



# FINAL DRAINAGE REPORT

**BENT GRASS RESIDENTIAL SUBDIVISION  
FILING NO. 2  
(SF-19-014)**

El Paso County, Colorado

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PREPARED FOR:  
**Challenger Homes  
8605 Explorer Dr., Suite 250  
Colorado Springs, CO 80920**

PREPARED BY:  
**Galloway & Company, Inc.  
1155 Kelly Johnson Blvd., Suite 305  
Colorado Springs, CO 80920**

DATE:  
**July 2019  
Revised October 2019  
Revised January 2020  
Revised March 2020**



**ENGINEER'S STATEMENT**

The attached drainage plan and report were prepared under my direction and supervision and are correct to the best of my knowledge and belief. Said drainage report has been prepared according to the criteria established by the County for drainage reports and said report is in conformity with the applicable master plan of the drainage basin. I accept responsibility for any liability caused by any negligent acts, errors or omissions on my part in preparing this report.

\_\_\_\_\_  
Charlene Durham, PE 36727  
For and on behalf of Galloway & Company, Inc.



**DEVELOPER'S CERTIFICATION**

I, The developer, have read and will comply with all of the requirements specified in this drainage report and plan.

By: James Byers

4/2/20  
Date

Address: Challenger Homes  
8605 Explorer Dr., Suite 250  
Colorado Springs, CO 80920

**DEVELOPER'S CERTIFICATION**

Filed in accordance with the requirements of the Drainage Criteria Manual, Volumes 1 and 2, El Paso County Engineering Criteria Manual and Land Development Code as amended.

\_\_\_\_\_  
Jennifer Irvine, P.E.  
County Engineer/ECM Administrator

**Approved**  
**By: Elizabeth Nijkamp**  
**Date: 05/13/2020**  
El Paso County Planning & Community Development



- Conditions:
- 1. Check structures (2) per UDFCD (MHFD) detail added to appendix per engineer's request May 6, 2020.
  - 2. Any individual lot underdrains required shall discharge as far as possible from the County right-of-way.

## STAGE - STORAGE - DISCHARGE TABLE (POND WU - OUTLET REVISIONS)

per UDFCD UD-Detention Spreadsheet

Elevation	Stage	Orifice Plate	Horiz Weir	Total Collection Capacity (WOCV & Weir)	Controlling Flowrate Culvert #1 (48")	Controlling Flowrate Culvert #2 (60")	Controlling Flowrate Culvert #3 (60")	Controlling Flowrate Culvert #4 (60")	Total Controlling Flowrate - Outlet Culverts	Spill Way	Total Outflow*
[ft]	[ft]	[cfs]	[cfs]	[cfs]	[cfs]	[cfs]	[cfs]	[cfs]	[cfs]	[cfs]	[cfs]
6816.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6818.20	1.90	1.34	0.00	1.34	1.34	1.34	1.34	1.34	5.36	0.00	1.34
6819.00	2.70	2.18	0.00	2.18	2.18	2.18	2.18	2.18	8.72	0.00	2.18
6820.00	3.70	3.28	0.00	3.28	3.28	3.28	3.28	3.28	13.12	0.00	3.28
6821.00	4.70	4.53	0.00	4.53	4.53	4.53	4.53	4.53	18.12	0.00	4.53
6822.00	5.70	5.90	78.71	84.61	84.61	84.61	84.61	84.61	338.44	0.00	84.61
6823.00	6.70	6.91	544.70	551.61	116.75	134.68	453.58	150.75	855.76	0.00	551.61
6824.00	7.70	7.75	1233.69	1241.44	135.78	174.76	189.73	187.47	687.74	0.00	687.74
6825.00	8.70	8.50	2087.92	2096.42	152.52	207.28	220.03	218.07	797.90	0.00	797.90
6826.00	9.70	9.19	3080.00	3089.19	167.63	235.34	246.62	244.87	894.46	0.00	894.46
6827.00	10.70	9.82	4292.88	4302.70	181.43	260.37	270.62	269.03	981.45	0.00	981.45
6828.00	11.70	10.42	5414.65	5425.07	194.30	283.23	292.66	291.20	1061.39	0.00	1061.39
6829.00	12.70	10.98	6249.18	6260.16	206.36	304.32	313.16	311.78	1135.62	16.43	1152.05
6830.00	13.70	11.51	6659.12	6670.63	217.74	324.10	332.39	331.10	1205.33	148.29	1353.62
6830.20	13.90	11.61	6738.12	6749.73	219.95	327.91	336.10	334.82	1218.78	183.81	1402.59

\* - Based on Spillway flow plus lesser flow of Total Collection Capacity or Total Controlling Flowrate - Outlet Culverts