



URBAN DRAINAGE AND FLOOD CONTROL DISTRICT

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UDFCD Maintenance Eligibility Program Referral Review Comments

Project: **Trails at Crowfoot Filing 1**
Stream: **Lemon Gulch**
UDFCD MEP Phase: **Design**
UD MEP ID: **106912**

Dear **Ms. Stacey Neger**,

This letter is in response to the request for our comments concerning the referenced project. We appreciate the opportunity to review this proposal. The Town of Parker has requested that UDFCD review Pond A for acceptance into our Maintenance Eligibility Program. We have reviewed this proposal only as it relates to major drainage features, in this case:

- Outfall at Lemon Gulch, Check Structure in Lemon Gulch and Pond A

We have the following comments to offer:

1. Please specify if the riprap located at the Pond A outfall is exposed or soil riprap. We would recommend soil riprap for this application. Please clearly call out the depth of riprap and provide a detail for the riprap being placed.
2. Riprap placed in Lemon Gulch should be sized per UDFCD Criteria located in Volume 1, Chapter 8, Section 8.1 – Open Channels, Riprap Sizing.
3. The typical sheet pile detail provided is not sufficient for construction. The cross-section should accurately display existing grade and dimension the structure based on site conditions.
4. At a minimum please place soil riprap downstream of the check structure. If future degradation occurs, the riprap may act as an interim condition to limit erosion at the structure.
5. Please provide a north arrow on the Pond A Outlet Structure Plan.
6. Please include a maintenance site plan for Pond A.
7. For the Pond A design table in the Final Drainage Report, please document surcharge volume.
8. The engineer is using an outdated version of UD-Detention. Benefits of updating to the new version include calculation of drain times for all events including calculation of drain time requirements for the new stormwater law. The workbook also develops a stage discharge table which will be required as part of notification via the portal. Please note that review of the calculations within the drainage report was not completed as part of this review.
9. Please provide stage, storage, discharge information for Pond A on the plans.

10. Please extend the riprap protection along the emergency spillway to the toe of the embankment. Please call out the embankment slope.
11. On the emergency spillway section, please show how the soil riprap ties into the embankment.
12. Please show the maintenance access and any necessary easements to the forebay, micropool, well screen and Pond A outfall. Currently the detail for the forebay shows maintenance access, but this is not reflected in the grading and plan view.
13. Please provide a design slope of at least 3% in the vegetated bottom of the basin (either toward the trickle channel or micropool).
14. Please place soil riprap downstream of the Pond A proposed forebay to provide overflow protection.
15. Please include a profile along the main flow path through the detention basin that includes information about the upstream pipe into the basin, the trickle channel, the outlet structure, and the culvert to Lemon Gulch.
16. It appears that QEURV should be VEURV on Sheet 92.
17. Please update Q100 on Sheet 92 to state that this flow is the designed outflow of the pond.
18. Please clearly label the micropool and initial surcharge basin on Pond A.
19. Please verify the elevations labeled on the Initial Surcharge Basin and the cross-section A-A.
20. Please clearly call out and detail the material proposed for the initial surcharge basin.

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

Sincerely,

Urban Drainage and Flood Control District



Morgan Lynch, PE, CFM

Watershed Services Program