

**REQUEST FOR
CONDITIONAL LETTER OF MAP REVISION**

**UNNAMED TRIBUTARY TO
BLACK SQUIRREL CREEK,
FALCON OWL PLACE**

Falcon, Colorado
October 25, 2022

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DBC Project No. 21611-00BLWR

REQUEST FOR CONDITIONAL LETTER OF MAP REVISION
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FALCON OWL PLACE

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1.0 INTRODUCTION

1.1 Background

The following report and supporting documentation are being submitted to FEMA for the purpose of requesting a Conditional Letter of Map Revision (CLOMR) for a portion of the Unnamed Tributary to Black Squirrel Creek (UTBSC) in El Paso County, Colorado.

The Falcon Owl Place consists of approximately 4.6 acres at the southwest corner of Owl Place and Meridian Road as shown in **Figure 1**. The property currently has an address of 11745 Owl Place, and is currently known as Lot 15 of the Falcon Ranchettes. The East Branch of the UTBSC flows southwest across the property and is proposed to be contained within a 10'x6' box culvert that will discharge into the Subregional Pond SR4 recently constructed on the Falcon Marketplace property. A general site layout of the Falcon Owl Place development is shown in the construction drawings included in **Appendix 1**.

The improvements associated with Falcon Owl Place are in general conformance with the Falcon Basin, Drainage Basin Planning Study (Falcon DBPS), prepared by El Paso County in 2015. The hydrologic analysis completed for the Falcon DBPS was used as the basis for the current CLOMR.

The Effective FEMA Flood Insurance Rate Map (FIRM) Number 08041C0553G in **Appendix 7** shows the East Branch of the UTBSC 100-year Zone A floodplain across the western portion of the Owl Place site. This report presents hydrologic and hydraulic study results showing that the proposed 100-year floodplain will be confined within a piped storm drain system (10'x 6' box culvert).

It is the Owner/Developer's intent to comply with all floodplain regulations.

1.2 General Location and Project Description

This CLOMR is limited to the 4.6-acre parcel located at the southwest corner of Owl Place and Meridian Road, SE 1/4 of the SE 1/4 of Section 1, Township 13 S, Range 65 W of the 6th P.M., El Paso County, Colorado. The subject property will be developed with a multi-pad shopping center (Falcon Owl Place).

The Falcon Owl Place development includes regrading the site and rerouting the East Branch of the UTBSC across the site. Approximately 1022 feet of the creek will be impacted by the development, which intercepts the existing creek north of Owl Place and conveys it via a 10'x6' box culvert to an off-site subregional detention pond (SR4). The box culvert is designed to convey the full 100-year discharge.

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Figure 1 – Vicinity Map

1.3 Regulatory Floodplain

The Effective Zone A limits for the East Branch of the UTBSC on the Falcon Owl Place site are defined on Map Number 8041C0553G dated December 7, 2018. No flow rates, floodway data or flood profiles were defined for this section of UTBSC in the effective FIS for El Paso County, Colorado, Revised December 7, 2018.

2.0 PREVIOUS STUDIES

El Paso County completed hydrologic and hydraulic analyses summarized in a report titled Falcon Basin, Drainage Basin Planning Study, Selected Plan Report, Final, September 2015 (Falcon DBPS). The Falcon DBPS encompasses three unnamed tributaries to Black Squirrel Creek, including the “Middle Tributary” which flows across the subject property. Select output from the Falcon DBPS is included in **Appendix 3**.

3.0 HYDROLOGIC ANALYSIS

3.1 Falcon DBPS

The Falcon DBPS completed hydrologic analysis for the Falcon Basin Watershed, using HEC-HMS v3.5 software, for historical, existing, and future land use conditions by applying a 24-hour storm event with 2-, 5-, 10-, 25-, 50-, and 100-year recurrence intervals and current drainage infrastructure. Chapter 3 and Appendix A of the Falcon DBPS include a detailed discussion of the hydrologic analysis. An electronic copy of the HEC-HMS model (File: Aug15_Working_Falcon_DBPS_S.hms) is also provided.

The Falcon DBPS identified Subregional Pond SR4 to be installed on the Falcon Marketplace property. Pond SR4 was constructed in early 2021 and the property floodplain mapping was updated in LOMR Case Number 21-08-0534P.

El Paso County requires regional drainage infrastructure to be sized for future land use conditions. Therefore, peak discharges with existing drainage infrastructure and future land use conditions near Owl Place are summarized in Table 3-1.

Table 3-1. Future Land Use Conditions Peak Discharges near Falcon Owl Place on the Middle Tributary, Falcon DBPS

Model Location	Physical Location	Branch	Proximity to Owl Place	Q100 (cfs)
JMT050	Bent Grass Meadows Drive	Only East Branch	Upstream of Site	850
JMT060	Eastonville Road (Pond SR4 inflow)	Both East and West Branches	Downstream of Site	1,000

3.2 Falcon Owl Place

The Falcon DBPS HEC-HMS model with existing drainage infrastructure and future land use (Existing Conditions) was used as the basis for the Falcon Owl Place hydrologic analysis. The Existing Conditions model was replicated in HEC-HMS version 4.7.1, due to instabilities and runtime issues with the prior, outdated model version (3.5). The Existing model produced 100-year peak flows of 859 and 1,023 cfs upstream (JMT050) and downstream (JMT060) of the site, which are comparable to and more conservative than the 850 and 1,000 cfs in the DBPS. It should be noted that in Existing Conditions, JMT050 is on the East Branch of the Middle Tributary, whereas JMT060 includes flows from both the West and East Branches, immediately upstream of Pond SR4.

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The Falcon watershed did not include a design point on the East Branch immediately upstream of Pond SR4. Therefore, it was necessary to modify the HMS model to obtain a design flow for Owl Place. In the Proposed Conditions basin model, the junction JMT051 was created on the East Branch of the UTBSC at the southern boundary of the Falcon Owl Place property, immediately upstream of Pond SR4.

The lag time and drainage area for Basin MT060 were reduced to 0.077 square miles and 17 minutes, respectively. The length and slope of Routing RMT060 were also updated. The NRCS soils for the proposed basin are Columbine gravelly sandy loam with a Hydrologic Soil Group (HSG) A. The basin is zoned for a combination of 5-acre residential, commercial, and planned unit development (PUD). The nearby PUD (Bent Grass Meadows) is residential with an average lot size of 0.22 acres. Based on TR-55 Table 2-2a, areas with 0.22-acre lots and HSG A have a Curve Number (CN) of 65. However, it is unknown how and when this area will develop in the future. For example, the Owl Place site is currently being rezoned from RR-5 to CS, which would increase the CN from 46 to 89. The future conditions CN of 66 used in the Falcon DBPS is a reasonable representation of the future development potential in the basin and was used in the proposed conditions model.

The hydrologic parameter calculations, base mapping, and select output from the HEC-HMS model is included in **Appendix 4**, and the model files (HEC-HMS file: Falcon_OwlCLOMR.hms) are provided. Proposed peak discharges used for the Falcon Owl Place development are summarized in Table 3-2.

Table 3-2. Proposed Peak Discharges at Falcon Owl Place (East Branch of the UTBSC)

Recurrence Interval	Q100 (cfs)
100-year	920
5-year	288.5

4.0 HYDRAULIC ANALYSIS

4.1 General

The effective FIRM identifies an approximate Zone A floodplain across the Falcon Owl Place property with no flood profiles, discharges, or BFE's defined. The Falcon Owl Place development includes filling and regrading the site and rerouting the East Branch of the UTBSC through a box culvert across the site.

4.2 Vertical Datum

The effective FIRM is on the North American Vertical Datum of 1988 (NAVD88). The ALTA survey completed for the site (Olsson, 2021) and the design and construction

drawings are on the National Geodetic Vertical Datum of 1929 (NGVD29). The Falcon DBPS and the hydraulic analysis for this CLOMR were both completed on the NGVD29. The difference between the NGVD29 and NAVD88 is 3.8 feet on the Falcon Owl Place.

4.3 Horizontal Datum

The field survey, design, construction drawings and hydraulic modeling for the Falcon Owl Place project were completed on the North American Datum of 1983 (NAD83), Colorado State Plane coordinate system, Central Zone.

4.4 Box Culvert Hydraulic Analysis

Under existing and proposed conditions, the East Branch of the UTBSC leaving the Falcon Owl Place site discharges to Pond SR4 on the Falcon Marketplace. The pond was designed for a 100-year discharge of 1,016 cfs, which includes both West and East branches of the UTBSC. The 100-year water surface elevation upstream of the pond as shown in the LOMR is 6902.5 (NAVD88), or 6898.7 (NGVD29). The starting HGL for the box culvert analysis was conservatively placed at the top of pipe elevation of 6895.84 feet (NGVD29) for analyzing flows to the East branch only. However, an additional analysis was performed with a starting HGL of 6898.7, to evaluate the backwater effects from the pond.

StormCAD was used to evaluate the hydraulic performance of the 10'x6' box culvert. The profile and output for the 100-year storm event is included in **Appendix 5**, and the model files are provided.

4.5 Existing and Proposed Owl Place Culverts

The East Branch of the UTBSC is currently conveyed under Owl Place via two 36" CMP near the northeast corner of the site. The HY-8 software was used to analyze the existing culverts for the 100-year storm event.

The 2-36" CMP culverts are severely undersized and partially filled with sediment as shown in the photo below. The culverts only convey 86-95 cfs, depending on tailwater depth. The remaining flow (approximately 825-834 cfs) in the 100-year event overtops Owl Place. The proposed box culvert will convey the entire 100-year event (920 cfs) with an HGL of 6911.31 at the proposed headwall upstream of Owl Place, which is more than one foot below Owl Place and contained within the existing and proposed channel upstream. Channel grading will be required for approximately 30 feet to tie into the existing creek profile upstream. The channel side slopes will be reduced from approximately 5.5H:1V to 1.8H:1V and protected with riprap.

The HY-8 output is included in **Appendix 5** and the model file (Owl Place.hy8) is provided.

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Existing 2-36" CMP under Owl Place (Upstream Inlets)

5.0 NFIP REGULATION COMPLIANCE

5.1 Floodplain Work Map and Annotated FIRM

The effective Zone AE 100-year floodplain delineation for the UTBSC terminates at the boundary between the Falcon Marketplace and Falcon Owl Place properties and represents flows from both West and East branches. No changes are proposed to the Zone AE floodplain. The 100-year flood discharge for the East Branch is contained in the proposed culvert. Therefore, the Zone A floodplain for this branch has been removed, and the split between the Zone A floodplains for the West and East branches is denoted in the Annotated FIRM. The effective and proposed UTBSC floodplains are delineated on the Floodplain Work Map and Annotated FIRM in **Appendix 7**.

5.2 Forms and Notifications

The appropriate FEMA forms are located in **Appendix 6**. Modifications to 100-year floodplain elevations and delineations are limited to the Falcon Owl Place development. Furthermore, there are no proposed increases to the BFE's or floodplain extents. Therefore, individual legal notices are not required for this CLOMR submittal.

5.3 Compliance with Section 65.12

Although there are no increases to BFE's due to the proposed project, an alternatives evaluation was performed to evaluate options for closed conduit and open channel conveyance of the East Branch of the UTBSC. The alternatives evaluation can be provided upon request.

Furthermore, no structures are located in areas that would be impacted by the floodplain modifications proposed by this CLOMR.

5.4 Endangered Species Act (ESA)

ESA Compliance information is provided in **Appendix 8**.

6.0 CONCLUSIONS

The Falcon Owl Place development will relocate a portion of the East Branch of an Unnamed Tributary of Black Squirrel Creek (Middle Tributary). This report and supporting documentation are being submitted to FEMA for the purpose of requesting a CLOMR to conditionally change the floodplain in accordance with NFIP regulations.

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7.0 REFERENCES

City of Colorado Springs/El Paso County, *Drainage Criteria Manual*, Revised January 2021.

FEMA, *FIRM Number 08041C0553G, El Paso County, Colorado and Incorporated Areas*, Revised December 7, 2018.

FEMA, *FIS Number 08041CV001A, El Paso County, Colorado and Incorporated Areas*, Revised December 7, 2018.

Hydraflow Storm Sewers Extension for Autodesk Civil 3D, Version 12.

Matrix Design Group, *Falcon Drainage Basin Planning Study, Selected Plan Report, Final*, September 2015.

Olsson, *ALTA Survey for Lot 15, Falcon Ranchettes*, September 30, 2021.

USACE, *Hydraulic Modeling System (HEC-HMS), Version 4.7.1, Build 11161*, January 14, 2021.

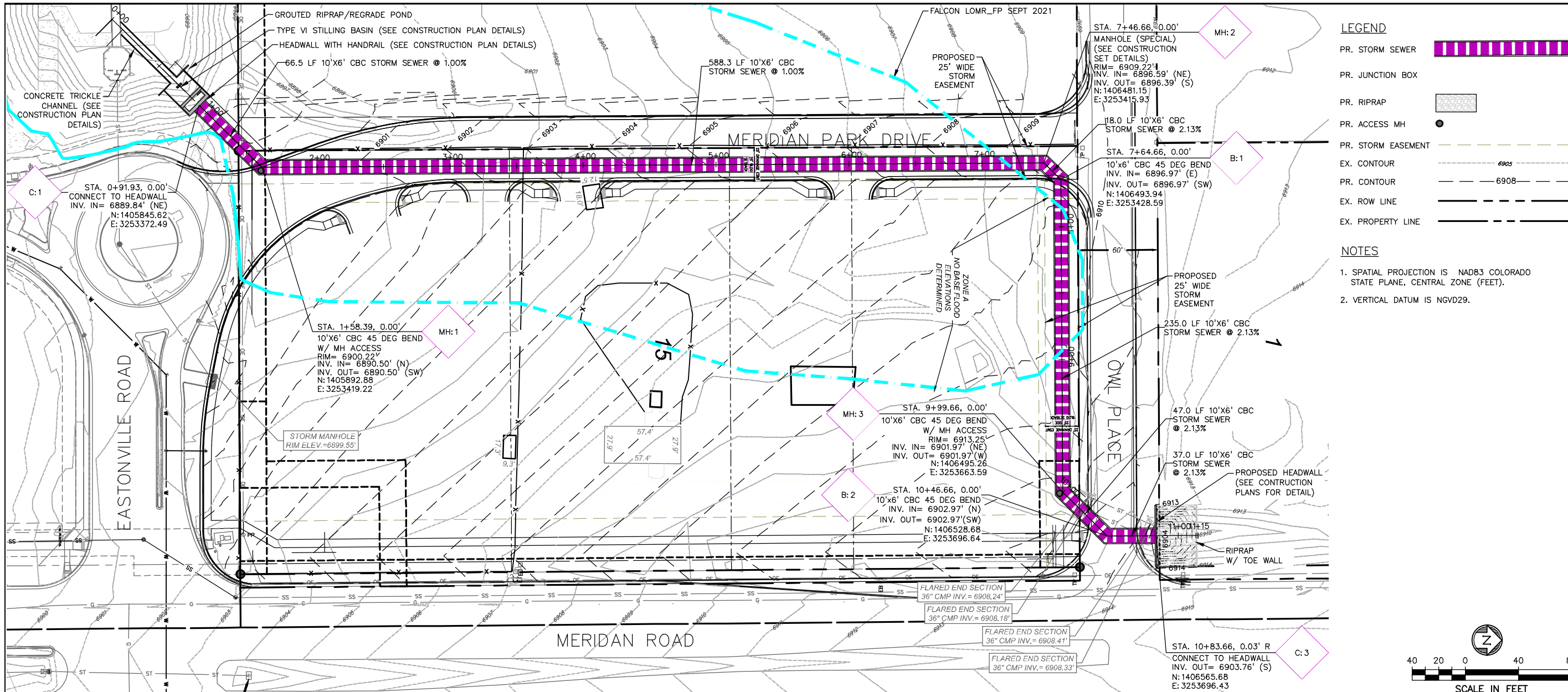
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APPENDICES

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APPENDIX 1

CONSTRUCTION DRAWINGS



LEGEND

- PR. STORM SEWER
- PR. JUNCTION BOX
- PR. RIPRAP
- PR. ACCESS MH
- PR. STORM EASEMENT
- EX. CONTOUR
- PR. CONTOUR
- EX. ROW LINE
- EX. PROPERTY LINE

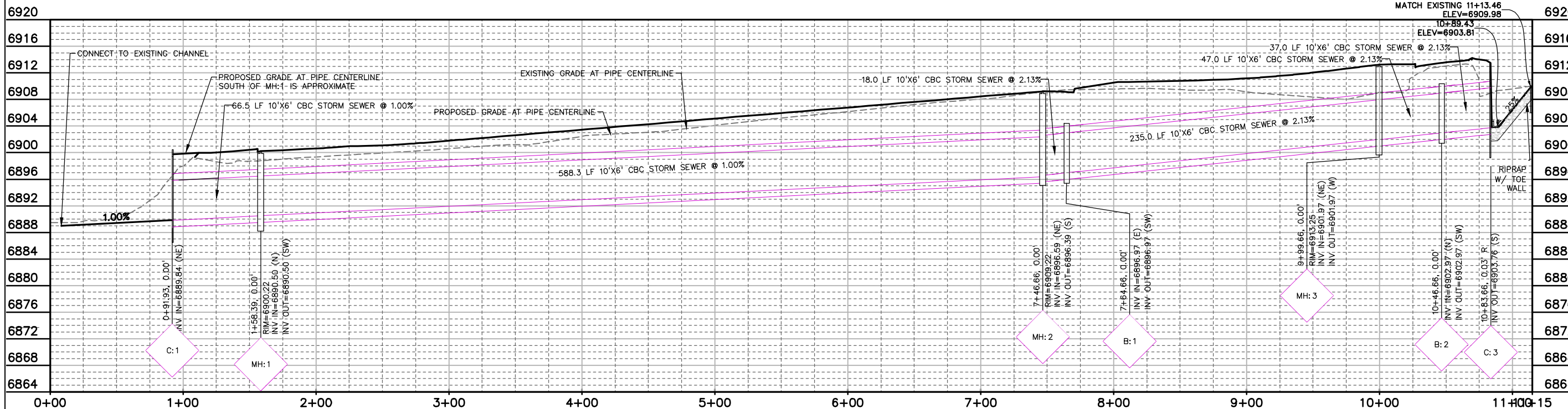
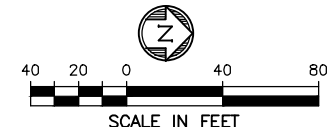
NOTES

- SPATIAL PROJECTION IS NAD83 COLORADO STATE PLANE, CENTRAL ZONE (FEET).
- VERTICAL DATUM IS NGVD29.

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 COLORADO SPRINGS

OWNER/CLIENT:
 LUBERTUS HAYENGA
 BHR INVESTMENTS, LLC
 106 S. KYRENE RD., STE 2
 CHANDLER, AZ 85226

EXHIBIT FOR:
FALCON
OWL PLACE
 FALCON, COLORADO



ISSUE	DATE
EXHIBIT	10/17/22

DESIGNED BY: MLI
 DRAWN BY: CAF
 CHECKED BY: MLI
 FILE NAME: EX01

NOT FOR CONSTRUCTION

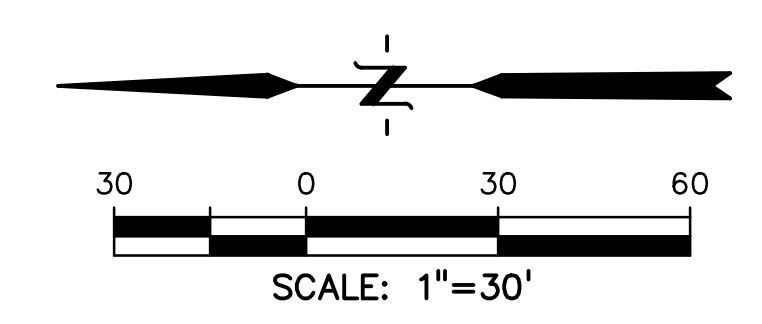
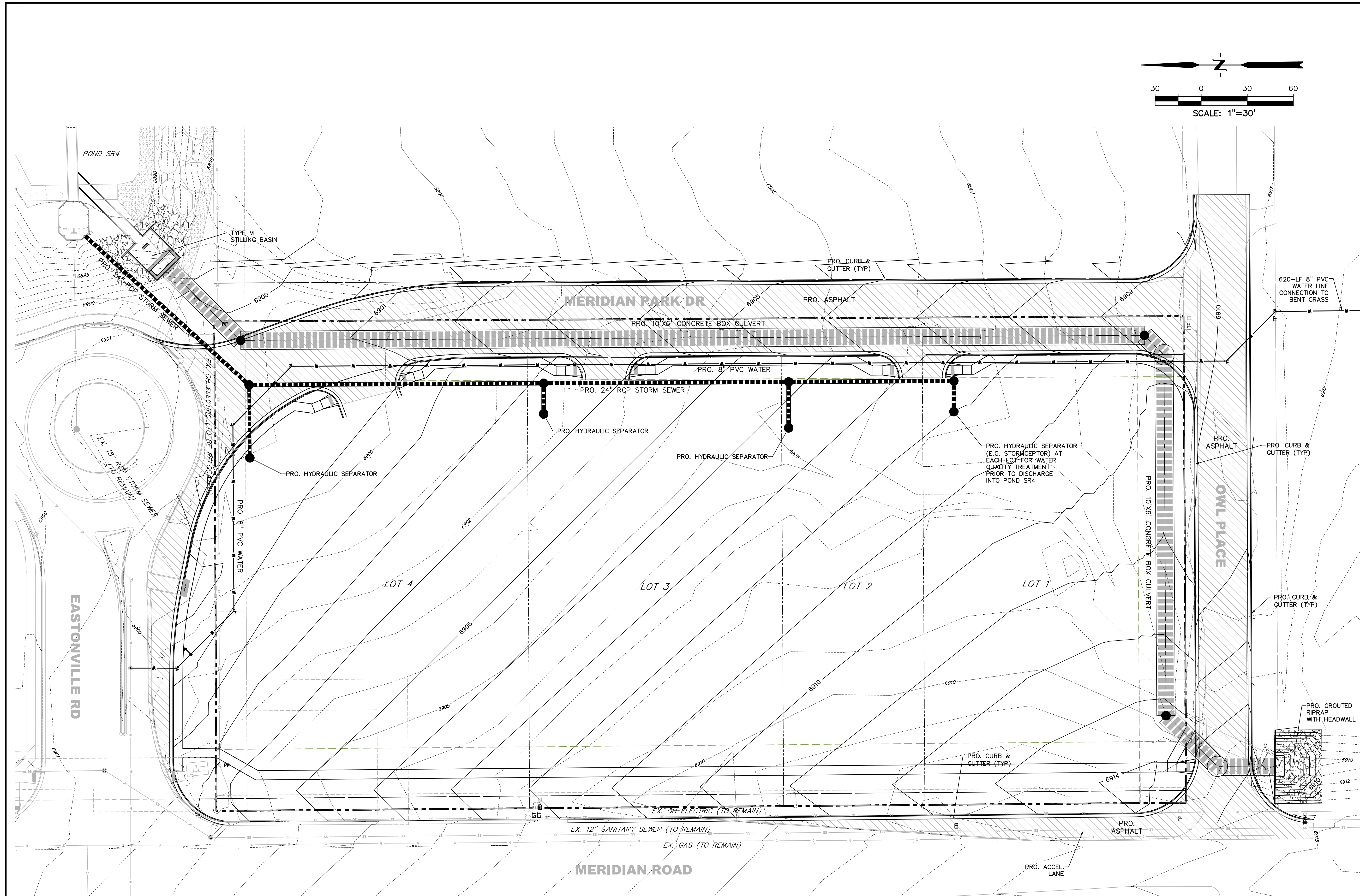
DRAWING SCALE:
 HORIZONTAL: SEE PLAN
 VERTICAL: SEE PLAN

PIPE SYSTEM EXHIBIT

PROJECT: 21611-00BLWR
 DRAWING NO.

EX01

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PREPARED BY:



CLIENT:

CONSTRUCTION PLANS FOR:
FALCON OWL PLACE
FALCON, COLORADO

ISSUE	DATE
EXHIBIT	10/14/22
DESIGNED BY:	TDM
DRAWN BY:	KGV
CHECKED BY:	TDM
FILE NAME:	21611-SP

PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON BEHALF OF DREXEL, BARRELL & CO.
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VERTICAL: N/A

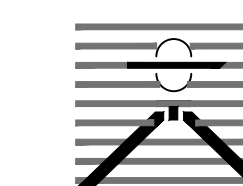
PRELIMINARY
SITE PLAN

PROJECT NO. 21611-01CSCV
DRAWING NO.

SP

SHEET: 1 OF 1

PREPARED BY:



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CONTACT: TIM D. MCCONNELL, P.E.
(719)260-0887
COLORADO SPRINGS • LAFAYETTE

CLIENT:

CONSTRUCTION PLANS FOR:
FALCON OWL PLACE
FALCON, COLORADO

Table with 2 columns: ISSUE, DATE. Row 1: EXHIBIT, 10/14/22

DESIGNED BY: TDM
DRAWN BY: KGV
CHECKED BY: TDM
FILE NAME: 21611-STD
NOT FOR CONSTRUCTION
PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON BEHALF OF DREXEL, BARRELL & CO.

DRAWING SCALE:
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VERTICAL: N/A
PRELIMINARY STORM CULVERT DETAILS
PROJECT NO. 21611-01CSCV
DRAWING NO.

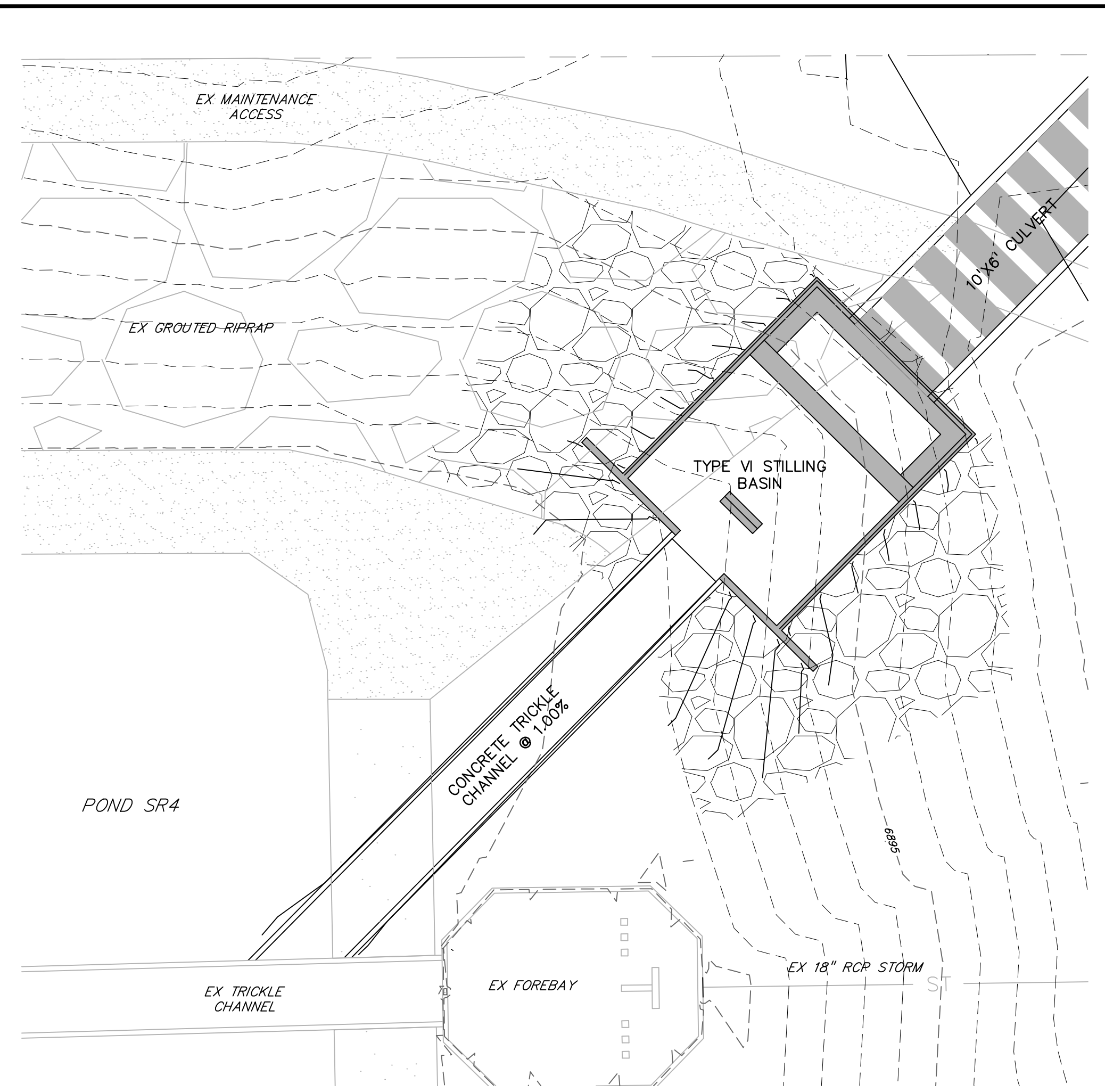
DT1
SHEET: 1 OF 2

Technical drawing for Headwall for Pipes. Includes diagrams for typical bar layout, rigid round pipe, flexible pipe arch, and flexible round pipe. Includes tables for dimensions and quantities.

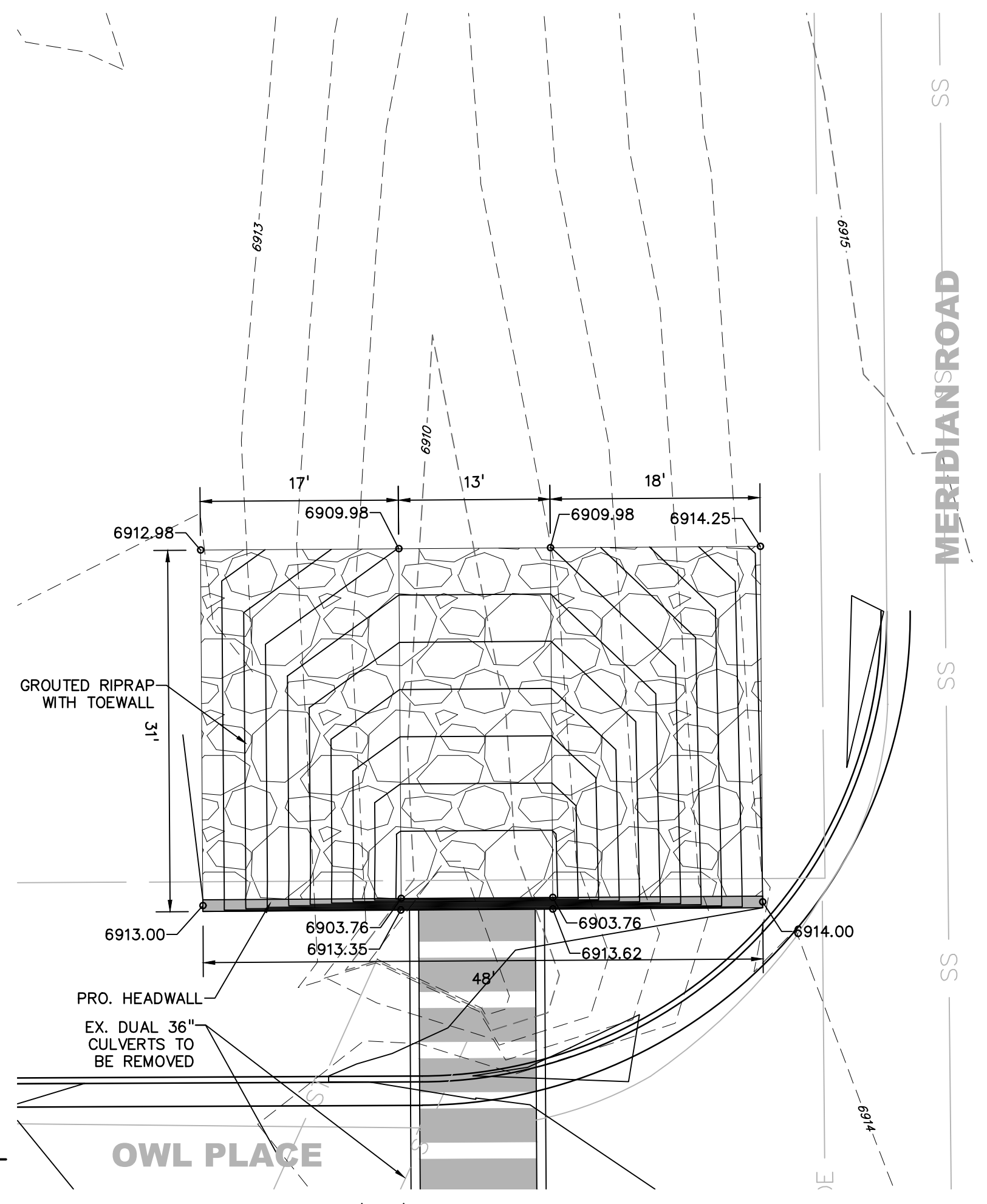
Technical drawing for Headwalls and Pipe Outlet Paving. Includes diagrams for single and double pipe installations, and pipe outlet paving. Includes tables for pipe diameters, concrete quantities, and pipe outlet paving.

Technical drawing for Storm Sewer Manhole Detail Type I Standard Drawing. Includes section and base reinforcing views. Includes table for pipe ID and BW. Includes notes and scale.

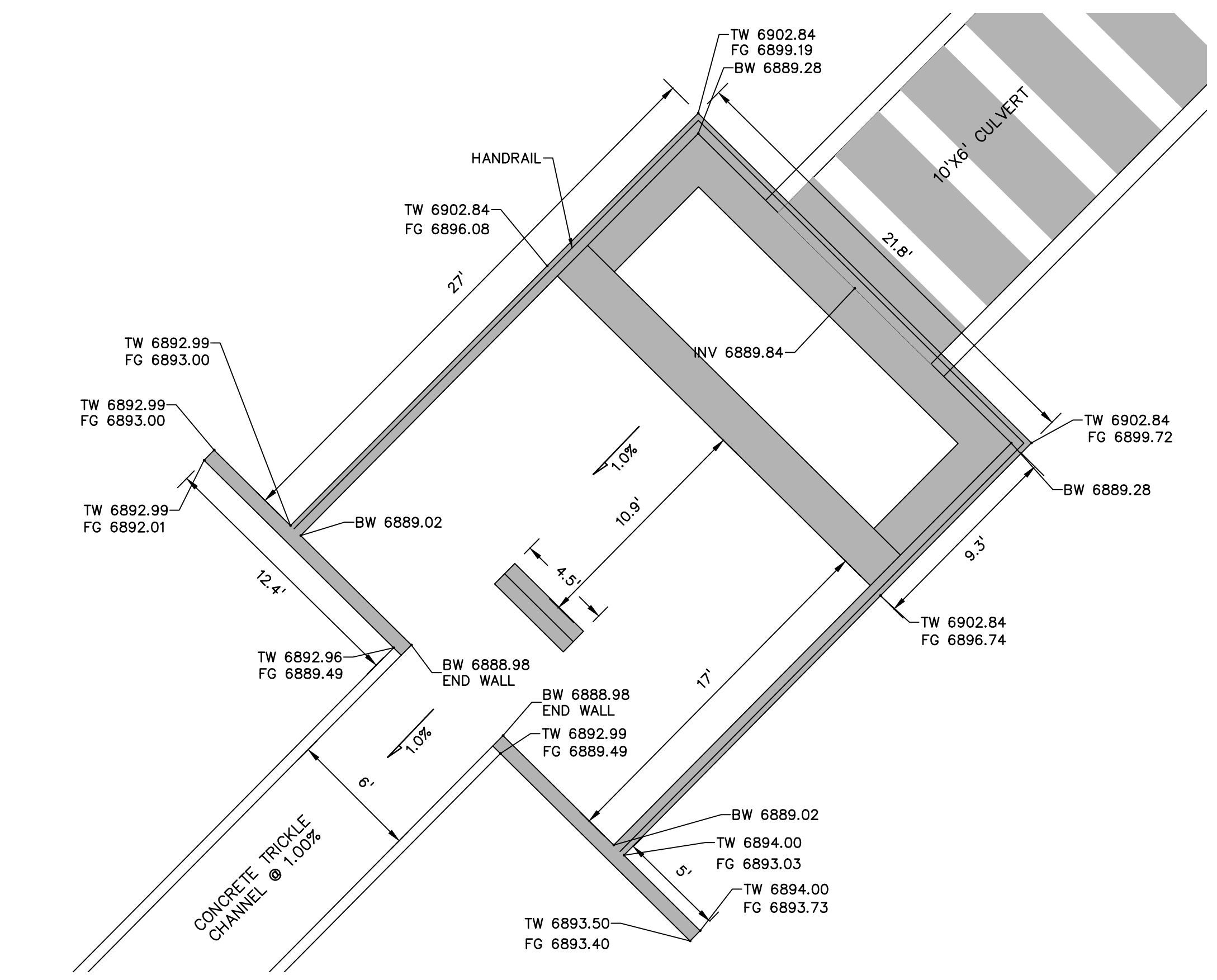
Technical drawing for Storm Sewer Manhole Detail Type III Standard Drawing. Includes plan, section, and R.C.P. connection detail views. Includes notes and scale.



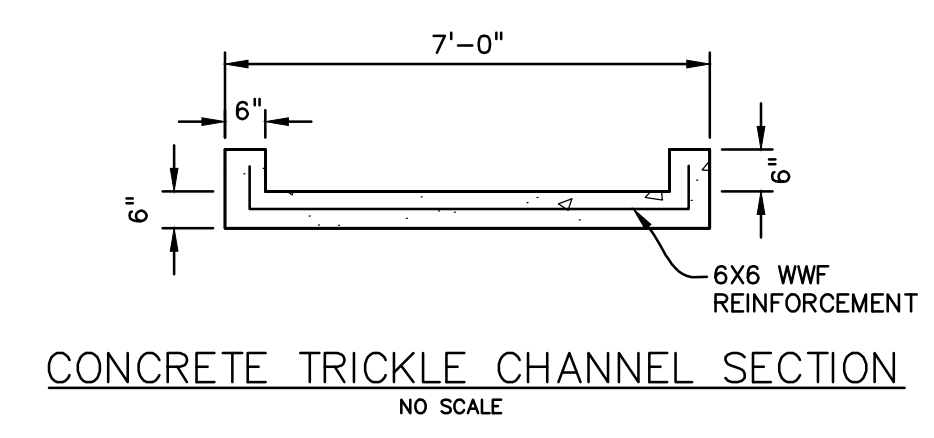
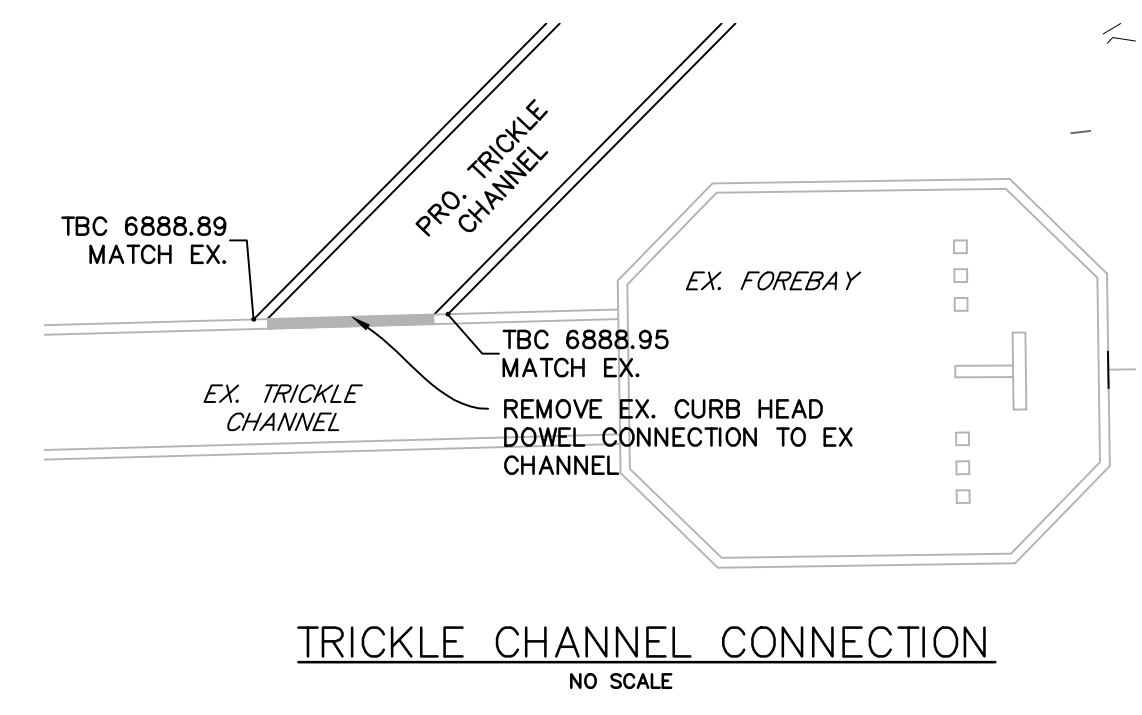
10'X6' CULVERT OUTLET
SCALE: 1"=10'



10'X6' CULVERT INLET
SCALE: 1"=10'



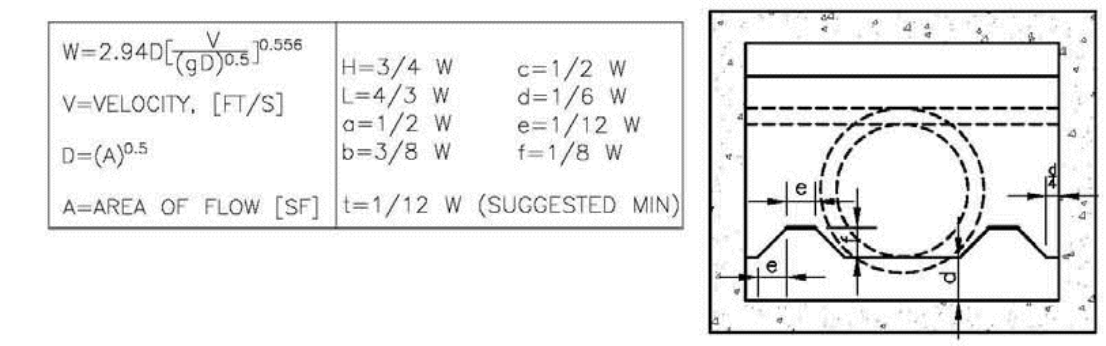
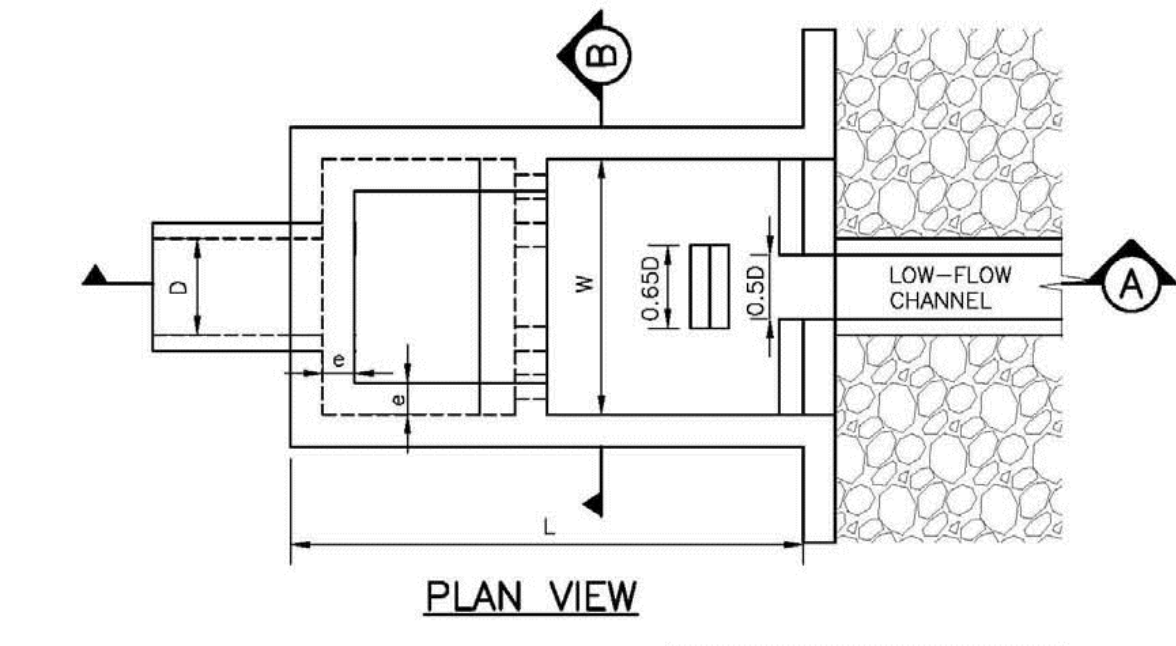
STILLING BASIN DETAIL
SCALE: 1"=5'



NOTES:
1. ALL ELEVATIONS ARE REFERENCED TO THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD29)

Hydraulic Structures

Chapter 9



$W = 2.84D \left(\frac{V}{gD} \right)^{0.206}$
 $V = \text{VELOCITY, [FT/S]}$
 $D = (A)^{0.5}$
 $A = \text{AREA OF FLOW [SF]}$
 $H = 3/4 W$
 $L = 4/3 W$
 $a = 1/2 W$
 $b = 3/8 W$
 $c = 1/2 W$
 $d = 1/6 W$
 $e = 1/12 W$
 $f = 1/8 W$
 $t = 1/12 W$ (SUGGESTED MIN)

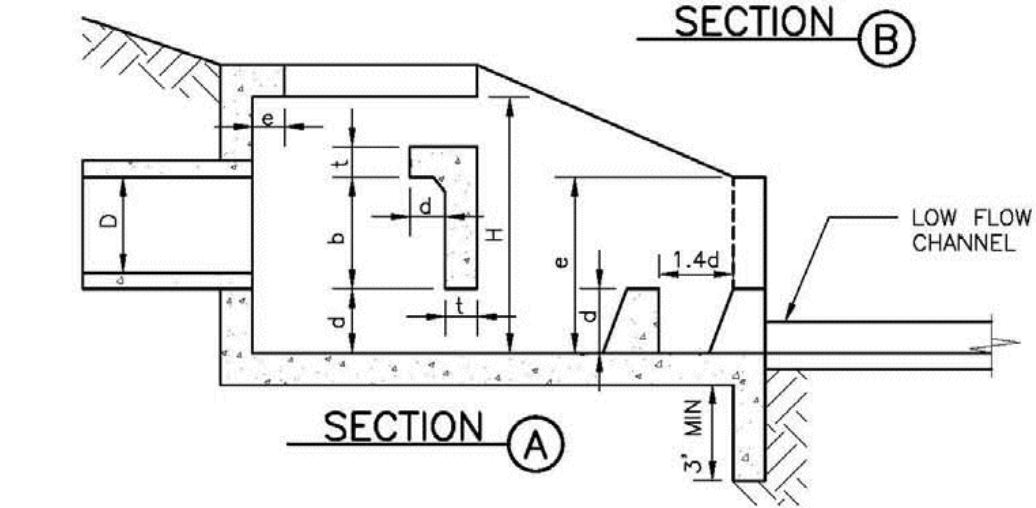


Figure 9-45. UDFCD modified USBR type VI impacts stilling basin (general design dimensions)

9-84

Urban Drainage and Flood Control District
Urban Storm Drainage Criteria Manual Volume 2

September 2017

PREPARED BY:



CLIENT:

CONSTRUCTION PLANS FOR:
FALCON OWL PLACE
FALCON, COLORADO

ISSUE	DATE
EXHIBIT	10/14/22
DESIGNED BY:	TDM
DRAWN BY:	KGV
CHECKED BY:	TDM
FILE NAME:	21611-SDT

PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON BEHALF OF DREXEL, BARRELL & CO.
DRAWING SCALE:
HORIZONTAL: 1" = 10'
VERTICAL: N/A

PRELIMINARY STORM CULVERT DETAILS

PROJECT NO. 21611-01CSCV
DRAWING NO.

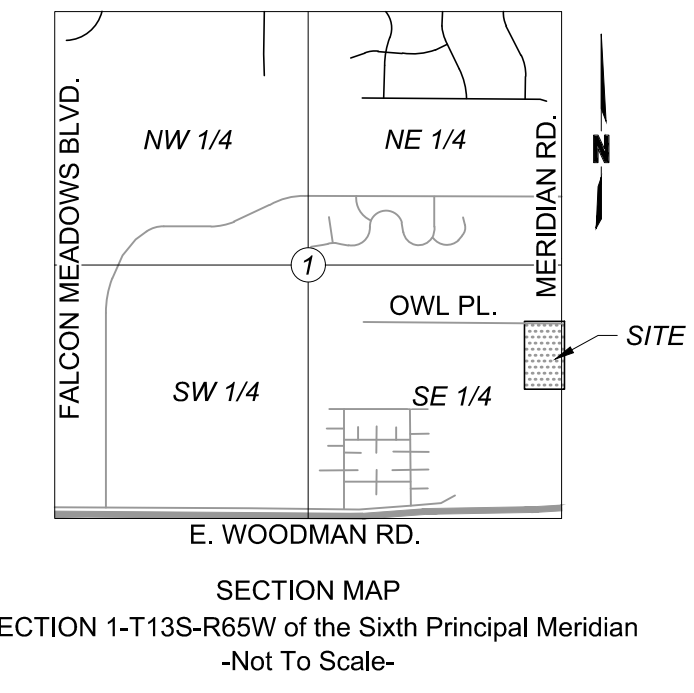
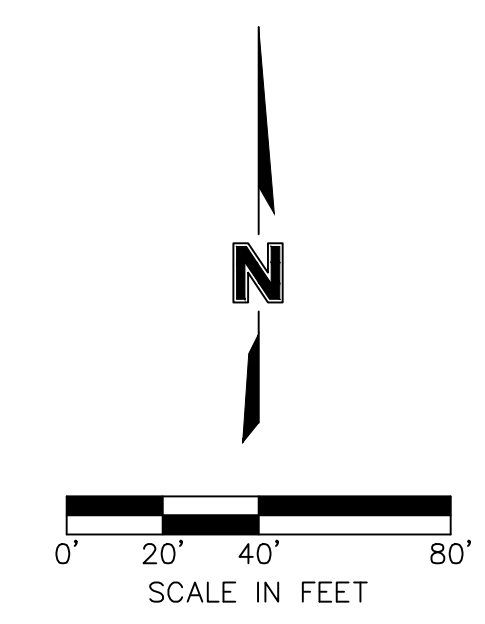
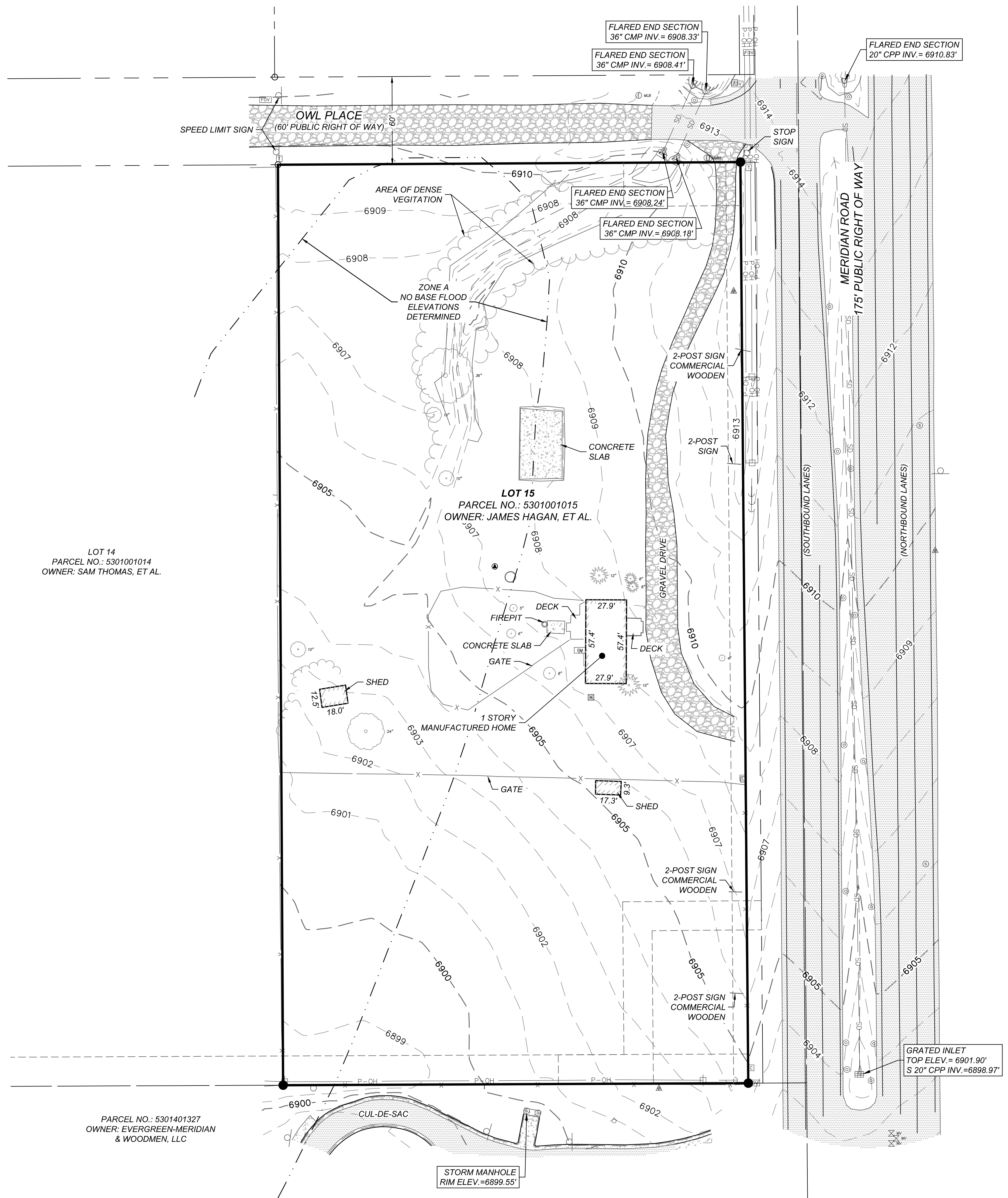
DT2

SHEET: 2 OF 2

ALTA / NSPS Survey

LOT 15, FALCON RANCHETTES

Part of the Southeast Quarter of Section 1, Township 13 South, Range 65 West of the 6th Principal Meridian
Located in the Town of Falcon, County of El Paso, Colorado



LEGEND

- ▲ Control Point (As-Described)
- Found Monument
- Section Corner
- ⊙ Bollard
- ⊕ Electric Meter
- ▲ Electric Transformer
- ▭ Fiber-Optic Vault
- ▭ Fiber-Optic Valve
- Guy Wire
- Ⓜ Mailbox
- ⊕ Power Pole
- ⊙ Reflector Post
- ⊙ Sanitary Manhole
- ⊙ Storm Manhole
- ⊙ Single Support Sign
- Ⓜ Telephone Pedestal
- ⊙ Water Manhole
- ⊕ Water Valve
- Storm Drain Pipe (As-Described)
- Right-of-Way Line
- Parcel Line
- Easement Line
- Underground Gas
- Overhead Power
- Barbed-Wire Fence
- Chain Link Fence
- Wrought Iron Fence

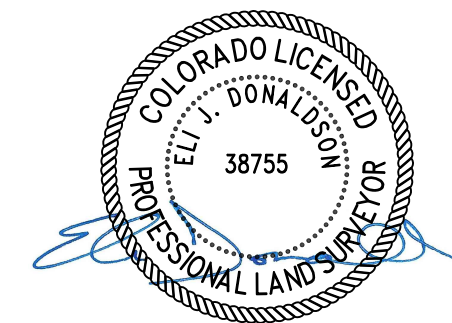
LOT 14
PARCEL NO.: 5301001014
OWNER: SAM THOMAS, ET AL.

PARCEL NO.: 5301401327
OWNER: EVERGREEN-MERIDIAN
& WOODMEN, LLC

GRADED INLET
TOP ELEV. = 6901.90'
S 20° CPP INV. = 6898.97'

STORM MANHOLE
RIM ELEV. = 6899.55'

DWC: F:\2021\06501-07000\021-06643\40-Design\Survey\SRVY\Sheets\V_XALT_02106643.dwg
DATE: Oct 01, 2021 12:03pm
USER: edonadison
XREFS: V_XTOPD_02106643 V_XBNDY_02106643



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811
Know what's below.
Call before you dig.
CALL 811 SEVENTY-TWO HOURS PRIOR TO DIGGING, GRADING OR EXCAVATING FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

REV. NO.	REVISIONS DESCRIPTION	DATE

ALTA / NSPS LAND TITLE SURVEY JB Partners CS, LLC	PROJECT TITLE PHASE OR ADDITION 2021
FALCON, COLORADO	
drawn by: DMW	checked by: EJD
approved by: EJD	QA/QC by: EJD
project no.: 021-06643	drawing no.: V_XALT_02106643
date: 09.29.2021	

**REQUEST FOR CONDITIONAL LETTER OF MAP REVISION
UNNAMED TRIBUTARY TO BLACK SQUIRREL CREEK
Falcon Owl Place**

APPENDIX 2

FEMA COMMENT RESPONSES

October 17, 2022

**Subject: Falcon Owl Place CLOMR Application, Case No. 22-08-0669R
Response to FEMA A.D. Request dated August 19, 2022**

Dear Ms. Duran:

Drexel, Barrell & Co. (DBC) received a letter from FEMA and CWCB on August 19, 2022 which provides comments on the **Falcon Owl Place CLOMR**, originally submitted on June 27, 2022. CDM/CWCB evaluated the submittal and requires corrections and additional data within 90 days. The comments are summarized below, followed by DBC responses in **bold italics**.

1. Our review of the submitted proposed conditions HEC-HMS hydrologic analysis revealed the following issues. Please submit a revised hydrologic analysis that corrects these issues.
 - a. Please submit a duplicate effective model of the effective hydrologic analysis completed with LOMR 21-08-0534P. Please do not truncate this model when making revisions. Please add the proposed subbasin and junctions upstream of Pond SR4 in the proposed condition HEC-HMS model.

The effective hydrologic analysis was performed in an outdated version of HEC-HMS (3.5), and it is not feasible or practical to revise this version. For this reason, a duplicate effective (DE) model was recreated in a newer version of HEC-HMS (4.7.1), and a comparison was provided between effective and duplicate effective model results. The prior effective model in version 3.5 has been submitted for reference. The existing conditions DE basin model was revised to keep the effective junction locations, and a new junction was added for proposed conditions.

- b. Our review revealed that the basins in the HEC-HMS hydrologic model were not given descriptive names and it is difficult to determine which basin should be reviewed. For the basins, please use descriptive names such as "Existing Conditions" and "Proposed Conditions".

The basin names have been revised to existing and proposed.

- c. Our review of the certified drainage area map revealed that the sub basins do not appear to be supported by the topographic contours included. Please provide a revised drainage area map that clearly follows contours and is smooth.

The topographic contours provide a general direction of surface flow. However, there are streets, culverts, and storm drainage infrastructure that informed the proposed basin delineation (in addition to the contours). In addition, the existing basin delineation for MT060 was taken from the Falcon DBPS. Notes have been added to the DA map for clarity.

- d. Our review of your submittal revealed that backup information for the parameters in the hydrologic model was not provided. This information includes curve number calculations for the new subbasin. Please provide this information to support the hydrologic analysis.

The CN value of 66 for Basin MT060 used in the effective model was used for both existing and proposed conditions. More supporting soils and land use information for this value has been provided.

2. Our review of the submitted existing conditions HY-8 hydraulic analysis for the Owl Place culvert revealed the following issues. Please submit a revised analysis that corrects the following.

- a. Please adjust the model to calculate results for a design flow of 920 cubic feet per second (cfs).

The HY-8 model was adjusted to include the design flow of 920 cfs.

- b. Please provide supporting documentation verifying that the overtopped flow from the Owl Place culvert is fully captured in the proposed junction box. If it is determined that the flood waters are not captured in the junction box, please provide a floodplain analysis and subsequent floodplain delineation that follows the corresponding flow path. The modeling of the Owl Place culvert in the submitted existing conditions HY-8 model does not agree with the submitted as-built drawings for the culvert. Our review revealed the culvert length shown on the submitted proposed plans entitled, "Pipe System Exhibit," prepared by Drexel, Barrell

& Co., dated June 2022, is 47.2 feet, but the HY-8 models the Outlet Station is 50 feet. Please adjust the outlet station to be consistent with the as-built plans.

The culvert was extended further upstream under Owl Place to ensure that the floodplain is contained through the crossing and within the roadside ditch along Meridian Drive.

- c. Please show the vertical datum, North American Vertical Datum of 1988 (NAVD88), in the description box of the HY-8 model or provide a statement certifying the datum of this model.

The vertical datum was added to the HY-8 model.

3. Our review revealed that the hydraulic model submitted is not a FEMA accepted model. Please refer to the attached, "Numerical Models Meeting the Minimum Requirements of National Flood Insurance Program," and submit a hydraulic analysis using one of these approaches. Also, please submit any backup information required for the modeling. Please submit an existing and proposed conditions hydraulic model so that the project impacts can be determine.

There is no existing pipe system. The proposed pipe system was modeled in StormCAD.

4. Our review of the submitted certified topographic work map entitled, "CLOMR Floodplain Work Map," prepared by Drexel, Barrel & Co., dated May 2022, revealed the following issues. Please submit a revised work map that has been certified by a Professional Engineer registered in the State of Colorado (P.E.).

- a. Our review revealed the proposed floodplain boundary does not follow contours. Please show smooth graphical tie-ins between the proposed and effective flood hazard boundary delineations at the upstream end of the revised reach. Please ensure that the proposed delineations tie-in directly to the effective delineations and follow the proposed conditions topographic contours. Please ensure enough contours are provided to verify the placement of the proposed floodplain delineation.

Contours have been added to the work map for clarity.

- b. Please remove the historic effective floodplain delineation, labeled "Effective 100-YR Floodplain", and only show the currently effective delineation from LOMR 21-08-0534P.

The historic floodplain has been removed.

- c. Please show the proposed topographic contours in a different color than the existing contours and show how the proposed contours tie-in with the existing.

The proposed topographic contours were added to the work map and differentiated from the existing contours by line type.

- d. Please submit a revised work map that has been certified by a registered P.E.

The revised work map is provided and stamped.

5. To assist our review and to expedite processing of this request, please provide digital Computer-Aided Design (CAD) or Geographic Information System (GIS) data that reflect the revised topographic work map. Please ensure the digital data are spatially referenced and cite what projection (coordinate system, example: UTM/State Plane) was used, so that the data may be used for accurate mapping. The important data to show on the digital work map are the contour information, the stream centerline, the road crossings and hydraulic structures, the effective and proposed flood hazard delineations and the tie-in locations. Everything should be clearly labeled, and all information should be contained within the drawing and not externally referenced.

The digital CAD data is provided.

6. Based on any changes to the certified work map due to the resolution of the items above, please submit an updated annotated Flood Insurance Rate Map (FIRM) on the FIRM panel 08041C0553G revised by effective LOMR 21-08-0534P. Please ensure that the annotated FIRMs show graphical tie-ins at the upstream and downstream extents of the revision reach and reflect any changes that result from resolving comments above. Please include the title block of the FIRM on the exhibit

The updated annotated FIRM is provided.

Falcon Owl Place CLOMR Submittal
August 19, 2022 Request for Additional Data
October 17, 2022

3

Please contact us with any questions or matters needing clarification.

Sincerely,
Drexel, Barrell & Co.

Michelle Iblings

Michelle Iblings, P.E., CFM
Associate, Water Resources Group Leader

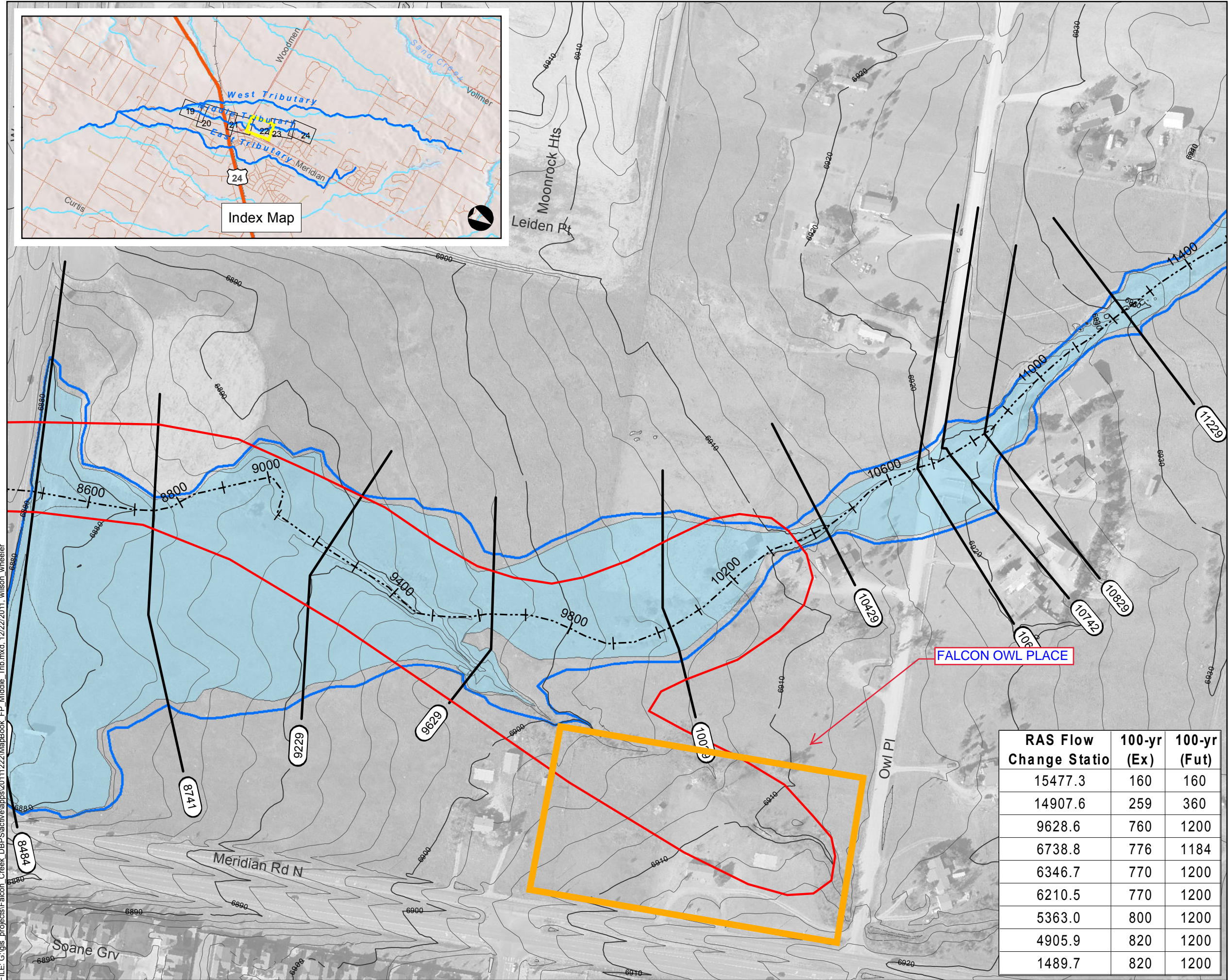
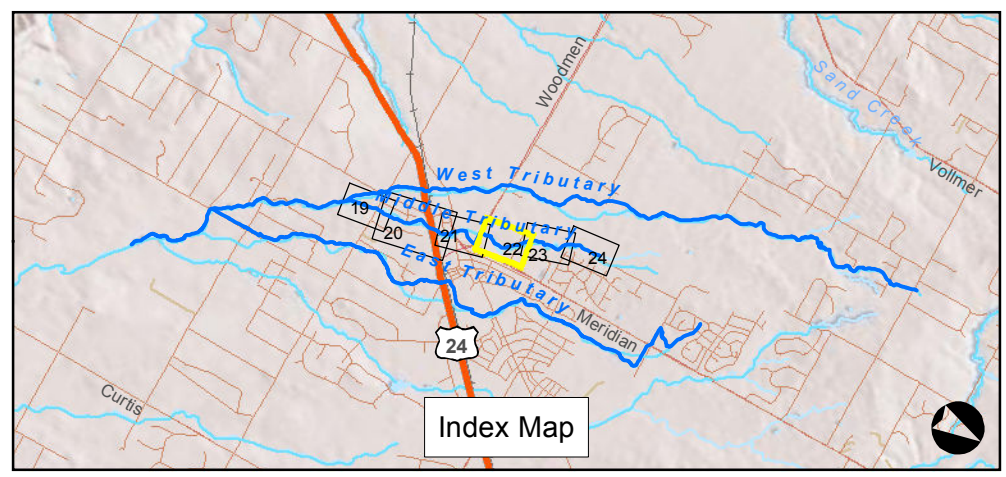
**REQUEST FOR CONDITIONAL LETTER OF MAP REVISION
UNNAMED TRIBUTARY TO BLACK SQUIRREL CREEK
Falcon Owl Place**

APPENDIX 3

FALCON DBPS

Sheet 4-22

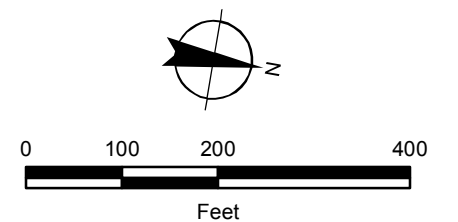
Middle Tributary Floodplain Falcon DBPS El Paso County, CO



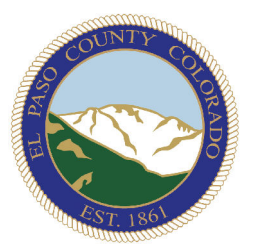
Legend

- Approximate 100-yr Floodplain Existing
- Approximate 100-yr Floodplain Existing (Based on Assumed Split Flow Condition)
- Approximate 100-yr Floodplain Future
- Approximate 100-yr Floodplain Future (Based on Assumed Split Flow Condition)
- Shallow Flooding
- HEC-RAS Centerline
- XSCutLines (Middle Trib)
- FEMA Regulatory Floodplain (Effective as of 1999)*
- Study Limit

*Letters of Map Change completed after 1999 are not shown



RAS Flow Change Statio	100-yr (Ex)	100-yr (Fut)
15477.3	160	160
14907.6	259	360
9628.6	760	1200
6738.8	776	1184
6346.7	770	1200
6210.5	770	1200
5363.0	800	1200
4905.9	820	1200
1489.7	820	1200



FILE: G:\vis_projects\Falcon_Creek_DBPS\active\apps\20111222\MapBook_FP_Middle_Trib.mxd, 12/22/2011, wilson_wheeler

Falcon DBPS
Subbasin Properties

Subbasin ID	Area (mi ²) ²	Existing % Impervious ³	Curve Number ³			Lag Time (min)		
			Historical	Existing	Future	Historical ⁴	Existing ²	Future ⁵
ET010	0.15	21.72%	61	69	72	33.64	25.23	18.92
ET020	0.21	19.07%	61	68	73	23.15	17.37	13.02
ET030	0.20	27.31%	41	71	72	42.61	31.96	23.97
ET040	0.15	20.35%	42	69	69	29.71	22.28	22.28
ET050	0.12	19.07%	39	68	68	10.36	7.77	7.77
ET060	0.29	21.94%	39	69	69	7.38	5.54	5.54
ET070	0.25	26.60%	39	71	71	10.51	7.88	7.88
ET080	0.29	37.81%	39	75	76	25.98	19.49	14.61
ET090	0.12	12.34%	39	61	74	54.90	41.18	30.88
ET100	0.05	3.12%	39	48	63	10.67	8.00	6.00
ET110 ¹	0.23	1.49%	39	54	61	25.68	25.68	19.26
ET120	0.11	6.79%	39	60	61	38.28	28.71	21.53
ET130	0.13	6.57%	39	61	63	61.63	46.22	34.67
ET140	0.27	3.21%	39	61	63	92.13	69.09	51.82
ET150 ¹	0.18	1.79%	39	62	62	25.39	25.39	25.39
ET160	0.19	3.36%	42	64	64	41.04	30.78	30.78
FS010	0.12	1.16%	44	49	56	41.23	30.92	23.19
MT010	0.29	6.99%	45	64	64	42.16	31.62	31.62
MT020 ¹	0.09	1.48%	57	62	68	12.94	12.94	9.71
MT030	0.16	13.35%	54	66	67	19.92	14.94	11.21
MT040	0.31	7.07%	55	64	75	35.44	26.58	19.93
MT050	0.12	16.00%	39	67	67	34.84	26.13	26.13
MT060 ¹	0.19	1.83%	39	55	66	27.90	27.90	20.93
MT070	0.20	5.68%	42	59	67	54.09	40.57	30.42
MT080	0.06	63.24%	48	86	87	6.91	5.18	3.88
MT090	0.04	60.08%	39	83	85	4.92	3.69	2.77
MT100	0.06	13.21%	39	67	70	21.19	15.89	11.92
MT110	0.12	18.56%	39	68	68	32.51	24.38	24.38
WT010 ¹	0.14	2.31%	56	58	58	24.38	24.38	24.38
WT020 ¹	0.07	2.39%	56	59	59	27.95	27.95	27.95
WT030	0.08	3.57%	57	59	59	17.99	13.49	13.49
WT040 ¹	0.19	2.72%	56	58	58	34.99	34.99	34.99
WT050 ¹	0.19	1.60%	60	62	62	26.99	26.99	26.99
WT060	0.20	2.35%	59	61	61	44.53	33.40	33.40
WT070 ¹	0.17	1.31%	56	58	58	18.77	18.77	18.77
WT080 ¹	0.07	1.95%	60	62	62	17.52	17.52	17.52
WT090 ¹	0.15	0.66%	61	62	63	21.52	21.52	16.14
WT100 ¹	0.19	1.28%	61	62	69	13.65	13.65	10.24
WT110 ¹	0.19	2.04%	60	61	63	29.57	29.57	22.18
WT120 ¹	0.05	2.96%	43	54	63	19.24	19.24	14.43

**Falcon DBPS
Subbasin Properties**

Subbasin ID	Area (mi ²) ²	Existing % Impervious ³	Curve Number ³			Lag Time (min)		
			Historical	Existing	Future	Historical ⁴	Existing ²	Future ⁵
WT130	0.10	28.51%	60	72	72	15.26	11.44	11.44
WT140 ¹	0.13	1.68%	61	62	70	21.46	21.46	16.09
WT150	0.23	9.68%	61	65	74	54.71	41.04	30.78
WT160	0.11	20.33%	61	69	69	10.10	7.58	7.58
WT170 ¹	0.12	2.54%	55	58	64	18.61	18.61	13.96
WT180 ¹	0.10	0.12%	39	41	61	38.49	38.49	28.87
WT190	0.06	7.96%	39	64	64	15.16	11.37	11.37
WT200	0.30	4.15%	39	57	64	67.27	50.45	37.84
WT210	0.27	12.12%	40	56	70	77.09	57.82	43.37
WT220	0.19	12.58%	47	61	72	35.69	26.77	20.08
WT230	0.20	26.68%	51	70	73	21.17	15.88	11.91
WT240	0.08	27.03%	58	71	74	11.27	8.45	6.34
WT250	0.15	17.91%	53	67	73	13.46	10.10	7.57
WT260	0.14	5.48%	59	63	63	54.23	40.67	40.67
WT270	0.03	18.71%	47	67	71	17.02	12.76	9.57
WT280	0.27	2.41%	61	63	63	26.29	19.72	19.72
WT290 ¹	0.10	2.45%	51	63	63	16.05	16.05	16.05
WT300	0.10	4.24%	58	63	63	26.25	19.69	19.69
WT310	0.28	1.45%	46	60	62	36.15	27.12	20.34
WT320	0.21	2.03%	41	61	63	33.29	24.97	18.72
WT330 ¹	0.33	2.03%	40	58	63	36.05	36.05	27.03
WT340	0.28	2.24%	42	63	63	57.87	43.40	43.40
WT350	0.30	3.10%	48	62	64	39.68	29.76	22.32
WT360	0.07	2.82%	47	62	62	29.93	22.45	22.45
WT370	0.21	1.34%	40	45	52	33.48	25.11	18.83

Notes:

¹ Based on observation Longest Flow Path delineation and Time of Concentration Calculation are not impacted by development for Existing conditions.

² Calculated in Geo-HMS

³ Calculated in GIS

⁴ Calculated value by setting the decrease in lag time to existing conditions equal to 25%. Only applied to basins that are developed in existing conditions.

⁵ Calculated value by decreasing the existing lag time by 25%. Only applied to subbasins where additional development occurred in the future condition.

**Falcon DBPS
Curve Numbers**

Historical Curve Numbers

Land Use	Hydrologic Soil Group			
	A	B	C	D
Rangeland Good Condition	39	61	74	80
Woods Good Condition	30	55	70	77
Water	98	98	98	98

Notes:

- 1 Rangeland Good Condition values from Aerawide Urban Runoff Control Manual, Pg. 26-27
- 2 Other values from TR55, Table 2-2

Existing Curve Numbers

Land Use	Hydrologic Soil Group			
	A ¹	B	C	D
Rangeland Good Condition	39	61	74	80
Woods Good Condition	30	55	70	77
Open Space Good Condition	39	61	74	80
Gravel Roads	76	85	89	91
Water	98	98	98	98
Impervious Area	98	98	98	98

Notes:

- ¹ All HSG Type A soils that have been graded shall be considered HSG Type B soils
- 2 Rangeland Good Condition values from Aerawide Urban Runoff Control Manual, Pg. 26-27
- 3 Other values from TR55, Table 2-2

Future Curve Numbers

Land Use	Average CN
0.50 Acre Residential	71
2.5 Acre Rural Residential	64
5 Acre Rural Residential - Woods	58
5 Acre Rural Residential - Rangeland	62
Community Commercial/Service Commercial	81
Light Industrial	96
Single Family Urban	79

Notes:

- 1 Values represent the average CN values that were developed for Existing Conditions for each corresponding land use

Falcon DBPS
Ia Adjustment

Subbasin ID	Historical CN	Ia (in)	Existing CN	Ia (in)	Future CN	Ia (in)
ET010	61	0.64	69	0.45	72	0.39
ET020	61	0.64	68	0.47	73	0.37
ET030	41	1.44	71	0.41	72	0.39
ET040	42	1.38	69	0.45	69	0.45
ET050	39	1.56	68	0.47	68	0.47
ET060	39	1.56	69	0.45	69	0.45
ET070	39	1.56	71	0.41	71	0.41
ET080	39	1.56	75	0.33	76	0.32
ET090	39	1.56	61	0.64	74	0.35
ET100	39	1.56	48	1.08	63	0.59
ET110	39	1.56	54	0.85	61	0.64
ET120	39	1.56	60	0.67	61	0.64
ET130	39	1.56	61	0.64	63	0.59
ET140	39	1.56	61	0.64	63	0.59
ET150	39	1.56	62	0.61	62	0.61
ET160	42	1.38	64	0.56	64	0.56
FS010	44	1.27	49	1.04	56	0.79
MT010	45	1.22	64	0.56	64	0.56
MT020	57	0.75	62	0.61	68	0.47
MT030	54	0.85	66	0.52	67	0.49
MT040	55	0.82	64	0.56	75	0.33
MT050	39	1.56	67	0.49	67	0.49
MT060	39	1.56	55	0.82	66	0.52
MT070	42	1.38	59	0.69	67	0.49
MT080	48	1.08	86	0.16	87	0.15
MT090	39	1.56	83	0.20	85	0.18
MT100	39	1.56	67	0.49	70	0.43
MT110	39	1.56	68	0.47	68	0.47
WT010	56	0.79	58	0.72	58	0.72
WT020	56	0.79	59	0.69	59	0.69
WT030	57	0.75	59	0.69	59	0.69
WT040	56	0.79	58	0.72	58	0.72
WT050	60	0.67	62	0.61	62	0.61
WT060	59	0.69	61	0.64	61	0.64
WT070	56	0.79	58	0.72	58	0.72
WT080	60	0.67	62	0.61	62	0.61
WT090	61	0.64	62	0.61	63	0.59
WT100	61	0.64	62	0.61	69	0.45
WT110	60	0.67	61	0.64	63	0.59
WT120	43	1.33	54	0.85	63	0.59
WT130	60	0.67	72	0.39	72	0.39
WT140	61	0.64	62	0.61	70	0.43
WT150	61	0.64	65	0.54	74	0.35

**Falcon DBPS
Ia Adjustment**

Subbasin ID	Historical CN	Ia (in)	Existing CN	Ia (in)	Future CN	Ia (in)
WT160	61	0.64	69	0.45	69	0.45
WT170	55	0.82	58	0.72	64	0.56
WT180	39	1.56	41	1.44	61	0.64
WT190	39	1.56	64	0.56	64	0.56
WT200	39	1.56	57	0.75	64	0.56
WT210	40	1.50	56	0.79	70	0.43
WT220	47	1.13	61	0.64	72	0.39
WT230	51	0.96	70	0.43	73	0.37
WT240	58	0.72	71	0.41	74	0.35
WT250	53	0.89	67	0.49	73	0.37
WT260	59	0.69	63	0.59	63	0.59
WT270	47	1.13	67	0.49	71	0.41
WT280	61	0.64	63	0.59	63	0.59
WT290	51	0.96	63	0.59	63	0.59
WT300	58	0.72	63	0.59	63	0.59
WT310	46	1.17	60	0.67	62	0.61
WT320	41	1.44	61	0.64	63	0.59
WT330	40	1.50	58	0.72	63	0.59
WT340	42	1.38	63	0.59	63	0.59
WT350	48	1.08	62	0.61	64	0.56
WT360	47	1.13	62	0.61	62	0.61
WT370	40	1.50	45	1.22	52	0.92

Notes:

$$^1 Ia (in) = 0.10 * (1000 / CN) - 10$$

Falcon DBPS

Existing Time of Concentration Calculations

Worksheet for computation of time of travel according to

TR-55 methodology

Blue - GIS defined, Green - user specified, White and yellow -

calculated, Red - final result

Watershed Name	WT060	WT050	WT080	WT090	WT110	WT100	ET070	WT150	WT140	MT010	ET060	WT170
Watershed ID	177	66	342	69	70	71	83	332	146	151	210	282
Sheet Flow Characteristics												
Manning's Roughness Coefficient	0.4	0.15	0.15	0.15	0.4	0.011	0.011	0.011	0.15	0.15	0.011	0.15
Flow Length (ft)	100	297	152	131	125	47.4265	100	100	252.4879	220.7734	44.6252	120.7109
Two-Year 24-hour Rainfall (in)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Land Slope (ft/ft)	0.0776	0.0316	0.0712	0.0669	0.0937	0.0401	0.0437	0.0174	0.0715	0.0874	0.1261	0.0224
Sheet Flow Tt (hr)	0.26	0.40	0.17	0.15	0.29	0.01	0.02	0.03	0.25	0.21	0.01	0.22
Shallow Concentrated Flow Characteristics												
Surface Description (1 - unpaved, 2 - paved)	1	1	1	1	1	1	1	1	1	1	1	1
Flow Length (ft)	629	630	921	4216	2838	625.1232	564.9179	0	340.5642	3491.1034	278.3003	723.4077
Watercourse Slope (ft/ft)	0.0429	0.0401	0.0474	0.0339	0.034	0.0471	0.0115	0	0.0301	0.0267	0.0446	0.0168
Average Velocity - computed (ft/s)	3.34	3.23	3.51	2.97	2.98	3.50	1.73	0.00	2.80	2.64	3.41	2.09
Shallow Concentrated Flow Tt (hr)	0.05	0.05	0.07	0.39	0.26	0.05	0.09	0.00	0.03	0.37	0.02	0.10
Channel Flow Characteristics												
Cross-sectional Flow Area (ft ²)	3.82	102.48	26.55	41.73	5.37	112.64	9.62	9	3.47	60.78	15.9	76.89
Wetted Perimeter (ft)	12.23	70.06	41.28	84.92	11.19	110.27	11	14.04	12.11	77.26	14.14	58.7
Hydraulic Radius - computed (ft)	0.31	1.46	0.64	0.49	0.48	1.02	0.87	0.64	0.29	0.79	1.12	1.31
Channel Slope (ft/ft)	0.0344	0.024	0.0247	0.012	0.0219	0.021	0.013	0.0036	0.0255	0.0226	0.0132	0.0184
Manning's Roughness Coefficient	0.06	0.05	0.05	0.03	0.05	0.05	0.013	0.05	0.05	0.05	0.013	0.05
Average Velocity - computed (ft/s)	2.12	5.95	3.49	3.39	2.70	4.38	11.95	1.33	2.07	3.82	14.24	4.84
Flow Length (ft)	4722	6298	3073	604	2635	5032.4692	4731.5554	5328.7401	2294.7909	4121.0832	6400.2723	3430.8373
Channel Flow Tt (hr)	0.62	0.29	0.24	0.05	0.27	0.32	0.11	1.11	0.31	0.30	0.12	0.20
Watershed Time of travel (hr)	0.93	0.75	0.49	0.60	0.82	0.38	0.22	1.14	0.60	0.88	0.15	0.52
Watershed Lag Time (min)	33.40	26.99	17.52	21.52	29.57	13.65	7.88	41.04	21.46	31.62	5.54	18.61
Number of watersheds	64											
MXD Path	Falcon_DBPS.mxd											
Stored workbook												
\$AVHOME directory												
Name of the table to store the results of the calculation	Subbasin1											
Workspace path	C:\GeoHMS\Falcon_DBPS\Falcon_DBPS.mdb											

Notes:

¹ Sheet Flow Manning's n values from Table 3-1 in TR55

² For LFP's with no Shallow Concentrated Flow length, slopes were manually changed from NaN (default) to 0 and Shallow Concentrated Flow Tc was changed to 0 so Watershed Time of Travel could be computed.

³ Channel Flow Manning's n values were selected from multiple sources and are documented in the Manning's n Value Selection Quality Assurance packet

⁴ Watershed Lag Time = 0.6*Watershed Time of Travel

Falcon DBPS

Existing Time of Concentration Calculations

Worksheet for computation of time of travel according to

TR-55 methodology

Blue - GIS defined, Green - user specified, White and yellow -

calculated, Red - final result

Watershed Name	WT120	ET030	WT160	ET150	MT100	MT090	MT080	MT030	MT060	ET080	MT070	MT110	WT310	WT300
Watershed ID	284	303	298	551	612	608	613	633	643	94	157	167	171	173
Sheet Flow Characteristics														
Manning's Roughness Coefficient	0.15	0.011	0.011	0.15	0.15	0.011	0.011	0.15	0.011	0.24	0.15	0.011	0.011	0.15
Flow Length (ft)	191.3389	20.537	26.2133	100	142.9726	100	119.91	88.6543	43.2844	141.055	145.5913	54.54	37.3701	292.2798
Two-Year 24-hour Rainfall (in)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Land Slope (ft/ft)	0.057	0.0182	0.0352	0.0443	0.0452	0.0054	0.0008	0.0979	0.0326	0.0316	0.0154	0.067	0.0459	0.0418
Sheet Flow Tt (hr)	0.22	0.01	0.01	0.15	0.19	0.04	0.10	0.10	0.01	0.32	0.30	0.01	0.01	0.35
Shallow Concentrated Flow Characteristics														
Surface Description (1 - unpaved, 2 - paved)	1	1	2	1	1	2	2	1	1	1	1	1	1	1
Flow Length (ft)	515.1666	710.4925	0	2978.6929	0	259.7955	0	1309.2521	6116.429	844.1173	6399.686	3391.19	1766.78	883.1998
Watercourse Slope (ft/ft)	0.021	0.0337	0	0.0221	0	0.0253	0	0.032	0.0194	0.0183	0.0204	0.012	0.0273	0.0351
Average Velocity - computed (ft/s)	2.34	2.96	0.00	2.40	0.00	3.23	0.00	2.89	2.25	2.18	2.30	1.77	2.67	3.02
Shallow Concentrated Flow Tt (hr)	0.06	0.07	0.00	0.34	0.00	0.02	0.00	0.13	0.76	0.11	0.77	0.53	0.18	0.08
Channel Flow Characteristics														
Cross-sectional Flow Area (ft ²)	39.43	20.5	4.39	18.39	6.31	25.13	64	19.13	19.69	15.9	4.9	19.9	6.02	3.64
Wetted Perimeter (ft)	101.84	42.22	23.26	32.36	22.61	25.13	32	49.99	35.22	14.14	26.77	39.66	24.31	13.97
Hydraulic Radius - computed (ft)	0.39	0.49	0.19	0.57	0.28	1.00	2.00	0.38	0.56	1.12	0.18	0.50	0.25	0.26
Channel Slope (ft/ft)	0.0154	0.0093	0.0249	0.0094	0.0105	0.0093	0.014	0.0207	0.0355	0.0124	0.012	0.013	0.015	0.0239
Manning's Roughness Coefficient	0.03	0.07	0.013	0.05	0.03	0.013	0.013	0.03	0.06	0.013	0.03	0.07	0.06	0.03
Average Velocity - computed (ft/s)	3.27	1.27	5.95	1.98	2.17	11.05	21.53	3.77	3.18	13.80	1.75	1.53	1.20	3.13
Flow Length (ft)	2950.9478	3715.1193	4363.7964	1523.8687	1939.0988	1519.2867	3055.11	2604.7205	97.6779	5559.793	335.5838	744.17	2422.127	1259.995
Channel Flow Tt (hr)	0.25	0.81	0.20	0.21	0.25	0.04	0.04	0.19	0.01	0.11	0.05	0.13	0.56	0.11
Watershed Time of travel (hr)	0.53	0.89	0.21	0.71	0.44	0.10	0.14	0.42	0.78	0.54	1.13	0.68	0.75	0.55
Watershed Lag Time (min)	19.24	31.96	7.58	25.39	15.89	3.69	5.18	14.94	27.90	19.49	40.56	24.38	27.12	19.69
Number of watersheds														
MXD Path														
Stored workbook														
\$AVHOME directory														
Name of the table to store the results of the calculation														
Workspace path														

Falcon DBPS

Existing Time of Concentration Calculations

Worksheet for computation of time of travel according to

TR-55 methodology

Blue - GIS defined, Green - user specified, White and yellow -

calculated, Red - final result

Watershed Name	WT010	WT280	ET140	ET130	WT230	WT040	MT020	MT050	WT240	WT250	ET110	ET100	WT220	WT370	WT350	WT340	WT330
Watershed ID	183	247	351	353	407	588	635	649	663	667	681	682	267	114	214	116	123
Sheet Flow Characteristics																	
Manning's Roughness Coefficient	0.4	0.15	0.15	0.15	0.24	0.4	0.15	0.24	0.011	0.011	0.15	0.011	0.011	0.15	0.15	0.15	0.15
Flow Length (ft)	146.5688	68.6391	118.6398	119.4977	45.0001	128.3412	16.2369	167.7821	54	110.7786	296.0756	48.2844	56.2392	148.5814	199.706	296.2138	298.7012
Two-Year 24-hour Rainfall (in)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Land Slope (ft/ft)	0.0766	0.0321	0.0214	0.0243	0.1104	0.0443	0.0215	0.0209	0.037	0.0125	0.0362	0.1191	0.019	0.0363	0.024	0.0345	0.05
Sheet Flow Tt (hr)	0.35	0.12	0.22	0.22	0.08	0.39	0.05	0.44	0.01	0.03	0.38	0.01	0.02	0.22	0.33	0.39	0.34
Shallow Concentrated Flow Characteristics																	
Surface Description (1 - unpaved, 2 - paved)	1	1	1	1	2	1	1	2	2	2	1	1	1	1	1	1	1
Flow Length (ft)	742.1945	1860.327	1172.282	828.555	181.5689	984.9924	3260.587	275.2087	0	0	2365.505	762.0473	5060.256	0	3420.637	4497.88	5188.524
Watercourse Slope (ft/ft)	0.04	0.0259	0.0172	0.0128	0.0228	0.0516	0.032	0.0239	0	0	0.0271	0.0225	0.021	0	0.0467	0.0237	0.0225
Average Velocity - computed (ft/s)	3.23	2.60	2.12	1.83	3.07	3.67	2.89	3.14	0.00	0.00	2.66	2.42	2.34	0.00	3.49	2.48	2.42
Shallow Concentrated Flow Tt (hr)	0.06	0.20	0.15	0.13	0.02	0.07	0.31	0.02	0.00	0.00	0.25	0.09	0.60	0.00	0.27	0.50	0.60
Channel Flow Characteristics																	
Cross-sectional Flow Area (ft ²)	3.99	2.43	25.47	21.02	4.39	8.4	20.97	2.91	4.39	4.39	39.65	4.58	6.73	30.81	59.79	6.55	12.59
Wetted Perimeter (ft)	15.4	9.26	84.23	169.15	23.26	26.23	40.88	6.68	23.26	23.26	105.42	8.91	12.27	26.96	38.47	17.42	25.95
Hydraulic Radius - computed (ft)	0.26	0.26	0.30	0.12	0.19	0.32	0.51	0.44	0.19	0.19	0.38	0.51	0.55	1.14	1.55	0.38	0.49
Channel Slope (ft/ft)	0.0324	0.0179	0.0113	0.0144	0.009	0.026	0	0.0173	0.0175	0.0112	0.0114	0.0119	0.0108	0.0119	0.0088	0.0209	0.0119
Manning's Roughness Coefficient	0.06	0.03	0.06	0.05	0.013	0.05	0.05	0.03	0.013	0.013	0.03	0.03	0.03	0.05	0.05	0.03	0.05
Average Velocity - computed (ft/s)	1.82	2.72	1.19	0.89	3.58	2.25	0.00	3.75	4.99	3.99	2.76	3.48	3.46	3.55	3.75	3.74	2.01
Flow Length (ft)	1719.181	2209.347	6595.197	3022.555	4460.603	4086.883	0	3582.906	4002.366	3560.407	866.4156	1602.548	1573.016	6132.815	3083.294	4257.557	508.9379
Channel Flow Tt (hr)	0.26	0.23	1.54	0.94	0.35	0.50	0.00	0.27	0.22	0.25	0.09	0.13	0.13	0.48	0.23	0.32	0.07
Watershed Time of travel (hr)	0.68	0.55	1.92	1.28	0.44	0.97	0.36	0.73	0.23	0.28	0.71	0.22	0.74	0.70	0.83	1.21	1.00
Watershed Lag Time (min)	24.38	19.72	69.09	46.22	15.88	34.99	12.94	26.13	8.45	10.10	25.68	8.00	26.77	25.11	29.76	43.40	36.05
Number of watersheds																	
MXD Path																	
Stored workbook																	
\$AVHOME directory																	
Name of the table to store the results of the calculation																	
Workspace path																	

Falcon DBPS

Existing Time of Concentration Calculations

Worksheet for computation of time of travel according to

TR-55 methodology

Blue - GIS defined, Green - user specified, White and yellow -

calculated, Red - final result

Watershed Name	WT030	WT020	WT210	ET160	WT360	WT260	WT290	WT270	ET120	ET090	WT180	MT040	WT200	WT190	WT130	WT320	ET010
Watershed ID	187	189	199	221	227	256	238	242	252	262	848	272	276	278	288	308	318
Sheet Flow Characteristics																	
Manning's Roughness Coefficient	0.15	0.4	0.15	0.15	0.011	0.15	0.011	0.011	0.011	0.24	0.25	0.15	0.15	0.011	0.15	0.15	0.15
Flow Length (ft)	141.2626	266.2251	285.0006	80.005	87.4266	100	100	40.3554	61.2133	138.9952	296	75.2183	183.5462	100	88.7973	261.2747	78
Two-Year 24-hour Rainfall (in)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Land Slope (ft/ft)	0.103	0.1066	0.0231	0.0189	0.0402	0.0508	0.0513	0.0274	0.0332	0.0589	0.027	0.0608	0.0297	0.0174	0.0421	0.0858	0.0256
Sheet Flow Tt (hr)	0.14	0.50	0.44	0.17	0.02	0.14	0.02	0.01	0.01	0.25	0.64	0.10	0.28	0.03	0.14	0.24	0.15
Shallow Concentrated Flow Characteristics																	
Surface Description (1 - unpaved, 2 - paved)	1	1	1	1	1	1	1	1	1	1	2	1	1	1	2	1	1
Flow Length (ft)	432.1399	295.3505	4198.315	3912.236	2241.548	1133.028	267.4881	0	5817.561	0	4489.17	3144.352	9180.05	0	0	2919.894	528
Watercourse Slope (ft/ft)	0.0424	0.0619	0.0198	0.0146	0.0171	0.0154	0.0196	0	0.0164	0	0.024	0.03	0.0209	0	0	0.0372	0.0303
Average Velocity - computed (ft/s)	3.32	4.01	2.27	1.95	2.11	2.00	2.26	0.00	2.07	0.00	3.15	2.79	2.33	0.00	0.00	3.11	2.81
Shallow Concentrated Flow Tt (hr)	0.04	0.02	0.51	0.56	0.30	0.16	0.03	0.00	0.78	0.00	0.40	0.31	1.09	0.00	0.00	0.26	0.05
Channel Flow Characteristics																	
Cross-sectional Flow Area (ft ²)	6.12	8.51	39.77	22.37	10.27	0.82	41.59	9.66	25.13	9.72	163.44	4.32	25.69	3.88	4.39	28.9	15.97
Wetted Perimeter (ft)	11.83	29.87	160.6	24.5	37.46	3.97	114.48	33.28	25.13	31.92	140.79	7.39	57.74	14.09	23.26	26.6	31.94
Hydraulic Radius - computed (ft)	0.52	0.28	0.25	0.91	0.27	0.21	0.36	0.29	1.00	0.30	1.16	0.58	0.44	0.28	0.19	1.09	0.50
Channel Slope (ft/ft)	0.0224	0.0271	0.0145	0.0093	0.0083	0.0082	0.0107	0.0147	0.005	0.0096	0.0135	0.0172	0.0316	0.0232	0.0249	0.0101	0.0217
Manning's Roughness Coefficient	0.05	0.06	0.06	0.03	0.05	0.06	0.05	0.03	0.013	0.03	0.05	0.03	0.05	0.03	0.013	0.05	0.05
Average Velocity - computed (ft/s)	2.87	1.77	1.18	4.51	1.15	0.79	1.57	2.64	8.10	2.20	3.82	4.55	3.09	3.20	5.95	3.17	2.77
Flow Length (ft)	2076.623	1662.612	2770.435	2028.925	1285.17	2358.52	2236.363	3268.233	47.5001	7102.49	443	5292.631	316	3336.891	3894.055	2166.302	4966.49
Channel Flow Tt (hr)	0.20	0.26	0.65	0.13	0.31	0.83	0.40	0.34	0.00	0.90	0.03	0.32	0.03	0.29	0.18	0.19	0.50
Watershed Time of travel (hr)	0.37	0.78	1.61	0.85	0.62	1.13	0.45	0.35	0.80	1.14	1.07	0.74	1.40	0.32	0.32	0.69	0.70
Watershed Lag Time (min)	13.49	27.95	57.82	30.78	22.45	40.67	16.05	12.76	28.71	41.18	38.49	26.58	50.45	11.37	11.44	24.97	25.23
Number of watersheds																	
MXD Path																	
Stored workbook																	
\$AVHOME directory																	
Name of the table to store the results of the calculation																	
Workspace path																	

Falcon DBPS

Existing Time of Concentration Calculations

Worksheet for computation of time of travel according to

TR-55 methodology

Blue - GIS defined, Green - user specified, White and yellow - calculated, Red - final result

Watershed Name	ET020	WT070	ET050	ET040	FS010
Watershed ID	328	343	467	468	5
Sheet Flow Characteristics					
Manning's Roughness Coefficient	0.15	0.4	0.011	0.011	0.011
Flow Length (ft)	43.6613	45.0001	47.0712	301.3711	29
Two-Year 24-hour Rainfall (in)	2.1	2.1	2.1	2.1	2.1
Land Slope (ft/ft)	0.1105	0.0566	0.0263	0.052	0.0552
Sheet Flow Tt (hr)	0.05	0.15	0.01	0.04	0.01
Shallow Concentrated Flow Characteristics					
Surface Description (1 - unpaved, 2 - paved)	2	1	1	1	1
Flow Length (ft)	0	861.3369	1478.833	0	0
Watercourse Slope (ft/ft)	0	0.0441	0.0202	0	0
Average Velocity - computed (ft/s)	0.00	3.39	2.29	0.00	0.00
Shallow Concentrated Flow Tt (hr)	0.00	0.07	0.18	0.00	0.00
Channel Flow Characteristics					
Cross-sectional Flow Area (ft ²)	3.55	13.56	12.57	2.07	10
Wetted Perimeter (ft)	9.58	20.48	12.57	6.76	40.01
Hydraulic Radius - computed (ft)	0.37	0.66	1.00	0.31	0.25
Channel Slope (ft/ft)	0.0211	0.0236	0.0125	0.0171	0.0208
Manning's Roughness Coefficient	0.03	0.05	0.013	0.03	0.06
Average Velocity - computed (ft/s)	3.72	3.48	12.81	2.95	1.42
Flow Length (ft)	5760.795	3717.648	1130.583	6137.448	4362
Channel Flow Tt (hr)	0.43	0.30	0.02	0.58	0.85
Watershed Time of travel (hr)	0.48	0.52	0.22	0.62	0.86
Watershed Lag Time (min)	17.37	18.77	7.77	22.28	30.92
Number of watersheds					1
MXD Path					Falcon_DBPS.mxd
Stored workbook					
\$AVHOME directory					
Name of the table to store the results of the calculation					Subbasin3
Workspace path					C:\GeoHMS\Falcon_DBPS_South\Falcon_DBPS_South.mdb

Falcon DBPS
Manning's n Values

Manning's n Description	Selected Value
Vegetated Roadside Ditch	0.03
Grass Swale	0.06
Channel - Sand	0.03
Channel - Grass	0.05
Channel - Willow	0.07
Floodplain - Grass	0.08
Floodplain - Willow	0.15

References:

- 1 Guide for Selecting Manning's Roughness Coefficients for Natural Channels and Floodplains, USGS Water Supply Paper 2339
- 2 City of Colorado Springs DCM
- 3 CDOT DCM
- 4 UDFCD DCM
- 5 Guide for Selecting Roughness Coefficient "n" Values For Channels, NRCS (SCS), 1963
- 6 Cottonwood Creek DBPS

Falcon DBPS
Routing Description

Reach	Length (ft)	Slope (ft/ft)	Manning's n	Invert (ft)	Shape	Diameter (ft)	Width (ft)	Side Slope (h:v)	L.B. Manning's n	R.B. Manning's n
RET020	3063.9	0.0186036	0.05	7113.75	Eight Point	--	--	--	0.08	0.08
RET030	5307.2	0.0146972	0.07	7019.43	Eight Point	--	--	--	0.08	0.08
RET040	1951	0.0194768	0.07	6958.54	Eight Point	--	--	--	0.15	0.15
RET050	1877.3	0.0207744	0.07	6938.26	Eight Point	--	--	--	0.08	0.08
RET060	1866	0.0117898	0.05	6896.01	Eight Point	--	--	--	0.08	0.08
RET070	2209.2	0.0185584	0.07	6868.86	Eight Point	--	--	--	0.08	0.08
RET080	1569.2	0.0044608	0.07	6855.75	Eight Point	--	--	--	0.15	0.15
RET090	378.7	0.0052812	0.07	6854.04	Eight Point	--	--	--	0.15	0.15
RET100	1916.5	0.0203494	0.03	6832.6	Eight Point	--	--	--	0.08	0.08
RET110	2956.5	0.0145443	0.03	6780.51	Eight Point	--	--	--	0.08	0.08
RET120	1474.5	0.0047475	0.03	6766.26	Eight Point	--	--	--	0.08	0.08
RET140	4052.5	0.0134575	0.03	6779.63	Eight Point	--	--	--	0.08	0.08
RET152	2217.2	0.0175895	0.03	6755.38	Eight Point	--	--	--	0.08	0.08
RET154	2358.2	0.0132409	0.05	6743.88	Eight Point	--	--	--	0.08	0.08
RET156	1006.8	0.0079457	0.03	6727.09	Eight Point	--	--	--	0.08	0.08
RET162	3410.6	0.0108486	0.05	6699.33	Eight Point	--	--	--	0.08	0.08
RET164	2094.9	0.0124114	0.03	6671.23	Eight Point	--	--	--	0.08	0.08
RMT030	3636.4	0.0202839	0.03	7033.46	Eight Point	--	--	--	0.08	0.08
RMT040	1310.1	0.0091599	0.03	6984	Eight Point	--	--	--	0.08	0.08
RMT050	1567.7	0.0191364	0.03	6965.39	Eight Point	--	--	--	0.08	0.08
RMT062	6001.9	0.0201602	0.05	6928.82	Eight Point	--	--	--	0.08	0.08
RMT064	3355.9	0.0160912	0.05	6911.23	Eight Point	--	--	--	0.08	0.08
RMT070	1118.3	0.0107303	0.05	6881.93	Eight Point	--	--	--	0.08	0.08
RMT080	2187.7	0.0118848	0.013		Rectangle	--	8	--		
RMT090	284.64	0.0105	0.013		Circle	3	--	--		
RMT102	1101.3	0.0208837	0.07	6840.11	Eight Point	--	--	--	0.15	0.15
RMT104	866.69	0.015	0.05	6846	Eight Point	--	--	--	0.08	0.08
RMT106	234.5	0.0042644	0.07	6831.79	Eight Point	--	--	--	0.15	0.15
RMT112	3556.1	0.0143416	0.07	6802.15	Eight Point	--	--	--	0.15	0.15
RMT114	1760.2	0.0170437	0.05	6758.55	Eight Point	--	--	--	0.08	0.08
RWT030	2078.5	0.0232	0.05	7392.86	Eight Point	--	--	--	0.08	0.08
RWT042	1561.2	0.0263708	0.05	7366.57	Eight Point	--	--	--	0.08	0.08
RWT044	2369.4	0.0291215	0.05	7367.84	Eight Point	--	--	--	0.08	0.08
RWT046	2587.6	0.0212553	0.05	7294.2	Eight Point	--	--	--	0.08	0.08
RWT054	2699.213562	0.021117	0.05	7267.87	Eight Point	--	--	--	0.08	0.08
RWT080	3461.5	0.0271559	0.05	7253.59	Eight Point	--	--	--	0.08	0.08
RWT092	651.99	0.0184053	0.03	7224.51	Eight Point	--	--	--	0.08	0.08
RWT094	2357.7	0.0114517	0.03	7190.23	Eight Point	--	--	--	0.08	0.08
RWT122	561.63	0.0124637	0.03	7184.96	Eight Point	--	--	--	0.08	0.08
RWT124	2423.9	0.0165024	0.03	7153.3	Eight Point	--	--	--	0.08	0.08
RWT150	2608	0.019	0.05	7174.97	Eight Point	--	--	--	0.08	0.08
RWT160	1565.7	0.0204375	0.05	7114.22	Eight Point	--	--	--	0.08	0.08
RWT172	3101.9	0.0190205	0.05	7114.4	Eight Point	--	--	--	0.08	0.08

Falcon DBPS
Routing Description

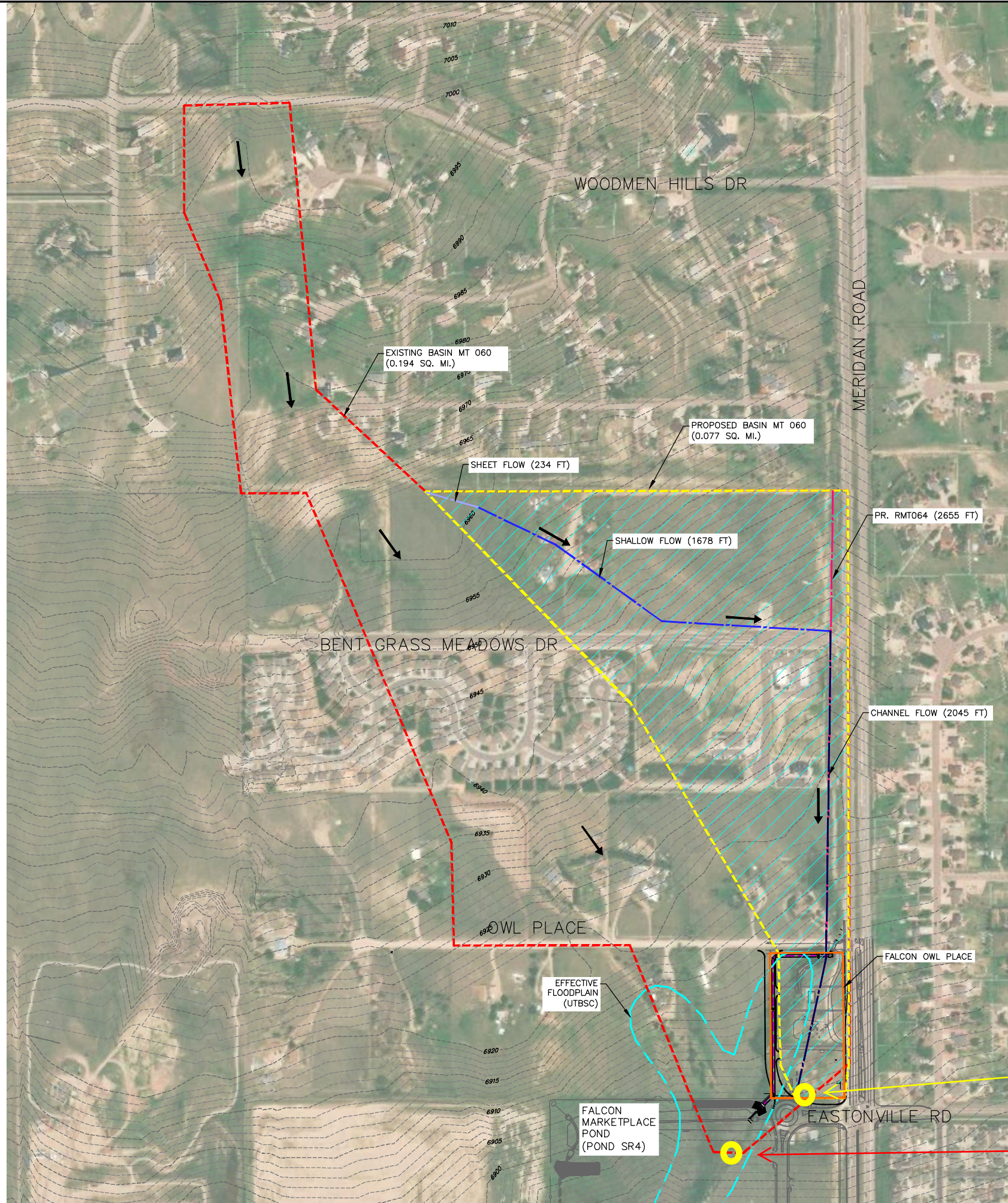
Reach	Length (ft)	Slope (ft/ft)	Manning's n	Invert (ft)	Shape	Diameter (ft)	Width (ft)	Side Slope (h:v)	L.B. Manning's n	R.B. Manning's n
RWT174	1869.6	0.0160463	0.05	7105.07	Eight Point	--	--	--	0.08	0.08
RWT176	326.42	0.0122541	0.03	7079.07	Eight Point	--	--	--	0.08	0.08
RWT180	3727.614345	0.0204	0.05	7015.13	Eight Point	--	--	--	0.08	0.08
RWT202	3011.790196	0.0212	0.05	6953.23	Eight Point	--	--	--	0.08	0.08
RWT204	3538.4	0.0218	0.05	6952	Eight Point	--	--	--	0.08	0.08
RWT210	2914.7	0.0133803	0.03	6906.35	Eight Point	--	--	--	0.08	0.08
RWT232	2180	0.0178898	0.05	6861.66	Eight Point	--	--	--	0.08	0.08
RWT234	2126.1	0.0201117	0.05	6860	Eight Point	--	--	--	0.08	0.08
RWT236	124.98	0.008	0.013		Rectangle		42		--	--
RWT240	1044	0.013	0.05	6837.41	Eight Point	--	--	--	0.08	0.08
RWT240_Diversion Reach	929	0.013	0.07	6826	Eight Point	--	--	--	0.15	0.15
RWT250	184.35	0.0054245	0.07	6818.14	Eight Point	--	--	--	0.15	0.15
RWT260	2371.1	0.015183	0.05	6800.68	Eight Point	--	--	--	0.08	0.08
RWT291	986.55	0.0223001	0.05	6780.96	Eight Point	--	--	--	0.08	0.08
RWT292	733.2	0.0165	0.05	6779.41	Eight Point	--	--	--	0.08	0.08
RWT294	536.02	0.0149	0.05	6772.93	Eight Point	--	--	--	0.08	0.08
RWT295	217	0.0091575	0.05	6763.06	Eight Point	--	--	--	0.08	0.08
RWT296	1202.594155	0.0091575	0.05	6763.06	Eight Point	--	--	--	0.08	0.08
RWT312	3295.8	0.0265	0.05	6731.53	Eight Point	--	--	--	0.08	0.08
RWT314	2428.7	0.0148227	0.05	6734.64	Eight Point	--	--	--	0.08	0.08
RWT320	2459.5	0.0093515	0.05	6692.49	Eight Point	--	--	--	0.08	0.08
RWT344	1380.563492	0.010865	0.03	6666	Eight Point	--	--	--	0.08	0.08
RWT352	3134.2	0.0121	0.05	6662.01	Eight Point	--	--	--	0.08	0.08
RWT354	14.142	0.0121	0.05	6658.11	Eight Point	--	--	--	0.08	0.08
RWT372	1466.3	0.0184133	0.07	6642.65	Eight Point	--	--	--	0.15	0.15
RWT374	2309.9	0.016	0.05	6659.99	Eight Point	--	--	--	0.08	0.08
RWT376	2601.5	0.0103788	0.05	6623.3	Eight Point	--	--	--	0.08	0.08

**REQUEST FOR CONDITIONAL LETTER OF MAP REVISION
UNNAMED TRIBUTARY TO BLACK SQUIRREL CREEK
Falcon Owl Place**

APPENDIX 4

HEC-HMS MODELING

H:\21611-00BLWR\Plans\Sheets\Hydrologic Base Map\HBM.dwg, 6/7/2022 8:28:16 AM



LEGEND

EX. CONTOUR	
PR. STORM SEWER	
EFFECTIVE 100-YR FLOODPLAIN	
EX. BASIN MT060	
PR. BASIN MT060	
PR. BASIN MT060 AREA	
PR. SHEET FLOW	
PR. SHALLOW FLOW	
PR. CHANNEL FLOW	
PR. RMT064	
EX. FALCON OWL PLACE PROPERTY BOUNDARY	
FLOW DIRECTION	

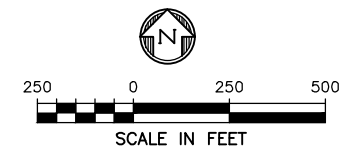
NOTES

1. SPATIAL PROJECTION IS NAD83 COLORADO STATE PLANE, CENTRAL ZONE (FEET).
2. VERTICAL DATUM IS NGVD29.

The existing basin delineation is approximated from the Falcon DBPS, which was developed in 2015.

The existing conditions contours are from Lidar, and may not reflect roadway and drainage infrastructure that is shown on the aerial image.

The proposed basin delineation is based on a combination of Lidar contours, drainage and roadway infrastructure, aerial mapping, and site survey.



JMT051
(proposed)

JMT060
(existing)

PREPARED BY:

DBC
Drexel, Barrell & Co.
Engineers-Surveyors
1800 38TH STREET
BOULDER, COLORADO 80301
CONTACT: MICHELLE IBLINGS, P.E.
(303) 442-4338
BOULDER
COLORADO SPRINGS
GREELEY

OWNER/CLIENT:

EXHIBIT FOR:
FALCON OWL PLACE
FALCON, COLORADO

ISSUE	DATE
EXHIBIT	06/07/22
DESIGNED BY:	MLI
DRAWN BY:	CAF
CHECKED BY:	MLI
FILE NAME:	HBM

NOT FOR CONSTRUCTION

DRAWING SCALE:
HORIZONTAL: SEE PLAN
VERTICAL: N/A

HYDROLOGIC BASE MAP

PROJECT: 21611-00BLWR
DRAWING NO.

HBM

SHEET: 1 OF 1

Soil Map—El Paso County Area, Colorado
(Falcon Owl Place - MT060)



Map Scale: 1:5,910 if printed on A portrait (8.5" x 11") sheet.

0 50 100 200 300 Meters

0 250 500 1000 1500 Feet

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 13N WGS84

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 19, Aug 31, 2021

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

Date(s) aerial images were photographed: Sep 11, 2018—Oct 20, 2018

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
9	Blakeland-Fluvaquentic Haplaquolls	0.0	0.0%
19	Columbine gravelly sandy loam, 0 to 3 percent slopes	96.5	100.0%
Totals for Area of Interest		96.5	100.0%

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: 97 percent
Minor components: 3 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
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 supply, 0 to 60 inches: Very low (about 2.5 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: A
Ecological site: R049XY214CO - Gravelly Foothill
Hydric soil rating: No

Minor Components

Fluvaquentic haplaquolls

Percent of map unit: 1 percent

Landform: Swales
Hydric soil rating: Yes

Other soils

Percent of map unit: 1 percent
Hydric soil rating: No

Pleasant

Percent of map unit: 1 percent
Landform: Depressions
Hydric soil rating: Yes

Data Source Information

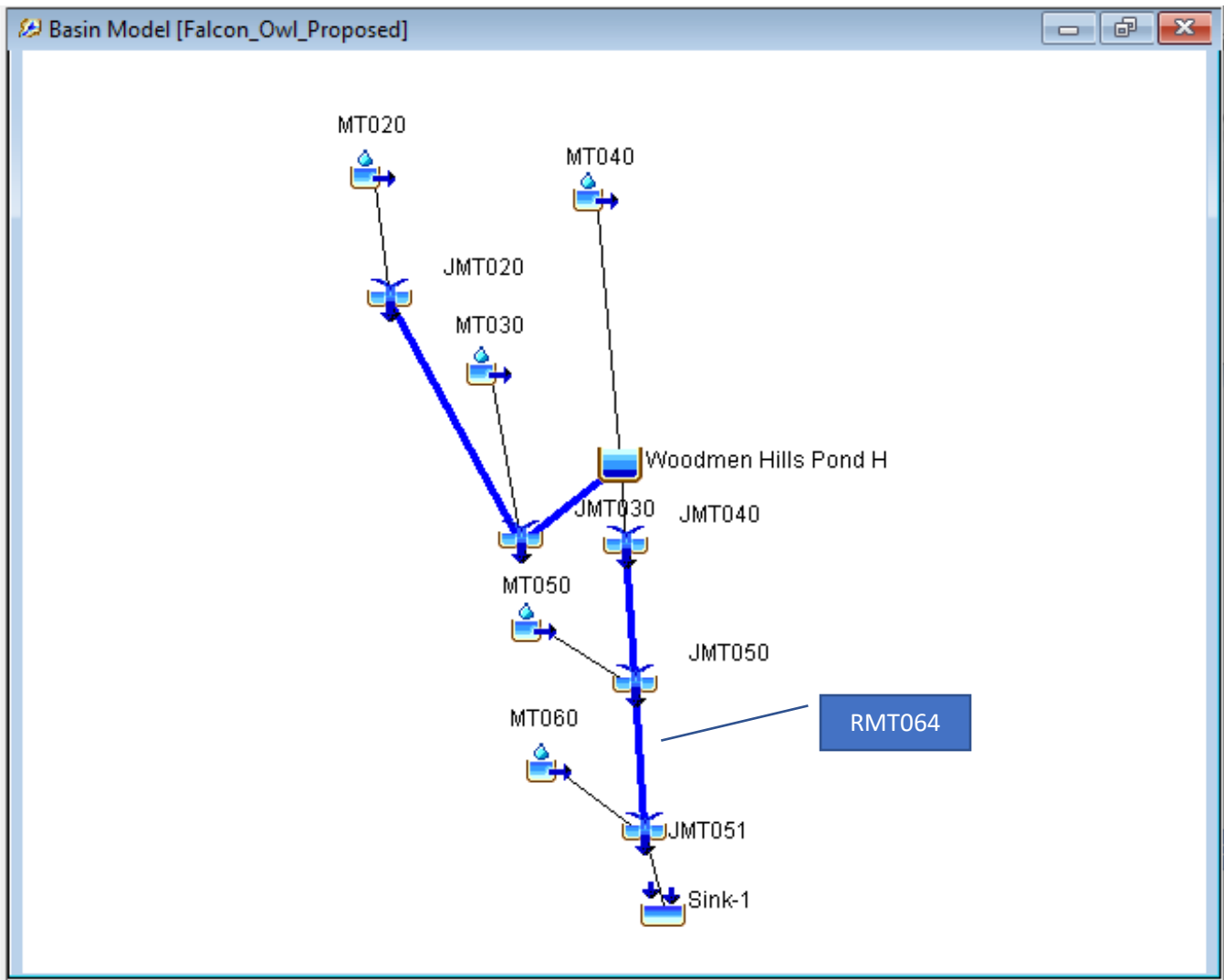
Soil Survey Area: El Paso County Area, Colorado
Survey Area Data: Version 19, Aug 31, 2021

Table 2-2a Runoff curve numbers for urban areas ^{1/}

Cover description	Average percent impervious area ^{2/}	Curve numbers for hydrologic soil group			
		A	B	C	D
Fully developed urban areas (vegetation established)					
Open space (lawns, parks, golf courses, cemeteries, etc.) ^{3/} :					
Poor condition (grass cover < 50%)		68	79	86	89
Fair condition (grass cover 50% to 75%)		49	69	79	84
Good condition (grass cover > 75%)		39	61	74	80
Impervious areas:					
Paved parking lots, roofs, driveways, etc. (excluding right-of-way)					
		98	98	98	98
Streets and roads:					
Paved; curbs and storm sewers (excluding right-of-way)					
		98	98	98	98
Paved; open ditches (including right-of-way)					
		83	89	92	93
Gravel (including right-of-way)					
		76	85	89	91
Dirt (including right-of-way)					
		72	82	87	89
Western desert urban areas:					
Natural desert landscaping (pervious areas only) ^{4/}					
		63	77	85	88
Artificial desert landscaping (impervious weed barrier, desert shrub with 1- to 2-inch sand or gravel mulch and basin borders)					
		96	96	96	96
Urban districts:					
Commercial and business	85	89	92	94	95
Industrial	72	81	88	91	93
Residential districts by average lot size:					
1/8 acre or less (town houses)	65	77	85	90	92
1/4 acre	38	61	75	83	87
1/3 acre	30	57	72	81	86
1/2 acre	25	54	70	80	85
1 acre	20	51	68	79	84
2 acres	12	46	65	77	82
Developing urban areas					
Newly graded areas (pervious areas only, no vegetation) ^{5/}					
		77	86	91	94
Idle lands (CN's are determined using cover types similar to those in table 2-2c).					

¹ Average runoff condition, and $I_a = 0.2S$.² The average percent impervious area shown was used to develop the composite CN's. Other assumptions are as follows: impervious areas are directly connected to the drainage system, impervious areas have a CN of 98, and pervious areas are considered equivalent to open space in good hydrologic condition. CN's for other combinations of conditions may be computed using figure 2-3 or 2-4.³ CN's shown are equivalent to those of pasture. Composite CN's may be computed for other combinations of open space cover type.⁴ Composite CN's for natural desert landscaping should be computed using figures 2-3 or 2-4 based on the impervious area percentage (CN = 98) and the pervious area CN. The pervious area CN's are assumed equivalent to desert shrub in poor hydrologic condition.⁵ Composite CN's to use for the design of temporary measures during grading and construction should be computed using figure 2-3 or 2-4 based on the degree of development (impervious area percentage) and the CN's for the newly graded pervious areas.

Falcon Owl Place CLOMR
 HEC-HMS v4.7.1
 October 17, 2022



Future Land Use Hydrologic Parameters used in HEC-HMS

Basin	CN	Ia	Area (mi2)	SCS Lag (Min)
Mt010	64	0.56	0.2899	31.62
Mt020	68	0.47	0.0902	9.71
Mt030	67	0.49	0.1566	11.21
Mt040	75	0.33	0.3084	19.93
Mt050	67	0.49	0.1186	26.13
Mt060	66	0.52	0.1942*	20.93*

*Proposed conditions area and lag time are reduced to 0.077 mi2 and 17 minutes, respectively.

RMT064 Proposed Conditions Parameters used in HEC-HMS

Length (ft)	2629.3
US Invert	6944
DS Invert	6900
Slope	0.0167

Basin MT060 Proposed Conditions CN used in HEC-HMS

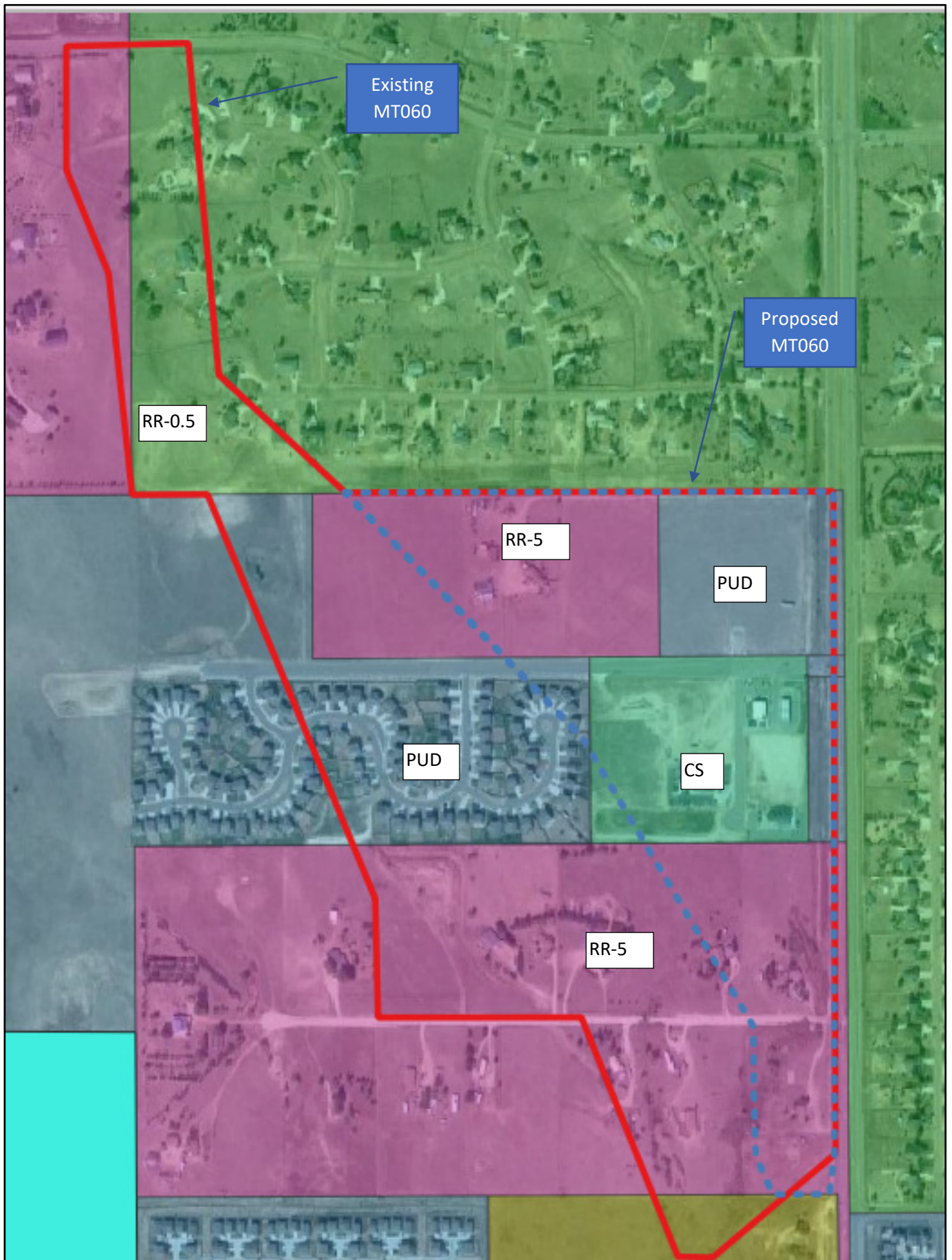
Land Use	HSG	Area (sf)	Area (sm)	CN	CN * Area
PUD*	A	1070371	0.038	65	2.5
RR-5	A	533825	0.019	46	0.9
Commercial	A	539165	0.019	89	1.7
		2143360	0.077		66

*PUD CN of 65 is based on the average lot size (0.22 ac) of the nearby Bent Grass Meadows.

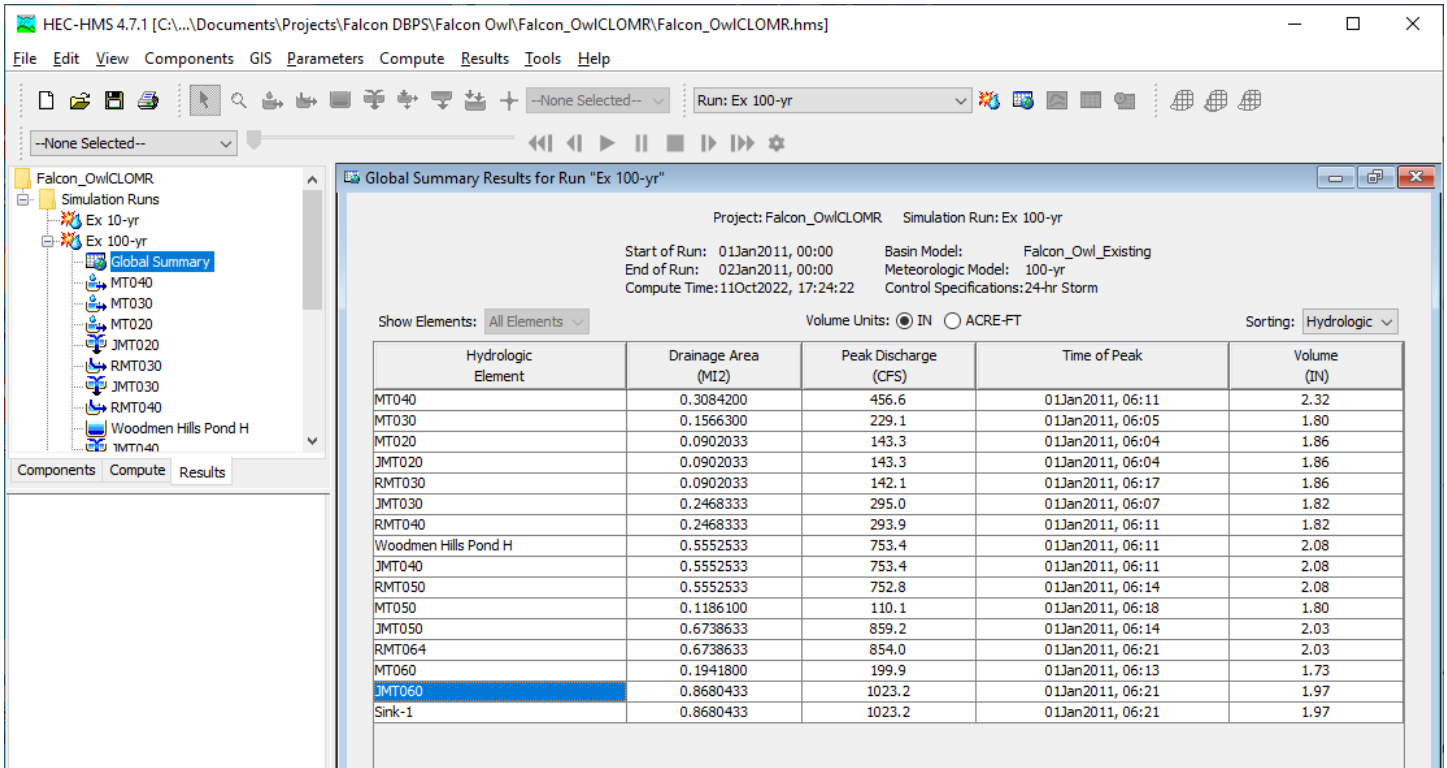
MT060 Proposed Conditions Lag Time Calculation used in HEC-HMS

Sheet Flow	
n	0.011
Length (ft)	234
2-yr 24-hr rain	2.1
Slope	0.00855
Tt (min)	4.15
Shallow Flow	
Unpaved	1
Length (ft)	1678
Slope	0.0167
Velocity (fps)	2.084
Tt (min)	13.42
Channel Flow	
Length (ft)	2044.8
Velocity (fps)	3.18
Tt (min)	10.72
Total Tt (min)	28.29
Tlag (min)	17.0

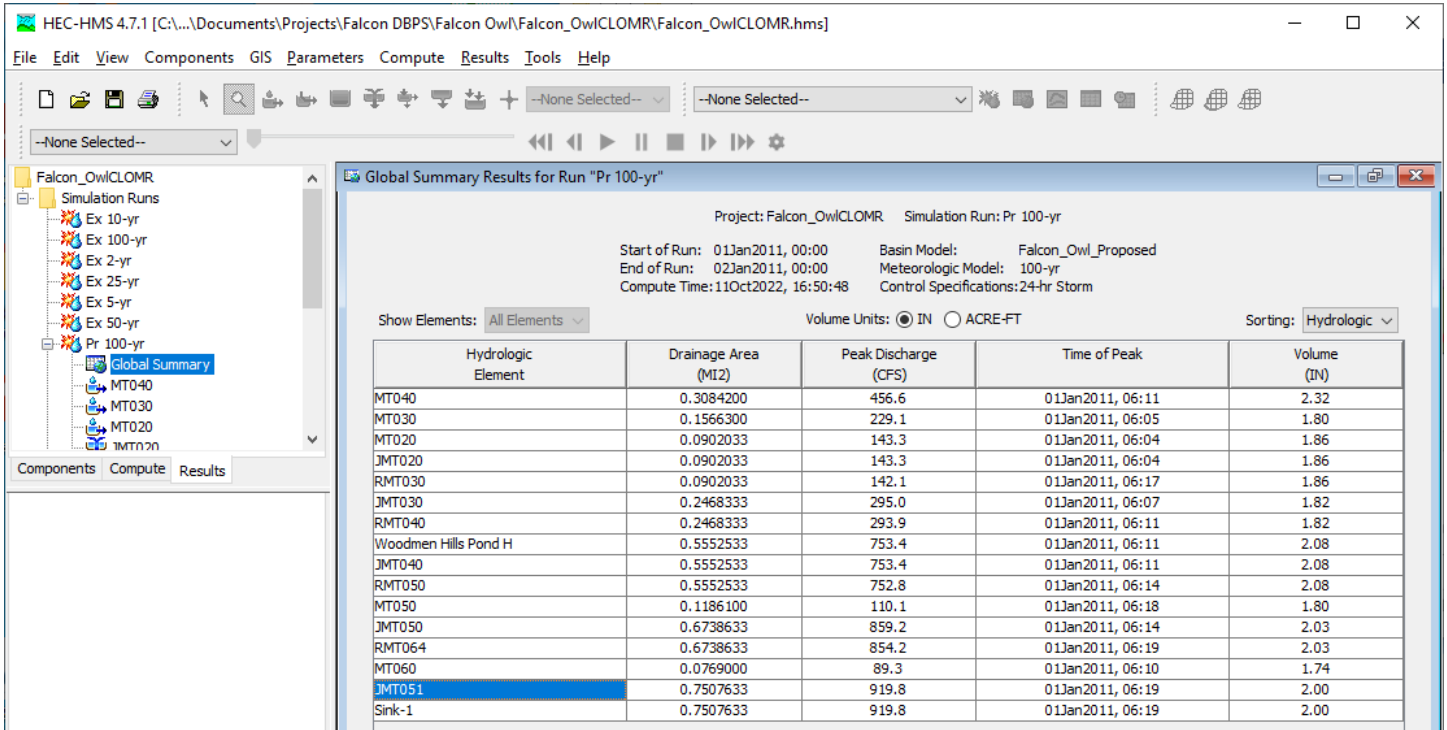
MT060 Proposed Conditions Land Use (based on El Paso County GIS Zoning)



Existing Conditions 100-year HMS Global Summary



Proposed Conditions 100-year HMS Global Summary



**REQUEST FOR CONDITIONAL LETTER OF MAP REVISION
UNNAMED TRIBUTARY TO BLACK SQUIRREL CREEK
Falcon Owl Place**

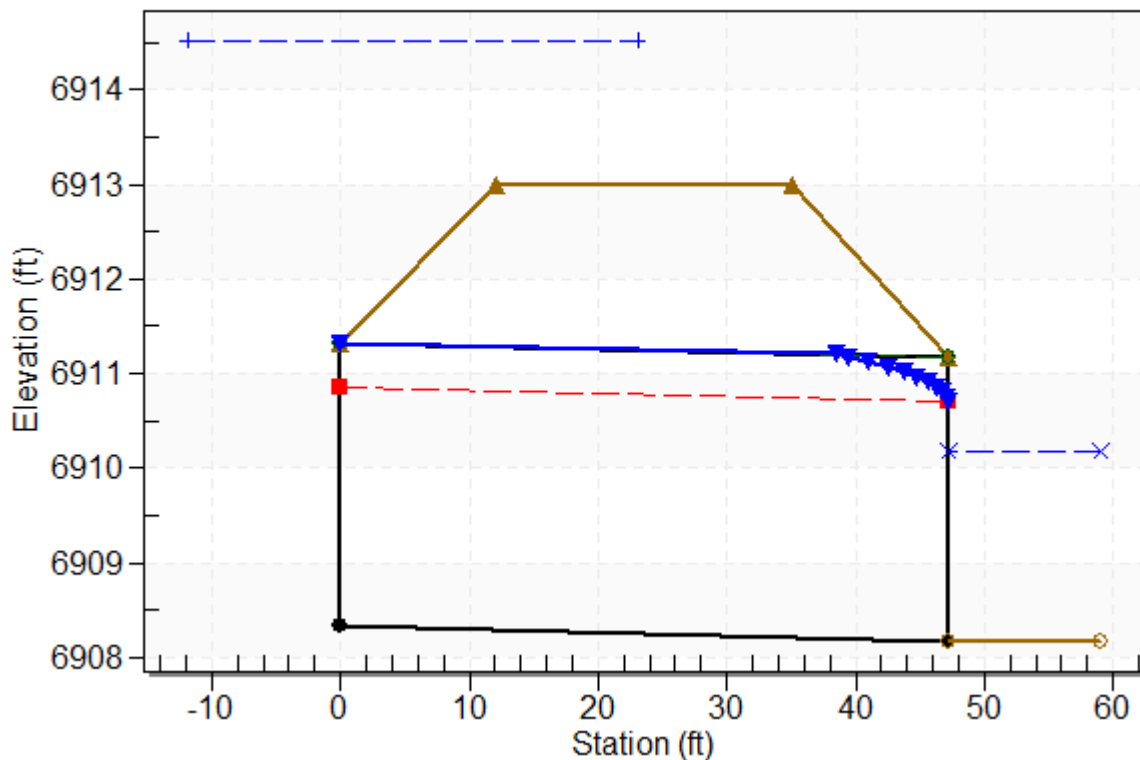
APPENDIX 5

HYDRAULIC MODELING

Water Surface Profile Plot for Culvert: Culvert 1

Crossing - Existing Owl Place, Design Discharge - 920.0 cfs

Culvert - Culvert 1, Culvert Discharge - 122.5 cfs



Site Data - Culvert 1

Site Data Option: Culvert Invert Data

Inlet Station: 0.00 ft

Inlet Elevation: 6908.33 ft

Outlet Station: 47.20 ft

Outlet Elevation: 6908.18 ft

Number of Barrels: 2

Culvert Data Summary - Culvert 1

Barrel Shape: Circular

Barrel Diameter: 3.00 ft

Barrel Material: Corrugated Steel

Embedment: 0.00 in

Barrel Manning's n: 0.0240

Culvert Type: Straight

Inlet Configuration: Thin Edge Projecting

Inlet Depression: None

Tailwater Channel Data - Existing Owl Place

Tailwater Channel Option: Enter Constant Tailwater Elevation

Constant Tailwater Elevation: 6910.18 ft

2 feet depth



Roadway Data for Crossing: Existing Owl Place

Roadway Profile Shape: Constant Roadway Elevation

Crest Length: 140.00 ft

Crest Elevation: 6913.00 ft

Roadway Surface: Paved

Roadway Top Width: 23.00 ft

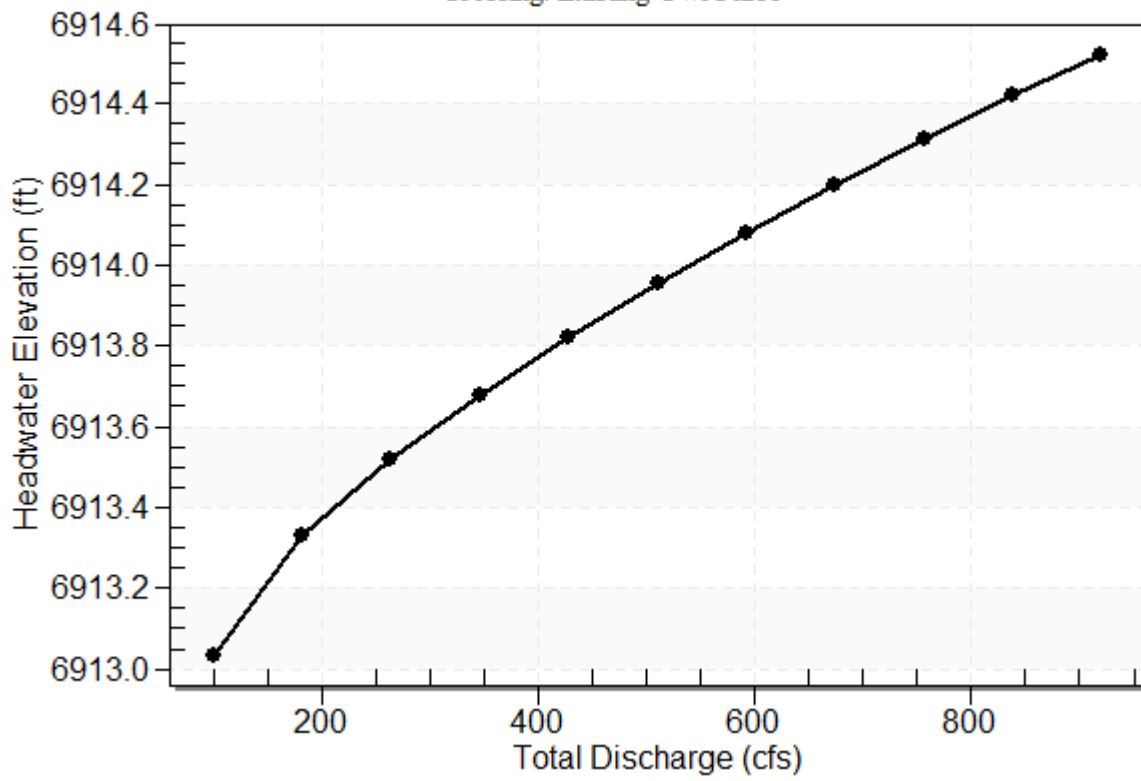
Table 1 - Summary of Culvert Flows at Crossing: Existing Owl Place

Headwater Elevation (ft)	Total Discharge (cfs)	Culvert 1 Discharge (cfs)	Roadway Discharge (cfs)	Iterations
6913.04	100.00	97.23	2.67	15
6913.33	182.00	102.18	79.37	6
6913.52	264.00	105.86	157.82	5
6913.68	346.00	108.49	237.36	5
6913.82	428.00	111.07	316.40	4
6913.96	510.00	113.11	396.63	4
6914.08	592.00	115.36	476.52	4
6914.20	674.00	117.11	556.16	3
6914.31	756.00	118.99	636.67	3
6914.42	838.00	120.83	717.02	3
6914.52	920.00	122.48	797.47	3
6913.00	96.57	96.57	0.00	Overtopping

Rating Curve Plot for Crossing: Existing Owl Place

Total Rating Curve

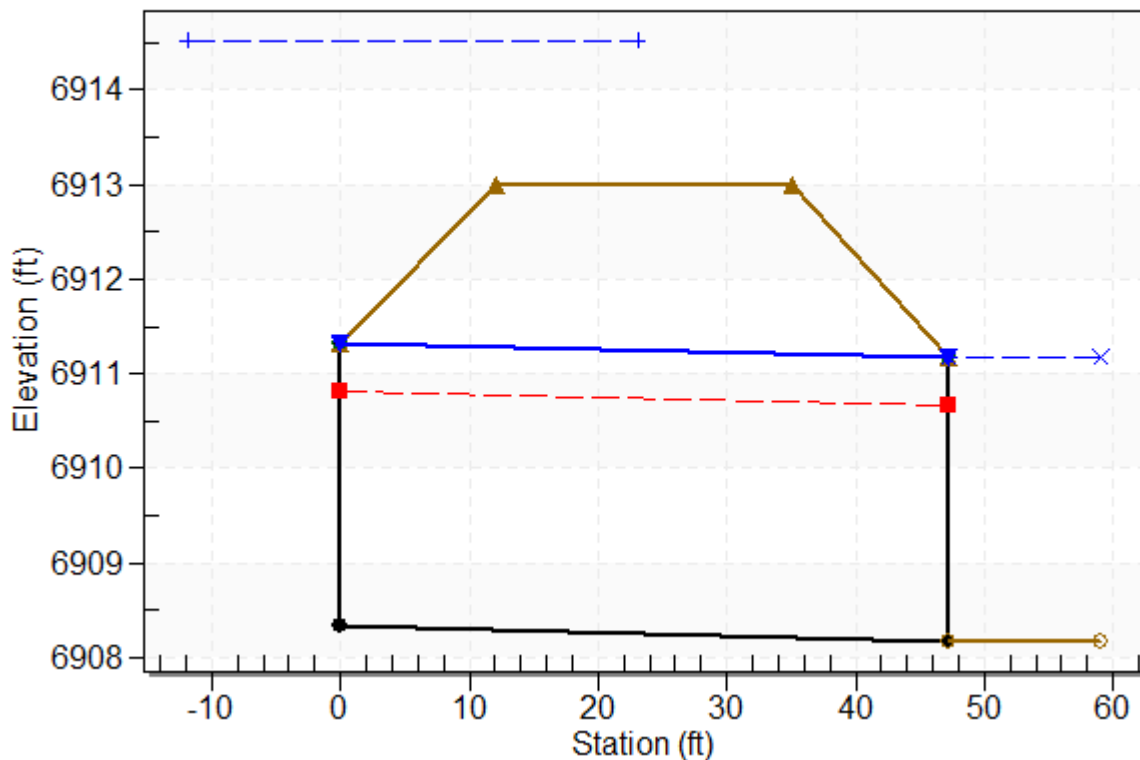
Crossing: Existing Owl Place



Water Surface Profile Plot for Culvert: Culvert 1

Crossing - Existing Owl Place, Design Discharge - 920.0 cfs

Culvert - Culvert 1, Culvert Discharge - 118.7 cfs



Site Data - Culvert 1

Site Data Option: Culvert Invert Data

Inlet Station: 0.00 ft

Inlet Elevation: 6908.33 ft

Outlet Station: 47.20 ft

Outlet Elevation: 6908.18 ft

Number of Barrels: 2

Culvert Data Summary - Culvert 1

Barrel Shape: Circular

Barrel Diameter: 3.00 ft

Barrel Material: Corrugated Steel

Embedment: 0.00 in

Barrel Manning's n: 0.0240

Culvert Type: Straight

Inlet Configuration: Thin Edge Projecting

Inlet Depression: None

Tailwater Channel Data - Existing Owl Place

Tailwater Channel Option: Enter Constant Tailwater Elevation

Constant Tailwater Elevation: 6911.18 ft

Top of Pipe



Roadway Data for Crossing: Existing Owl Place

Roadway Profile Shape: Constant Roadway Elevation

Crest Length: 140.00 ft

Crest Elevation: 6913.00 ft

Roadway Surface: Paved

Roadway Top Width: 23.00 ft

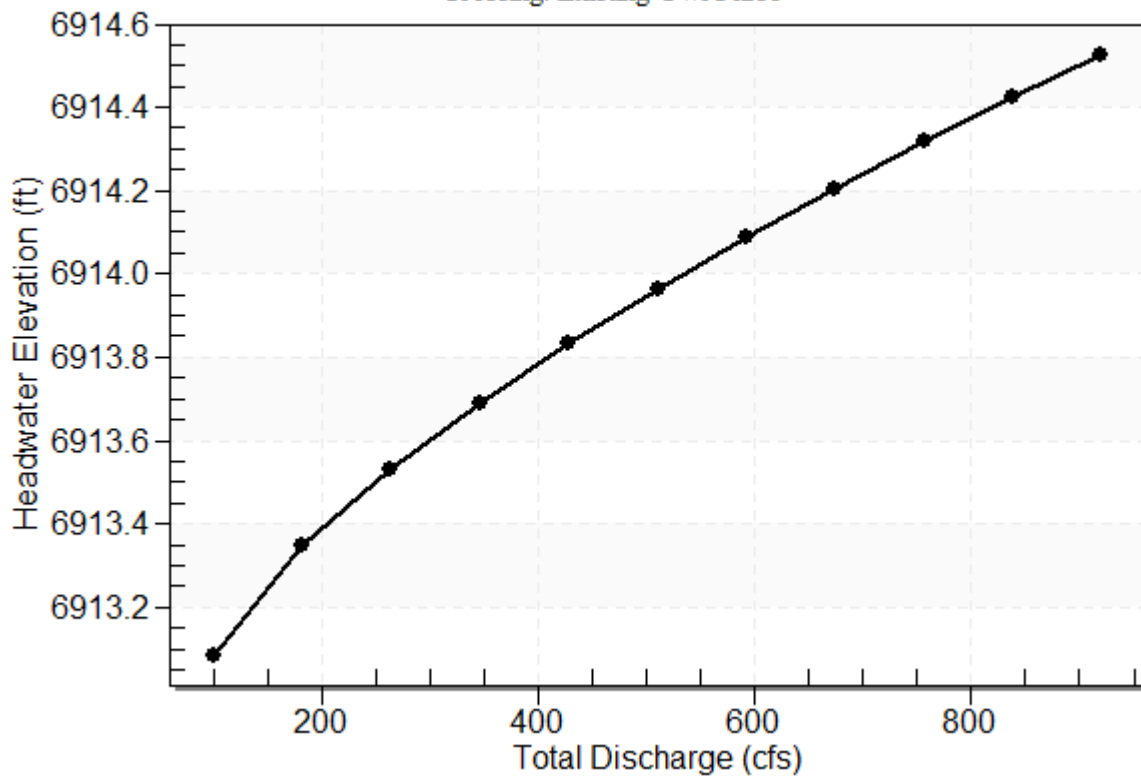
Table 1 - Summary of Culvert Flows at Crossing: Existing Owl Place

Headwater Elevation (ft)	Total Discharge (cfs)	Culvert 1 Discharge (cfs)	Roadway Discharge (cfs)	Iterations
6913.09	100.00	89.58	10.34	8
6913.35	182.00	95.54	86.21	6
6913.53	264.00	99.51	164.21	5
6913.69	346.00	102.79	243.06	5
6913.83	428.00	105.65	321.85	4
6913.96	510.00	108.26	401.51	4
6914.09	592.00	110.63	481.25	4
6914.20	674.00	112.83	560.58	3
6914.32	756.00	114.90	640.77	3
6914.42	838.00	116.85	721.00	3
6914.53	920.00	118.71	801.25	3
6913.00	87.53	87.53	0.00	Overtopping

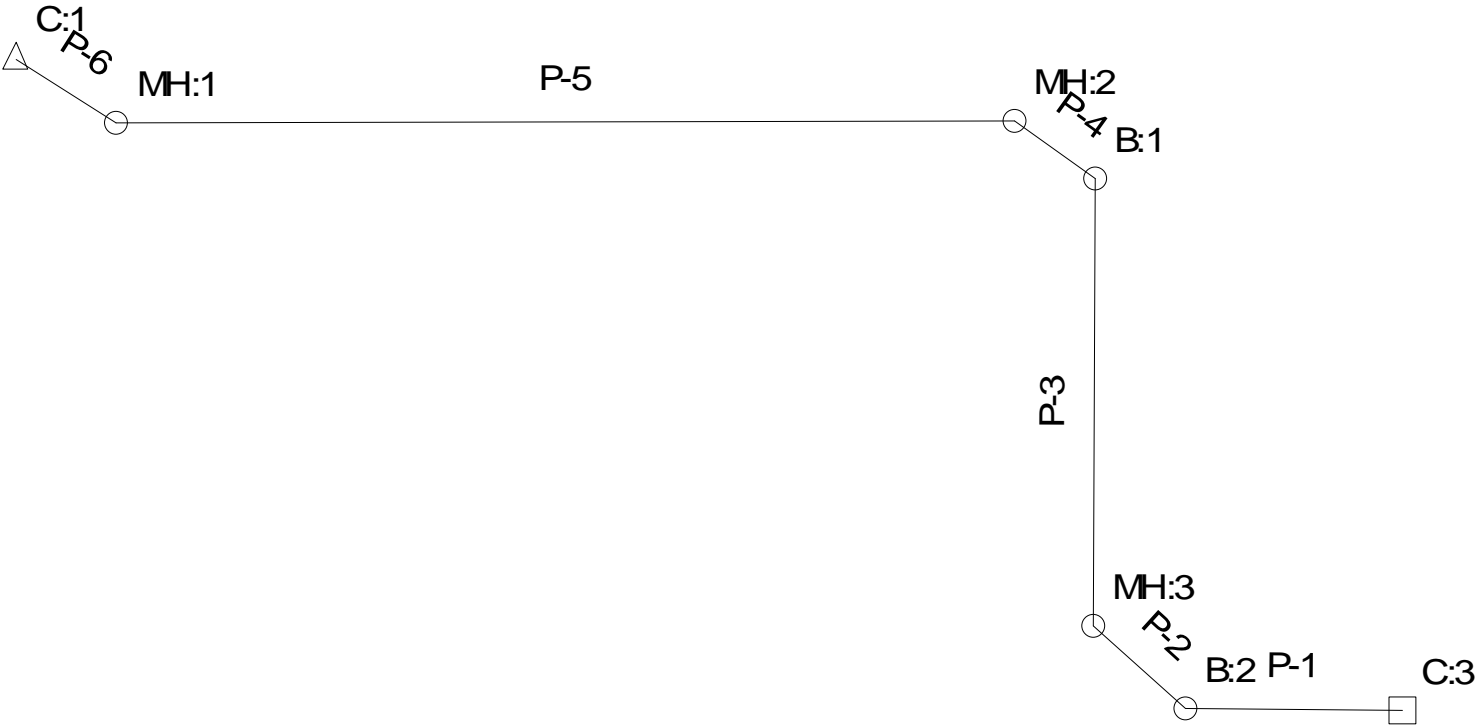
Rating Curve Plot for Crossing: Existing Owl Place

Total Rating Curve

Crossing: Existing Owl Place



Scenario: Base



=====
 Scenario: Base

>>> Info: Subsurface Analysis iterations: 1
 >>> Info: Convergence was achieved.

=====
 Gravity subnetwork discharging at: C:1

>>> Info: Loading and hydraulic computations completed successfully.
 >>> Warning: P-1 Pipe fails maximum velocity constraint.
 >>> Warning: P-2 Pipe fails maximum velocity constraint.
 >>> Warning: P-3 Pipe fails maximum velocity constraint.
 >>> Warning: P-4 Pipe fails maximum velocity constraint.
 >>> Warning: P-5 Pipe fails maximum velocity constraint.
 >>> Warning: P-6 Pipe fails maximum velocity constraint.

CALCULATION SUMMARY FOR SURFACE NETWORKS

Label	Inlet Type	Inlet	Total Intercepted Flow (cfs)	Total Bypassed Flow (cfs)	Capture Efficiency (%)	Gutter Spread (ft)	Gutter Depth (ft)
C:3	Generic Inlet	Generic Default 100%	0.00	0.00	100.0	0.00	0.00

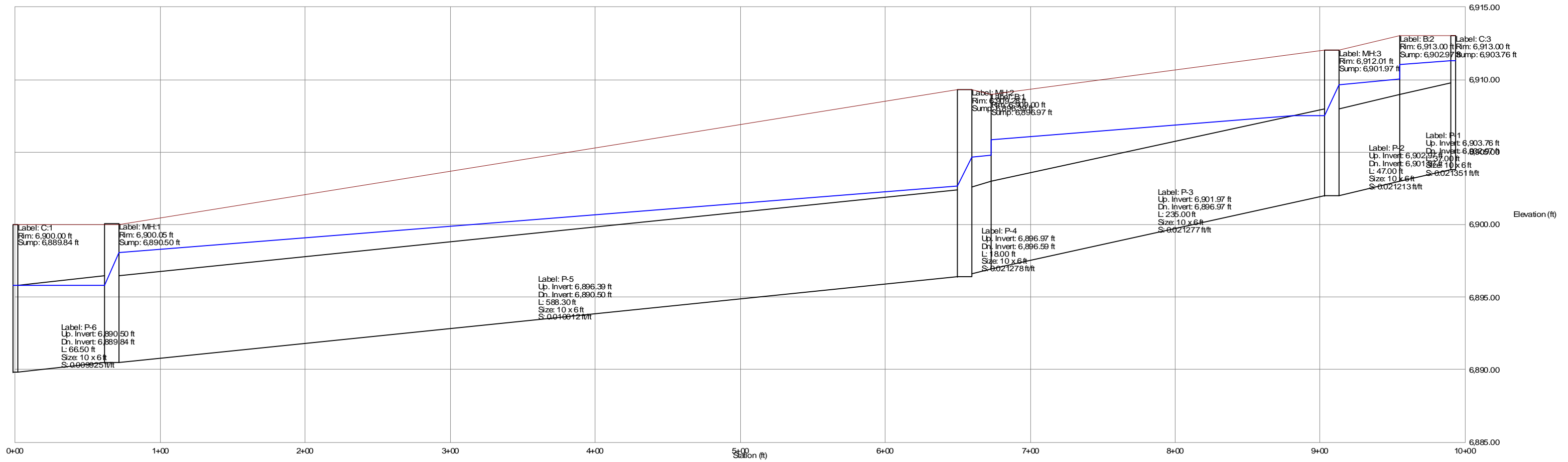
CALCULATION SUMMARY FOR SUBSURFACE NETWORK WITH ROOT: C:1

Label	Number of Sections	Section Size	Section Shape	Length (ft)	Total System Flow (cfs)	Average Velocity (ft/s)	Hydraulic Grade Upstream (ft)	Hydraulic Grade Downstream (ft)
P-6	1	10 x 6 ft	Box	66.50	920.00	16.28	6,895.84	6,895.84
P-5	1	10 x 6 ft	Box	588.30	920.00	15.33	6,902.66	6,898.08
P-4	1	10 x 6 ft	Box	18.00	920.00	15.33	6,904.76	6,904.62
P-3	1	10 x 6 ft	Box	235.00	920.00	15.99	6,907.50	6,905.84
P-2	1	10 x 6 ft	Box	47.00	920.00	15.33	6,910.00	6,909.64
P-1	1	10 x 6 ft	Box	37.00	920.00	15.33	6,911.31	6,911.02

Label	Total System Flow (cfs)	Ground Elevation (ft)	Hydraulic Grade Line In (ft)	Hydraulic Grade Line Out (ft)
C:1	920.00	6,900.00	6,895.84	6,895.84
MH:1	920.00	6,900.00	6,898.08	6,895.84
MH:2	920.00	6,909.28	6,904.62	6,902.66
B:1	920.00	6,909.00	6,905.84	6,904.76
MH:3	920.00	6,912.01	6,909.64	6,907.50
B:2	920.00	6,913.00	6,911.02	6,910.00
C:3	920.00	6,913.00	6,911.31	6,911.31

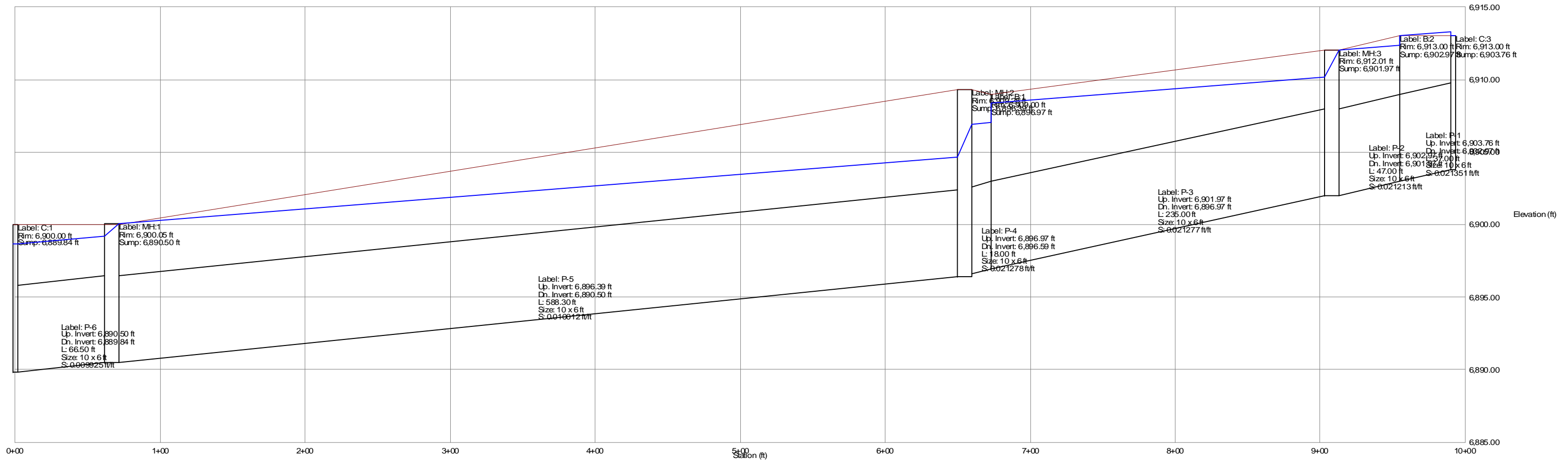
=====
 Completed: 10/13/2022 02:38:50 PM

Profile Scenario: Base



Profile

Pond SR4 Backwater Condition



**REQUEST FOR CONDITIONAL LETTER OF MAP REVISION
UNNAMED TRIBUTARY TO BLACK SQUIRREL CREEK
Falcon Owl Place**

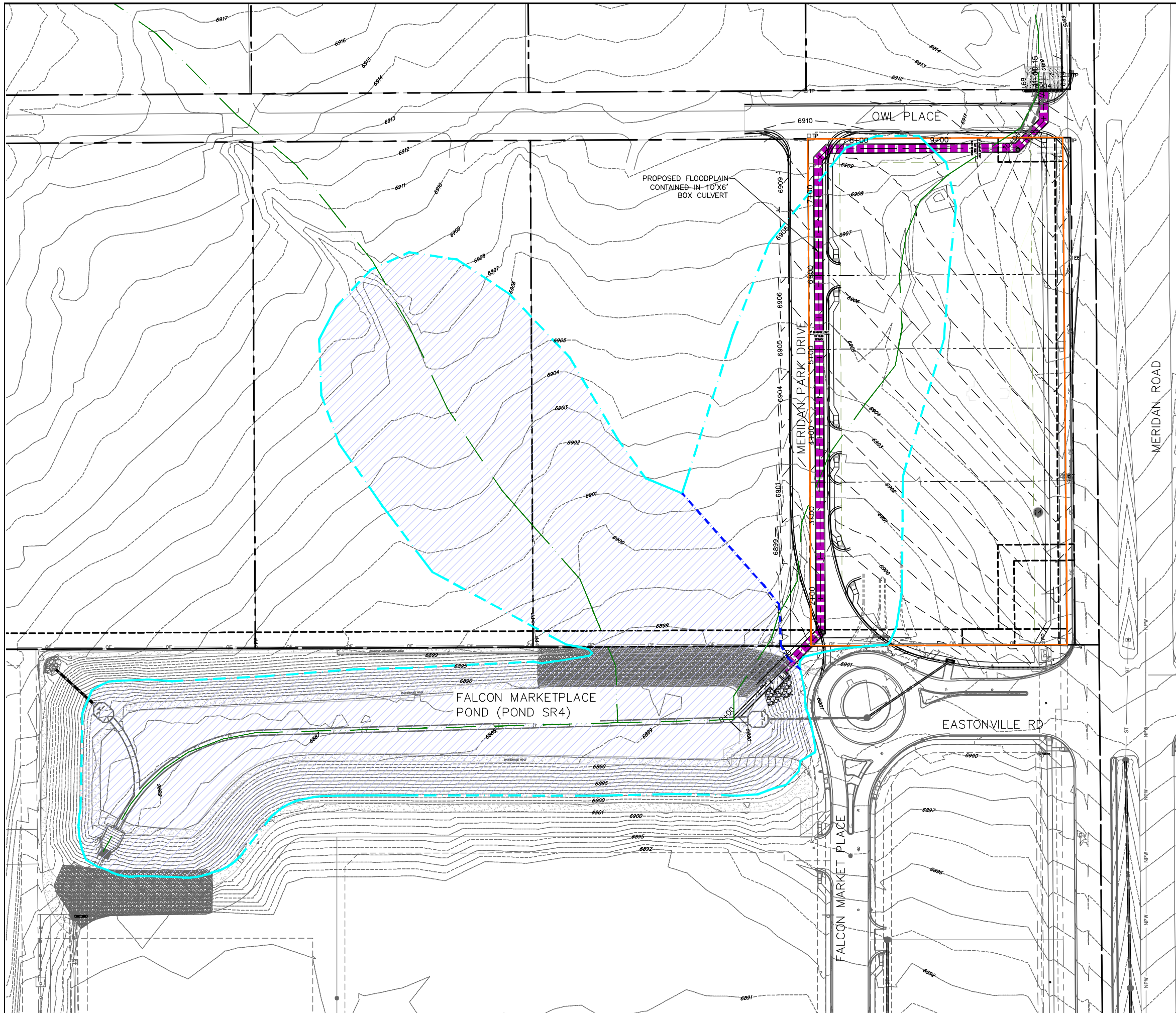
APPENDIX 6

FEMA MT-2 FORMS

**REQUEST FOR CONDITIONAL LETTER OF MAP REVISION
UNNAMED TRIBUTARY TO BLACK SQUIRREL CREEK
Falcon Owl Place**

APPENDIX 7

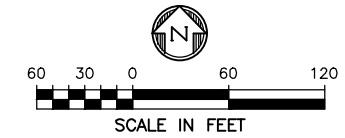
FPWM & ANNOTATED FIRM



LEGEND

EX. CONTOUR	---	6905
PR. CONTOUR	---	6905
EX. STORM SEWER	---	ST
OR	---	
PR. STORM SEWER	█	
EFFECTIVE FEMA STREAMLINE	---	
EFFECTIVE LOMR FLOODPLAIN	---	
FALCON OWL PLACE PROPERTY BOUNDARY	---	
PROPOSED 100-YEAR FLOODPLAIN	---	
PROPOSED 100-YEAR FLOODPLAIN	▨	
PROPOSED CURB LINE	---	
EX. ROW LINE	---	
EX. PROPERTY LINE	---	
EX. EASEMENT	---	

- NOTES**
1. SPATIAL PROJECTION IS NAD83 COLORADO STATE PLANE, CENTRAL ZONE (FEET).
 2. VERTICAL DATUM IS NGVD29.



PREPARED BY:

DBC
 Drexel, Barrell & Co.
 Engineers-Surveyors
 1376 MINERS DRIVE, STE 107
 LAFAYETTE, COLORADO 800026
 CONTACT: MICHELLE IBLINGS, P.E.
 (303) 442-4338
 LAFAYETTE
 COLORADO SPRINGS

OWNER/CLIENT:

LUBERTUS HAYENGA
 BH RE INVESTMENTS, LLC
 106 S. KYRENE RD., STE 2
 CHANDLER, AZ 85226

EXHIBIT FOR:
**FALCON
 OWL PLACE**
 FALCON, COLORADO

ISSUE	DATE
EXHIBIT	10/25/22
DESIGNED BY:	MLI
DRAWN BY:	CAF
CHECKED BY:	MLI
FILE NAME:	FPWM



DRAWING SCALE:
 HORIZONTAL: SEE PLAN
 VERTICAL: N/A

**CLOMR
 FLOODPLAIN
 WORK MAP**

PROJECT: 21611-00BLWR
 DRAWING NO.

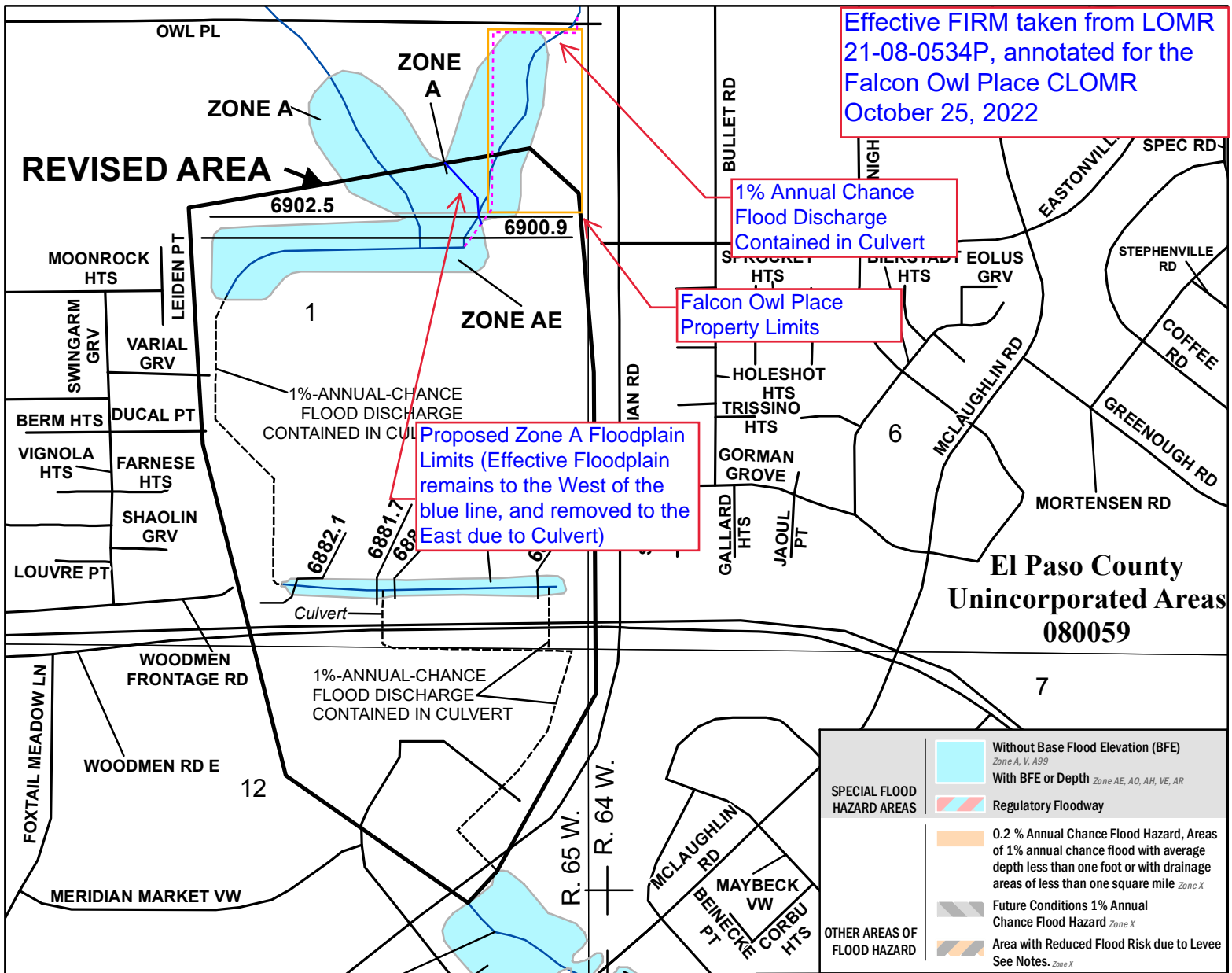
FPWM

Effective FIRM taken from LOMR 21-08-0534P, annotated for the Falcon Owl Place CLOMR October 25, 2022

1% Annual Chance Flood Discharge Contained in Culvert

Falcon Owl Place Property Limits

Proposed Zone A Floodplain Limits (Effective Floodplain remains to the West of the blue line, and removed to the East due to Culvert)



El Paso County Unincorporated Areas 080059

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

SCALE

Map Projection: Universal Transverse Mercator/NAD 1983 UTM Zone 13N
Western Hemisphere; Vertical Datum: NAVD 88

1 inch = 500 feet 1:6,000

0 250 500 1,000 Feet

0 62.5 125 250 Meters

FEMA National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM FLOOD INSURANCE RATE MAP

EL PASO COUNTY, COLORADO and Incorporated Areas

PANEL 553 OF 1300

Panel Contains:

COMMUNITY	NUMBER	PANEL	SUFFIX
EL PASO COUNTY	080059	0553	G

REVISED TO REFLECT LOMR EFFECTIVE: February 22, 2022

VERSION NUMBER 1.1.1.0
MAP NUMBER 08041C0553G
MAP REVISED DECEMBER 7, 2018

JOINS PANEL 0561

Unnamed Tributary To Black Squirrel Creek

ZONE A

534⁰⁰⁰m E ZONE A

**REQUEST FOR CONDITIONAL LETTER OF MAP REVISION
UNNAMED TRIBUTARY TO BLACK SQUIRREL CREEK
Falcon Owl Place**

APPENDIX 8

ENDANGERED SPECIES ACT

May 31, 2022

Attention: FEMA, CWCB, PPRBD

Subject: Falcon Owl Place CLOMR Submittal Request:
Endangered Species Act (ESA) Compliance

On behalf of BH RE Investments, LLC, Drexel, Barrell & Co. is requesting a review of the following supplemental documentation regarding the above site for compliance with the ESA. Based on the below findings, the project will not result in the taking of any threatened or endangered species.

Federal Nexus

The project area is southwest of the intersection of Owl Place and Meridian Road in Falcon, Colorado (Figure 1). The East Branch of a seasonal drainageway associated with an unnamed tributary to Black Squirrel Creek flows southwest through the site. The site is immediately upstream and adjacent to the Falcon Marketplace (formerly known as the Gaddie Property), recently approved in the attached LOMR dated March 1, 2022.

On August 23, 2016, Van Truan, Chief of Southern Colorado Regulatory Branch of the U.S. Army Corps of Engineers, provided an Approved Jurisdictional Ruling determining that **"the [Falcon Marketplace] site contains no jurisdictional waters of the United States that are subject to regulation under Section 404 of the Clean Water Act"**. Because the sites are similar and adjacent, we propose that no known federal nexus is associated with either project.

Project Location and Description

The Owl Place property is located at 11745 Owl Place in Falcon, Colorado. The legal description of the project area is Section 1, Township 13 South, Range 65 West of the 6th Principal Meridian in El Paso County, Colorado. The latitude/longitude of the project area is approximately 38.946°N/104.6085°W. The elevation of the project area varies but is on average approximately 6,900 feet above sea level.

The proposed project consists of constructing a commercial/retail development, with associated roadways, parking areas, landscaping and utility infrastructure.

Endangered Species Act (ESA) Compliance

The project area does not fall within U.S. Fish and Wildlife Service (Service) habitat or survey guidelines for the majority of the species listed by the Service as potentially occurring in El Paso County (Table 1).

The interior least tern, piping plover, whooping crane, pallid sturgeon, and western prairie fringed orchid are species affected by water depletions from the South Platte River. The project area is not within the Platte River Basin and there would be no depletions of the Platte River.

Table 1. Federally threatened, endangered, and candidate species potentially found in El Paso County or potentially affected by projects in El Paso County.

Common Name	Scientific Name	Status*	Habitat	Potential Effect on Species
		Mammals		
Black-footed ferret	<i>Mustela nigripes</i>	EXPN, XN	Prairie and grassland ranging from midwestern to western U.S.	No effect, habitat not present
North American wolverine	<i>Gulo gulo luscus</i>	P	Deep, persistent, and reliable spring snow cover	No effect, habitat not present
Preble's meadow jumping mouse	<i>Zapus hudsonius preblei</i>	T	Shrub riparian / wet meadows	No effect, in block clearance area
		Birds		
Interior least tern**	<i>Sterna antillarum athalassos</i>	E	Sandy/pebble beaches on lakes, reservoirs, and rivers	No effect, not in Platte River Basin
Mexican spotted owl	<i>Strix occidentalis</i>	T	Closed canopy forests in steep canyons	No effect, no habitat present
Piping plover**	<i>Charadrius melodus</i>	T	Sandy lakeshore beaches and river sandbars	No effect, not in Platte River Basin
Whooping crane**	<i>Grus americana</i>	E	Mudflats around reservoirs and in agricultural areas	No effect, not in Platte River Basin
		Fish		
Arkansas darter	<i>Etheostoma cragini</i>	C	Clear waters, low current with sandy bottoms, abundant aquatic vegetation	No, project area lacks flows and there is no continuous surface water connection to the Arkansas River
Greenback cutthroat trout	<i>Oncorhynchus clarki stomias</i>	T	Cold, clear, oxygenated streams of moderate gradient	No effect, no habitat present
Pallid sturgeon**	<i>Scaphirhynchus albus</i>	E	Large, turbid, free-flowing rivers with a strong current and gravel or sandy substrate	No effect, not in Platte River Basin
		Plants		
Ute ladies' -tresses orchid	<i>Spiranthes diluvialis</i>	T	Moist to wet alluvial meadows, floodplains of perennial streams, and around springs and lakes below 6,500 feet	No habitat present – above species' elevation range
Western prairie fringed orchid**	<i>Platanthera praeclara</i>	T	Moist to wet tallgrass prairies and sedge meadows, mostly in relatively undisturbed grasslands	No effect, not in Platte River Basin

*T = Federally Threatened; E = Federally Endangered; C = Federal Candidate; P = Federal Proposed; EXPN, XN = Experimental Non-Essential Population.

**Water depletions in the North Platte, South Platte, and Laramie River basins may affect the species and/or critical habitat in downstream reaches in other counties or states.

Source: Service 2016.

The proposed project would not directly affect the black-footed ferret, North American wolverine, or Mexican spotted owl because of the lack of potentially suitable habitat in the project area. The project area is within the Preble's meadow jumping mouse (Preble's) Colorado Springs block clearance area, within which Preble's is assumed to be absent. The project area would not likely support the Arkansas darter because the darter is not known to occur in Black Squirrel Creek or its tributaries within the Arkansas River Basin and the

project area consists of only small seasonal pooled areas. The greenback cutthroat trout is primarily a high-elevation species, and the project area is outside the range of this species. The project area is not conducive to the establishment of Ute ladies'-tresses orchid (*Spiranthes diluvialis* or ULTO) and differs from the criteria of the Service's November 1992 (Service 1992) *Interim Survey Requirements for Spiranthes diluvialis* because the project area is above the elevation range and occurs outside of the 100-year floodplain of Fountain Creek.

Conclusions

There is no suitable habitat for threatened or endangered species in the project area. Therefore, the proposed development of the property would likely have no effect on species listed by the Service as potentially being present in El Paso County.

Please do not hesitate to contact me if you have any questions or require additional information. We look forward to working with you in processing this CLOMR.

Respectfully,
Drexel, Barrell & Co.

Michelle Iblings, P.E., CFM
Associate, Water Resources Group Leader
miblings@drexelbarrell.com

Encl: *Falcon Marketplace USACE Jurisdictional Ruling 8-23-16*
NWI for Falcon Owl Place 5-27-22



Falcon Owl Place NWI



May 27, 2022

Wetlands

- Estuarine and Marine Deepwater
- Freshwater Emergent Wetland
- Estuarine and Marine Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
ALBUQUERQUE DISTRICT, CORPS OF ENGINEERS
SOUTHERN COLORADO REGULATORY OFFICE
200 S. SANTA FE AVENUE, SUITE 301
PUEBLO, COLORADO 81003

August 23, 2016

Regulatory Division

SUBJECT: Approved Jurisdictional Determination – Action No. SPA-2016-00278-SCO,
Gaddie Property in Falcon, El Paso County, Colorado

Tim McConnell
Drexel, Barrell & Co.
3 S. 7th Street
Colorado Springs, CO 80905

Mr. McConnell:

I am writing this letter in response to your request for a jurisdictional determination (JD) for the Gaddie Property in Falcon, El Paso County, Colorado. We have assigned Action No. SPA-2016-00278-SCO to your request. Please reference this number in all future correspondence concerning the site.

Based on the information provided, we have determined that the site contains no jurisdictional waters of the United States that are subject to regulation under Section 404 of the Clean Water Act.

The basis for this approved JD (attached) is that the project site contains waters with no nexus to interstate or foreign commerce. This approved JD is valid for five years unless new information warrants revision of the determination before the expiration date.

You may accept or appeal this approved JD or provide new information in accordance with the attached Notification of Administration Appeal Options and Process and Request for Appeal (NAAOP-RFA). If you elect to appeal this approved JD, you must complete Section II of the form and return it to the Army Engineer Division, South Pacific, CESPDPDS-O, Attn: Tom Cavanaugh, Administrative Appeal Review Officer, 1455 Market Street, Room 1760, San Francisco, CA 94103-1399 within 60 days of the date of this notice. Failure to notify the Corps within 60 days of the date of this notice means that you accept the approved JD in its entirety and waive all rights to appeal the approved JD.

If you have any questions, please contact me at 719-543-6915 or by e-mail at

van.a.truan@usace.army.mil. At your convenience, please complete a Customer Service Survey at http://corpsmapu.usace.army.mil/cm_apex/f?p=136:4:0.

Sincerely,

Van Truan
Chief, Southern Colorado
Regulatory Branch



July 5, 2016

- | | | |
|--------------------------------|-----------------------------------|----------|
| Estuarine and Marine Deepwater | Freshwater Forested/Shrub Wetland | Other |
| Estuarine and Marine Wetland | Freshwater Pond | Riverine |
| Freshwater Emergent Wetland | Lake | |

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.