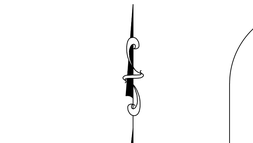

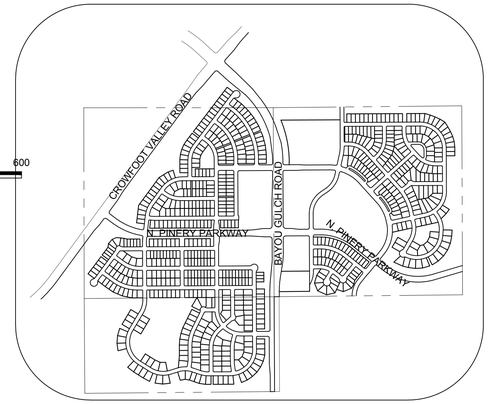

KEYMAP
N.T.S.

LEGEND

7711F	DESIGN POINT
XX / A / R2 / R100 / POND A	XX = BASIN ID A= AREA R2= 2 YR RUNOFF CO-EFF R100= 100 YR RUNOFF CO-EFF DETENTION POND
	CHANNEL DROP STRUCTURE
	BASIN LINE
	MAJOR BASIN LINE
5650	PROPOSED MAJOR CONTOURS
	PROPOSED MINOR CONTOURS
5650	EXISTING MAJOR CONTOURS
	EXISTING MINOR CONTOURS
	PROPOSED FLOW ARROW

NOTE:

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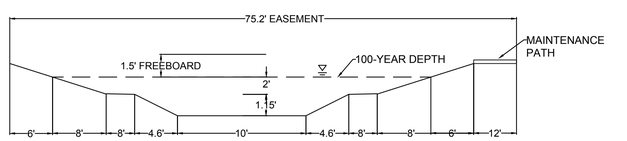

CHANNEL SECTION A-A
NO TO SCALE

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TOWN OF PARKER, PUBLIC WORKS DIRECTOR — DATE

TOWN OF PARKER, PUBLIC WORKS MANAGER - STORMWATER — DATE

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CALL 811
TWO WORKING DAYS
BEFORE YOU DIG
UNCC UTILITY NOTIFICATION CENTER OF COLORADO 1-800-922-1987

BENCHMARK
DOUGLAS COUNTY CONTROL POINT KNOWN AS 1.060032, BEING A 3-1/4" ALUMINUM CAP, BEING LOCATED IN THE SOUTHWEST QUARTER OF SECTION 33, TOWNSHIP 6 SOUTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, HAVING A PUBLISHED ELEVATION OF 1799.2870 METERS (5903.13 FEET) NAVD '88 DATUM.

BASIS OF BEARINGS:
THE EAST LINE OF THE NORTHEAST QUARTER OF SAID SECTION 9 BEING MONUMENTED AT THE NORTHEAST CORNER OF SAID SECTION 9 BY A 3-1/4" ALUMINUM CAP STAMPED LS 23053 AND AT THE EAST QUARTER CORNER OF SAID SECTION 9 BY A 2-1/2" ALUMINUM CAP STAMPED LS 6935 BEING CONSIDERED TO BEAR SOUTH 00°15'06" EAST, 2648.70 FEET.

PREPARED UNDER THE SUPERVISION OF

MARK SCHEURER
COLORADO P.E. 48988

No.	Revisions	Date	Init.	Appr.	Date

10333 E. Dry Creek Rd.
Suite 240
Englewood, CO 80112
Tel: (720) 482-9526
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CVL CONSULTANTS

E5X MANAGEMENT
7353 South Alton Way
CENTENNIAL, CO 80112

TRAILS AT CROWFOOT
FINAL DRAINAGE MAP
OVERALL DRAINAGE MAP

SCALE: AS SHOWN
FILE NO: 81302837701
DRAWN BY: AYK
CHECKED BY: JJ
DATE: MAY 2017
SHEET NUMBER 1A

N:\PROJECTS\HESS RANCH\DOCS\ENGINEERING\DRAINAGE\FINAL DRAINAGE STUDIES\DRAINAGE MAPS\FINAL OVERALL DRAINAGE MAP.DWG, ASFLINDK, 8/10/2017 2:52 PM

CUMULATIVE FLOW		
Design Point	Q_2	Q_{100}
ID	(CFS)	(CFS)
1A	3.84	17.73
1B	5.04	60.61
1C	18.94	72.95
1D	19.26	82.87
1E	4.69	68.74
1F	9.74	45.15
1G	5.01	55.58
1H	22.10	94.13
1I	3.75	15.73
1J	7.60	40.45
1K	2.92	11.75
1L	3.22	13.95
1M	6.77	29.97
1N	11.20	49.77
1O	3.58	23.96
1P	5.05	21.53
1Q	6.90	27.93
1R	2.95	11.99
1S	2.51	10.32
1T	7.21	37.59
1U	6.71	27.72
1	11.54	45.92
2	15.83	42.02
3	13.13	(Not Relavent for 100 year)
4	16.64	41.99

CUMULATIVE FLOW		
Design Point	Q_2	Q_{100}
ID	(CFS)	(CFS)
2A	13.11	74.41
2B	6.15	15.75
2C	5.58	33.21
2D	13.15	54.26
2E	3.88	76.36
2F	3.88	29.09
2G	5.79	24.54
2H	4.95	21.81
2I	2.94	35.69
2J	24.60	155.70
2K	25.63	158.99
2L	10.38	46.95
2M	3.88	15.72
2N	3.88	15.72
2O	2.50	10.13
5	18.73	76.25
6	7.44	(Not Relavent for 100 year)
7	7.40	(Not Relavent for 100 year)
9	19.80	84.75
10	31.82	84.62

CUMULATIVE FLOW		
Design Point	Q_2	Q_{100}
ID	(CFS)	(CFS)
3A	6.44	43.61

CUMULATIVE FLOW		
Design Point	Q_2	Q_{100}
ID	(CFS)	(CFS)
4A	18.01	80.94
4B	5.58	24.83
4C	3.28	15.11
4D	5.63	26.26
4E	13.59	54.51
4F	5.19	24.34
4G	2.48	11.76
4H	1.06	4.38
4I	4.34	19.61
4J	10.66	45.70
4K	6.19	19.00
4L	2.94	10.02
11	12.69	56.80
12	16.90	69.53
13	21.12	82.67

CUMULATIVE FLOW		
Design Point	Q_2	Q_{100}
ID	(CFS)	(CFS)
14	35.26	128.18
15	67.15	145.92
5A	14.28	56.31
5B	68.09	19.36
5C	18.85	70.87
5D	21.89	79.97
5E	26.21	83.44
5F	3.06	12.34
5G	7.82	146.09
5H	32.81	81.28
5I	3.92	19.46
5J	0.85	3.31
5K	2.48	14.96
5L	4.60	27.74
5M	2.76	16.67
5N	15.09	58.98
5O	2.08	8.55
5P	22.99	49.94
5Q	5.06	23.96
5R	3.45	14.00
5S	28.34	67.90
5T	3.12	12.57
5U	2.56	10.18
5V	9.85	39.52
5W	4.81	19.86
5X	2.63	15.87
5Y	8.69	33.62
5Z	4.24	15.89

CUMULATIVE FLOW		
Design Point	Q_2	Q_{100}
ID	(CFS)	(CFS)
6A	21.41	56.86
6B	8.28	23.93
6C	9.45	44.87
6D	4.56	18.47
6E	34.09	58.80
6F	13.68	69.19
6G	40.96	164.40
6H	10.08	51.13
6I	40.22	154.89
6J	17.19	46.79
6K	12.18	34.01
6L	3.39	9.95
6M	8.80	35.37
16	32.20	55.27
17	40.76	97.22

Note:
1) 0% slope indicates sump inlet.

DIRECT FLOW						
BASIN ID	AREA	Imperviousness	Q_2	Q_{100}	Street Type	Slope
	(AC)	%	(CFS)	(CFS)		%
A1	4.11	43.77	3.84	17.73	Local	2.00
A2	1.84	52.16	2.22	9.10	Local	0.00
A3	3.23	48.80	3.16	13.54	Local	0.00
A4	4.07	34.03	2.78	15.39	Local	0.00
A5	2.04	49.08	2.27	9.70	Local	0.00
A6	4.96	35.28	3.58	19.32	Local	1.50
A7	4.33	51.70	5.01	20.65	Local	4.00
A8	2.86	52.68	3.45	14.07	Local	0.00
A9	3.44	50.33	3.75	15.73	Arterial	2.00
A10	0.72	61.44	1.12	4.14	Arterial	0.00
A11	2.39	53.79	2.92	11.75	Local	2.00
A12	2.96	48.02	3.22	13.95	Local	1.50
A13	7.08	46.42	6.77	29.97	Local	5.00
A14	1.43	54.86	1.94	7.68	Local	0.00
A15	7.15	26.55	3.58	23.96	Arterial	0.00
A16	0.75	76.70	1.39	4.52	Local	2.00
A17	3.76	52.91	4.19	17.02	Local	2.00
A18	2.54	52.87	2.95	11.99	Local	2.00
A19	2.09	51.95	2.51	10.32	Local	4.00
A20	2.04	49.09	2.28	9.72	Local	2.00
A21	3.02	52.59	3.69	15.04	Local	1.50

Note:
1) 0% slope indicates sump inlet.

DIRECT FLOW						
BASIN ID	AREA	Imperviousness	Q_2	Q_{100}	Street Type	Slope
	(AC)	%	(CFS)	(CFS)		%
B1	21.00	23.33	8.48	62.92	Local	7.00
B2	3.13	51.76	3.82	15.75	Local	3.00
B3	4.92	50.31	5.58	23.45	Local	3.00
B4	1.50	91.11	4.10	12.16	Local	5.00
B5	3.19	53.20	3.88	15.72	Local	6.00
B6	3.19	53.20	3.88	15.72	Local	6.00
B7	5.76	49.66	5.79	24.54	Local	6.00
B8	4.93	46.94	4.95	21.81	Res. Blvd	0.00
B9	2.81	49.17	2.94	12.55	Local	0.00
B10	0.65	76.70	1.28	4.14	Res. Blvd	0.00
B11	0.84	76.70	1.59	5.15	Res. Blvd	0.00
B12	2.53	88.00	5.86	17.68	Local	3.00
B13	3.19	53.20	3.88	15.72	Local	2.00
B14	3.19	53.20	3.88	15.72	Local	2.00
B15	2.01	53.11	2.50	10.13	Local	1.00

Note:
1) 0% slope indicates sump inlet.

DIRECT FLOW						
BASIN ID	AREA	Imperviousness	Q_2	Q_{100}	Street Type	Slope
	(AC)	%	(CFS)	(CFS)		%
C1	7.47	43.49	6.21	28.78	Local	0.00
D1	5.94	42.41	5.34	25.23	Local	0.00
D2	5.33	46.14	5.58	24.83	Local	5.00
D3	3.66	43.82	3.28	15.11	Local	5.00
D4	2.91	42.33	2.45	11.57	Local	3.00
D5	9.10	61.93	11.25	41.49	Arterial	0.00
D6	2.57	42.99	2.30	10.74	Arterial	6.00
D7	2.58	42.09	2.48	11.76	Local	4.00
D8	0.85	51.73	1.06	4.38	Local	5.00
D9	4.62	45.07	4.34	19.61	Arterial	0.00
D10	4.80	50.52	5.60	23.45	Local	0.00
D11	3.29	84.30	6.19	19.00	Arterial	0.00
D12	1.13	84.30	2.13	6.53	Arterial	1.50

Note:
1) 0% slope indicates sump inlet.

DIRECT FLOW						
BASIN ID	AREA	Imperviousness	Q_2	Q_{100}	Street Type	Slope
	(AC)	%	(CFS)	(CFS)		%
E1	4.04	52.65	4.95	20.19	Local	2.70
E2	5.27	52.02	4.71	19.36	Local	0.00
E3	4.77	52.31	5.64	23.07	Local	3.00
E4	3.20	52.07	3.78	14.69	Local	4.00
E5	2.76	53.77	3.09	12.43	Local	0.00
E6	2.63	53.59	3.06	12.34	Local	1.00
E7	2.77	51.99	3.21	13.17	Local	0.00
E8	2.68	53.33	3.13	12.64	Local	2.00
E9	4.84	39.52	3.92	19.46	Local	2.00
E10	0.70	56.03	0.85	3.31	Local	1.00
E11	3.99	30.00	2.48	14.96	Local	1.00
E12	3.28	30.00	2.04	12.33	Local	6.00
E13	4.45	30.00	2.76	16.67	Local	1.00
E14	5.58	56.35	7.00	27.28	Local	0.00
E15	1.89	51.97	2.08	8.55	Local	2.00
E16	1.57	73.60	2.68	8.89	Local	6.00
E17	1.55	73.60	2.64	8.76	Local	1.00
E18	2.72	52.96	3.45	14.00	Local	1.50
E19	2.91	53.40	3.58	14.46	Local	1.20
E20	2.75	53.49	3.12	12.57	Local	2.00
E21	2.05	54.72	2.56	10.18	Local	2.00
E22	4.41	53.09	5.39	21.86	Local	2.70
E23	4.11	51.69	4.81	19.86	Local	2.70
E24	4.23	30.00	2.63	15.87	Local	2.00
E25	3.62	52.58	4.65	18.92	Local	2.00
E26	2.88	59.79	4.24	15.89	Local	2.00

Note:
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DIRECT FLOW						
BASIN ID	AREA	Imperviousness	Q_2	Q_{100}	Street Type	Slope
	(AC)	%	(CFS)	(CFS)		%
F1	1.71	90.64	4.59	13.55	Local	2.50
F2	1.77	93.50	4.96	14.53	Local	2.50
F3	3.60	19.77	1.47	12.47	Local	1.00
F4	3.79	53.06	4.56	18.47	Local	4.00
F5	4.58	46.86	4.46	19.66	Res. Blvd	4.00
F6	4.93	38.37	3.70	18.75	Local	0.00
F7	4.51	18.05	1.68	15.41	Res. Blvd	0.00
F8	7.93	34.99	5.57	30.18	Local	0.00
F9	1.28	66.27	1.75	6.18	Res. Blvd	0.00
F10	1.93	92.20	5.30	15.64	Local	2.50
F11	1.50	91.79	4.07	12.03	Local	2.50
F12	1.22	93.17	3.39	9.95	Local	2.50
F13	3.58	52.91	4.36	17.70	Local	4.00

DIRECT FLOW						
BASIN ID	AREA	Imperviousness	Q_2	Q_{100}	Street Type	Slope
	(AC)	%	(CFS)	(CFS)		%
OS 10	5.37	2.00	0.30	16.40	N/A	5.00

POND A	
Description	
Drainage Area	151.23
Percent Imperviousness	40.74
WQCV	2.29
EURV Volume (including WQVC)	6.11
EURV Water Surface*	5999.96
100-YR Volume (including EURV)	11.36
100-yar water surface elevation*	6002.05
Emergency Spillway Crest Elevation*	6002.05
100-year Peak Inflow (cfs)	268.86
100-year Peak Outflow (cfs)	177.21

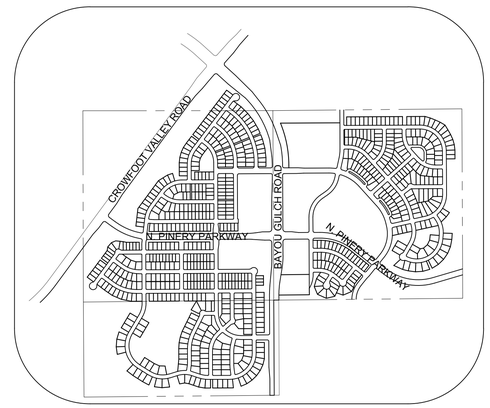
POND B	
Description	
Drainage Area	23.2
Percent Imperviousness	47.36
WQCV	0.39
EURV Volume (including WQVC)	1.10
EURV Water Surface*	6092.92
100-YR Volume (including EURV)	2.41
100-yar water surface elevation*	6094.57
Emergency Spillway Crest Elevation*	6094.57
100-year Peak Inflow (cfs)	105.30
100-year Peak Outflow (cfs)	30.56

POND C	
Description	
Drainage Area	97.79
Percent Imperviousness	45.93
WQCV	1.59
EURV Volume (including WQVC)	4.49
EURV Water Surface*	-
100-YR Volume (including EURV)	9.40
100-yar water surface elevation*	-
Emergency Spillway Crest Elevation*	-
100-year Peak Inflow (cfs)	299.05
100-year Peak Outflow (cfs)	106.71

POND D	
Description	
Drainage Area	52.76
Percent Imperviousness	55.15
WQCV	0.97
EURV Volume (including WQVC)	2.954
EURV Water Surface*	-
100-YR Volume (including EURV)	4.99
100-yar water surface elevation*	-
Emergency Spillway Crest Elevation*	-
100-year Peak Inflow (cfs)	163.82
100-year Peak Outflow (cfs)	58.28

CHANNEL DESIGN POINT SUMMARY		
Design Point	Q_5	Q_{100}
ID	(CFS)	(CFS)
A	25.46	79.96
B	45.82	142.42
C	55.04	179.59
D	68.34	229.25
E	78.47	268.86

NOTE: Flows are from SWMM analysis. See drainage report for more details



KEYMAP
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TOWN OF PARKER, PUBLIC WORKS DIRECTOR DATE

TOWN OF PARKER, PUBLIC WORKS MANAGER - STORMWATER DATE

TOWN OF PARKER, PUBLIC WORKS MANAGER - TRANSPORTATION DATE

BENCHMARK
DOUGLAS COUNTY CONTROL POINT KNOWN AS 1.060032, BEING A 3-1/4" ALUMINUM CAP, BEING LOCATED IN THE SOUTHWEST QUARTER OF SECTION 33, TOWNSHIP 6 SOUTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, HAVING A PUBLISHED ELEVATION OF 1799.2870 METERS (5903.13 FEET) NAVD '88 DATUM.

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CALL 811
TWO WORKING DAYS
BEFORE YOU DIG
1-800-922-1987
UNCC UTILITY NOTIFICATION CENTER OF COLORADO

PREPARED UNDER THE SUPERVISION OF

MARK SCHEURER
COLORADO P.E. 48988

No.	Revisions	Date	Init.	Appr.	Date

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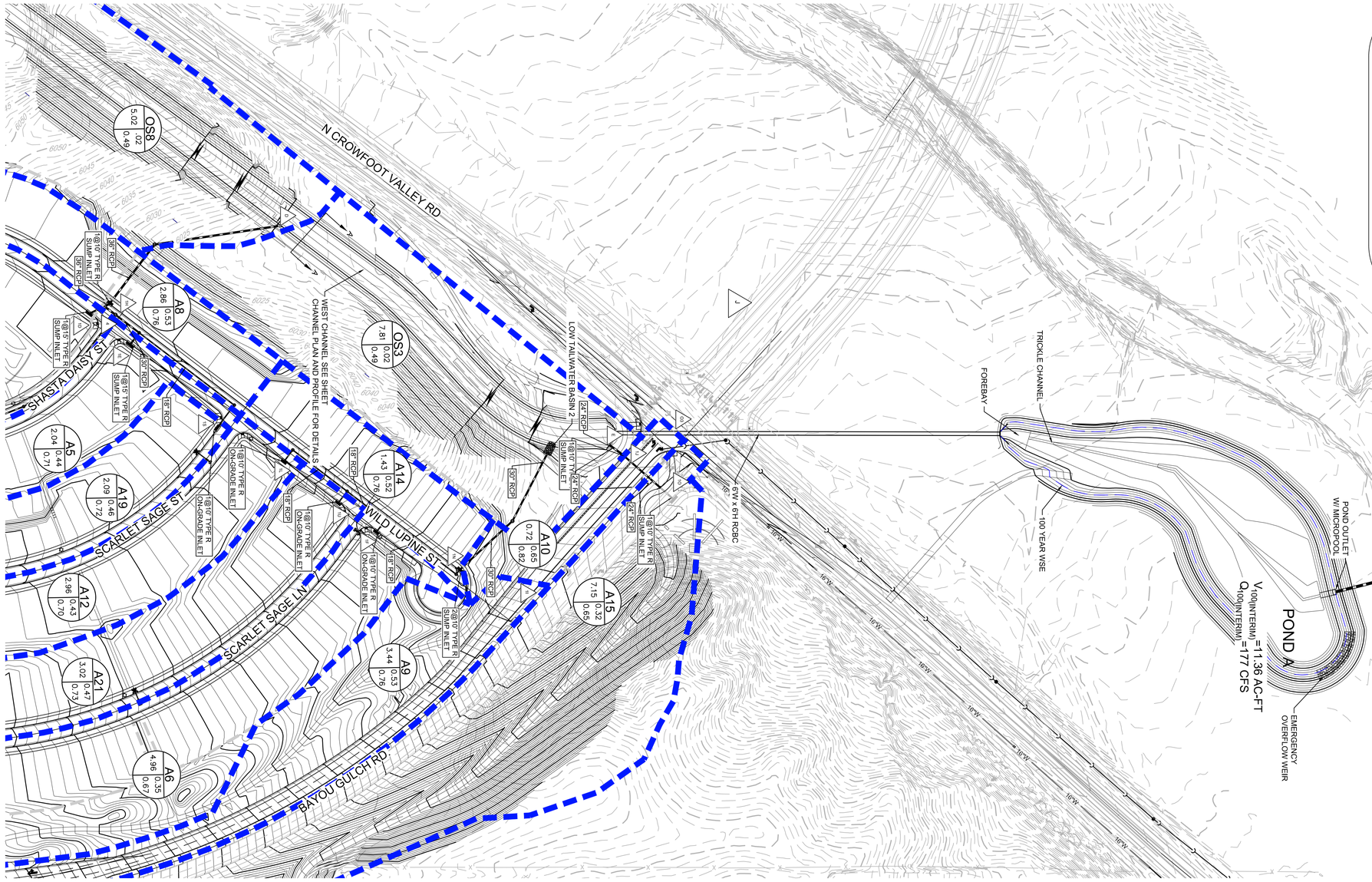
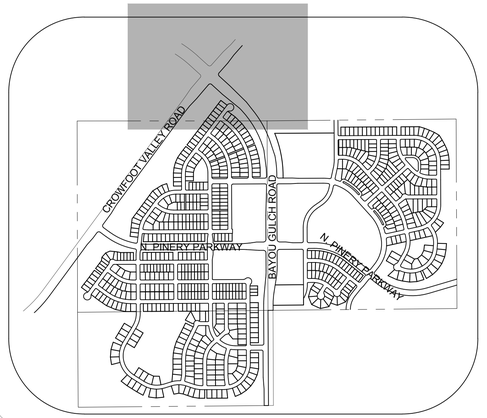
TRAILS AT CROWFOOT
FINAL DRAINAGE MAP
OVERALL DRAINAGE MAP - TABLES

SCALE: AS SHOWN
FILE NO: 8130283701
DRAWN BY: AWK
CHECKED BY: JJJ
DATE: MAY 2017
SHEET NUMBER 1B

N:\PROJECTS\HESS RANCH\DOCS\ENGINEERING\DRAINAGE\FINAL DRAINAGE STUDIES\DRAINAGE MAPS\FINAL OVERALL DRAINAGE MAP.DWG, ANDREWP, 5/15/2017 10:47 AM





KEYMAP
N.T.S.

100 50 0 100 200

SCALE: 1" = 100'

Note:
1) 0% slope indicates sump inlet.

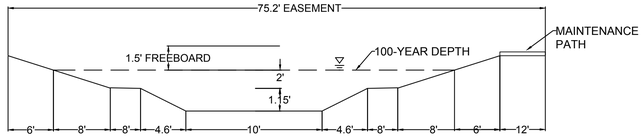
DIRECT FLOW						
BASIN ID	AREA	Imperviousness	Q_2	Q_{100}	Street Type	Slope
	(AC)	%	(CFS)	(CFS)		%
A1	4.11	43.77	3.84	17.73	Local	2.00
A2	1.84	52.16	2.22	9.10	Local	0.00
A3	3.23	48.80	3.16	13.54	Local	0.00
A4	4.07	34.03	2.78	15.39	Local	0.00
A5	2.04	49.08	2.27	9.70	Local	0.00
A6	4.96	35.28	3.58	19.32	Local	1.50
A7	4.33	51.70	5.01	20.65	Local	4.00
A8	2.86	52.68	3.45	14.07	Local	0.00
A9	3.44	50.33	3.75	15.73	Arterial	2.00
A10	0.72	61.44	1.12	4.14	Arterial	0.00
A11	2.39	53.79	2.92	11.75	Local	2.00
A12	2.96	48.02	3.22	13.95	Local	1.50
A13	7.08	46.42	6.77	29.97	Local	5.00
A14	1.43	54.86	1.94	7.68	Local	0.00
A15	7.15	26.55	3.58	23.96	Arterial	0.00
A16	0.75	76.70	1.39	4.52	Local	2.00
A17	3.76	52.91	4.19	17.02	Local	2.00
A18	2.54	52.87	2.95	11.99	Local	2.00
A19	2.09	51.95	2.51	10.32	Local	4.00
A20	2.04	49.09	2.28	9.72	Local	2.00
A21	3.02	52.59	3.69	15.04	Local	1.50

CUMULATIVE FLOW		
Design Point ID	Q_2 (CFS)	Q_{100} (CFS)
1A	3.84	17.73
1B	5.04	60.61
1C	18.94	72.95
1D	19.26	82.87
1E	4.69	68.74
1F	9.74	45.15
1G	5.01	55.58
1H	22.10	94.13
1I	3.75	15.73
1J	7.60	40.45
1K	2.92	11.75
1L	3.22	13.95
1M	6.77	29.97
1N	11.20	49.77
1O	3.58	23.96
1P	5.05	21.53
1Q	6.90	27.93
1R	2.95	11.99
1S	2.51	10.32
1T	7.21	37.59
1U	6.71	27.72
1	11.54	45.92
2	15.83	42.02
3	13.13	(Not Relavent for 100 year)
4	16.64	41.99

NOTE:
1. THE TOWN OF PARKER REVIEW CONSTITUTES GENERAL COMPLIANCE WITH THE TOWN'S STANDARDS AND APPROVED VARIANCES, SUBJECT TO THESE PLANS BEING STAMPED, SIGNED, AND DATED BY THE PROFESSIONAL ENGINEER OF RECORD. REVIEW BY THE TOWN DOES NOT CONSTITUTE APPROVAL OF THE PLAN DESIGN OR ACCURACY AND CORRECTNESS OF ENGINEERING CALCULATIONS. ERRORS IN THE DESIGN OR CALCULATIONS REMAIN THE RESPONSIBILITY OF THE REGISTERED PROFESSIONAL ENGINEER WHOSE STAMP AND SIGNATURE ARE AFFIXED TO THIS DOCUMENT.
2. POND A & C ARE MAINTAINED BY METRO DISTRICT AND TOWN'S STORMWATER UTILITY.
3. OUTLET STRUCTURE AND OVERFLOW WEIR DETAILS WILL BE PROVIDED WITH FINAL DRAINAGE REPORT.
4. DROP STRUCTURE DETAILS ARE PROVIDED IN CHANNEL PLAN AND PROFILE SHEET .
5. LOW TAILWATER BASIN DETAILS ARE PROVIDED WITH FINAL DRAINAGE REPORT.

LEGEND

- 711F — DESIGN POINT
- XX / A / R2 / R100 — XX = BASIN ID A= AREA; R2= 2 YR RUNOFF CO-EFF; R100= 100 YR RUNOFF CO-EFF
- POND — DETENTION POND
- CHANNEL DROP STRUCTURE
- BASIN LINE
- MAJOR BASIN LINE
- 5650 — PROPOSED MAJOR CONTOURS
- PROPOSED MINOR CONTOURS
- 5650 — EXISTING MAJOR CONTOURS
- EXISTING MINOR CONTOURS
- PROPOSED FLOW ARROW



CHANNEL SECTION A-A
NO TO SCALE

BENCHMARK
DOUGLAS COUNTY CONTROL POINT KNOWN AS 1.060032, BEING A 3-1/4" ALUMINUM CAP, BEING LOCATED IN THE SOUTHWEST QUARTER OF SECTION 33, TOWNSHIP 6 SOUTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, HAVING A PUBLISHED ELEVATION OF 1799.2870 METERS (5903.13 FEET) NAVD '88 DATUM.

BASIS OF BEARINGS:
THE EAST LINE OF THE NORTHEAST QUARTER OF SAID SECTION 9 BEING MONUMENTED AT THE NORTHEAST CORNER OF SAID SECTION 9 BY A 3-1/4" ALUMINUM CAP STAMPED LS 23053 AND AT THE EAST QUARTER CORNER OF SAID SECTION 9 BY A 2-1/2" ALUMINUM CAP STAMPED LS 6935 BEING CONSIDERED TO BEAR SOUTH 00°15'06" EAST, 2648.70 FEET.

CALL 811
TWO WORKING DAYS
BEFORE YOU DIG
UNCC 1-800-922-1987
UTILITY NOTIFICATION CENTER OF COLORADO

MATCHLINE - SHEET 3

N:\PROJECTS\HESS RANCH\DOCS\ENGINEERING\DRAINAGE\PRELIMINARY DRAINAGE STUDIES\DRAINAGE MAPS\PRELIMINARY DRAINAGE MAP D2-DS.DWG, ASFUNDK, 6/21/2017 3:45 PM

No.	Revisions	Date	Init.	Appr.	Date

10333 E. Dry Creek Rd.
Suite 240
Englewood, CO 80112
Tel: (720) 482-9526
Fax: (720) 482-9546
CVL CONSULTANTS

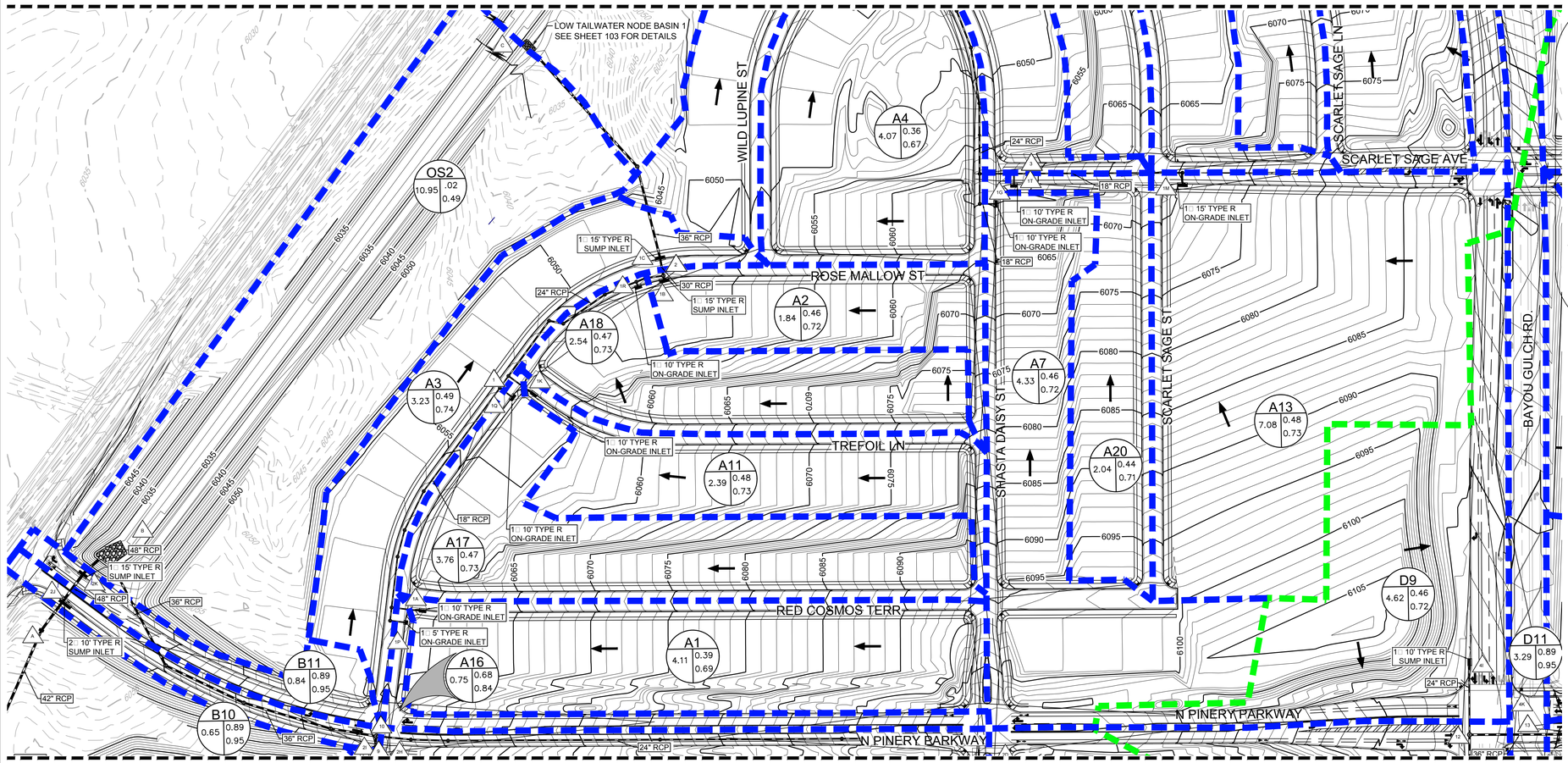
E5X MANAGEMENT
7353 South Alton Way
CENTENNIAL, CO 80112

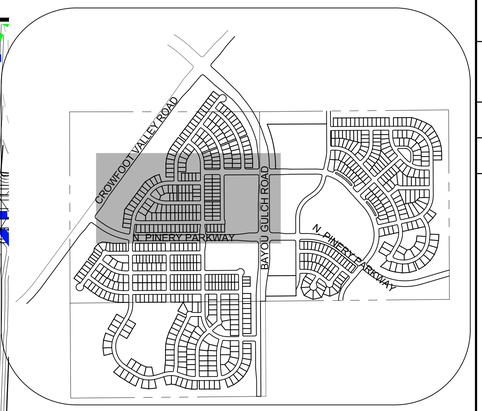
TRAILS AT CROWFOOT
PRELIMINARY DRAINAGE MAP
DRAINAGE MAP

SCALE: AS SHOWN
FILE NO: 8130283701
DRAWN BY: AYK
CHECKED BY: JJJ
DATE: APRIL 2017
SHEET NUMBER 2

PREPARED UNDER THE SUPERVISION OF

MARK SCHEURER
COLORADO P.E. 48988





KEYMAP

N.T.S.

100 50 0 100 200

SCALE: 1" = 100'

LEGEND

7111P	DESIGN POINT
XX / A / R2 / R100	XX = BASIN ID A= AREA R2= 2 YR RUNOFF CO-EFF R100= 100 YR RUNOFF CO-EFF
POND	DETENTION POND
	CHANNEL DROP STRUCTURE
	BASIN LINE
	MAJOR BASIN LINE
5650	PROPOSED MAJOR CONTOURS
	PROPOSED MINOR CONTOURS
5650	EXISTING MAJOR CONTOURS
	EXISTING MINOR CONTOURS
	PROPOSED FLOW ARROW

Note:
1) 0% slope indicates sump inlet.

DIRECT FLOW

BASIN ID	AREA	Imperviousness	Q_2	Q_{100}	Street Type	Slope
	(AC)	%	(CFS)	(CFS)		%
A1	4.11	43.77	3.84	17.73	Local	2.00
A2	1.84	52.16	2.22	9.10	Local	0.00
A3	3.23	48.80	3.16	13.54	Local	0.00
A4	4.07	34.03	2.78	15.39	Local	0.00
A5	2.04	49.08	2.27	9.70	Local	0.00
A6	4.96	35.28	3.58	19.32	Local	1.50
A7	4.33	51.70	5.01	20.65	Local	4.00
A8	2.86	52.68	3.45	14.07	Local	0.00
A9	3.44	50.33	3.75	15.73	Arterial	2.00
A10	0.72	61.44	1.12	4.14	Arterial	0.00
A11	2.39	53.79	2.92	11.75	Local	2.00
A12	2.96	48.02	3.22	13.95	Local	1.50
A13	7.08	46.42	6.77	29.97	Local	5.00
A14	1.43	54.86	1.94	7.68	Local	0.00
A15	7.15	26.55	3.58	23.96	Arterial	0.00
A16	0.75	76.70	1.39	4.52	Local	2.00
A17	3.76	52.91	4.19	17.02	Local	2.00
A18	2.54	52.87	2.95	11.99	Local	2.00
A19	2.09	51.95	2.51	10.32	Local	4.00
A20	2.04	49.09	2.28	9.72	Local	2.00
A21	3.02	52.59	3.69	15.04	Local	1.50

CUMULATIVE FLOW

Design Point ID	Q_2 (CFS)	Q_{100} (CFS)
1A	3.84	17.73
1B	5.04	60.61
1C	18.94	72.95
1D	19.26	82.87
1E	4.69	68.74
1F	9.74	45.15
1G	5.01	55.58
1H	22.10	94.13
1I	3.75	15.73
1J	7.60	40.45
1K	2.92	11.75
1L	3.22	13.95
1M	6.77	29.97
1N	11.20	49.77
1O	3.58	23.96
1P	5.05	21.53
1Q	6.90	27.93
1R	2.95	11.99
1S	2.51	10.32
1T	7.21	37.59
1U	6.71	27.72
1	11.54	45.92
2	15.83	42.02
3	13.13	(Not Relavent for 100 year)
4	16.64	41.99

DIRECT FLOW

BASIN ID	AREA	Imperviousness	Q_2	Q_{100}	Street Type	Slope
	(AC)	%	(CFS)	(CFS)		%
C1	7.47	43.49	6.21	28.78	Local	0.00
D1	5.94	42.41	5.34	25.23	Local	0.00
D2	5.33	46.14	5.58	24.83	Local	5.00
D3	3.66	43.82	3.28	15.11	Local	5.00
D4	2.91	42.33	2.45	11.57	Local	3.00
D5	9.10	61.93	11.25	41.49	Arterial	0.00
D6	2.57	42.99	2.30	10.74	Arterial	6.00
D7	2.58	42.09	2.48	11.76	Local	4.00
D8	0.85	51.73	1.06	4.38	Local	5.00
D9	4.62	45.07	4.34	19.61	Arterial	0.00
D10	4.80	50.52	5.60	23.45	Local	0.00
D11	3.29	84.30	6.19	19.00	Arterial	0.00
D12	1.13	84.30	2.13	6.53	Arterial	1.50

CUMULATIVE FLOW

Design Point ID	Q_2 (CFS)	Q_{100} (CFS)
4A	18.01	80.94
4B	5.58	24.83
4C	3.28	15.11
4D	5.63	26.26
4E	13.59	54.51
4F	5.19	24.34
4G	2.48	11.76
4H	1.06	4.38
4I	4.34	19.61
4J	10.66	45.70
4K	6.19	19.00
4L	2.94	10.02
11	12.69	56.80
12	16.90	69.53
13	21.12	82.67

NOTE:
1. THE TOWN OF PARKER REVIEW CONSTITUTES GENERAL COMPLIANCE WITH THE TOWN'S STANDARDS AND APPROVED VARIANCES, SUBJECT TO THESE PLANS BEING STAMPED, SIGNED, AND DATED BY THE PROFESSIONAL ENGINEER OF RECORD. REVIEW BY THE TOWN DOES NOT CONSTITUTE APPROVAL OF THE PLAN DESIGN OR ACCURACY AND CORRECTNESS OF ENGINEERING CALCULATIONS. ERRORS IN THE DESIGN OR CALCULATIONS REMAIN THE RESPONSIBILITY OF THE REGISTERED PROFESSIONAL ENGINEER WHOSE STAMP AND SIGNATURE ARE AFFIXED TO THIS DOCUMENT.
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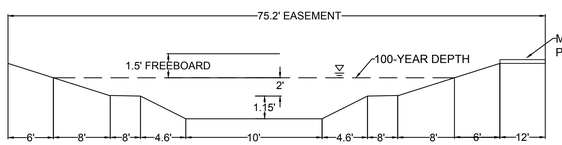


CHANNEL SECTION A-A

NO TO SCALE

BENCHMARK
DOUGLAS COUNTY CONTROL POINT KNOWN AS 1.060032, BEING A 3-1/4" ALUMINUM CAP, BEING LOCATED IN THE SOUTHWEST QUARTER OF SECTION 33, TOWNSHIP 6 SOUTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, HAVING A PUBLISHED ELEVATION OF 1799.2870 METERS (5903.13 FEET) NAVD '88 DATUM.

BASIS OF BEARINGS:
THE EAST LINE OF THE NORTHEAST QUARTER OF SAID SECTION 9 BEING MONUMENTED AT THE NORTHEAST CORNER OF SAID SECTION 9 BY A 3-1/4" ALUMINUM CAP STAMPED LS 23053 AND AT THE EAST QUARTER CORNER OF SAID SECTION 9 BY A 2-1/2" ALUMINUM CAP STAMPED LS 6935 BEING CONSIDERED TO BEAR SOUTH 00°15'06" EAST, 2648.70 FEET.

CALL 811
TWO WORKING DAYS
BEFORE YOU DIG
UNCC UTILITY NOTIFICATION CENTER OF COLORADO
1-800-922-1987

PREPARED UNDER THE SUPERVISION OF

MARK SCHEURER
COLORADO P.E. 48988

No.	Revisions	Date	Init.	Appr.	Date

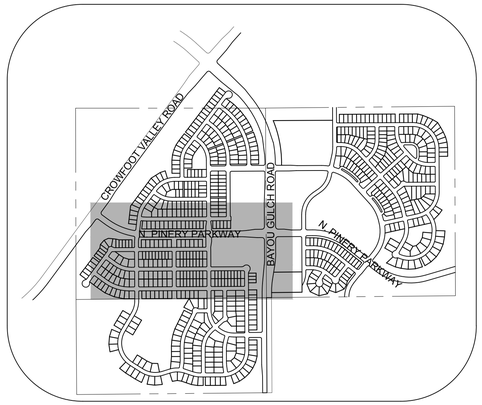
CVL CONSULTANTS
10333 E. Dry Creek Rd.
Suite 240
Englewood, CO 80112
Tel: (720) 482-9526
Fax: (720) 482-9546

E5X MANAGEMENT
7353 South Alton Way
CENTENNIAL, CO 80112

TRAILS AT CROWFOOT
FINAL DRAINAGE MAP
DRAINAGE MAP

SCALE: AS SHOWN
FILE NO: 8130283701
DRAWN BY: AYK
CHECKED BY: JJJ
DATE: MAY 2017
SHEET NUMBER 3

N:\PROJECTS\HESS RANCH\DOCS\ENGINEERING\DRAINAGE\FINAL DRAINAGE STUDIES\DRAINAGE MAPS\DRAINAGE MAP - FINAL.DWG, ASFUNDK, 5/15/2017 10:49 AM

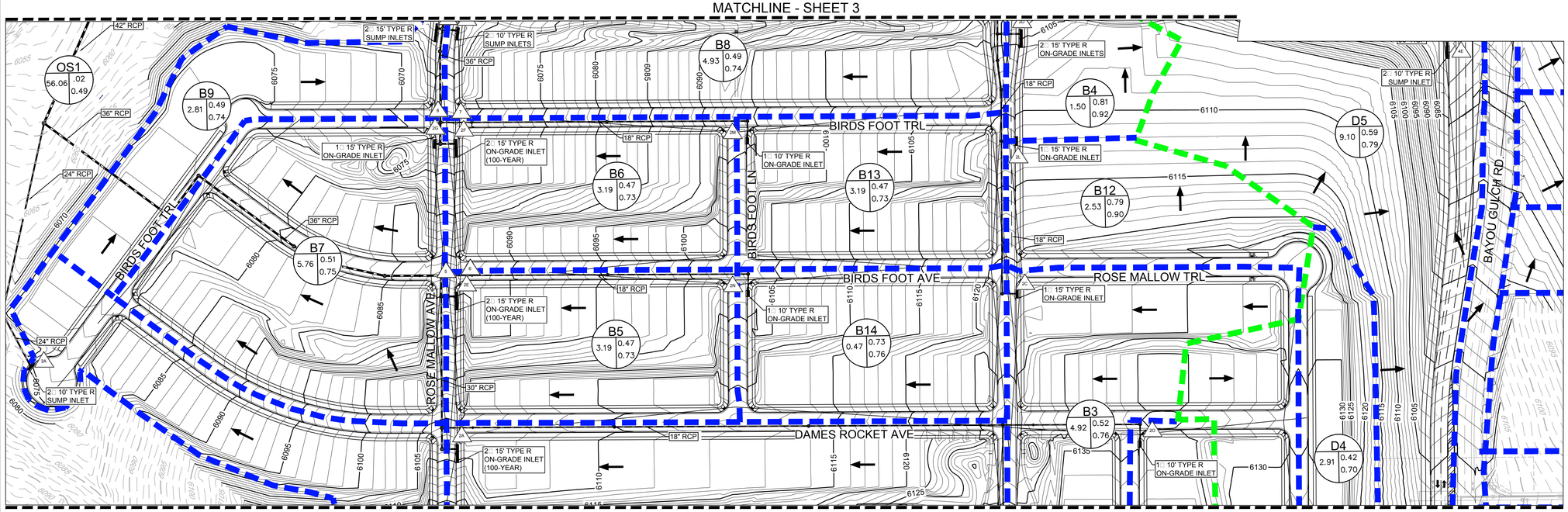


KEYMAP
N.T.S.

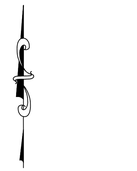
LEGEND

711F	DESIGN POINT
XX / A / R2 / R100	XX = BASIN ID A= AREA R2= 2 YR RUNOFF CO-EFF R100= 100 YR RUNOFF CO-EFF
POND	DETENTION POND
	CHANNEL DROP STRUCTURE
	BASIN LINE
	MAJOR BASIN LINE
5650	PROPOSED MAJOR CONTOURS
	PROPOSED MINOR CONTOURS
5650	EXISTING MAJOR CONTOURS
	EXISTING MINOR CONTOURS
	PROPOSED FLOW ARROW

MATCHLINE - SHEET 3



MATCHLINE - SHEET 5



100 50 0 100 200

SCALE: 1" = 100'

NOTE:

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3. OUTLET STRUCTURE AND OVERFLOW WEIR DETAILS ARE PROVIDED WITH CIVIL PLANS
4. DROP STRUCTURE DETAILS ARE PROVIDED IN CHANNEL PLAN AND PROFILE SHEET .

Note:
1) 0% slope indicates sump inlet.

DIRECT FLOW						
BASIN ID	AREA (AC)	Imperviousness %	Q_2 (CFS)	Q_{100} (CFS)	Street Type	Slope %
B1	21.00	23.33	8.48	62.92	Local	7.00
B2	3.13	51.76	3.82	15.75	Local	3.00
B3	4.92	50.31	5.58	23.45	Local	3.00
B4	1.50	91.11	4.10	12.16	Local	5.00
B5	3.19	53.20	3.88	15.72	Local	6.00
B6	3.19	53.20	3.88	15.72	Local	6.00
B7	5.76	49.66	5.79	24.54	Local	6.00
B8	4.93	46.94	4.95	21.81	Res. Blvd	0.00
B9	2.81	49.17	2.94	12.55	Local	0.00
B10	0.65	76.70	1.28	4.14	Res. Blvd	0.00
B11	0.84	76.70	1.59	5.15	Res. Blvd	0.00
B12	2.53	88.00	5.86	17.68	Local	3.00
B13	3.19	53.20	3.88	15.72	Local	2.00
B14	3.19	53.20	3.88	15.72	Local	2.00
B15	2.01	53.11	2.50	10.13	Local	1.00

Note:
1) 0% slope indicates sump inlet.

DIRECT FLOW						
BASIN ID	AREA (AC)	Imperviousness %	Q_2 (CFS)	Q_{100} (CFS)	Street Type	Slope %
C1	7.47	43.49	6.21	28.78	Local	0.00
D1	5.94	42.41	5.34	25.23	Local	0.00
D2	5.33	46.14	5.58	24.83	Local	5.00
D3	3.66	43.82	3.28	15.11	Local	5.00
D4	2.91	42.33	2.45	11.57	Local	3.00
D5	9.10	61.93	11.25	41.49	Arterial	0.00
D6	2.57	42.99	2.30	10.74	Arterial	6.00
D7	2.58	42.09	2.48	11.76	Local	4.00
D8	0.85	51.73	1.06	4.38	Local	5.00
D9	4.62	45.07	4.34	19.61	Arterial	0.00
D10	4.80	50.52	5.60	23.45	Local	0.00
D11	3.29	84.30	6.19	19.00	Arterial	0.00
D12	1.13	84.30	2.13	6.53	Arterial	1.50

CUMULATIVE FLOW		
Design Point ID	Q_2 (CFS)	Q_{100} (CFS)
2A	13.11	74.41
2B	6.15	15.75
2C	5.58	33.21
2D	13.15	54.26
2E	3.88	76.36
2F	3.88	29.09
2G	5.79	24.54
2H	4.95	21.81
2I	2.94	35.69
2J	24.60	155.70
2K	25.63	158.99
2L	10.38	46.95
2M	3.88	15.72
2N	3.88	15.72
2O	2.50	10.13
5	18.73	76.25
6	7.44	(Not Relavent for 100 year)
7	7.40	(Not Relavent for 100 year)
9	19.80	84.75
10	31.82	84.62

CUMULATIVE FLOW		
Design Point ID	Q_2 (CFS)	Q_{100} (CFS)
3A	6.44	43.61
CUMULATIVE FLOW		
Design Point ID	Q_2 (CFS)	Q_{100} (CFS)
4A	18.01	80.94
4B	5.58	24.83
4C	3.28	15.11
4D	5.63	26.26
4E	13.59	54.51
4F	5.19	24.34
4G	2.48	11.76
4H	1.06	4.38
4I	4.34	19.61
4J	10.66	45.70
4K	6.19	19.00
4L	2.94	10.02
11	12.69	56.80
12	16.90	69.53
13	21.12	82.67

BENCHMARK
DOUGLAS COUNTY CONTROL POINT KNOWN AS 1.060032, BEING A 3-1/4" ALUMINUM CAP, BEING LOCATED IN THE SOUTHWEST QUARTER OF SECTION 33, TOWNSHIP 6 SOUTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, HAVING A PUBLISHED ELEVATION OF 1799.2870 METERS (5903.13 FEET) NAVD '88 DATUM.

BASIS OF BEARINGS:
THE EAST LINE OF THE NORTHEAST QUARTER OF SAID SECTION 9 BEING MONUMENTED AT THE NORTHEAST CORNER OF SAID SECTION 9 BY A 3-1/4" ALUMINUM CAP STAMPED LS 23053 AND AT THE EAST QUARTER CORNER OF SAID SECTION 9 BY A 2-1/2" ALUMINUM CAP STAMPED LS 6935 BEING CONSIDERED TO BEAR SOUTH 00°15'06" EAST, 2648.70 FEET.

CALL 811
TWO WORKING DAYS
BEFORE YOU DIG
1-800-922-1987
UNCC UTILITY NOTIFICATION CENTER OF COLORADO

PREPARED UNDER THE SUPERVISION OF

MARK SCHEURER
COLORADO P.E. 48988

No.	Revisions	Date	Init.	Appr.	Date

10333 E. Dry Creek Rd.
Suite 240
Englewood, CO 80112
Tel: (720) 482-9526
Fax: (720) 482-9546

CVL CONSULTANTS

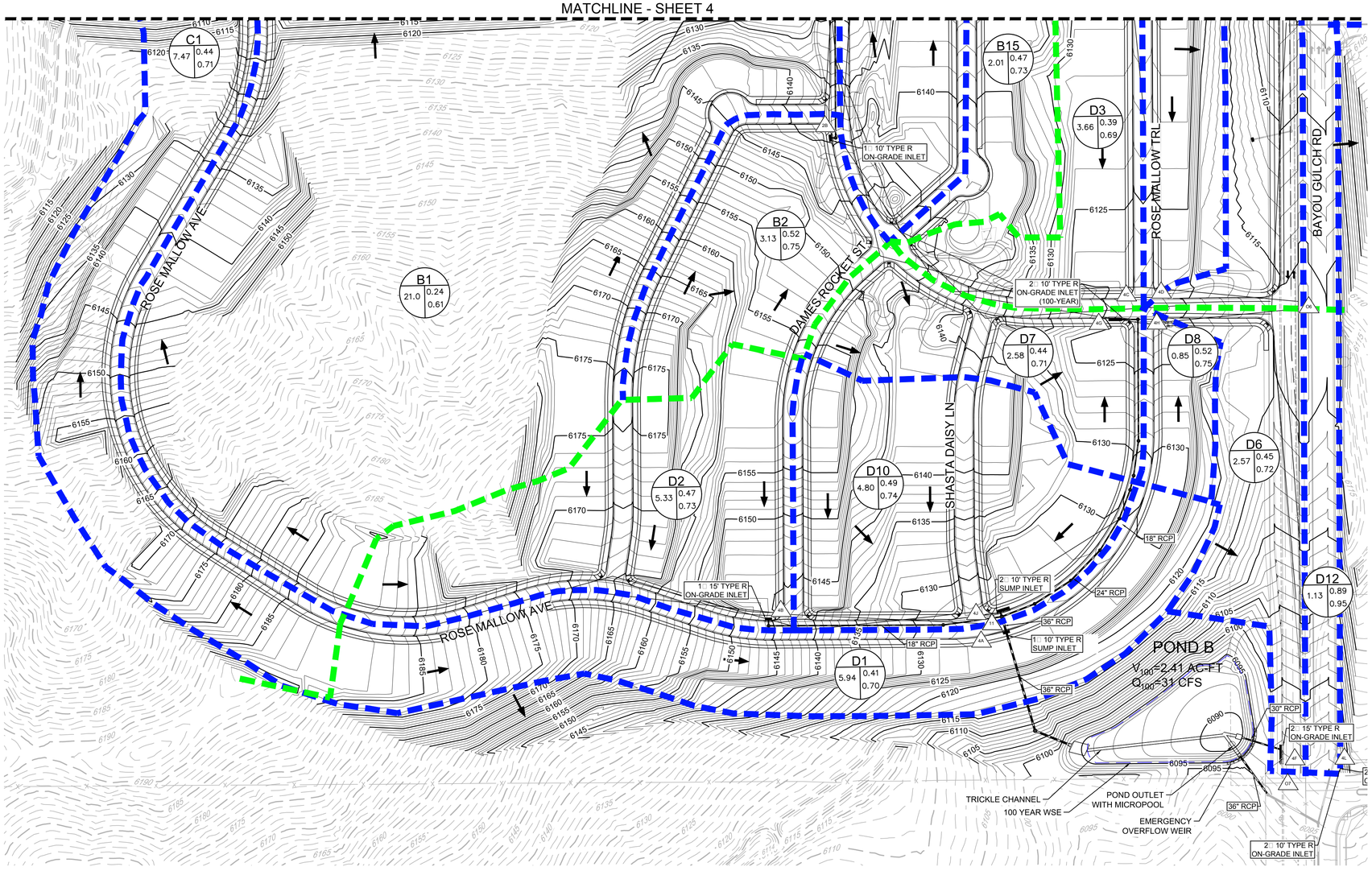
E5X MANAGEMENT
7353 South Alton Way
CENTENNIAL, CO 80112

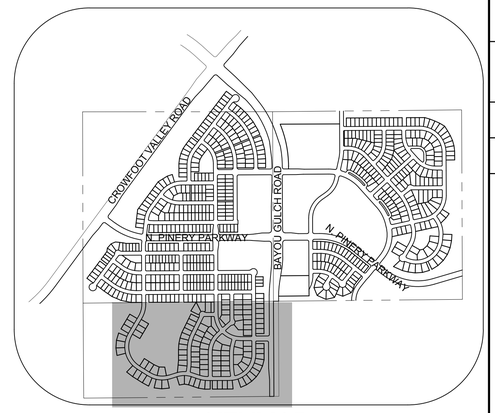
TRAILS AT CROWFOOT
FINAL DRAINAGE MAP
DRAINAGE MAP

SCALE: AS SHOWN
FILE NO: 8130283701
DRAWN BY: AYK
CHECKED BY: JJJ
DATE: MAY 2017
SHEET NUMBER 4

N:\PROJECTS\HESS RANCH\DOCS\ENGINEERING\DRAINAGE\FINAL DRAINAGE STUDIES\DRAINAGE MAPS\DRAINAGE MAP- FINAL DWG, ASF\JNDX, 5/15/2017 10:49 AM

MATCHLINE - SHEET 4





KEYMAP
N.T.S.

NOTE:

1. THE TOWN OF PARKER REVIEW CONSTITUTES GENERAL COMPLIANCE WITH THE TOWN'S STANDARDS AND APPROVED VARIANCES, SUBJECT TO THESE PLANS BEING STAMPED, SIGNED, AND DATED BY THE PROFESSIONAL ENGINEER OF RECORD. REVIEW BY THE TOWN DOES NOT CONSTITUTE APPROVAL OF THE PLAN DESIGN OR ACCURACY AND CORRECTNESS OF ENGINEERING CALCULATIONS. ERRORS IN THE DESIGN OR CALCULATIONS REMAIN THE RESPONSIBILITY OF THE REGISTERED PROFESSIONAL ENGINEER WHOSE STAMP AND SIGNATURE ARE AFFIXED TO THIS DOCUMENT.
2. PONDS ARE MAINTAINED BY METRO DISTRICT.
3. OUTLET STRUCTURE AND OVERFLOW WEIR DETAILS ARE PROVIDED WITH CIVIL PLANS.
4. DROP STRUCTURE DETAILS ARE PROVIDED IN CHANNEL PLAN AND PROFILE SHEET .

LEGEND

7111P	DESIGN POINT
XX / A / R2 / R100	XX = BASIN ID A= AREA R2= 2 YR RUNOFF CO-EFF R100= 100 YR RUNOFF CO-EFF
POND	DETENTION POND
	CHANNEL DROP STRUCTURE
	BASIN LINE
	MAJOR BASIN LINE
6650	PROPOSED MAJOR CONTOURS
	PROPOSED MINOR CONTOURS
6650	EXISTING MAJOR CONTOURS
	EXISTING MINOR CONTOURS
	PROPOSED FLOW ARROW

Note:
1) 0% slope indicates sump inlet.

DIRECT FLOW

BASIN ID	AREA (AC)	Imperviousness %	Q_2 (CFS)	Q_{100} (CFS)	Street Type	Slope %
B1	21.00	23.33	8.48	62.92	Local	7.00
B2	3.13	51.76	3.82	15.75	Local	3.00
B3	4.92	50.31	5.58	23.45	Local	3.00
B4	1.50	91.11	4.10	12.16	Local	5.00
B5	3.19	53.20	3.88	15.72	Local	6.00
B6	3.19	53.20	3.88	15.72	Local	6.00
B7	5.76	49.66	5.79	24.54	Local	6.00
B8	4.93	46.94	4.95	21.81	Res. Blvd	0.00
B9	2.81	49.17	2.94	12.55	Local	0.00
B10	0.65	76.70	1.28	4.14	Res. Blvd	0.00
B11	0.84	76.70	1.59	5.15	Res. Blvd	0.00
B12	2.53	88.00	5.86	17.68	Local	3.00
B13	3.19	53.20	3.88	15.72	Local	2.00
B14	3.19	53.20	3.88	15.72	Local	2.00
B15	2.01	53.11	2.50	10.13	Local	1.00

Note:
1) 0% slope indicates sump inlet.

DIRECT FLOW

BASIN ID	AREA (AC)	Imperviousness %	Q_2 (CFS)	Q_{100} (CFS)	Street Type	Slope %
C1	7.47	43.49	6.21	28.78	Local	0.00
D1	5.94	42.41	5.34	25.23	Local	0.00
D2	5.33	46.14	5.58	24.83	Local	5.00
D3	3.66	43.82	3.28	15.11	Local	5.00
D4	2.91	42.33	2.45	11.57	Local	3.00
D5	9.10	61.93	11.25	41.49	Arterial	0.00
D6	2.57	42.99	2.30	10.74	Arterial	6.00
D7	2.58	42.09	2.48	11.76	Local	4.00
D8	0.85	51.73	1.06	4.38	Local	5.00
D9	4.62	45.07	4.34	19.61	Arterial	0.00
D10	4.80	50.52	5.60	23.45	Local	0.00
D11	3.29	84.30	6.19	19.00	Arterial	0.00
D12	1.13	84.30	2.13	6.53	Arterial	1.50

CUMULATIVE FLOW

Design Point ID	Q_2 (CFS)	Q_{100} (CFS)
2A	13.11	74.41
2B	6.15	15.75
2C	5.58	33.21
2D	13.15	54.26
2E	3.88	76.36
2F	3.88	29.09
2G	5.79	24.54
2H	4.95	21.81
2I	2.94	35.69
2J	24.60	155.70
2K	25.63	158.99
2L	10.38	46.95
2M	3.88	15.72
2N	3.88	15.72
2O	2.50	10.13
5	18.73	76.25
6	7.44	(Not Relavent for 100 year)
7	7.40	(Not Relavent for 100 year)
9	19.80	84.75
10	31.82	84.62

CUMULATIVE FLOW

Design Point ID	Q_2 (CFS)	Q_{100} (CFS)
3A	6.44	43.61

CUMULATIVE FLOW

Design Point ID	Q_2 (CFS)	Q_{100} (CFS)
4A	18.01	80.94
4B	5.58	24.83
4C	3.28	15.11
4D	5.63	26.26
4E	13.59	54.51
4F	5.19	24.34
4G	2.48	11.76
4H	1.06	4.38
4I	4.34	19.61
4J	10.66	45.70
4K	6.19	19.00
4L	2.94	10.02
11	12.69	56.80
12	16.90	69.53
13	21.12	82.67

100 50 0 100 200

SCALE: 1" = 100'

BENCHMARK
DOUGLAS COUNTY CONTROL POINT KNOWN AS 1.060032, BEING A 3-1/4" ALUMINUM CAP, BEING LOCATED IN THE SOUTHWEST QUARTER OF SECTION 33, TOWNSHIP 6 SOUTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, HAVING A PUBLISHED ELEVATION OF 1799.2870 METERS (5903.13 FEET) NAVD '88 DATUM.

BASIS OF BEARINGS:
THE EAST LINE OF THE NORTHEAST QUARTER OF SAID SECTION 9 BEING MONUMENTED AT THE NORTHEAST CORNER OF SAID SECTION 9 BY A 3-1/4" ALUMINUM CAP STAMPED LS 23053 AND AT THE EAST QUARTER CORNER OF SAID SECTION 9 BY A 2-1/2" ALUMINUM CAP STAMPED LS 6935 BEING CONSIDERED TO BEAR SOUTH 00°15'06" EAST, 2648.70 FEET.

CALL 811
TWO WORKING DAYS
BEFORE YOU DIG
UNCC 1-800-922-1987
UTILITY NOTIFICATION CENTER OF COLORADO

PREPARED UNDER THE SUPERVISION OF

MARK SCHEURER
COLORADO P.E. 48988

No.	Revisions	Date	Init.	Appr.	Date

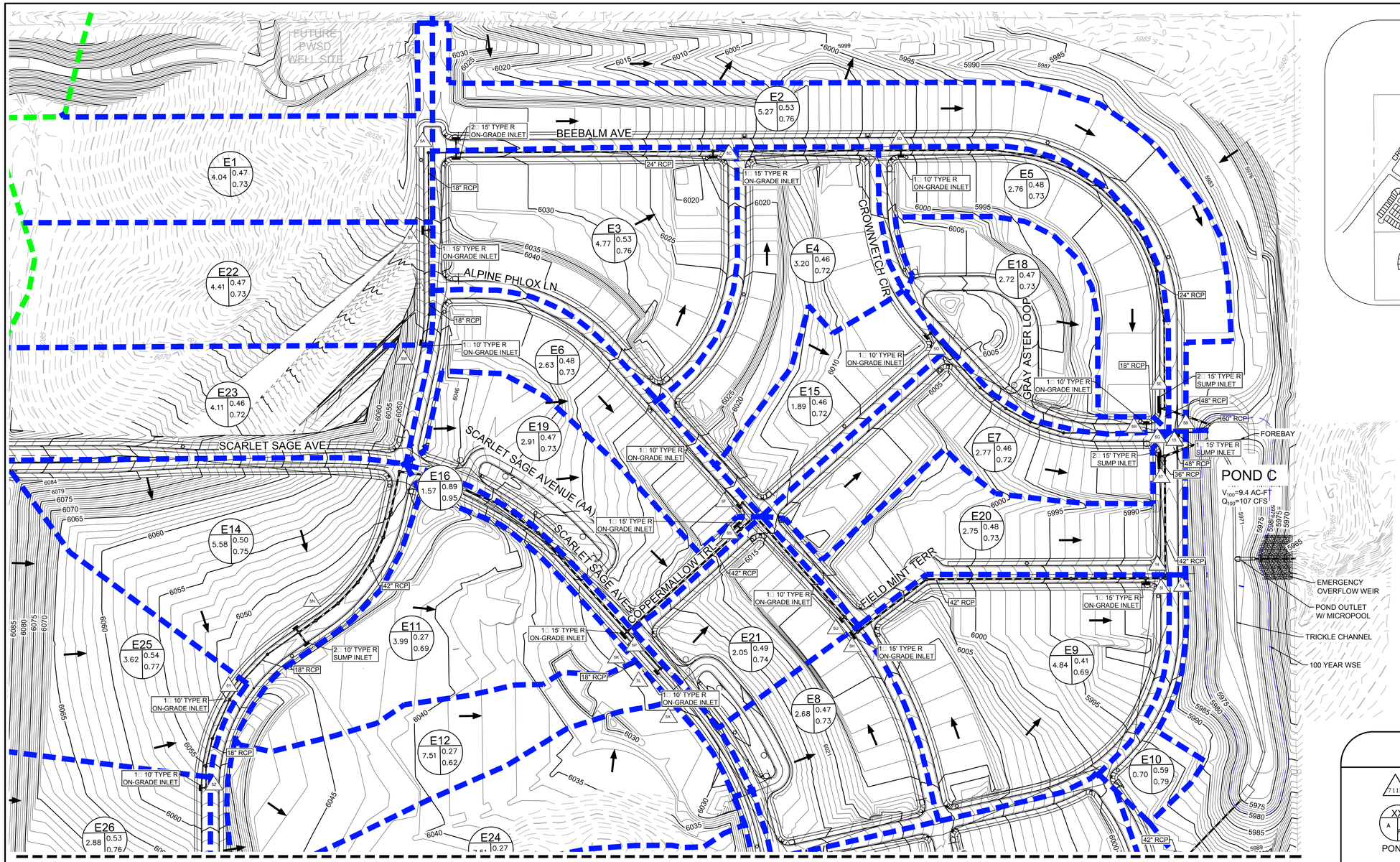
10333 E. Dry Creek Rd.
Suite 240
Englewood, CO 80112
Tel: (720) 482-9526
Fax: (720) 482-9546
CVL CONSULTANTS

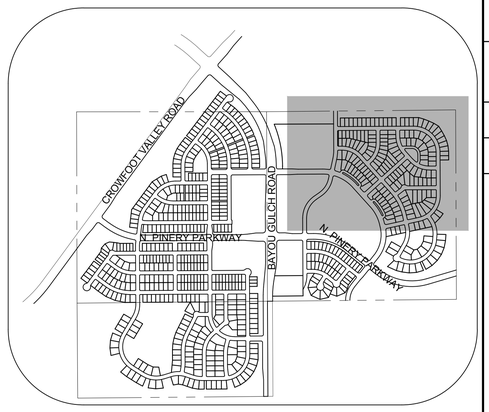
ES5 MANAGEMENT
7353 South Alton Way
CENTENNIAL, CO 80112

TRAILS AT CROWFOOT
FINAL DRAINAGE MAP
DRAINAGE MAP

SCALE: AS SHOWN
FILE NO: 8130283701
DRAWN BY: AYK
CHECKED BY: JJJ
DATE: MAY 2017
SHEET NUMBER 5

N:\PROJECTS\HESS RANCH\DOCS\ENGINEERING\DRAINAGE\FINAL DRAINAGE STUDIES\DRAINAGE MAPS\DRAINAGE MAP FINAL.DWG, ASFUNDK, 5/15/2017 10:59 AM





KEYMAP
N.T.S.

100 50 0 100 200
SCALE: 1" = 100'

MATCHLINE - SHEET 7

Note:
1) 0% slope indicates sump inlet.

DIRECT FLOW						
BASIN ID	AREA	Imperviousness	Q_2	Q_{100}	Street Type	Slope
	(AC)	%	(CFS)	(CFS)		%
E1	4.04	52.65	4.95	20.19	Local	2.70
E2	5.27	52.02	4.71	19.36	Local	0.00
E3	4.77	52.31	5.64	23.07	Local	3.00
E4	3.20	52.07	3.78	14.69	Local	4.00
E5	2.76	53.77	3.09	12.43	Local	0.00
E6	2.63	53.59	3.06	12.34	Local	1.00
E7	2.77	51.99	3.21	13.17	Local	0.00
E8	2.68	53.33	3.13	12.64	Local	2.00
E9	4.84	39.52	3.92	19.46	Local	2.00
E10	0.70	56.03	0.85	3.31	Local	1.00
E11	3.99	30.00	2.48	14.96	Local	1.00
E12	3.28	30.00	2.04	12.33	Local	6.00
E13	4.45	30.00	2.76	16.67	Local	1.00
E14	5.58	56.35	7.00	27.28	Local	0.00
E15	1.89	51.97	2.08	8.55	Local	2.00
E16	1.57	73.60	2.68	8.89	Local	6.00
E17	1.55	73.60	2.64	8.76	Local	1.00
E18	2.72	52.96	3.45	14.00	Local	1.50
E19	2.91	53.40	3.58	14.46	Local	1.20
E20	2.75	53.49	3.12	12.57	Local	2.00
E21	2.05	54.72	2.56	10.18	Local	2.00
E22	4.41	53.09	5.39	21.86	Local	2.70
E23	4.11	51.69	4.81	19.86	Local	2.70
E24	4.23	30.00	2.63	15.87	Local	2.00
E25	3.62	52.58	4.65	18.92	Local	2.00
E26	2.88	59.79	4.24	15.89	Local	2.00

CUMULATIVE FLOW		
Design Point ID	Q_2 (CFS)	Q_{100} (CFS)
14	35.26	128.18
15	67.15	145.92
5A	14.28	56.31
5B	68.09	19.36
5C	18.85	70.87
5D	21.89	79.97
5E	26.21	83.44
5F	3.06	12.34
5G	7.82	146.09
5H	32.81	81.28
5I	3.92	19.46
5J	0.85	3.31
5K	2.48	14.96
5L	4.60	27.74
5M	2.76	16.67
5N	15.09	58.98
5O	2.08	8.55
5P	22.99	49.94
5Q	5.06	23.96
5R	3.45	14.00
5S	28.34	67.90
5T	3.12	12.57
5U	2.56	10.18
5V	9.85	39.52
5W	4.81	19.86
5X	2.63	15.87
5Y	8.69	33.62
5Z	4.24	15.89

NOTE:
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LEGEND

- 7111F — DESIGN POINT
- XX / A / R2 / R100 — POND — XX = BASIN ID A= AREA R2= 2 YR RUNOFF CO-EFF R100= 100 YR RUNOFF CO-EFF — DETENTION POND
- CHANNEL DROP STRUCTURE
- BASIN LINE
- MAJOR BASIN LINE
- 5950 — PROPOSED MAJOR CONTOURS
- PROPOSED MINOR CONTOURS
- 5950 — EXISTING MAJOR CONTOURS
- EXISTING MINOR CONTOURS
- PROPOSED FLOW ARROW

BENCHMARK
DOUGLAS COUNTY CONTROL POINT KNOWN AS 1.060032, BEING A 3-1/4" ALUMINUM CAP, BEING LOCATED IN THE SOUTHWEST QUARTER OF SECTION 33, TOWNSHIP 6 SOUTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, HAVING A PUBLISHED ELEVATION OF 1799.2870 METERS (5903.13 FEET) NAVD '88 DATUM.

BASIS OF BEARINGS:
THE EAST LINE OF THE NORTHEAST QUARTER OF SAID SECTION 9 BEING MONUMENTED AT THE NORTHEAST CORNER OF SAID SECTION 9 BY A 3-1/4" ALUMINUM CAP STAMPED LS 23053 AND AT THE EAST QUARTER CORNER OF SAID SECTION 9 BY A 2-1/2" ALUMINUM CAP STAMPED LS 6935 BEING CONSIDERED TO BEAR SOUTH 00°15'06" EAST, 2648.70 FEET.

CALL 811
TWO WORKING DAYS
BEFORE YOU DIG
UNCC 1-800-922-1987
UTILITY NOTIFICATION CENTER OF COLORADO
STOP - UNLESS SUMP INLET

PREPARED UNDER THE SUPERVISION OF

MARK SCHEURER
COLORADO P.E. 48988

No.	Revisions	Date	Init.	Appr.	Date

CVL CONSULTANTS
10333 E. Dry Creek Rd.
Suite 240
Englewood, CO 80112
Tel: (720) 482-9526
Fax: (720) 482-9546

ESX MANAGEMENT
7353 South Alton Way
CENTENNIAL, CO 80112

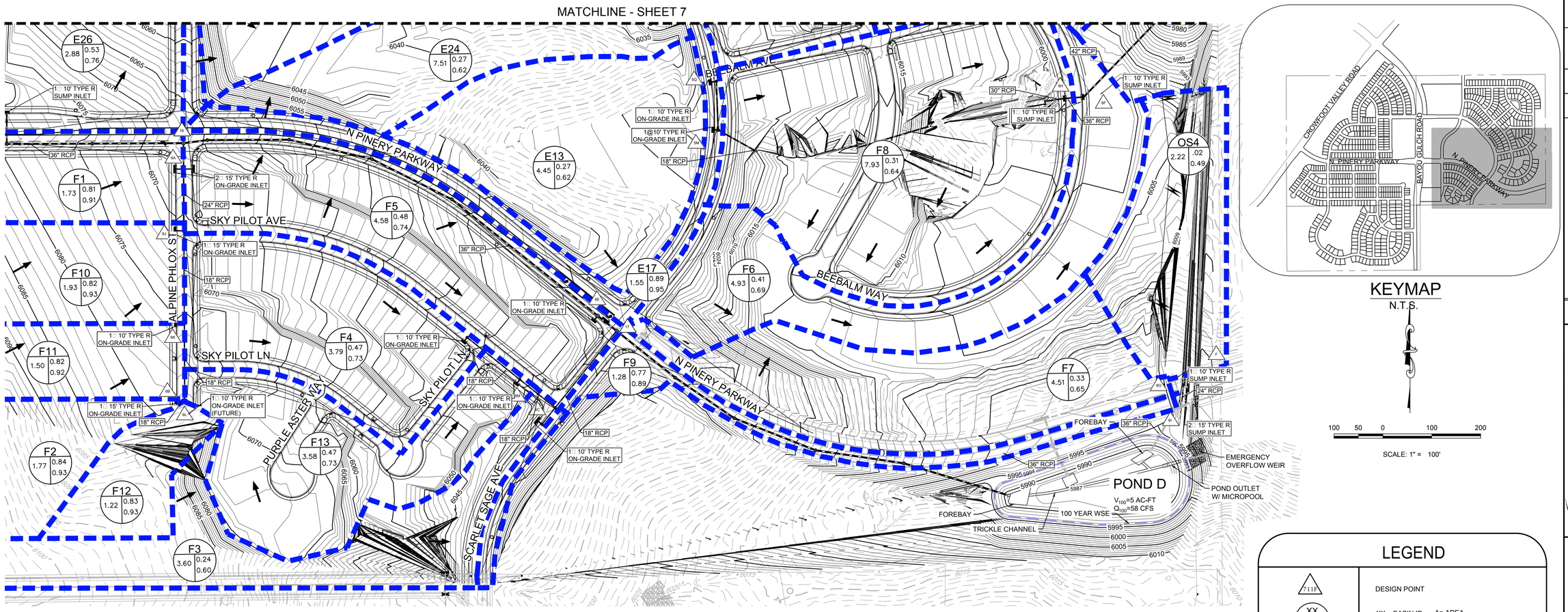
TRAILS AT CROWFOOT
FINAL DRAINAGE MAP
DRAINAGE MAP

SCALE:	FILE NO:
AS SHOWN	8130283701

DRAWN BY:	CHECKED BY:	DATE:
AYK	JJJ	MAY 2017

SHEET NUMBER 6

N:\PROJECTS\HESS RANCH\DOCS\ENGINEERING\DRAINAGE\FINAL DRAINAGE STUDIES\DRAINAGE MAPS\FINAL DRAINAGE MAP D6-07.DWG, ASFUNDK, 5/15/2017 10:52 AM



KEYMAP
N.T.S.

100 50 0 100 200

SCALE: 1" = 100'

Note:
1) 0% slope indicates sump inlet.

DIRECT FLOW						
BASIN ID	AREA (AC)	Imperviousness %	Q_2 (CFS)	Q_{100} (CFS)	Street Type	Slope %
E1	4.04	52.65	4.95	20.19	Local	2.70
E2	5.27	52.02	4.71	19.36	Local	0.00
E3	4.77	52.31	5.64	23.07	Local	3.00
E4	3.20	52.07	3.78	14.69	Local	4.00
E5	2.76	53.77	3.09	12.43	Local	0.00
E6	2.63	53.59	3.06	12.34	Local	1.00
E7	2.77	51.99	3.21	13.17	Local	0.00
E8	2.68	53.33	3.13	12.64	Local	2.00
E9	4.84	39.52	3.92	19.46	Local	2.00
E10	0.70	56.03	0.85	3.31	Local	1.00
E11	3.99	30.00	2.48	14.96	Local	1.00
E12	3.28	30.00	2.04	12.33	Local	6.00
E13	4.45	30.00	2.76	16.67	Local	1.00
E14	5.58	56.35	7.00	27.28	Local	0.00
E15	1.89	51.97	2.08	8.55	Local	2.00
E16	1.57	73.60	2.68	8.89	Local	6.00
E17	1.55	73.60	2.64	8.76	Local	1.00
E18	2.72	52.96	3.45	14.00	Local	1.50
E19	2.91	53.40	3.58	14.46	Local	1.20
E20	2.75	53.49	3.12	12.57	Local	2.00
E21	2.05	54.72	2.56	10.18	Local	2.00
E22	4.41	53.09	5.39	21.86	Local	2.70
E23	4.11	51.69	4.81	19.86	Local	2.70
E24	4.23	30.00	2.63	15.87	Local	2.00
E25	3.62	52.58	4.65	18.92	Local	2.00
E26	2.88	59.79	4.24	15.89	Local	2.00

Note:
1) 0% slope indicates sump inlet.

DIRECT FLOW						
BASIN ID	AREA (AC)	Imperviousness %	Q_2 (CFS)	Q_{100} (CFS)	Street Type	Slope %
F1	1.71	90.64	4.59	13.55	Local	2.50
F2	1.77	93.50	4.96	14.53	Local	2.50
F3	3.60	19.77	1.47	12.47	Local	1.00
F4	3.79	53.06	4.56	18.47	Local	4.00
F5	4.58	46.86	4.46	19.66	Res. Blvd	4.00
F6	4.93	38.37	3.70	18.75	Local	0.00
F7	4.51	18.05	1.68	15.41	Res. Blvd	0.00
F8	7.93	34.99	5.57	30.18	Local	0.00
F9	1.28	66.27	1.75	6.18	Res. Blvd	0.00
F10	1.93	92.20	5.30	15.64	Local	2.50
F11	1.50	91.79	4.07	12.03	Local	2.50
F12	1.22	93.17	3.39	9.95	Local	2.50
F13	3.58	52.91	4.36	17.70	Local	4.00

CUMULATIVE FLOW		
Design Point ID	Q_2 (CFS)	Q_{100} (CFS)
14	35.26	128.18
15	67.15	145.92
5A	14.28	56.31
5B	68.09	19.36
5C	18.85	70.87
5D	21.89	79.97
5E	26.21	83.44
5F	3.06	12.34
5G	7.82	146.09
5H	32.81	81.28
5I	3.92	19.46
5J	0.85	3.31
5K	2.48	14.96
5L	4.60	27.74
5M	2.76	16.67
5N	15.09	58.98
5O	2.08	8.55
5P	22.99	49.94
5Q	5.06	23.96
5R	3.45	14.00
5S	28.34	67.90
5T	3.12	12.57
5U	2.56	10.18
5V	9.85	39.52
5W	4.81	19.86
5X	2.63	15.87
5Y	8.69	33.62
5Z	4.24	15.89

CUMULATIVE FLOW		
Design Point ID	Q_2 (CFS)	Q_{100} (CFS)
6A	21.41	56.86
6B	8.28	23.93
6C	9.45	44.87
6D	4.56	18.47
6E	34.09	58.80
6F	13.68	69.19
6G	40.96	164.40
6H	10.08	51.13
6I	40.22	154.89
6J	17.19	46.79
6K	12.18	34.01
6L	3.39	9.95
6M	8.80	35.37
16	32.20	55.27
17	40.76	97.22

LEGEND

711F	DESIGN POINT
XX / A / R2 / R100	XX = BASIN ID A= AREA R2= 2 YR RUNOFF CO-EFF R100= 100 YR RUNOFF CO-EFF
POND	DETENTION POND
	CHANNEL DROP STRUCTURE
	BASIN LINE
	MAJOR BASIN LINE
5650	PROPOSED MAJOR CONTOURS
	PROPOSED MINOR CONTOURS
5650	EXISTING MAJOR CONTOURS
	EXISTING MINOR CONTOURS
	PROPOSED FLOW ARROW

NOTE:
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BENCHMARK
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BASIS OF BEARINGS:
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CALL 811
TWO WORKING DAYS
BEFORE YOU DIG
UNCC UTILITY NOTIFICATION CENTER OF COLORADO
1-800-922-1987

PREPARED UNDER THE SUPERVISION OF

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COLORADO P.E. 48988

No.	Revisions	Date	Init.	Appr.	Date

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CVL CONSULTANTS

E5X MANAGEMENT
7353 South Alton Way
CENTENNIAL, CO 80112

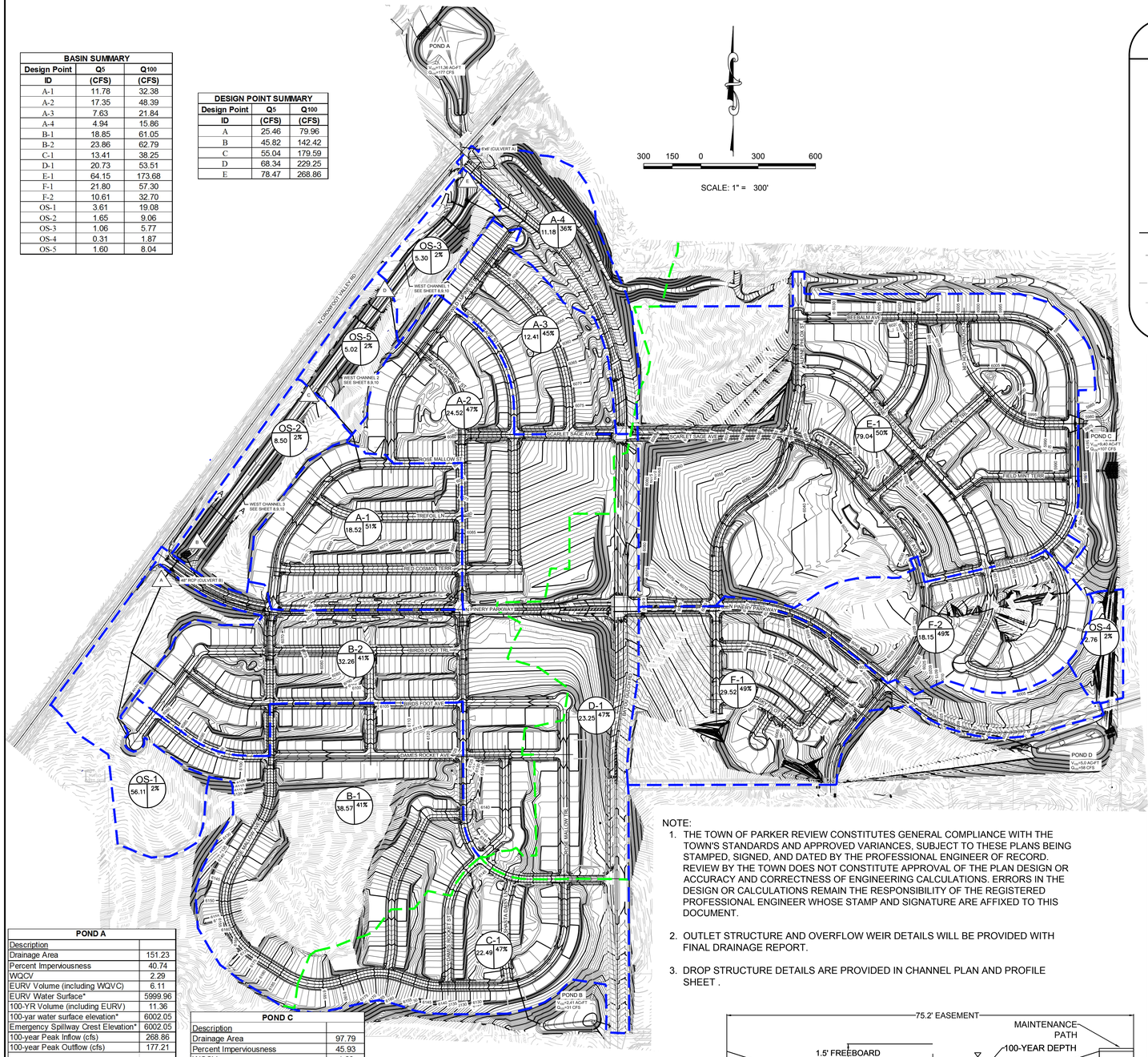
TRAILS AT CROWFOOT
FINAL DRAINAGE MAP
DRAINAGE MAP

SCALE: AS SHOWN
FILE NO: 8130283701
DRAWN BY: AYK
CHECKED BY: JJJ
DATE: MAY 2017
SHEET NUMBER 7

N:\PROJECTS\HESS RANCH\DOCS\ENGINEERING\DRAINAGE\FINAL DRAINAGE STUDIES\DRAINAGE MAPS\FINAL DRAINAGE MAP 06-07.DWG, ASFLINDK, 5/15/2017 10:52 AM

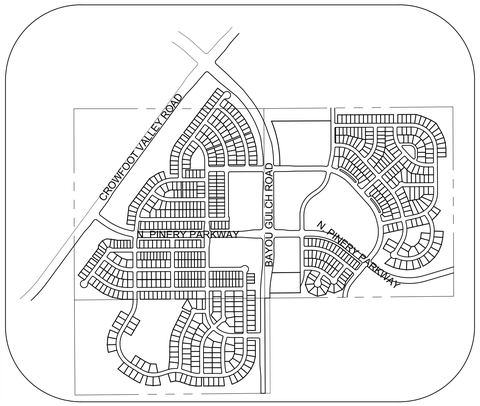
BASIN SUMMARY		
Design Point	Q_5	Q_{100}
ID	(CFS)	(CFS)
A-1	11.78	32.38
A-2	17.35	48.39
A-3	7.63	21.84
A-4	4.94	15.86
B-1	18.85	61.05
B-2	23.86	62.79
C-1	13.41	38.25
D-1	20.73	53.51
E-1	64.15	173.68
F-1	21.80	57.30
F-2	10.61	32.70
OS-1	3.61	19.08
OS-2	1.65	9.06
OS-3	1.06	5.77
OS-4	0.31	1.87
OS-5	1.60	8.04

DESIGN POINT SUMMARY		
Design Point	Q_5	Q_{100}
ID	(CFS)	(CFS)
A	25.46	79.96
B	45.82	142.42
C	55.04	179.59
D	68.34	229.25
E	78.47	268.86

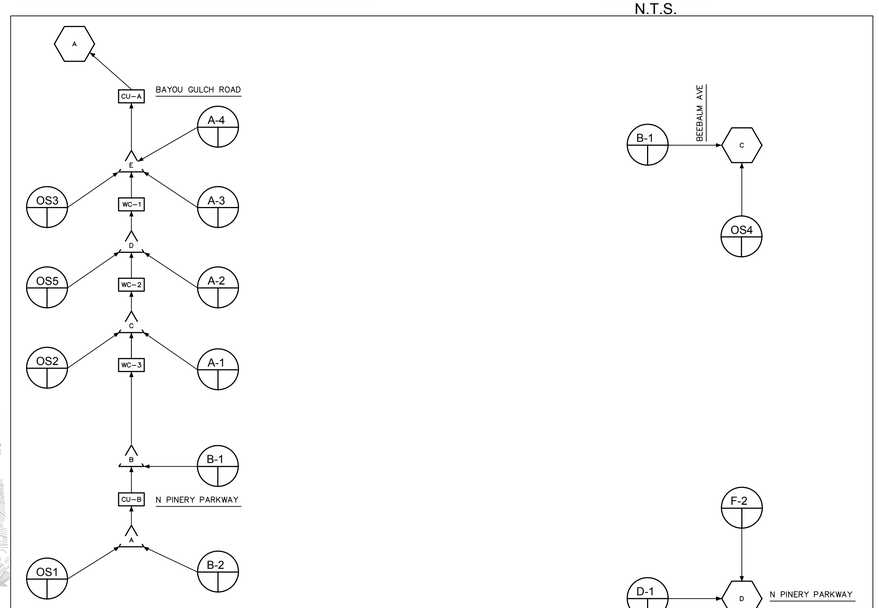


LEGEND

711F	DESIGN POINT
XX (A / R2 / R100)	XX = BASIN ID A= AREA R2= 2 YR RUNOFF CO-EFF R100= 100 YR RUNOFF CO-EFF
POND A	DETENTION POND
	CHANNEL DROP STRUCTURE
	BASIN LINE
	MAJOR BASIN LINE
6850	PROPOSED MAJOR CONTOURS
	PROPOSED MINOR CONTOURS
6850	EXISTING MAJOR CONTOURS
	EXISTING MINOR CONTOURS
	PROPOSED FLOW ARROW



KEYMAP
N.T.S.



SWMM SCHEMATIC

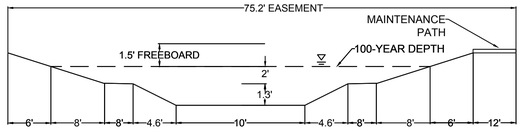
NOTE:
1. THE TOWN OF PARKER REVIEW CONSTITUTES GENERAL COMPLIANCE WITH THE TOWN'S STANDARDS AND APPROVED VARIANCES, SUBJECT TO THESE PLANS BEING STAMPED, SIGNED, AND DATED BY THE PROFESSIONAL ENGINEER OF RECORD. REVIEW BY THE TOWN DOES NOT CONSTITUTE APPROVAL OF THE PLAN DESIGN OR ACCURACY AND CORRECTNESS OF ENGINEERING CALCULATIONS. ERRORS IN THE DESIGN OR CALCULATIONS REMAIN THE RESPONSIBILITY OF THE REGISTERED PROFESSIONAL ENGINEER WHOSE STAMP AND SIGNATURE ARE AFFIXED TO THIS DOCUMENT.
2. OUTLET STRUCTURE AND OVERFLOW WEIR DETAILS WILL BE PROVIDED WITH FINAL DRAINAGE REPORT.
3. DROP STRUCTURE DETAILS ARE PROVIDED IN CHANNEL PLAN AND PROFILE SHEET .

POND A	
Description	
Drainage Area	151.23
Percent Imperviousness	40.74
WQCV	2.29
EURV Volume (including WQVC)	6.11
EURV Water Surface*	5999.96
100-YR Volume (including EURV)	11.36
100-yar water surface elevation*	6002.05
Emergency Spillway Crest Elevation*	6002.05
100-year Peak Inflow (cfs)	268.86
100-year Peak Outflow (cfs)	177.21

POND B	
Description	
Drainage Area	23.2
Percent Imperviousness	47.36
WQCV	0.39
EURV Volume (including WQVC)	1.10
EURV Water Surface*	6092.92
100-YR Volume (including EURV)	2.41
100-yar water surface elevation*	6094.57
Emergency Spillway Crest Elevation*	6094.57
100-year Peak Inflow (cfs)	105.30
100-year Peak Outflow (cfs)	30.56

POND C	
Description	
Drainage Area	97.79
Percent Imperviousness	45.93
WQCV	1.60
EURV Volume (including WQVC)	4.49
EURV Water Surface	5976.36
100-YR Volume (including EURV)	8.34
100-yar water surface elevation	5978.46
Emergency Spillway Crest Elevation*	-
100-year Peak Inflow (cfs)	314.00
100-year Peak Outflow (cfs)	106.71
*To be provided with Final Drainage	

POND D	
Description	
Drainage Area	52.76
Percent Imperviousness	55.15
WQCV	0.97
EURV Volume (including WQVC)	2.954
EURV Water Surface	5991.65
100-YR Volume (including EURV)	4.91
100-yar water surface elevation*	5993.55
Emergency Spillway Crest Elevation*	-
100-year Peak Inflow (cfs)	184.40
100-year Peak Outflow (cfs)	58.28
*To be provided with Final Drainage	



CHANNEL SECTION A-A
NO TO SCALE

THE TOWN OF PARKER REVIEW CONSTITUTES GENERAL COMPLIANCE WITH THE TOWN'S STANDARDS AND APPROVED VARIANCES, SUBJECT TO THESE PLANS BEING STAMPED, SIGNED, AND DATED BY THE PROFESSIONAL ENGINEER OF RECORD. REVIEW BY THE TOWN DOES NOT CONSTITUTE APPROVAL OF THE PLAN DESIGN OR ACCURACY AND CORRECTNESS OF ENGINEERING CALCULATIONS. ERRORS IN THE DESIGN OR CALCULATIONS REMAIN THE RESPONSIBILITY OF THE REGISTERED PROFESSIONAL ENGINEER WHOSE STAMP AND SIGNATURE ARE AFFIXED TO THIS DOCUMENT.

THIS REVIEW DOES NOT CONSTITUTE APPROVAL OF ANY PRIVATE ON-SITE IMPROVEMENTS WHICH MAY BE SHOWN. CONSTRUCTION CANNOT COMMENCE UNTIL ALL REQUIRED DRAINAGE/TRAFFIC REPORT(S), FINAL DEVELOPMENT PLAN(S), SPECIAL REVIEW(S), GRADING PERMIT, AND/OR OTHER PERMITS ARE COMPLETE, APPROVED, AND ON FILE WITH THE TOWN OF PARKER.

TOWN OF PARKER, PUBLIC WORKS DIRECTOR DATE

TOWN OF PARKER, PUBLIC WORKS MANAGER - STORMWATER DATE

TOWN OF PARKER, PUBLIC WORKS MANAGER - TRANSPORTATION DATE

CALL 811
TWO WORKING DAYS
BEFORE YOU DIG
1-800-922-1987
UNCC UTILITY NOTIFICATION CENTER OF COLORADO

BENCHMARK
DOUGLAS COUNTY CONTROL POINT KNOWN AS 1.060032, BEING A 3-1/4" ALUMINUM CAP, BEING LOCATED IN THE SOUTHWEST QUARTER OF SECTION 33, TOWNSHIP 6 SOUTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, HAVING A PUBLISHED ELEVATION OF 1799.2870 METERS (5903.13 FEET) NAVD '88 DATUM.

BASIS OF BEARINGS:
THE EAST LINE OF THE NORTHEAST QUARTER OF SAID SECTION 9 BEING MONUMENTED AT THE NORTHEAST CORNER OF SAID SECTION 9 BY A 3-1/4" ALUMINUM CAP STAMPED LS 23053 AND AT THE EAST QUARTER CORNER OF SAID SECTION 9 BY A 2-1/2" ALUMINUM CAP STAMPED LS 6935 BEING CONSIDERED TO BEAR SOUTH 00°15'06" EAST, 2648.70 FEET.

PREPARED UNDER THE SUPERVISION OF

MARK SCHEURER
COLORADO P.E. 48988

No.	Revisions	Date	Init.	Date	Appr.	Date

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E5X MANAGEMENT
7353 South Alton Way
CENTENNIAL, CO 80112

TRAILS AT CROWFOOT
FINAL DRAINAGE MAP
SWMM DRAINAGE MAP

SCALE: AS SHOWN
FILE NO: 8130283701
DRAWN BY: AYK
CHECKED BY: JJJ
DATE: MAY 2017
SHEET NUMBER 8

N:\PROJECTS\HESS RANCH\DOCS\ENGINEERING\DRAINAGE\FINAL DRAINAGE STUDIES\DRAINAGE MAPS\FINAL OVERALL DRAINAGE MAP SWMM.DWG, ASF\INDK, 5/15/2017 11:20 AM