

# **Civil Engineer Stormwater Best Management Practice (permanent) Certification Letter**

July 30, 2024

El Paso County Planning and Community Development 2880 International Circle, Suite 110 Colorado Springs, CO 80910

Attn.: Brad Walters, Inspections Supervisor

## RE: Redtail Ranch Filing No. 1

The permanent stormwater Best Management Practices (BMPs) for **Redtail Ranch Filing No. 1** consists of a two individual Private Full Spectrum Extended Detention Basins. These facilities are described by the following:

Pond 1 within a Stormwater Quality Easement on Lot 5 Pond 2 within a Stormwater Quality Easement on Lot 7

Based upon this information and information gathered during periodic site visits to the project during significant/key phases of the stormwater BMP installation, along with the attached as-built plans, Classic Consulting Engineers & Surveyors, LLC is of the opinion that the stormwater BMPs have been constructed in general compliance with the approved Construction Plans, and Specifications as filed with El Paso County. 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.

### Statement Of Engineer In Responsible Charge:

I, Marc A. Whorton, 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 as-built documentation, it is my professional opinion that the required permanent BMPs have been installed and are in general compliance with the approved Construction Plans, and Specifications as filed with El Paso County. For BMPs with a Water Quality Capture Volume (WQCV), I have attached the post-construction As-Built drawings. The As-Built drawings accurately depict the final installation of the stormwater BMPs.



Marc A. Whorton, P.E. Colorado No. 37155



	<b>Routed Hydro</b>	graph Results						-
Design Storm Return Period =	WQCV	2 Year	5 Year	10 Year	25 Year	50 Year	100 Year	
One-Hour Rainfall Depth =	0.53	1.19	1.50	1.75	2.00	2.25	2.52	in
Calculated Runoff Volume =	0.089	0.155	0.405	0.675	1.155	1.504	1.912	acre-ft
OPTIONAL Override Runoff Volume =								acre-ft
Inflow Hydrograph Volume =	0.089	0.154	0.404	0.674	1.154	1.503	1.912	acre-ft
Time to Drain 97% of Inflow Volume =	43	44	45	39	33	30	27	hours
Time to Drain 99% of Inflow Volume =	56	57	59	53	46	43	40	hours
Maximum Ponding Depth =	0.51	0.86	2.01	2.36	2.91	3.43	4.16	ft
Maximum Ponded Area =	0.164	0.175	0.214	0.228	0.249	0.287	0.345	acres
Maximum Volume Stored =	0.079	0.139	0.362	0.440	0.569	0.709	0.941	acre-ft

User Input



Workbook Protected

Worksheet Protected

Redtail Ranch Filing No. 1 - Pond 2 **Stormwater Facility Name:** 

Drainage Easement Lot 7, El Paso County

Facility Location & Jurisdiction:



#### **User Input: Detention Basin Characteristics**

WQCV Design Drain Time = 12.00 hours

User Defined	User Defined	User Defined	User Defined
Stage [ft]	Area [ft^2]	Stage [ft]	Discharge [cfs]
0.00	7,895	0.00	0.00
1.00	9,403	1.00	0.20
2.00	10,927	2.00	0.38
3.00	12,694	3.00	13.60
4.00	14,446	4.00	20.40
5.00	19,862	5.00	22.11
6.00	25,278	6.00	23.69
6.50	28,200	6.50	25.10

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 Hydro	graph Results						_
Design Storm Return Period =	WQCV	2 Year	5 Year	10 Year	25 Year	50 Year	100 Year	
One-Hour Rainfall Depth =	0.53	1.19	1.50	1.75	2.00	2.25	2.52	in
Calculated Runoff Volume =	0.121	0.181	0.614	1.129	2.072	2.745	3.538	acre-ft
OPTIONAL Override Runoff Volume =								acre-ft
Inflow Hydrograph Volume =	0.121	0.180	0.614	1.129	2.071	2.744	3.538	acre-ft
Time to Drain 97% of Inflow Volume =	40	40	39	33	26	23	20	hours
Time to Drain 99% of Inflow Volume =	52	52	52	45	38	35	33	hours
Maximum Ponding Depth =	0.56	0.82	2.19	2.78	3.98	4.96	6.01	ft
Maximum Ponded Area =	0.201	0.209	0.259	0.282	0.331	0.450	0.581	acres
Maximum Volume Stored =	0.107	0.159	0.480	0.639	1.008	1.386	1.929	acre-ft





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#### RE: **Redtail Ranch Filing No. 1 Public Storm Improvement Certification**

The public storm improvements for Redtail Ranch Filing No. 1 consist of RCP culverts, rip-rap dissipators and FES's. Based upon the information gathered during periodic site visits to the project during the construction and then after completion of construction of the storm improvements, Classic Consulting Engineers & Surveyors, LLC is of the opinion that the public storm improvements have been constructed in general compliance with the approved design plans and specifications prepared by Classic Consulting Engineers & Surveyors, LLC, as filed with El Paso County. 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.

## STATEMENT OF ENGINEER IN RESPONSIBLE CHARGE:

To the best of my knowledge, information and belief, the referenced public storm improvements have been constructed in general compliance with the approved design plans and specifications as filed with El Paso County.

Marc A. Whorton, P.E. Colorado No. 37155



Seal & Signature of P.E.

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