July 12, 2023

For all certification letters please include the following statement per ECM Chapter 5.10.6.B:

"The site and adjacent properties (as affected by work performed under the County permit) appear to be stable with respect to settlement and subsidence, sloughing of cut and fill slopes, revegetation or other ground cover, and the improvements (public improvements, common development improvements, site grading and paving) meet or exceed the minimum design requirements. "

NEERING

El Paso County
Development Services D
2880 International Circle requirements.

Colorado Springs, CO 80910

RE: Cloverleaf Filing No. 2 - Street Improvements

The street improvements within Cloverleaf Filing 2 consist of the paving, curb and gutter, cross pans, sidewalk and pedestrian ramps which have been recently installed by Monument Hill CM, LLC. Based upon information gathered during periodic site visits during the installation of the street improvements and the as-built drawings, JR Engineering is of the opinion that the street improvements have been constructed in general compliance with the approved design plans and specifications as filed with the County.

On behalf of Monument Hill CM, LLC, JR Engineering hereby requests probationary inspection of these facilities by County Engineering so that the warranty period can begin.

STATEMENT OF ENGINEER IN RESPONSIBLE CHARGE:

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

Respectfully submitted,

JR ENGINEERING, LLC

Mich Butt

Mike Bramlett, PE Colorado No. 32314



El Paso County Development Services Division 2880 International Circle Colorado Springs, CO 80910

RE: Cloverleaf Filing 2 – Public Storm Sewer

The public storm drainage facilities for Branding Iron at Sterling Ranch Filing 2 consist of the following facilities:

-	(1) 5' Type R Inlet	- (832 LF)	18" RCP Storm Drain
-	(7) 10' Type R Inlet	- (872 LF)	24" RCP Storm Drain
-	(4) 15' Type R Inlet	- (415 LF)	30" RCP Storm Drain
-	(2) Storm Manholes Box Base	- (137 LF)	36" RCP Storm Drain
-	(19) Storm Manholes Slab Base	- (438 LF)	42" RCP Storm Drain
-	(5) Flared End Sections	- (396 LF)	48" RCP Storm Drain

The above listed storm system was recently installed by Monument Hill CM, LLC and per the approved drainage report, the storm system drains to Ponds 1, P2, P3, P4, and a Sand Filter (5) which are subject to a separate certification.

Based upon information gathered during periodic site visits to the project and the as-built drawings, JR Engineering is of the opinion that the storm drainage facilities have been constructed in general compliance with the approved design plans and specifications as filed with the County.

On behalf of Monument Hill CM, LLC, JR Engineering hereby requests probationary inspection of these facilities by County Engineering so that the warranty period can begin.

Statement Of Engineer In Responsible Charge:

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

Respectfully submitted,

JR ENGINEERING, LLC

Mike Bramlett, PE Colorado No. 32314



El Paso County

Planning and Community Development

2880 International Circle, Suite 110 Colorado Springs, CO 80910

Revise letter per required statements listed in ECM Section 5.10.6.B

Attn.: Mr. Brad Walters, Inspection Supervisor RE: Cloverleaf Filing No. 2 – Pond Certifications

To whom it may concern,

This letter is intended to provide documentation with County Inspection Staff that the Pond facilities in Cloverleaf Filing No. 2 have been constructed within reasonable conformance to the design. The District owned pond facilities for Cloverleaf Filing No. 2 are described by the following:

Pond 1 above lots 88 -102 (Volume Attenuation Pond)

Pond P-2 within Tract A (FSD)

Pond P-3 within Tract I (FSD)

Pond P-4 within Tract F (Water Quality)

Sand Filter within Tract H (Sand Filter)

JR Engineering reviewed the final constructed facilities and recently gathered EJ Survey asbuilts which confirm the appropriate size and design of the ponds. Based upon this information and information gathered during periodic site visits to the project under construction, JR Engineering 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.

(See attached documents – UD Detention sheets and as-built drawings)

Statement Of Engineer In Responsible Charge:

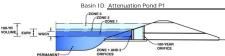
To the best of my knowledge, information and belief, the referenced Cloverleaf Filing No. 2 Pond facilities have been constructed in general compliance with the approved design plans and specifications as filed with El Paso County.

Mike Bramlett, P.E.

Mil Bulut Colorado No. 32314



MHFD-Detention, Version 4.03 (May 2020)



Example Zone Configuration (Retention Pond)

Watershed Information	Flood Control Only		
Selected BMP Type =	No BMP		
Watershed Area =	135.90	acres	
Watershed Length =	6,000	ft	
Watershed Length to Centroid =	3,000	ft	
Watershed Slope =	0.041	ft/ft	
Watershed Imperviousness =	22.00%	percent	
Percentage Hydrologic Soil Group A =	0.0%	percent	
Percentage Hydrologic Soil Group B =	100.0%	percent	
Percentage Hydrologic Soil Groups C/D =	0.0%	percent	
Target WQCV Drain Time =	N/A	hours	
Location for 1-hr Rainfall Depths =	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.					
Water Quality Capture Volume (WQCV) =	1.401	acre-feet			
Excess Urban Runoff Volume (EURV) =	2.993	acre-feet			
2-yr Runoff Volume (P1 = 1.19 in.) =	3.226	acre-feet			
5-yr Runoff Volume (P1 = 1.5 in.) =	5.717	acre-feet			
10-yr Runoff Volume (P1 = 1.75 in.) =	8.074	acre-feet			
25-yr Runoff Volume (P1 = 2 in.) =	11.847	acre-feet			
50-yr Runoff Volume (P1 = 2.25 in.) =	14.582	acre-feet			
100-yr Runoff Volume (P1 = 2.52 in.) =	18.346	acre-feet			
500-yr Runoff Volume (P1 = 3 in.) =	23.804	acre-feet			
Approximate 2-yr Detention Volume =	2.073	acre-feet			
Approximate 5-yr Detention Volume =	3.045	acre-feet			
Approximate 10-yr Detention Volume =	4.794	acre-feet			
Approximate 25-yr Detention Volume =	5.838	acre-feet			
Approximate 50-yr Detention Volume =	6.165	acre-feet			
Approximate 100-yr Detention Volume =	7.514	acre-feet			

Optional User Overrides					
	acre-feet				
	acre-feet				
1.19	inches				
1.50	inches				
1.75	inches				
2.00	inches				
2.25	inches				
2.52	inches				
3.00	inches				

Define Zones and Basin Geometry

acre-fe	7.514	Zone 1 Volume (100-year) =
acre-fe		Select Zone 2 Storage Volume (Optional) =
acre-fe		Select Zone 3 Storage Volume (Optional) =
acre-fe	7.514	Total Detention Basin Volume =
ft 3	N/A	Initial Surcharge Volume (ISV) =
ft	N/A	Initial Surcharge Depth (ISD) =
ft	user	Total Available Detention Depth (H _{total}) =
ft	user	Depth of Trickle Channel (H _{TC}) =
ft/ft	user	Slope of Trickle Channel (S _{TC}) =
H:V	user	Slopes of Main Basin Sides (Smain) =
1	user	Basin Length-to-Width Ratio (Russ) =

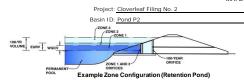
Initial Surcharge Area (A _{ISV}) =	user	ft ²
Surcharge Volume Length (L _{ISV}) =	user	ft
Surcharge Volume Width (W _{ISV}) =	user	ft
Depth of Basin Floor (H _{FLOOR}) =	user	ft
Length of Basin Floor (LFLOOR) =	user	ft
Width of Basin Floor (W _{FLOOR}) =	user	ft
Area of Basin Floor (A _{FLOOR}) =	user	ft ²
Volume of Basin Floor (V _{FLOOR}) =	user	ft ³
Depth of Main Basin (H _{MAIN}) =	user	ft
Length of Main Basin (LMAIN) =	user	ft
Width of Main Basin (W _{MAIN}) =	user	ft
Area of Main Basin (A _{MAIN}) =	user	ft ²
Volume of Main Basin (V _{MAIN}) =	user	ft ³
Calculated Total Basin Volume (Vtotal) =	user	acre-fee

Provide updated MHFD outlet structure calculation page as well for all ponds.

Circle cells that were updated from approved CDs to as-builts

Stage - Storage	1.00 Stage	Optional Override	Length	Width	Area (ft ²)	Optional Override Area (ft ²)	Area	Volume (ft 3)	Volume
Description Media Surface	(ft) 	Stage (ft) 0.00	(ft) 	(ft) 		0	(acre) 0.000	(11.)	(ac-ft)
7065		0.33				16	0.000	3	0.000
7066		1.33				10,329	0.237	5,175	0.119
7067		2.33				29,743	0.683	25,211	0.579
7068		3.33				47,701	1.095	63,933	1.468
7069		4.33				63,932	1.468	119,749	2.749
7070		5.33				72,565	1.666	187,998	4.316
7071		6.33				79,099	1.816	263,830	6.057
7072 7073		7.33 8.33				84,848 92,117	1.948 2.115	345,803 434,286	7.939 9.970
7073		8.33				92,117	2.115	434,280	9.970
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MHFD-Detention, Version 4.03 (May 2020)



Watershed Information

ersned information		
Selected BMP Type =	EDB	
Watershed Area =	30.60	acres
Watershed Length =	1,700	ft
Watershed Length to Centroid =	650	ft
Watershed Slope =	0.038	ft/ft
Watershed Imperviousness =	58.50%	percent
Percentage Hydrologic Soil Group A =	0.0%	percent
Percentage Hydrologic Soil Group B =	100.0%	percent
Percentage Hydrologic Soil Groups C/D =	0.0%	percent
Target WQCV Drain Time =	40.0	hours
Location for 1-hr Rainfall Depths =	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.

the embedded Colorado Urban Hydrograph Procedure.				
Water Quality Capture Volume (WQCV) =	0.590	acre-feet		
Excess Urban Runoff Volume (EURV) =	1.938	acre-feet		
2-yr Runoff Volume (P1 = 1.19 in.) =	1.760	acre-feet		
5-yr Runoff Volume (P1 = 1.5 in.) =	2.442	acre-feet		
10-yr Runoff Volume (P1 = 1.75 in.) =	3.030	acre-feet		
25-yr Runoff Volume (P1 = 2 in.) =	3.781	acre-feet		
50-yr Runoff Volume (P1 = 2.25 in.) =	4.411	acre-feet		
100-yr Runoff Volume (P1 = 2.52 in.) =	5.191	acre-feet		
500-yr Runoff Volume (P1 = 3 in.) =	6.432	acre-feet		
Approximate 2-yr Detention Volume =	1.486	acre-feet		
Approximate 5-yr Detention Volume =	2.011	acre-feet		
Approximate 10-yr Detention Volume =	2.601	acre-feet		
Approximate 25-yr Detention Volume =	2.816	acre-feet		
Approximate 50-yr Detention Volume =	2.937	acre-feet		
Approximate 100-yr Detention Volume =	3.216	acre-feet		

Optional User Overrides					
	acre-feet				
	acre-feet				
1.19	inches				
1.50	inches				
1.75	inches				
2.00	inches				
2.25	inches				
2.52	inches				
3.00	inches				

Define Zones and Basin Geometry

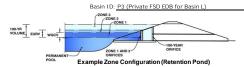
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Initial Surcharge Area (A _{ISV}) =	user	ft ²
Surcharge Volume Length (L _{ISV}) =	user	ft
Surcharge Volume Width (W _{ISV}) =	user	ft
Depth of Basin Floor (H _{FLOOR}) =	user	ft
Length of Basin Floor (LFLOOR) =	user	ft
Width of Basin Floor $(W_{FLOOR}) =$		ft
Area of Basin Floor (A_{FLOOR}) =		ft ²
Volume of Basin Floor $(V_{FLOOR}) =$	user	ft ³
Depth of Main Basin (H _{MAIN}) =	user	ft
Length of Main Basin (L _{MAIN}) =	user	ft
Width of Main Basin (W _{MAIN}) =	user	ft
Area of Main Basin (A _{MAIN}) =		ft ²
Volume of Main Basin (V _{MAIN}) =	user	ft ³
Calculated Total Basin Volume (V _{total}) =	user	acre-feet

Depth Increment =	0.000 0.023 0.156 0.534 1.263
Stage Description Coveride (n) Length (n) Width (n) Area Area (n²) Override (acre) Volume (n²) Top of Micropool 0.00 0 0.000 7022 0.33 0 0.000 0 7023 1.33 2.026 0.047 1.01 7024 2.33 9,560 0.219 6,80 7025 3.33 40,270 0.924 55,03 7026 4.33 40,270 0.924 55,03 7027 5.33 50,709 11,64 100,55 7028 6.33 55,531 12,75 153,6	0.000 0.023 0.156 0.534
Top of Micropool 0.00 0.000 0.000 7022 0.33 0.000 0 7023 1.33 2.026 0.047 1.01 7024 2.33 9,560 0.219 6,800 7025 3.33 23,316 0.535 23,24 7026 4.33 40,270 0.924 55,03 7027 5.33 50,709 11.64 100,55 7028 6.33 55,531 1.275 153,6	0.000 0.023 0.156 0.534
7022 0.33 0.000 0 7023 1.33 2.026 0.047 1,01 7024 2.33 9,560 0.219 6,80 7025 3.33 23,316 0.535 23,24 7026 4.33 40,270 0.924 55,03 7027 5.33 50,709 1.114 100,51 7028 6.33 55,531 1.275 153,6	0.023 0.156 0.534
7023 1.33 2.026 0.047 1,01 7024 2.33 9,560 0.219 6,80 7025 3.33 23,316 0.535 23,24 7026 4.33 40,270 0.924 55,03 7027 5.33 50,709 1.164 100,51 7028 6.33 55,531 1.275 153,6	0.023 0.156 0.534
7024 2.33 9,560 0.219 6,80 7025 3.33 23,316 0.535 23,24 7026 4.33 40,270 0.924 55,03 7027 5.33 50,709 11,164 100,5 7028 6.33 55,531 1,275 153,6	0.156 0.534
7025 3.33 23,316 0.535 23,24 7026 4.33 40,270 0.924 55,03 7027 5.33 50,709 11,164 100,5 7028 6.33 55,531 12,75 153,6	0.534
7026 4.33 40,270 0.924 55,03 7027 5.33 50,709 1.164 100,5 7028 6.33 55,531 1.275 153,6	
7027 5.33 50,709 1.164 100,5 7028 6.33 55,531 1.275 153,6	
7028 6.33 55,531 1.275 153,6	
7030 8.33 65,444 1.502 274,8	
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MHFD-Detention, Version 4.03 (May 2020)

Project: Cloverleaf Subdivision



Watershed Information

Selected BMP Type =	EDB	
Watershed Area =	1.97	acres
Watershed Length =	431	ft
Watershed Length to Centroid =	148	ft
Watershed Slope =	0.050	ft/ft
Watershed Imperviousness =	42.30%	percent
Percentage Hydrologic Soil Group A =	0.0%	percent
Percentage Hydrologic Soil Group B =	100.0%	percent
Percentage Hydrologic Soil Groups C/D =	0.0%	percent
Target WQCV Drain Time =	40.0	hours
Location for 1-hr Rainfall Depths =	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

the embedded Colorado Urban Hydrograph Procedure.				
Water Quality Capture Volume (WQCV) =	0.031	acre-feet		
Excess Urban Runoff Volume (EURV) =	0.088	acre-feet		
2-yr Runoff Volume (P1 = 1.19 in.) =	0.080	acre-feet		
5-yr Runoff Volume (P1 = 1.5 in.) =	0.118	acre-feet		
10-yr Runoff Volume (P1 = 1.75 in.) =	0.153	acre-feet		
25-yr Runoff Volume (P1 = 2 in.) =	0.201	acre-feet		
50-yr Runoff Volume (P1 = 2.25 in.) =	0.239	acre-feet		
100-yr Runoff Volume (P1 = 2.52 in.) =	0.288	acre-feet		
500-yr Runoff Volume (P1 = 3 in.) =	0.364	acre-feet		
Approximate 2-yr Detention Volume =	0.065	acre-feet		
Approximate 5-yr Detention Volume =	0.091	acre-feet		
Approximate 10-yr Detention Volume =	0.123	acre-feet		
Approximate 25-yr Detention Volume =	0.137	acre-feet		
Approximate 50-yr Detention Volume =	0.144	acre-feet		
Approximate 100-yr Detention Volume =	0.164	acre-feet		

	acre-feet
	acre-feet
1.19	inches
1.50	inches
1.75	inches
2.00	inches
2.25	inches
2.52	inches
3.00	inches

Optional User Overrides

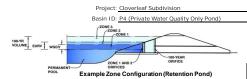
Define Zones and Basin Geometry

Define Zones and Basin Geometry		
Zone 1 Volume (WQCV) =	0.031	acre-fe
Zone 2 Volume (EURV - Zone 1) =	0.057	acre-f
Zone 3 Volume (100-year - Zones 1 & 2) =	0.076	acre-fe
Total Detention Basin Volume =	0.164	acre-fe
Initial Surcharge Volume (ISV) =	user	ft ³
Initial Surcharge Depth (ISD) =	user	ft
Total Available Detention Depth (Htotal) =	user	ft
Depth of Trickle Channel (H_{TC}) =	user	ft
Slope of Trickle Channel (S _{TC}) =	user	ft/ft
Slopes of Main Basin Sides (Smain) =	user	H:V
Basin Length-to-Width Ratio (R _{L/W}) =	user	

Initial Surcharge Area (A _{ISV}) =	user	ft ²
Surcharge Volume Length (L _{ISV}) =	user	ft
Surcharge Volume Width (W _{ISV}) =	user	ft
Depth of Basin Floor (H _{FLOOR}) =	user	ft
Length of Basin Floor (LFLOOR) =	user	ft
Width of Basin Floor (W _{FLOOR}) =	user	ft
Area of Basin Floor (A _{FLOOR}) =	user	ft ²
Volume of Basin Floor (V _{FLOOR}) =	user	ft ³
Depth of Main Basin (H _{MAIN}) =	user	ft
Length of Main Basin (L _{MAIN}) =	user	ft
Width of Main Basin (W _{MAIN}) =	user	ft
Area of Main Basin (A _{MAIN}) =	user	ft ²
Volume of Main Basin (V _{MAIN}) =	user	ft ³
Calculated Total Basin Volume (Vtotal) =	user	acre-feet

Depth Increment =		ft							
Stage - Storage	Stage	Optional Override	Length	Width	Area	Optional Override	Area	Volume	Volume
Description Top of Micropool	(ft) 	Stage (ft) 0.00	(ft) 	(ft) 	(ft ²)	Area (ft 2) 27	(acre) 0.001	(ft 3)	(ac-ft)
EL: 7050.0		0.33				150	0.001	29	0.001
7051		1.33				4,418	0.101	2,313	0.053
7052		2.33				6,794	0.156	7,919	0.182
7052.5		2.83				8,099	0.186	11,642	0.267
7053 7053.75		3.33 4.08				8,178 9,426	0.188	15,712 22,313	0.361 0.512
7033.73		4.00				7,420	0.210	22,313	0.512
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MHFD-Detention, Version 4.03 (May 2020)



Watershed Information

Selected BMP Type =	EDB			
Watershed Area =	2.05	acres		
Watershed Length =	586	ft		
Watershed Length to Centroid =	239	ft		
Watershed Slope =	0.050	ft/ft		
Watershed Imperviousness =	35.80%	percent		
Percentage Hydrologic Soil Group A =	0.0%	percent		
Percentage Hydrologic Soil Group B =	100.0%	percent		
Percentage Hydrologic Soil Groups C/D =	0.0%	percent		
Target WQCV Drain Time =	40.0	hours		
Location for 1-hr Rainfall Depths = User Input				

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

the embedded Colorado Urban Hydrograph Procedure.				
Water Quality Capture Volume (WQCV) =	0.029	acre-feet		
Excess Urban Runoff Volume (EURV) =	0.076	acre-feet		
2-yr Runoff Volume (P1 = 1.19 in.) =	0.073	acre-feet		
5-yr Runoff Volume (P1 = 1.5 in.) =	0.113	acre-feet		
10-yr Runoff Volume (P1 = 1.75 in.) =	0.149	acre-feet		
25-yr Runoff Volume (P1 = 2 in.) =	0.202	acre-feet		
50-yr Runoff Volume (P1 = 2.25 in.) =	0.243	acre-feet		
100-yr Runoff Volume (P1 = 2.52 in.) =	0.297	acre-feet		
500-yr Runoff Volume (P1 = 3 in.) =	0.378	acre-feet		
Approximate 2-yr Detention Volume =	0.056	acre-feet		
Approximate 5-yr Detention Volume =	0.078	acre-feet		
Approximate 10-yr Detention Volume =	0.110	acre-feet		
Approximate 25-yr Detention Volume =	0.125	acre-feet		
Approximate 50-yr Detention Volume =	0.131	acre-feet		
Approximate 100-yr Detention Volume =	0.152	acre-feet		
		•		

Optional User Overrides		
	acre-feet	
	acre-feet	
1.19	inches	
1.50	inches	
1.75	inches	
2.00	inches	
2.25	inches	
2.52	inches	
3.00	inches	

Define Zones and Basin Geometry

		Define Zones and Basin Geometry
acre-fee	0.029	Zone 1 Volume (WQCV) =
acre-fee		Select Zone 2 Storage Volume (Optional) =
acre-fee		Select Zone 3 Storage Volume (Optional) =
acre-fee	0.029	Total Detention Basin Volume =
ft ³	user	Initial Surcharge Volume (ISV) =
ft	user	Initial Surcharge Depth (ISD) =
ft	user	Total Available Detention Depth (H _{total}) =
ft	user	Depth of Trickle Channel (H _{TC}) =
ft/ft	user	Slope of Trickle Channel (S _{TC}) =
H:V	user	Slopes of Main Basin Sides (Smain) =
	user	Basin Length-to-Width Ratio (R _{L/W}) =

feet Total detention refeet volume is less than 100-year volume.

Basin Length-to-Width Ratio (R _{L/W}) =	user	
Initial Surcharge Area (A _{ISV}) =	user	ft ²
Surcharge Volume Length (L _{ISV}) =	user	ft
Surcharge Volume Width (W _{ISV}) =	user	ft
Depth of Basin Floor $(H_{FLOOR}) =$	user	ft
Length of Basin Floor (L_{FLOOR}) =	user	ft
Width of Basin Floor $(W_{FLOOR}) =$		ft
Area of Basin Floor $(A_{FLOOR}) =$		ft ²
Volume of Basin Floor $(V_{FLOOR}) =$	user	ft ³
Depth of Main Basin (H _{MAIN}) =	user	ft
Length of Main Basin (L _{MAIN}) =	user	ft
Width of Main Basin (W _{MAIN}) =		ft
Area of Main Basin (A_{MAIN}) =		ft ²
Volume of Main Basin (V _{MAIN}) =	user	ft ³
Calculated Total Basin Volume (V_{total}) =	user	acre-feet

		1							
Depth Increment =		ft Optional		l	l	Optional		l	
Stage - Storage Description	Stage (ft)	Override Stage (ft)	Length (ft)	Width (ft)	Area (ft 2)	Override Area (ft ²)	Area (acre)	Volume (ft 3)	Volume (ac-ft)
Top of Micropool		0.00				13	0.000	(11)	(at-it)
EL: 7003.75		0.33				64	0.001	13	0.000
EL: 7004.00		0.58				161	0.004	41	0.001
EL: 7004.25		0.83	-			838	0.019	166	0.004
EL: 7004.50		1.08				1,707	0.039	484	0.011
EL: 7004.75		1.33				2,454	0.056	1,004	0.023
EL: 7005.00 EL: 7005.25		1.58				3,153 3,672	0.072	1,705 2,558	0.039
EL: 7005.50		2.08				3,954	0.091	3,511	0.037
EL: 7005.75		2.33				4,415	0.101	4,557	0.105
EL: 7006.00		2.58				4,764	0.109	5,705	0.131
EL: 7006.25		2.83				5,120	0.118	6,940	0.159
EL: 7006.50 EL: 7006.75		3.08				5,488 6,021	0.126	8,266 9,705	0.190
EE. 7000.73		3.33				0,021	0.130	7,703	0.223
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MHFD-Detention, Version 4.03 (May 2020)

Depth Increment =



Project: Cloverleaf Subdivision

ZONE 1 AND 2 ORIFICE

Example Zone Configuration (Retention Pond)

Watershed Information

	SF	Selected BMP Type =
acres	1.00	Watershed Area =
ft	248	Watershed Length =
ft	105	Watershed Length to Centroid =
ft/ft	0.060	Watershed Slope =
percent	28.40%	Watershed Imperviousness =
percent	0.0%	Percentage Hydrologic Soil Group A =
percent	100.0%	Percentage Hydrologic Soil Group B =
percent	0.0%	Percentage Hydrologic Soil Groups C/D =
hours	12.0	Target WQCV Drain Time =
	User Input	Location for 1-br Rainfall Denths =

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

Water Quality Capture Volume (WQCV) =	0.010	acre-feet
Excess Urban Runoff Volume (EURV) =	0.029	acre-feet
2-yr Runoff Volume (P1 = 1.19 in.) =	0.028	acre-feet
5-yr Runoff Volume (P1 = 1.5 in.) =	0.046	acre-feet
10-yr Runoff Volume (P1 = 1.75 in.) =	0.063	acre-feet
25-yr Runoff Volume (P1 = 2 in.) =	0.088	acre-feet
50-yr Runoff Volume (P1 = 2.25 in.) =	0.107	acre-feet
100-yr Runoff Volume (P1 = 2.52 in.) =	0.133	acre-feet
500-yr Runoff Volume (P1 = 3 in.) =	0.171	acre-feet
Approximate 2-yr Detention Volume =	0.021	acre-feet
Approximate 5-yr Detention Volume =	0.030	acre-feet
Approximate 10-yr Detention Volume =	0.044	acre-feet
Approximate 25-yr Detention Volume =	0.051	acre-feet
Approximate 50-yr Detention Volume =	0.054	acre-feet
Approximate 100-yr Detention Volume =	0.064	acre-feet

Optional User Overrides						
	acre-feet					
	acre-feet					
1.19	inches					
1.50	inches					
1.75	inches					
2.00	inches					
2.25	inches					
2.52	inches					
3.00	inches					

Define Zones and Basin Geometry

Zone 1 Volume (WQCV) =	١	0.010	acre-feet
Select Zone 2 Storage Volume (Optional) =	·		acre-feet
Select Zone 3 Storage Volume (Optional) =	١		acre-feet
Total Detention Basin Volume =	·	0.010	acre-feet
Initial Surcharge Volume (ISV) =	·	N/A	ft ³
Initial Surcharge Depth (ISD) =	ı	N/A	ft
Total Available Detention Depth (H _{total}) =	ı	user	ft
Depth of Trickle Channel (H _{TC}) =	ı	N/A	ft
Slope of Trickle Channel (S _{TC}) =	ı	N/A	ft/ft
Slopes of Main Basin Sides (S _{main}) =	ı	user	H:V
Basin Length-to-Width Ratio (R _{L/W}) =	·[user	

Total detention volume is less than 100-year volume.

	Initial Surcharge A	Area (A _{ISV}) =	user	ft ²
	Surcharge Volume Lei	$ngth (L_{ISV}) =$	user	ft
	Surcharge Volume Wi	dth (W _{ISV}) =	user	ft
	Depth of Basin Floo	or (H _{FLOOR}) =	user	ft
	Length of Basin Flo	or (L _{FLOOR}) =	user	ft
	Width of Basin Floo	r (W _{FLOOR}) =	user	ft
	Area of Basin Floo	or (A _{FLOOR}) =	user	ft ²
	Volume of Basin Floo	or (V _{FLOOR}) =	user	ft ³
	Depth of Main Bas	sin (H _{MAIN}) =	user	ft
	Length of Main Ba	sin (L _{MAIN}) =	user	ft
	Width of Main Bas	in (W _{MAIN}) =	user	ft
	Area of Main Ba	sin (A _{MAIN}) =	user	ft ²
	Volume of Main Ba	sin (V _{MAIN}) =	user	ft ³
Calcu	ulated Total Basin Volu	ime (V _{total}) =	user	acre-feet

Stage - Storage Description	Stage (ft)	Optional Override Stage (ft)	Length (ft)	Width (ft)	Area (ft ²)	Optional Override Area (ft ²)	Area (acre)	Volume (ft 3)	Volume (ac-ft)
Media Surface		0.00				152	0.003		
EL:7064.25		0.25				231 324	0.005	48	0.001
EL:7064.50 EL:7064.75		0.50				423	0.007	117 211	0.003
EL:7065.00		1.00				577	0.013	336	0.003
EL:7065.1		1.10				708	0.016	400	0.009
			-						
			-						
	1		1						
	-		-						
	1 1								
							-		
	1 1								
							-		
			-						
							-		
	1 1		1 1						
									7/12/2023, 2

V1_Pond & Road Certification Letter.pdf Markup Summary

Carlos (1)



Subject: Text Box Page Label: 1 Author: Carlos

Date: 8/9/2023 3:17:51 PM

Color:

For all certification letters please include the following statement per ECM Chapter 5.10.6.B: "The site and adjacent properties (as affected by work performed under the County permit) appear to be stable with respect to settlement and subsidence, sloughing of cut and fill slopes, revegetation or other ground cover, and the improvements (public improvements, common development improvements, site grading and paving) meet or exceed the minimum design requirements."

Glenn Reese - EPC Stormwater (3)



Subject: SW - Textbox

Page Label: 3

Author: Glenn Reese - EPC Stormwater

Date: 8/1/2023 8:43:20 AM

Color: ■

Revise letter per required statements listed in ECM Section 5.10.6.B



Subject: SW - Textbox

Page Label: 3

Author: Glenn Reese - EPC Stormwater

Date: 8/1/2023 8:43:20 AM

Color:

Was an as-built topo survey completed? It does not appear that the topo on as-built plans was

updated to show as-built conditions.



Subject: SW - Textbox

Page Label: 4

Author: Glenn Reese - EPC Stormwater

Date: 8/1/2023 8:43:41 AM

Color:

Provide updated MHFD outlet structure calculation page as well for all ponds.

Circle cells that were updated from approved CDs to as-builts