

**Wastewater Treatment Report
U-Haul at Falcon
Falcon U-Haul Filing 1
El Paso County, Colorado**

Prepared for:
Amerco Real Estate Company
2727 N Central Avenue
Phoenix, AZ 85004

Prepared by:

Kiowa
Engineering Corporation

7175 West Jefferson Avenue, Suite 2200
Lakewood, Colorado 80235
Ph: (303)692-0369

Kiowa Project No. 21061

June 9, 2023

I. INTRODUCTION

The wastewater system design for the proposed development has been prepared in accordance with the Woodmen Hills Metro District and Falcon Highlands Metro District (FHMD) requirements and the El Paso County Land Development Code. The District follows the Woodmen Hills Water and Wastewater System Standard Specifications. Supporting design calculations are included in Appendix A of this report

II. GENERAL LOCATION AND DESCRIPTION

The Falcon U-Haul Filing No. 1 property will be developed as a commercial development including two main buildings on the site for self storage, U-Box warehouse, showroom, vehicle sharing and retail area. The subject property is located along the south side of Rolling Thunder Way, west of Meridian Road and north of Tamlin Road in Falcon, Colorado. The site is located in the east half of Section 12, Township 13 South, Range 65 West of the 6th Principal Meridian, in El Paso County, Colorado. The site is bounded to the west by Falcon Highlands Filing No. 2, future Falcon Highlands Filing No. 3, to the south by Tamlin Road, east by Meridian Road and north by Rolling Thunder Way. The property covers approximately 11.50 acres and is currently undeveloped. The property is planned to be developed in two phases. The northern portion which is described in this drainage report and the southern portion will be developed in the future. The southern portion is planned to be developed as mini self storage and RV storage. A vicinity map of the site is shown on Figure 1 included in the Appendix.

For the proposed development there will be two buildings with minimal water fixtures and one sanitary service each. Building A will be mainly a self storage facility with a small retail and showroom area. The building will include bathrooms on the first and third floor along with mop sinks on each floor. Building B will be a warehouse to store U-Boxes and not be accessible to the public. A single bathroom will be included in the building. The future phase does not plan to include a sanitary service.

III. WASTEWATER FLOWS AND SYSTEM

In the existing condition, there is not a sanitary sewer main or service stubbed into the property. A 10-inch PVC sanitary sewer main is located in Rolling Thunder Way. This sanitary sewer system is owned and maintained by Falcon Highlands Metro District. In the proposed condition, the plan is to extend an 8-inch PVC sanitary sewer main from the existing sanitary manhole in Rolling Thunder into the site. One of the reasons to install a main instead of services is because the existing/proposed site slopes down and away from Rolling Thunder. Installing a sanitary sewer main will allow for a flatter pipe slope to be used and meet minimum cover over the sanitary services at the building with a gravity system. The wastewater flows from the two buildings is minimal. An 8-inch PVC sanitary sewer main and 4-inch PVC sanitary services will be sufficient to handle the flows. The Appendix includes the Water Will Serve letter which indicates the wastewater load calculation to be 516 gallons/day. The Utility Plan (included in the Appendix) shows the locations of existing and proposed sanitary sewer lines and manholes.

A commitment letter from Woodmen Hills Metropolitan District is included in Appendix B.

IV. WASTEWATER COLLECTION AND TREATMENT

The proposed sanitary sewer system will be constructed in accordance with Woodmen Hills Metro District Standards and Specifications. Flows from the site will drain to the Woodmen Hills regional wastewater treatment plant which has sufficient capacity to handle the flows from this development.

APPENDIX TABLE OF CONTENTS

APPENDIX A

Figure 1: Vicinity Map

Water Will Serve Letter with Wastewater Flow Calculation

APPENDIX B

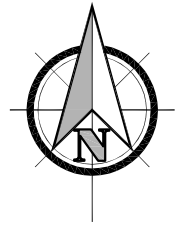
Woodmen Hills Metro District Commitment Letter

APPENDIX C

Utility Plans

APPENDIX A

**Figure 1: Vicinity Map
Water Will Serve Letter with Wastewater Flow Calculation**



SCALE: NTS

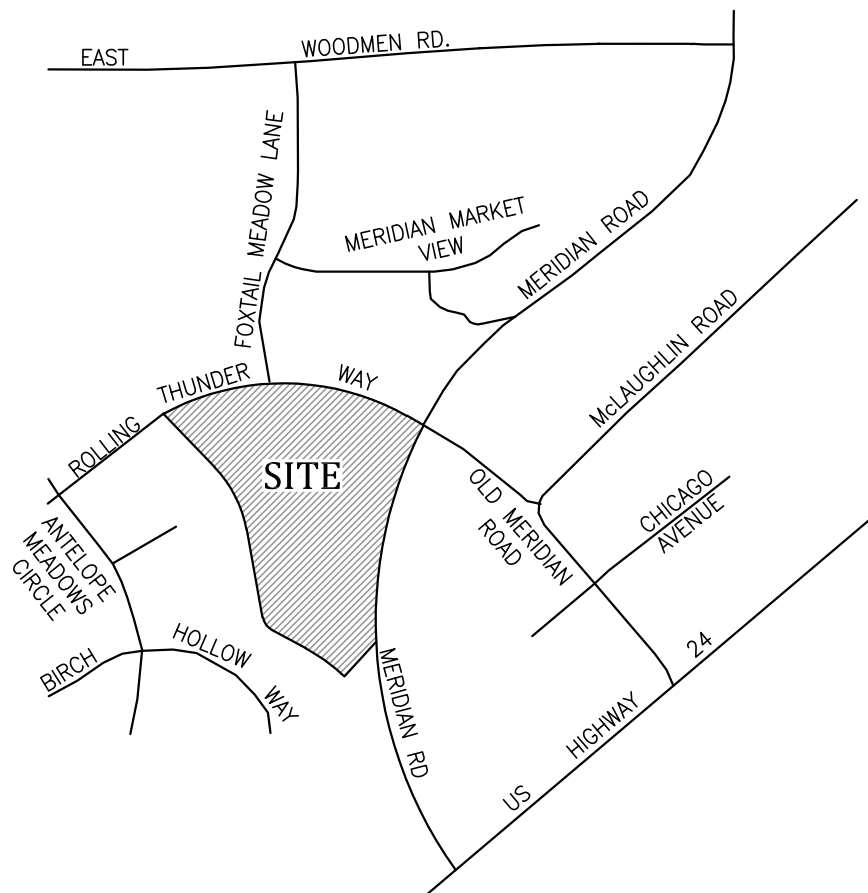


FIGURE 1
VICINITY MAP
U-HAUL FALCON

December 20, 2022

AMERCO Real Estate Company
2727 North Central Avenue
Phoenix, AZ 85004
Attn: Jeff Gilley

**Re: Proposed U-Haul Facility
Peyton, CO 80831**

Dear Mr. Gilley:

The above-named facility is a commercial building proposed on an existing, platted lot within the Falcon Highlands Metropolitan District (FHMD, the District) service boundary.

Falcon Highlands will be the water provider for this facility (contingent upon securing water commitment from FHMD). Woodmen Hills Metropolitan District (WHMD) will provide wastewater service (collection and treatment) for the facility.

Both districts have existing capacity to serve this facility (water via FHMD and wastewater via WHMD).

Calculations were performed based on plumbing fixtures and irrigation for the proposed facility, and it was found to require a 1-inch water meter. The calculated water demand was found to be equivalent to three (3) single-family equivalents (SFEs) and a total water usage of 0.917 acre-feet/year (298,825 gallons/year).

At 172 gallons/SFE/day, the projected wastewater load for the facility comes to 516 gallons/day.

If you have any questions, please do not hesitate to call.

Sincerely,

Falcon Highlands Metropolitan District



Josh Miller, District Manager

cc: John P. McGinn, District Engineer
Lori Seago, El Paso County Attorney's Office

FALCON HIGHLANDS METROPOLITAN DISTRICT
 C/O CLA - 121 South Tejon Street, Suite 1100, Colorado Springs, CO 80903
 Office: (719) 635-0330

Customer: U-Haul	Address: TBD
Owner: KLK 1031 Investments, LLC	Building A
Type of Occupancy: Commercial	By: Ryan Mangino
Legal Address: 632 Silver Oak Grove, Colorado Springs, CO 80906	Filing: Lot: Block:

International Plumbing Code - Table E103.3(2)

Fixture	Occupancy	Type of Supply Control	Load Values, in WSFU			# of Fixtures	Total Fixture Values	Demand GPD (@ 15 GPD/WSFU)	Demand (GAL/YR)
			Cold	Hot	Total				
Bathroom group	Private	Flush tank	2.70	1.50	3.60	0	0	0	0
Bathroom group	Private	Flushometer valve	6.00	3.00	8.00	0	0	0	0
Bathtub	Private	Faucet	1.00	1.00	1.40	0	0	0	0
Bathtub	Public	Faucet	3.00	3.00	4.00	0	0	0	0
Bidet	Private	Faucet	1.50	1.50	2.00	0	0	0	0
Combination fixture	Private	Faucet	2.25	2.25	3.00	0	0	0	0
Dishwashing machine	Private	Automatic		1.40	1.40	0	0	0	0
Drinking Fountain/Dispenser (3/8" Valve)	Offices, etc.	3/8" valve	0.25		0.25	2	0.5	7.5	2,738
Hose bib	Private	3/4"	2.50		2.50	1	2.5	37.5	13,688
Hose bib	Pub	3/4"	2.50		2.50	0	0	0	0
Kitchen sink	Private	Faucet	1.00	1.00	1.40	0	0	0	0
Kitchen sink	Hotel, restaurant	Faucet	3.00	3.00	4.00	0	0	0	0
Laundry Trays (1 to 3)	Private	Faucet	1.00	1.00	1.40	0	0	0	0
Lavatory	Private	Faucet	0.50	0.50	0.70	3	2.1	31.5	11,498
Lavatory	Public	Faucet	1.50	1.50	2.00	0	0	0	0
Service sink	Offices, etc.	Faucet	2.25	2.25	3.00	3	9	135	49,275
Shower head	Public	Mixing valve	3.00	3.00	4.00	0	0	0	0
Shower head	Private	Mixing valve	1.00	1.00	1.40	0	0	0	0
Urinal	Public	1" flushometer valve	10.00		10.00	0	0	0	0
Urinal	Public	3/4" flushometer valve	5.00		5.00	0	0	0	0
Urinal	Public	Flush tank	3.00		3.00	0	0	0	0
Washing machine (8 lb.)	Private	Automatic	1.00	1.00	1.40	0	0	0	0
Washing machine (8 lb.)	Public	Automatic	2.25	2.25	3.00	0	0	0	0
Washing machine (15 lb.)	Public	Tauto	3.00	3.00	4.00	0	0	0	0
Water closet	Private	Flushometer valve	6.00		6.00	0	4	60	21,900
Water closet	Private	Flush tank	2.20		2.20	3	6.6	99	36,135
Water closet	Public	Flushometer valve	10.00		10.00	0	0	0	0
Water closet	Public	Flush tank	5.00		5.00	0	0	0	0
Water closet	Public or private	Flushometer valve	2.00		2.00	0	0	0	0
*Irrigation (trees, shrubs, & sod)									163,592
Totals						12	24.7	370.5	298,825

Customer Peak Demand from Table E103.3(3) in International Plumbing Code	23.5	GPM
Irrigation (Largest Zone per Irrigation Designer)	5.0	GPM
Add fixed load	0.0	GPM
TOTAL PEAK DEMAND	28.5	GPM

1 SFE=	115,025	GAL/YR
This Project=	2.6	SFEs
Adjusted	3.0	SFEs

- Notes:**
 1) Use meter sizing table in AWWA-M22 for meter sizing, maximum 80% of meter capacity; 80% of capacity meter used.
 2) Provide back up information for items not found in the Code.

	Area (SF) or Quantity	Demand (Gallons)	Frequency	Timing	Cu.Ft./Year	Gallons/Year	GPD
* Kentucky Bluegrass		0.6233	26	Weeks/Yr	0.0	0.0	0.0
Native Seed				Weeks/Yr	0.0	0.0	
Med-Water Trees	88	40.0000	26	Weeks/Yr	36,705.9	91,520.0	1,005.7
Low-Water Trees	25	40.0000	26	Weeks/Yr	10,427.8	26,000.0	285.7
Low-Water Shrubs	443	4.0000	26	Weeks/Yr	18,478.1	46,072.0	506.3
Totals					65,611.8	163,592.0	1,797.7

*= 1.5"/SF/Day

APPENDIX B

Woodmen Hills Metro District Commitment Letter

WOODMEN HILLS

METROPOLITAN DISTRICT

November 9, 2022

Matthew Erichsen, PE, CFM
Kiowa Engineering Corporation
7175 West Jefferson Ave, Suite 2200
Lakewood, Colorado 80235

Re: Will-Serve Letter for wastewater service for Lot 1, Falcon U-Haul Filing No. 1, El Paso County.

Dear Mr. Erichsen,

The above-named property is an included property of the Falcon Highlands Metropolitan District (FHMD) and wastewater services to FHMD are provided by Woodmen Hills Metropolitan District (WHMD). The parcel is stated for development of a U-Haul storage facility. The projected wastewater flow is projected to be equivalent to a single family home. The Wastewater Treatment Plant has adequate capacity to accommodate this facility, thus the above said property can be provided wastewater service for submitted project by WHMD.

A Commitment Letter will be granted upon site plan approval.

If you have any questions, please do not hesitate to call.

Sincerely,



Wally Eaves, Wastewater Enterprise Director, Woodmen Hills Metropolitan District

Cc: John P. McGinn, District Engineer

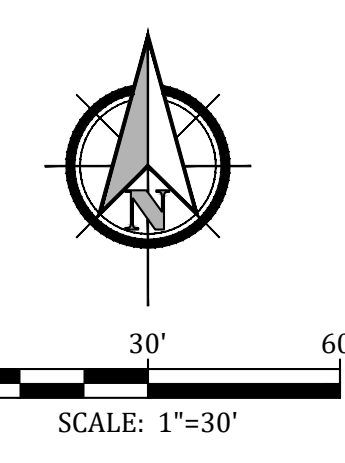
JD Shivers, Water Enterprise Director

APPENDIX C
Utility Plans

BUILDING FIRE FLOW INFORMATION

BUILDING A:
 BLDG CONSTRUCTION TYPE: II-B
 NFPA FIRE SPRINKLER SYSTEM: Yes
 BUILDING FIRE AREA: 111,930sf (3 Floors) (Footprint: 37,728sf)
 FIRE FLOW REQUIRED: 3,500gpm @ 20psi Residual
 (Assumes 50% Reduction for Fire Sprinkler)
 MIN # OF HYDRANTS: 4
 MAXIMUM HOSE LAY LENGTH: 210ft

BUILDING B:
 BLDG CONSTRUCTION TYPE: II-B
 NFPA FIRE SPRINKLER SYSTEM: Yes
 BUILDING FIRE AREA: 17,012sf (1 Floor)
 FIRE FLOW REQUIRED: 1,500gpm @ 20psi Residual
 (Assumes 50% Reduction for Fire Sprinkler)
 MIN # OF HYDRANTS: 1
 MAXIMUM HOSE LAY LENGTH: 250ft



LEGEND

[Symbol]	PROPOSED BUILDING
[Symbol]	PROPERTY OR ROW LINE
[Symbol]	EXISTING EASEMENT
[Symbol]	PROPOSED EASEMENT
[Symbol]	CURB & GUTTER
[Symbol]	EXISTING WATER LINE
[Symbol]	EXISTING SANITARY SEWER
[Symbol]	EXISTING STORM SEWER
[Symbol]	EXISTING UNDERGROUND ELECTRIC LINE
[Symbol]	EXISTING UNDERGROUND TELEPHONE LINE
[Symbol]	EXISTING GAS LINE
[Symbol]	EXISTING 100 YEAR FLOODPLAIN
[Symbol]	EXISTING STREET LIGHT
[Symbol]	APPROXIMATE LIMIT OF DISTURBANCE
[Symbol]	PROPOSED SANITARY SERVICE AND CLEAN OUT
[Symbol]	PROPOSED WATER LINE OR SERVICE AND VALVE
[Symbol]	PROPOSED WATER LINE, THRUST BLOCK & MJ RSTNTS
[Symbol]	PROPOSED FIRE HYDRANT
[Symbol]	PROPOSED WATER METER
[Symbol]	PROPOSED STORM SEWER PIPE AND MANHOLE
[Symbol]	PROPOSED STORM SEWER PIPE AND MANHOLE
[Symbol]	PROPOSED SINGLE STORM GRATED INLET
[Symbol]	PROPOSED TYPE C GRATED INLET
[Symbol]	PROPOSED STORM CURB INLET
[Symbol]	PROPOSED STORM SEWER FLARED END SECTION

GENERAL NOTES:

REVISIONS:

NO.	DATE	INITIALS	NOTES
1			
2			
3			
4			
5			
6			
7			
8			

PROFESSIONAL SEAL:

Kiowa Engineering Corporation
 5951 Middlefield Road, Suite 200
 Livermore, CA 94551
 (925) 938-0369

AMERCO REAL ESTATE COMPANY
 CONSTRUCTION DEPARTMENT
 2727 NORTH CENTRAL AVENUE
 PHOENIX, ARIZONA 85004
 P: (602) 263-6502
 F: (602) 277-1026

SITE ADDRESS:
 U-HAUL at Falcon
 Rolling Thunder Way
 Falcon, CO 80831

SHEET CONTENTS:
 UTILITY PLAN

866077

DRAWN: JRD
 CHECKED: MWE
 DATE: 6/9/23

PCD File #
 PPR-22-56 & SF-22-40

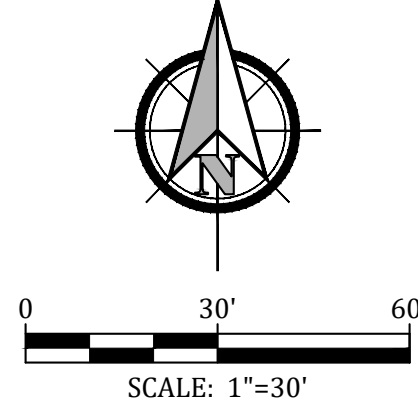
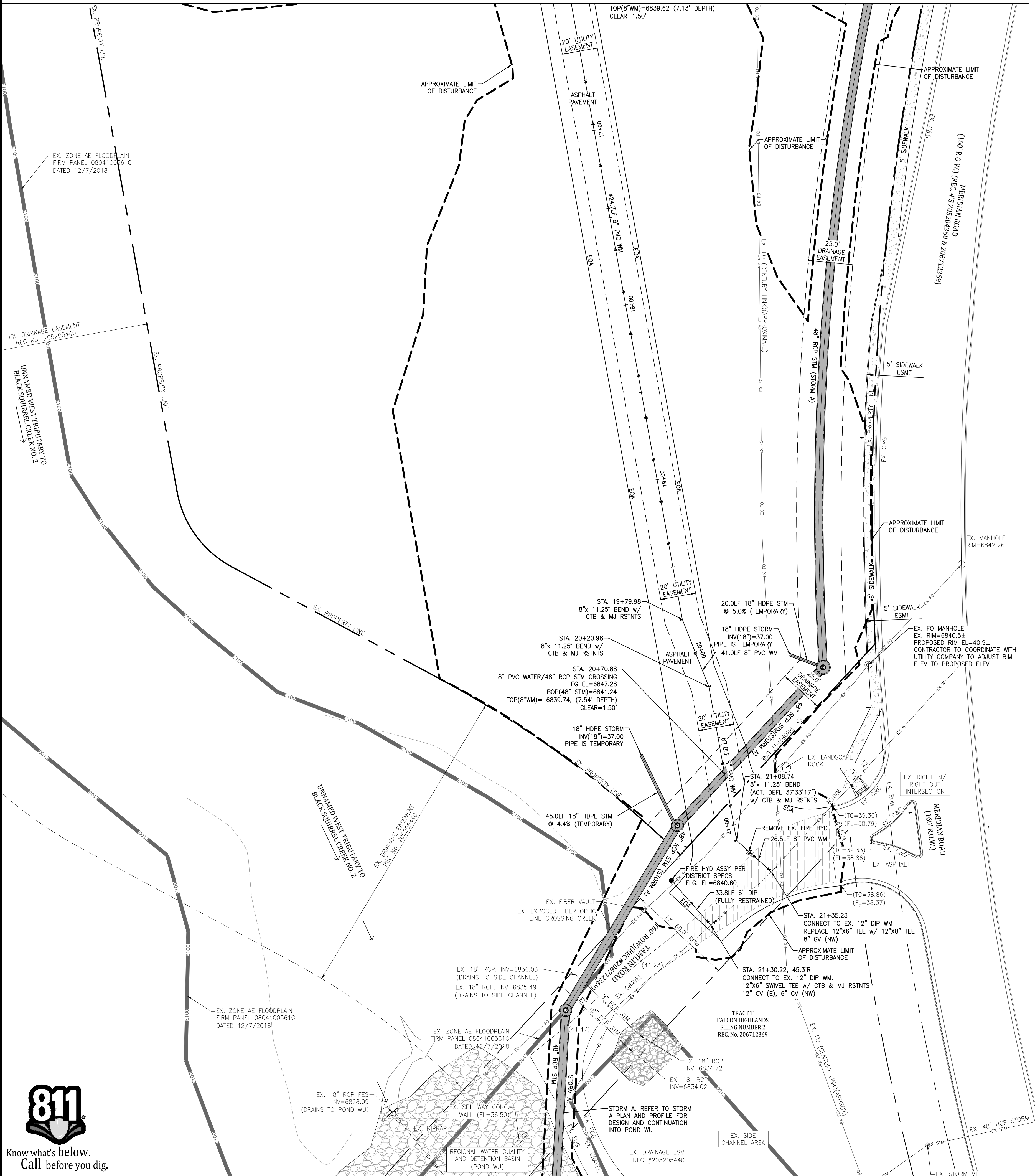
MATCHLINE - SEE SHT C402

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GENERAL NOTES:

REVISIONS:

NO.	DATE	INITIALS	NOTES
1			
2			
3			
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5			
6			
7			
8			

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Call before you dig.

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