

URBAN DRAINAGE AND FLOOD CONTROL DISTRICT

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December 29, 2017

UDFCD Maintenance Eligibility Program Referral Review Comments

Project: **Compark Village South Filing 1 – Belford Bridge**
Stream: **Happy Canyon Creek**
UDFCD MEP Phase: **Design**
UD MEP ID: **106582**

Dear **Ms. Carolyn Washee- Freeland**,

This letter is in response to the request for our comments concerning the referenced project. We appreciate the opportunity to review this proposal. We have reviewed this proposal only as it relates to major drainage features, in this case:

- Happy Canyon Creek

We have the following comments to offer:

1. Per MEP Guidelines, please include the proposed flow, velocity and Froude number for this outfall on the profile in the construction documents. Please extend the profile to the centerline of Happy Canyon Creek.
2. At Drop 3, please grade out the steep, constricting slope along the right overbank. With the changes in future hydrology to Happy Canyon Creek, there is an opportunity to reconnect the floodplain to the active channel in this area and mitigate the high velocities and shear stress with grading opposed to structural improvements.
3. Please see the attached recommendation for the cutoff wall downstream of the low water crossing.
4. Please add the approximate ground water location to the drop structures profile and details. If the drop cannot be constructed to the plan depth due to ground water, than a grouted boulder drop with a stilling basin and end sill may be required.
5. Please show the maintenance access location on the drop cross-sections. Does any grading need to be done to accommodate this maintenance access?
6. Per UDFCD MEP Guidelines, please include an enlarged plan view of each drop structure drawn at 1"=20' minimum. Please detail the tie-in between the overbank boulders and the boulders located in the active channel. This should include at a minimum:

- a. Existing and proposed ground lines, soil riprap and boulder thicknesses (profiles and sections), and;
 - b. Proposed 2-yr and 100-yr water surface profiles.
7. For Drop 1 and Drop 2, please extended to boulders to the 2- year water surface elevation. As currently designed, the boulders will be frequently inundated and water will likely damage the structure along the overbanks in frequent events.
8. Due to the existing floodplain bench at Drop 3, it would be acceptable to extend the grouted boulders 10 feet past the active channel and protect with soil riprap and vegetation to the 2 year water surface elevation.

Please feel free to contact me with any questions or concerns.

Sincerely,

Urban Drainage and Flood Control District

A handwritten signature in blue ink that reads "Morgan Lynch".

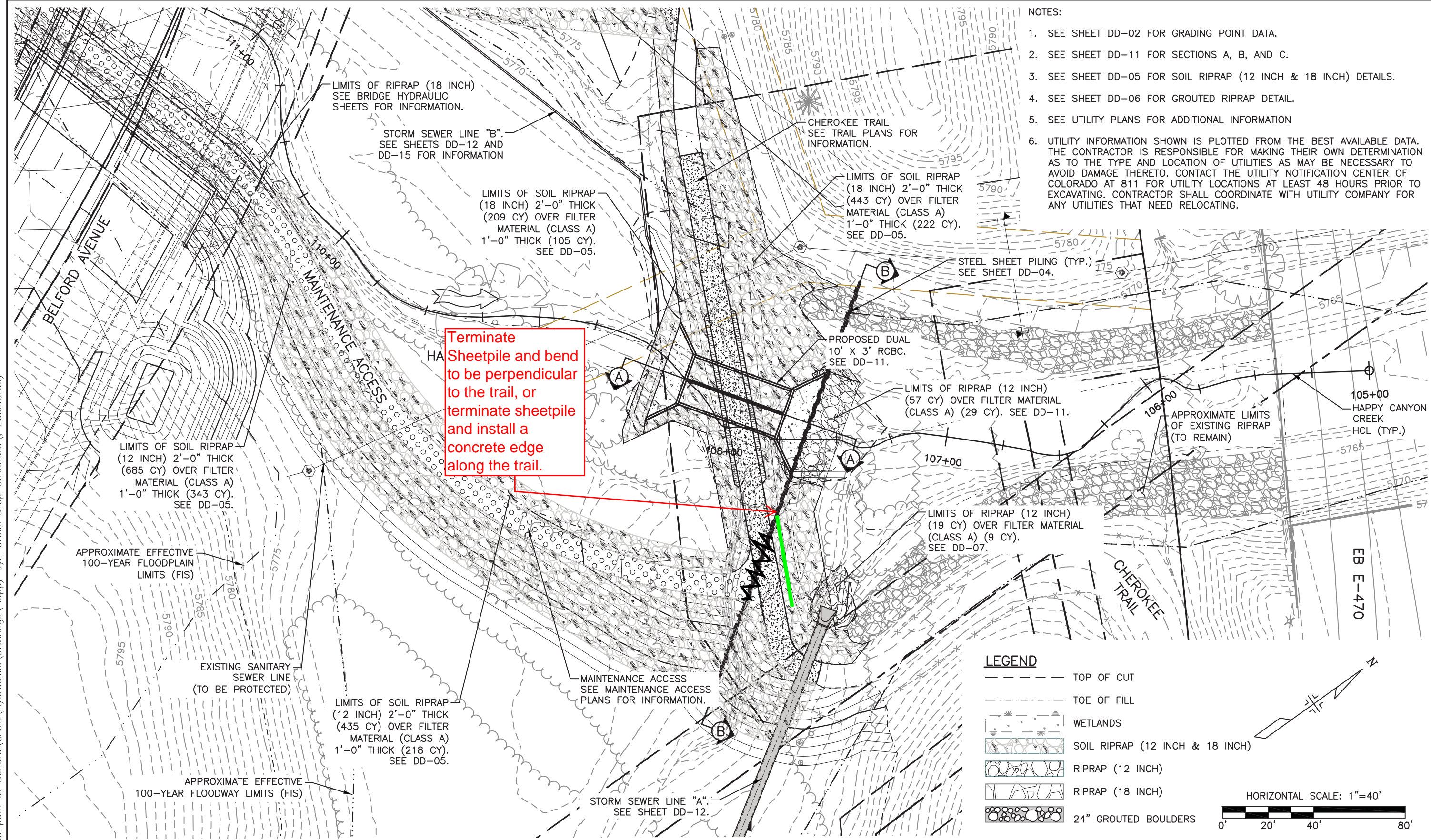
Morgan Lynch, PE, CFM

Watershed Services Program

NOTES:

1. SEE SHEET DD-02 FOR GRADING POINT DATA.
2. SEE SHEET DD-11 FOR SECTIONS A, B, AND C.
3. SEE SHEET DD-05 FOR SOIL RIPRAP (12 INCH & 18 INCH) DETAILS.
4. SEE SHEET DD-06 FOR GROUTED RIPRAP DETAIL.
5. SEE UTILITY PLANS FOR ADDITIONAL INFORMATION
6. UTILITY INFORMATION SHOWN IS PLOTTED FROM THE BEST AVAILABLE DATA. THE CONTRACTOR IS RESPONSIBLE FOR MAKING THEIR OWN DETERMINATION AS TO THE TYPE AND LOCATION OF UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO. CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO AT 811 FOR UTILITY LOCATIONS AT LEAST 48 HOURS PRIOR TO EXCAVATING. CONTRACTOR SHALL COORDINATE WITH UTILITY COMPANY FOR ANY UTILITIES THAT NEED RELOCATING.

Terminate Sheetpile and bend to be perpendicular to the trail, or terminate sheetpile and install a concrete edge along the trail.



I:\115360-01 - Compark at Belford\CADD\Hydraulics\Drawings\Happy Cyn Creek Drop Structure\ Zach.Grady

Print Date: 12/1/2017 8:32:12 AM
 File Name: H115360-01DROP10?CherokeeTrailCrossing
 Horizontal Scale: 1"=20' Vertical Scale: N.T.S.

Sheet Revisions			
Date	Comments	Initials	

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 Civil Engineers • Surveyors • Water Resource Engineers • Water & Wastewater Engineers
 Construction Managers • Environmental Scientists • Landscape Architects • Planners

As Constructed	BELFORD-HAPPY CANYON CREEK		Project No./Code
No Revisions:	HAPPY CANYON CREEK DROP STRUCTURE		
Revised:	Designer: CDT	Structure	Sheet Number 74
Void:	Detailer: KLT	Numbers	
	Subset: Drainage	Sheets: DD-10 of 19	

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