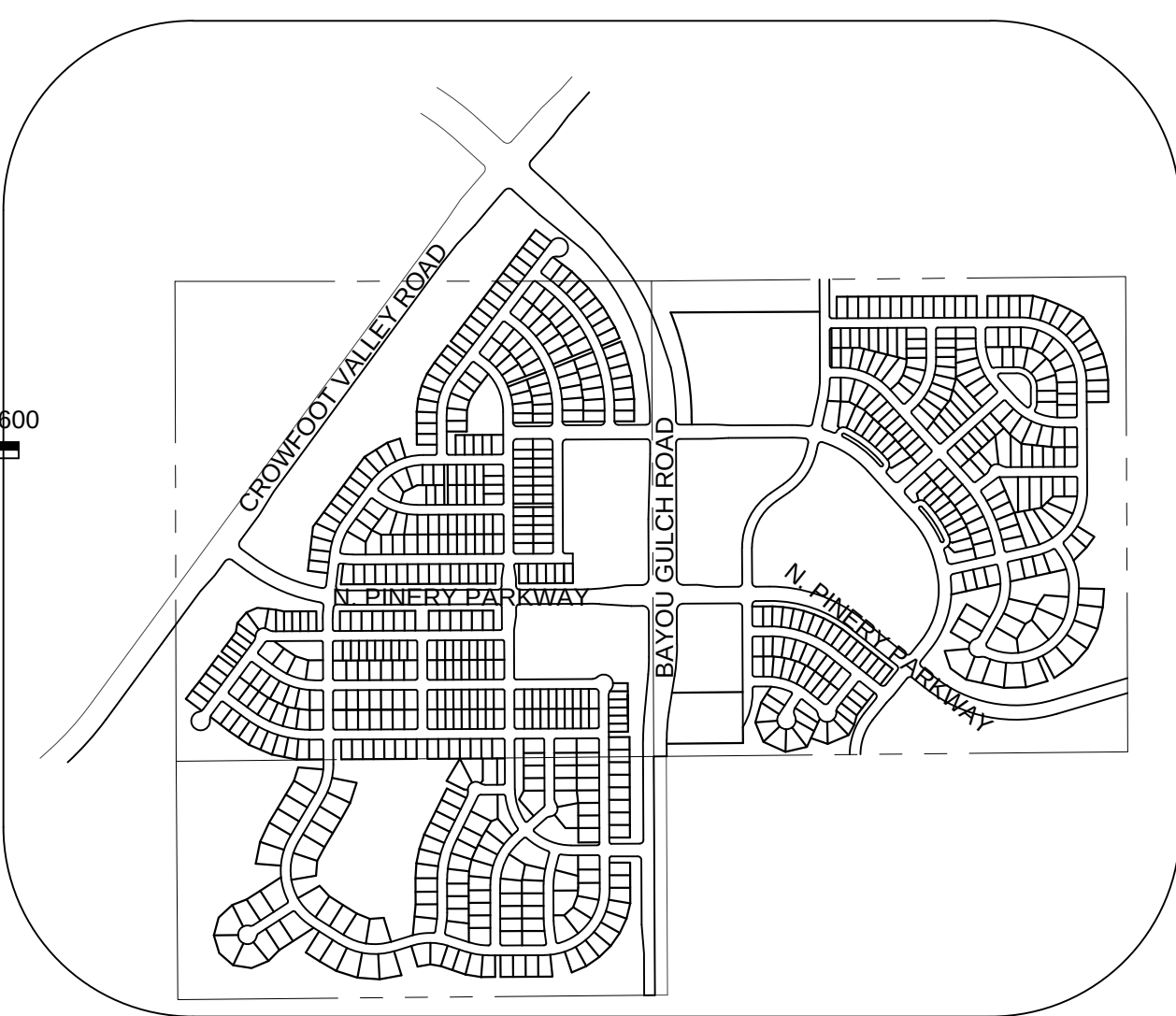
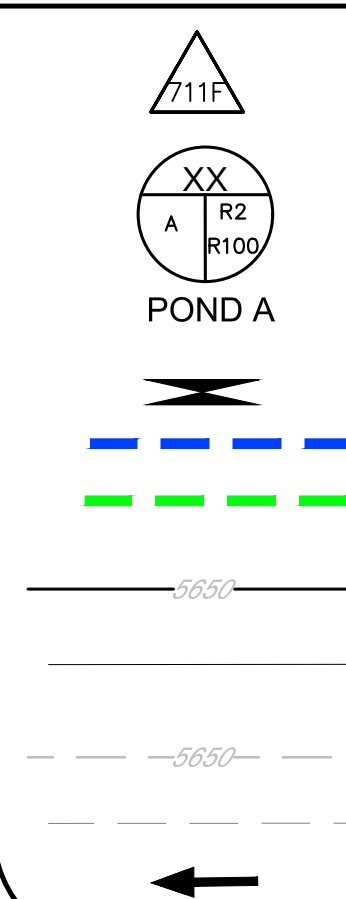




KEYMAP

N.T.S.

LEGEND



DESIGN POINT

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

PROPOSED MAJOR CONTROLS

EXISTING MAJOR CONTOURS

EXISTING MINOR CONTOURS

PROPOSED FLOW ARROW

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 .

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

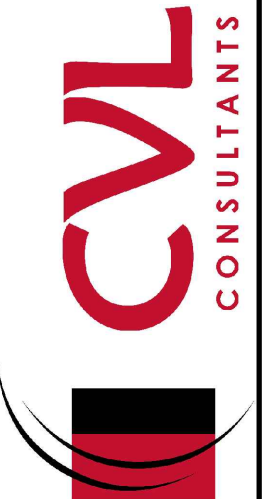
TOWN OF PARKER, PUBLIC WORKS MANAGER - TRANSPORTATION DATE

PREPARED UNDER THE
SUPERVISION OF

MARK SCHEURER
COLORADO P.E. 48988

No.	Revisions	Date	Init.	Appr.	Date

0333 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**

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

SHEET NUMBER

1A

N:\PROJECTS\SWISS RANCH\DCS\ENGINEERING\DRAINAGE MAP DWS_ASE\INDX_212010.111.PM

Note:
1) 0% slope indicates sump inlet.

DIRECT FLOW						
BASIN ID	AREA (AC)	Imperviousness %	Q2 (CFS)	Q100 (CFS)	Street Type	Slope %
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	3.96	50.41	4.44	18.62	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	5.13	47.44	5.03	21.94	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	4.54	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
A22	3.07	74.76	6.17	20.24	Local	2.50

Note:
1) 0% slope indicates sump inlet.

DIRECT FLOW						
BASIN ID	AREA (AC)	Imperviousness %	Q2 (CFS)	Q100 (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	2.51	58.47	3.16	12.02	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	3.30	75.52	6.18	20.16	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 %	Q2 (CFS)	Q100 (CFS)	Street Type	Slope %
C1	10.07	45.10	8.72	39.44	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	6.97	33.88	4.29	23.81	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	3.90	49.27	4.06	17.30	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 (AC)	Imperviousness %	Q2 (CFS)	Q100 (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	9.14	44.35	8.62	39.37	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	2.78	35.90	2.16	11.51	Local	2.00

Note:
1) 0% slope indicates sump inlet.

DIRECT FLOW						
BASIN ID	AREA (AC)	Imperviousness %	Q2 (CFS)	Q100 (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



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UTILITY NOTIFICATION
CENTER OF COLORADO

DIRECT FLOW						
BASIN ID	AREA (AC)	Imperviousness %	Q2 (CFS)	Q100 (CFS)	Street Type	Slope %
OS 10	5.37	2.00	0.30	16.40	N/A	5.00

CUMULATIVE FLOW		
Design Point	Q2 (CFS)	Q100 (CFS)
ID	(CFS)	(CFS)
1A	3.84	17.73
1B	5.04	60.61
1C	18.94	72.95
1D	22.01	88.25
1E	4.69	74.09
1F	9.74	45.15
1G	4.44	61.21
1H	24.90	99.54
1I	3.75	15.73
1J	7.60	40.45
1K	2.92	11.75
1L	3.22	13.95
1M	9.77	37.49
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	6.64	44.92
1U	6.71	27.72
1	11.54	45.92
2	15.83	42.02
3	15.88	(Not Relavent for 100 year)
4	19.35	41.99

CUMULATIVE FLOW		
Design Point	Q2 (CFS)	Q100 (CFS)
ID	(CFS)	(CFS)
2A	13.11	74.41
2B	6.15	15.75
2C	5.58	33.21
2D	13.83	60.55
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	26.73	169.56
2K	27.76	172.83
2L	10.97	50.07
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	32.55	84.62

CUMULATIVE FLOW		
Design Point	Q2 (CFS)	Q100 (CFS)
ID	(CFS)	(CFS)
3A	8.95	54.35

CUMULATIVE FLOW		
Design Point	Q2 (CFS)	Q100 (CFS)
ID	(CFS)	(CFS)
4A	18.01	80.94
4B	5.58	24.83
4C	3.28	15.11
4D	5.63	26.26
4E	8.32	42.18
4F	5.19	24.34
4G	2.48	11.76
4H	1.06	4.38
4I	4.06	17.30
4J	10.66	45.70
4K	6.19	19.00
4L	2.94	10.02
11	12.69	56.80
12	11.38	55.22
13	15.66	68.43

CUMULATIVE FLOW		
Design Point	Q2 (CFS)	Q100 (CFS)
ID	(CFS)	(CFS)
14	32.04	124.18
15	36.95	142.09
5A	14.28	56.31
5B	9.56	40.76
5C	18.85	70.87
5D	21.89	79.97
5E	23.45	83.44
5F	3.06	12.34
5G	6.16	142.25
5H	29.48	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	10.74	49.99
5O	2.08	8.55
5P	19.53	49.94
5Q	5.06	23.96
5R	4.86	14.00
5S	24.94	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	2.16	11.51

CUMULATIVE FLOW		
Design Point	Q2 (CFS)	Q100 (CFS)
ID	(CFS)	(CFS)
6A	21.41	56.86
6B	8.28	23.93
6C	9.45	44.87
6D	4.56	18.47
6E	29.25	58.80
6F	13.68	69.19
6G	3.39	22.24
6H	10.08	42.10
6I	1.75	36.44
6Ia	-	78.50
6J	17.19	46.79
6K	12.18	34.01
6L	3.39	9.95
6M	8.80	35.37
16	27.15	55.27
17	36.01	97.22

CHANNEL DESIGN POINT SUMMARY		
Design Point	Q5 (CFS)	Q100 (CFS)
ID	(CFS)	(CFS)
A	25.55	76.45
B	49.11	150.81
C	58.29	188.03
D	73.01	240.76
E	83.23	280.45

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

SWMM BASIN SUMMARY		
Design Point	Q5 (CFS)	Q100 (CFS)
ID	(CFS)	(CFS)
A-1	11.86	32.59
A-2	19.60	53.08
A-3	7.60	21.76
A-4	5.01	16.11
B-1	20.87	66.84
B-2	26.81	74.30
C-1	14.00	39.86
OS-1	1.82	9.80
OS-2	1.62	8.90
OS-3	1.02	5.59
OS-4	0.31	1.87
OS-5	1.55	7.82

POND A	
Description	
Drainage Area (FT)	174.49
Percent Imperviousness (%)	37.56
WQCV (AC-FT)	2.52
EURV Volume (including WQVC) (AC-FT)	6.45
EURV Water Surface (FT)	5995.39
100-YR Volume (including EURV) (AC-FT)	11.29
100-yr water surface elevation (FT)	5997.19
Emergency Spillway Crest Elevation (FT)	5997.19
100-year Peak Inflow (CFS)	278.84
100-year Peak Outflow (CFS)	197.00
100-year Peak Allowable (CFS)	204.47
POND B	
Description	
Drainage Area (FT)	23.2
Percent Imperviousness (%)	47.36
WQCV (AC-FT)	0.39
EURV Volume (including WQVC) (AC-FT)	1.10
EURV Water Surface (FT)	6092.90
100-YR Volume (including EURV) (AC-FT)	1.83
100-yr water surface elevation (FT)	6094.01
Emergency Spillway Crest Elevation (FT)	6094.01
100-year Peak Inflow (CFS)	39.83
100-year Peak Outflow (CFS)	22.20
100-year Peak Allowable (CFS)	31.53
POND C	
Description	
Drainage Area (FT)	101.09
Percent Imperviousness (%)	44.49
WQCV (AC-FT)	1.61
EURV Volume (including WQVC) (AC-FT)	4.49
EURV Water Surface (FT)	5973.29
100-YR Volume (including EURV) (AC-FT)	8.46
100-yr water surface elevation (FT)	5978.14
Emergency Spillway Crest Elevation (FT)	5978.14
100-year Peak Inflow (CFS)	204.00
100-year Peak Outflow (CFS)	106.53
100-year Peak Allowable (CFS)	111.36
POND D	
Description	
Drainage Area (FT)	50.18
Percent Imperviousness (%)	51.42
WQCV (AC-FT)	0.88
EURV Volume (including WQVC) (AC-FT)	2.61
EURV Water Surface (FT)	5991.65
100-YR Volume (including EURV) (AC-FT)	4.49
100-yr water surface elevation (FT)	5993.55
Emergency Spillway Crest Elevation (FT)	5993.55
100-year Peak Inflow (CFS)	184.40
100-year Peak Outflow (CFS)	52.28
100-year Peak Allowable (CFS)	55.28

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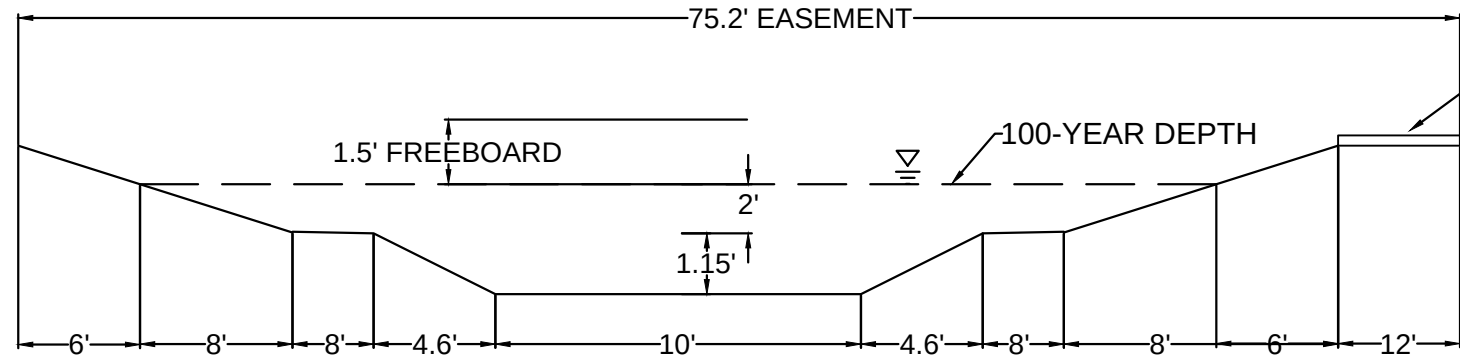
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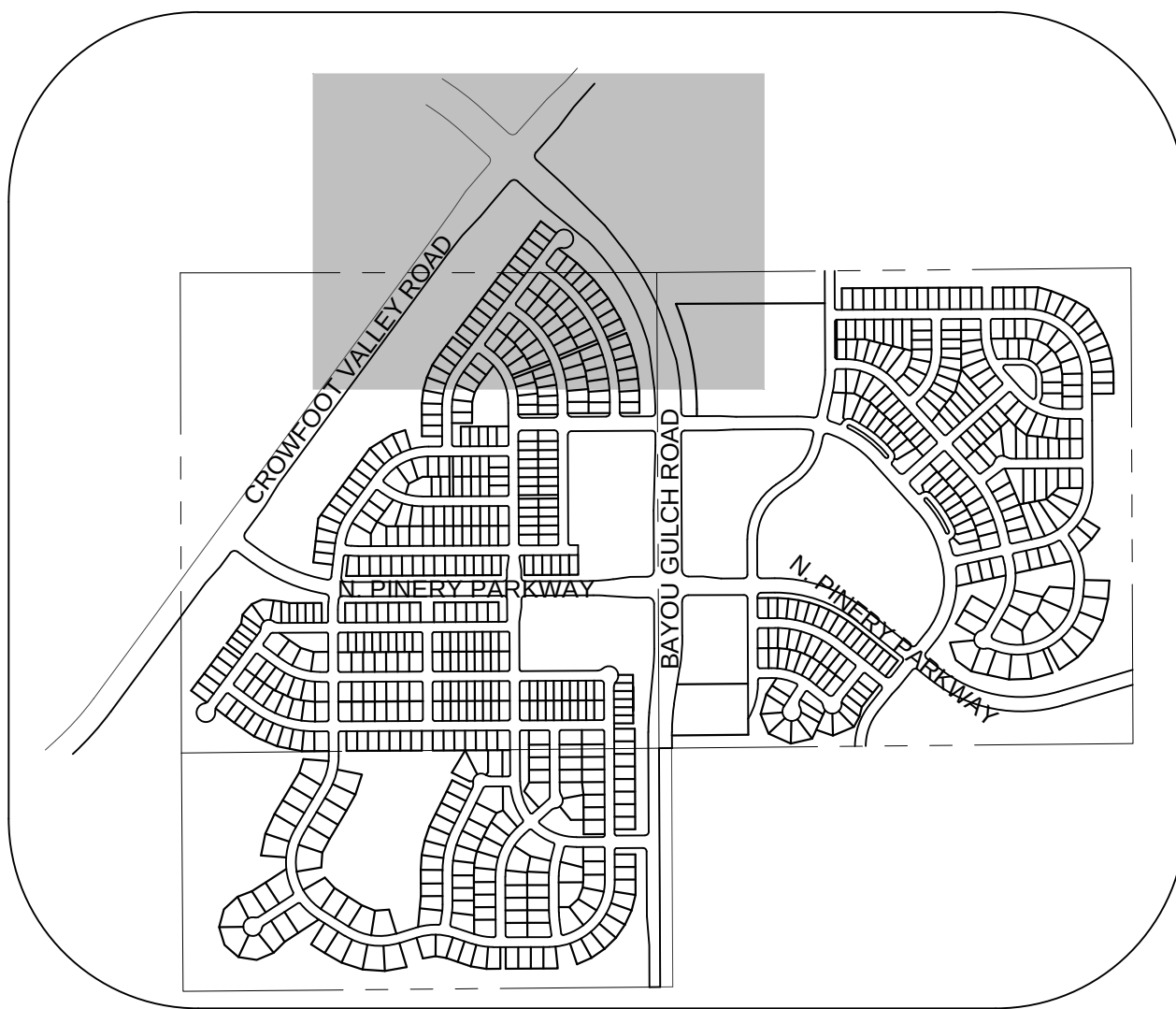
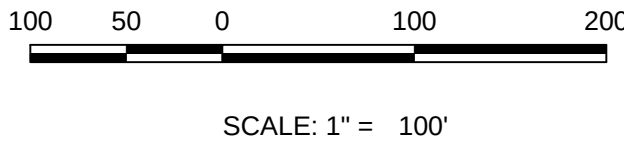
CHANNEL SECTION A-A
NO TO SCALE

MAINTENANCE PATH
NOTE:
SEE PLAN AND PROFILE SHEETS
FOR MORE DETAIL. (SHEET 62.63,64)

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.

POND A	
Description	
Drainage Area (FT)	174.49
Percent Imperviousness (%)	37.56
WQCV (AC-FT)	2.52
EURV Volume (including WQVC) (AC-FT)	6.45
EURV Water Surface (FT)	5995.39
100-YR Volume (including EURV) (AC-FT)	11.29
100-yr water surface elevation (FT)	5997.19
Emergency Spillway Crest Elevation (FT)	5997.19
100-year Peak Inflow (CFS)	278.84
100-year Peak Outflow (CFS)	197.00
100-year Peak Allowable (CFS)	204.47



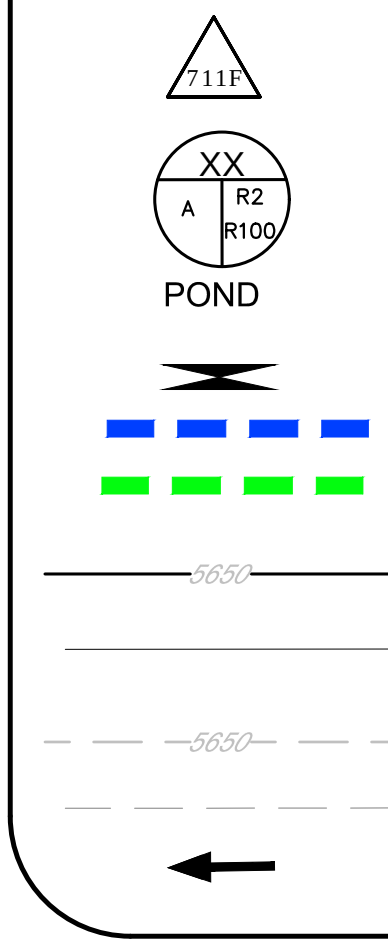
KEYMAP
N.T.S.

Note:
1) 0% slope indicates sump inlet.

BASIN ID		AREA	Imperviousness	Q2	Q100	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		3.96	50.41	4.44	18.62	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		5.13	47.44	5.03	21.94	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
A22		3.07	74.76	6.17	20.24	Local	2.50

- 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 .

CUMULATIVE FLOW		
Design Point	Q2	Q100
ID	(CFS)	(CFS)
1A	3.84	17.73
1B	5.04	60.61
1C	18.94	72.95
1D	22.01	88.25
1E	4.69	74.09
1F	9.74	45.15
1G	4.44	61.21
1H	24.90	99.54
1I	3.75	15.73
1J	7.60	40.45
1K	2.92	11.75
1L	3.22	13.95
1M	9.77	37.49
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	6.64	44.92
1U	6.71	27.72
1	11.54	45.92
2	15.83	42.02
3	15.88	(Not Relevant for 100 year)
4	19.35	41.99



DESIGN POINT

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

PROPOSED MAJOR CONTOURS

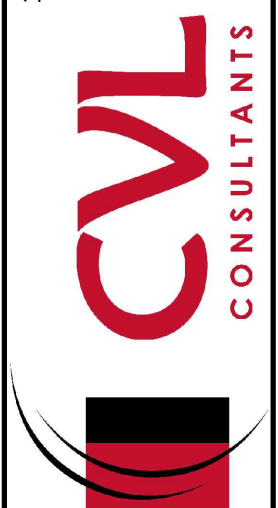
PROPOSED MINOR CONTOURS

EXISTING MAJOR CONTOURS

EXISTING MINOR CONTOURS

PROPOSED FLOW ARROW

10333 E. Dry Creek Rd.
Suite 410
Englewood, CO 80150
Tel: (720) 482-9526
Fax: (720) 482-9546



ESX MANAGEMENT
7253 South Alton Way
CENTENNIAL, CO 80112

TRAITS AT CROWFOOT
FINAL DRAINAGE MAP
DRAINAGE MAP

DRAWN BY: ATK

CHECKED BY: JJJ

DATE: MAY 2017

SCALE: AS SHOWN
FILE NO: 8130283701

SHEET NUMBER

2

PREPARED UNDER THE SUPERVISION OF

MARK SCHEURER
COLORADO P.E. 48988

No.

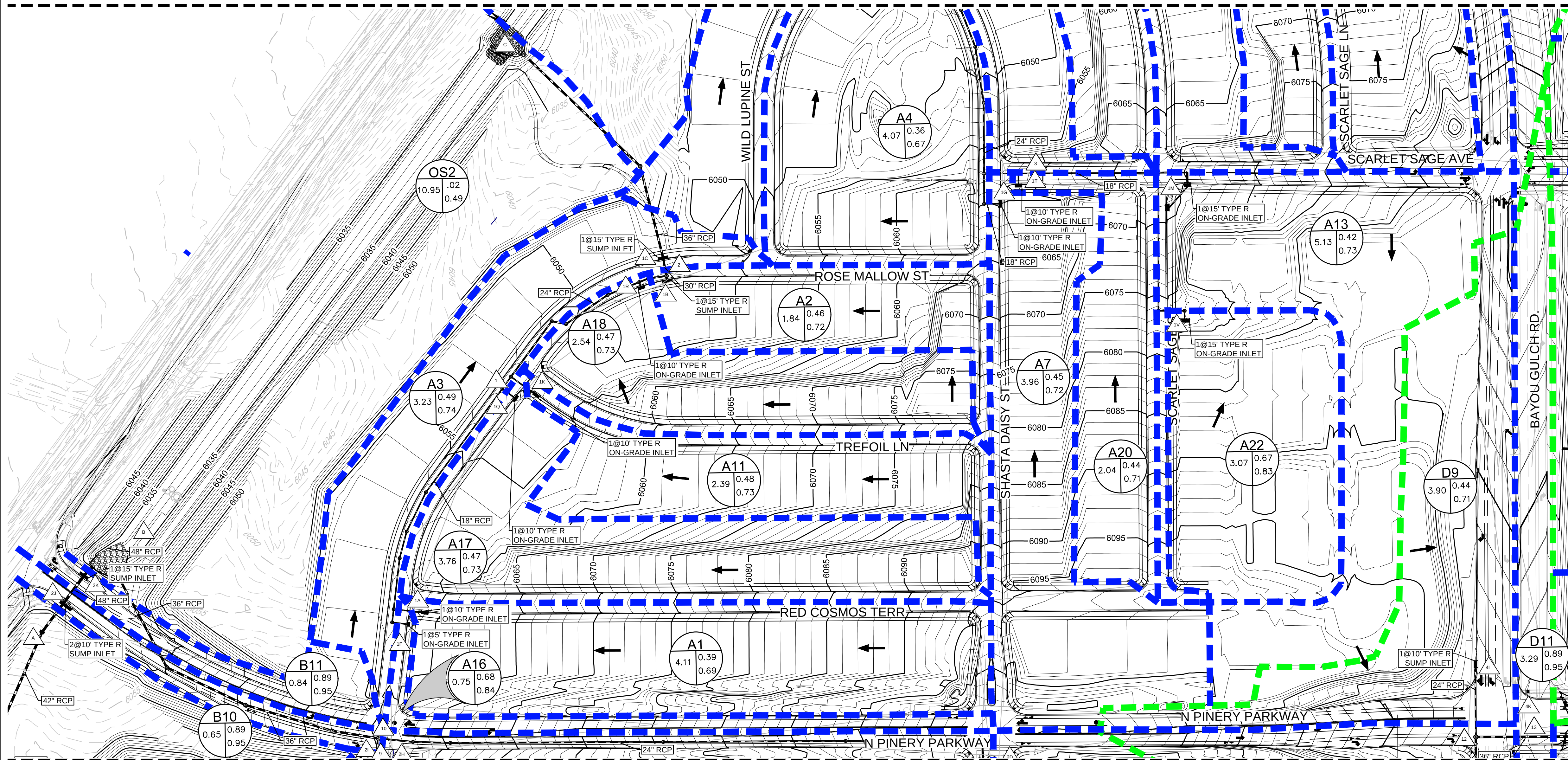
Revisions

Date

Appr.

Date

MATCHLINE - SHEET 2



MATCHLINE - SHEET 4

Note:
1) 0% slope indicates sump inlet.

DIRECT FLOW						
BASIN ID	AREA (AC)	Imperviousness %	Q2 (CFS)	Q100 (CFS)	Street Type	Slope %
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	3.96	50.41	4.44	18.62	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	5.13	47.44	5.03	21.94	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
A22	3.07	74.76	6.17	20.24	Local	2.50

Note:
1) 0% slope indicates sump inlet.

DIRECT FLOW						
BASIN ID	AREA (AC)	Imperviousness %	Q2 (CFS)	Q100 (CFS)	Street Type	Slope %
C1	10.07	45.10	8.72	39.44	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	6.97	33.88	4.29	23.81	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	3.90	49.27	4.06	17.30	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	Q2 (CFS)	Q100 (CFS)
1A	3.84	17.73
1B	5.04	60.61
1C	18.94	72.95
1D	22.01	88.25
1E	4.69	74.09
1F	9.74	45.15
1G	4.44	61.21
1H	24.90	99.54
1I	3.75	15.73
1J	7.60	40.45
1K	2.92	11.75
1L	3.22	13.95
1M	9.77	37.49
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	6.64	44.92
1U	6.71	27.72
1	11.54	45.92
2	15.83	42.02
3	15.88	(Not Relevant for 100 year)
4	19.35	41.99

CUMULATIVE FLOW		
Design Point	Q2 (CFS)	Q100 (CFS)
4A	18.01	80.94
4B	5.58	24.83
4C	3.28	15.11
4D	5.63	26.26
4E	8.32	42.18
4F	5.19	24.34
4G	2.48	11.76
4H	1.06	4.38
4I	4.06	17.30
4J	10.66	45.70
4K	6.19	19.00
4L	2.94	10.02
11	12.69	56.80
12	11.38	55.22
13	15.66	68.43

- NOTE:
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LEGEND

DESIGN POINT

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

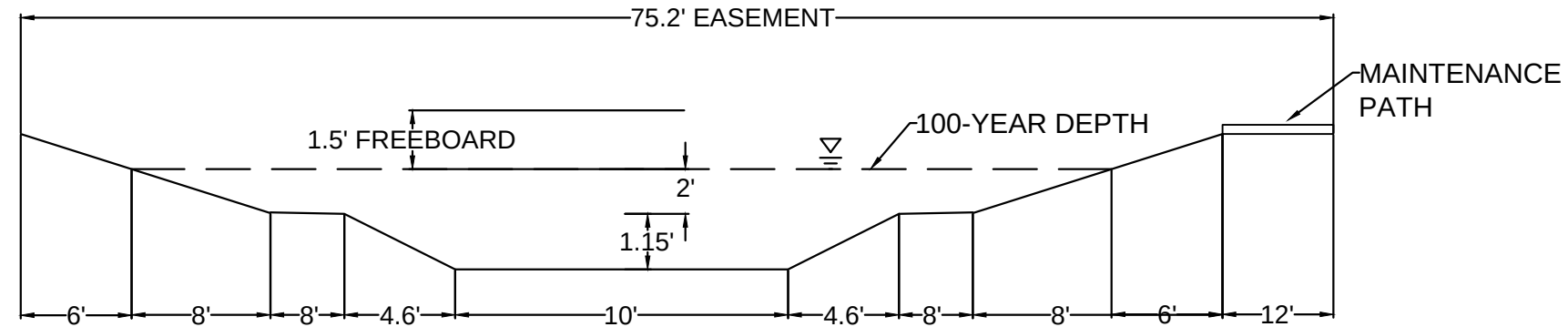
PROPOSED MAJOR CONTOURS

PROPOSED MINOR CONTOURS

EXISTING MAJOR CONTOURS

EXISTING MINOR CONTOURS

PROPOSED FLOW ARROW



CHANNEL SECTION A-A
NO TO SCALE

CALL 811
TWO WORKING DAYS
BEFORE YOU DIG
UNCC 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. 48998

10333 E. Dry Creek Rd.
Suite 240
Englewood, CO 80152
Tel: (720) 482-9526
Fax: (720) 482-9546

CONSULTANTS

EX MANAGEMENT
7353 South Alton Way
CENTENNIAL, CO 80112

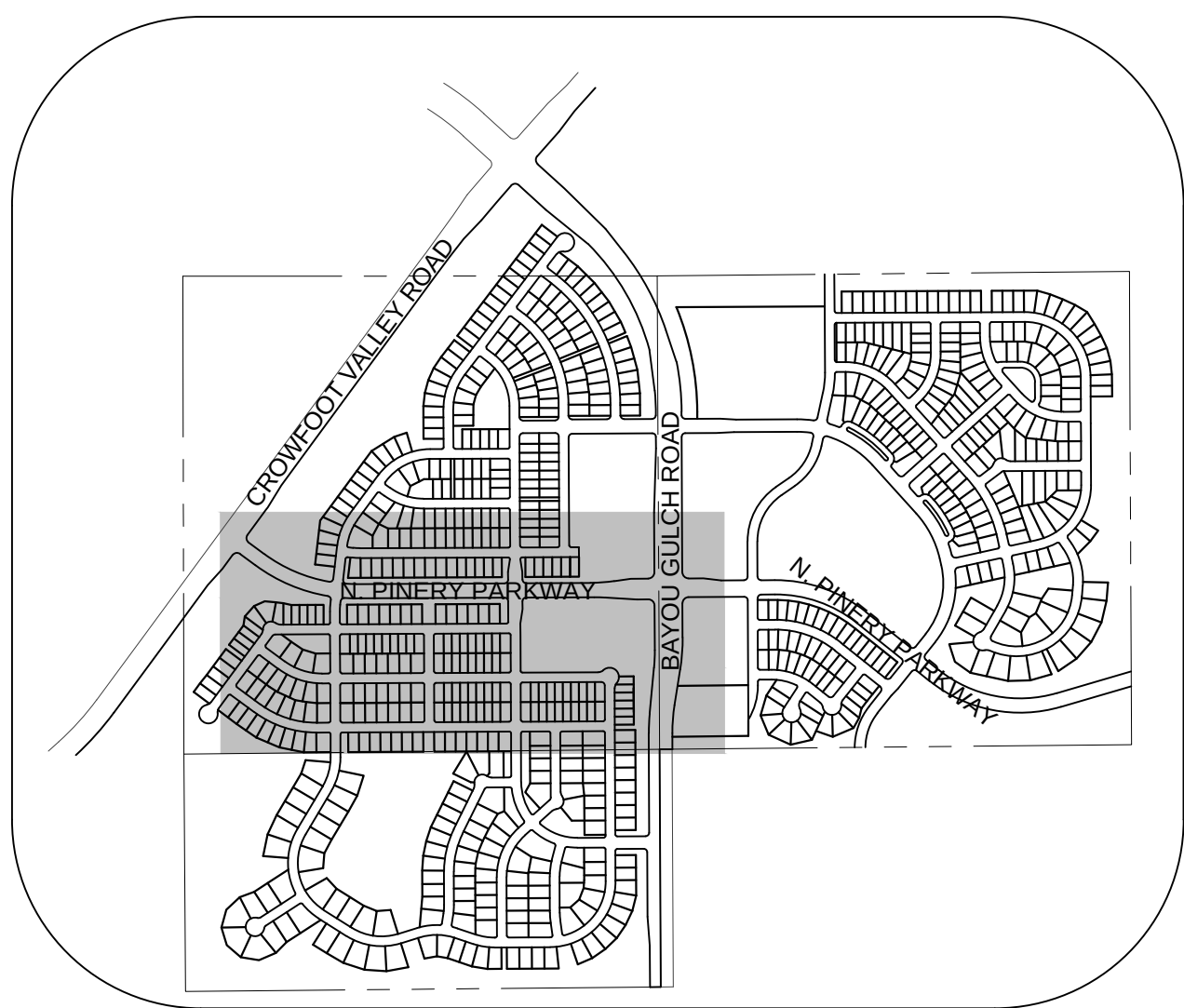
TRAILS AT CROWFOOT
FINAL DRAINAGE MAP
DRAINAGE MAP

SCALE:
AS SHOWN
FILE NO:
8130283701

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

SHEET NUMBER
3

Revisions
No.
Date
Init.
Appr.
Date



KEYMAP
N.T.S.

LEGEND

711F

XX

A

R2

R100

POND

CHANNEL DROP STRUCTURE

BASIN LINE

MAJOR BASIN LINE

PROPOSED MAJOR CONTOURS

PROPOSED MINOR CONTOURS

EXISTING MAJOR CONTOURS

EXISTING MINOR CONTOURS

PROPOSED FLOW ARROW

DESIGN POINT

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

PROPOSED MAJOR CONTOURS

PROPOSED MINOR CONTOURS

EXISTING MAJOR CONTOURS

EXISTING MINOR CONTOURS

PROPOSED FLOW ARROW

MATCHLINE - SHEET 3

MATCHLINE - SHEET 5

NOTE:

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Note:
1) 0% slope indicates sump inlet.

DIRECT FLOW						
BASIN ID	AREA (AC)	Imperviousness %	Q2 (CFS)	Q100 (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	2.51	58.47	3.16	12.02	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	3.30	75.52	6.18	20.16	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 %	Q2 (CFS)	Q100 (CFS)	Street Type	Slope %
C1	10.07	45.10	8.72	39.44	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	6.97	33.88	4.29	23.81	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	3.90	49.27	4.06	17.30	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	Q2 (CFS)	Q100 (CFS)	
2A	13.11	74.41	
2B	6.15	15.75	
2C	5.58	33.21	
2D	13.83	60.55	
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	26.73	169.56	
2K	27.76	172.83	
2L	10.97	50.07	
2M	3.88	15.72	
2N	3.88	15.72	
2O	2.50	10.13	
5	18.73	76.25	
6	7.44	(Not Relavant for 100 year)	
7	7.40	(Not Relavant for 100 year)	
9	19.80	84.75	
10	32.55	84.62	

CUMULATIVE FLOW			
Design Point	Q2 (CFS)	Q100 (CFS)	
3A	8.95	54.35	

CUMULATIVE FLOW			
Design Point	Q2 (CFS)	Q100 (CFS)	
4A	18.01	80.94	
4B	5.58	24.83	
4C	3.28	15.11	
4D	5.63	26.26	
4E	8.32	42.18	
4F	5.19	24.34	
4G	2.48	11.76	
4H	1.06	4.38	
4I	4.06	17.30	
4J	10.66	45.70	
4K	6.19	19.00	
4L	2.94	10.02	
11	12.69	56.80	
12	11.38	55.22	
13	15.66	68.43	

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.

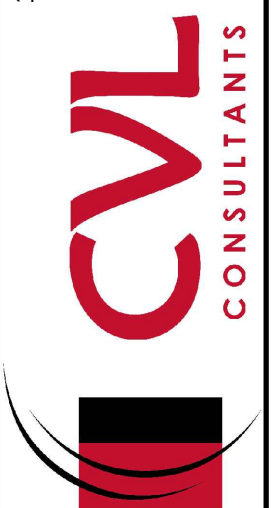
BASIS OF BEARINGS:
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N:\PROJECTS\WESS RANCH\DCS\ENGINEERING\DRAINAGE MAPS\DRAINAGE MAP_FINAL.DWG, RSP\UNCC, 2/1/2018 1:13 PM



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

10338 E. Dry Creek Rd.
Suite 240
Englewood, CO 80152
Tel: (720) 482-9526
Fax: (720) 482-9546



ESX MANAGEMENT
7253 South Alton Way
CENTENNIAL, CO 80112

TRAILS AT CROWFOOT
FINAL DRAINAGE MAP
DRAINAGE MAP

SCALE:
AS SHOWN

DRAWN BY:
AYK

CHECKED BY:
JLU

DATE:
MAY 2017

FILE NO:
8130283701

SHEET NUMBER
4

PREPARED UNDER THE
SUPERVISION OF

MARK SCHEURER
COLORADO P.E. 48988

No.

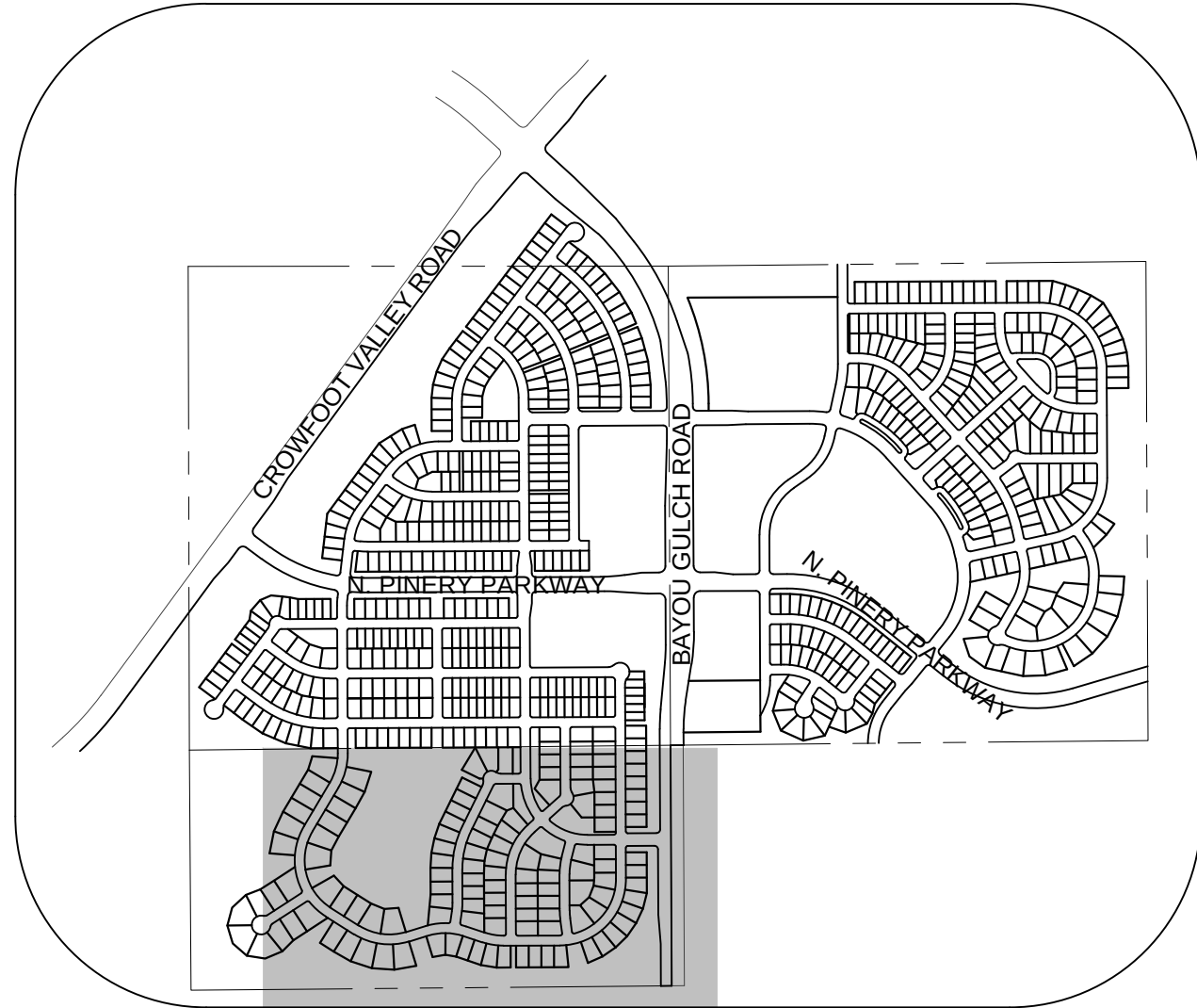
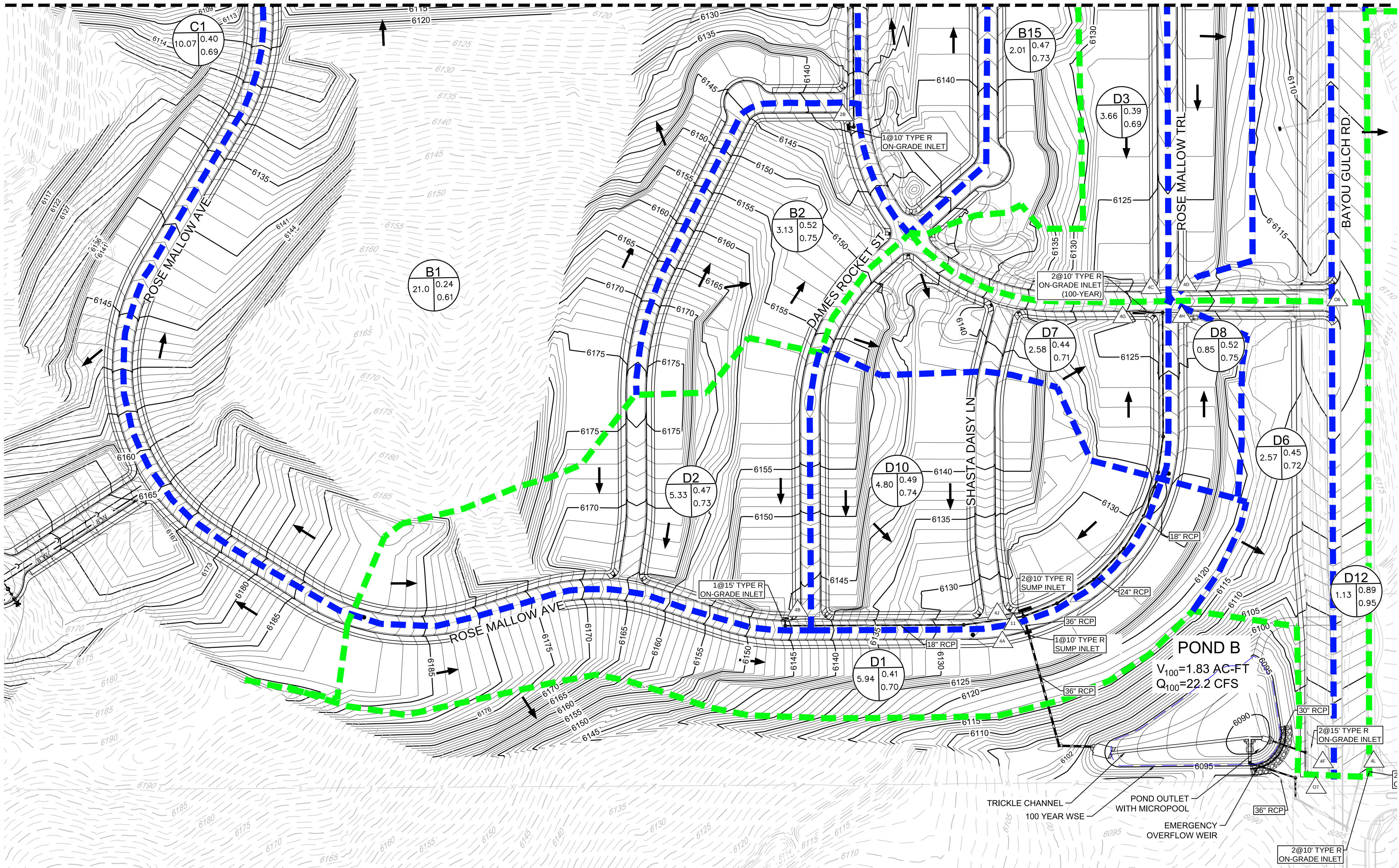
Revisions

Appr.

Init.

Date

MATCHLINE - SHEET 4



KEYMAP
N.T.S.

- NOTE:
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LEGEND

DESIGN POINT
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

PROPOSED MAJOR CONTOURS

PROPOSED MINOR CONTOURS

EXISTING MAJOR CONTOURS

EXISTING MINOR CONTOURS

PROPOSED FLOW ARROW

Note:
1) 0% slope indicates sump inlet.

DIRECT FLOW						
BASIN ID	AREA (AC)	Imperviousness %	Q2 (CFS)	Q100 (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	2.51	58.47	3.16	12.02	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	3.30	75.52	6.18	20.16	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 %	Q2 (CFS)	Q100 (CFS)	Street Type	Slope %
C1	10.07	45.10	8.72	39.44	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	6.97	33.88	4.29	23.81	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	3.90	49.27	4.06	17.30	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	Q2 (CFS)	Q100 (CFS)	
2A	13.11	74.41	
2B	6.15	15.75	
2C	5.58	33.21	
2D	13.83	60.55	
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	26.73	169.56	
2K	27.76	172.83	
2L	10.97	50.07	
2M	3.88	15.72	
2N	3.88	15.72	
2O	2.50	10.13	
3	18.73	76.25	
6	7.44	(Not Relevant for 100 year)	
7	7.40	(Not Relevant for 100 year)	
9	19.80	84.75	
10	32.55	84.62	

CUMULATIVE FLOW			
Design Point	Q2 (CFS)	Q100 (CFS)	
3A	8.95	54.35	

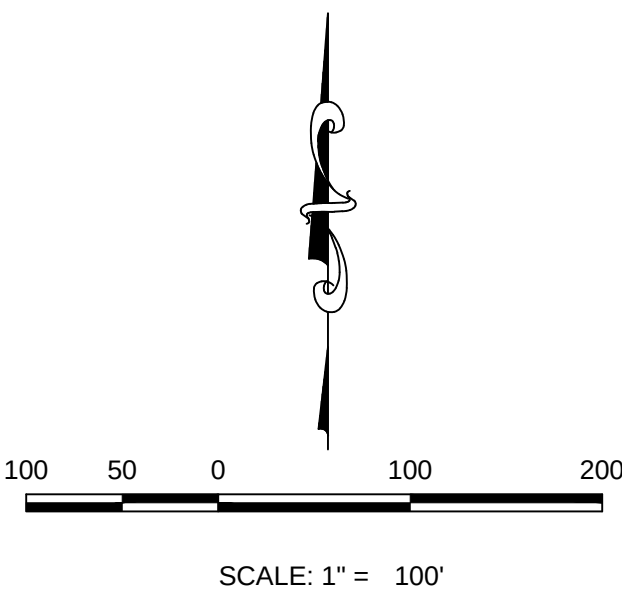
CUMULATIVE FLOW			
Design Point	Q2 (CFS)	Q100 (CFS)	
4A	18.01	80.94	
4B	5.58	24.83	
4C	3.28	15.11	
4D	5.63	26.26	
4E	8.32	42.18	
4F	5.19	24.34	
4G	2.48	11.76	
4H	1.06	4.38	
4I	4.06	17.30	
4J	10.66	45.70	
4K	6.19	19.00	
4L	2.94	10.02	
11	12.69	56.80	
12	11.38	55.22	
13	15.66	68.43	

POND B	
Description	
Drainage Area (FT)	23.2
Percent Imperviousness (%)	47.36
WQCV (AC-FT)	0.39
EURV Volume (including WQCV) (AC-FT)	1.10
EURV Water Surface (FT)	6092.90
100-YR Volume (including EURV) (AC-FT)	1.83
100-yr water surface elevation (FT)	6094.01
Emergency Spillway Crest Elevation (FT)	6094.01
100-year Peak Inflow (CFS)	39.83
100-year Peak Outflow (CFS)	22.20
100-year Peak Allowable (CFS)	31.53

CALL 811
TWO WORKING DAYS
BEFORE YOU DIG
UNCC 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.

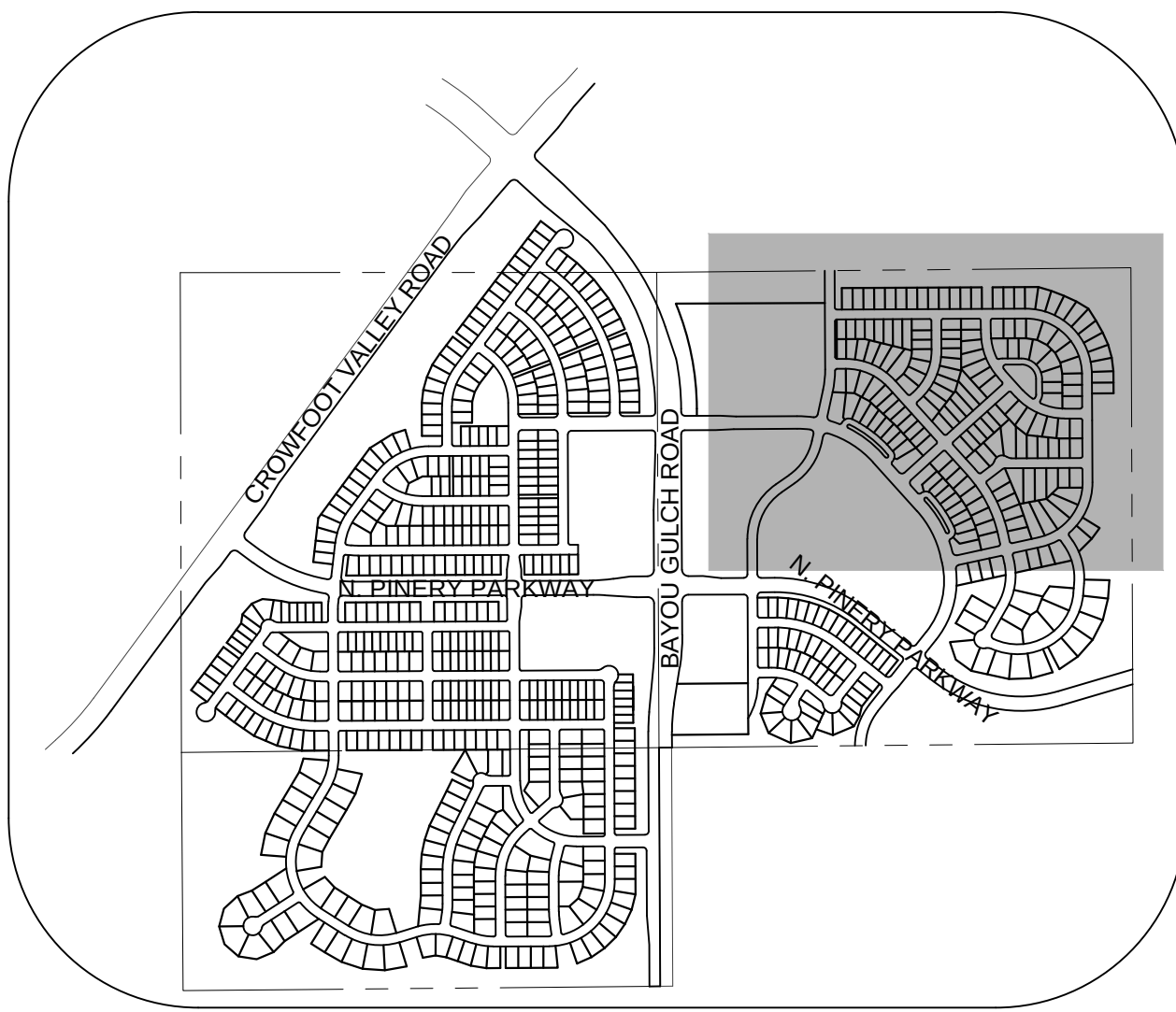
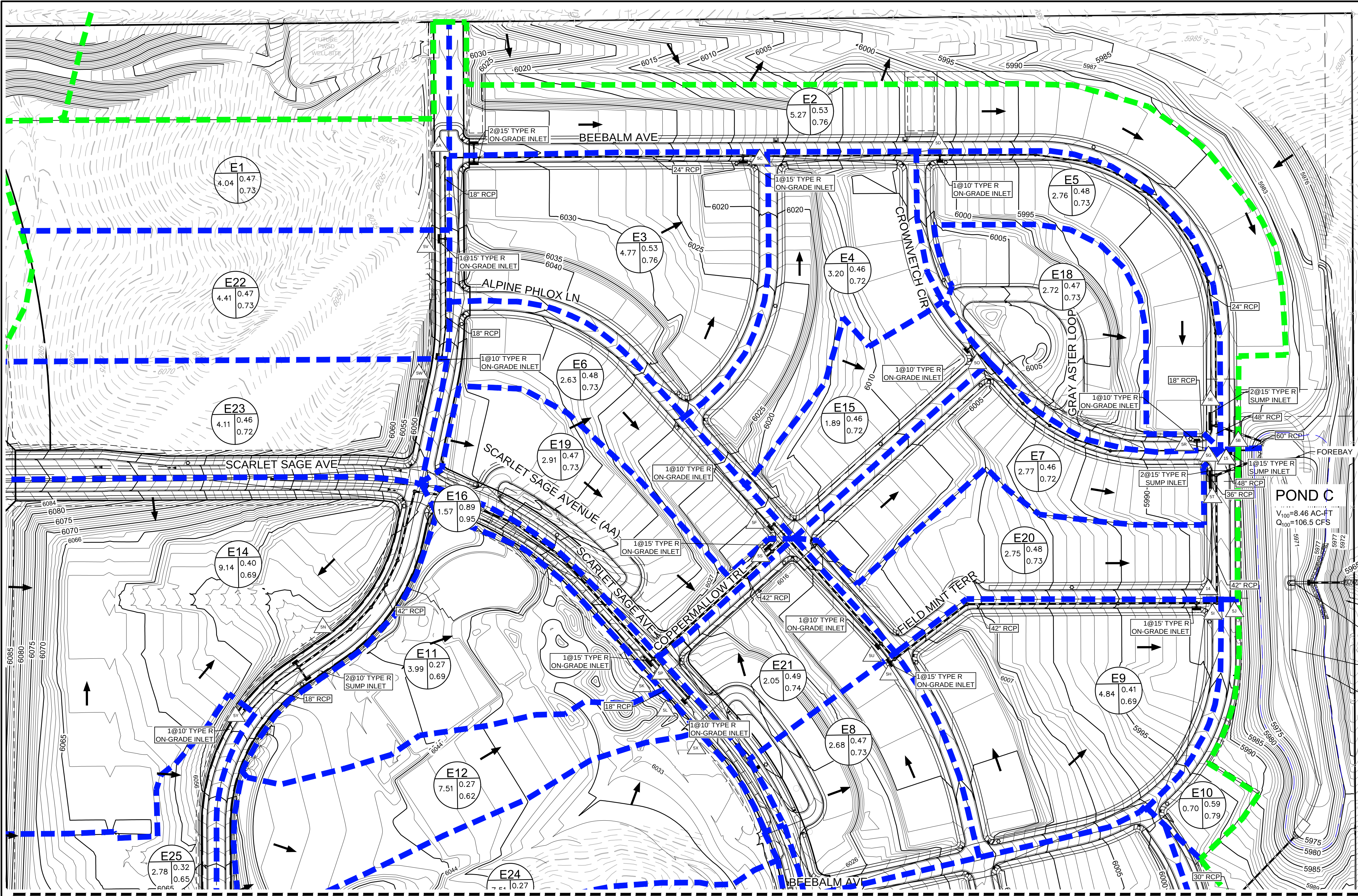
BASIS OF BEARINGS:
THE EAST LINE OF THE NORTHEAST QUARTER OF SAID SECTION 9 BEING MONUMENTED AT THE NORTHEAST CORNER OF SAID SECTION 9 BY A 3-1/4" ALUMINUM CAP STAMPED LS 23053 AND AT THE EAST QUARTER CORNER OF SAID SECTION 9 BY A 2-1/2" ALUMINUM CAP STAMPED LS 6935 BEING CONSIDERED TO BEAR SOUTH 00°15'06"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



PREPARED UNDER THE
SUPERVISION OF

MARK SCHEURER
COLORADO P.E. 48988

SHEET NUMBER	DRAWN BY: AYK		SCALE: AS SHOWN	FILE NO: 8130283701	DATE: MAY 2017	Revisions	Date				
	CHECKED BY: JLU										
TRAILS AT CROWFOOT FINAL DRAINAGE MAP DRAINAGE MAP						ESX MANAGEMENT 7353 South Alton Way CENTENNIAL, CO 80112					
10333 E. Dry Creek Rd. Suite 210 Englewood, CO 80150 Tel: (720) 482-9526 Fax: (720) 482-9546						CVL CONSULTANTS					



KEYMAP
N.T.S.

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

LEGEND

DESIGN POINT

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

PROPOSED MAJOR CONTOURS

PROPOSED MINOR CONTOURS

EXISTING MAJOR CONTOURS

EXISTING MINOR CONTOURS

PROPOSED FLOW ARROW

MATCHLINE - SHEET 7

DIRECT FLOW						
BASIN ID	AREA	Imperviousness	Q2	Q100	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	9.14	44.35	8.62	39.37	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	2.78	35.90	2.16	11.51	Local	2.00

CUMULATIVE FLOW		
Design Point ID	Q2 (CFS)	Q100 (CFS)
14	32.04	124.18
15	36.95	142.09
5A	14.28	56.31
5B	9.56	40.76
5C	18.85	70.87
5D	21.89	79.97
5E	23.45	83.44
5F	3.06	12.34
5G	6.16	142.25
5H	29.48	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	10.74	49.99
5O	2.08	8.55
5P	19.53	49.94
5Q	5.06	23.96
5R	4.86	14.00
5S	24.94	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	2.16	11.51

POND C	
Description	
Drainage Area (FT)	101.09
Percent Imperviousness (%)	44.49
WQCV (AC-FT)	1.61
EURV Volume (including WQCV) (AC-FT)	4.49
EURV Water Surface (FT)	5973.29
100-YR Volume (including EURV) (AC-FT)	8.46
100-year water surface elevation (FT)	5978.14
Emergency Spillway Crest Elevation (FT)	5978.14
100-year Peak Inflow (CFS)	204.00
100-year Peak Outflow (CFS)	106.53
100-year Peak Allowable (CFS)	111.36

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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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Suite 210
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Tel: (720) 482-9526
Fax: (720) 482-9546

ESX MANAGEMENT
7353 South Alton Way
CENTENNIAL, CO 80112

TRAITS AT CROWFOOT
FINAL DRAINAGE MAP
DRAINAGE MAP

SCALE:
AS SHOWN

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

FILE NO:
8130283701

6

PREPARED UNDER THE
SUPERVISION OF

MARK SCHEURER
COLORADO P.E. 48998

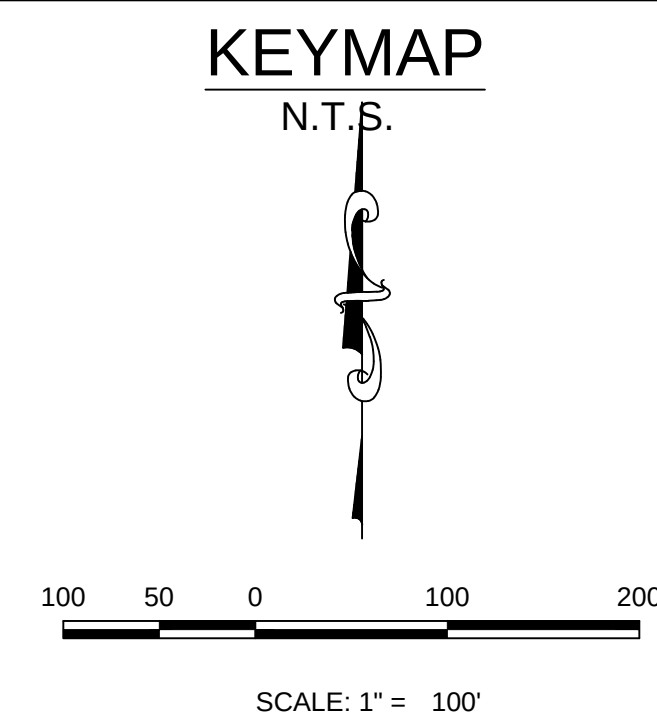
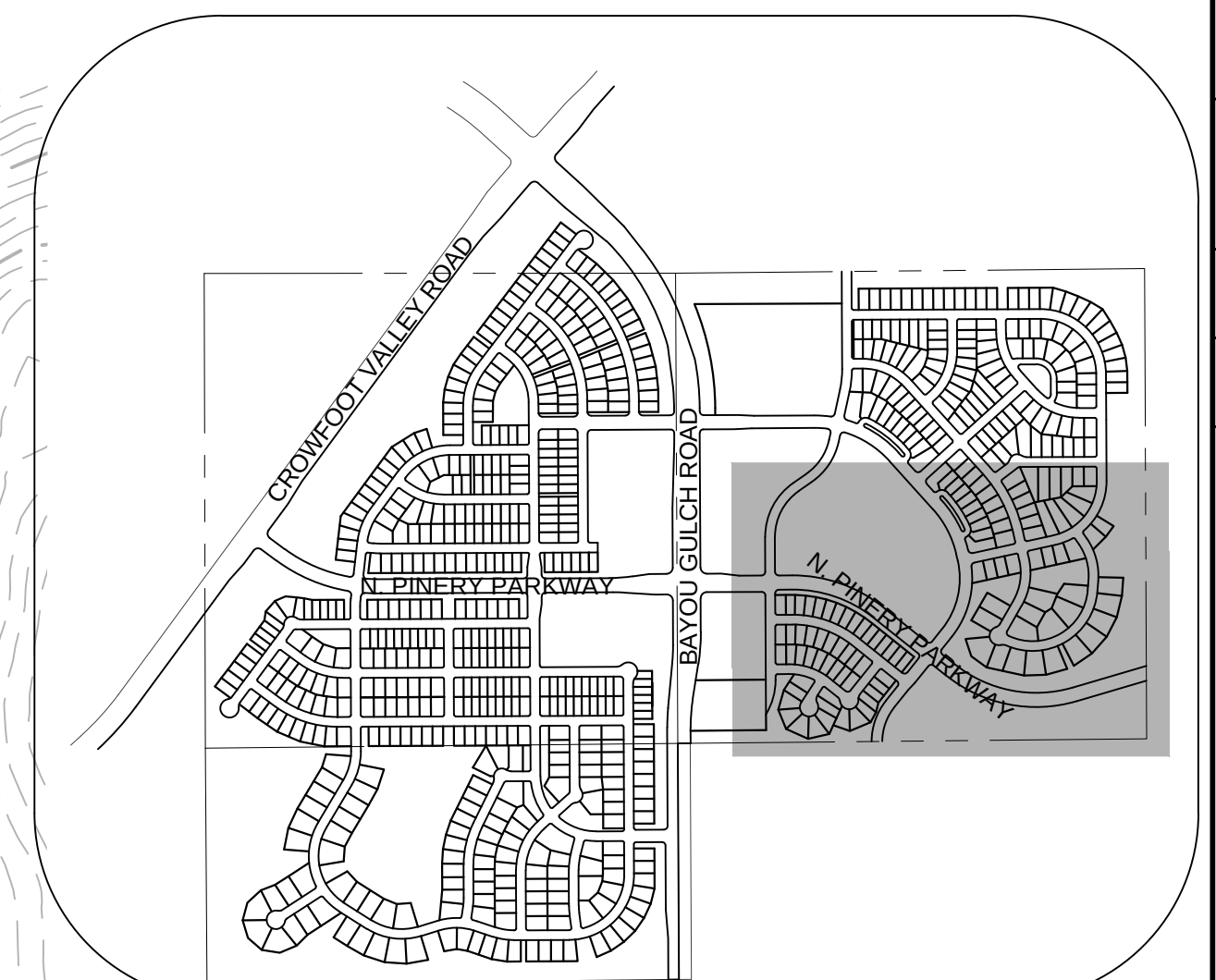
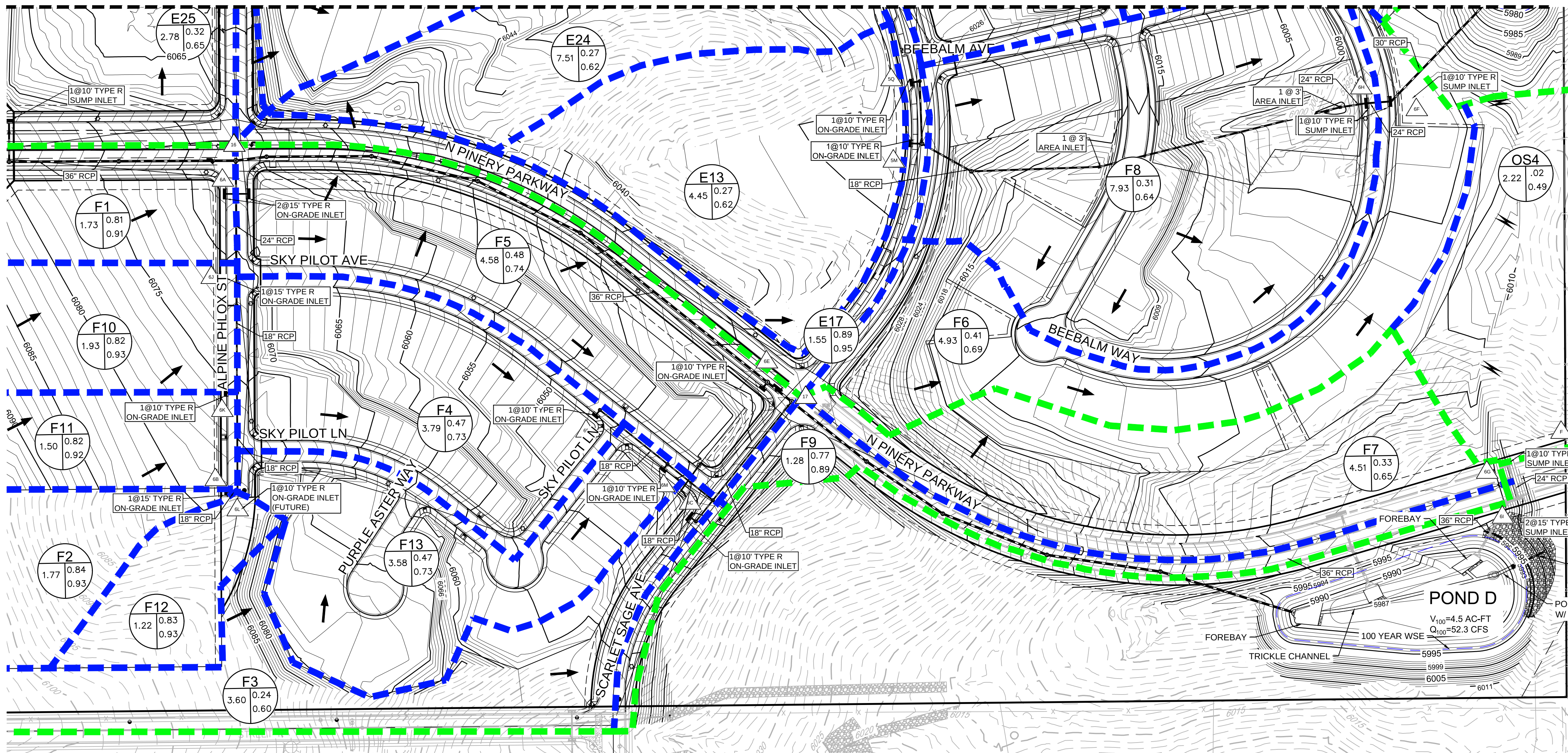
No.

Revisions

Date

Appr.

Date



LEGEND

DESIGN POINT

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

PROPOSED MAJOR CONTOURS

PROPOSED MINOR CONTOURS

EXISTING MAJOR CONTOURS

EXISTING MINOR CONTOURS

PROPOSED FLOW ARROW

POND D	
Description	
Drainage Area (FT)	50.18
Percent Imperviousness (%)	51.42
WQCV (AC-FT)	0.88
EURV Volume (including WQCV) (AC-FT)	2.61
100-YR Water Surface Elevation (FT)	5991.65
100-YR Volume (including EURV) (AC-FT)	4.49
100-yr water surface elevation (FT)	5993.55
Emergency Spillway Crest Elevation (FT)	5993.55
100-year Peak Inflow (CFS)	184.40
100-year Peak Outflow (CFS)	52.28
100-year Peak Allowable (CFS)	55.28

DIRECT FLOW						
BASIN ID	AREA (AC)	Imperviousness (%)	Q2 (CFS)	Q100 (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	9.14	44.35	8.62	39.37	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	2.78	35.90	2.16	11.51	Local	2.00

DIRECT FLOW						
BASIN ID	AREA (AC)	Imperviousness (%)	Q2 (CFS)	Q100 (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	Q2 (CFS)	Q100 (CFS)
14	32.04	124.18
15	36.95	142.09
5A	14.28	56.31
5B	9.56	40.76
5C	18.85	70.87
5D	21.89	79.97
5E	23.45	83.44
5F	3.06	12.34
5G	6.16	142.25
5H	29.48	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	10.74	49.99
5O	2.08	8.55
5P	19.53	49.94
5Q	5.06	23.96
5R	4.86	14.00
5S	24.94	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	2.16	11.51

CUMULATIVE FLOW		
Design Point ID	Q2 (CFS)	Q100 (CFS)
6A	21.41	56.86
6B	8.28	23.93
6C	9.45	44.87
6D	4.56	18.47
6E	29.25	58.80
6F	13.68	69.19
6G	3.39	22.24
6H	10.08	42.10
6I	1.75	36.44
6Ia	-	78.50
6J	17.19	46.79
6K	12.18	34.01
6L	3.39	9.95
6M	8.80	35.37
16	27.15	55.27
17	36.01	97.22

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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PREPARED UNDER THE SUPERVISION OF

MARK SCHEURER
COLORADO P.E. 48988

UNPROJECTSWISS RANCH/DOUGLAS COUNTY/ENGINEERING/DRAINAGE/DRAINAGE STUDIES/DRAINAGE MAPS/SERIAL DRAINAGE MAP D6-D7/DWG. AS/ENR/CD. 2/2/2015 1:14 PM

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CVL
CONSULTANTS

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7253 South Alton Way
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TRAITS AT CROWFOOT
FINAL DRAINAGE MAP
DRAINAGE MAP

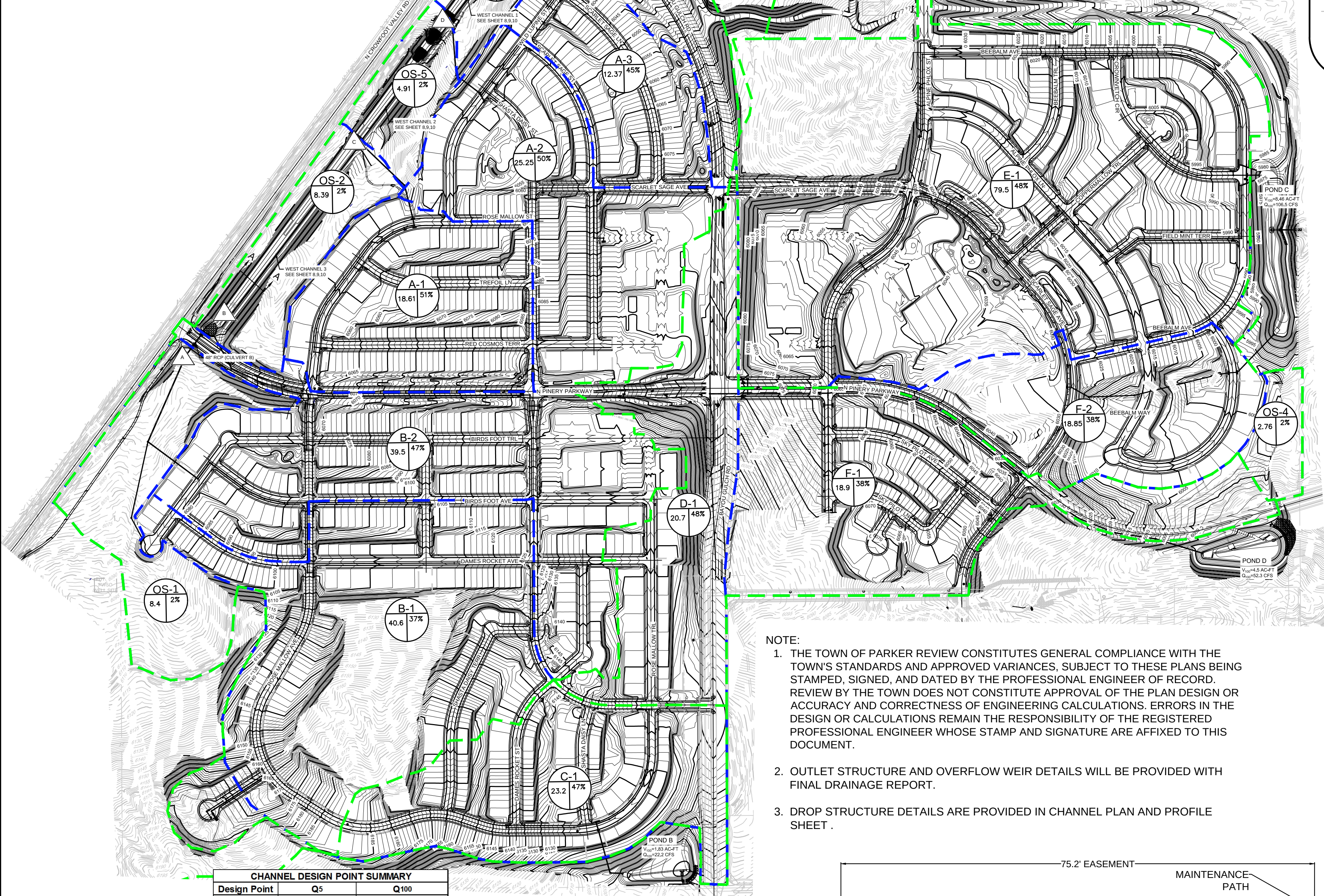
SCALE:
AS SHOWN
FILE NO:
8130283701

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

SHEET NUMBER
7

Date
Appr.
Init.
Date
Revisions
No.

POND A		POND C	
Description		Description	
Drainage Area (FT)	174.49	Drainage Area (FT)	101.09
Percent Imperviousness (%)	37.56	Percent Imperviousness (%)	44.49
WQCV (AC-FT)	2.52	WQCV (AC-FT)	1.61
EURV Volume (including WQVC) (AC-FT)	6.45	EURV Volume (including WQVC) (AC-FT)	4.49
EURV Water Surface (FT)	5995.39	EURV Water Surface (FT)	5973.29
100-YR Volume (including EURV) (AC-FT)	11.29	100-YR Volume (including EURV) (AC-FT)	8.46
100-yr water surface elevation (FT)	5997.19	100-yr water surface elevation (FT)	5978.14
Emergency Spillway Crest Elevation (FT)	5997.19	Emergency Spillway Crest Elevation (FT)	5978.14
100-year Peak Inflow (CFS)	278.84	100-year Peak Inflow (CFS)	204.00
100-year Peak Outflow (CFS)	197.00	100-year Peak Outflow (CFS)	106.53
100-year Peak Allowable (CFS)	204.47	100-year Peak Allowable (CFS)	111.36
POND B		POND D	
Description		Description	
Drainage Area (FT)	23.2	Drainage Area (FT)	50.18
Percent Imperviousness (%)	47.36	Percent Imperviousness (%)	51.42
WQCV (AC-FT)	0.39	WQCV (AC-FT)	0.88
EURV Volume (including WQVC) (AC-FT)	1.10	EURV Volume (including WQVC) (AC-FT)	2.61
EURV Water Surface (FT)	6092.90	EURV Water Surface (FT)	5991.65
100-YR Volume (including EURV) (AC-FT)	1.83	100-YR Volume (including EURV) (AC-FT)	4.49
100-yr water surface elevation (FT)	6094.01	100-yr water surface elevation (FT)	5993.55
Emergency Spillway Crest Elevation (FT)	6094.01	Emergency Spillway Crest Elevation (FT)	5993.55
100-year Peak Inflow (CFS)	39.83	100-year Peak Inflow (CFS)	184.40
100-year Peak Outflow (CFS)	22.20	100-year Peak Outflow (CFS)	52.28
100-year Peak Allowable (CFS)	31.53	100-year Peak Allowable (CFS)	55.28



NOTE:

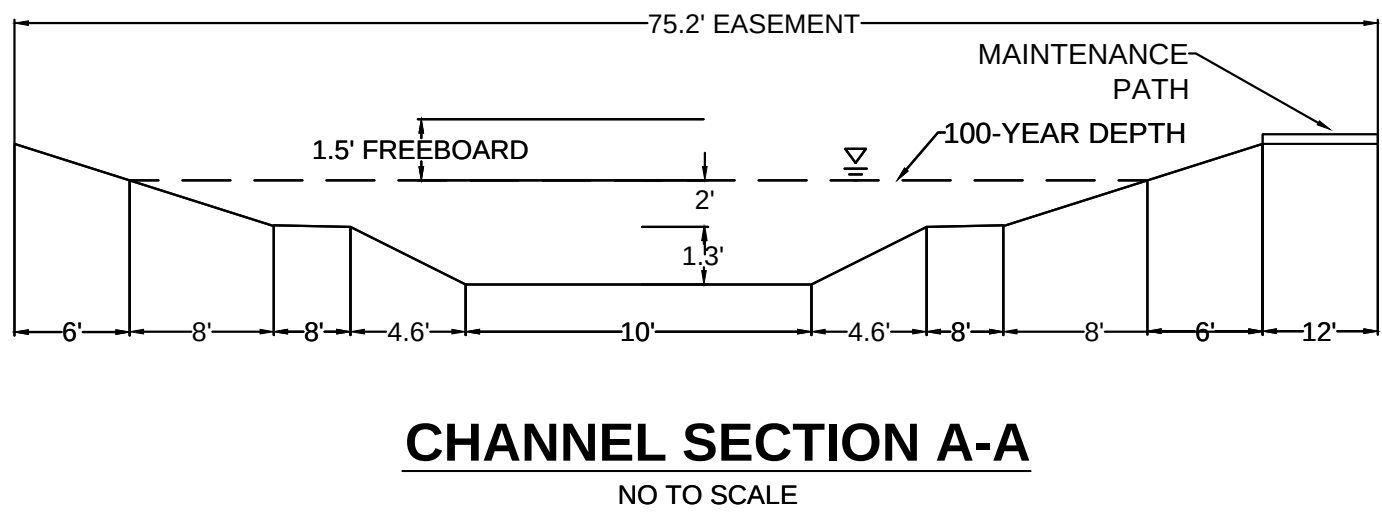
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2. OUTLET STRUCTURE AND OVERFLOW WEIR DETAILS WILL BE PROVIDED WITH FINAL DRAINAGE REPORT.
3. DROP STRUCTURE DETAILS ARE PROVIDED IN CHANNEL PLAN AND PROFILE SHEET .

CHANNEL DESIGN POINT SUMMARY		
Design Point	Q5 (CFS)	Q100 (CFS)
A	25.55	76.45
B	49.11	150.81
C	58.29	188.03
D	73.01	240.76
E	83.23	280.45
SWMM BASIN SUMMARY		
Design Point	Q5 (CFS)	Q100 (CFS)
A-1	11.86	32.59
A-2	19.60	53.08
A-3	7.60	21.76
A-4	5.01	16.11
B-1	20.81	66.84
B-2	26.81	74.30
C-1	14.00	39.86
OS-1	1.82	9.80
OS-2	1.62	8.90
OS-3	1.02	5.59
OS-4	0.31	1.87
OS-5	1.55	7.82

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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



CHANNEL SECTION A-A
NO TO SCALE

LEGEND

DESIGN POINT

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

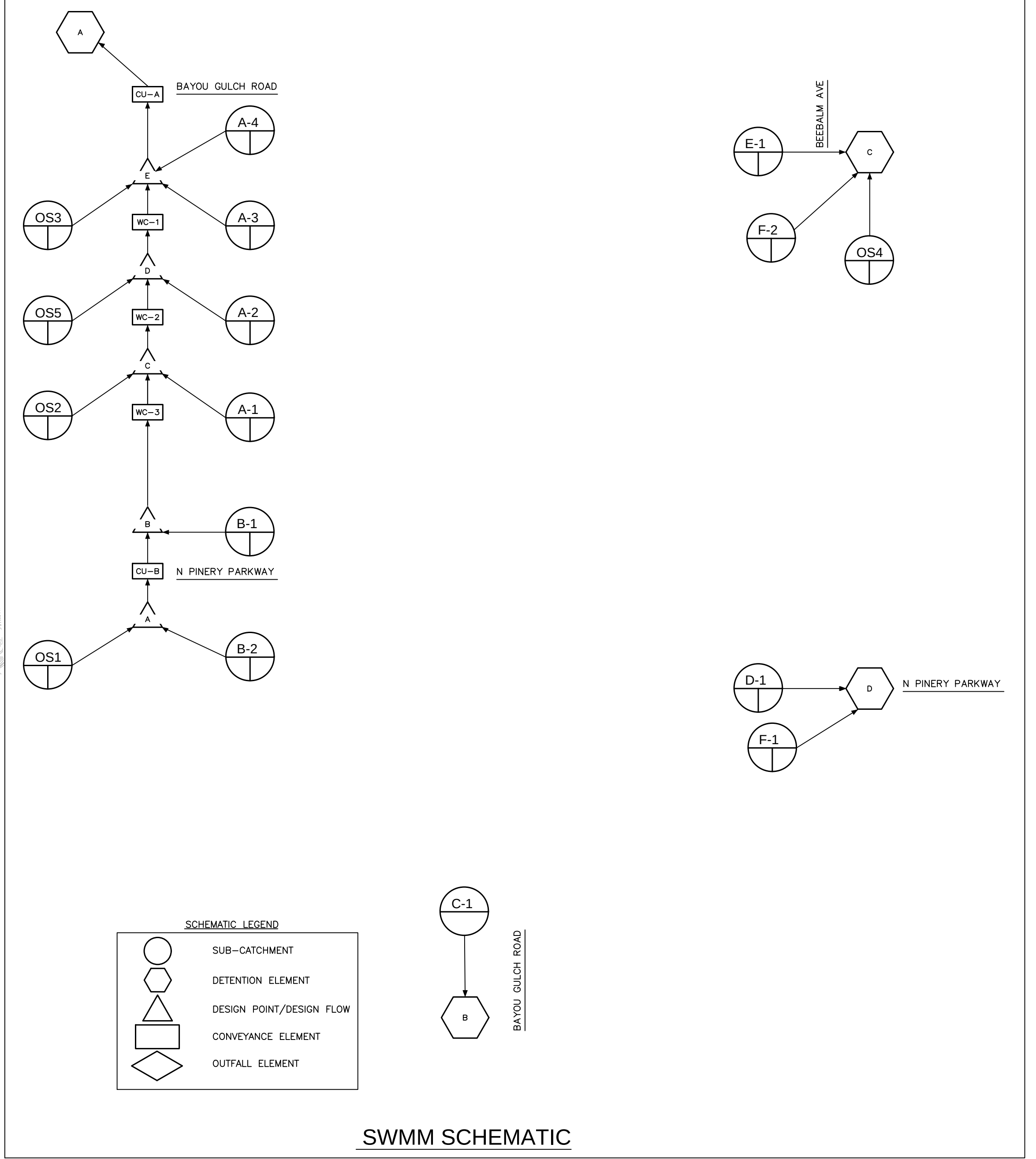
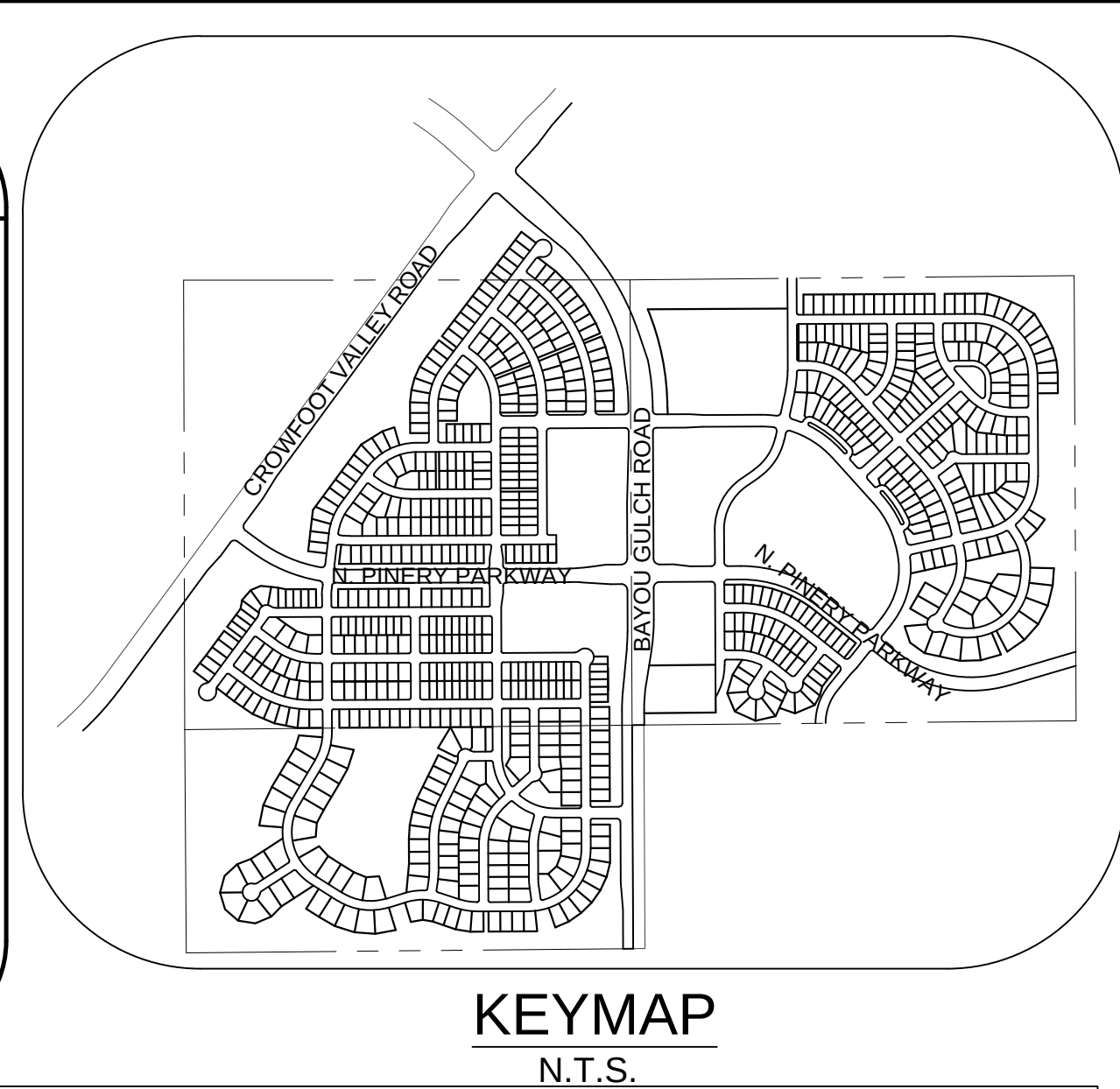
PROPOSED MAJOR CONTOURS

PROPOSED MINOR CONTOURS

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EXISTING MINOR CONTOURS

PROPOSED FLOW ARROW



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UNCC 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

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CVL CONSULTANTS	CVL CONSULTANTS	CVL CONSULTANTS	CVL CONSULTANTS
ESX MANAGEMENT 7353 South Alton Way CENTENNIAL, CO 80112	ESX MANAGEMENT 7353 South Alton Way CENTENNIAL, CO 80112	ESX MANAGEMENT 7353 South Alton Way CENTENNIAL, CO 80112	ESX MANAGEMENT 7353 South Alton Way CENTENNIAL, CO 80112
TRAILS AT CROWFOOT FINAL DRAINAGE MAP	TRAILS AT CROWFOOT FINAL DRAINAGE MAP	TRAILS AT CROWFOOT FINAL DRAINAGE MAP	TRAILS AT CROWFOOT FINAL DRAINAGE MAP
SCALE: AS SHOWN	SCALE: AS SHOWN	SCALE: AS SHOWN	SCALE: AS SHOWN
DRAWN BY: AYK	DRAWN BY: AYK	DRAWN BY: AYK	DRAWN BY: AYK
CHECKED BY: JLU	CHECKED BY: JLU	CHECKED BY: JLU	CHECKED BY: JLU
DATE: MAY 2017	DATE: MAY 2017	DATE: MAY 2017	DATE: MAY 2017
FILE NO: 8130283701	FILE NO: 8130283701	FILE NO: 8130283701	FILE NO: 8130283701
SHEET NUMBER 8	SHEET NUMBER 8	SHEET NUMBER 8	SHEET NUMBER 8