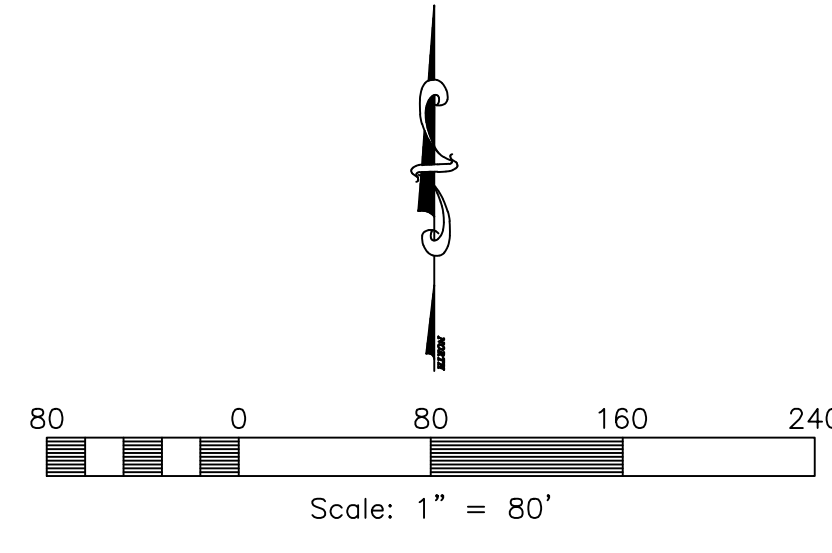


Vicinity Map
SCALE: NONE



Line Table

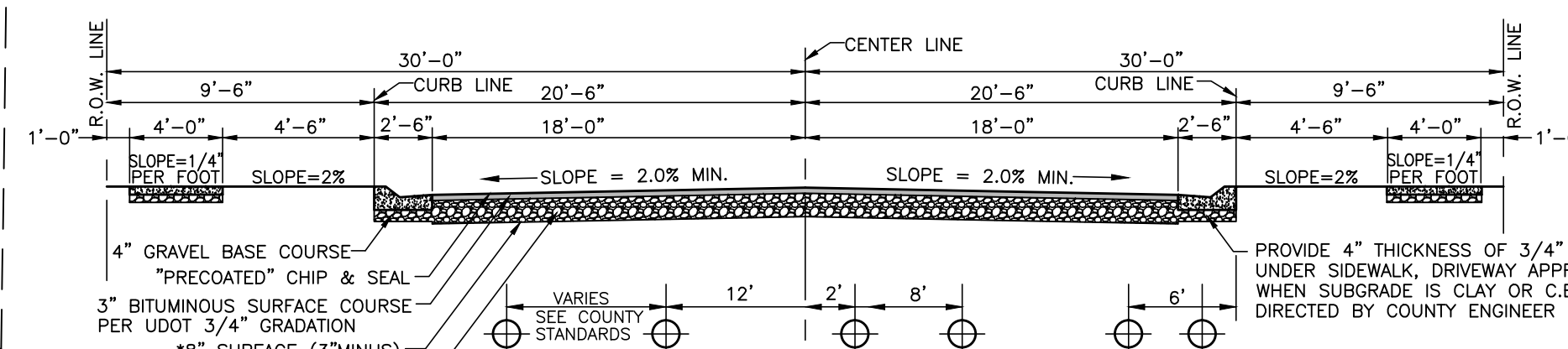
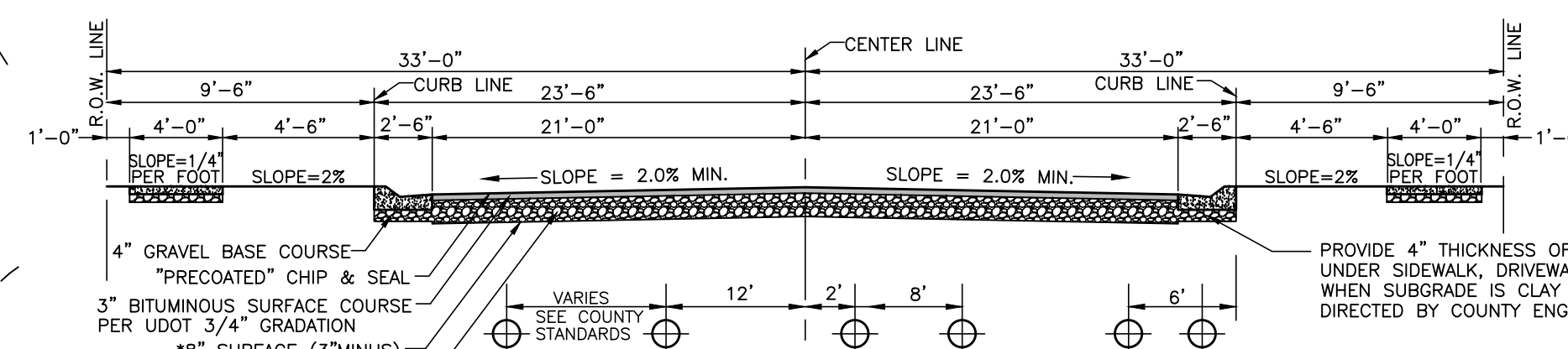
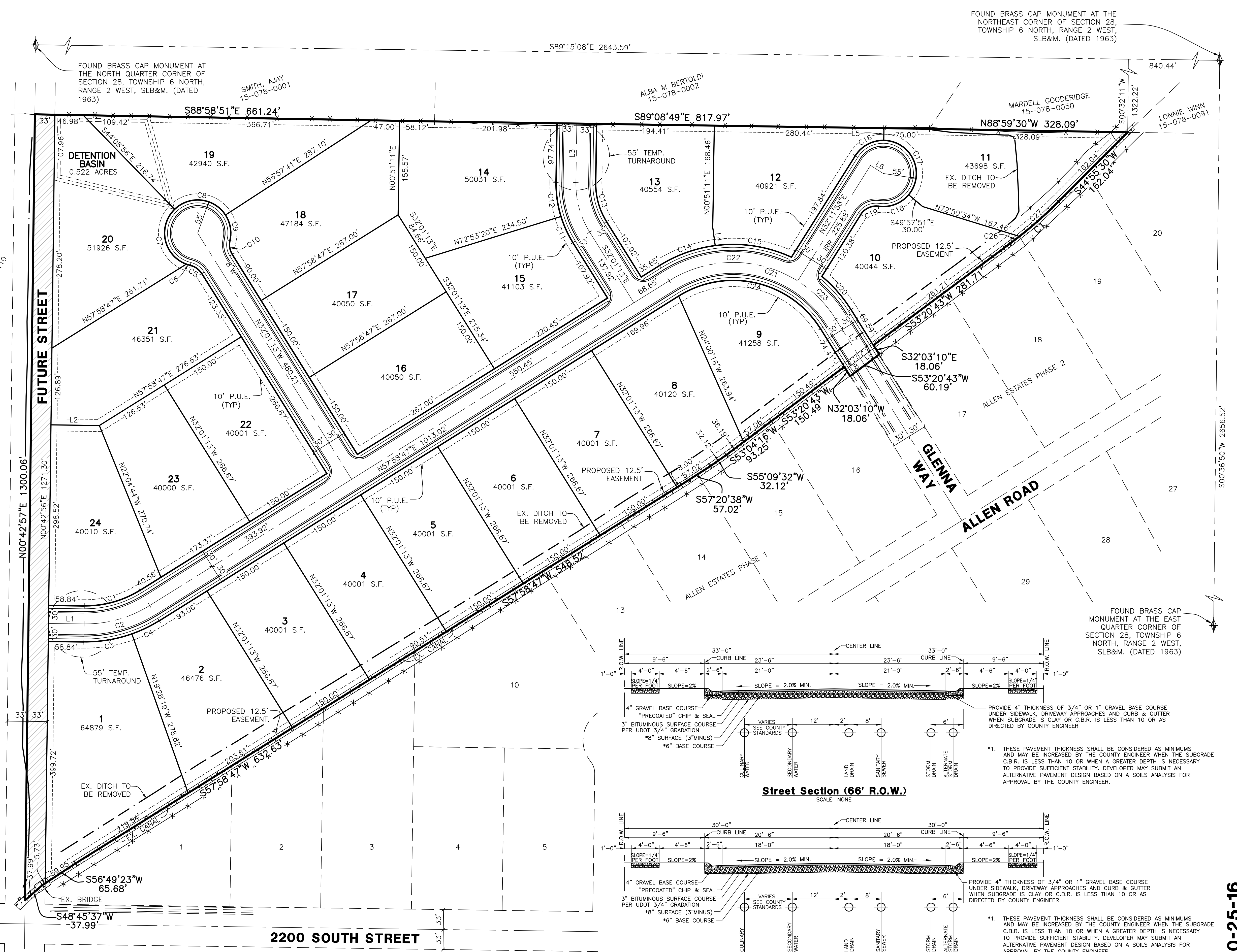
LINE	BEARING	DISTANCE
L1	S89°17'03"E	58.84
L2	N89°17'04"W	80.00
L3	S00°51'11"W	97.74
L4	N07°28'54"W	30.00
L5	N00°51'11"E	20.00
L6	S57°48'02"E	25.00
L7	N32°03'10"W	90.06
L8	N53°20'43"E	30.10
L9	N53°20'43"E	30.09

Curve Table

#	RADIUS	ARC LENGTH	CHD. LENGTH	TANGENT	CHD. BEARING	DELTA
C1	170.00'	97.13'	95.81'	49.93'	S74°20'52"W	32°44'10"
C2	200.00'	114.27'	112.72'	58.74'	S74°20'52"W	32°44'10"
C3	230.00'	81.04'	80.62'	40.94'	N80°37'19"E	20°11'17"
C4	230.00'	50.37'	50.27'	25.29'	S64°15'14"W	12°32'54"
C5	30.00'	23.61'	23.01'	12.46'	N54°34'11"W	45°05'57"
C6	55.00'	7.22'	7.22'	3.62'	S73°21'24"E	7°31'32"
C7	55.00'	110.82'	93.00'	87.08'	S11°52'17"E	115°26'42"
C8	55.00'	97.06'	84.95'	66.85'	N83°35'38"W	101°06'37"
C9	55.00'	44.27'	43.08'	23.41'	N09°58'48"W	46°07'03"
C10	30.00'	23.61'	23.01'	12.46'	S09°28'15"E	45°05'57"
C11	183.00'	47.62'	47.48'	23.94'	S24°33'57"E	14°54'33"
C12	183.00'	57.38'	57.14'	28.93'	S08°07'45"E	17°57'51"
C13	117.00'	67.13'	66.21'	34.52'	S15°35'01"E	32°52'24"
C14	230.00'	98.50'	97.75'	50.02'	N70°14'56"E	24°32'19"
C15	230.00'	129.20'	127.51'	66.36'	S81°23'19"E	32°11'11"
C16	55.00'	56.30'	53.88'	30.90'	N61°31'34"E	58°39'13"
C17	55.00'	124.01'	99.36'	115.78'	S24°33'20"E	129°10'58"
C18	55.00'	55.53'	53.20'	30.39'	N68°57'35"E	57°50'53"
C19	31.00'	35.54'	33.62'	20.01'	N65°02'29"E	65°41'03"
C20	230.00'	73.27'	72.96'	36.95'	S41°10'46"E	18°15'11"
C21	200.00'	314.05'	282.76'	199.89'	S77°02'11"E	89°58'03"
C22	200.00'	224.17'	212.62'	125.51'	S89°54'38"E	64°13'11"
C23	200.00'	89.88'	89.12'	45.71'	N44°55'36"W	25°44'52"
C24	170.00'	266.94'	240.35'	169.90'	S77°02'11"E	89°58'03"

Legend

- = SECTION CORNER
- = BOUNDARY LINE
- = LOT LINE
- = ADJOINING PROPERTY
- = EASEMENTS
- = SECTION TIE LINE
- = EXISTING FENCE LINE
- = DITCH
- = PUBLIC UTILITY EASEMENT
- = ROAD DEDICATION FOR FUTURE ROAD



Saddlebred Acres

Weber County, Utah

Reeve & Associates, Inc.
5160 S. 1500 W. RIVERDALE, UTAH 84405
TEL: (801) 821-3100 FAX: (801) 821-2666 WWW.REEVE-ASSOC.COM
LAND PLANNERS • CIVIL ENGINEERS • LAND SURVEYORS
TRAFFIC ENGINEERS • STRUCTURAL ENGINEERS • LANDSCAPE ARCHITECTS

REVISIONS	DESCRIPTION
DATE	City Comments
10-23-16	

Saddlebred Acres
PART OF THE NE 1/4 OF SECTION 28, T.4N., R. 1W., S.L.B. & M., U.S. SURVEY
WEBER COUNTY, UTAH

Preliminary Plan

REVISD: 10-25-16

Project Info.
Engineer: G. Thorson
Designer: C. Cave
Begin Date: JUNE 23, 2016
Name: SADDLEBREDD ACRES
Number: 4948-06

Sheet **2**
1 Sheets

Storm Runoff Calculations

Allen Property - Ivory Homes
Taylor, UT

7/6/2016 TSH

The following runoff calculations are based on the Rainfall - Intensity - Duration Frequency Curve for the Taylor, UT area taken from data compiled using NOAA Atlas 14 for a 50-year storm event.

Runoff storm water has been calculated for two different sets of conditions, one being undeveloped land and the other with land fully improved. The difference between the two quantities will be retained in a subsurface detention basin where the storm water will be released at its historical rate of 0.2 cfs/acre.

The calculations are as follows:

1. Drainage Area:

Runoff Coefficients		
Paved Area	182,344	C = 0.95
Landscaped Area	967,905	C = 0.20
Roof	96,600	C = 0.95
Weighted Runoff Coefficient		C = 0.37

2. Time of Concentration:

Using Storm Water Run-Off "Overland Flow Time"

Tc =	30	minutes
------	----	---------

3. Rainfall Intensities:

Rainfall intensities were obtained using NOAA Atlas 14 for a 50-year storm event. This can be seen in section 5 below.

Rainfall Intensity for a 15 minute Time of Concentration	2.25	in/hr
--	------	-------

4. Peak Run-off:

Runoff Coefficient	C = 0.37
Rainfall Intensity	i = 2.25 IN./HR.
Acreage	A = 28.62 ACRES
Runoff Quantity	Q = CIA
Q (total)	Q = 23.69 cfs

5. Allowable Discharge:

Allowable Discharge of Storm Water Volume (pre-development) is 0.2 cfs per acre.
Allowable Discharge Q = (0.2 x acres)

Allowable Discharge =	Q = 5.72 cfs
-----------------------	--------------

6. Volume of Run-off for 50-year 24 hour Storm Event:

C =	0.37
A =	28.62
Q(out) =	5.72 (based on 0.2 cfs/acre)

time (min)	time (sec)	i (in./hr.)	Q (cfs)	Vol. in (cf)	Vol. out (cf)	Difference (cf)
0	0	0.00	0.00	0.00	0.00	0.00
5	300	5.32	56.01	16801.89	1717.42	15084.46
10	600	4.04	42.53	25518.65	3434.85	22083.81
15	900	3.34	35.16	31645.66	5152.27	26493.39
30	1800	2.25	23.69	42636.37	10304.54	32331.83
60	3600	1.39	14.63	52679.60	20809.07	32070.52
120	7200	0.77	8.11	58364.45	41218.15	17146.30
180	10800	0.53	5.57	60145.70	61827.22	-1681.52
360	21600	0.31	3.26	70492.12	123654.45	-53162.32
720	43200	0.19	2.01	86864.49	247308.89	-160444.40
1440	86400	0.11	1.15	99143.76	494617.79	-395474.02

Required Detention Volume 32331.83 c.f.

7. Orifice Sizing

Given:

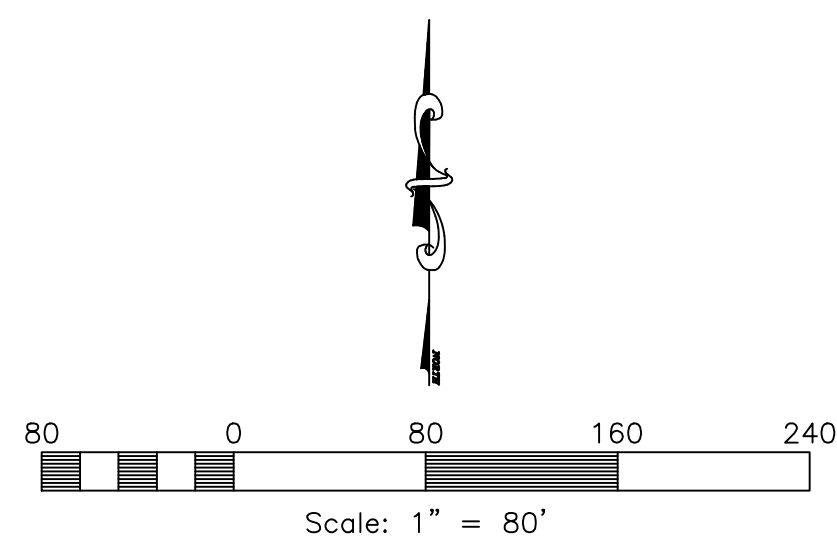
Q =	5.72	cfs
2g =	64.4	ft/s ²
H =	2.50	ft
Cd =	0.62	

$R = \sqrt{Q / (0.7 * (64.4 * H)^{0.5} / \pi)}$

R =	0.48	feet
	5.78	inches
D =	11.55	inches

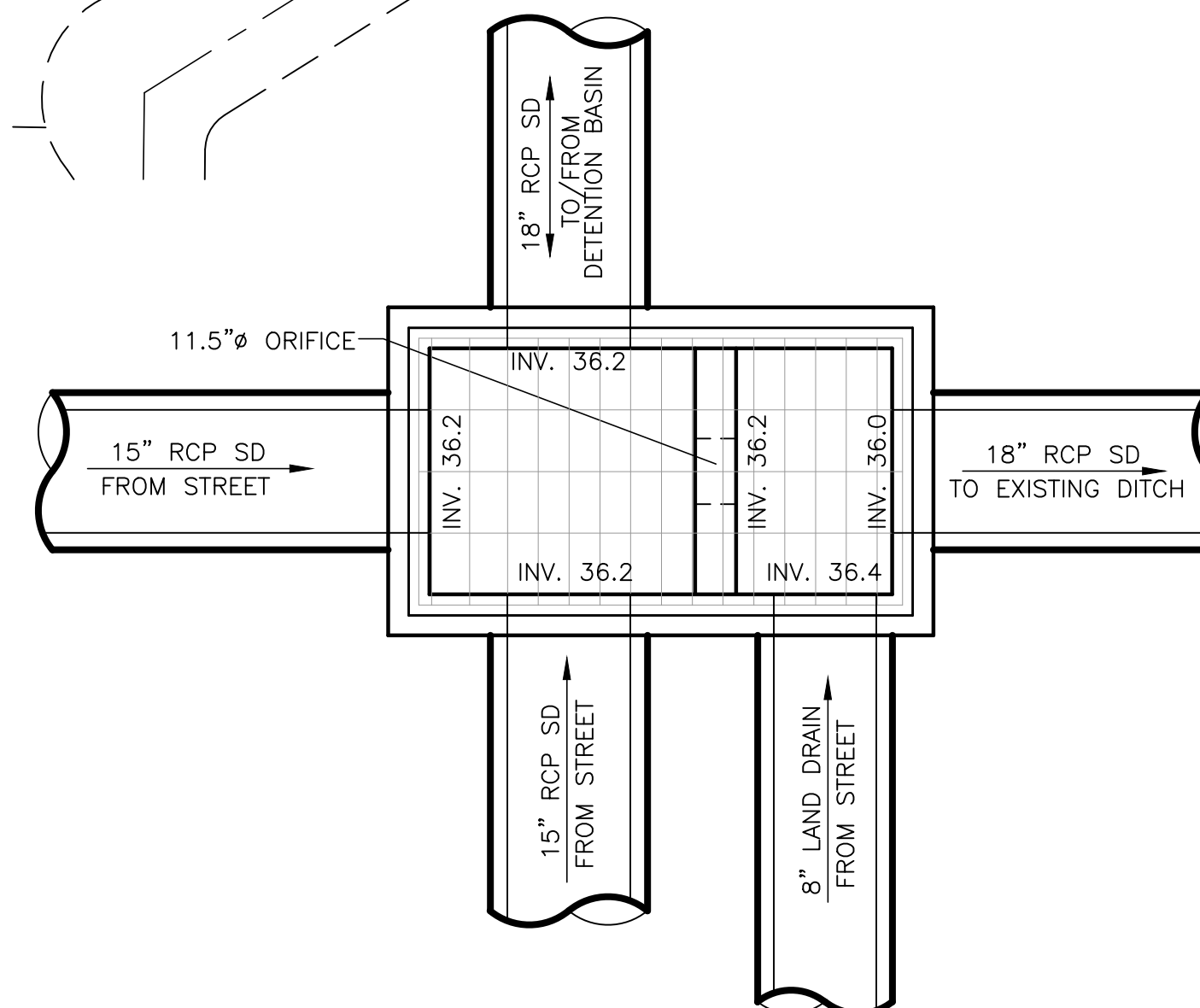
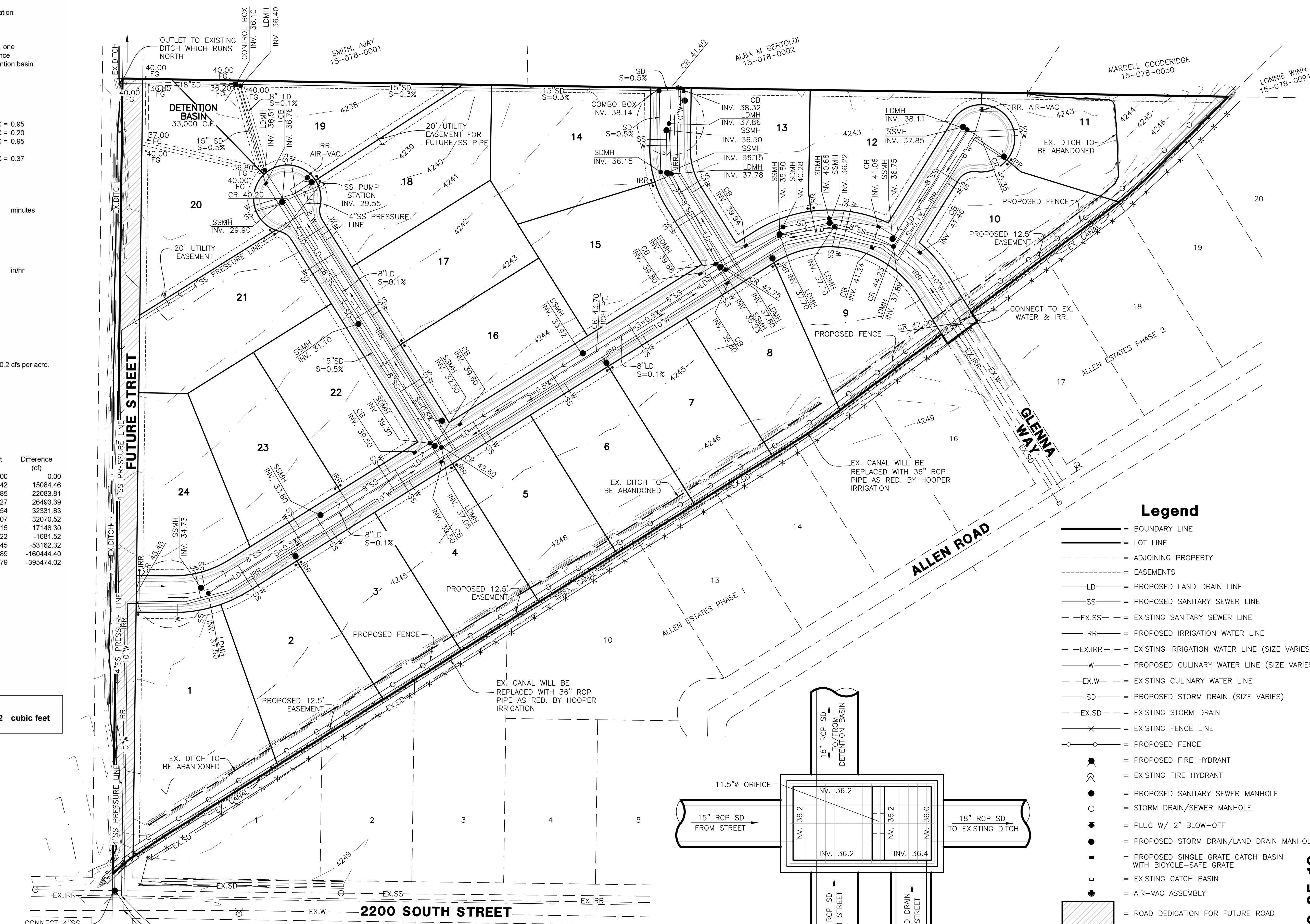
SUMMARY:

The required volume of the detention basin is **32,332 cubic feet**
Orifice Diameter at outlet is **11.55 inches**



Notes:

- CONTOURS ARE SHOWN WITH A ONE FOOT INTERVAL.
- CONNECT CULINARY WATER AND IRRIGATION TO EXISTING UTILITIES IN 2200 SOUTH STREET AND GLENNA WAY.
- CONNECT SANITARY SEWER PRESSURE LINE TO EXISTING SEWER LINE IN 2200 SOUTH STREET.
- EXISTING CANAL WILL BE PIPED WITH A 36" RCP
- LAND DRAIN SYSTEM WILL BE MAINTAINED BY THE HOA
- IRRIGATION SYSTEM WILL BE DESIGNED BY IRRIGATION COMPANY
- SLOPE OF GRAVITY 8" SANITARY SEWER IS 0.5%
- SLOPE OF GRAVITY 8" LAND DRAIN IS 0.1%



Control Box Plan View

Saddlebred Acres

Weber County, Utah

Legend

- = BOUNDARY LINE
- = LOT LINE
- - - = ADJOINING PROPERTY
- - - = EASEMENTS
- LD = PROPOSED LAND DRAIN LINE
- SS = PROPOSED SANITARY SEWER LINE
- - - EX.SS = EXISTING SANITARY SEWER LINE
- IRR = PROPOSED IRRIGATION WATER LINE
- - - EX.IRR = EXISTING IRRIGATION WATER LINE (SIZE VARIES)
- W = PROPOSED CULINARY WATER LINE (SIZE VARIES)
- - - EX.W = EXISTING CULINARY WATER LINE
- SD = PROPOSED STORM DRAIN (SIZE VARIES)
- - - EX.SD = EXISTING STORM DRAIN
- X = EXISTING FENCE LINE
- = PROPOSED FENCE
- = PROPOSED FIRE HYDRANT
- = EXISTING FIRE HYDRANT
- = PROPOSED SANITARY SEWER MANHOLE
- = STORM DRAIN/SEWER MANHOLE
- = PLUG W/ 2" BLOW-OFF
- = PROPOSED STORM DRAIN/LAND DRAIN MANHOLE
- = PROPOSED SINGLE GRATE CATCH BASIN WITH BICYCLE-SAFE GRATE
- = EXISTING CATCH BASIN
- = AIR-VAC ASSEMBLY
- ▨ = ROAD DEDICATION FOR FUTURE ROAD

Developer:

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970 Woodoak LN.
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REVISIONS

DATE	DESCRIPTION
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Saddlebred Acres
PART OF THE NE 1/4 OF SECTION 28, T.4N., R. 1W., S.1.B & M., U.S. SURVEY
WEBER COUNTY, UTAH

Preliminary Utilities Plan

Project Info.

Engineer: G. Thorson
Designer: C. Cave
Begin Date: JUNE 23, 2016
Name: SADDLEBRED ACRES
Number: 4948-06

REVISION: 10-25-16

Sheet	2
2	Sheets