Revise/provide Pond Certification Letter with required statements listed in ECM Section 5.10.6.B:

"The site and adjacent properties (as affected by work performed under the County permit) are stable with respect to settlement and subsidence, sloughing of cut and fill slopes, revegetation or other ground cover, and that the improvements (public improvements, common development improvements, site grading and paving) meet or exceed the minimum design requirements."
For sites including detention and/or water quality facilities, the certification letter shall include a statement that the facilities provide the required storage volume and will meet the required release rates (as documented by an attached MHFD design form submitted with the original application), the stage areas, elevations, and outlet dimensions.

CATAMOUNT ENGINEERING
321 W. Henrietta Ave
Suite A
Woodlan Park, CO 80814

April 26, 2024

El Paso County
Department of Public Works
3275 Akers Drive
Colorado Springs, CO 80922

The permanent stormwater Best Management Practices (BMPs) for The Villas at Claremont Ranch consist of development of a full spectrum extended detention basin located in the northern portion of the subdivision adjacent to Sand Creek. The pond requires 0.139 acre-feet of water quality capture volume and a total (100-YR) volume of 0.760 acre-ft. Catamount Engineering has reviewed the as-built survey of pond, and outlet structure prepared by M&S Land Surveys and performed field measurements of structures. The as-built drawings indicated that the overall pond volume, the pond inlet, and outlet structures were constructed in general conformance with the approved design.

Provide this survey topo and data on the as-built CDs.

Deviations-

- The approved plans indicated an emergency overflow width of 20'. The emergency overflow was constructed 16' wide with required 4:1 side slopes. The 16' spillway width raises the water surface of the fully plugged overflow condition by 0.04' and adequate berm height exists to maintain the 1.0' freeboard required. The increase in unit flow will not change sizing of required buried riprap.

- The trickle channel was revised to a 1.0' width x 6" deep trapezoidal channel vs. the inverted crown design in the original plan. The original alignment was utilized and the trapezoidal channel was installed at a longitudinal slope of 0.5%. The trickly channel enters the micropool below the lip of the structure (initial surcharge volume) but above the micropool outfall depth.

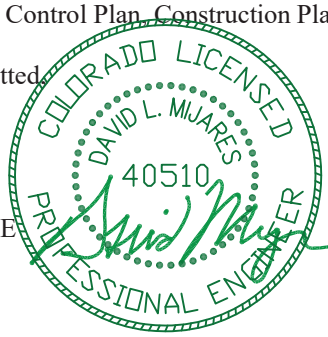
- The pond outfall location was revised to eliminate crossing of CSU water transmission mains. The outfall maintains configuration of initial design outfalling 1.0' above the toe of the channel bank to a riprap energy dissipator that maintains positive grade in excess of 2.0% to the top of the defined low flow channel in the center of the creek.

Based upon this information and information gathered during periodic site visits to the project during significant/key phases of the stormwater BMP installation, Catamount Engineering is of the opinion that the stormwater BMPs have been constructed in general compliance with the approved Erosion and Stormwater Quality Control Plan, Construction Plans, and Specifications as filed with the City.

**Statement Of Engineer In Responsible Charge:**

I, David Mijares a registered Professional Engineer in the State of Colorado, in accordance with Sections 5.2 and 5.3 of the Bylaws and Rules of the State Board of Registration for Professional Engineers and Professional Land Surveyors, do hereby certify that I or a person under my responsible charge periodically observed the construction of the above mentioned project.
Based on the on-site field observations and review of pertinent documentation, it is my professional opinion that the required permanent BMPs have been installed and are in general compliance with the approved Erosion and Stormwater Quality Control Plan, Construction Plans, and Specifications as filed with El Paso County.

Respectfully Submitted,




David L. Mijares, PE
Colorado PE 40510

Please update the MHFD-Detention Spreadsheet with the updated as-built information (pond elevations, spillway length, orifice hole elevations, etc.) to confirm that the pond is functioning as intended. The original Spreadsheet is included with the approved Drainage Report. The updated Spreadsheet should be attached to the Pond Certification Letter.

# Stormwater Detention and Infiltration Design Data Sheet

*SDI-Design Data v2.00, Released January 2020*

Stormwater Facility Name: **The Villas at Claremont Ranch**

Facility Location & Jurisdiction: **1250 Meadowbrook Parkway/El Paso County**

User Input: Watershed Characteristics

| | | |
|---|---|---|
| Extended Detention Basin (EDB) | EDB | |
| Watershed Area = | 7.83 | acres |
| Watershed Length = | 1,300 | ft |
| Watershed Length to Centroid = | 1,130 | ft |
| Watershed Slope = | 0.015 | ft/ft |
| Watershed Imperviousness = | 52.7% | percent |
| Percentage Hydrologic Soil Group A = | 25.8% | percent |
| Percentage Hydrologic Soil Group B = | 74.2% | percent |
| Percentage Hydrologic Soil Groups C/D = | 0.0% | percent |
| Target WQCV Drain Time = | 40.0 | hours |

Location for 1-hr Rainfall Depths (use dropdown):

User Input

After providing required inputs above including 1-hour rainfall depths, click 'Run CUHP' to generate runoff hydrographs using the embedded Colorado Urban Hydrograph Procedure.

Once CUHP has been run and the Stage-Area-Discharge information has been provided, click 'Process Data' to interpolate the Stage-Area-Volume-Discharge data and generate summary results in the table below. Once this is complete, click 'Print to PDF'.

| User Defined Stage [ft] | User Defined Area [ft^2] | User Defined Stage [ft] | User Defined Discharge [cfs] |
|---|---|---|---|
| 0.00 | 16 | 0.00 | 0.00 |
| 2.06 | 5,227 | 2.06 | 0.10 |
| 4.06 | 8,712 | 4.06 | 0.20 |
| 4.18 | 8,740 | 4.18 | 1.20 |
| 4.27 | 9,148 | 4.27 | 2.60 |
| 4.48 | 9,350 | 4.48 | 3.90 |
| 4.84 | 10,018 | 4.84 | 4.00 |
| 5.43 | 11,325 | 5.43 | 12.60 |

After completing and printing this worksheet to a pdf, go to:
https://maperture.digitaldataservices.com/gvh/?viewer=cswdif
Create a new stormwater facility, and attach the PDF of this worksheet to that record.

Routed Hydrograph Results

| Design Storm Return Period = | WQCV | 2 Year | 5 Year | 10 Year | 50 Year | 100 Year | |
|---|---|---|---|---|---|---|---|
| One-Hour Rainfall Depth = | N/A | 1.19 | 1.50 | 1.75 | 2.00 | 2.25 | in |
| CUHP Runoff Volume = | 0.139 | 0.393 | 0.556 | 0.695 | 0.897 | 1.091 | acre-ft |
| Inflow Hydrograph Volume = | N/A | 0.393 | 0.556 | 0.695 | 0.897 | 1.091 | acre-ft |
| Time to Drain 97% of Inflow Volume = | 26.4 | 44.6 | **48.7** | 47.4 | 45.8 | 44.3 | hours |
| Time to Drain 99% of Inflow Volume = | 28.8 | 48.5 | 53.3 | 52.7 | 51.7 | **50.9** | hours |
| Maximum Ponding Depth = | 2.19 | 3.60 | 4.18 | 4.27 | 4.51 | 4.91 | ft |
| Maximum Ponded Area = | 0.13 | 0.18 | 0.20 | 0.21 | 0.22 | **0.23** | acres |
| Maximum Volume Stored = | 0.140 | 0.356 | 0.468 | 0.487 | 0.538 | 0.626 | acre-ft |

# Stormwater Detention and Infiltration Design Data Sheet