic system, after backfill, to insure min cover, crowned top of field components, & proper drainage away from field.

4. OWTS

A. Maintain a minimum 2.0% and maximum 3.0% grade on pipe feeding septic tank and on pipe from field back to sump pit or pump station.

B. The homeowner/contractor is responsible for permit. The contractor must obtain approval of the engineered / designed system from the County Health Department. The homeowner/contractor must verify all setbacks and obtain utility clearances prior to construction.

C. Vehicular and/or hoofed animal traffic of any kind over any part of system may cause premature failure and is prohibited. The use of so-called "septic remedies" can result in severe damage to the system. We specifically recommend against their use.

D. Septic and pump tanks shall be concrete and have a minimum of two (2) compartments unless noted otherwise.

E. Provide a drainage swale or berm on the uphill slope of the treatment area.

F. **Do not** locate the absorption field or treatment area within **100ft** of the well per **El Paso County Environmental Health Department** recommendations.

G. The field laterals may be angled or turned to fit land contours with a maximum of 45 degree bends or less.

H. The field laterals may be curved to fit land contours. The maximum radius shall not exceed 100ft.

I. Maintain all minimum setbacks and distances stated in this design and county codes and standards.

J. Refer to all manufacturer specification prior to ordering and installation of components.

K. Cover material shall consist of USDA soil type 0-3A with no particles or fragments larger than 3 inches in diameter.

L. Components placed within the house to effect discharge to the OWTS are the responsibility of the installer. Recommendations for such components are not included herein.

CALCULATIONS FOR ABSORPTION BED

TREATMENT LEVEL 1

DESIGN PARAMETERS

NO. OF BEDROOMS (#BD):	5
LTAR:	0.50
Q (GPD):	600 GPD
CHAMBER AREA (CHA):	12 SQ. FT.

ADJUSTMENTS

GRAVITY BED (GB):	1.2
CHAMBERS (CH):	0.7

REQUIRED AREA (A)

FORMULA

$$A = \frac{(Q)(GB)(CH)}{LTAR}$$

CALCULATION

$$A = \frac{(600)(1.2)(0.7)}{0.50}$$

TOTAL

A = MIN 1008 SQ. FT.

REQUIRED CHAMBERS

FORMULA/CALCULATION

$$\text{No. OF CHAMBERS} = \frac{(A)}{(CHA)}$$

$$\text{No. OF CHAMBERS} = \frac{(1008)}{12\ \text{SQ. FT.}} = 84$$

TOTAL CHAMBERS: USE 84 CHAMBERS

REQUIRED FIELD SIZE

A SOIL TREATMENT AREA CONSISTING OF ONE (1) 12FT WIDE X 84FT LONG BED WITH 4 ROWS OF 21 EACH, TOTALING 84 CHAMBERS, RESULTING IN 1008 SQ. FT. OF TREATMENT AREA.

COMPONENTS LIST

A. TANK(S):
1. SEPTIC TANK: 1,500 GAL
2. EFFLUENT FILTER REQUIRED AT OUTLET OF SEPTIC TANK

B. FIELD:
1. CHAMBER MANUF.: QUICK4
2. TOTAL CHAMBERS: 84
3. TOTAL FIELD BEDS: 1
4. LENGTH OF BEDS: 84ft MIN
5. WIDTH OF BEDS: 12ft MAX
6. CLEAN OUTS & INSPECTION PORTS PER FIELD PLAN AND AS REQUIRED

D. PIPE:
1. ALL PIPE TO BE SCHEDULE 40 (U.N.O.)
2. CLEAN OUT A MAX OF 5ft-0in FROM HOUSE
3. FROM HOUSE TO TANK: 4in Ø SCHD 40
4. FROM TANK TO FIELD: 4in Ø SCHD 40
5. FIELD MANIFOLDS: 1½in Ø SCHD 40 SET LEVEL FOR EVEN DISTRIBUTION)
6. PIPE SLOPE TO FIELD AT NOT LESS THAN TWO PERCENT (2%)

ROCKY MOUNTAIN GROUP

RMG ARCHITECTS ENGINEERS

Architectural, Structural, Forensics — Geotechnical, Materials Testing, Civil, Planning

SOUTHERN COLORADO
2910 AUSTIN BLUFFS PKWY, SUITE 100, COLORADO SPRINGS, CO 80918
(719) 548-0600 ~ WWW.RMGENGINEERS.COM
SOUTHERN COLORADO, DENVER METRO, NORTHERN COLORADO

OWTS DESIGN
1905 OLEARY POINT
LOT 3, OLEARY SUBDIVISION
EL PASO COUNTY, COLORADO

ASPEN VIEW HOMES

ARCH/ENG:	FKW
DRAWN:	MAM
CHECKED:	KMZ
DATE	02-23-2018

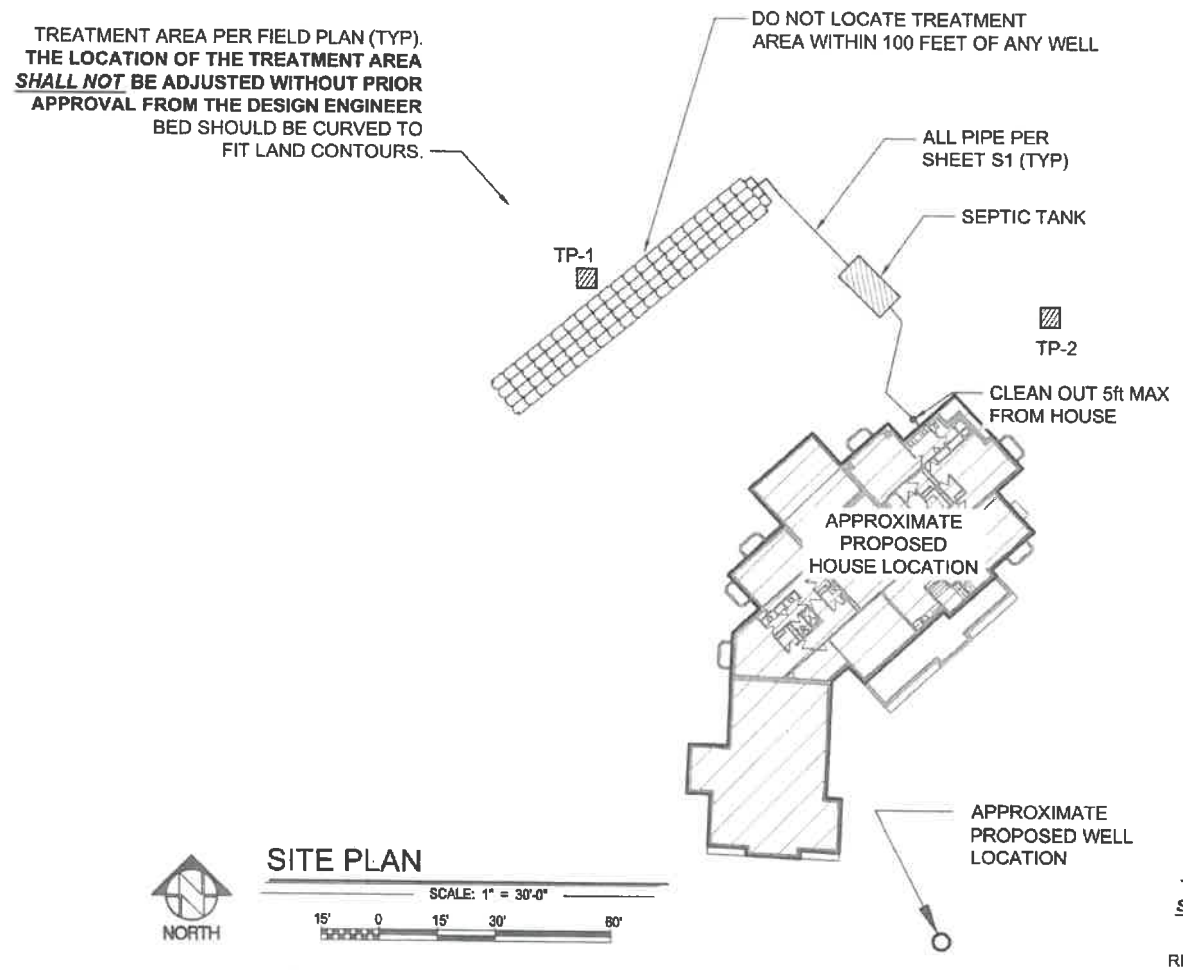
#	REVISION	DATE

JOB NO. 161895-3

SHEET NAME: GENERAL NOTES, CALCULATIONS, & COMPONENTS LIST

SHEET NO. S1 of 5

PROPOSED OLEARY POINT



THE LOCATION OF THE TREATMENT AREA
SHALL NOT BE ADJUSTED WITHOUT PRIOR
APPROVAL FROM THE DESIGN ENGINEER

REFERENCE SHEET S1 FOR GENERAL NOTES, CALCULATIONS, AND COMPONENT SPECIFICATIONS AND DESIGNATIONS

ROCKY MOUNTAIN GROUP
Architects RMG Engineers
Architectural Structural Forensics
Construction Materials Testing CMA Planning
2910 AUSTIN BLUFFS PKWY, SUITE 100, COLORADO SPRINGS, CO 80918
(719) 548-0600 ~ WWW.RMGENGINEERS.COM
SOUTHERN COLORADO, DENVER METRO, NORTHERN COLORADO

OWTS DESIGN
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LOT 3, OLEARY SUBDIVISION
EL PASO COUNTY, COLORADO
ASPEN VIEW HOMES

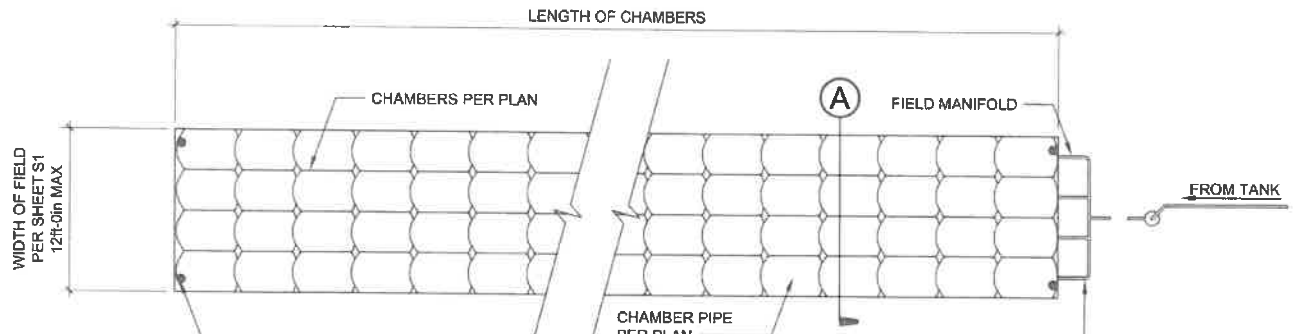
ARCH/ENG:	FKW
DRAWN:	MAM
CHECKED:	KMZ
DATE	02-23-2018

#	REVISION	DATE
1		

JOB NO. 161895-3

SHEET NAME
SITE PLAN

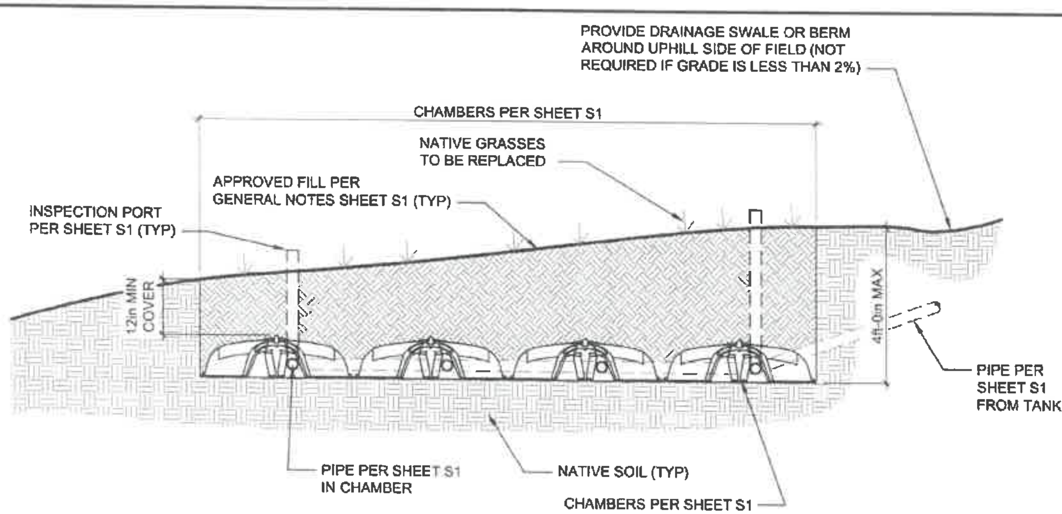
SHEET NO. S2 of 5



BED / CHAMBER FIELD PLAN

NOT TO SCALE

SEE SHEET S2 FOR SPECIFIC LAYOUT



(A) BED CROSS SECTION (CHAMBERS)

NOT TO SCALE

REFERENCE SHEET S1 FOR GENERAL NOTES, CALCULATIONS, AND COMPONENT SPECIFICATIONS AND DESIGNATIONS

5/7/18

ROCKY MOUNTAIN GROUP

Architectural
Structural
Forensics

RMG ARCHITECTS ENGINEERS

Geotechnical
Materials, Testing
Civil, Planning

SOUTHERN COLORADO
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OWTS DESIGN

1905 OLEARY POINT
LOT 3, OLEARY SUBDIVISION
EL PASO COUNTY, COLORADO

ASPEN VIEW HOMES

ARCH/ENG:	FKW
DRAWN:	MAM
CHECKED:	KMZ

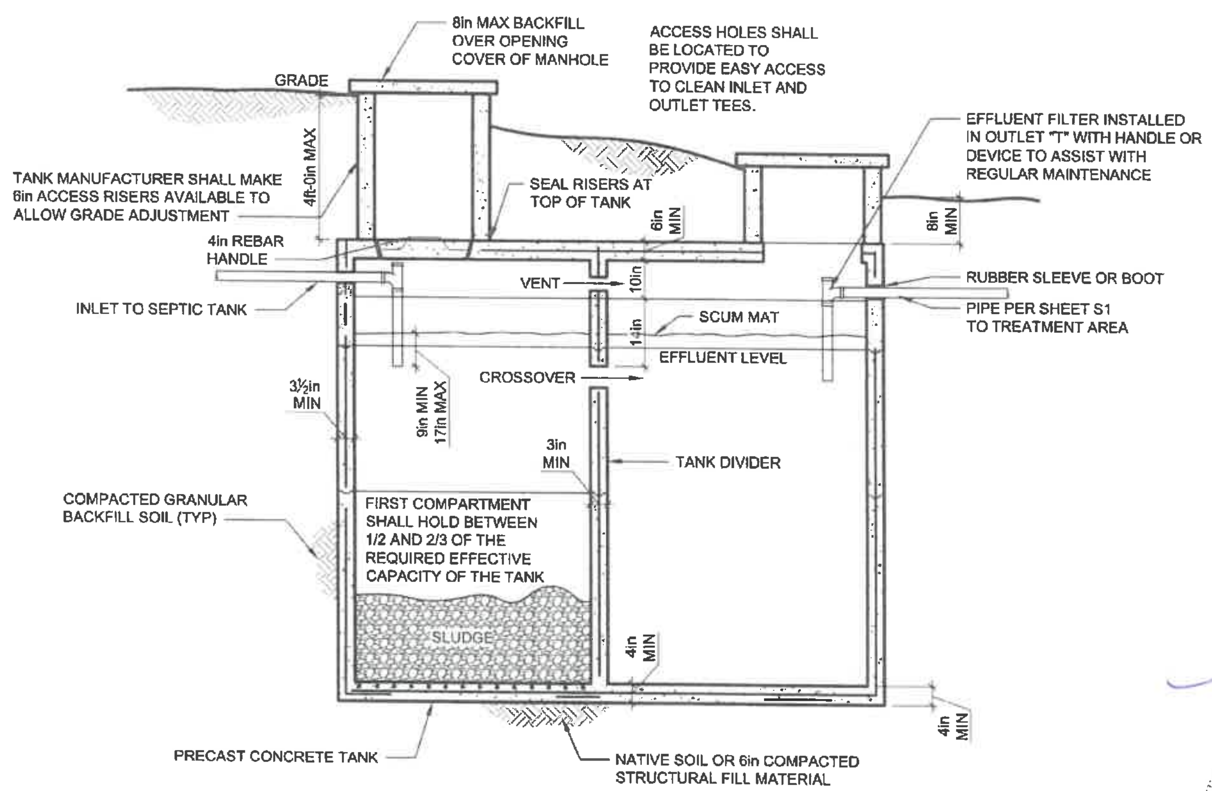
DATE
02-23-2018

#	REVISION	DATE

JOB NO. 161895-3

SHEET NAME
FIELD PLAN & CROSS SECTION

SHEET NO. S3 of 5



SEPTIC TANK CROSS SECTION (DUAL TANK)

NOT TO SCALE

REFERENCE SHEET S1 FOR GENERAL NOTES, CALCULATIONS, AND COMPONENT SPECIFICATIONS AND DESIGNATIONS

ROCKY MOUNTAIN GROUP
Architectural, Structural, Forensics
ARCHITECTS RMG ENGINEERS
Geotechnical, Materials, Testing, Civil, Planning
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EL PASO COUNTY, COLORADO

ASPEN VIEW HOMES

ARCH/ENG:	FKW
DRAWN:	MAM
CHECKED:	KMZ
DATE	02-23-2018
# REVISION	DATE
JOB NO.	161895-3
SHEET NAME	SEPTIC TANK DETAIL
SHEET NO.	S4 of 5

2/26/18

INTRODUCTION: A residential On-site Wastewater Treatment System (OWTS) significantly differs from municipal sewer connections and services. Connections to public utilities, such as municipal sewer systems, provides a virtual guarantee that a homeowner will be able to send a large volume of water or sewage down the municipal sewer system with no particular problem. However, with an On-site Wastewater Treatment System (OWTS) (formerly known as septic systems), homeowners should be aware that system is distinctly limited as to the quantity and constituents of water or sewage (also known as effluent) sent. Limiting factors of a system are primarily the size and distribution method of the system and the Long-Term Acceptance Rate (LTAR) of the soils in the soil treatment area (commonly referred to as an absorption or leach field).

INSTALLATION: Proper installation of an OWTS is crucial to developing a successful OWTS. Careful or conservative design and proper operation and maintenance of a system cannot substitute for improper installation or poorly built components and systems. Typically, a licensed or certified installer will be familiar with the current regulations in the area where the OWTS is to be installed. Homeowner installation is not recommended. If the homeowner desires to perform the installation of the OWTS, they must become familiar with the specific county regulations prior to proceeding with the installation process. Consult with the Health Department for the regulating county prior to beginning installation to obtain the proper information and permits required. An OWTS design does not comprise of a detailed, step-by-step guide to installation and many details relating to proper construction are omitted because they are already required by county regulations. If uncertain, contact an engineer or the regulating Health Department for further clarification. During installation, careful observation of several items will aid in ensuring the OWTS is properly installed. The subgrade below the septic tank should be well and evenly compacted prior to installation to help limit future settling of the tank. Conveyance pipes should only slope uphill if a pump is installed at the bottom of the slope and an air release valve is installed at the top of the slope. The lines in the distribution field should be installed level. If multiple fields or different levels in the field are used, a device that will effectively distribute the effluent shall be installed. The soil comprising the soil treatment area should never be mechanically compacted. After installation of the distribution lines, media, and other pertinent components, the covering soil should not be compacted and minimal to no grading should be performed above the soil treatment area. If a mound system is installed, the mound sand should be allowed to consolidate naturally by sprinkling or lightly spraying with water to reduce settlement after the system is placed into operation. The area surrounding the OWTS, especially uphill of the soil treatment area, if applicable, should be graded to divert surface water or runoff away from the system. This can often be accomplished by construction of a berm or a swale around the uphill side and along the sides of the system's components.

GENERAL OPERATION: Implementing water conservation practices will help in preserving the lifespan of an OWTS. Reducing the amount of excess water that is fed to the system will help prevent it from overflowing, backing up to the house or otherwise disrupting the proper functioning of the system. We recommend that leaking faucets and toilets be repaired immediately, taking long showers should be avoided, and dishwashers or washing machines should be run only when full and at reduced water settings when possible. We also recommend against sending unnecessary materials into the system. Do not dispose of or dump non-biodegradable materials (e.g. greases, plastics, rubber based materials) into the OWTS. These substances will not break down as desired in the septic tank and can lead to clogging or needing to pump the tank more frequently than would be ordinarily necessary. Do-not dispose of harmful or caustic chemicals (e.g. pesticides, paint thinner, oils, and antifreeze) into the OWTS. These chemicals can kill the beneficial bacteria that contribute to treating the effluent in the system and also damage the system, shortening the lifespan of the system and causing an increase in required maintenance. We recommend the homeowner limit the use of common household cleaning products (e.g. bleaches, disinfectants, and toilet bowl cleaners) that may reach the OWTS, as they can also kill the beneficial bacteria and disrupt the functioning of the system. The proper functioning of an OWTS can also be affected by the presence or introduction of surface water or runoff or from outlets from sump pumps and foundation drains. Care and attention should be given to diverting or preventing unnecessary water from reaching the system and ongoing maintenance is essential to preventing future, premature failure of a system.

CAUSES OF FAILURE: Most On-site Wastewater Treatment Systems can function for years if installed, operated, and maintained appropriately. However, wastewater treatment systems do fail and may fail earlier than anticipated. Because the engineering or design of any OWTS relies on many variables, some of which are uncontrollable, systems may fail unexpectedly and earlier than could have been predicted. There are many factors that may contribute to the failure of an OWTS. Proper installation, operation, and maintenance, as described previously, will help prevent system failure. However, common factors that can contribute to system failure are listed below. We cannot address all causes to system failure and this list should not be considered completely inclusive.

–EXCESS WATER USE: Sizing of On-site Wastewater Treatment Systems is partially dependent on the design flow determined by the governing county health department. If the amount of wastewater or effluent that is sent to the system exceeds this design flow, it can shorten the lifespan of an OWTS. Frequently exceeding the design flow can add significant stress to a system. Sending large amounts of water in a short time (e.g. draining hot tubs, multiple appliances draining water at once, multiple showers running at once) can also shorten the lifespan of an OWTS. Doing so can disturb the settlement process in septic tanks, flood soil treatment areas, and otherwise damage or overwhelm individual components in the system.

–SURFACE DRAINAGE/RUNOFF: Allowing outside water sources (e.g. sprinklers, discharge from downspouts or subsurface drains) to flow into the soil treatment area should be avoided. Surface flows should be directed away from the treatment area. It is important to maintain the surface grading uphill from the treatment area to ensure that surface water is directed away from the treatment area. Any landscaping improvements should also maintain positive drainage away from the treatment area.

–CLOGGING: Soil treatment areas are designed to accommodate liquids only. They are not meant to handle solid or greasy, semi-solid substances. These substances are intended to be separated from the wastewater in the septic tank before it is sent to the soil treatment area. Disrupting this separation process can cause these substances to enter the soil treatment area and settle in or clog the pipes. If the pipes become clogged, entire sections can become inoperable and unusable, adding additional stress to the remaining soil treatment area. If clogging occurs, it is often hard to detect and fix. Clogging can be prevented by monitoring the water use, regulating the disposal of inappropriate materials, and regularly having the septic tank pumped by a professional.

–COMPACTION: The effective treatment of wastewater in the soil treatment area also relies on the area's ability to breathe and receive fresh air. This allows the effluent to more effectively be treated and breakdown. Compaction of the soil above the soil treatment area can hamper the soil's ability to treat the effluent by restricting the air flow to the treatment area. Refer to the INSTALLATION guidelines for more information on placement of soils above the components in the treatment area during installation. After installation, care should be taken to prevent additional compaction to the soils above the treatment area. Small animals (such as cats and dogs) and human traffic are unlikely to cause significant additional compaction. However, larger animals, especially hoofed animals, can cause sufficient compaction to the soils and should not be allowed on the surface directly above the treatment area. Vehicular traffic will cause addition compaction and can quickly shorten the lifespan of systems. Vehicular traffic can also cause the wastewater treatment system to fail by crushing components. Vehicles should not be allowed on the surface directly above the soil treatment area. We also discourage the installation of light structures (e.g. playgrounds, sheds) above the treatment area, as these structures may cause additional compaction and encourage additional traffic over the treatment area.

SUMMARY: On-Site Wastewater Treatment Systems differ greatly from public sewer systems and require the homeowner to monitor and maintain the condition of the system and the components. On-site Wastewater Treatment Systems are complex systems that are designed to handle a limited amount of wastewater from a household and cannot handle many of the materials that often make it into the public sewer systems. It is an Installer's responsibility to carefully install the components of a system to both the design's specifications and the governing county health department regulations. It is a homeowner's responsibility to care for and maintain the system. The previously discussed items regarding installation, care and maintenance are not inclusive and do not cover all aspects of an On-site Wastewater Treatment System. Following the previously discussed recommendations will not guarantee that the system will not fail. These items cover the common sources of failure and can help to preserve the lifespan of the system, but will not prevent all possible sources of failure. We recommend regular inspections by qualified professionals to help monitor the system and prevent premature failure.

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OWTS DESIGN

1905 OLEARY POINT
LOT 3, OLEARY SUBDIVISION
EL PASO COUNTY, COLORADO
ASPEN VIEW HOMES

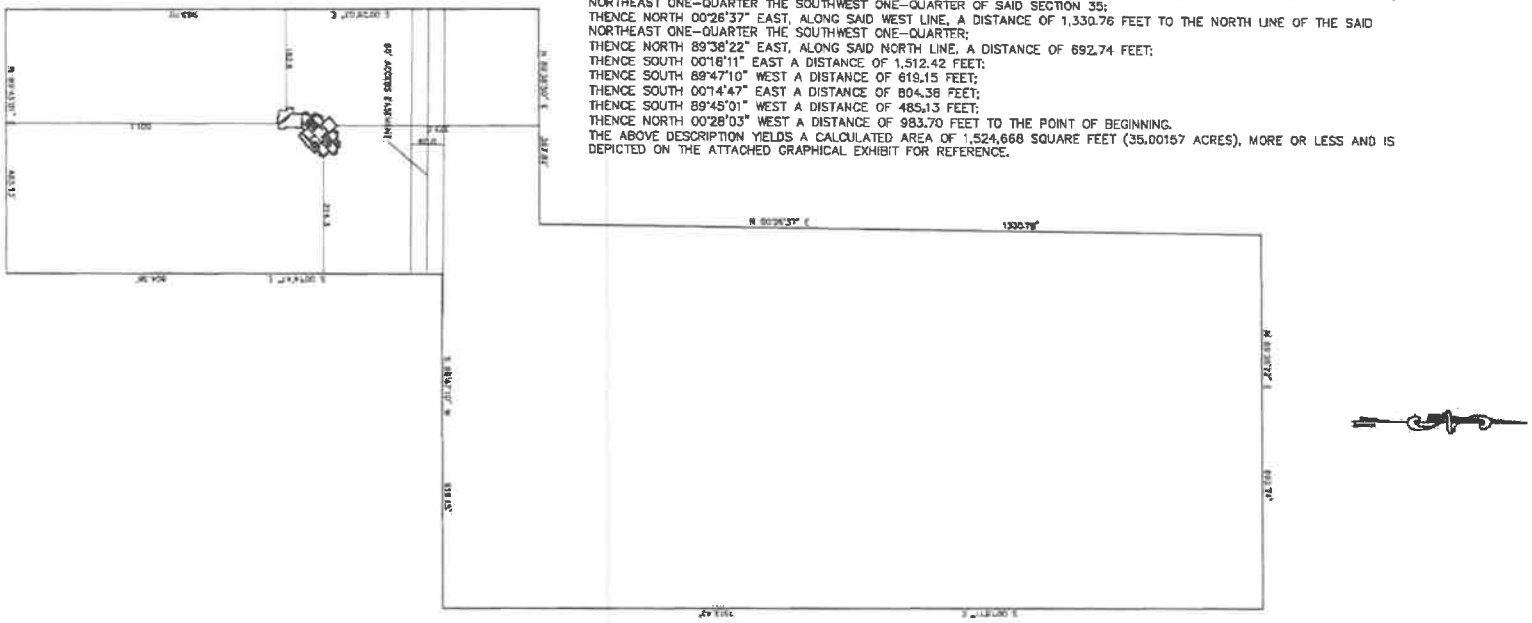
ARCH/ENG:	FKW
DRAWN:	MAM
CHECKED:	KMZ
DATE	02-23-2018

#	REVISION	DATE
1		

JOB NO. 161895-3

SHEET NAME
OPERATION & MAINTENANCE SPECIFICATIONS

(PARCEL THREE)
A PARCEL OF LAND LOCATED IN THE SOUTHWEST ONE-QUARTER OF SECTION 35, TOWNSHIP 11 SOUTH, RANGE 67 WEST OF THE 6TH PRINCIPAL MERIDIAN IN THE COUNTY OF EL PASO, STATE OF COLORADO; MORE PARTICULARLY DESCRIBED AS FOLLOWS WITH BEARINGS REFERENCED TO THE WEST LINE OF THE SOUTHWEST ONE-QUARTER OF THE SOUTHWEST ONE-QUARTER SECTION 35; MONUMENTED ON THE SOUTH END BY A FOUND 3-1/4" BRASS CAP IN CONCRETE STAMPED WITH THE APPROPRIATE SYMBOLOGY FOR THE SOUTHWEST CORNER OF SECTION 35 AND "U.S. DEPT. OF THE INTERIOR, BUR. OF LAND MANAGEMENT, CADASTRAL SURVEY,1968" AND ON THE NORTH END BY A FOUND NO. 4 REBAR WITH 1-1/2 INCH ALUMINUM CAP STAMPED "R.K. HOOK & ASSOC LS 6786" AND IS ASSUMED TO BEAR NORTH 00°29'45" EAST 1328.97 FEET;
COMMENCE AT THE SOUTHWEST CORNER OF SAID SECTION 35; THENCE NORTH 00°29'45" EAST, ALONG THE WEST LINE OF THE SOUTHWEST ONE-QUARTER OF THE SOUTHWEST ONE-QUARTER OF SAID SECTION 35, A DISTANCE OF 1,328.97 FEET TO THE NORTH LINE OF SAID SOUTHWEST ONE-QUARTER OF THE SOUTHWEST ONE-QUARTER;
THENCE NORTH 89°38'50" EAST, ALONG SAID NORTH LINE, A DISTANCE OF 936.99 FEET TO THE POINT OF BEGINNING OF THE LAND HEREINAFTER DESCRIBED;
THENCE CONTINUE NORTH 89°38'50" EAST, ALONG SAID NORTH LINE, A DISTANCE OF 397.82 FEET TO THE WEST LINE OF THE NORTHEAST ONE-QUARTER THE SOUTHWEST ONE-QUARTER OF SAID SECTION 35;
THENCE NORTH 00°26'37" EAST, ALONG SAID WEST LINE, A DISTANCE OF 1,330.76 FEET TO THE NORTH LINE OF THE SAID NORTHEAST ONE-QUARTER THE SOUTHWEST ONE-QUARTER;
THENCE NORTH 89°38'22" EAST, ALONG SAID NORTH LINE, A DISTANCE OF 692.74 FEET;
THENCE SOUTH 00°16'11" EAST A DISTANCE OF 1,512.42 FEET;
THENCE SOUTH 89°47'10" WEST A DISTANCE OF 619.15 FEET;
THENCE SOUTH 00°14'47" EAST A DISTANCE OF 804.38 FEET;
THENCE SOUTH 89°45'01" WEST A DISTANCE OF 485.13 FEET;
THENCE NORTH 00°28'03" WEST A DISTANCE OF 983.70 FEET TO THE POINT OF BEGINNING.
THE ABOVE DESCRIPTION YIELDS A CALCULATED AREA OF 1,524,668 SQUARE FEET (35.00157 ACRES), MORE OR LESS AND IS DEPICTED ON THE ATTACHED GRAPHICAL EXHIBIT FOR REFERENCE.



SCHEDULE No. 7130000023

PLOT PLAN

NOTES:

1. ALL AREAS COVERED ARE INCLUDED IN LOT COVERAGE.
2. DECK 8"+ ABOVE GRADE ARE INCLUDED IN LOT COVEREAGE.
3. DECK STAIRS SHOWN MAY NOT BE ACCURATE TO NUMBER OF STEPS NEEDED TO REACH GRADE.
4. RETAINING WALL(S) SHOWN ARE DESIGNED PER INFORMATION PROVIDED BY THE DEVELOPER ACTUAL FIELD CONDITIONS ENCOUNTERED DURING CONSTRUCTION MAY REQUIRE MINOR MODIFICAITON TO THE DESIGN.
5. DUE TO SITE CONDITIONS, ACTUAL RETAINING WALLS, GRADING AND SLOPES MAY VARY FROM THE APPOVED PLOT PLAN, VANTAGE HOMES RESERVES THE RIGHT TO MODIFY OR CHANGE THE PLOT PLAN WITHOUT PRIOR NOTICE.
6. THE ACTUAL APPROVED COLOR SCHEME MAY VARY FROM THAT LISTED ON THE PLOT PLAN.

PROPOSED COLOR SCHEME 527-08

1. LOCATE UNDERGROUND UTILITIES PRIOR TO EXCAVATION.
2. THIS PLOT PLAN SHOWS IMPROVEMENTS AT GRADE ONLY. SEE FOUNDATION PLANS FOR STRUCTURAL INFOMATION

SITE DATA
LOT ACRES.= 35.00
HOUSE SQ. FT.=5434
COVERAGE = 0.4%

ASPEN VIEW HOMES
555 MIDDLE CREEK PKWY SUITE 308
COLORADO SPRINGS, COLORADO 80921
PHONE 719-382-9433

LEGAL DESCRIPTION
PARCEL 3
1905 O'Leary Point
EL PASO COUNTY, COLORADO

ADDRESS
1905 OLEARY POINT

SCALE: ...1"=100'

DRAWING NAME: PARCEL 3

DATE: 02-13-18