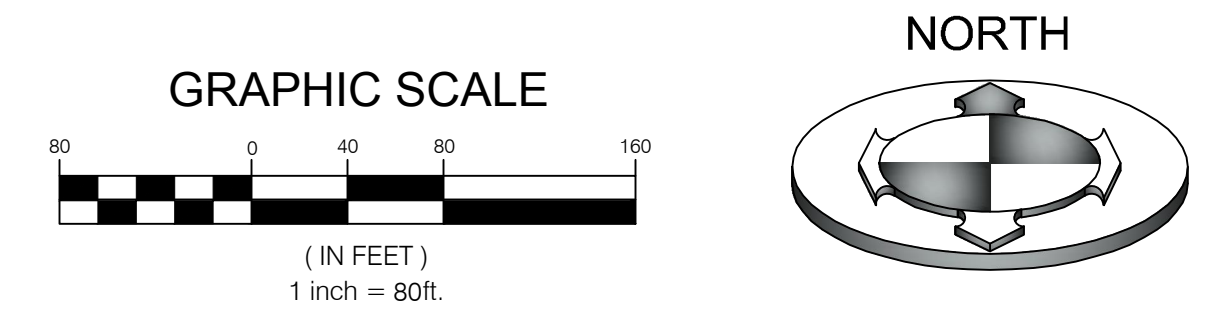
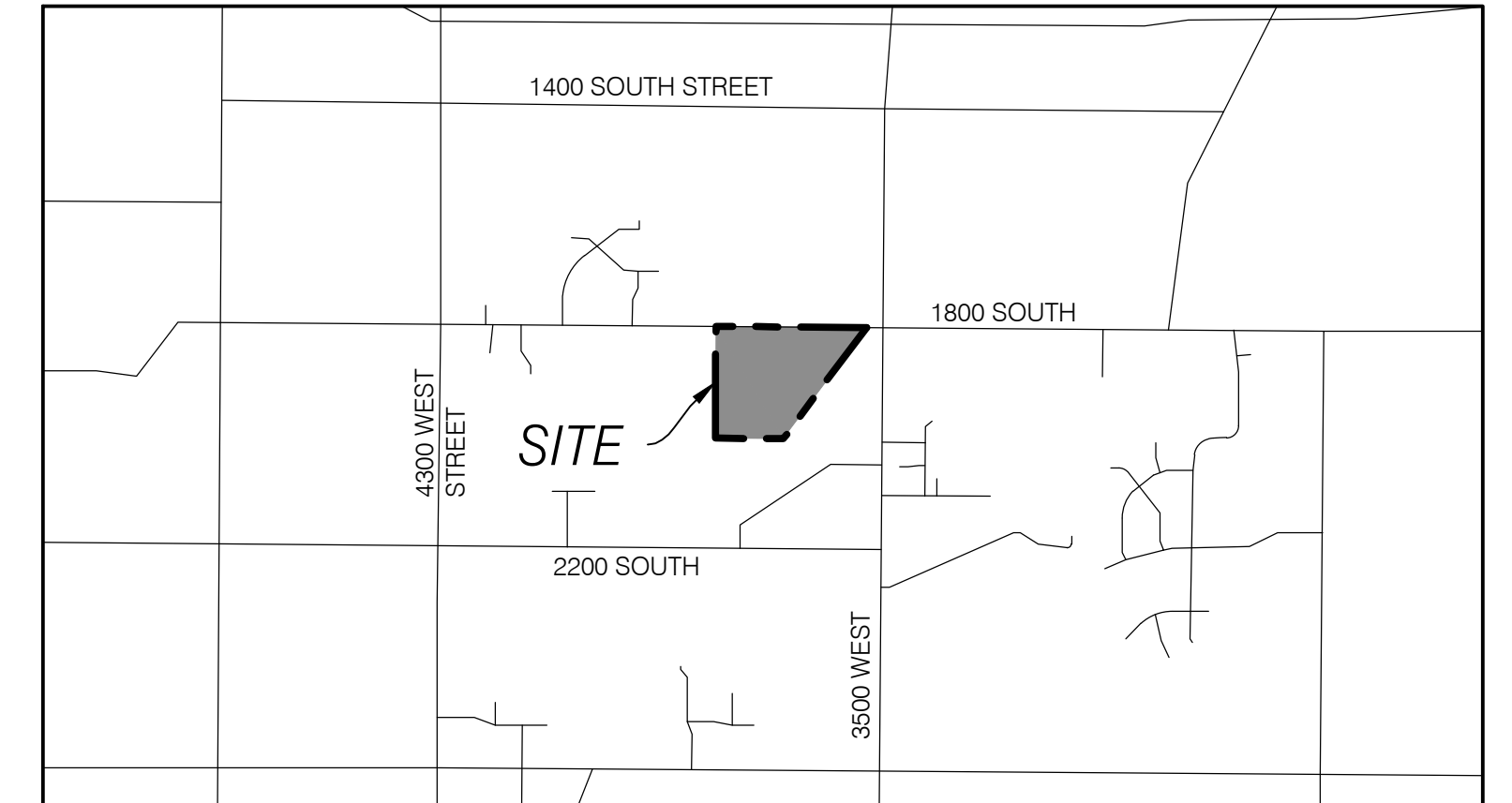
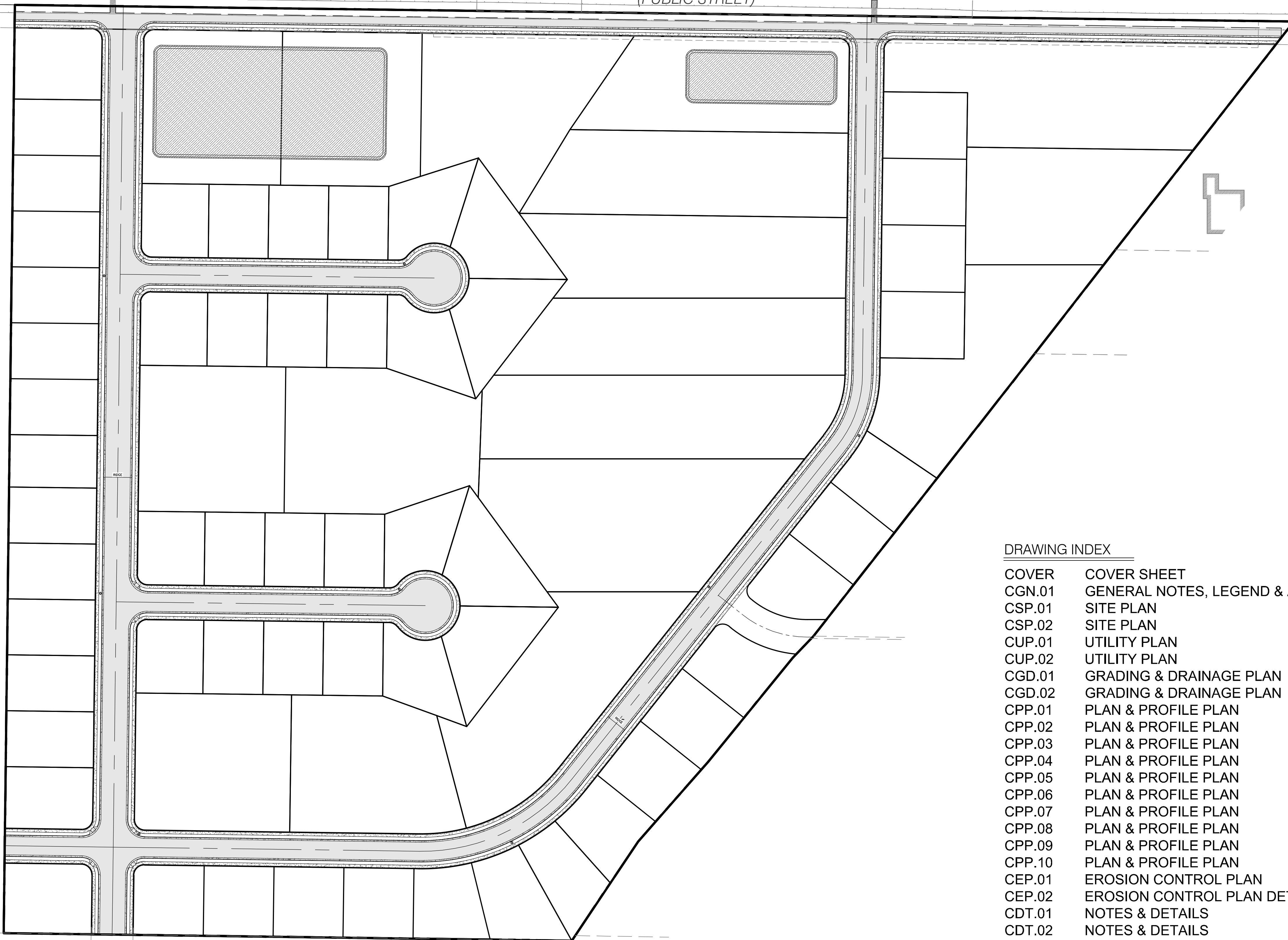


# WINSTON PARK

LOCATED IN THE NORTHEAST QUARTER OF SECTION 28,  
TOWNSHIP 6 NORTH NORTH, RANGE 2 WEST,  
SALT LAKE BASE AND MERIDIAN  
WEBER COUNTY, UTAH  
APRIL 2017



1800 SOUTH  
(PUBLIC STREET)




VICINITY MAP  
N.T.S

OWNER/DEVELOPER:  
RICE ASSET MANAGEMENT, LLC  
JAY RICE  
4968 HOLLADAY PINES COURT  
HOLLADAY, UT 84117  
801-633-3994  
Jrrice2014@gmail.com

## DRAWING INDEX

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CSP.02	SITE PLAN
CUP.01	UTILITY PLAN
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CGD.01	GRADING & DRAINAGE PLAN
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CDT.03	NOTES & DETAILS
CDT.04	NOTES & DETAILS

## CIVIL CONSTRUCTION PLANS

	<b>BENCHMARK ENGINEERING &amp; LAND SURVEYING</b> <small>9130 SOUTH STATE STREET SUITE # 100 SANDY, UTAH 84070 (801) 542-7192 www.benchmarkcivil.com</small>			PROJECT NO: 1607138
	WINSTON PARK 3701 WEST 1800 SOUTH WEST WEBER, UTAH	DRAFT TJB DATE: 06/28/2017	DESIGN DPB DATE: 06/28/2017	CHECK DPH DATE: 06/28/2017
No.	DATE	DESCRIPTION		COVER
				1 OF 24



LINETYPES:

Table with columns NEW and EXISTING. Lists various linetypes for SECTION LINE, PROPERTY LINE, ADJACENT PL. or LOT LINES, RIGHT-OF-WAY LINE, CENTERLINE OF ROAD, EASEMENT LINE, CURB & GUTTER, EDGE OF ASPHALT, FENCE (WALL, STONE, BLOCK, BRICK, CHAIN, IRON, VINYL, WIRE, WOOD), INDEX CONTOUR LINE, INTERMEDIATE CONTOUR LINE, SPOT ELEVATION, SANITARY SEWER LINE, STORM DRAIN LINE, WATER LINE, IRRIGATION LINE, OVERHEAD POWER LINE, UNDERGROUND POWER LINE, GAS LINE, TELEPHONE LINE, CABLE TELEVISION LINE, DRAINAGE / DITCH CENTERLINE, TREE LINE EDGE, FIBER OPTIC LINE, PROPOSED ASPHALT, PROPOSED CONCRETE.

SYMBOLS:

Table with columns NEW and EXISTING. Lists symbols for SECTION CORNER (FOUND), SECTION CORNER (NOT FOUND), STREET MONUMENT (FOUND), STREET MONUMENT (NOT FOUND), BRASS CAP MONUMENT, POWER POLE & OVERHEAD POWER, LIGHT POLE, GUY WIRE, TELEPHONE MANHOLE, SANITARY SEWER MANHOLE, STORM DRAIN MANHOLE, CATCH BASIN, DIRECTION OF DRAINAGE, WATER MANHOLE, WATER METER, FIRE HYDRANT, IRRIGATION VALVE, GAS MANHOLE, TREE.

ABBREVIATIONS

Table with columns BC, COR, CB, DB, EOA, EOC, FFE, FH, FL, GB, GW, HW, IE, LP, L, LIP, M-M, MH, MON, OHP, PC, PI, PP, PT, PUE. Lists abbreviations and their corresponding full names like BAR & CAP, SECTION CORNER, CATCH BASIN, RIGHT-OF-WAY, DELTA ANGLE, EDGE OF ASPHALT, EDGE OF CONCRETE, FINISH FLOOR ELEVATION, FIRE HYDRANT, TOP OF ASPHALT, GRADE BREAK, GUY WIRE, HEAD WALL, INVERT ELEVATION, LENGTH OF CURVE, LIP OF CURB, LOW POINT, MONUMENT TO MONUMENT, MANHOLE, SURVEY MONUMENT, OVERHEAD POWER, POINT OF CURVATURE, POINT OF INTERSECTION, POWER POLE, POINT OF TANGENCY, PUBLIC UTILITY EASEMENT.

CONSTRUCTION NOTES

- 1. RESPONSIBLE DISTRICTS OR AGENCIES AND APPLICABLE STANDARDS... RESPONSIBLE DISTRICT OR AGENCY FOR THE SITE OF WORK.
2. CONTRACTOR AND APPLICABLE SUBCONTRACTORS SHALL ATTEND ALL PRE-CONSTRUCTION CONFERENCES AND PERIODIC PROGRESS MEETINGS... CONTRACTOR SHALL CONTACT RESPONSIBLE DISTRICT OR AGENCY FOR PRE-CONSTRUCTION CONFERENCE.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PUBLIC SAFETY AND OSHA STANDARDS.
4. THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH THE PLANS, THE GEOLOGY REPORTS AND THE SITE CONDITIONS... CONTRACTOR SHALL INSPECT THE SITE OF WORK PRIOR TO BIDDING.
5. ALL WORK SHALL COMPLY WITH THE AMERICAN PUBLIC WORKS ASSOCIATION UTAH CHAPTER (APWA) MANUAL OF STANDARD SPECIFICATIONS 2012 EDITION AND THE MANUAL OF STANDARD SPECIFICATIONS 2012 EDITION SAID STANDARD SPECIFICATIONS AND PLANS SHALL BE SUBSIDIARY TO MORE STRINGENT REQUIREMENTS BY APPLICABLE LOCAL JURISDICTION.
6. THE CONTRACTOR SHALL BE SKILLED AND REGULATORY ENGAGED IN THE GENERAL CLASS AND TYPE OF WORK CALLED FOR IN THE PROJECT PLANS AND SPECIFICATIONS... THE OWNER IS RELYING UPON THE EXPERIENCE AND EXPERTISE OF THE CONTRACTOR.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PERMITS AND LICENSES REQUIRED FOR THE CONSTRUCTION AND COMPLETION OF THE PROJECT... THE CONTRACTOR SHALL ENSURE THAT THE NECESSARY RIGHT-OF-WAY PERMITS ARE SECURED PRIOR TO CONSTRUCTION.
8. CONSTRUCTION STAKING FOR GRADING, CURB, GUTTER, SIDEWALK, SANITARY SEWER, STORM DRAIN, WATER, AND ELECTROLINES SHALL BE DONE BY THE OWNERS SURVEYOR... THE CONTRACTOR SHALL NOTIFY THE SURVEYOR FORTY-EIGHT (48) HOURS IN ADVANCE.
9. IT IS INTENDED THAT THESE PLANS AND SPECIFICATIONS REQUIRE ALL LABOR AND MATERIALS NECESSARY AND PROPER FOR THE WORK... THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY REGARDING ANY DISCREPANCIES OR AMBIGUITIES WHICH MAY EXIST.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADEQUATELY SCHEDULING INSPECTION AND TESTING OF ALL FACILITIES... STANDARD SPECIFICATIONS AND INSPECTION SHALL BE PAID FOR BY THE OWNER.
11. IF EXISTING IMPROVEMENTS NEED TO BE DISTURBED AND/OR REMOVED FOR THE PROPER PLACEMENT OF IMPROVEMENTS... THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING EXISTING IMPROVEMENTS FROM DAMAGE.
12. THE CONTRACTOR SHALL MAINTAIN A NEATLY MARKED SET OF FULL SIZE AS-BUILT RECORD DRAWINGS... THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING EXISTING IMPROVEMENTS FROM DAMAGE.
13. PRIOR TO ACCEPTANCE OF THE PROJECT, THE CONTRACTOR SHALL DELIVER TO ENGINEER ONE SET OF NEATLY MARKED AS-BUILT RECORD DRAWINGS... THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING EXISTING IMPROVEMENTS FROM DAMAGE.
14. CONTRACTOR TO SPACE UTILITIES TO PROVIDE MINIMUM DISTANCES AS REQUIRED BY LOCAL, COUNTY, STATE, AND INDIVIDUAL UTILITY CODES.
15. ALL UTILITIES INSTALLED IN ACCORDANCE WITH THE RESPONSIBLE DISTRICTS OR AGENCIES STANDARDS AND SPECIFICATIONS.
16. COORDINATE ALL SERVICE LATERAL AND BUILDING CONNECTIONS WITH CORRESPONDING ARCHITECTURAL, MECHANICAL OR ELECTRICAL DRAWING FOR LOCATION AND ELEVATION.
17. ALL STORM DRAIN MANHOLES AND CATCH BASINS ARE TO BE PRECAST CONCRETE FROM APPROVED LOCAL MANUFACTURERS UNLESS OTHERWISE NOTED.
18. ALL STORM WATER CONVEYANCE PIPING TO BE RCP - CLASS 3 OR EQUAL UNLESS OTHERWISE NOTED.
19. ALL ELECTRICAL CONDUITS/LINES TO BE PVC SCH 40 OR BETTER.
20. ALL GAS LINES TO BE HDPE WITH COPPER TRACER WIRE AND DETECTA TAPE.
21. ALL GAS LINE TAPS, VALVES AND CAPS TO BE FUSED USING ELECTRO-FUSION TECHNOLOGY.
22. ALL PHONE AND TV CONDUITS TO BE PVC SCH 40 OR BETTER.
23. NO GROUNDWATER OR DEBRIS TO BE ALLOWED TO ENTER THE NEW PIPE DURING CONSTRUCTION.
24. THE CONTRACTOR SHALL PROVIDE ALL SHORING, BRACING, SLOPING OR OTHER PROVISIONS NECESSARY TO PROTECT WORKMEN FOR ALL AREAS TO BE EXCAVATED TO A DEPTH OF 4' OR MORE.
25. PRIOR TO OPENING AN EXCAVATION, EFFORT SHALL BE MADE TO DETERMINE WHETHER UNDERGROUND INSTALLATIONS (I.E. SEWER, WATER, FUEL, ELECTRIC LINES, ETC.) WILL BE ENCOUNTERED.
26. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO INSTALL PIPE OF ADEQUATE CLASSIFICATION WITH SUFFICIENT BEDDING TO MEET ALL REQUIREMENTS AND RECOMMENDATIONS FOR H-20 LOAD REQUIREMENTS.
27. ACTUAL CONNECTIONS TO EXISTING WATER LINES WILL NOT BE PERMITTED PRIOR TO THE COMPLETION OF STERILIZATION AND TESTING OF NEW WATER MAINS.

- 28. ALL UNDERGROUND UTILITIES SHALL BE IN PLACE PRIOR TO INSTALLATION OF CURB, GUTTER, SIDEWALK, AND STREET PAVING.
29. ALL SEWER LINE TO BE FLUSHED, PRESSURE TESTED TO 5 PSI VIDEO INSPECTED AND OTHERWISE TESTED IN ACCORDANCE WITH DISTRICT STANDARDS PRIOR TO PLACING IN SERVICE.
30. ALL SEWER LINES SHOULD BE PVC C-900 SDR-18 AND LATERALS ARE TO BE SDR-35 PVC PIPE.
31. SEWER MANHOLES, LATERALS AND CLEANOUTS TO BE INSTALLED PER RESPONSIBLE DISTRICT OR AGENCY STANDARDS.
32. DURING CONSTRUCTION OF THE SEWERLINE, WEBS NEED NOT BE INSTALLED FOR THE LATERALS.
33. WATERLINES TO BE PVC C-900 WATER LINES SHALL BE A MINIMUM OF 10' HORIZONTALLY FROM SEWER MAINS.
34. ALL WATER LINES SHALL BE 8" MINIMUM SIZE AND SERVICE LATERALS SHALL BE 1-1/2" MINIMUM UNLESS OTHERWISE NOTED.
35. WATER SERVICE LATERALS TO INCLUDE ALL BRASS SADDLE, COPR STOP LATERAL, DOUBLE CHECK VALVE AND BACKFLOW PREVENTION DEVICE.
36. ALL WATERLINES SHALL BE 48" BELOW FINISH GRADE TO TOP OF PIPE.
37. CONTRACTOR TO NOTIFY WATERPRO FOR CHLORINE TEST PRIOR TO FLUSHING LINES.
38. BOTTOM FLANGE OF FIRE HYDRANTS TO BE TO APPROXIMATELY 4 INCHES ABOVE BACK OF CURB ELEVATION.
39. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL UTILITIES SHOWN OR NOT SHOWN.
40. PRIOR TO COMMENCING ANY WORK, IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO HAVE EACH UTILITY COMPANY LOCATE, IN THE FIELD, THEIR MAIN AND SERVICE LINES.
41. ALL UTILITY MANHOLE RIMS, CATCH BASIN GRATES AND VALVE BOX COVERS ARE TO BE ADJUSTED TO FIT THE FINISHED GRADE OF THE SITE.
42. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO ASSURE THAT ALL PIPES, WALLS, ETC. ARE ADEQUATELY BRACED DURING CONSTRUCTION.
43. CONTRACTOR SHALL PERFORM EARTHWORK IN ACCORDANCE WITH APWA 2012 STANDARD DRAWINGS AND STANDARD SPECIFICATIONS.
44. THE CONTRACTOR SHALL REMOVE ALL VEGETATION AND DELETERIOUS MATERIALS FROM THE SITE UNLESS NOTED OTHERWISE.
45. SUBSOIL INVESTIGATIONS HAVE BEEN CONDUCTED AT THE SITE OF THE WORK.
46. ALL PROPOSED ELEVATIONS SHOWN ON THE GRADING PLAN ARE TO FINISHED SURFACE.
47. IF AT ANY TIME DURING CONSTRUCTION ANY UNFAVORABLE GEOLOGICAL CONDITIONS ARE ENCOUNTERED, WORK IN THAT AREA WILL STOP UNTIL APPROVED CORRECTIVE MEASURES ARE OBTAINED FROM THE ENGINEER.
48. UNSUITABLE MATERIAL, SUCH AS TOP SOIL, WEATHERED BED ROCK, ETC. SHALL BE REMOVED AS REQUIRED BY THE SOILS ENGINEER.
49. NO TREES SHALL BE REMOVED OR DAMAGED WITHOUT SPECIFIC WRITTEN AUTHORIZATION FROM PROPERTY OWNER.
50. THE EXISTING TOPOGRAPHY ON THESE PLANS IS BASED ON A TOPOGRAPHIC SURVEY PERFORMED BY BENCHMARK ENGINEERING AND LAND SURVEYING.
51. FILLS IN EXCESS OF 4 FEET IN THICKNESS AND BENEATH ALL FOUNDATIONS OR PAVEMENT SECTIONS SHALL BE COMPACTED TO 95 PERCENT OF THE MAXIMUM DRY DENSITY AS DETERMINED BY THE ASTM D-1557 COMPACTION CRITERIA.
52. COMPACTION TESTING WILL BE ACCOMPLISHED BY THE CONTRACTOR.
53. CONTRACTOR TO SUBMIT PROCTOR AND/OR MARSHALL TEST DATA 24 HOURS PRIOR TO TEST.
54. STRAIGHT GRADE SHALL BE MAINTAINED BETWEEN CONTOUR LINES AND SPOT ELEVATIONS UNLESS OTHERWISE SHOWN ON PLANS.
55. ALL SLOPES ADJOINING STREETS, DRAINAGE CHANNELS, OR OTHER FACILITIES SHALL BE GRADED NO STEEPER THAN 2:1 TO 1 FOR CUT AND FILL.
56. GRADES WITHIN ASPHALT PARKING AREAS SHALL BE CONSTRUCTED TO WITHIN 0.10 FEET OF THE DESIGN GRADE.
57. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING HIS OWN ESTIMATE OF EARTHWORK QUANTITIES.
58. WHERE NEW CURB AND GUTTER IS BEING CONSTRUCTED ADJACENT TO EXISTING ASPHALT OR CONCRETE PAVEMENT, THE FOLLOWING SHALL APPLY:
59. SITE WORK SHALL MEET OR EXCEED OWNERS SITE SPECIFICATIONS.

- 60. ALL CONCRETE TO HAVE A MINIMUM OF 28 DAY COMPRESSION STRENGTH OF 4000 PSI.
61. CUT SLOPES SHALL BE NO STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL.
62. FILL SLOPES SHALL BE NO STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL.
63. APPROVED PROTECTIVE MEASURES AND TEMPORARY DRAINAGE PROVISIONS MUST BE USED TO PROTECT ADJOINING PROPERTIES DURING THE GRADING PROJECT.
64. THE CONTRACTOR SHALL FURNISH, INSTALL, OPERATE AND MAINTAIN ALL MACHINERY, APPLIANCES AND EQUIPMENT TO MAINTAIN ALL EXCAVATIONS FREE FROM WATER DURING CONSTRUCTION.
65. THE CONTRACTOR SHALL CONTROL SURFACE WATER TO PREVENT ENTRY INTO EXCAVATIONS.
66. SLUMPS SHALL BE NO DEEPER THAN 5 FEET AND SHALL BE AT THE LOW POINT OF EXCAVATION.
67. THE CONTROL OF GROUNDWATER SHALL BE SUCH THAT SOFTENING OF THE BOTTOM OF EXCAVATIONS, OR FORMATION OF 'SOUCS' CONDITIONS OR 'SOUCS' DOES NOT OCCUR.
68. ONE HUNDRED PERCENT STANDBY PUMPING CAPACITY SHALL BE AVAILABLE ON SITE AT ALL TIMES.
69. THE CONTRACTOR SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR THE JOB SITE CONDITIONS.
70. CONTRACTOR SHALL INSTALL EROSION CONTROLS (SILT FENCES, STRAW BALES, ETC.) AS REQUIRED BY REGULATORY AGENCIES.
71. THE CONTRACTOR AGREES THAT:
72. FOR ALL WORK WITHIN PUBLIC RIGHTS-OF-WAY OR EASEMENTS, THE CONTRACTOR SHALL PRESERVE THE INTEGRITY AND LOCATION OF ANY AND ALL PUBLIC UTILITIES.
73. SUBGRADE PREPARATION: SUBGRADE SHALL BE COMPACTED TO A 95% RELATIVE COMPACTION.
74. AGGREGATE SUB-BASE: AGGREGATE SUB-BASE SHALL BE GRANULAR BACKFILL BORROW.
75. AGGREGATE BASE: AGGREGATE BASE SHALL BE GRADE 3/4 UNTREATED BASE COURSE.
76. ALL MANHOLE RIMS, LAMPHOLES, VALVES AND MONUMENT BOXES, ETC. SHALL BE ADJUSTED TO FINISH GRADE.
77. ALL SIDEWALKS AND CROSSINGS TO MEET CURRENT ADA STANDARDS/ APWA STANDARDS.
78. PAYMENT FOR PAVEMENT WILL BE MADE ONLY FOR AREAS SHOWN ON PLANS.
79. INSTALLATION OF STREET LIGHTS SHALL BE IN ACCORDANCE WITH CITY STANDARDS.
80. PRIOR TO FINAL ACCEPTANCE OF THE IMPROVEMENTS BUILT BY THESE PLANS AND SPECIFICATIONS THE CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE WITH THE OWNER, CITY, AND POWER COMPANY TO HAVE THE ELECTRICAL SYSTEM AND ALL STREET LIGHTS ENERGIZED.
81. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL STRIPS AND/OR PAVEMENT MARKINGS NECESSARY TO THE EXISTING STRIPING INTO FUTURE STRIPING.
82. STRIPING AND PAVEMENT MARKINGS SHALL BE IN CONFORMANCE WITH MUTCD & APWA 32 17 23.
83. DURING THE BIDDING PROCESS, CONTRACTOR TO REVIEW DESIGN SLOPES SHOWN FOR PAVEMENT AND WARRANTY THE PAVEMENT TO THE OWNER BASED UPON THE DESIGN SLOPES SHOWN HEREON.
84. IT IS THE INTENT ON THESE PLANS THAT ALL PAVEMENT SLOPE TO A CATCH BASIN, INLET BOX OR OUT INTO A STREET/CONTRACTOR TO VERIFY FINISH SPOT ELEVATIONS AND NOTIFY ENGINEER IF THERE ARE DISCREPANCIES THAT WOULD CAUSE PUDDLING ON THE SITE.

NOTE:
IN THE EVENT THAT THE CONSTRUCTION NOTES CONFLICT WITH RESPONSIBLE DISTRICT OR AGENCY STANDARDS NOTES AND SPECIFICATIONS, THE DISTRICT OR AGENCY STANDARD NOTES AND SPECIFICATIONS GOVERN.

CAUTION NOTICE TO CONTRACTORS
THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS ARE BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD.
THE CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT.

Table with columns NO., DATE, DESCRIPTION, QUANTITY, UNIT. Includes project information: PROJECT NO. 1607138, DATE 8/28/17, DESCRIPTION SURVEY, QUANTITY 1, UNIT SURVEY.

Professional Engineer seal for M. CHRIS POULSEN, No. 10360773, State of Utah.

Benchmark Engineering & Land Surveying & Civil logo and address: 9130 SOUTH STATE STREET SUITE # 100, SANDY, UTAH 84071.

WINSTON PARK
3908 W 1800 S
WEBER COUNTY, UTAH

GEN. NOTES LEGEND & ABBREV.
CGN.01
2 OF 24

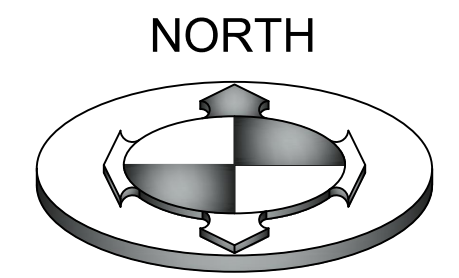
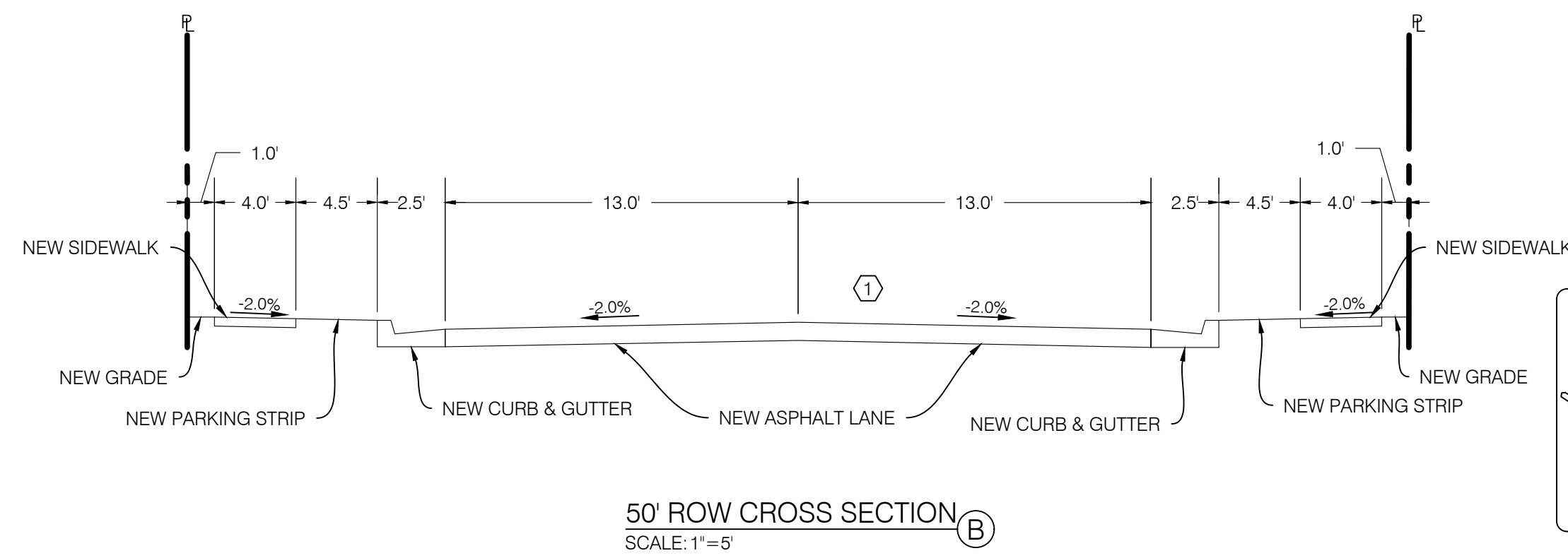
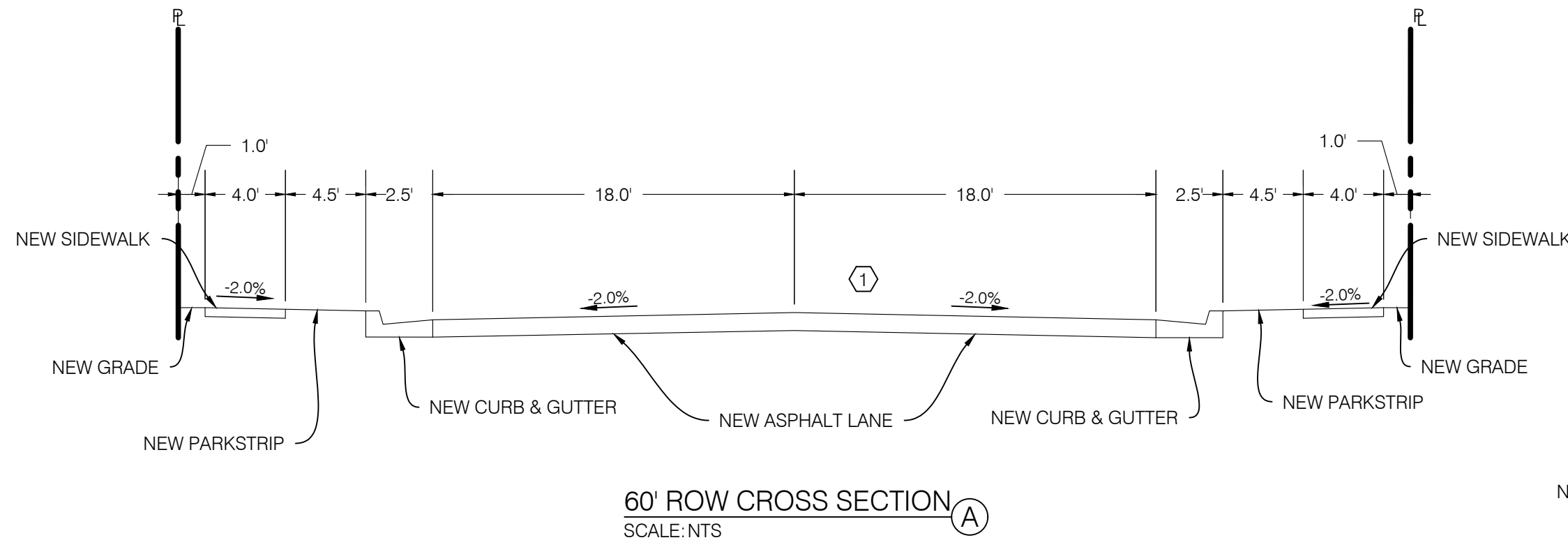


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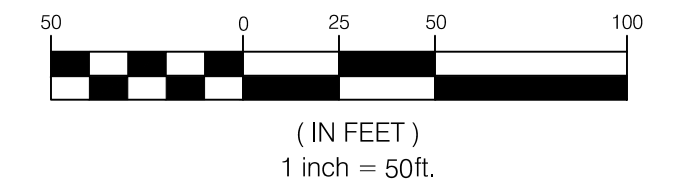
BONUS DENSITY TABLE		
OVERALL AREA (S.F.)	1,693,711	
R.O.W. AREA	236,527	
MAXIMUM 40,000 S.F. LOTS	36	
APPLICABLE ITEMS	% DENSITY BONUS	ADDITIONAL LOTS
a. CLUSTER	10	3.6
b. ROADWAY LANDSCAPE/DESIGN	20	7.2
g. AGRICULTURE	15	5.4
i. SEWER CAPACITY	5	1.8
TOTAL BONUS	50	18
TOTAL PROPOSED LOTS	54	

AREA TABLE		
PARTICULARS	S.F.	%
AREA OF LOTS	578,504	34.2
R.O.W.	236,527	14.0
OPEN SPACE	878,680	51.8
TOTAL	1,693,711	100
AVERAGE LOT AREA = 10,571 S.F.		

CONSTRUCTION KEY NOTES REFERENCE		
NO	DESCRIPTION	DETAIL
①	ASPHALT PAVEMENT WITH GRANULAR BASE	1/CDT.01
②	CONCRETE CURB AND GUTTER PER WEBER COUNTY PUBLIC STDS. SHEET 4	2/CDT.01
③	SIDEWALK PER WEBER COUNTY PUBLIC STDS. SHEET 4	2/CDT.01
④	ADA RAMP WITH TRUNCATED DOME DETECTABLE WARNING SURFACE (GRAY)	1/CDT.02



GRAPHIC SCALE



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NO.	DATE	DESCRIPTION

PROJECT NO. 1607138

ISSUE THESE PLANS ONLY ON FULL SIZE SHEETS  
ADJUST ACCORDINGLY FOR REDUCED SIZE SHEETS

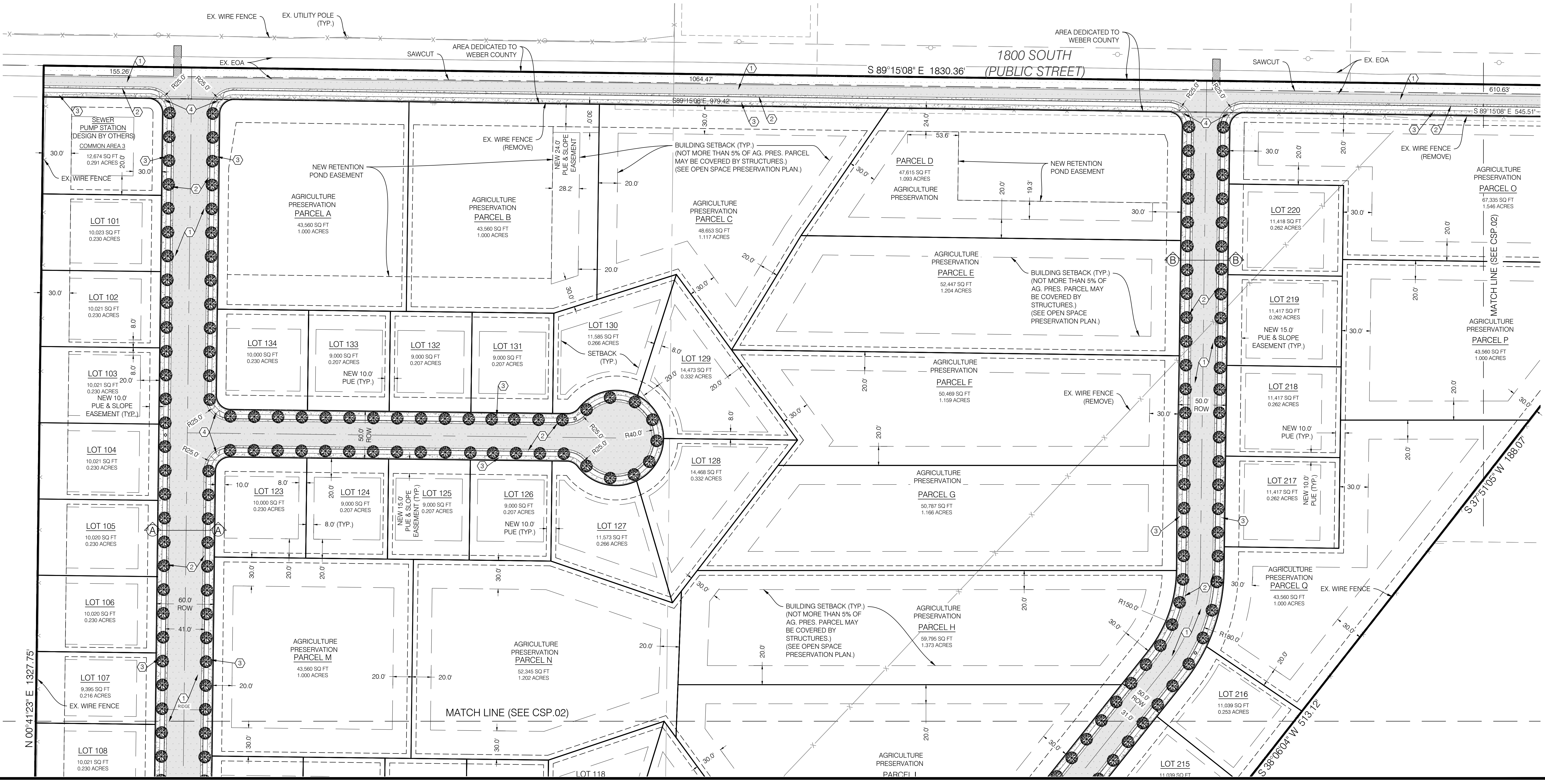
PROFESSIONAL ENGINEER  
8/28/17  
No. 10360773  
M. CHRIS  
POULSEN  
Sandy, Utah 84070 (801) 542-7192  
www.benchmarkcivil.com

**BENCHMARK CIVIL**

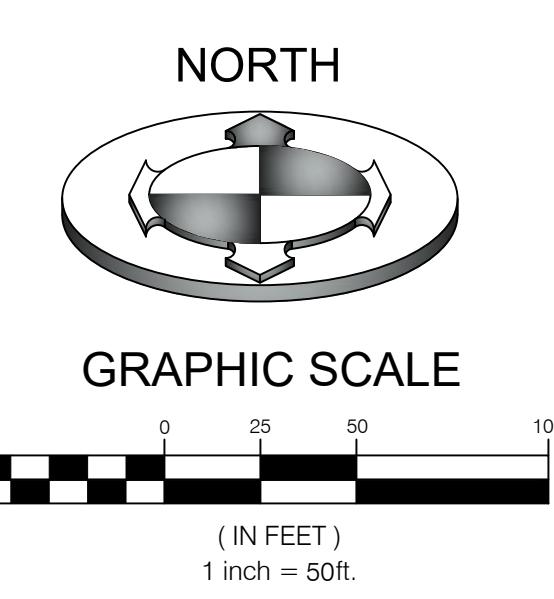
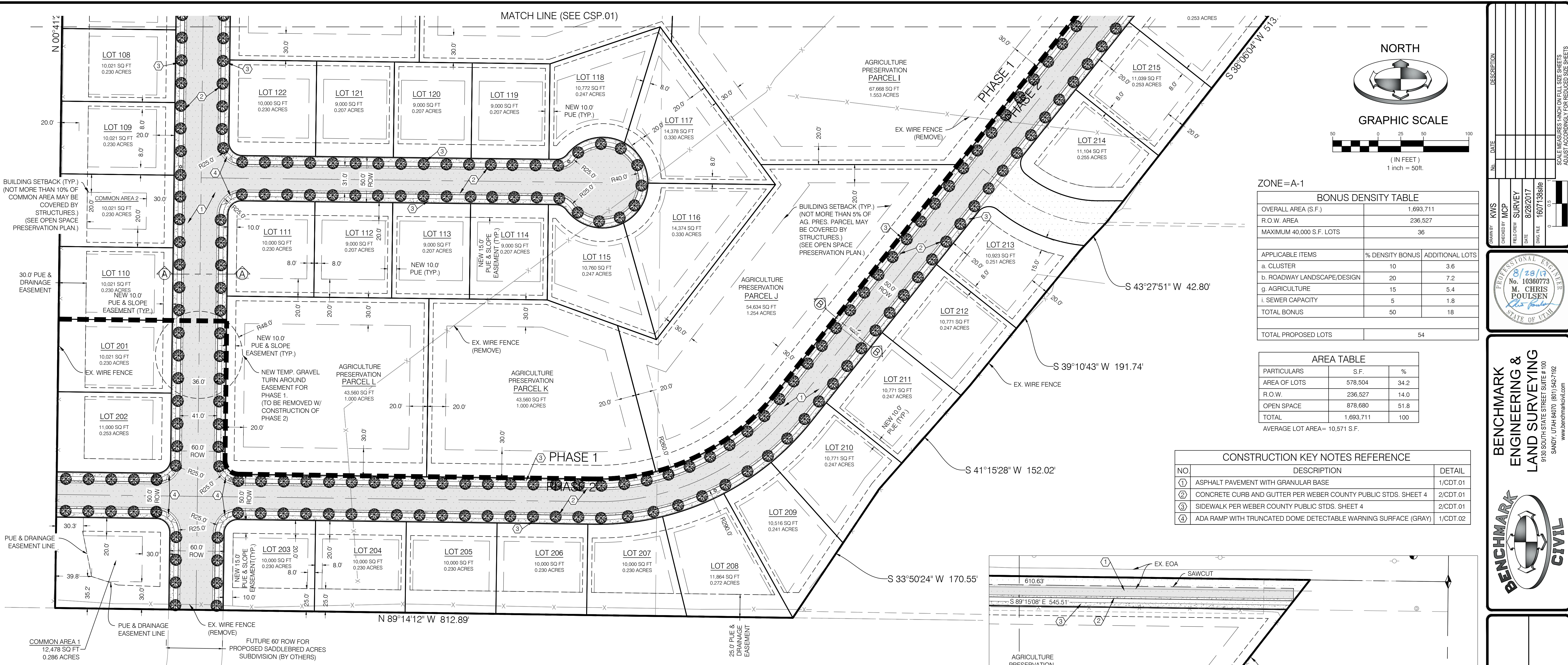
BENCHMARK  
ENGINEERING &  
LAND SURVEYING

WINSTON PARK  
3908 W 1800 S  
WEBER COUNTY, UTAH

SITE PLAN  
CSP.01  
3 OF 24





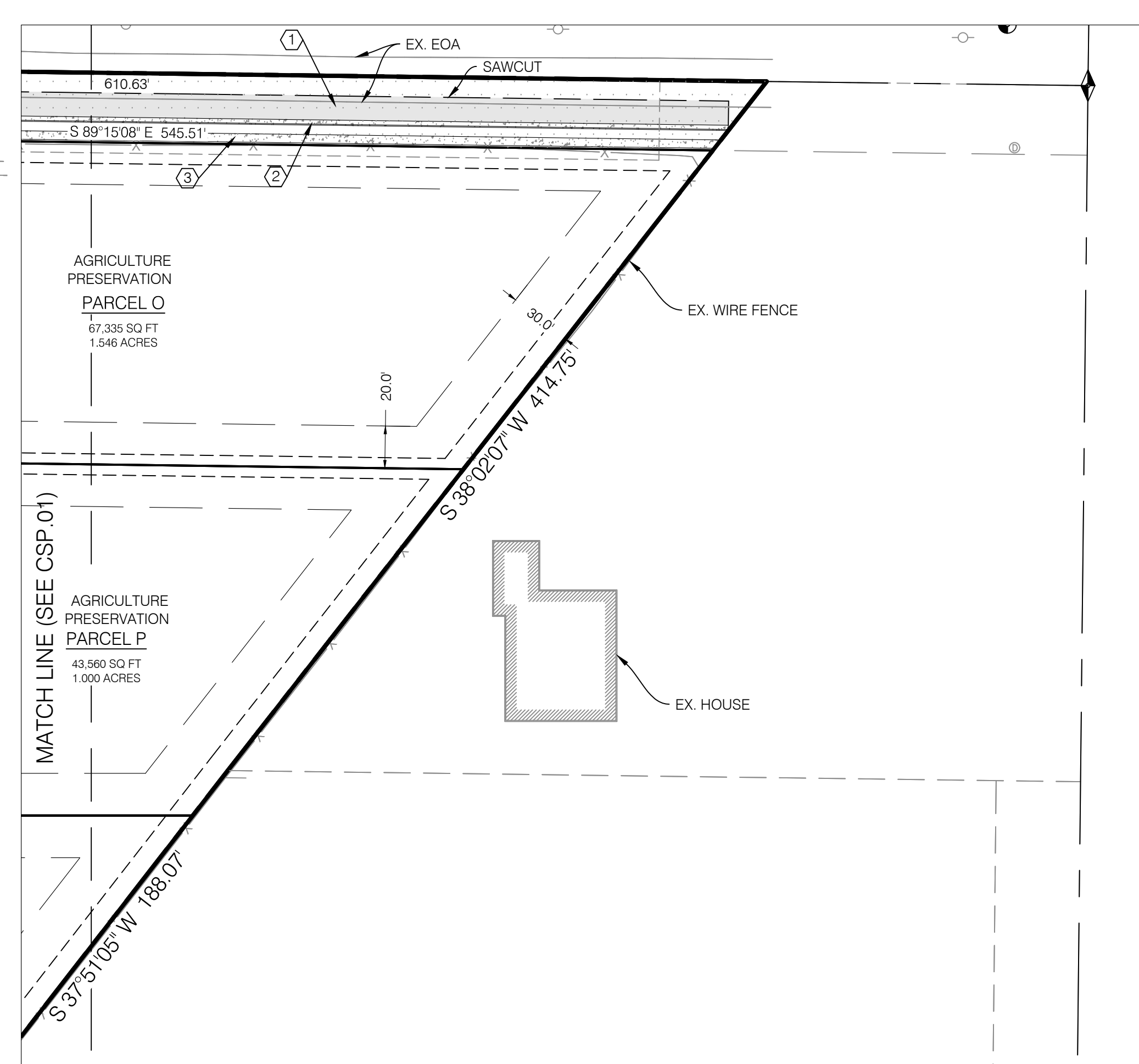
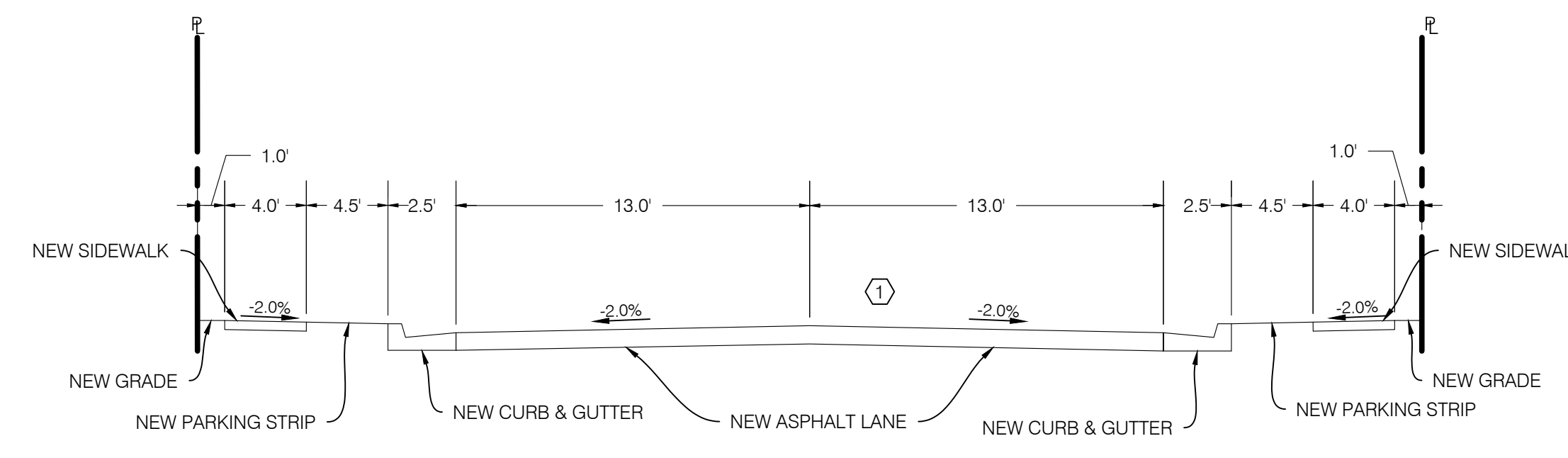
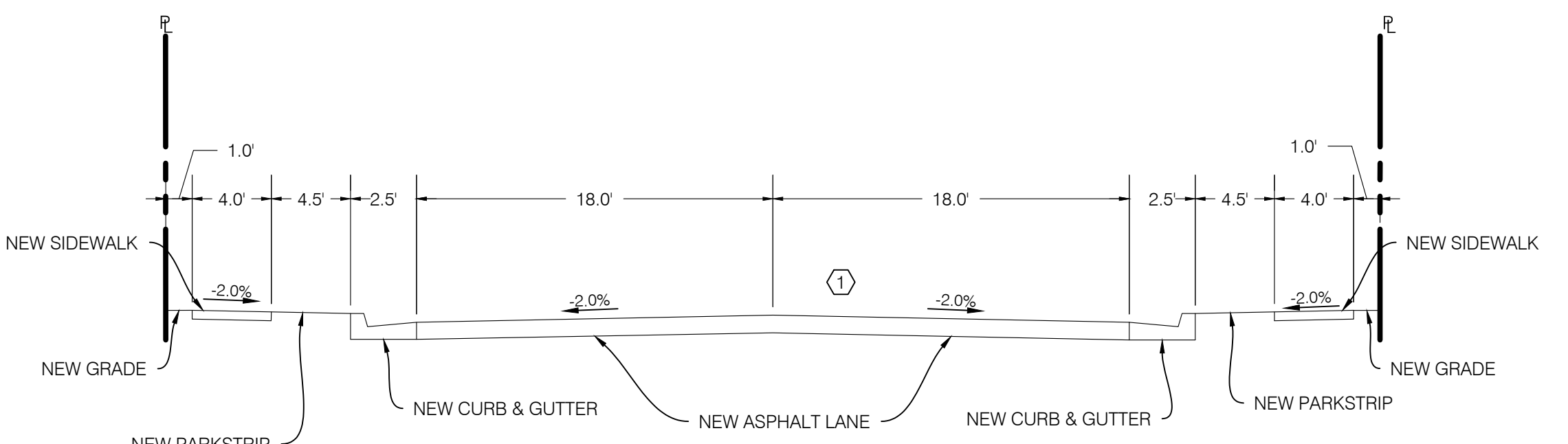


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②	CONCRETE CURB AND GUTTER PER WEBER COUNTY PUBLIC STDS. SHEET 4	2/CDT.01
③	SIDEWALK PER WEBER COUNTY PUBLIC STDS. SHEET 4	2/CDT.01
④	ADA RAMP WITH TRUNCATED DOME DETECTABLE WARNING SURFACE (GRAY)	1/CDT.02



PROJECT NO. 1607138  
 SITE PLAN  
 CSP.02  
 4 OF 24

**BENCHMARK CIVIL**  
 BENCHMARK ENGINEERING & LAND SURVEYING  
 PROFESSIONAL ENGINEER  
 No. 10360773  
 M. CHRIS POULSEN  
 9130 SOUTH STATE STREET SUITE # 100  
 SANDY, UTAH 84070 (801) 542-7192  
 www.benchmarkcivil.com

WINSTON PARK  
 3908 W 1800 S  
 WEBER COUNTY, UTAH

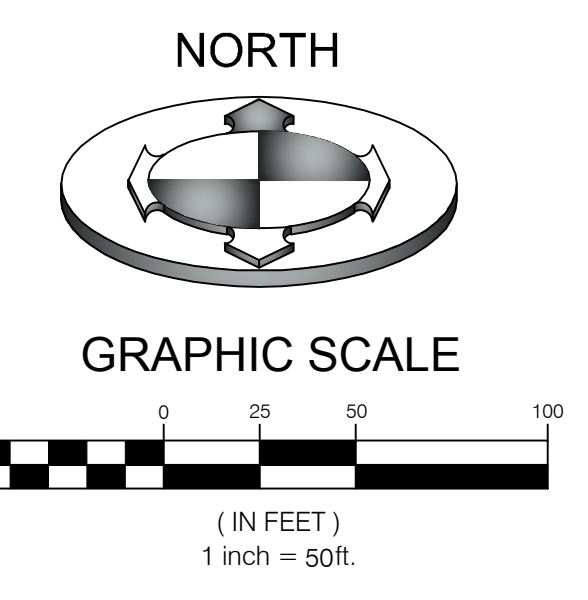
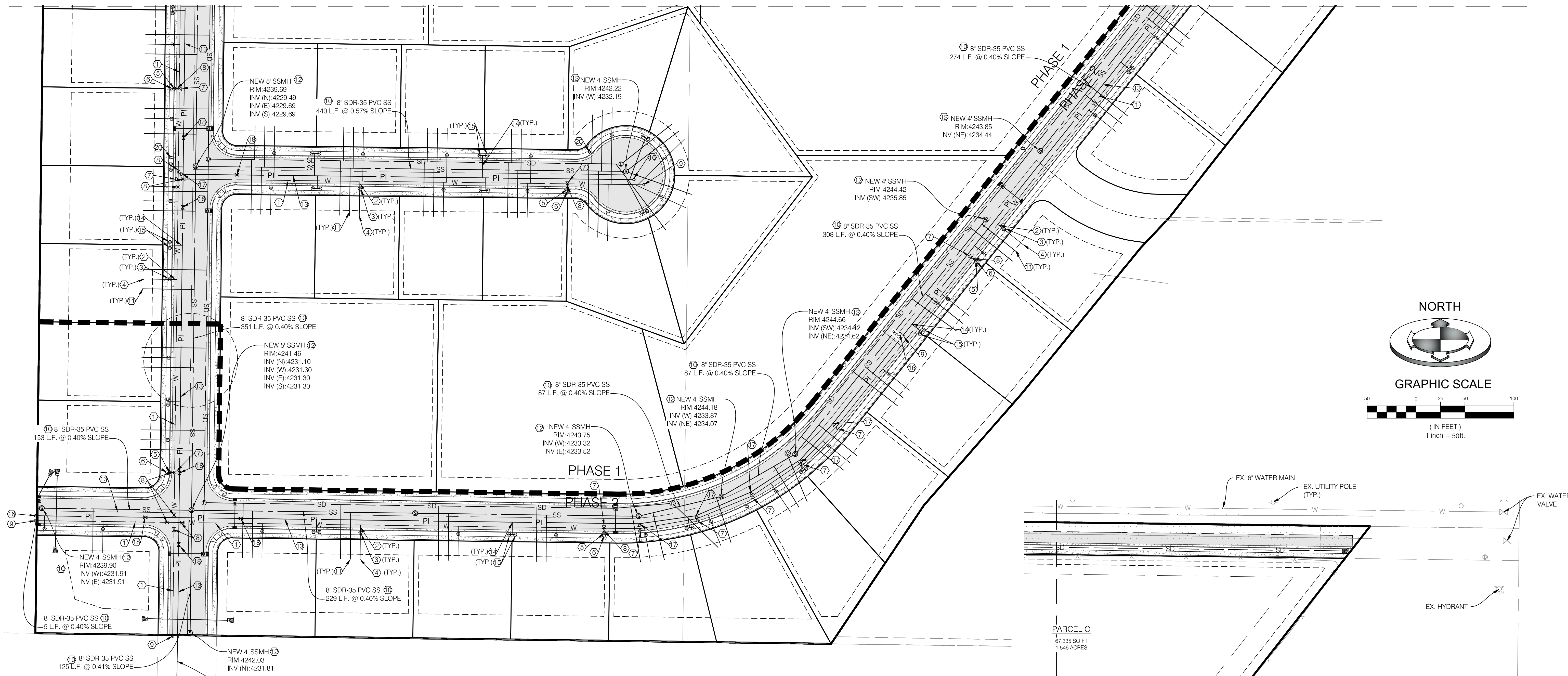
PREPARED BY: KVS  
 CHECKED BY: MCP  
 SURVEY FILE NO.: 1607138/016  
 DATE: 9/28/2017  
 PLOT FILE: 1607138/016







MATCH LINE (SEE CUP.01)



CONSTRUCTION KEY NOTES REFERENCE		
NO.	DESCRIPTION	DETAIL
①	8" PVC C-900 CULINARY WATER MAIN	
②	3/4" TYPE K COPPER WATER SERVICE LINE	
③	3/4" WATER METER PER WEBER COUNTY ENGINEERING STDS.	3/CDT.01
④	3/4" POLY WATER SERVICE LINE	
⑤	6" PVC C-900 FIRELINE	
⑥	FIRE HYDRANT PER WEBER COUNTY ENGINEERING STDS.	3/CDT.01
⑦	THRUST BLOCK PER WEBER COUNTY ENGINEERING STDS.	3/CDT.01
⑧	GATE VALVE PER WEBER COUNTY ENGINEERING STDS.	
⑨	BLOW OFF VALVE PER TAYLOR-WEST WEBER WATER ID STDS.	
⑩	8" PVC SDR-35 SEWER MAIN PER WEBER COUNTY ENGINEERING STDS.	
⑪	4" PVC SDR-35 SEWER LATERAL (2.0% MIN. SLOPE)	2/CDT.03
⑫	4" SSMH PER WEBER COUNTY ENGINEERING STDS.	1/CDT.03
⑬	8" PVC C-900 SECONDARY WATER LINE PER HOOPER IRRIGATION COMPANY STDS.	
⑭	2" POLY SECONDARY WATER LINE PER HOOPER IRRIGATION COMPANY STDS.	
⑮	SECONDARY WATER VALVE ASSEMBLY PER HOOPER IRRIGATION COMPANY STDS.	2/CDT.02
⑯	COMBINATION AIR VAC PER HOOPER IRRIGATION COMPANY STDS.	1/CDT.04
⑰	THRUST BLOCK PER HOOPER IRRIGATION COMPANY STDS.	2/CDT.04
⑱	GATE VALVE PER HOOPER IRRIGATION COMPANY STDS.	5/CDT.01
⑲	5" SSMH PER WEBER COUNTY ENGINEERING STDS.	1/CDT.03
⑳	STREETLIGHT PER WEBER COUNTY STDS.	

NOTE:  
PRIOR TO FABRICATION OR CONSTRUCTION, CONTRACTOR IS TO BEGIN AT THE LOW END OF ALL GRAVITY UTILITY LINES AND VERIFY THE INVERT ELEVATION OF THE POINT OF CONNECTION AND NOTIFY ENGINEER IF THIS POINT IS HIGHER THAN SHOWN ON THE PLANS FOR A REDESIGN.

NOTE:  
CONTRACTOR IS RESPONSIBLE FOR POTHOLING TO IDENTIFY ANY CONFLICTS BEFORE ANY PIPE INSTALLATION. CONTACT ENGINEER IF ANY CONFLICTS ARE IDENTIFIED.

PROFESSIONAL ENGINEER  
8/28/17  
No. 10360773  
M. CHRIS POULSEN  
STATE OF UTAH

SCALE MEASURED FROM FULL SIZE SHEETS  
AS NOTED OTHERWISE FOR REDUCED SIZE SHEETS

PROJECT NO. 1607138

DATE 8/28/2017

DESIGNED BY MCP

DRAWN BY SURVEY

FILE NO. 1607138/IB

DESCRIPTION

**BENCHMARK ENGINEERING & LAND SURVEYING**

930 SOUTH STATE STREET SUITE #100  
SANDY, UTAH 84070 (801) 542-7192  
www.benchmarkcivil.com

**BENCHMARK CIVIL**

**WINSTON PARK**

3908 W 1800 S

WEBER COUNTY, UTAH

UTILITY PLAN

CUP.02

6 OF 24

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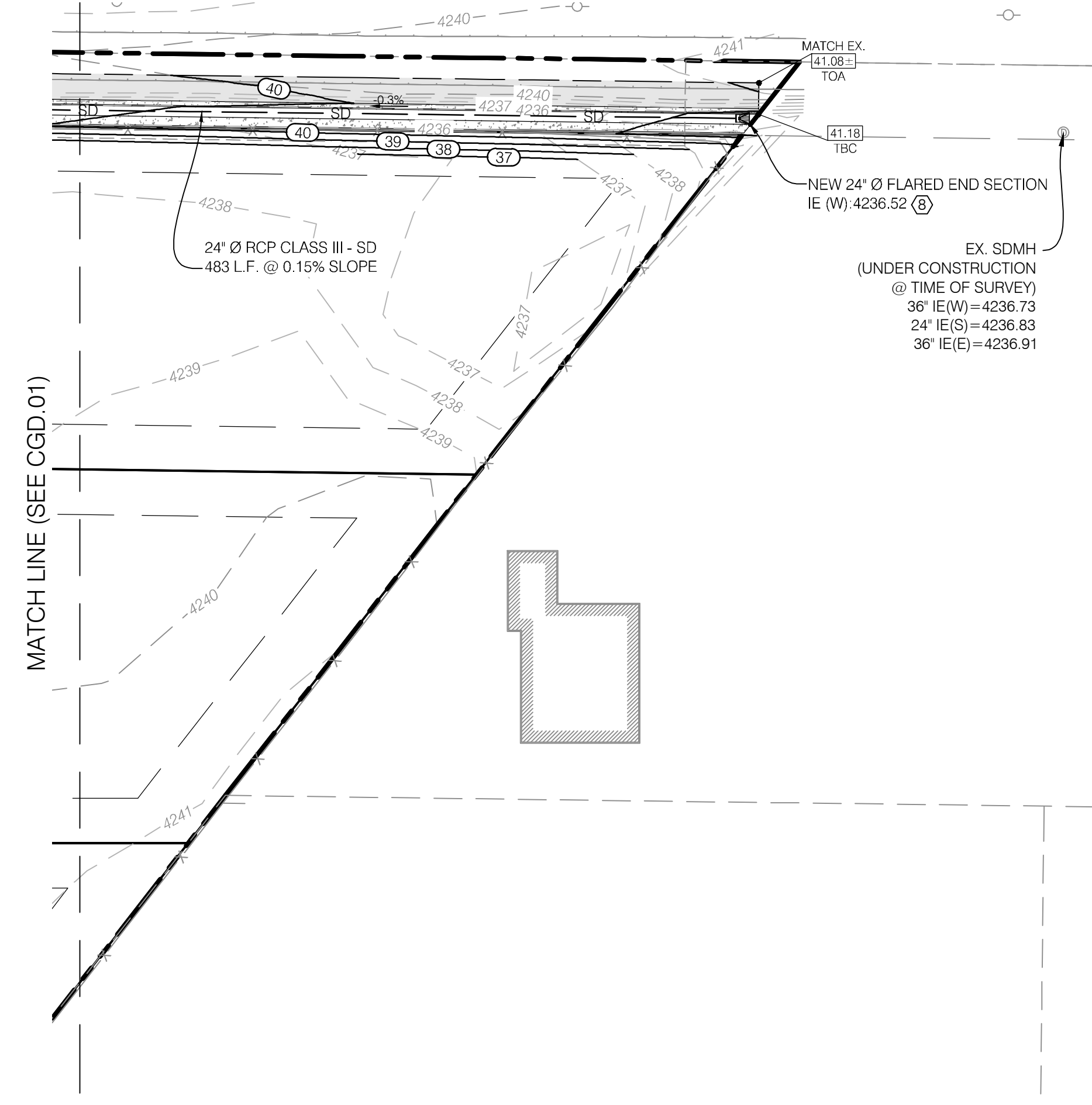
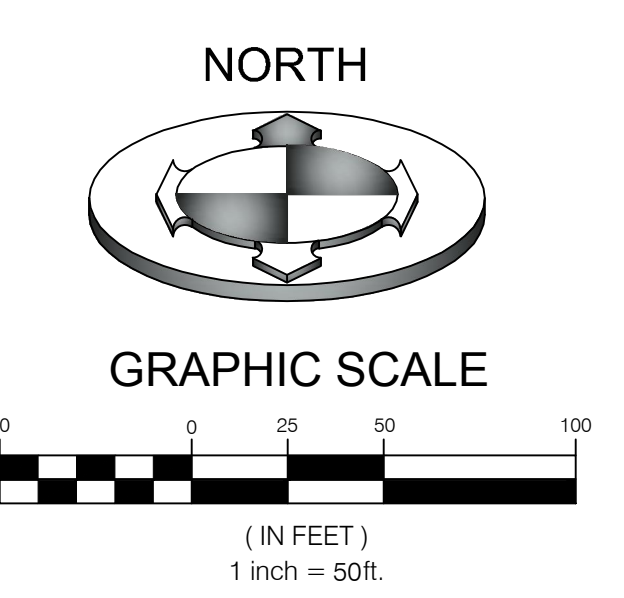
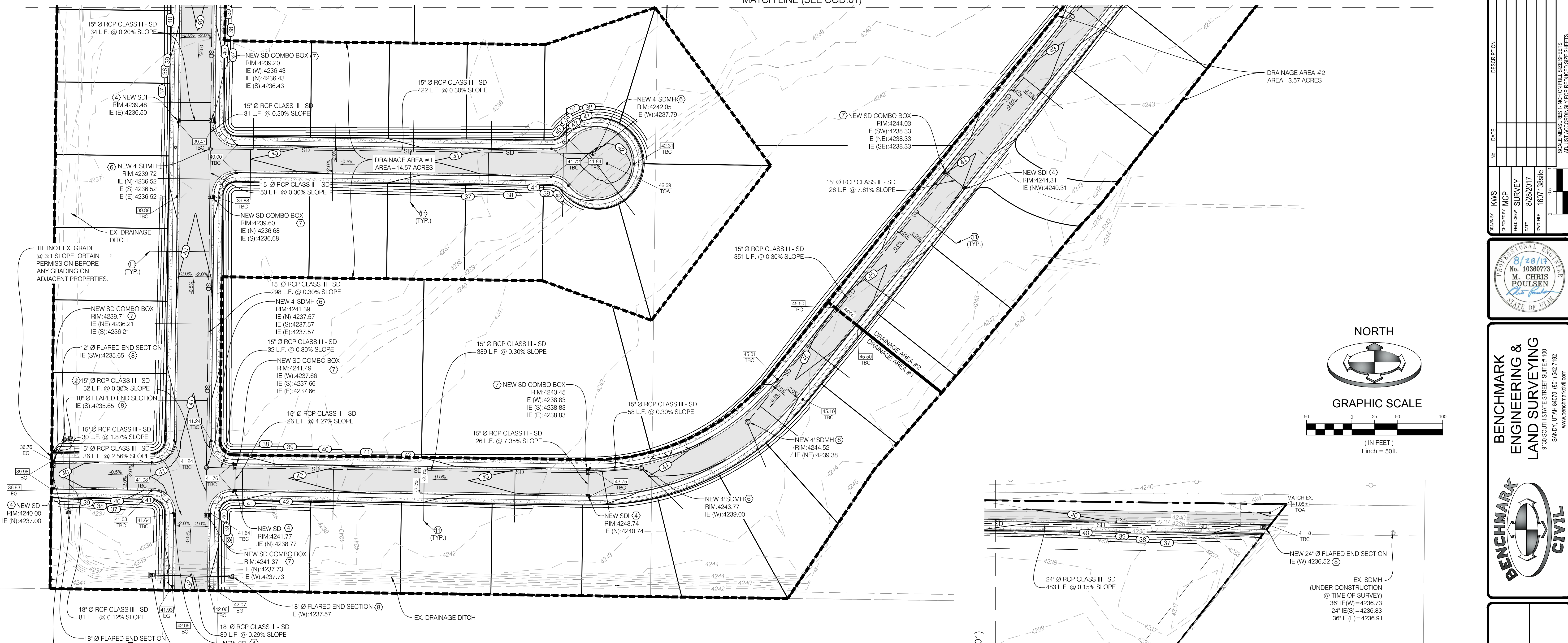
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GRADING AND DRAINAGE KEY NOTES REFERENCE		
NO	DESCRIPTION	DETAIL
1	GRADE SITE TO ELEVATIONS SHOWN ON PLAN	
2	7.5" ORIFICE PLATE (SEE DETAIL 'A')	5A/CDT.04
3	3.8" ORIFICE PLATE (SEE DETAIL 'B')	5B/CDT.04
4	STORM DRAIN INLET BOX	4/CDT.01
5	5X5' SDCO W/ BAFFLE (SEE DETAIL 'A')	6A/CDT.04
6	STORM DRAIN CLEANOUT	4/CDT.01
7	STORM DRAIN COMBO BOX	3/CDT.04
8	FLARED END SECTION	4/CDT.04
9	REVERSED STORM DRAIN COMBO BOX	
10	SNOUT	3/CDT.03
11	4" PVC FOUNDATION DRAIN LATERAL PER WEBER COUNTY ENGINEERING STDS. (0.5% MIN. SLOPE)	
12	4X4' SDCO W/ BAFFLE (SEE DETAIL 'B')	6B/CDT.04

NOTE:  
CONTRACTOR IS RESPONSIBLE FOR POT-HOLING TO IDENTIFY ANY CONFLICTS BEFORE ANY PIPE INSTALLATION. CONTACT ENGINEER IF ANY CONFLICTS ARE IDENTIFIED.

NOTE:  
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### STORM DRAINAGE CALCULATIONS DRAINAGE AREA #1 Rational Method (Q=CIA)

Area Identification (A)	Rational Coefficient (C)	C*A
*Roof = 117,500	0.9	105750 S.F.
**Pavement = 161,425	0.9	145283 S.F.
Landscaping = 355,828	0.2	71166 S.F.
<b>Sum:</b>		<b>322198 S.F.</b>

NOAA ATLAS 14 (100 YEAR STORM)					Allowable Discharge = 10cfs/acre	
Time (min)	Intensity (in/hr)	Rainfall (inches)	Rainfall Excess (cu.ft.)	Allowed Discharge (cu.ft.)	Volume to Detain (cu.ft.)	
15	4.56	1.140	30609	1311	29297	
30	3.07	1.535	41215	2623	38592	
60	1.90	1.900	51015	5246	45769	
120	1.09	2.180	58533	10492	<b>48041</b>	
180	0.75	2.250	60412	15738	44674	
360	0.41	2.484	66695	31475	35220	
720	0.25	3.048	81838	62951	18888	
1440	0.14	3.432	92149	125901	0	

\* Assumed 2,500 sq. ft. per home  
\*\* Assumed 400 sq. ft. per driveway

Detention Calculations  
**Pond Volume**  
Pond 1 Civil 3D = **50,741 cf**

Is there adequate storage?      Storage Provided = **50,741 cf**  
Req. Storage = **48,041 cf**      **YES**

### STORM DRAINAGE CALCULATIONS DRAINAGE AREA #2 Rational Method (Q=CIA)

Area Identification (A)	Rational Coefficient (C)	C*A
*Roof = 22,500	0.9	20250 S.F.
**Pavement = 47,439	0.9	42695 S.F.
Landscaping = 85,633	0.2	17127 S.F.
<b>Sum:</b>		<b>80072 S.F.</b>

NOAA ATLAS 14 (100 YEAR STORM)					Allowable Discharge = 10cfs/acre	
Time (min)	Intensity (in/hr)	Rainfall (inches)	Rainfall Excess (cu.ft.)	Allowed Discharge (cu.ft.)	Volume to Detain (cu.ft.)	
15	4.56	1.140	7607	321	7285	
30	3.07	1.535	10243	643	9600	
60	1.90	1.900	12678	1286	11392	
120	1.09	2.180	14546	2571	<b>11975</b>	
180	0.75	2.250	15013	3857	11156	
360	0.41	2.484	16575	7714	8861	
720	0.25	3.048	20338	15429	4910	
1440	0.14	3.432	22901	30857	0	

\* Assumed 2,500 sq. ft. per home  
\*\* Assumed 400 sq. ft. per driveway

Detention Calculations  
**Pond Volume**  
Pond 1 Civil 3D = **14,765 cf**

Is there adequate storage?      Storage Provided = **14,765 cf**  
Req. Storage = **11,975 cf**      **YES**

Orifice Design:  
The storm runoff will be detained at 0.1 cfs/acre

$$Q = C_d A_o \sqrt{2gh}$$

Total acreage of development: 14.57 acres  
Allowable discharge: 0.1 cfs/acre  
Max head: 0.93 ft  
**Design diameter for new orifice: 7.5 inch**

Orifice Design:  
The storm runoff will be detained at 0.1 cfs/acre

$$Q = C_d A_o \sqrt{2gh}$$

Total acreage of development: 3.57 acres  
Allowable discharge: 0.1 cfs/acre  
Max head: 0.86 ft  
**Design diameter for new orifice: 3.8 inch**

BENCHMARK:  
WEBER COUNTY BENCHMARK 62121-2-5217  
SURVEY BENCHMARK  
ELEVATION NGVD 88 = 4241.87  
(FOUND 3" BRASS CAP SET IN 6" CONCRETE POST. SET IN 1954 BY BUREAU OF RECLAMATION. GOOD CONDITION)

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PROJECT NO. 1607138

DATE: 8/28/17

DESIGNED BY: MCP

DRAWN BY: SURVEY

DATE: 8/28/2017

SCALE: MEASURED FROM FULL SIZE SHEETS AS SHOWN ACCORDING TO POSTED SIZE SHEETS

PROFESSIONAL ENGINEER  
No. 10360773  
M. CHRIS POULSEN  
STATE OF UTAH

BENCHMARK  
ENGINEERING &  
LAND SURVEYING  
930 SOUTH STATE STREET SUITE #100  
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WEBER COUNTY, UTAH

PROJECT NO. 1607138

CGD.02  
8 OF 24

GRADING &  
DRAINAGE  
PLAN

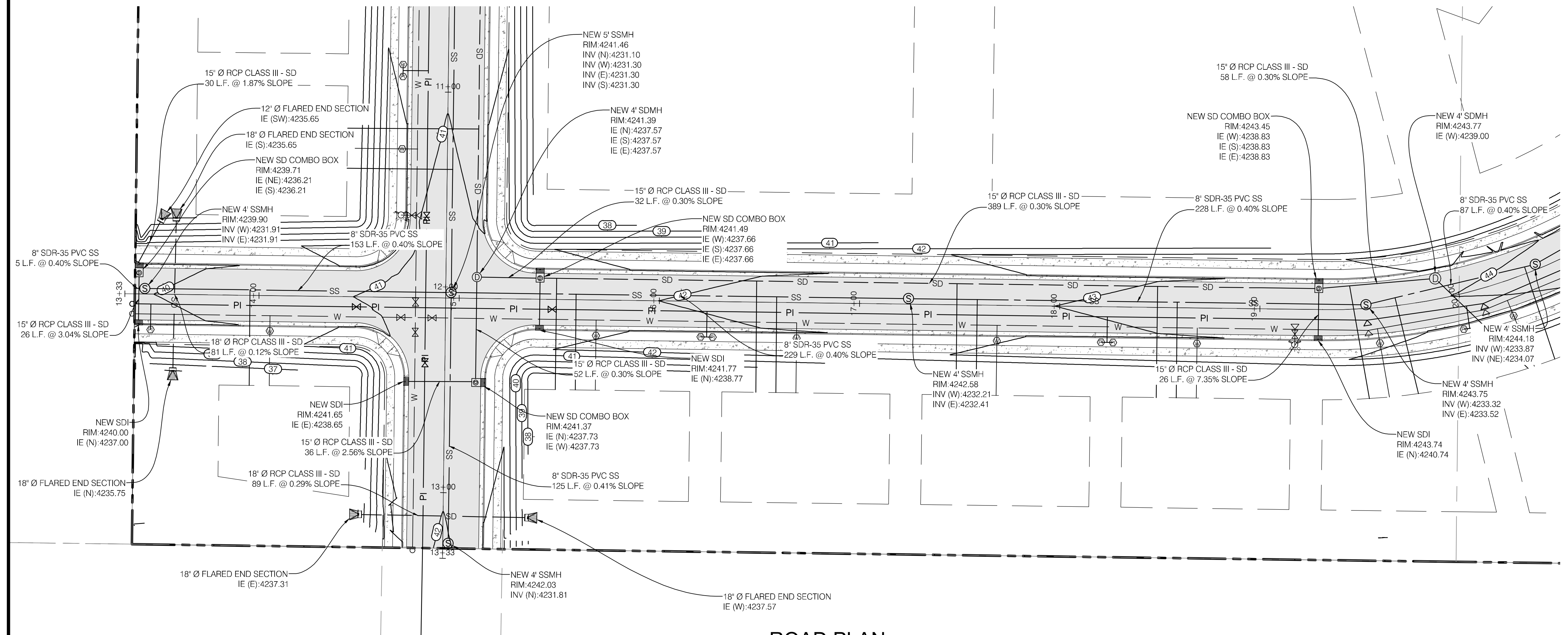
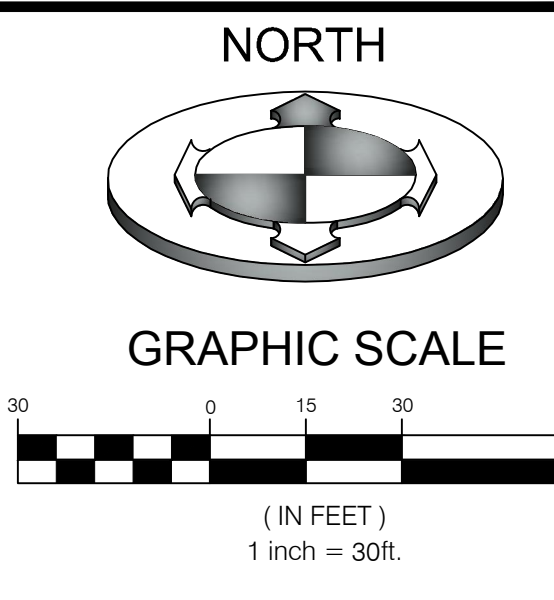




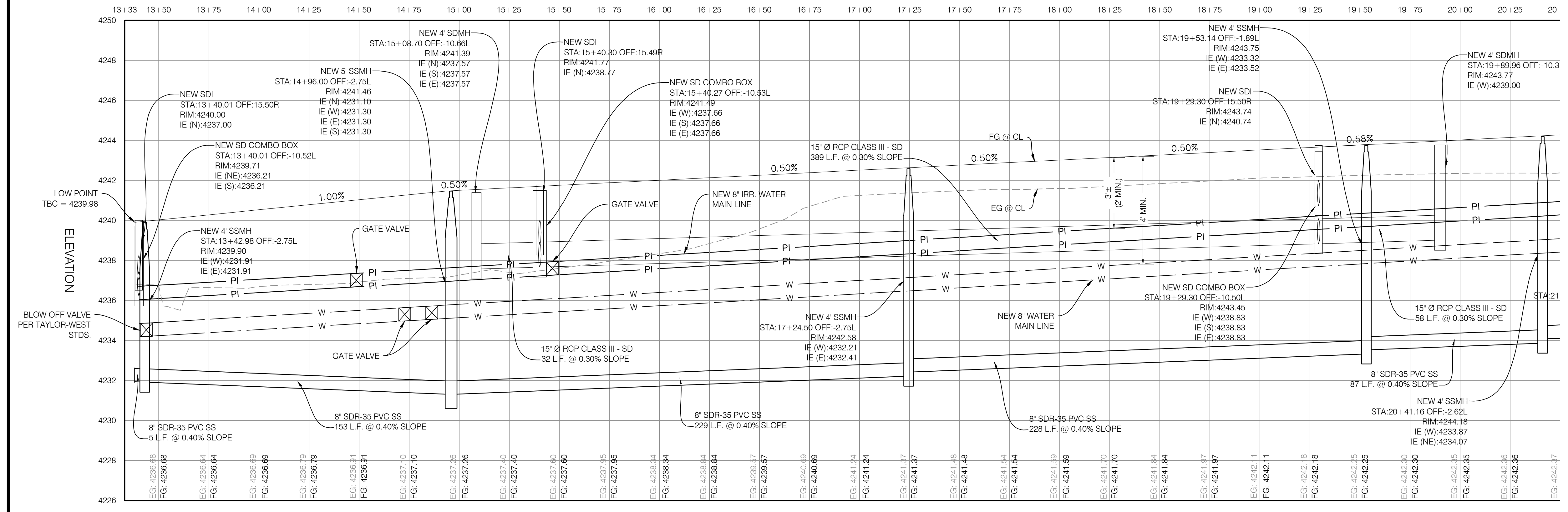




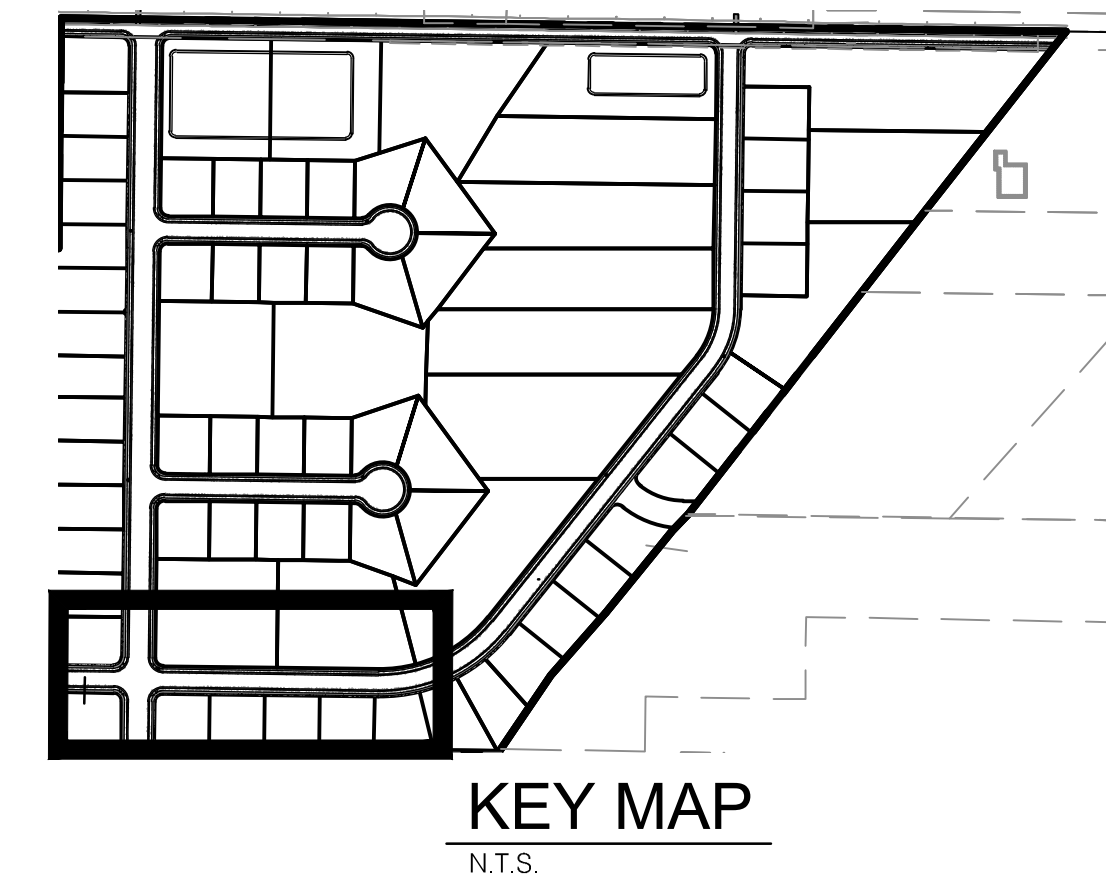




ROAD PLAN



ROAD PROFILE



NO.	DATE	DESCRIPTION

DESIGNED BY: KVIS  
 CHECKED BY: MCP  
 SURVEY FIELD/DRAWN DATE: 8/28/2017  
 DATE: 8/28/2017  
 DRAWN FILE: 1607138.rvt

SCALE: MEASUREMENTS SHOWN ON FULL SIZE SHEETS MUST ACCORD TO AS NOTED ON THESE SHEETS

PROFESSIONAL ENGINEER  
 8/28/17  
 No. 10360773  
 M. CHRIS POULSEN  
 State of Utah

BENCHMARK ENGINEERING & LAND SURVEYING  
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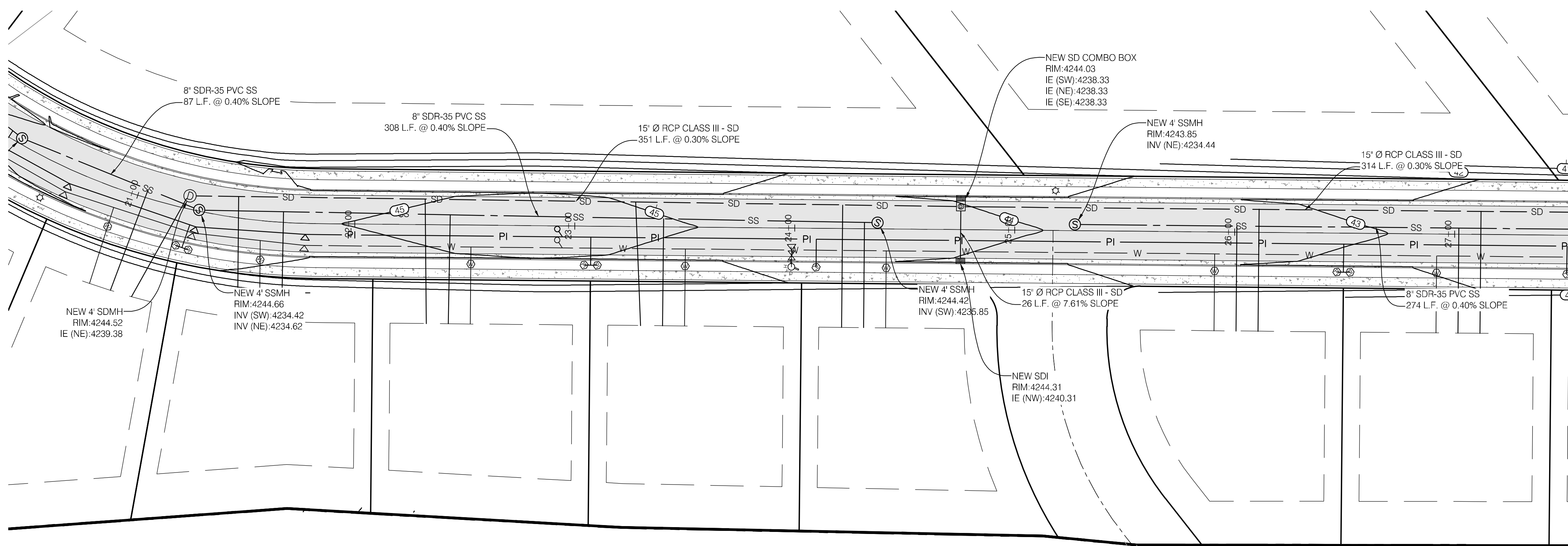
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 3908 W 1800 S  
 WEBER COUNTY, UTAH

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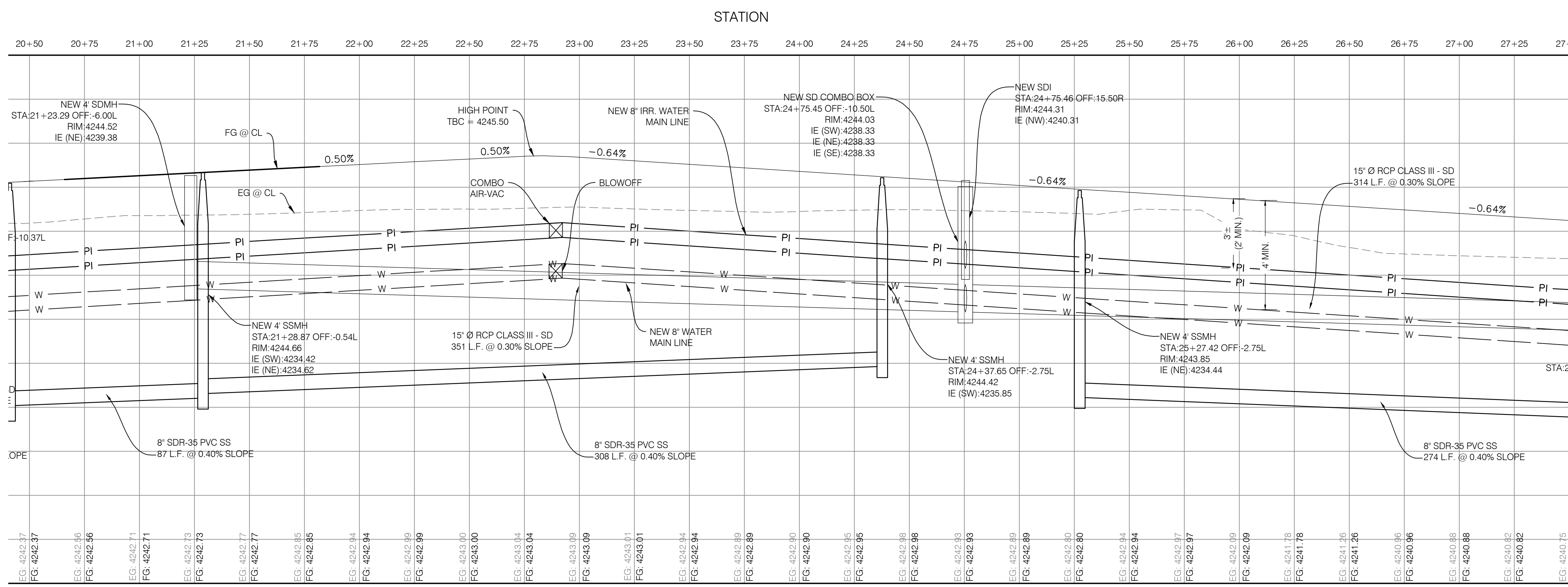
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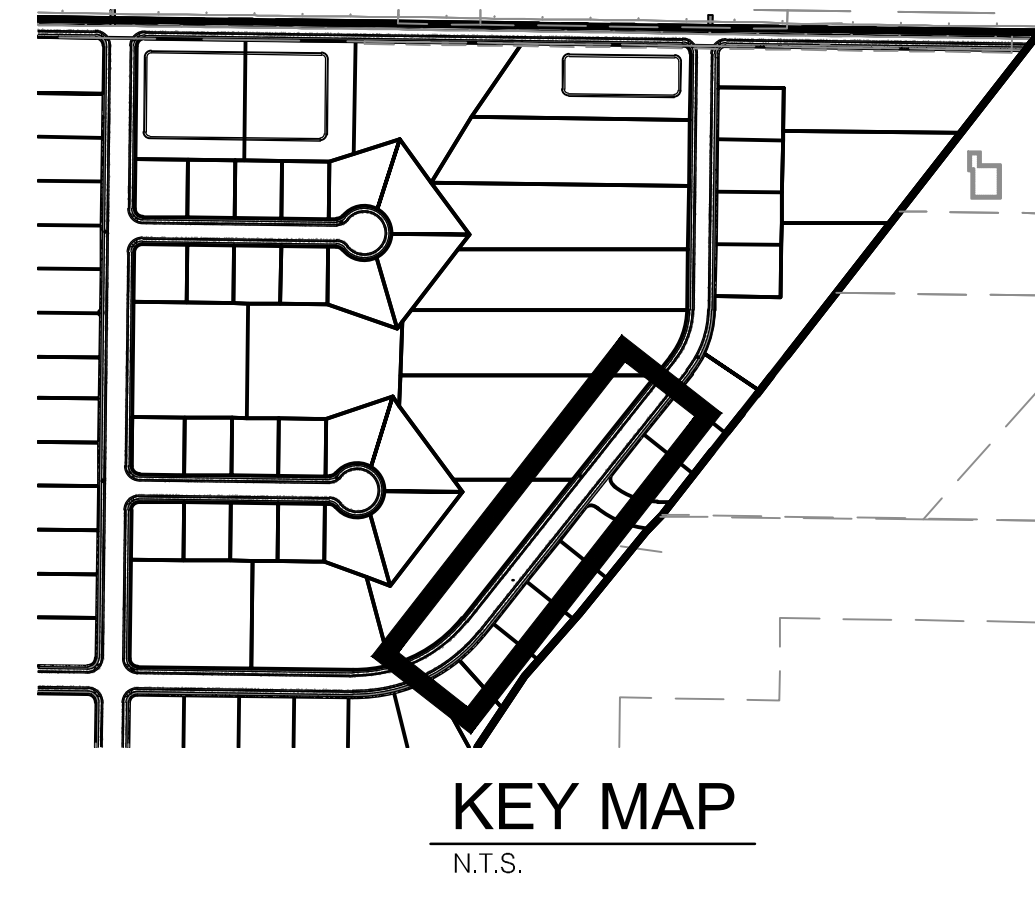
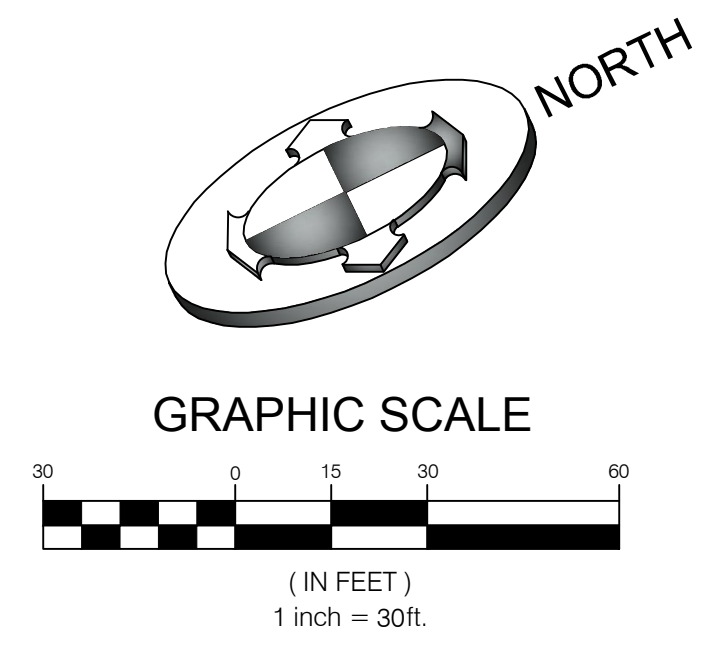




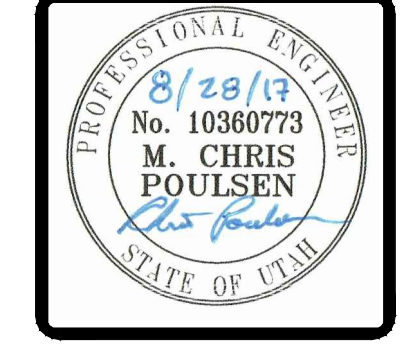
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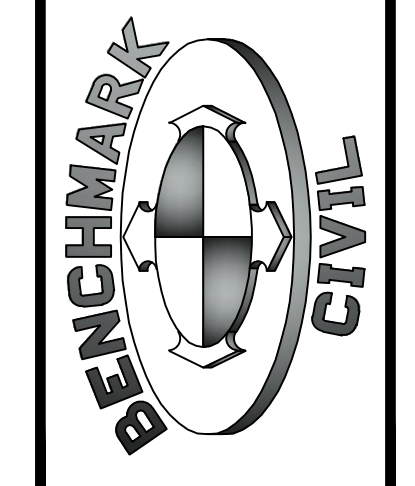
ROAD PROFILE



PROJECT NO.	1607138
DATE	8/28/17
DESIGNER	MCP
DRAWN BY	SS
CHECKED BY	SS
DATE	8/28/17
SCALE	AS SHOWN
PROJECT	WINSTON PARK
DATE	8/28/17
SCALE	AS SHOWN
PROJECT	WINSTON PARK



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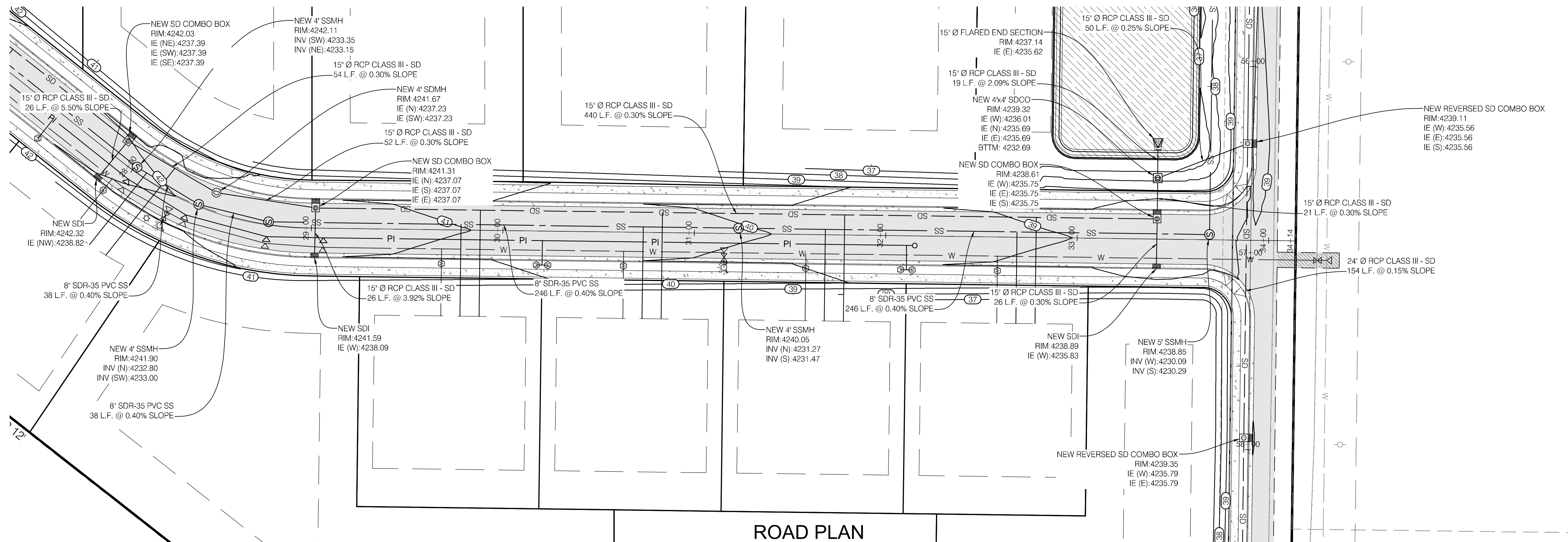
**WINSTON PARK**  
 3908 W 1800 S  
 WEBER COUNTY, UTAH

PROJECT NO. 1607138  
**PLAN & PROFILE**  
 CPP.04  
 12 OF 24

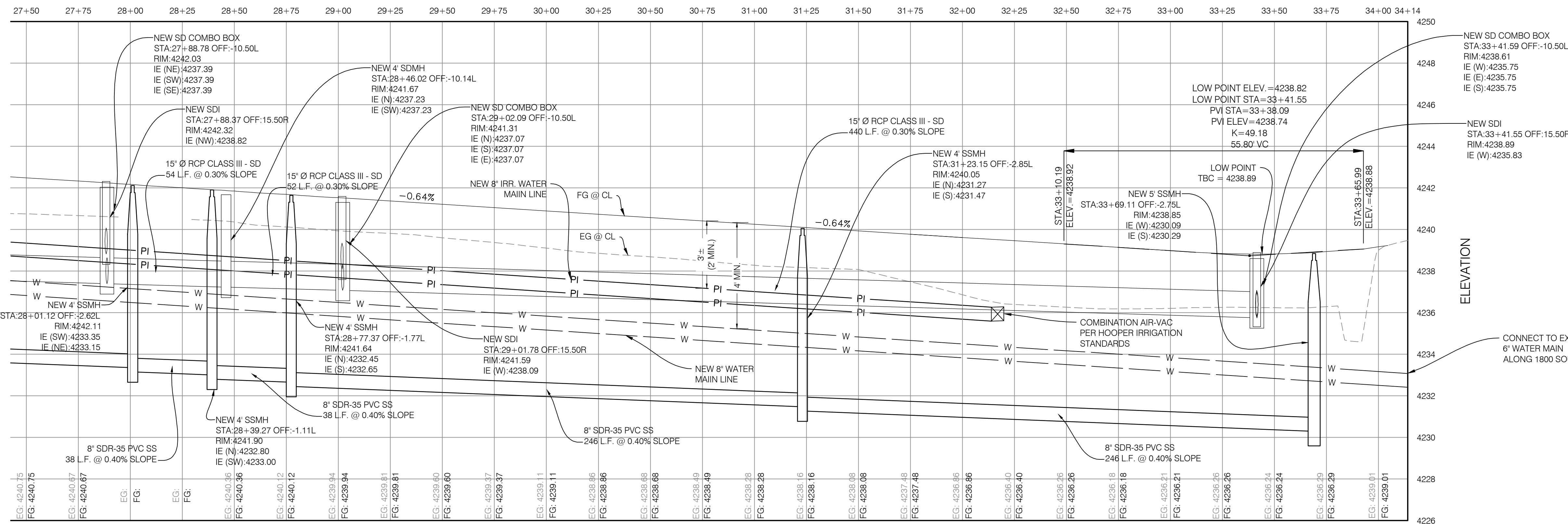
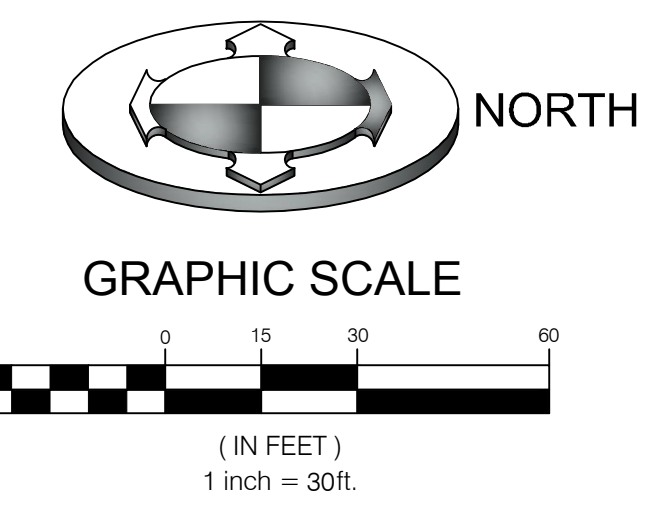
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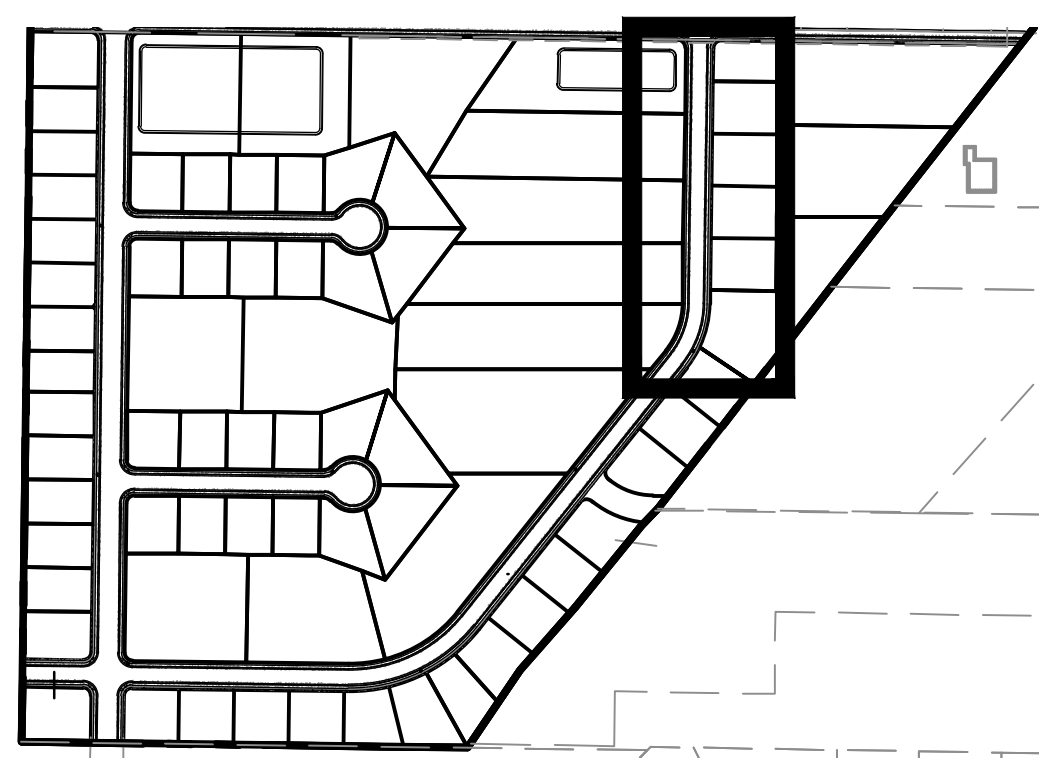




ROAD PLAN

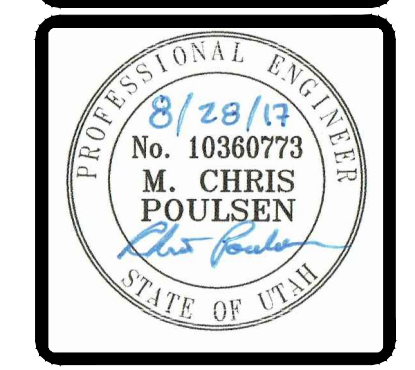


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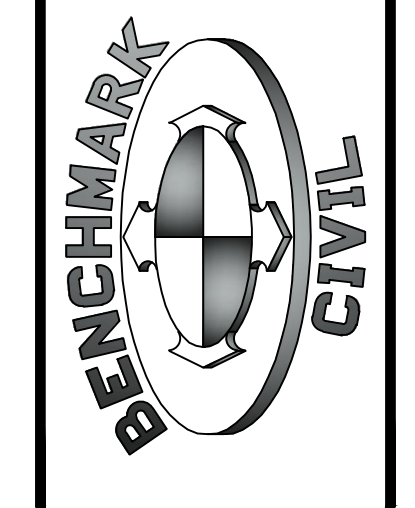


KEY MAP  
N.T.S.

PROJECT NO.	1607138
DATE	8/28/2017
DESIGNED BY	MCP
DRAWN BY	SV
CHECKED BY	SV
DATE	8/28/2017
SCALE	AS SHOWN
SCALE	AS SHOWN



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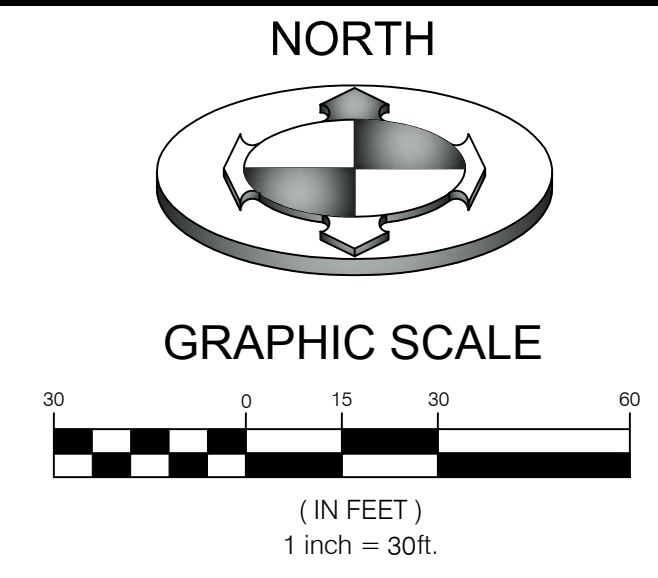
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 3908 W 1800 S  
 WEBER COUNTY, UTAH

PROJECT NO. 1607138  
**PLAN & PROFILE**  
 CPP.05  
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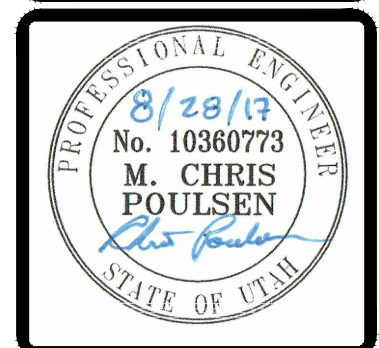
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PROJECT NO.	1607138
DATE	8/28/2017
SCALE	AS SHOWN
SCALE MEASURES	FUNCTION FULL SIZE SHEETS ADJUST ACCORDINGLY FOR REDUCED SIZE SHEETS



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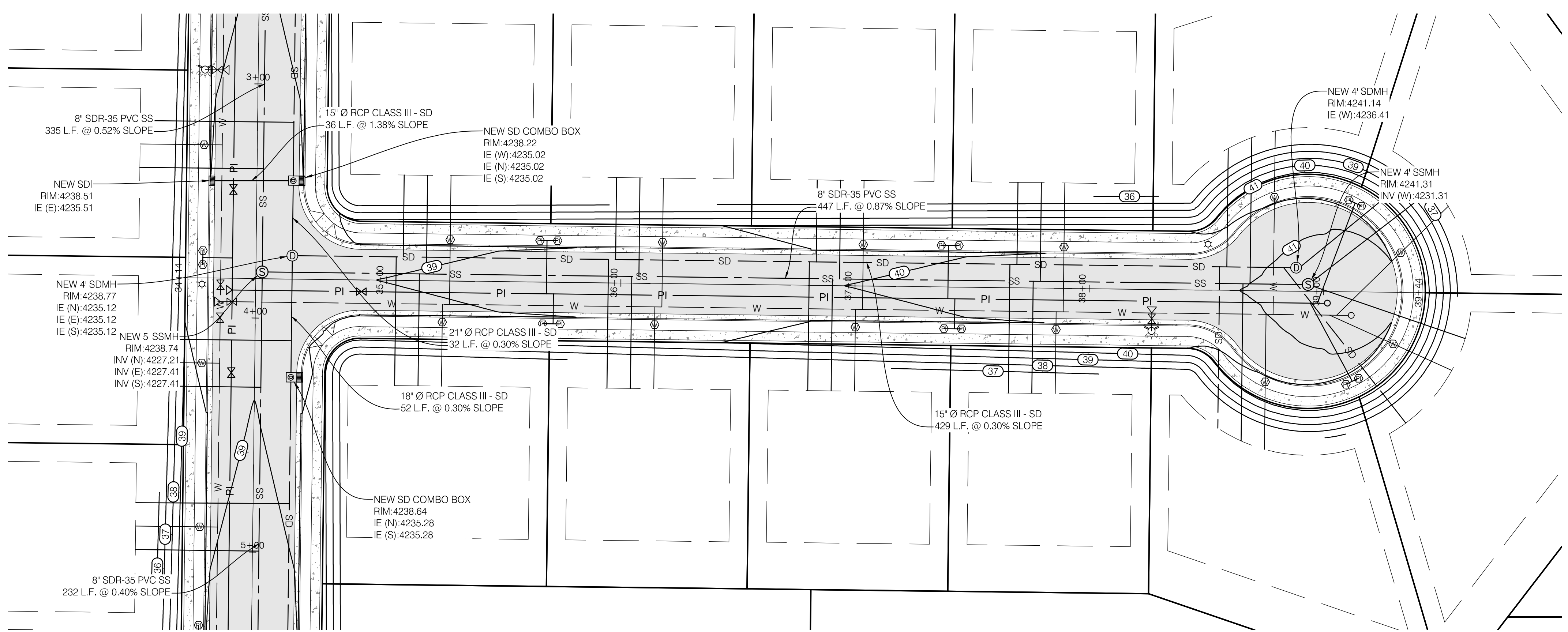
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**WINSTON PARK**  
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 WEBER COUNTY, UTAH

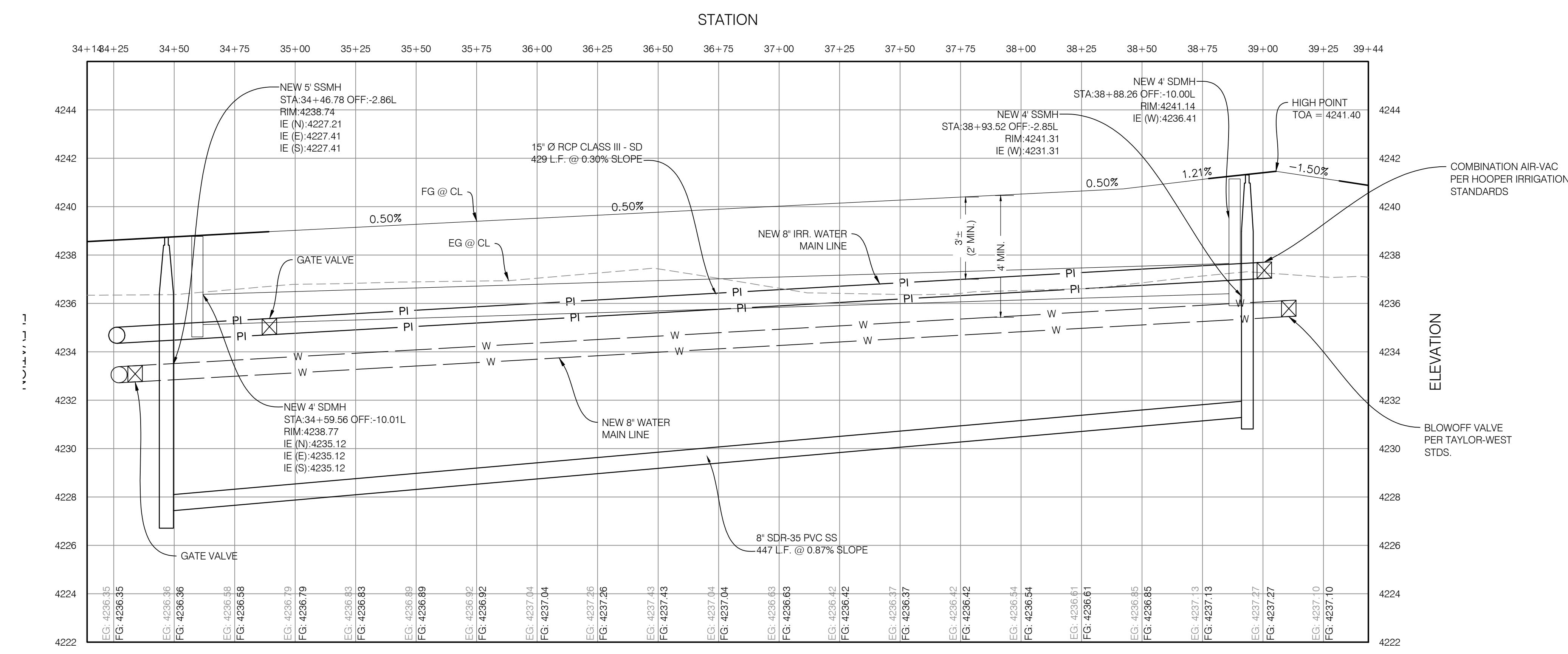
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**PLAN & PROFILE**

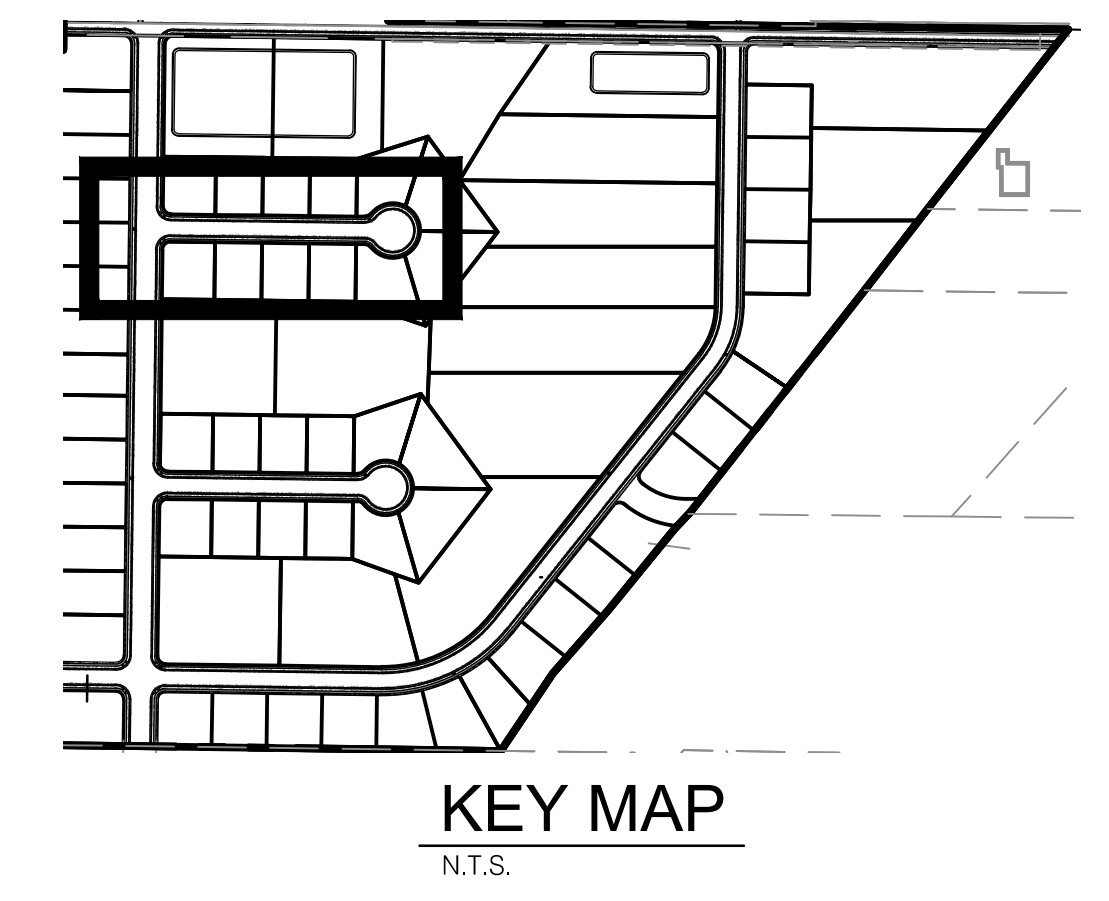
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 14 OF 24



**ROAD PLAN**



**ROAD PROFILE**

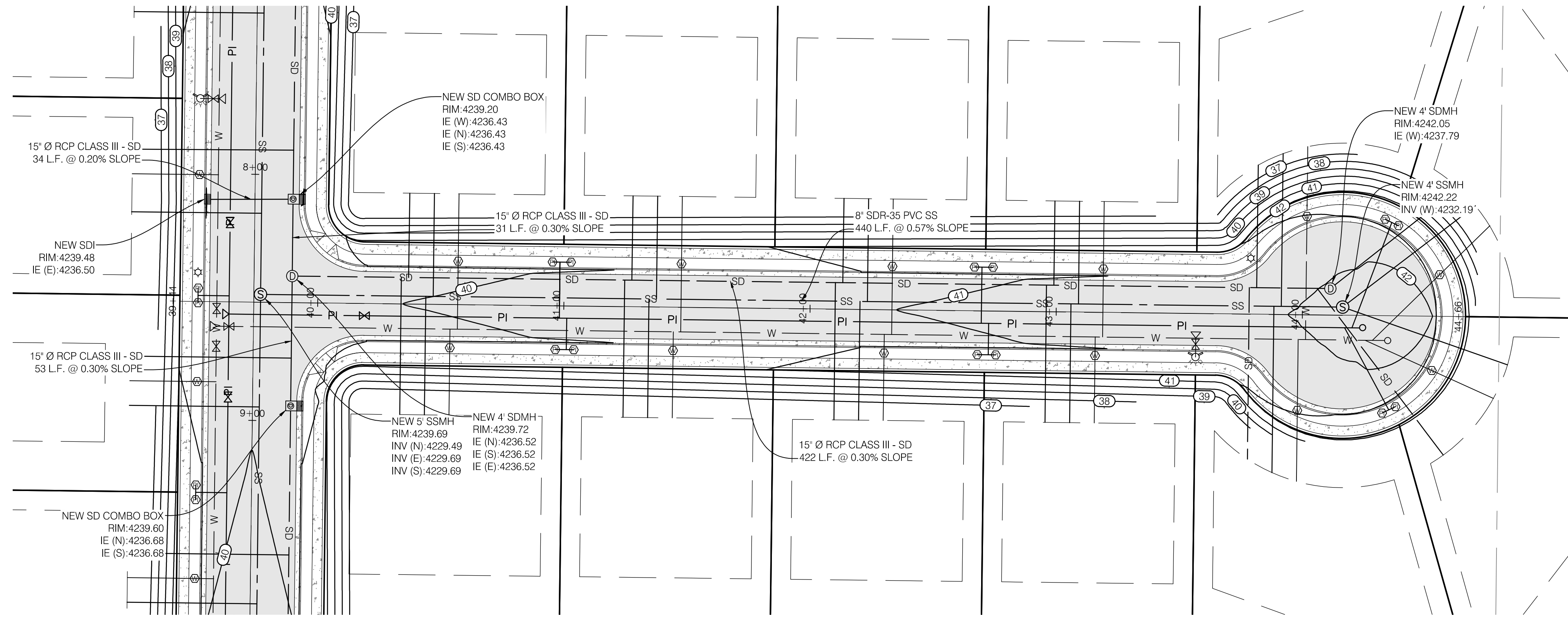
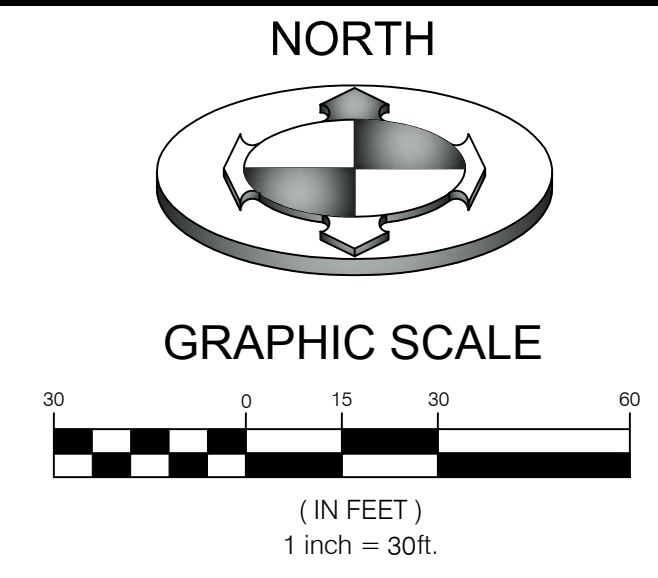


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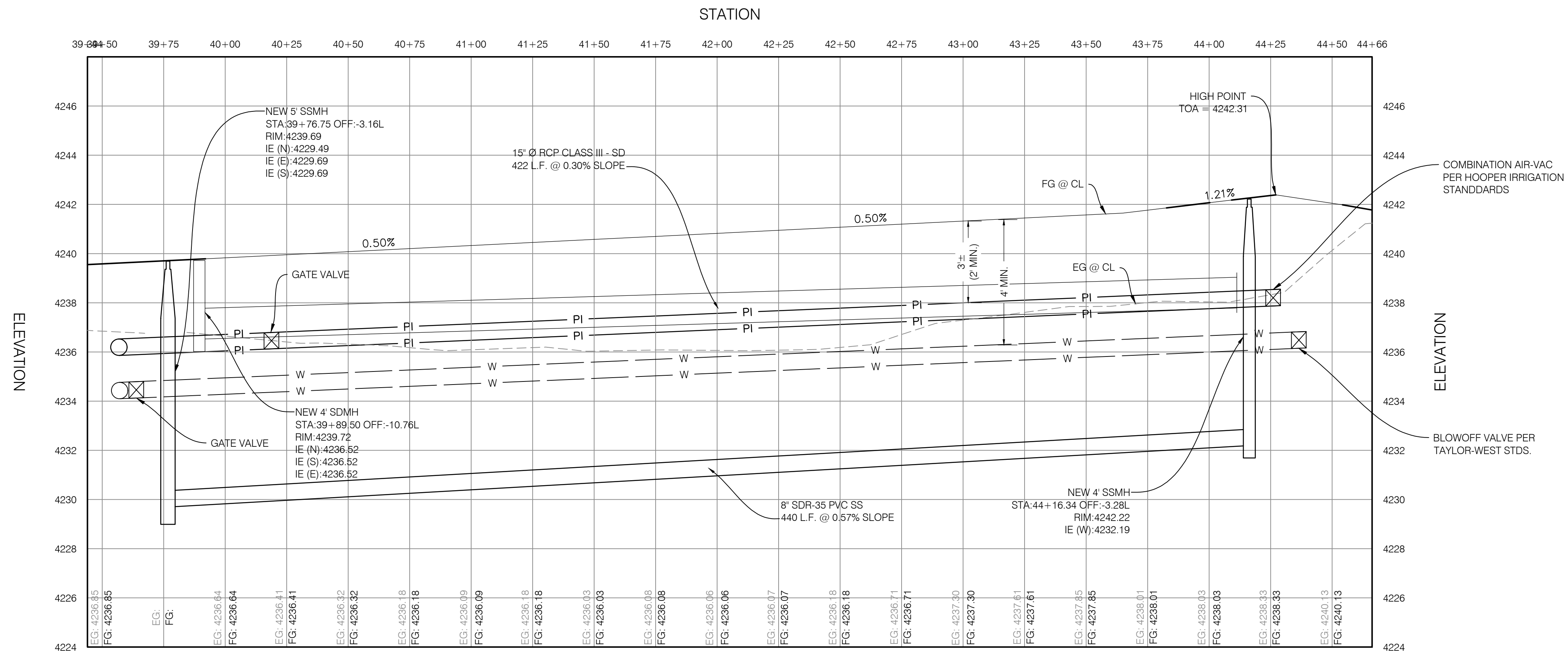
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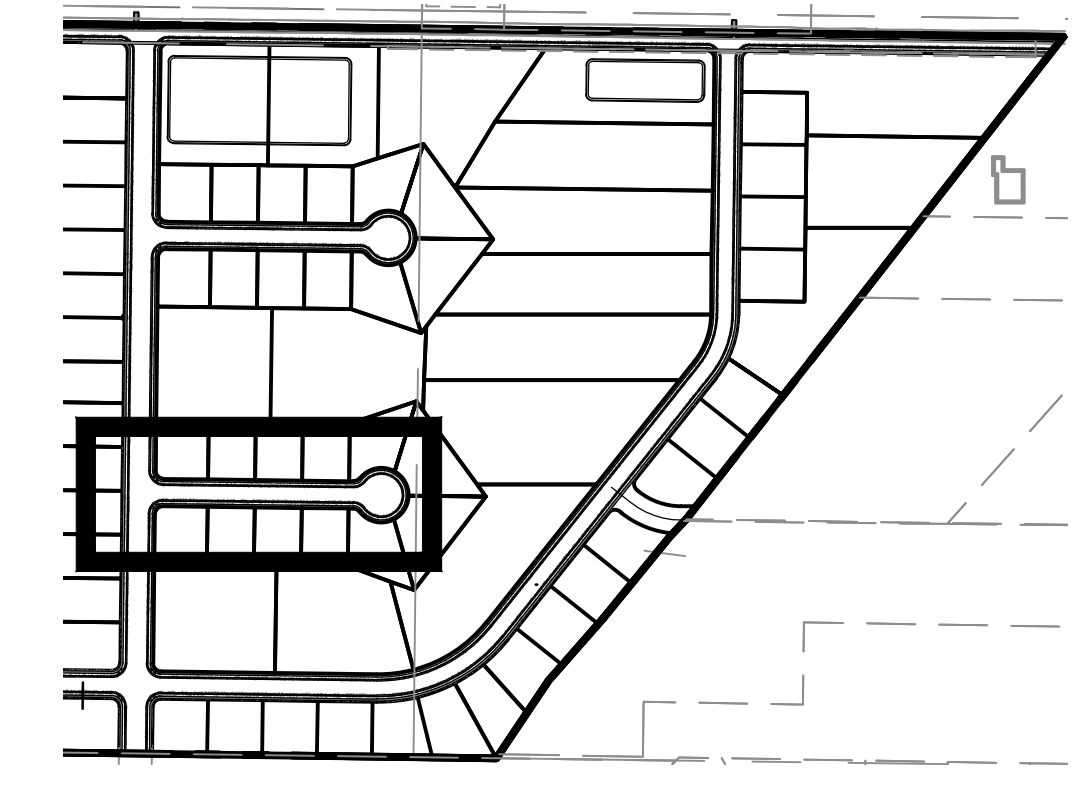




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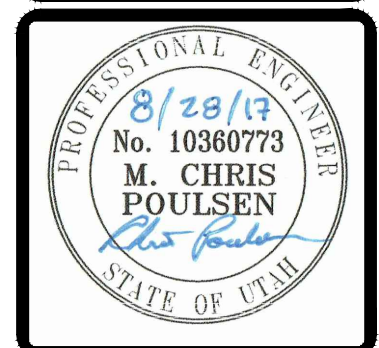


ROAD PROFILE



KEY MAP  
N.T.S.

PROJECT NO.	1607138
DATE	8/28/17
BY	MCP
CHECKED BY	SURVEY
DATE	8/28/2017
DWG. FILE	1607138.sld
SCALE	AS SHOWN
SCALE MEASURES	FUNCTION FULL SIZE SHEETS
	ADJUST ACCORDINGLY FOR REDUCED SIZE SHEETS



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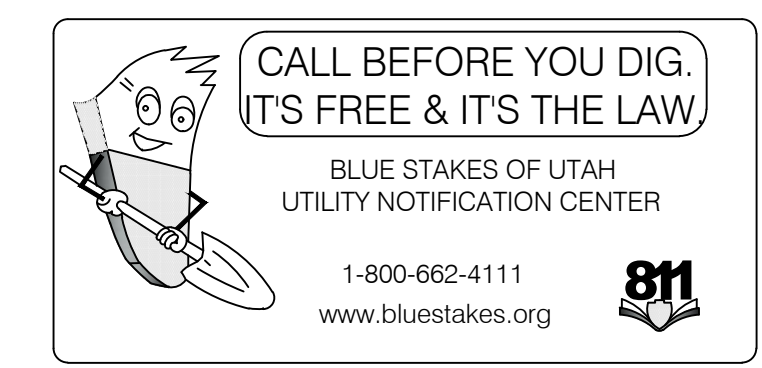
**WINSTON PARK**

3908 W 1800 S  
WEBER COUNTY, UTAH

PROJECT NO. 1607138

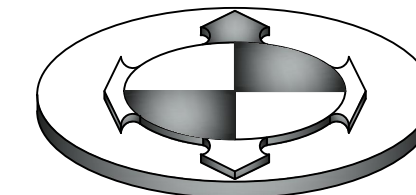
**PLAN & PROFILE**

CPP.07  
15 OF 24

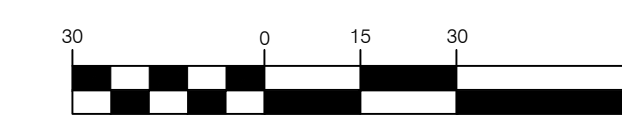




NORTH

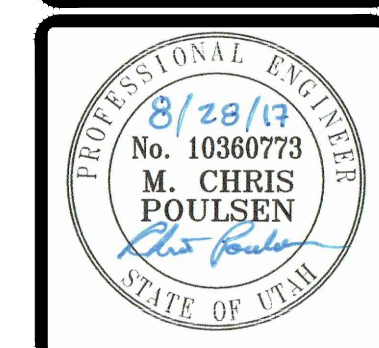


GRAPHIC SCALE



(IN FEET)  
1 inch = 30ft.

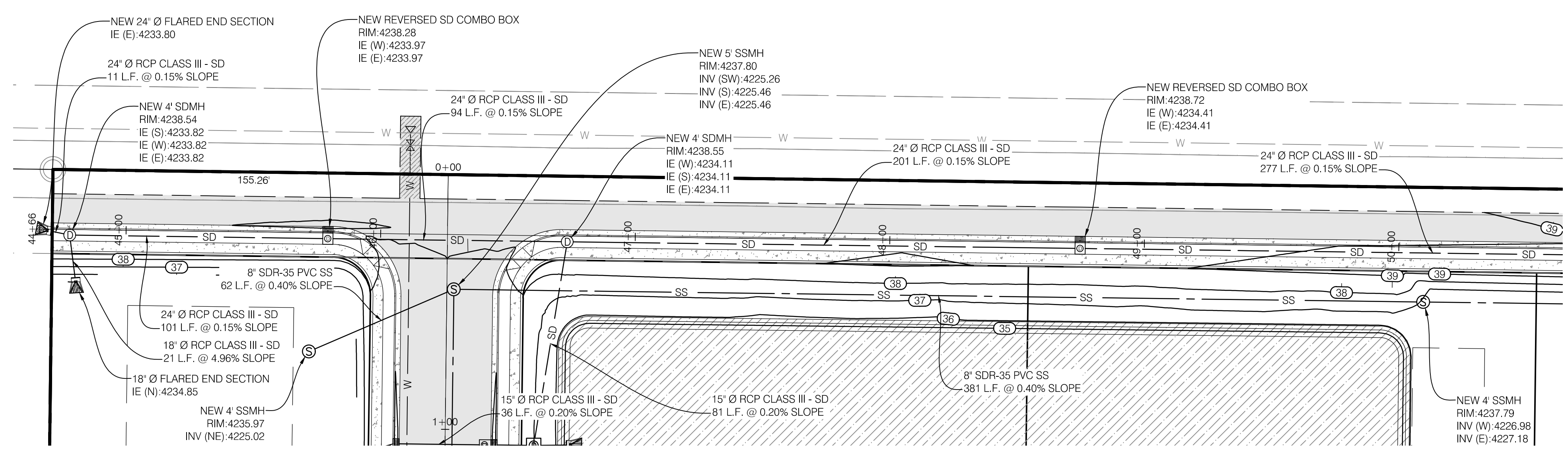
PROJECT NO.	1607138
DATE	8/28/17
DESIGNER	MCP
CHECKED BY	KVMS
DATE	8/28/2017
SCALE	AS SHOWN FOR EACH SHEET
PROJECT	1607138
DATE	8/28/17
SCALE	AS SHOWN FOR EACH SHEET



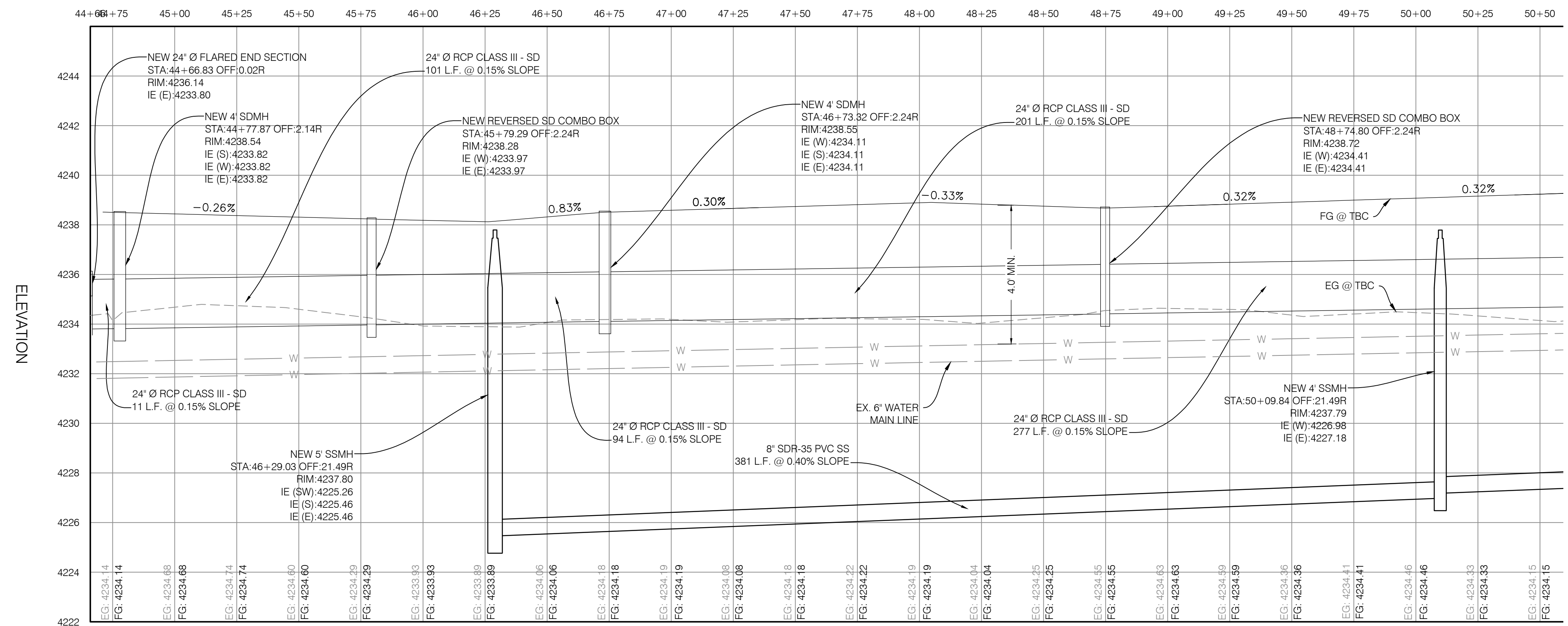
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**WINSTON PARK**  
 3908 W 1800 S  
 WEBER COUNTY, UTAH

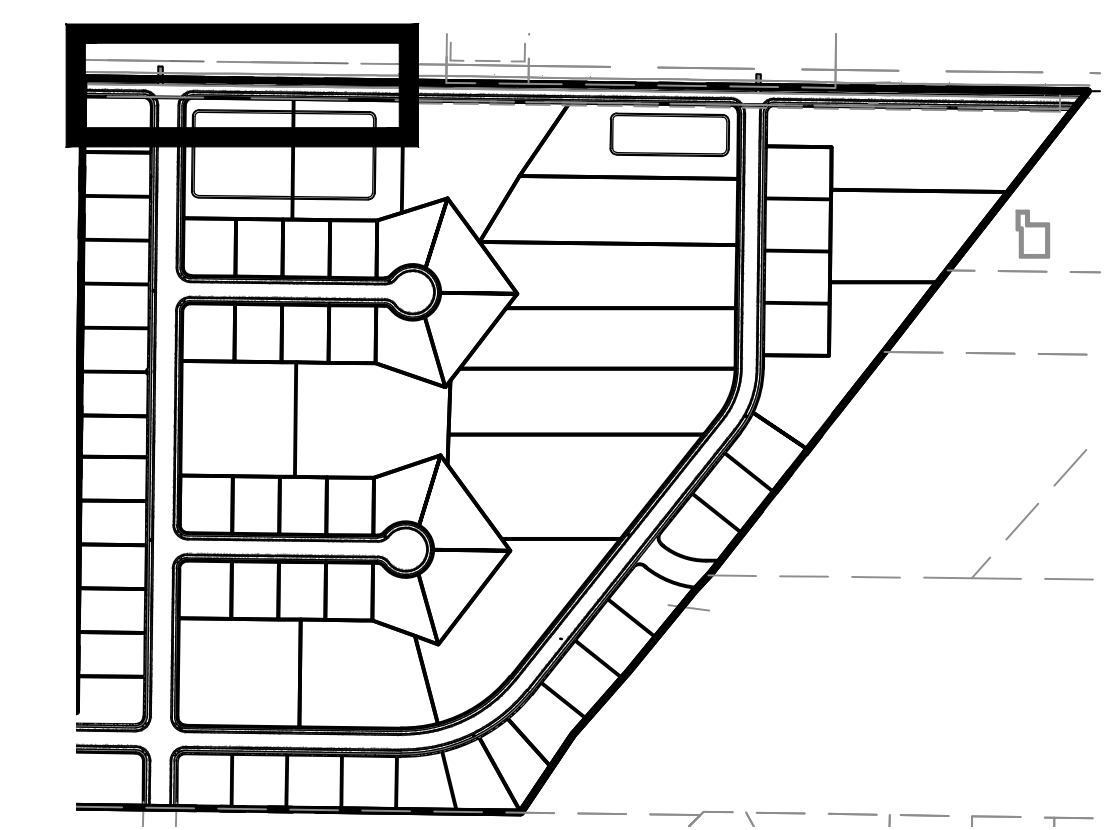
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**PLAN & PROFILE**  
 CPP.08  
 16 OF 24



ROAD PLAN



ROAD PROFILE

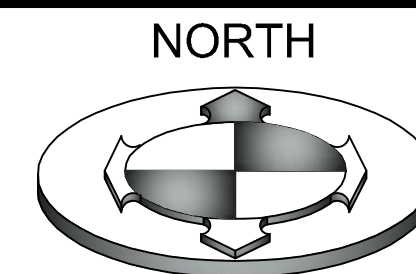


KEY MAP  
N.T.S.

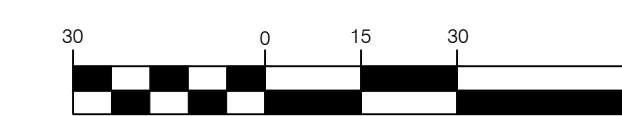
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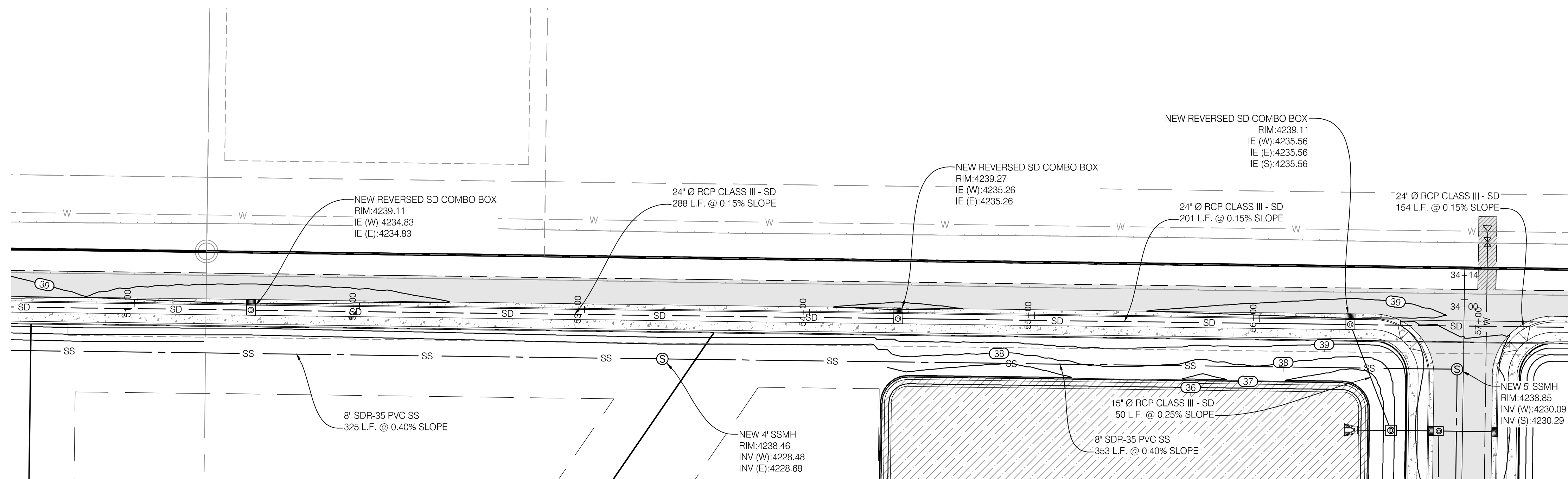




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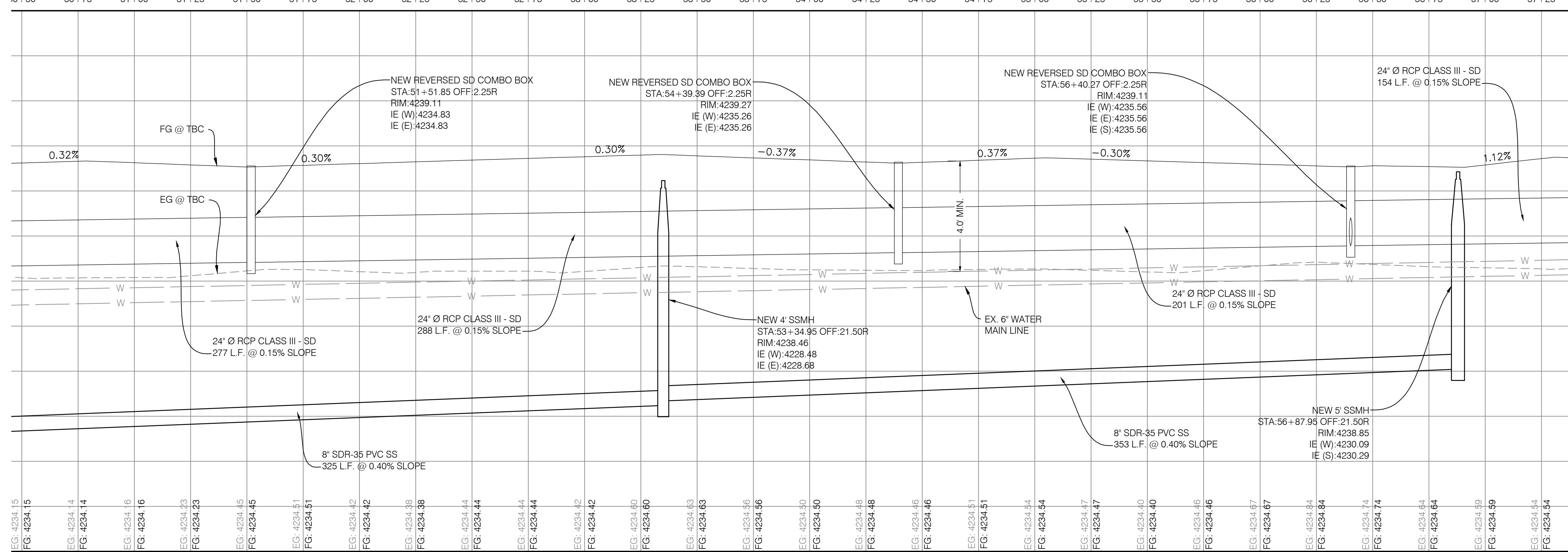


GRAPHIC SCALE  
(IN FEET)  
1 inch = 30ft.

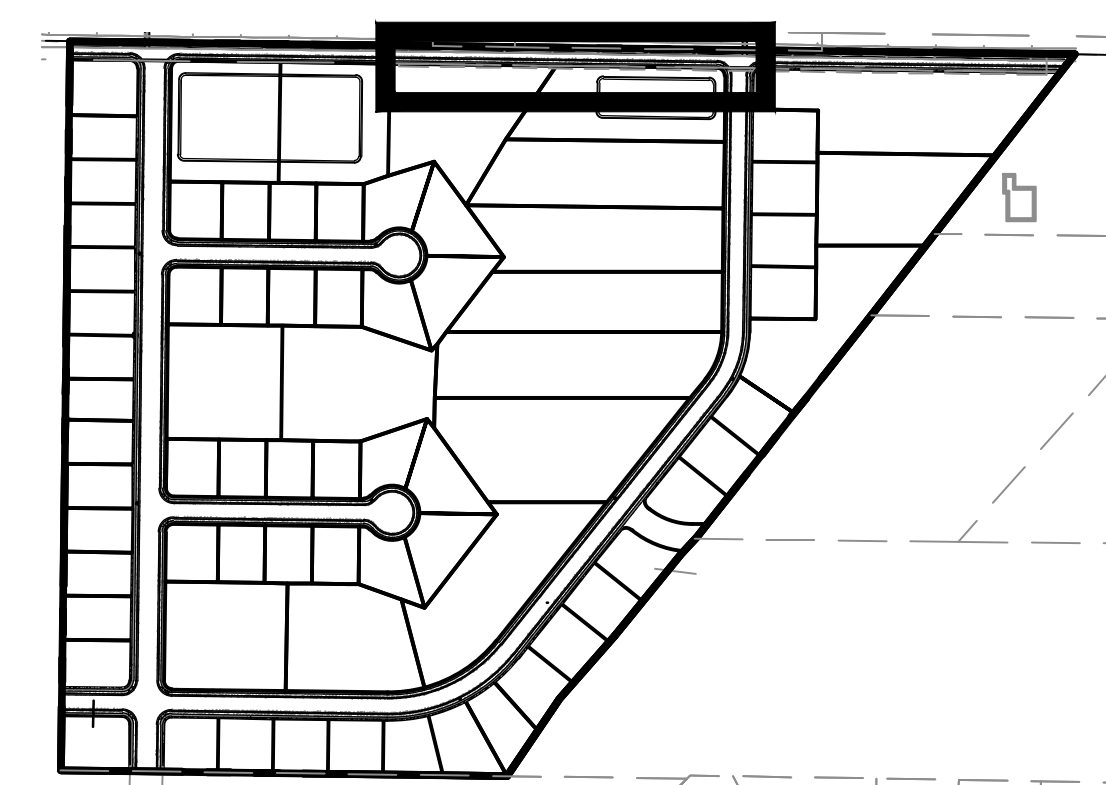


ROAD PLAN

STATION  
40+50 50+75 51+00 51+25 51+50 51+75 52+00 52+25 52+50 52+75 53+00 53+25 53+50 53+75 54+00 54+25 54+50 54+75 55+00 55+25 55+50 55+75 56+00 56+25 56+50 56+75 57+00 57+25

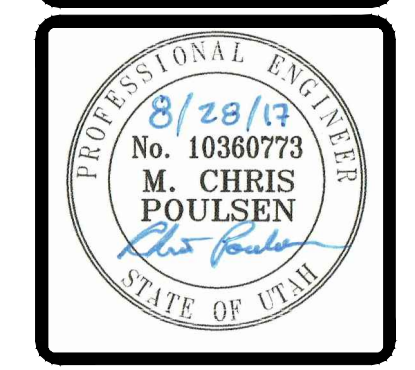


ROAD PROFILE

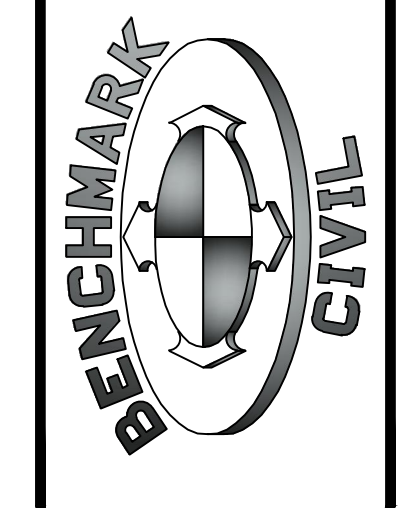


KEY MAP  
N.T.S.

PROJECT NO.	1607138
DATE	8/28/17
DESIGNER	M. CHRIS POULSEN
CHECKED BY	MCP
DATE	8/28/2017
SCALE	AS SHOWN
PROJECT	WINSTON PARK
DESCRIPTION	UTILITY NOTIFICATION CENTER



**BENCHMARK ENGINEERING & LAND SURVEYING**  
930 SOUTH STATE STREET SUITE #100  
SANDY, UTAH 84070 (801) 542-7192  
www.benchmarkcivil.com

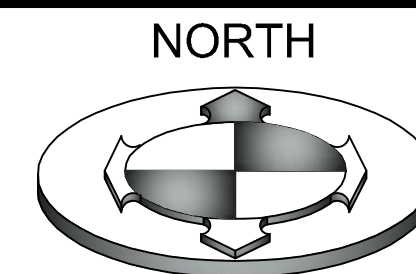


**WINSTON PARK**  
3908 W 1800 S  
WEBER COUNTY, UTAH

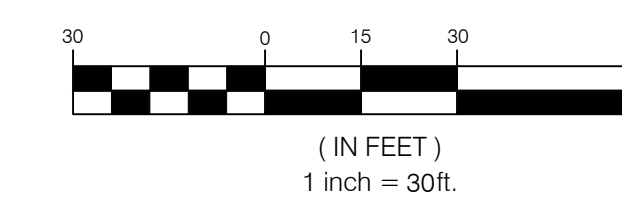
PROJECT NO. 1607138  
**PLAN & PROFILE**  
CPP.09  
17 OF 24

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BLUE STAKES OF UTAH  
UTILITY NOTIFICATION CENTER  
1-800-662-4111  
www.bluestakes.org

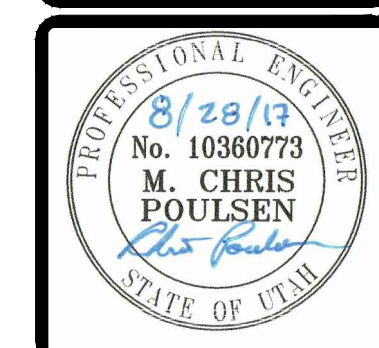




GRAPHIC SCALE



PROJECT NO.	1607138
DATE	
DESCRIPTION	
BY	
CHECKED BY	MCP
FIELD/DATE	8/28/2017
DATE	
DWG. FILE	1607138.rvt
SCALE	
SCALE MEASUREMENTS	TAKE ON FULL SIZE SHEETS
ADJUST ACCORDINGLY FOR REDUCED SIZE SHEETS	



**BENCHMARK CIVIL**

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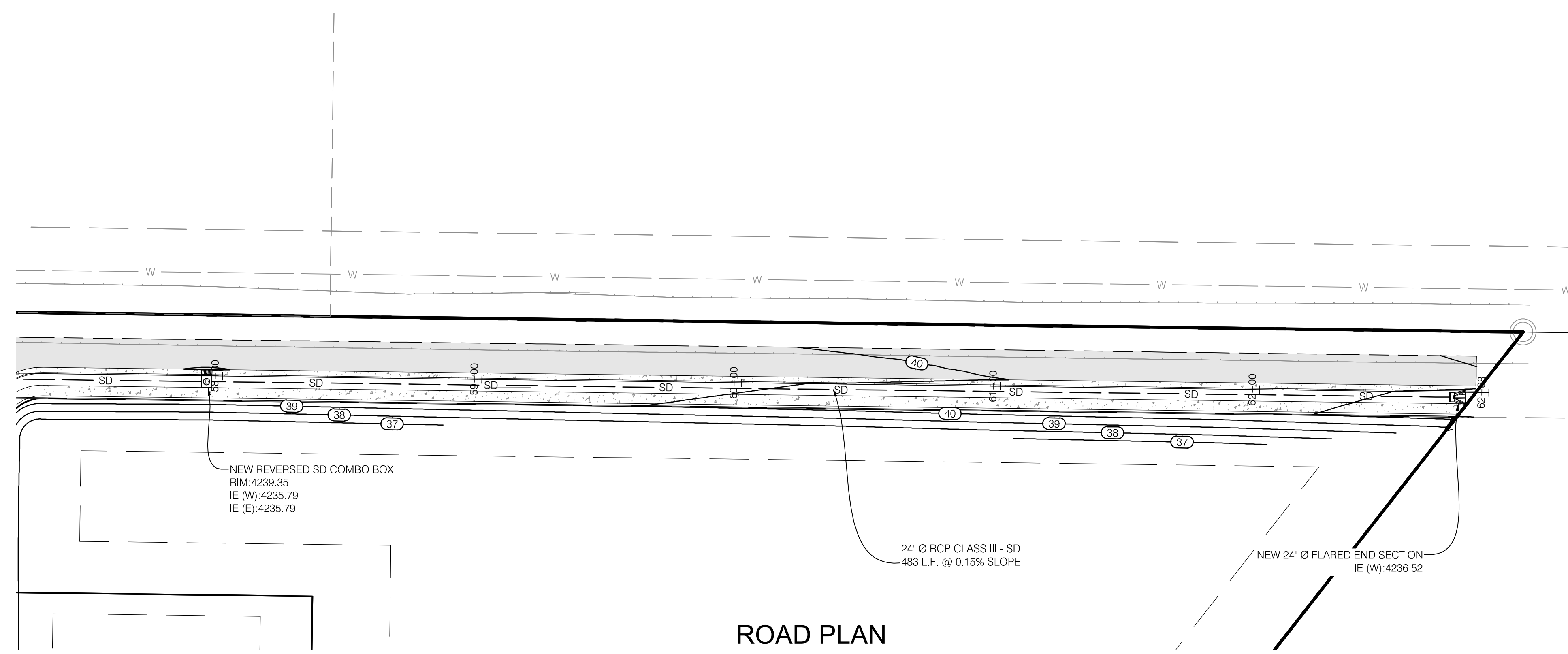
**WINSTON PARK**

3908 W 1800 S  
WEBER COUNTY, UTAH

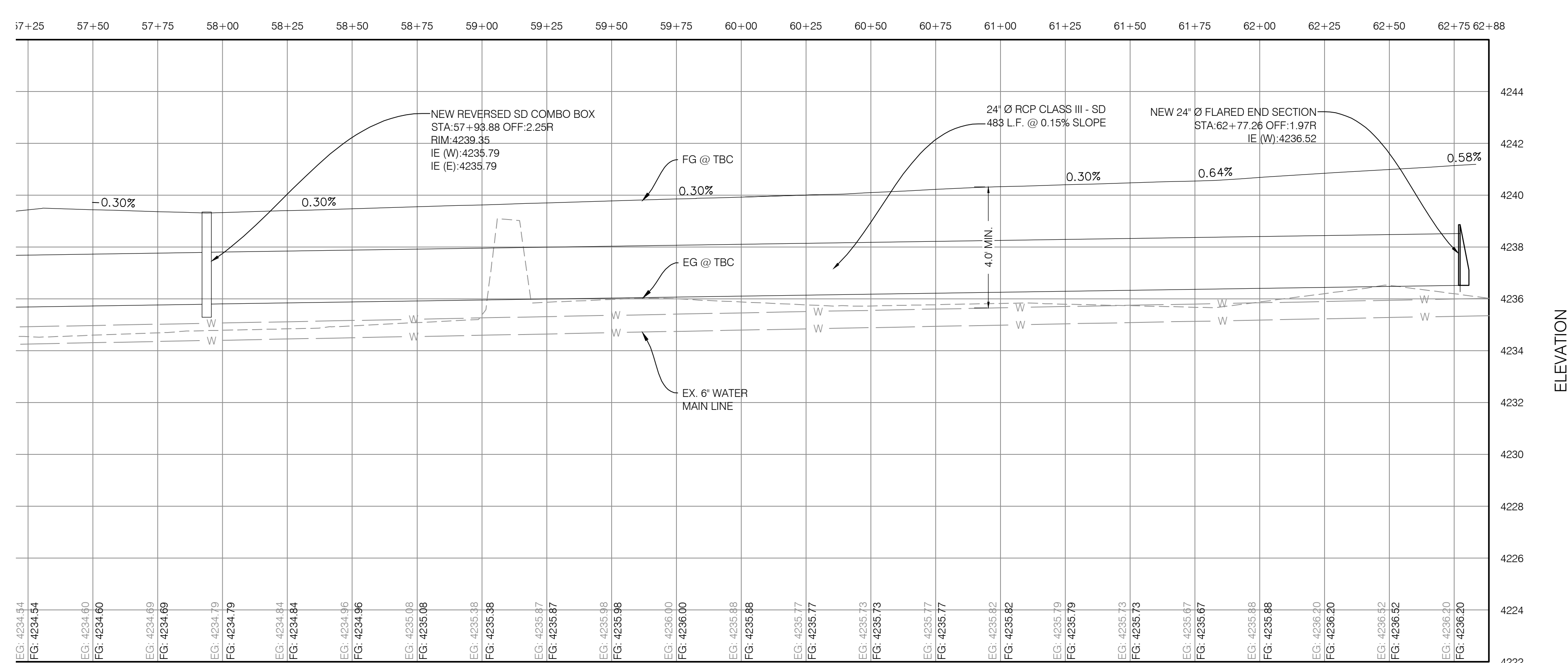
PROJECT NO. 1607138

**PLAN & PROFILE**

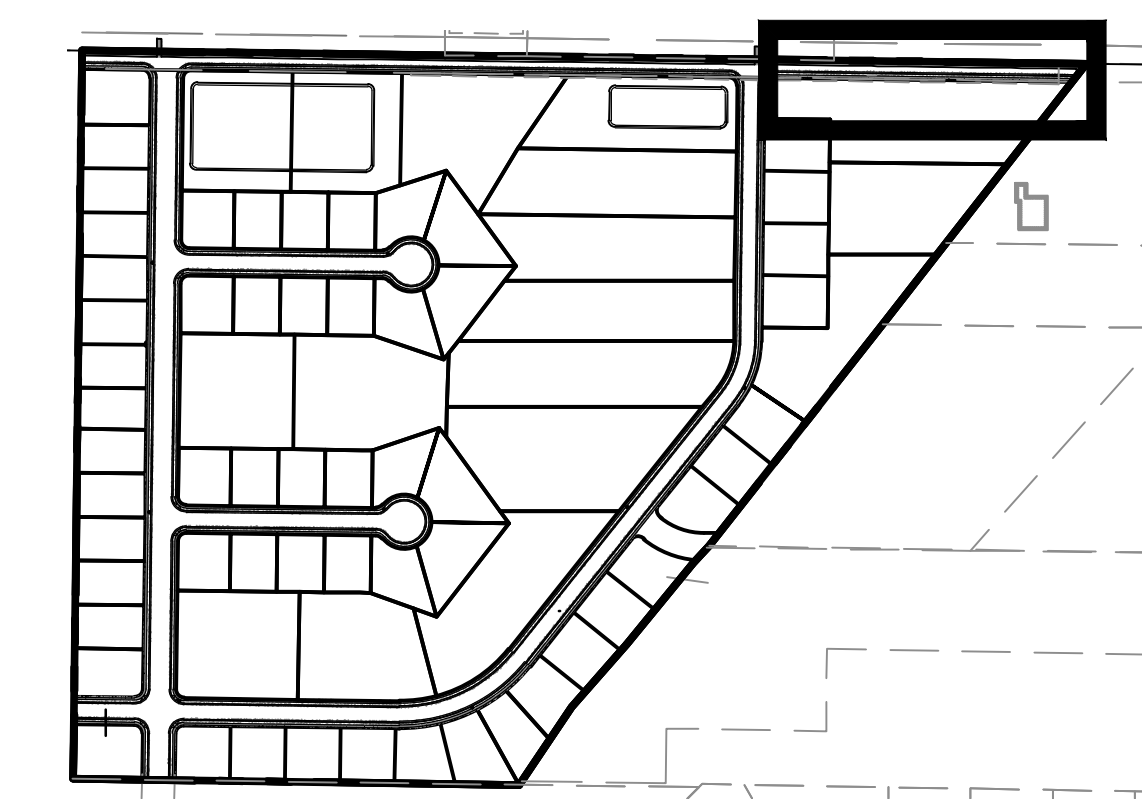
CPP.10  
18 OF 24



ROAD PLAN



ROAD PROFILE



KEY MAP  
N.T.S.

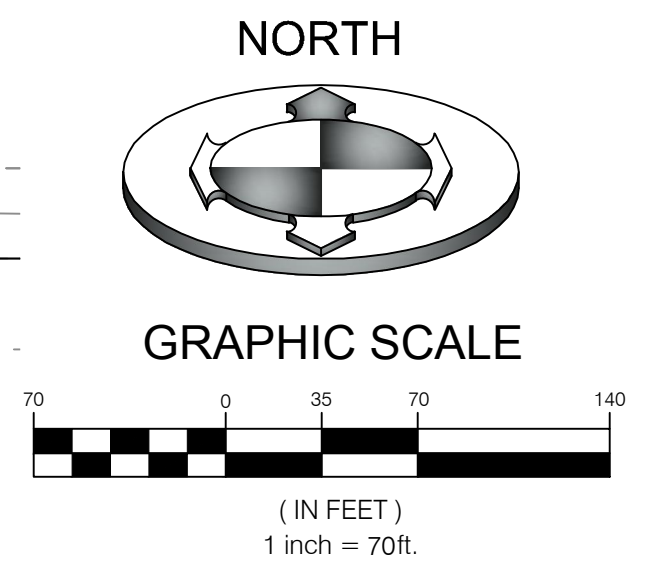
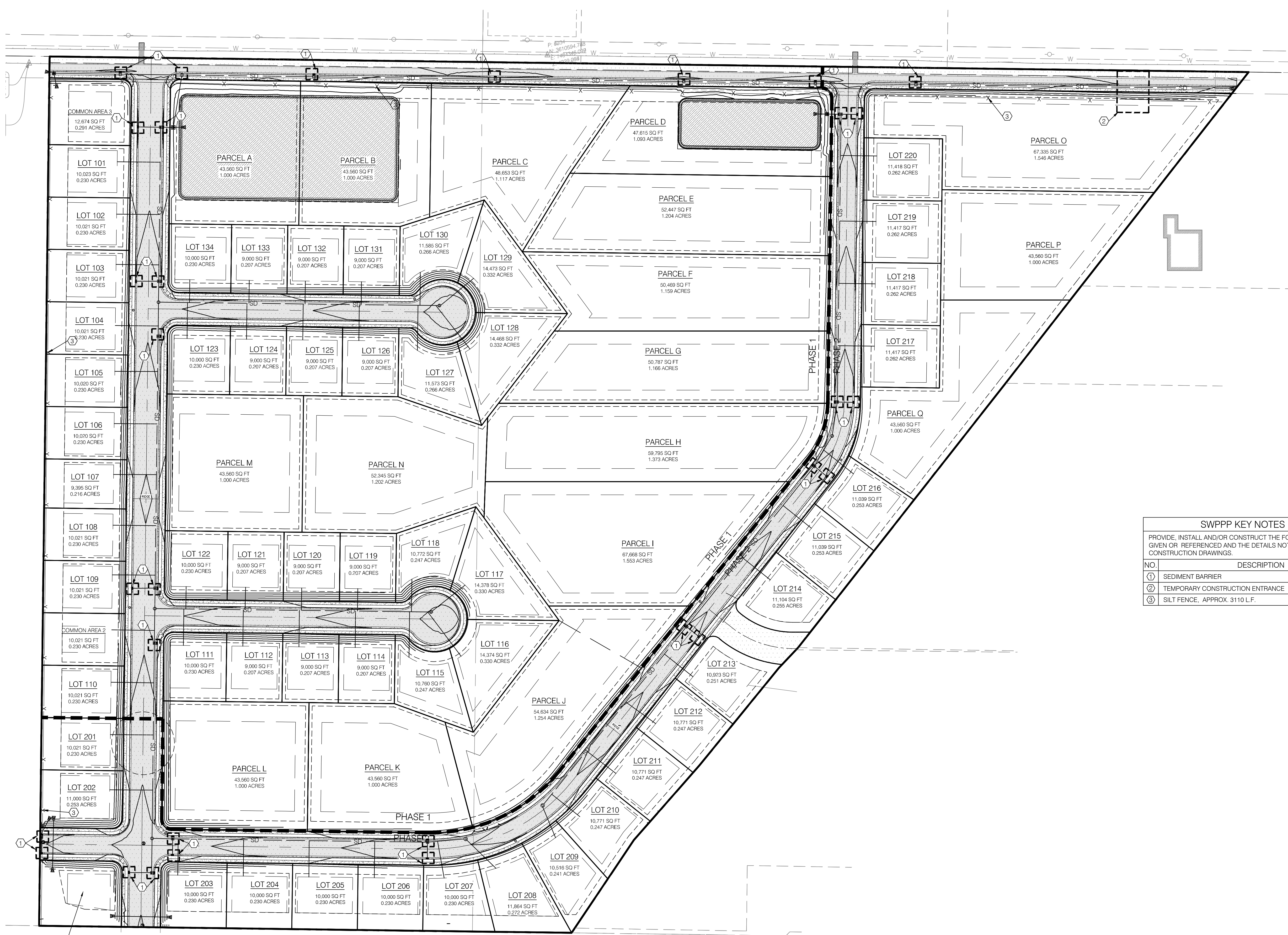
**CALL BEFORE YOU DIG. IT'S FREE & IT'S THE LAW.**

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**SWPPP KEY NOTES REFERENCE**

PROVIDE, INSTALL AND/OR CONSTRUCT THE FOLLOWING PER THE SPECIFICATIONS GIVEN OR REFERENCED AND THE DETAILS NOTED AND AS SHOWN ON THE CONSTRUCTION DRAWINGS.

NO.	DESCRIPTION	DETAIL
①	SEDIMENT BARRIER	2/CEP.02
②	TEMPORARY CONSTRUCTION ENTRANCE	7/CEP.02
③	SILT FENCE, APPROX. 3110 L.F.	6/CEP.02

COMMON AREA 1  
12,478 SQ FT  
0.286 ACRES

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NO.	DATE	DESCRIPTION

SCALE: MEASURES SHOWN ON FULL SIZE SHEETS  
AS SHOWN ACCORDING TO POSTED SIZE SHEETS

DESIGNED BY: MCP  
FIELD/DRAWN BY: SURVEY  
DATE: 8/28/2017  
DWG. FILE: 1607138.rvt

PROFESSIONAL ENGINEER  
No. 10360773  
M. CHRIS  
POULSEN  
STATE OF UTAH

**BENCHMARK CIVIL**

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**WINSTON PARK**

3908 W 1800 S  
WEBER COUNTY, UTAH

PROJECT NO. 1607138

**EROSION CONTROL PLAN**

CEP.01  
19 OF 24



### BMP: Concrete Waste Management

**DESCRIPTION:**  
Prevent or reduce the discharge of pollutants to storm water from concrete waste by conducting washout off-site, performing on-site washout in a designated area, and training employees and subcontractors.

**APPLICATIONS:**  
This technique is applicable to all types of sites.

**INSTALLATION/APPLICATION CRITERIA:**

- Store dry and wet materials under cover, away from drainage areas.
- Avoid mixing excess amounts of fresh concrete or cement on-site.
- Perform washout of concrete trucks off site or in designated areas only.
- Do not wash out concrete trucks into storm drains, open ditches, streets, or streams.
- Do not allow excess concrete to be dumped on-site, except in designated areas.
- When washing concrete to remove fine particles and expose the aggregate, avoid creating runoff by draining the water within a bermed or level area. (See Earth Berm Barrier Information Sheet.)
- Train employees and subcontractors in proper concrete waste management.

**LIMITATIONS:**

- Off-site washout of concrete wastes may not always be possible.

**MAINTENANCE:**

- Inspect subcontractors to ensure that concrete wastes are being properly managed.
- If using a temporary pit, dispose hardened concrete on a regular basis.

### BMP: Inlet Protection – Wattle

IP-W  
CONSTRUCTION

**DESCRIPTION:**  
Sediment barrier erected around storm drain inlet.

**APPLICATION:**  
Construct at storm drainage inlets located down-gradient of areas to be disturbed by construction.

**INSTALLATION/APPLICATION CRITERIA:**

- Provide up-gradient sediment controls, such as silt fence during construction of inlet
- When construction of curb and gutter and roadways is complete, install gravel filled wattles around perimeter of inlet

**LIMITATIONS:**

- Recommended maximum contributing drainage area of one acre
- Requires shallow slopes adjacent to inlet

**MAINTENANCE:**

- Inspect inlet protection following storm event and at a minimum of once every 14 days.
- Remove accumulated sediment when it reaches 4 inches in depth.
- Look for bypassing or undercutting and repair or realign as needed.

### BMP: Materials Storage

**DESCRIPTION:**  
Controlled storage of on-site materials.

**APPLICATION:**

- Storage of hazardous, toxic, and all chemical substances.
- Any construction site with outside storage of materials.

**INSTALLATION/APPLICATION CRITERIA:**

- Designate a secured area with limited access as the storage location. Ensure no waterways or drainage paths are nearby.
- Construct compacted earthen berm (See Earth Berm Barrier Information Sheet), or similar perimeter containment around storage location for impoundment in the case of spills.
- Ensure all on-site personnel utilize designated storage area. Do not store excessive amounts of material that will not be utilized on site.
- For active use of materials away from the storage area ensure materials are not set directly on the ground and are covered when not in use. Protect storm drainage during use.

**LIMITATIONS:**

- Does not prevent contamination due to mishandling of products.
- Spill Prevention and Response Plan still required.
- Only effective if materials are actively stored in controlled location.

**MAINTENANCE:**

- Inspect daily and repair any damage to perimeter impoundment or security fencing.
- Check materials are being correctly stored (i.e. standing upright, in labeled containers, lightly capped) and that no materials are being stored away from the designated location.

### BMP: Portable Toilets

**DESCRIPTION:**  
Temporary on-site sanitary facilities for construction personnel.

**APPLICATION:**  
All sites with no permanent sanitary facilities or where permanent facility is too far from activities.

**INSTALLATION/APPLICATION CRITERIA:**

- Locate portable toilets in convenient locations throughout the site.
- Prepare level, gravel surface and provide clear access to the toilets for servicing and for on-site personnel.
- Conduct earth berm perimeter (See Earth Berm Barrier Information Sheet) control for spill/protection leak.

**LIMITATIONS:**  
No limitations.

**MAINTENANCE:**

- Portable toilets should be maintained in good working order by licensed service with daily observation for leak detection.
- Regular waste collection should be arranged with licensed service.
- All waste should be deposited in sanitary sewer system for treatment with appropriate agency approval.

### BMP: Spill Clean-Up

**DESCRIPTION:**  
Practices to clean-up leakage/spillage of on-site materials that may be harmful to receiving waters.

**APPLICATION:**  
All sites

**GENERAL:**

- Store controlled materials within a storage area.
- Educate personnel on prevention and clean-up techniques.
- Designate an Emergency Coordinator responsible for employing preventative practices and for providing spill response.
- Maintain a supply of clean-up equipment on-site and post a list of local response agencies with phone numbers.

**METHODS:**

- Clean-up spills/leaks immediately and remediate cause.
- Use as little water as possible. NEVER HOSE DOWN OR BURY SPILL CONTAMINATED MATERIAL.
- Use rags or absorbent material for clean-up. Excavate contaminated soils.
- Dispose of clean-up material and soil as hazardous waste.
- Document all spills with date, location, substance, volume, actions taken and other pertinent data.
- Contact local Fire Department and State Division of Environmental Response and Remediation (Phone #36-4100) for any spill of reportable quantity.

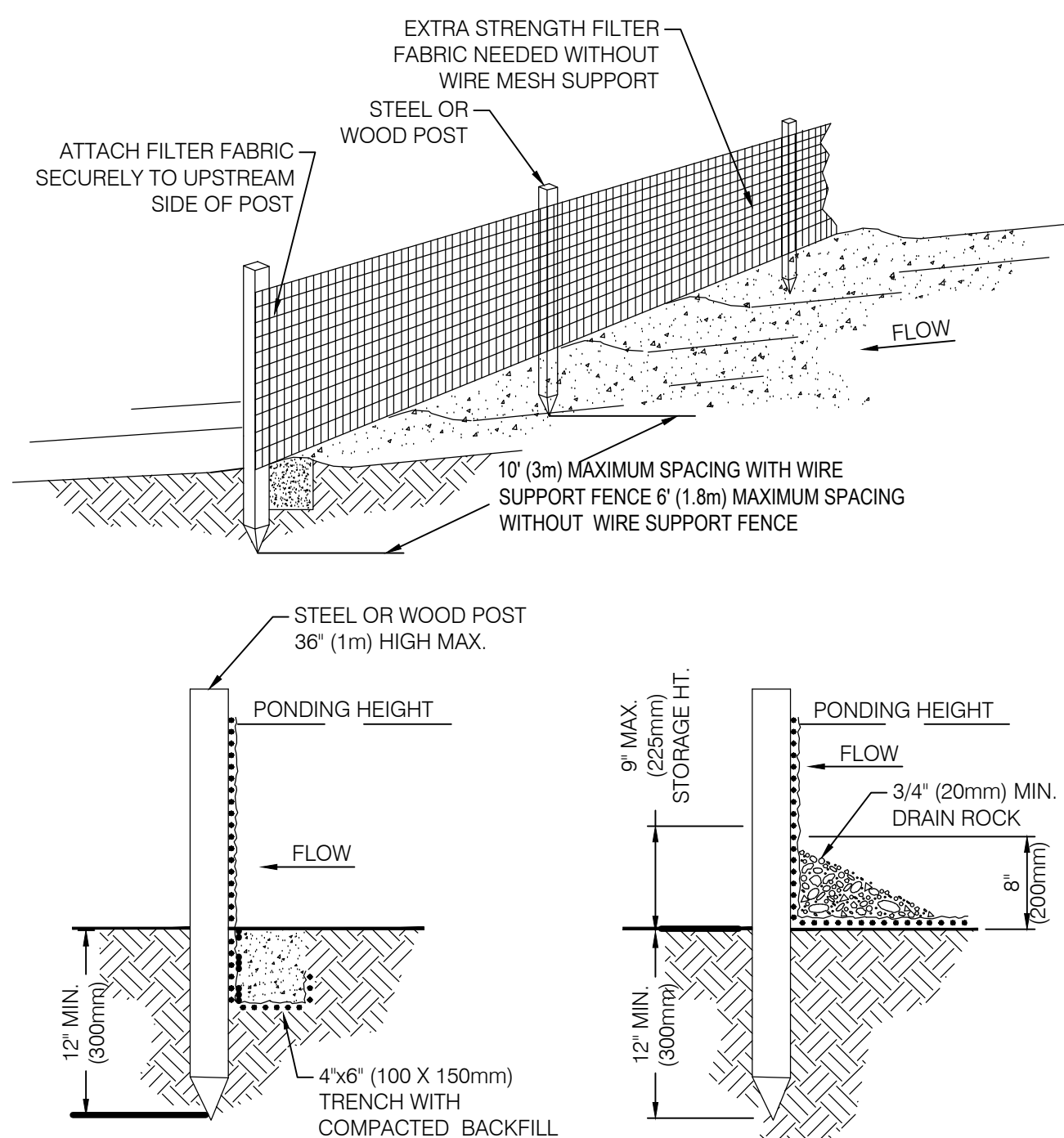
**CONCRETE WASTE MANAGEMENT**  
SCALE: N.T.S.

**INLET PROTECTION WATTLE**  
SCALE: N.T.S.

**MATERIALS STORAGE**  
SCALE: N.T.S.

**PORTABLE TOILETS**  
SCALE: N.T.S.

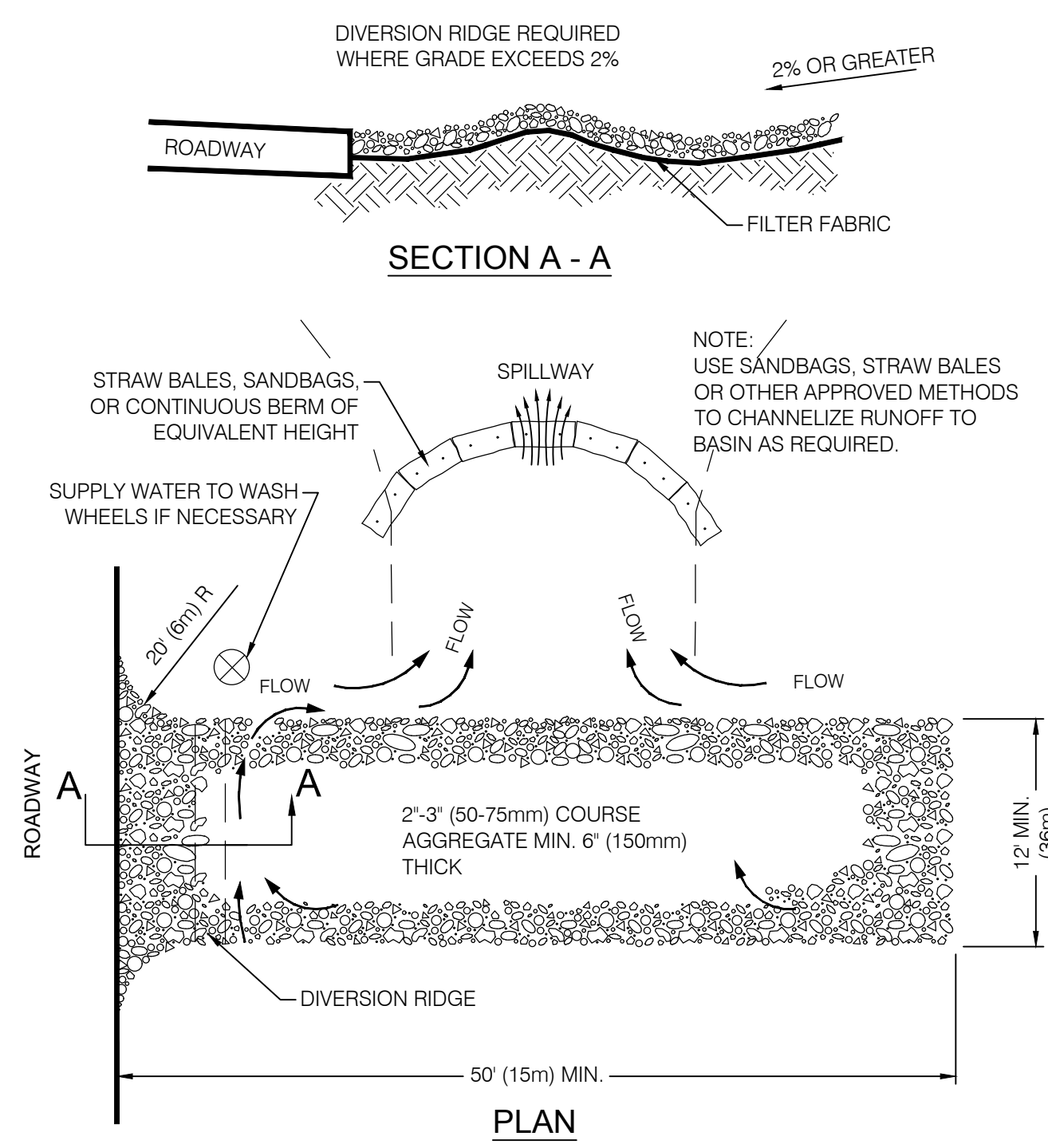
**SPILL CLEAN-UP**  
SCALE: N.T.S.



**NOTES:**

1. SILT FENCE SHALL BE PLACED ON SLOPE CONTOURS TO MAXIMIZE PONDING EFFICIENCY.
2. INSPECT AND REPAIR FENCE AFTER EACH STORM EVENT AND REMOVE SEDIMENT WHEN NECESSARY. 9" (225mm) MAXIMUM RECOMMENDED STORAGE HEIGHT.
3. REMOVED SEDIMENT SHALL BE DEPOSITED TO AN AREA THAT WILL NOT CONTRIBUTE SEDIMENT OFF-SITE AND CAN BE PERMANENTLY STABILIZED.

**SILT FENCE**  
SCALE: N.T.S.



**NOTES:**

1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEAN OUT OF ANY MEASURES USED TO TRAP SEDIMENT.
2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
3. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.

**TEMPORARY GRAVEL CONSTRUCTION ENTRANCE / EXIT**  
SCALE: N.T.S.

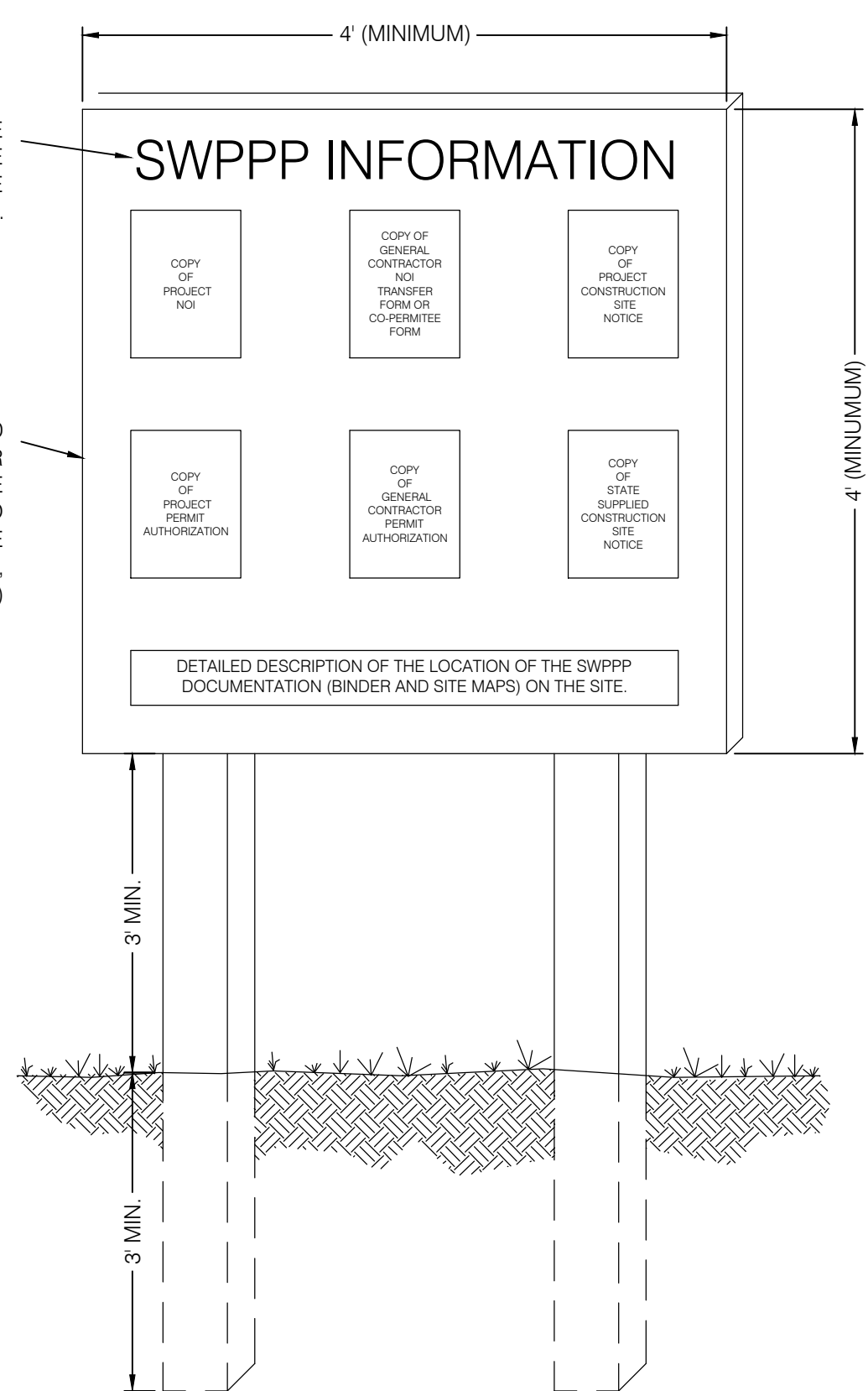
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UTILITY NOTIFICATION CENTER

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www.bluestakes.org

"SWPPP INFORMATION" MUST BE DISPLAYED PROMINENTLY ACROSS THE TOP OF THE SIGN, AS SHOWN IN THE DETAIL.

SIGN TO BE CONSTRUCTED OF A RIGID MATERIAL, SUCH AS PLYWOOD OR OUTDOOR SIGN BOARD. SIGN MUST BE CONSTRUCTED IN A MANNER TO PROTECT DOCUMENTS FROM DAMAGE DUE TO WEATHER (WIND, SUN, MOISTURE, ETC.)



**NOTES:**

- 1) THE SWPPP INFORMATION SIGN MUST BE LOCATED NEAR THE CONSTRUCTION EXIT OF THE SITE, SUCH THAT IT IS ACCESSIBLE AND VIEWABLE BY THE GENERAL PUBLIC, BUT NOT OBSTRUCTING VIEWS AS TO CAUSE A SAFETY HAZARD.
- 2) ALL POSTED DOCUMENTS MUST BE MAINTAINED IN A CLEARLY READABLE CONDITION AT ALL TIMES THROUGHOUT CONSTRUCTION AND UNTIL THE NOTICE-TO-TERMINATION (NOT) IS FILED FOR THE PERMIT.
- 3) CONTRACTOR SHALL POST OTHER STORM WATER AND/OR EROSION AND SEDIMENT CONTROL RELATED PERMITS ON THE SIGN AS REQUIRED BY THE GOVERNING AGENCY.
- 4) SIGN SHALL BE LOCATED OUTSIDE OF PUBLIC RIGHT-OF-WAY AND EASEMENTS UNLESS APPROVED BY THE GOVERNING AGENCY.
- 5) CONTRACTOR IS RESPONSIBLE FOR ENSURING STABILITY IF THE SWPPP INFORMATION SIGN.

**SWPPP INFORMATION SIGN**  
(NOT TO SCALE)

PROJECT NO.	1607138
DATE	8/28/17
DESIGNED BY	MCP
FIELD/REV	SURVEY
DATE	8/28/2017
DRAWN BY	1607138/IB
CHECKED BY	
SCALE	AS SHOWN

PROFESSIONAL ENGINEER

8/28/17

No. 10360773

M. CHRIS POULSEN

STATE OF UTAH

**BENCHMARK ENGINEERING & LAND SURVEYING**

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**WINSTON PARK**

3908 W 1800 S

WEBER COUNTY, UTAH

PROJECT NO. 1607138

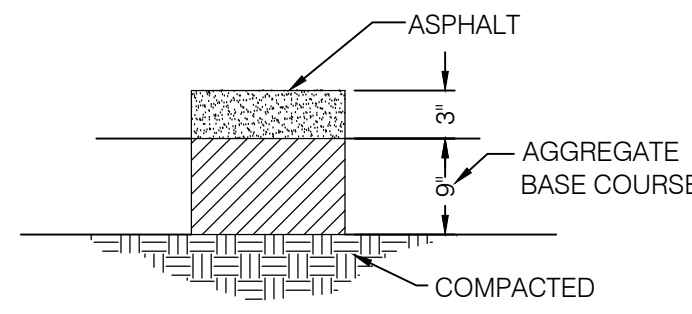
**EROSION CONTROL DETAILS**

CEP.02

20 OF 24



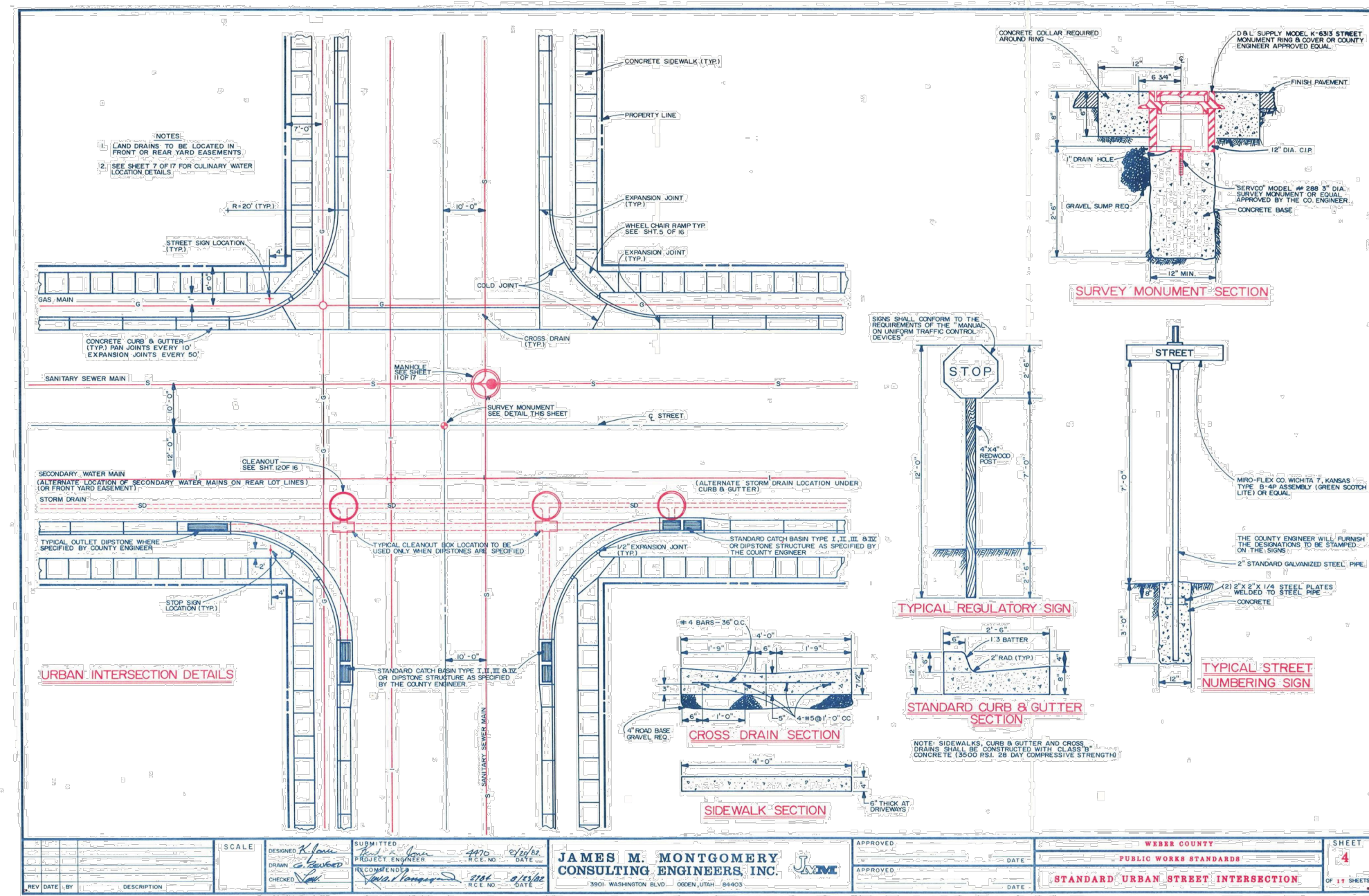
ALTERNATE: STANDARD  
 CONCRETE 5"  
 GRAVEL BASE 4"



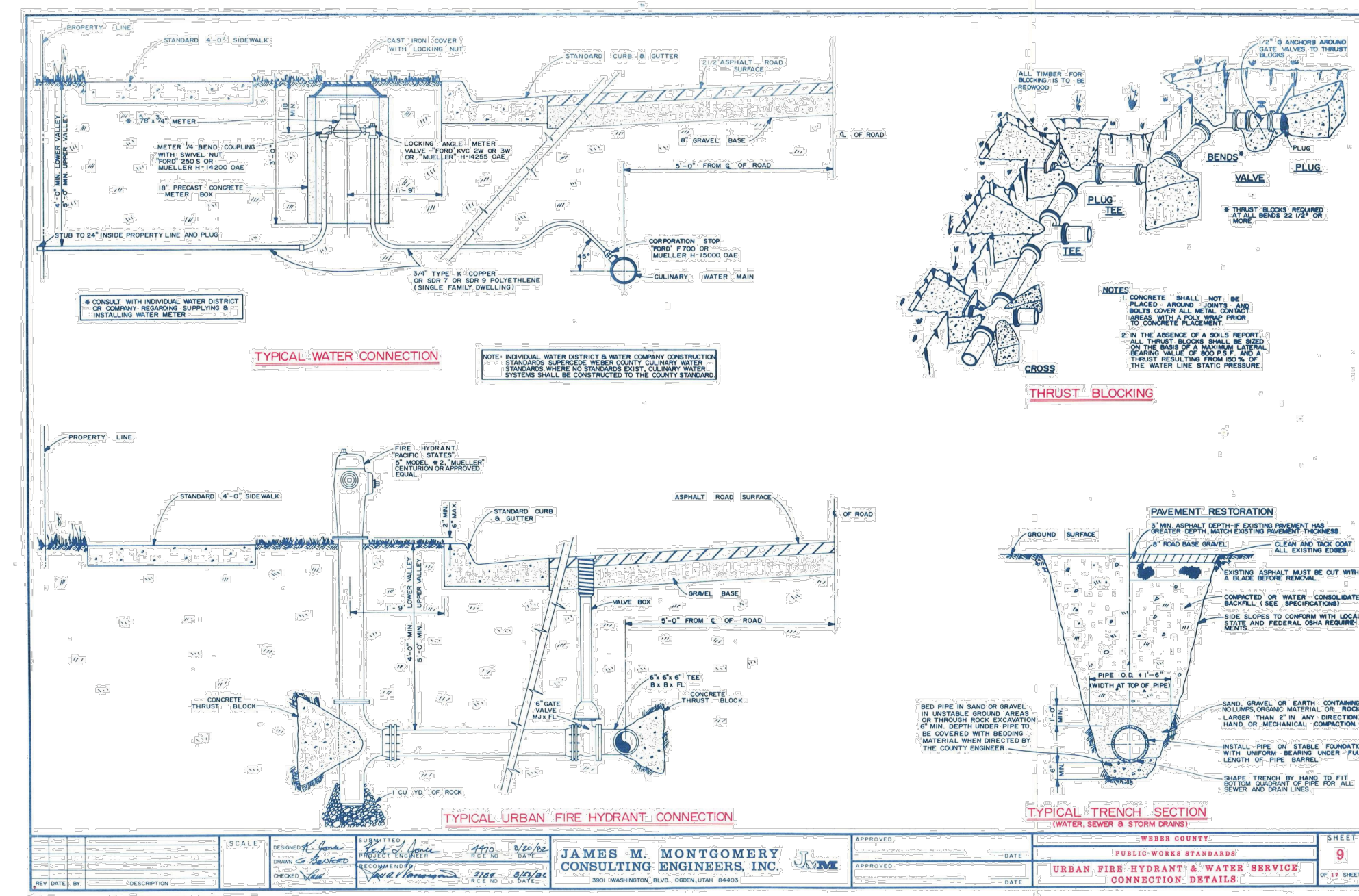
**STANDARD DUTY PAVEMENT**

NOTE:  
 1. FOR REINFORCEMENT DESIGN OF PCC PAVEMENT SECTIONS SEE STRUCTURAL ENGINEER  
 2. FOR DOWEL DESIGN OF PCC PAVEMENT SECTIONS SEE GEOTECHNICAL ENGINEER  
 3. REFER TO GEOTECHNICAL REPORT #1160708 PREPARED BY AGEC ON OCTOBER 12, 2016 FOR PAVEMENT DESIGN. DEFER TO GEOTECHNICAL REPORT IF DIFFERENT FROM THIS SECTION.

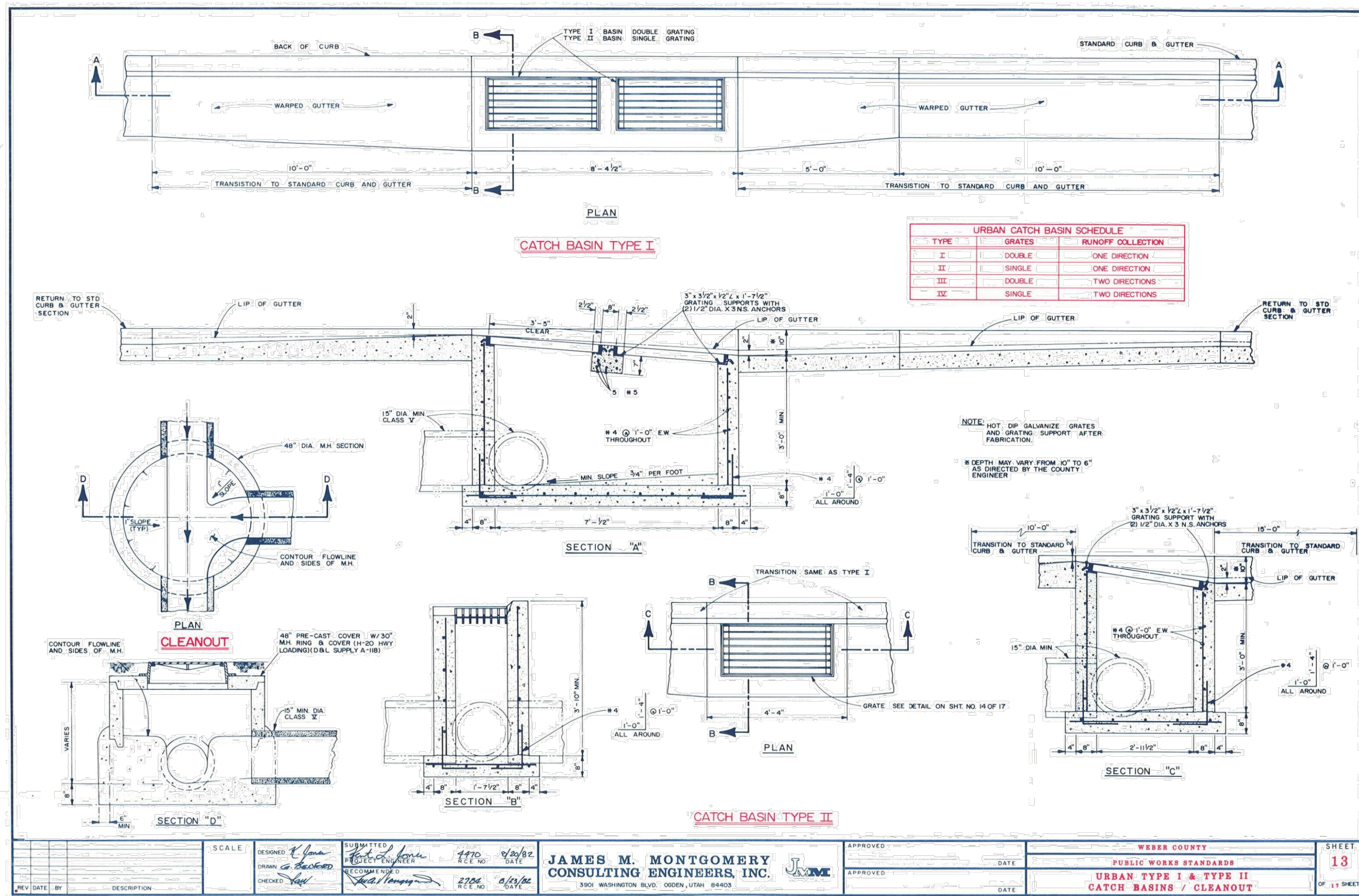
**PAVEMENT SECTIONS** ①  
 SCALE: N.T.S.



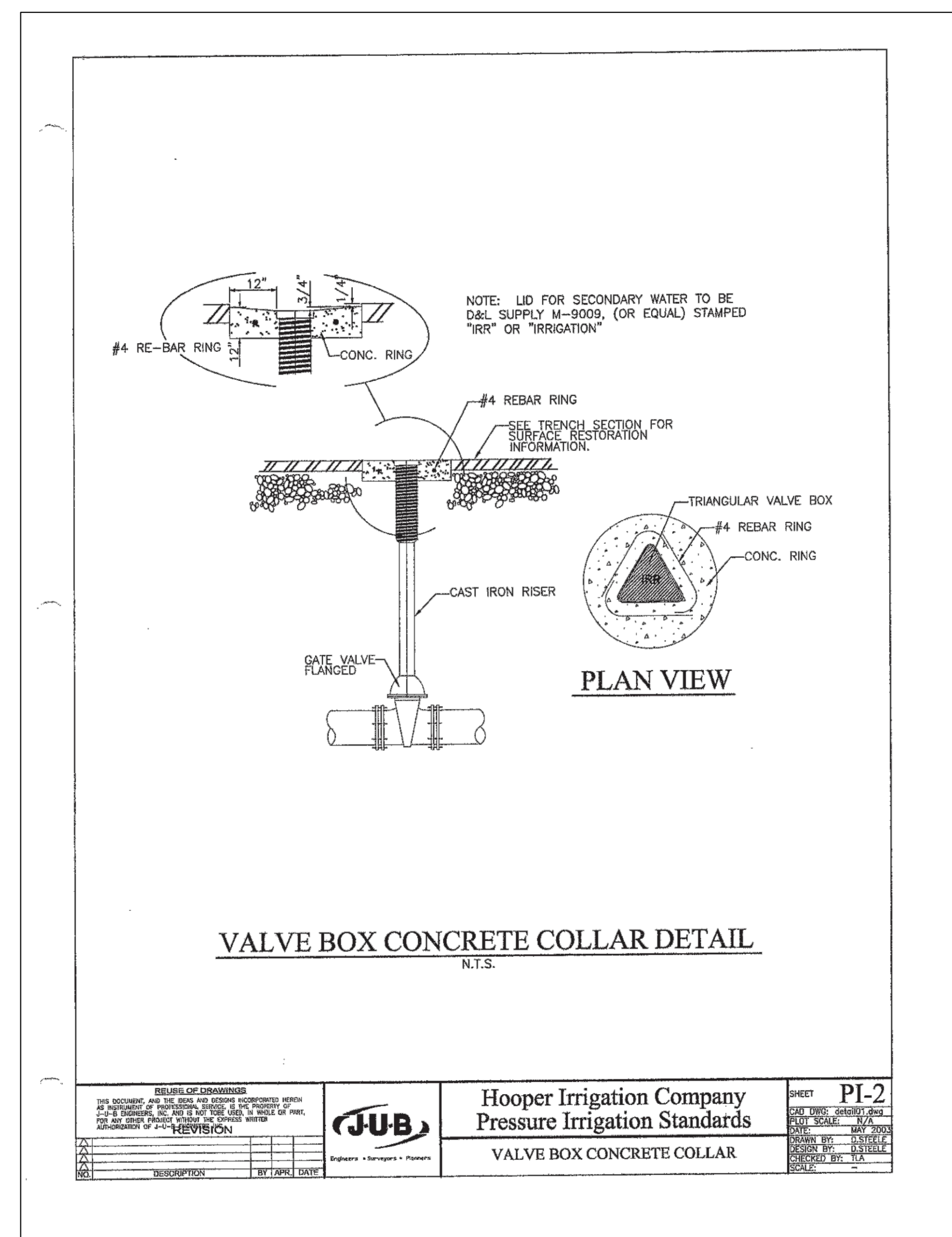
**CURB, GUTTER & SIDEWALK** ②  
 SCALE: N.T.S.



**CULINARY WATER DETAILS** ③  
 SCALE: N.T.S.



**CATCH BASIN / CLEANOUT** ④  
 SCALE: N.T.S.



**HOOPER IRR. GATE VALVE** ⑤  
 SCALE: N.T.S.

NO. DATE  
 PROJECT NO. 1607138  
 SHEET NO. 18 OF 18 SHEETS  
 SCALE MEASURES DIMENSIONS ON ALL SIZE SHEETS  
 UNLESS ACCORDINGLY NOTED OTHERWISE

DESIGNED BY: MCP  
 CHECKED BY: SURVEY  
 DATE: 8/28/2017  
 DRAWN BY: JMM  
 FILE NO: 1607138/18

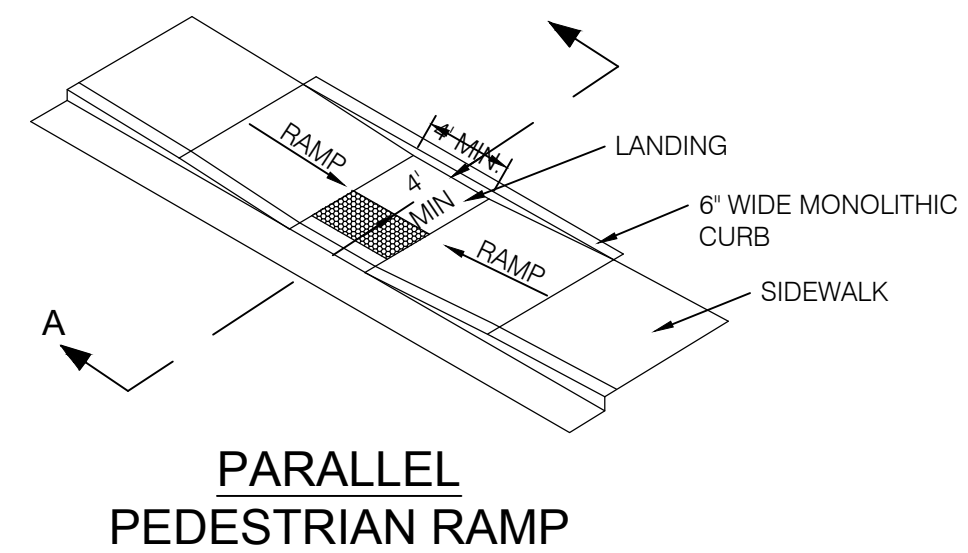
PROFESSIONAL ENGINEER  
 No. 10360773  
 M. CHRIS POULSEN  
 STATE OF UTAH

**BENCHMARK ENGINEERING & LAND SURVEYING**  
 930 SOUTH STATE STREET SUITE #100  
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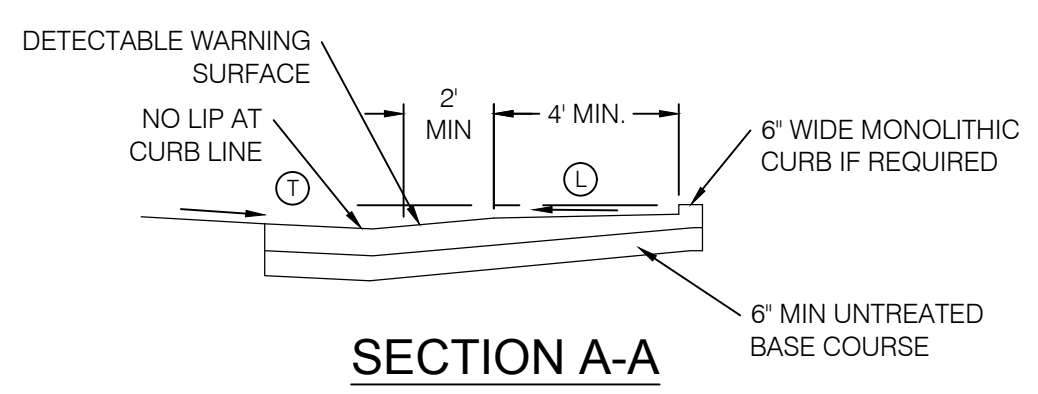
**WINSTON PARK**  
 3908 W 1800 S  
 WEBER COUNTY, UTAH

PROJECT NO. 1607138  
 SHEET PI-2  
 Hooper Irrigation Company  
 Pressure Irrigation Standards  
 VALVE BOX CONCRETE COLLAR  
 DETAILS & NOTES  
 CDT.01  
 21 OF 24

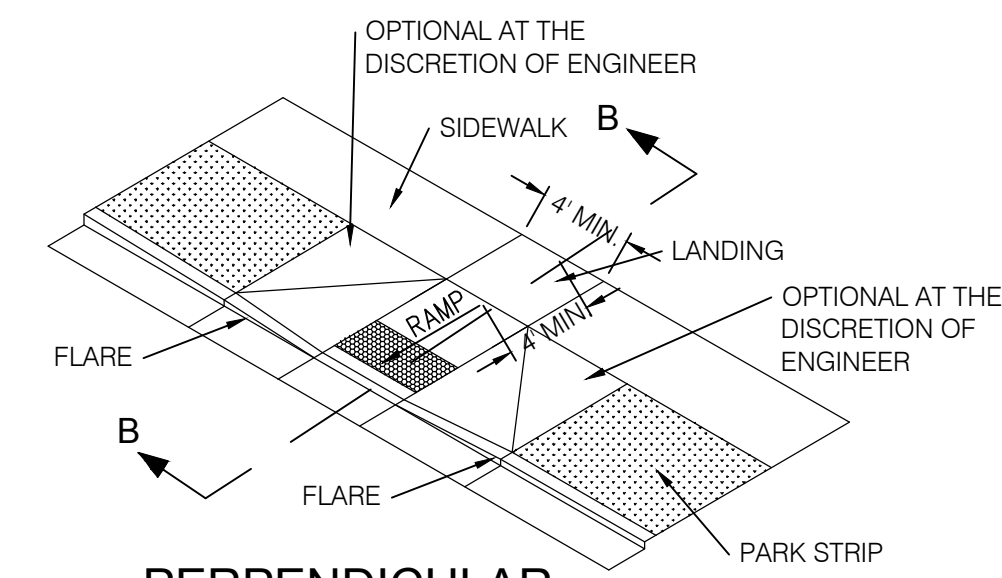




**PARALLEL PEDESTRIAN RAMP**

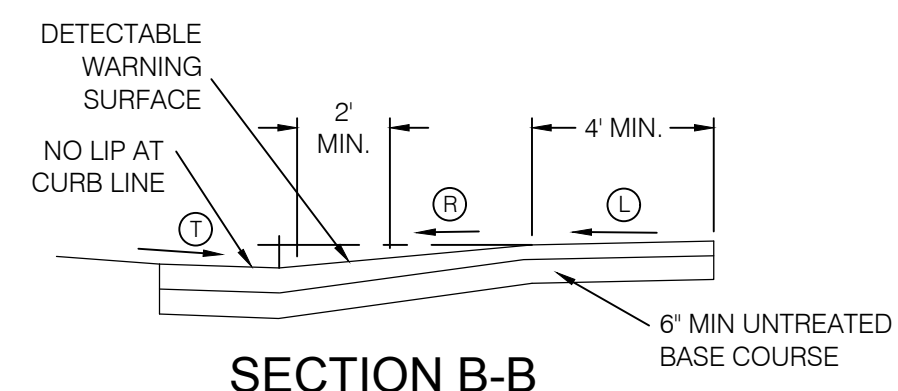


**SECTION A-A**

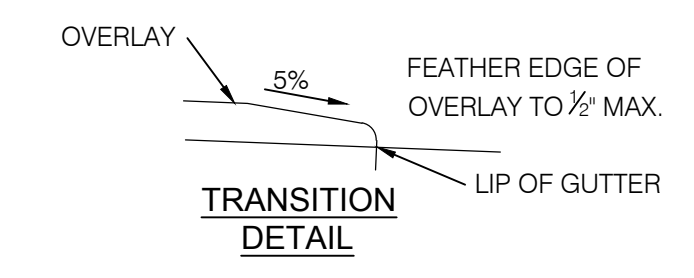


**PERPENDICULAR PEDESTRIAN RAMP**

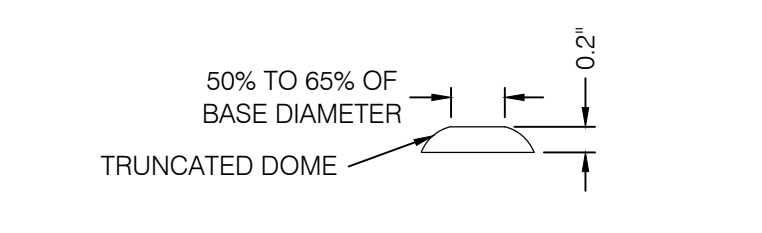
FLARE IS ACCEPTABLE IN LIEU OF FULL HEIGHT CURB SEE LOCAL AGENCY REQUIREMENTS



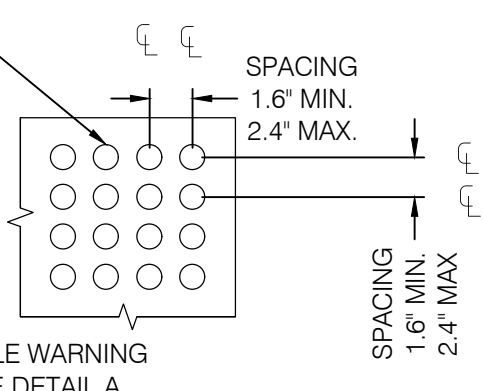
**SECTION B-B**



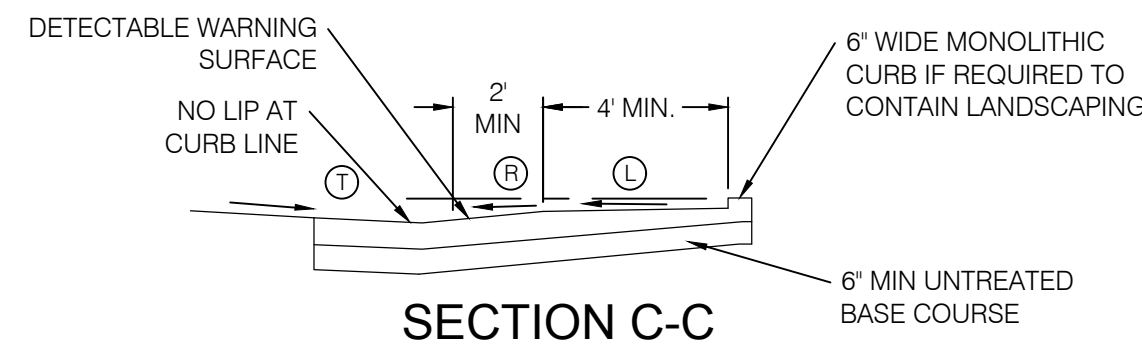
**TRANSITION DETAIL**



**TRUNCATED DOME IN SQUARE GRID PATTERN**

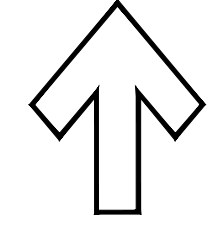


**DETECTABLE WARNING SURFACE DETAIL A**



**SECTION C-C**

THIS DRAWING PRODUCED BY THE U.S. ACCESS BOARD



**DIRECTION OF TRAVEL OR APPROACH**

THIS DRAWING PRODUCED BY THE U.S. ACCESS BOARD



**INTERNATIONAL SYMBOL OF ACCESSIBILITY**

THIS DRAWING PRODUCED BY THE U.S. ACCESS BOARD

**STRIPING SYMBOLS**

SCALE: N.T.S.

**STANDARD ACCESS RAMP**

SCALE: N.T.S.

1

**NOTES:**

1. CONFIGURATION OF RAMPS AND LANDINGS MAY BE CHANGED BUT MUST MEET PEDESTRIAN RAMP DIMENSIONS AND SLOPE REQUIREMENTS. SPECIFIC SITE CONDITIONS WILL VARY. THE USE OF FLARES, CURBWALLS, ETC. ARE AT THE DISCRETION OF THE ENGINEER.
2. PERPENDICULAR AND PARALLEL PEDESTRIAN RAMPS SHOWN ON THIS DRAWING ARE ACCEPTABLE FOR USE AT MID BLOCK OR CORNER INSTALLATIONS.
3. PROVIDE DETECTABLE WARNING SURFACE FOR FULL WIDTH OF RAMP, LANDING OR CURB CUT. SEE DETAIL A FOR DETECTABLE WARNING SURFACE DIMENSIONS.
4. LOCATE DETECTABLE WARNING SURFACE SO THAT THE EDGE NEAREST THE STREET IS 4 TO 6 INCHES FROM THE TOP BACK OF CURB.
5. PROVIDE DETECTABLE WARNING SURFACE. COLOR SHALL BE YELLOW.
6. USE CLASS AA (AE) CONCRETE.
7. USE 6" MIN. DEPTH OR UNTREATED BASE COURSE UNDER ALL CONCRETE FLATWORK COMPACTED TO 96% MAXIMUM DRY DENSITY.

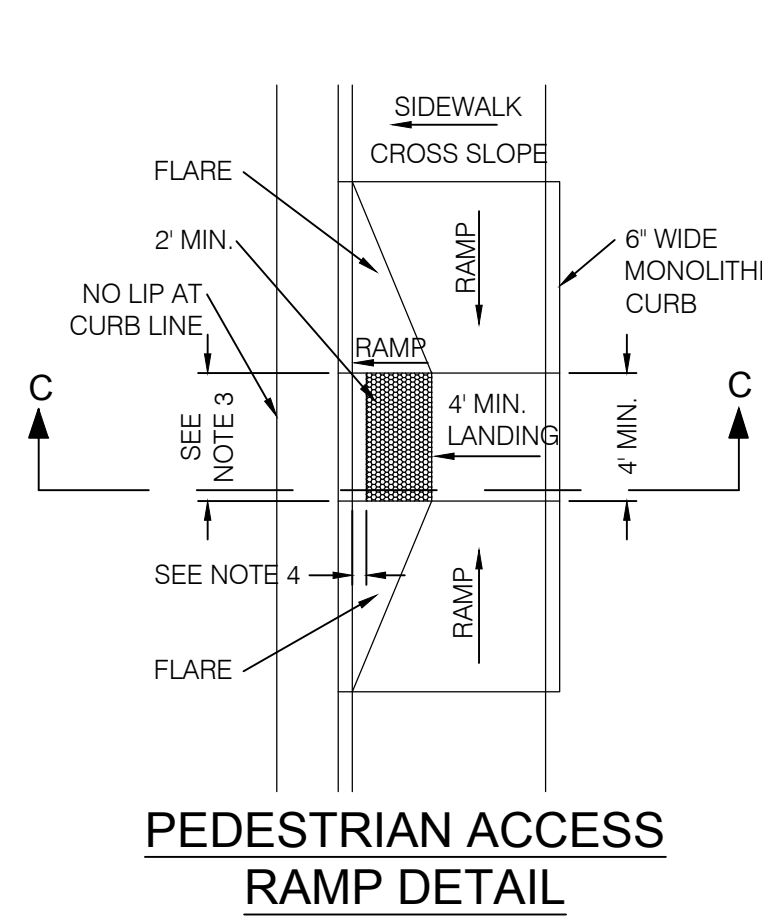
SLOPE TABLE			
	ITEM	RUNNING SLOPE*	CROSS SLOPE
(L)	LANDING	1.5-2% (1V:48H) (b)	1.5-2% (1V:48H) (b)
(R)	RAMP	8.33% (1V:12H) (c)	1.5-2% (1V:48H) (d)
(T)	TRANSITION	5% (1V:20H) (a)	1.5-2% (1V:48H) (d)
	SIDEWALK	--	1.5-2% (1V:48H)
	FLARE	10% (1V:10H)	--

\* RUNNING SLOPE IS IN THE DIRECTION OF PEDESTRIAN TRAVEL, WHILE CROSS SLOPE IS PERPENDICULAR TO PEDESTRIAN TRAVEL.

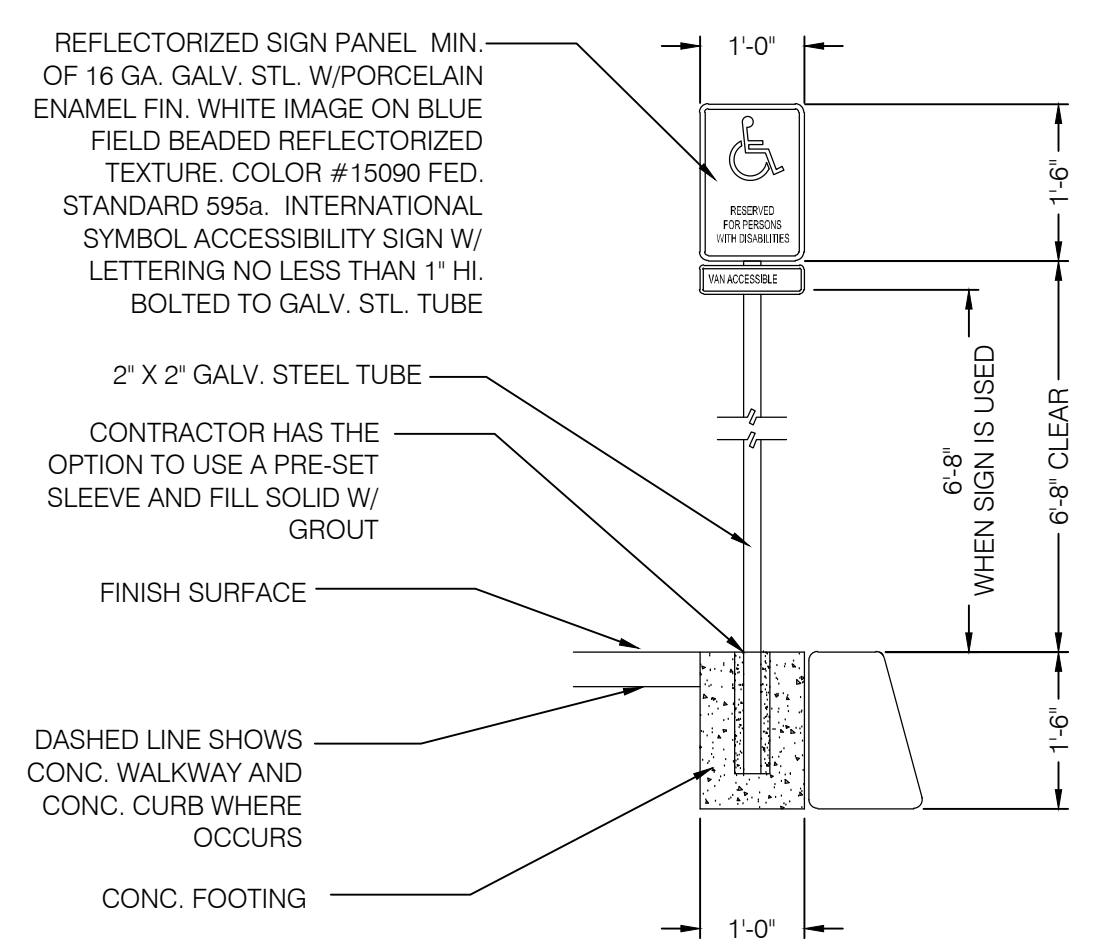
(a) TRANSITION RUNNING SLOPE NEEDS TO BE CONSTANT ACROSS ENTIRE CURB CUT. WARP GUTTER PAN TO MEET REQUIRED TRANSITION SLOPE AT CURB CUT (0.10' MAX. ABOVE FLOWLINE.)

**EXCEPTION:**

- (b) IF SLOPE REQUIREMENTS CAN'T BE ACHIEVED ON MID-BLOCK RAMPS CONTACT THE ENGINEER.
- (c) PARALLEL RAMPS ARE NOT REQUIRED TO EXCEED 15-FEET IN LENGTH.
- (d) CROSS SLOPE REQUIREMENT DOES NOT APPLY AT PERPENDICULAR RAMP MID-BLOCK CROSSING.



**PEDESTRIAN ACCESS RAMP DETAIL**



**ADA SIGN POST DETAIL**

REFLECTORIZED SIGN PANEL MIN. OF 16 GA. GALV. STL. W/PORCELAIN ENAMEL FIN. WHITE IMAGE ON BLUE FIELD BEADED REFLECTORIZED TEXTURE. COLOR #15090 FED. STANDARD 595a. INTERNATIONAL SYMBOL ACCESSIBILITY SIGN W/ LETTERING NO LESS THAN 1" HI. BOLTED TO GALV. STL. TUBE

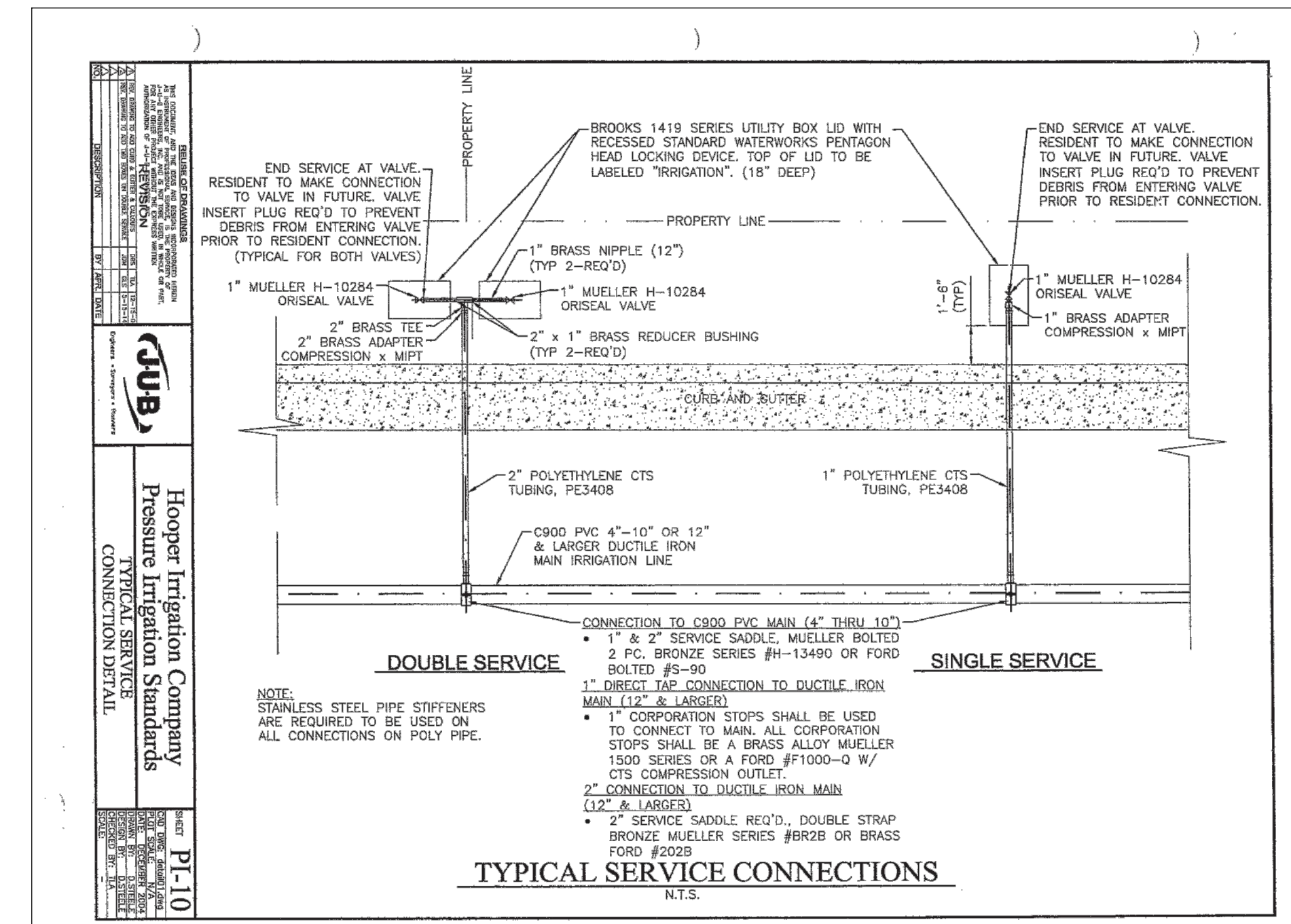
2" X 2" GALV. STEEL TUBE

CONTRACTOR HAS THE OPTION TO USE A PRE-SET SLEEVE AND FILL SOLID W/ GROUT

FINISH SURFACE

DASHED LINE SHOWS CONC. WALKWAY AND CONC. CURB WHERE OCCURS

CONC. FOOTING



**TYPICAL SERVICE CONNECTIONS**

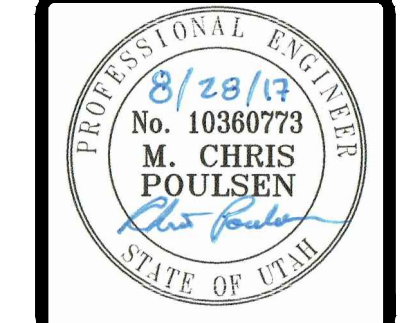
N.T.S.

**SECONDARY ASSEMBLY**

SCALE: N.T.S.

2

NO.	DATE	DESCRIPTION
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

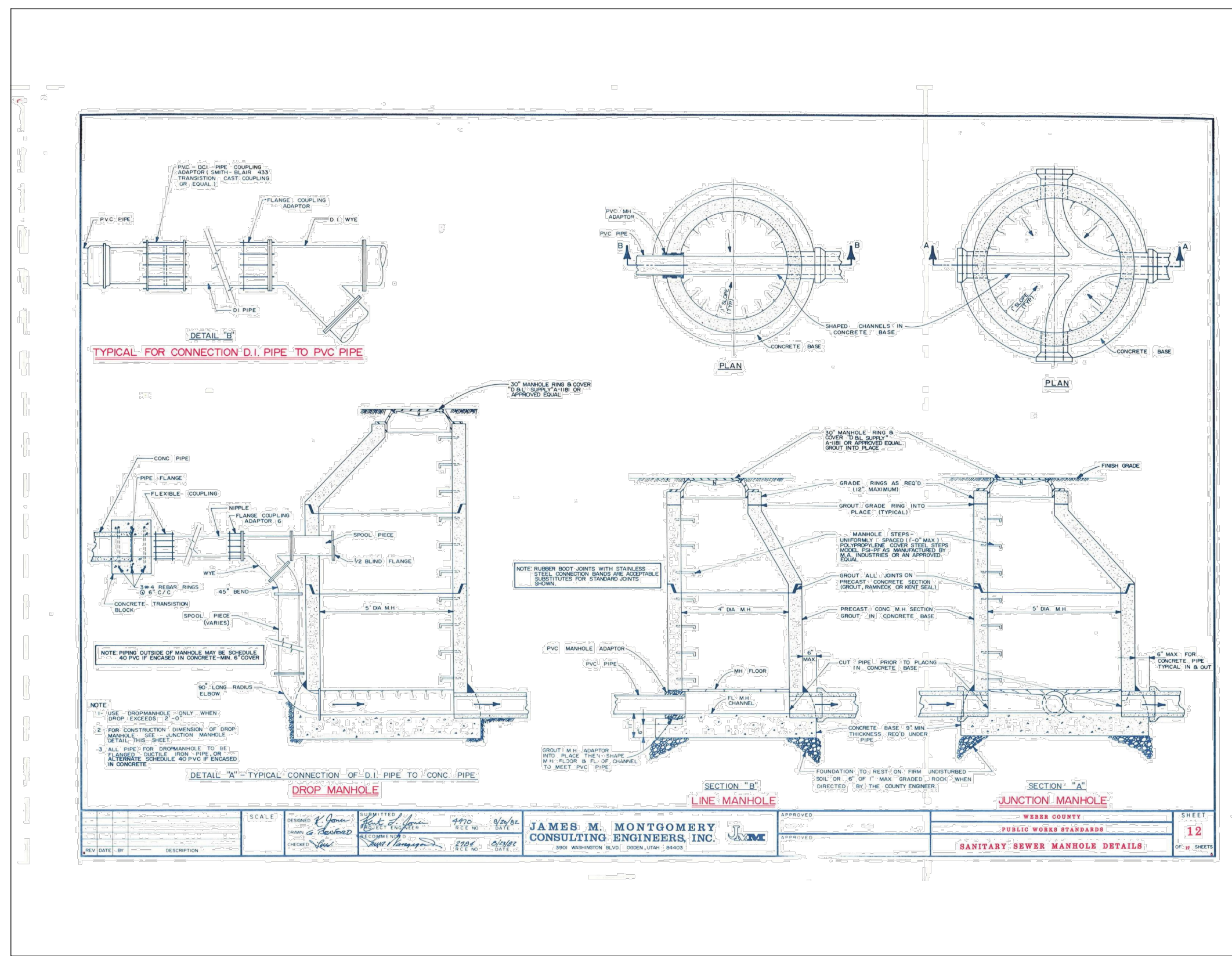


**BENCHMARK ENGINEERING & LAND SURVEYING**  
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**WINSTON PARK**  
 3908 W 1800 S  
 WEBER COUNTY, UTAH

PROJECT NO. 1607138  
**DETAILS & NOTES**  
 CDT.02  
 22 OF 24

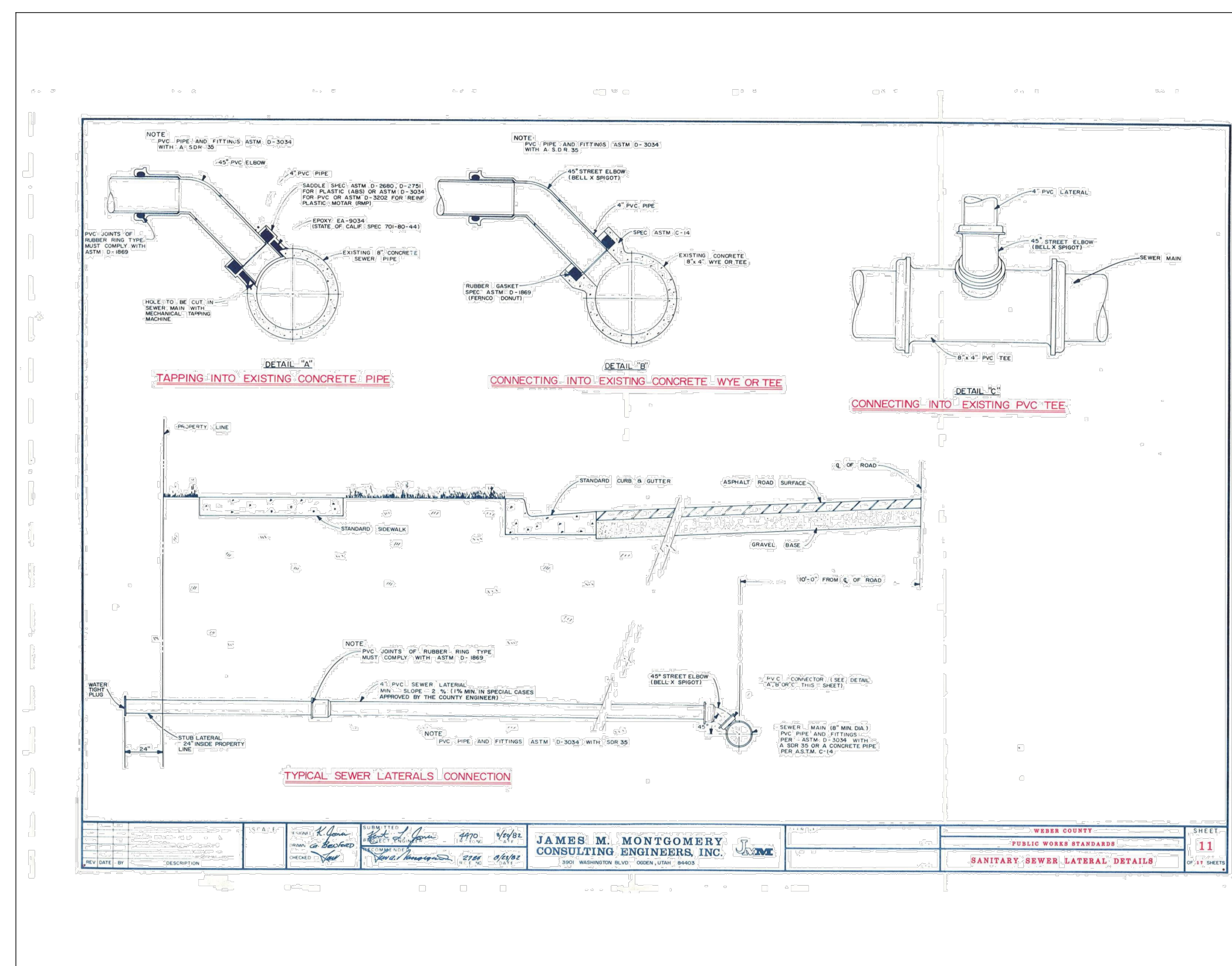




**SEWER MANHOLE**

SCALE: N.T.S.

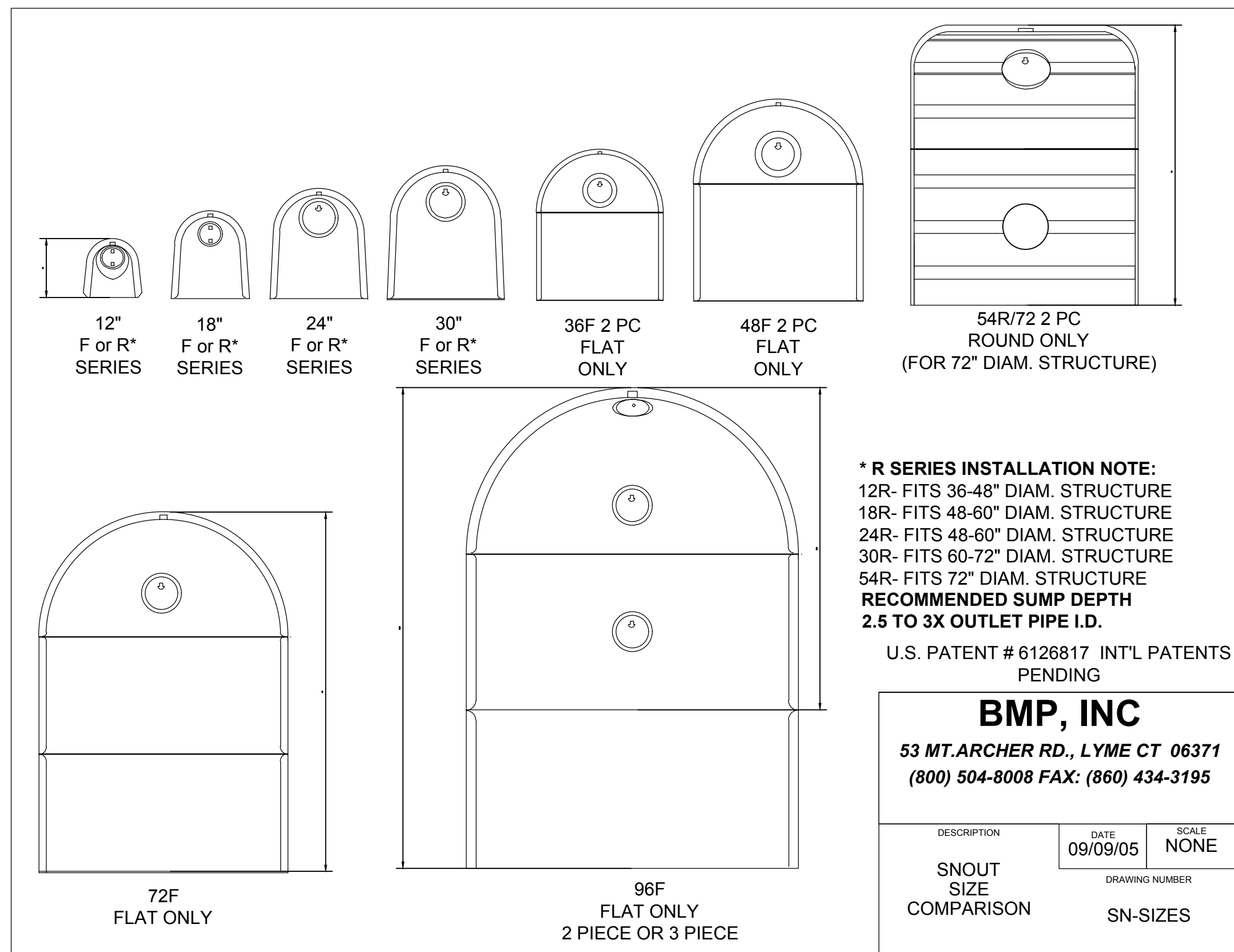
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**SEWER LATERAL CONNECTION**

SCALE: N.T.S.

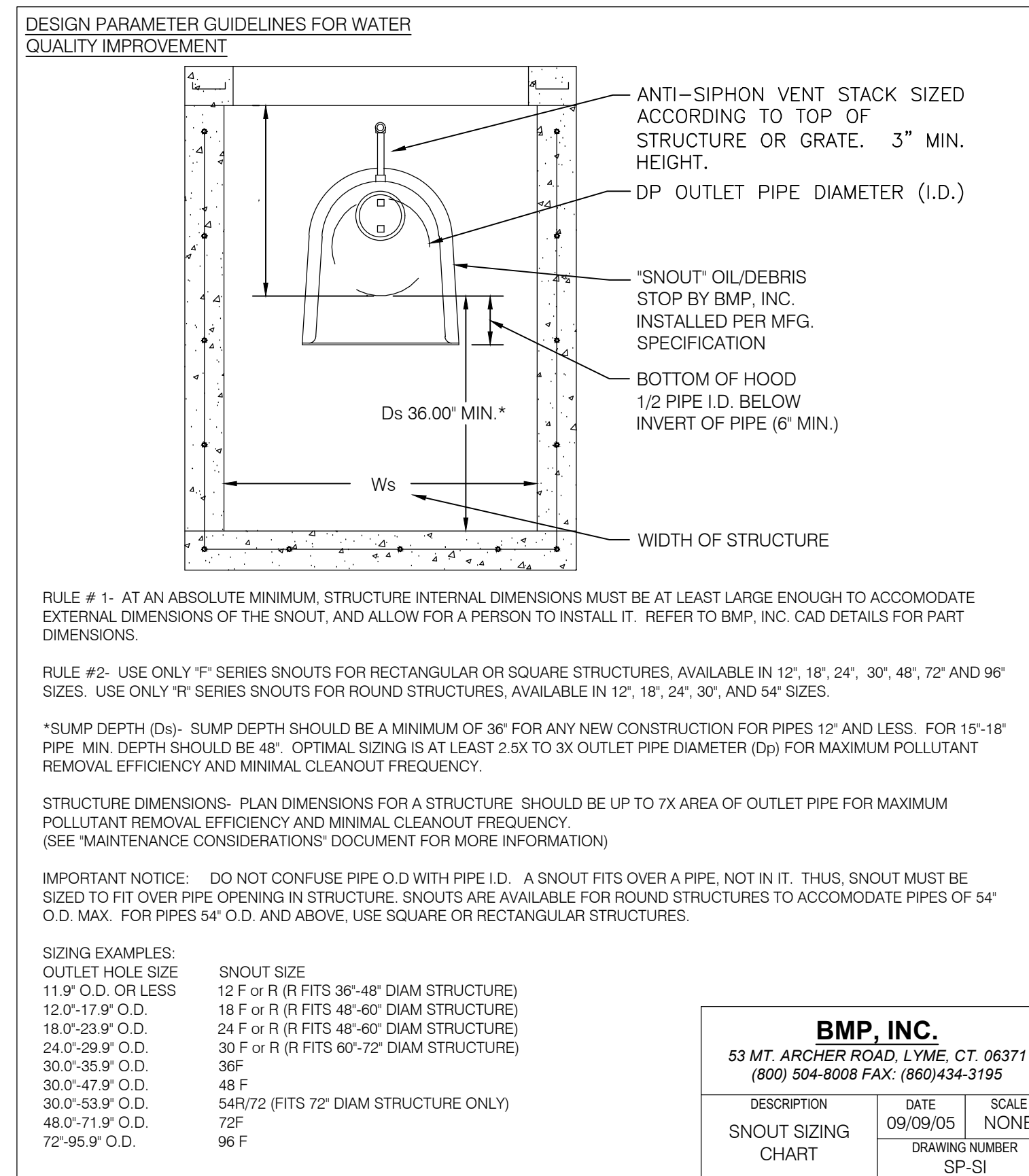
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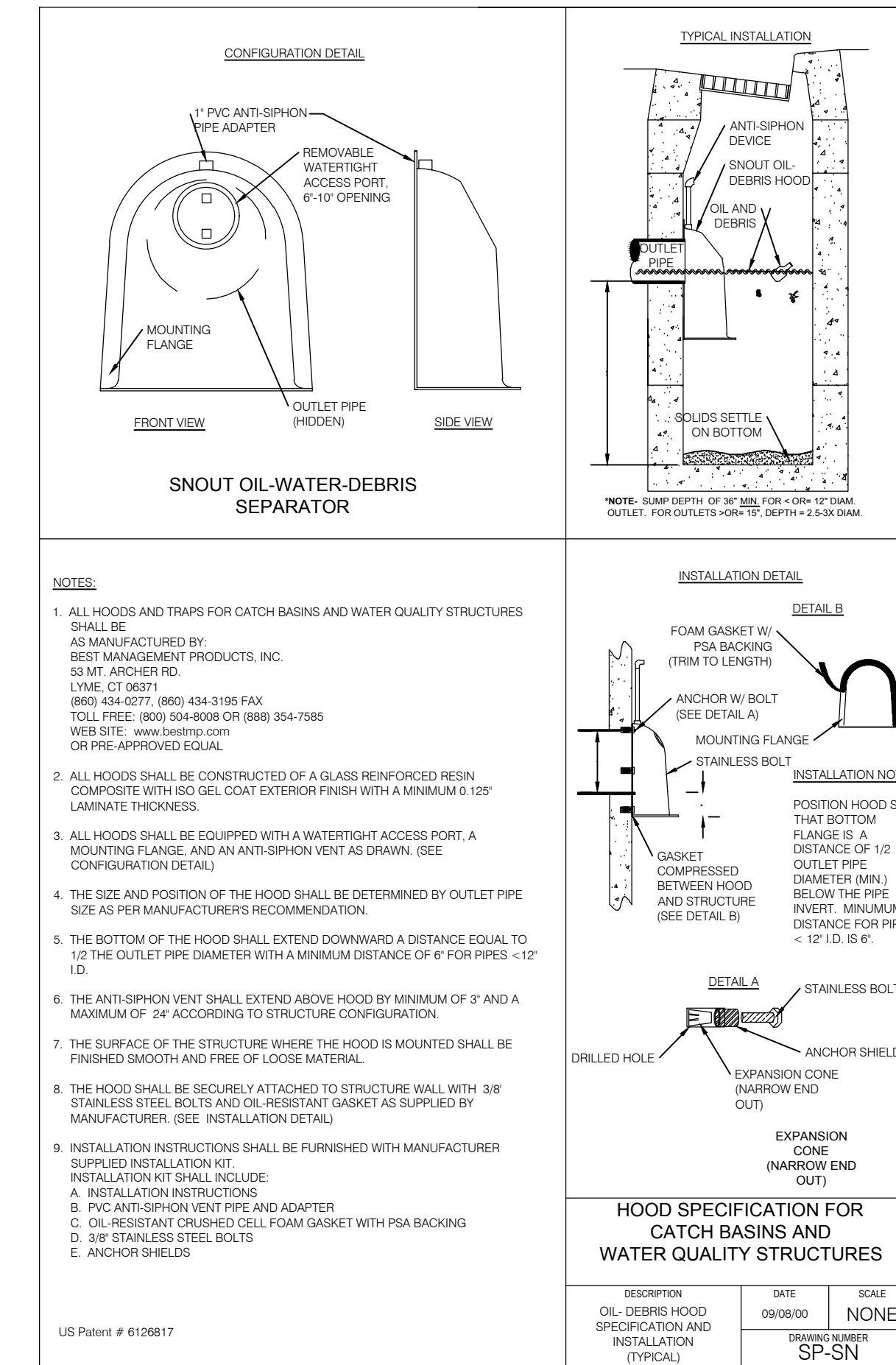
**SNOUT DETAILS**

SCALE: N.T.S.

3



DESCRIPTION	DATE	SCALE
SNOUT SIZING CHART	09/09/05	NONE
DRAWING NUMBER		SP-SI



PROFESSIONAL ENGINEER  
 No. 10360773  
 M. CHRIS POULSEN  
 STATE OF UTAH

**BENCHMARK ENGINEERING & LAND SURVEYING**  
 9130 SOUTH STATE STREET SUITE # 100  
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**BENCHMARK CIVIL**

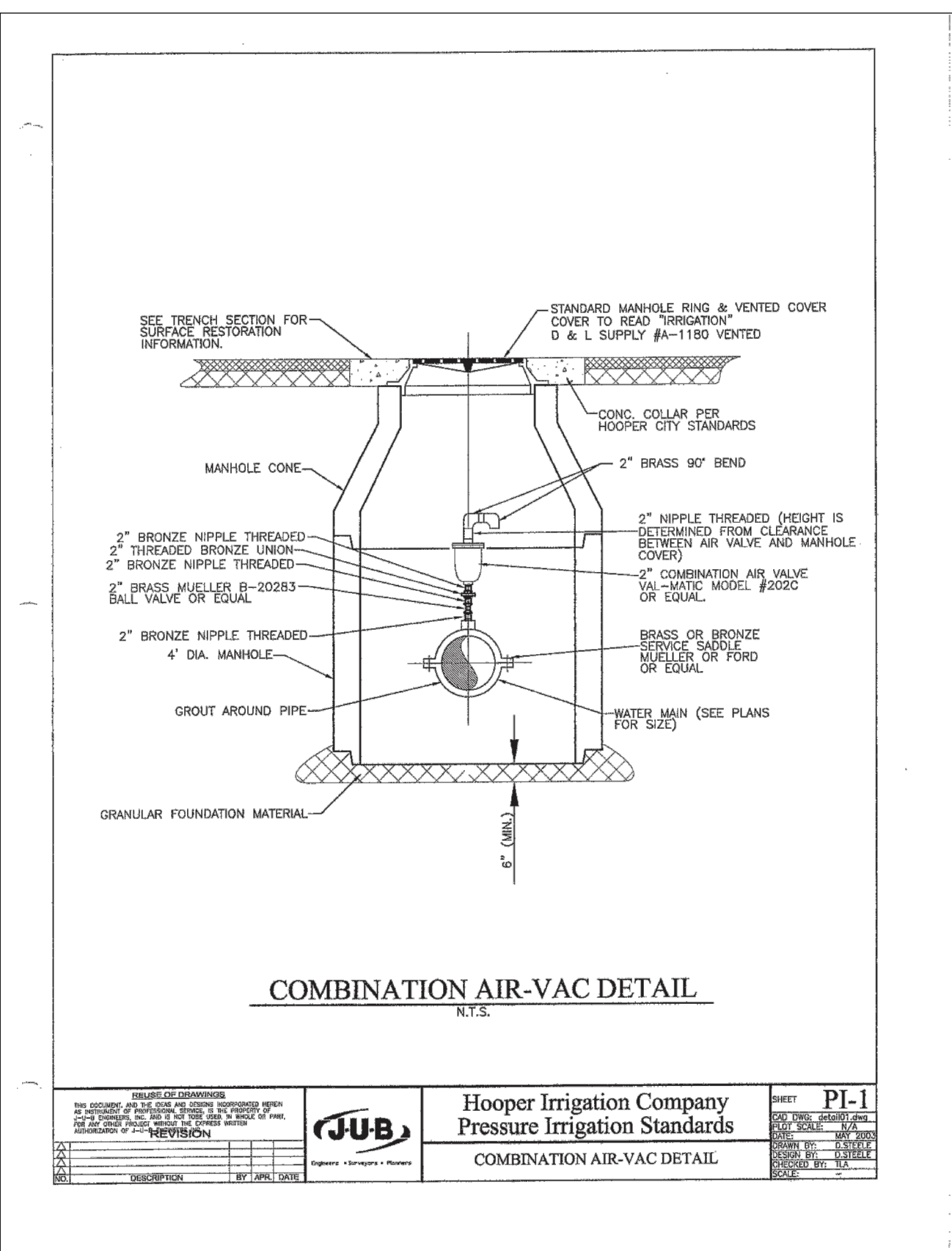
**WINSTON PARK**  
 3908 W 1800 S  
 WEBER COUNTY, UTAH

PROJECT NO. 1607138

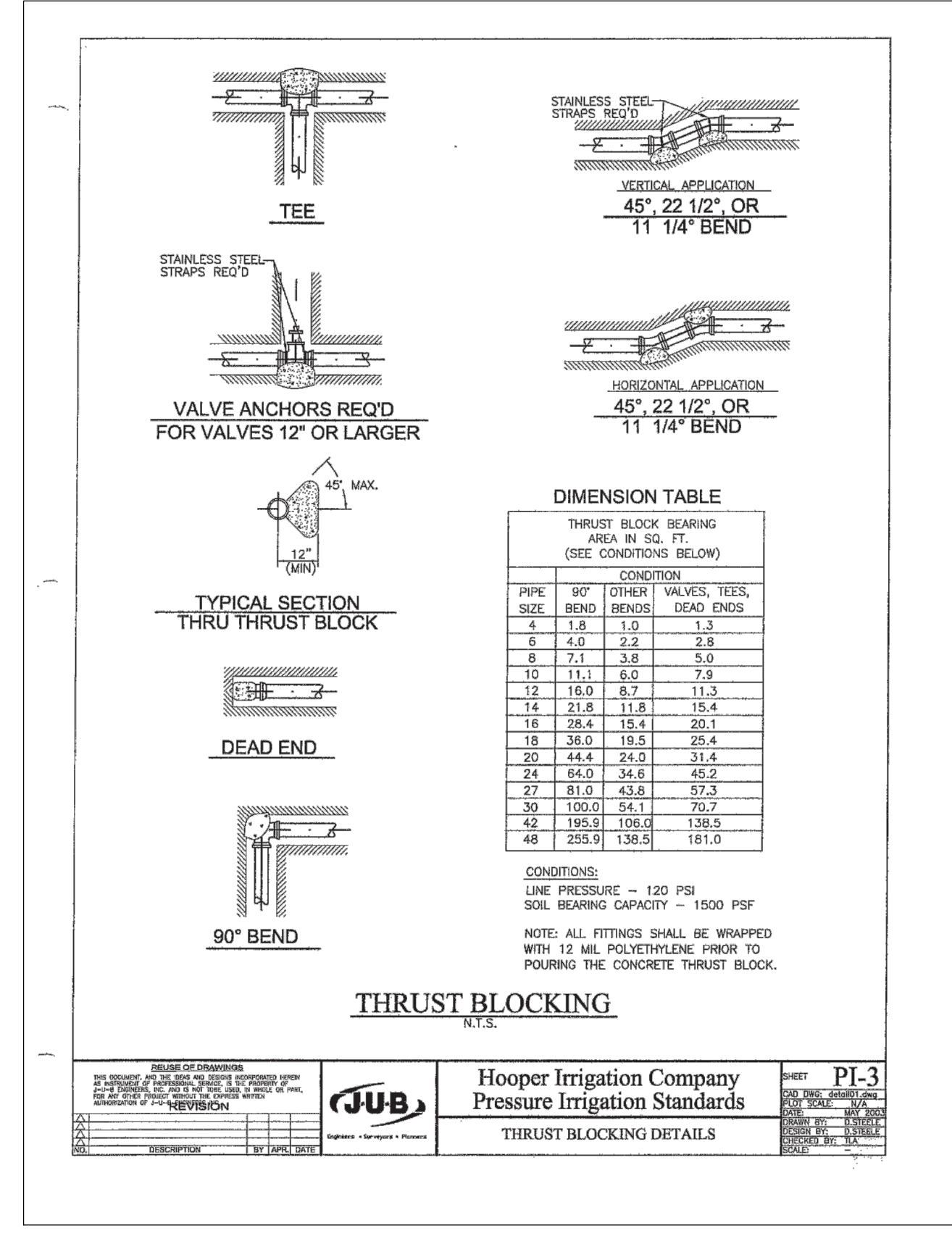
**DETAILS & NOTES**

CDT.03  
 23 OF 24

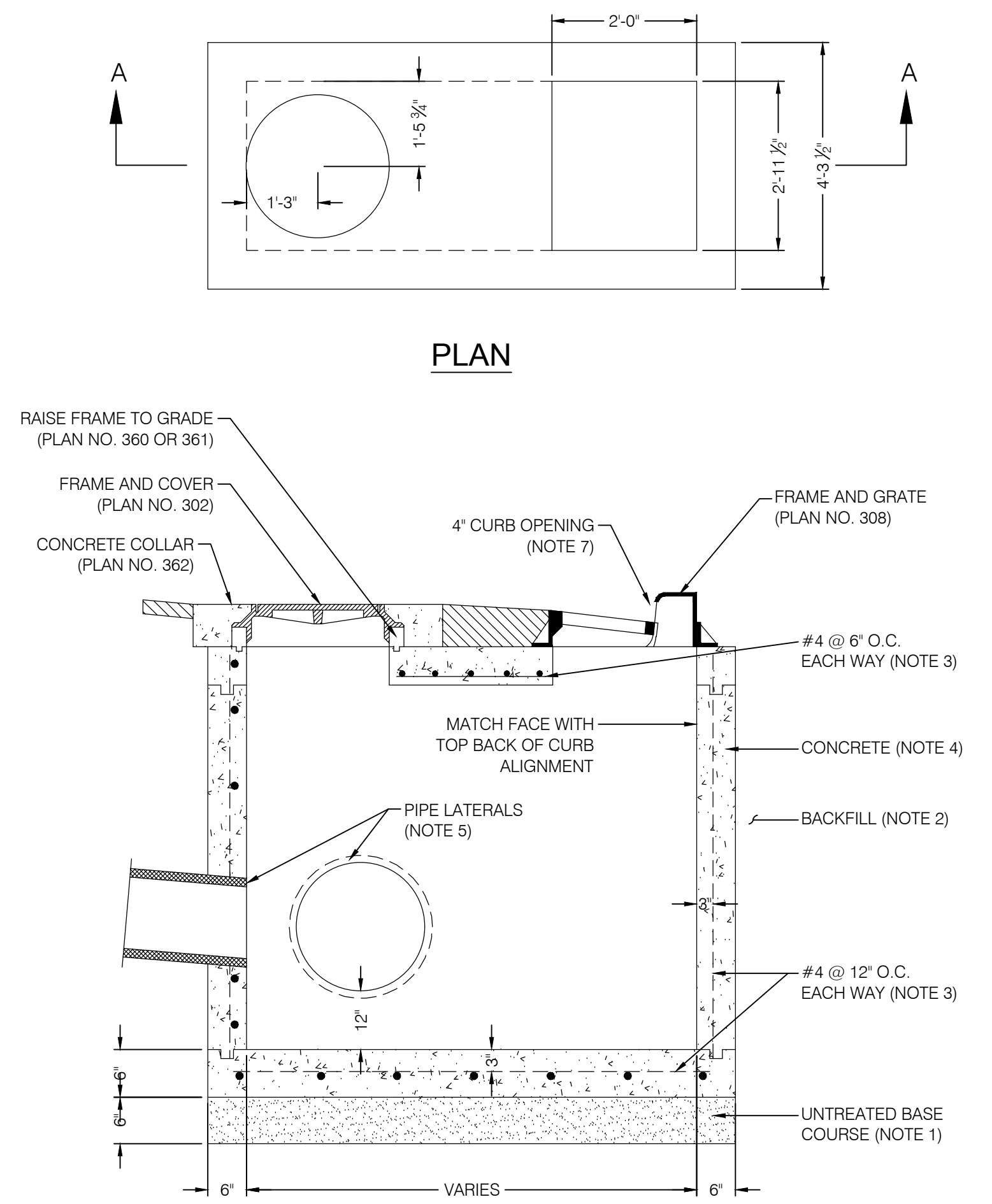




**COMBO AIR-VAC**  
SCALE: N.T.S.

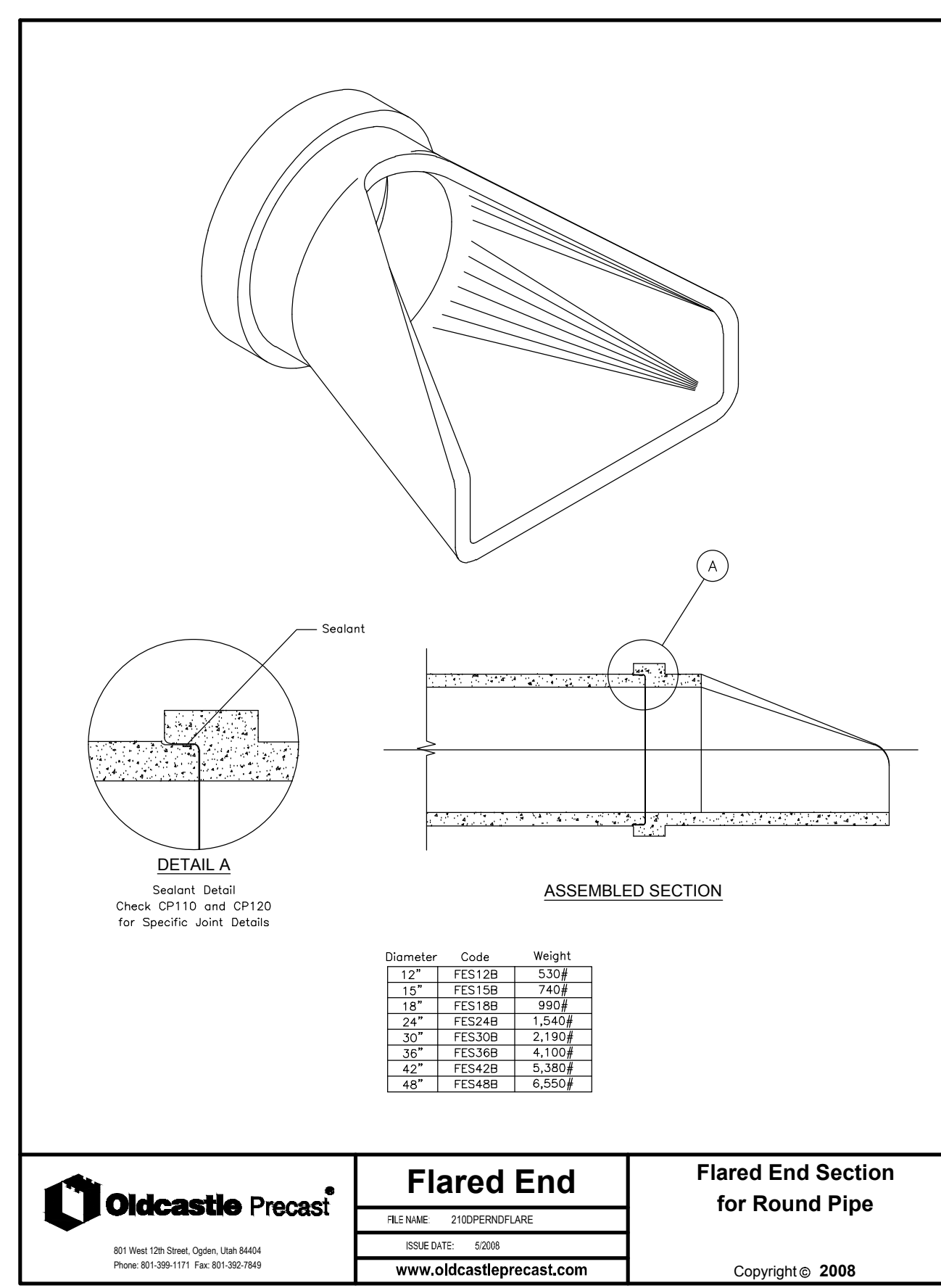


**HOOPER THRUST BLOCK**  
SCALE: N.T.S.

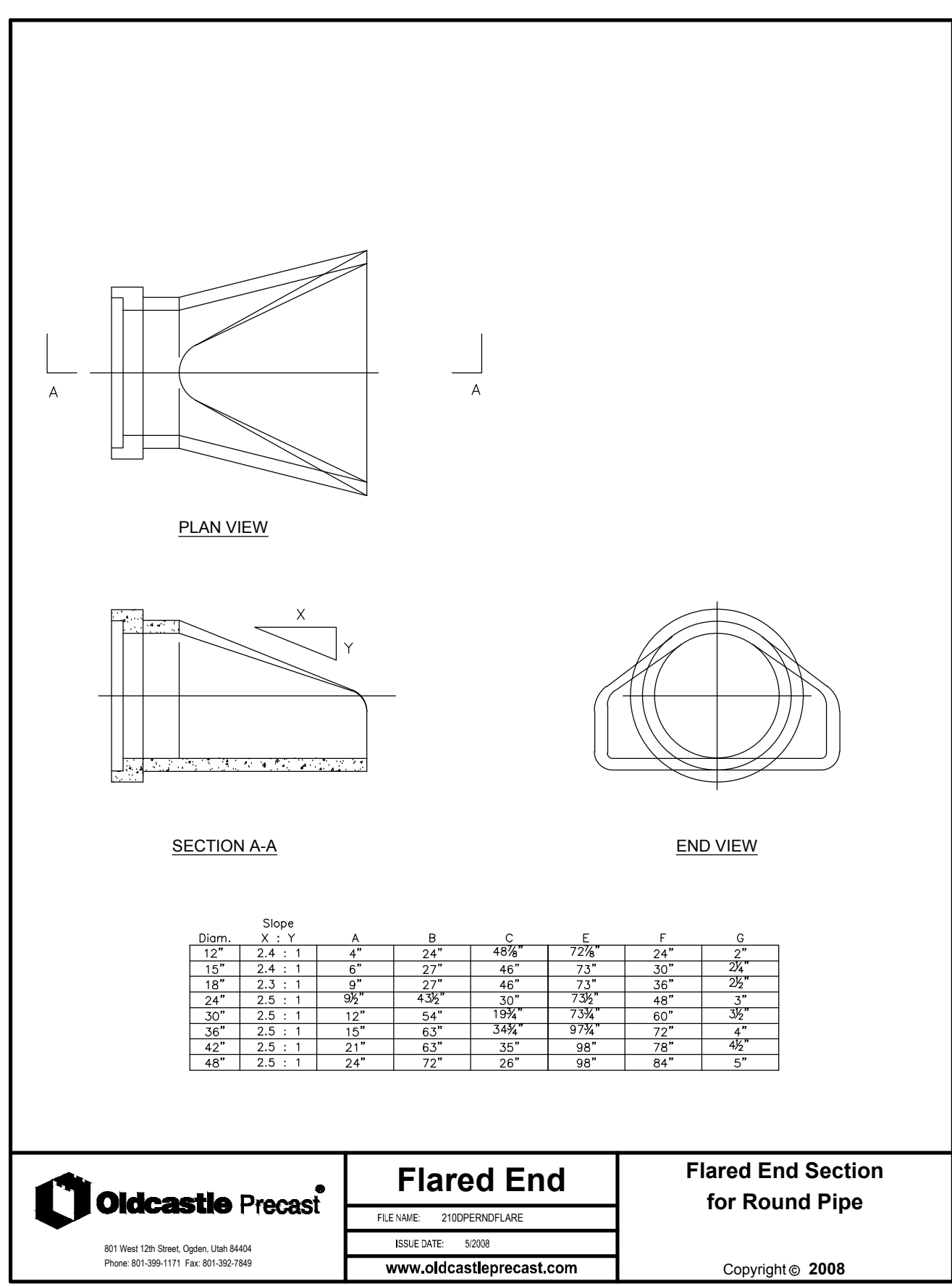


**COMBINATION INLET/CLEANOUT BOX**  
SCALE: N.T.S.

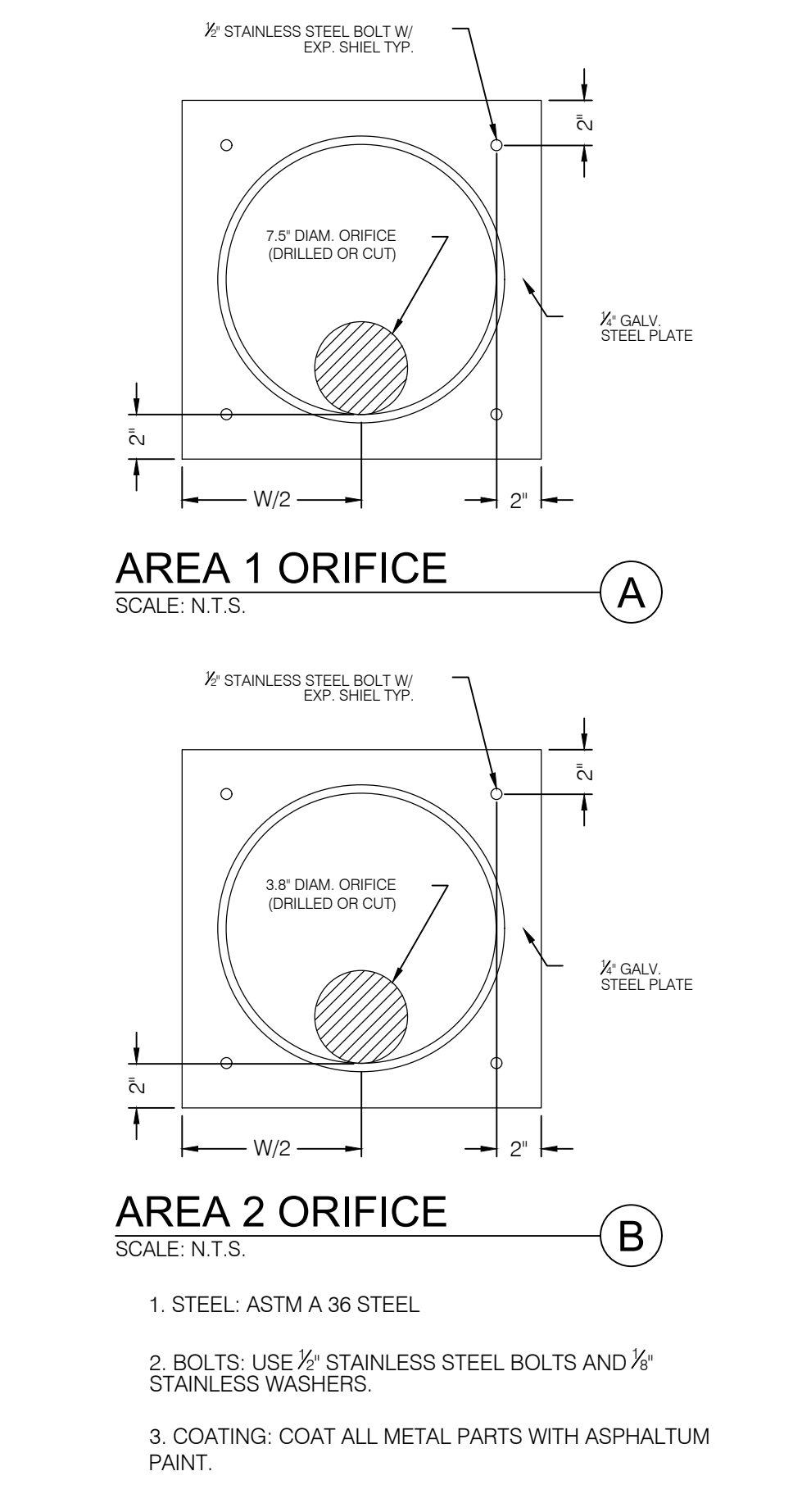
- UNTREATED BASE COURSE: PROVIDE MATERIAL SPECIFIED IN APWA SECTION 32 11 23.
  - DO NOT USE GRAVEL AS A SUBSTITUTE FOR UNTREATED BASE COURSE WITHOUT ENGINEER'S PERMISSION.
  - PLACE MATERIAL PER APWA SECTION 32 23 23.
  - COMPACT PER APWA SECTION 31 23 26 TO A MODIFIED PROCTOR DENSITY OF 95 PERCENT OR GREATER. MAXIMUM LIFT THICKNESS BEFORE COMPACTION IS 8 INCHES WHEN USING RIDING COMPACTION EQUIPMENT OR 6 INCHES WHEN USING HAND HELD COMPACTION EQUIPMENT.
- BACKFILL: PROVIDE AND PLACE PER APWA SECTION 31 23 23 ON ALL SIDES OF BASIN. COMPACT PER APWA SECTION 31 23 26 TO A MODIFIED PROCTOR DENSITY OF 95 PERCENT OR GREATER. MAXIMUM LIFT THICKNESS IS 8 INCHES BEFORE COMPACTION.
- REINFORCEMENT: ASTM A 615, GRADE 60, DEFORMED STEEL. SEE APWA SECTION 03 20 00 REQUIREMENTS.
- CONCRETE: CLASS 4000 PER APWA SECTION 03 30 04. PLACE CONCRETE PER APWA SECTION 03 30 10. CURE PER APWA SECTION 03 39 00.
- PIPE LATERALS: THE DRAWING SHOWS ALTERNATE CONNECTIONS TO THE CATCH BASIN. REFER TO CONSTRUCTION DRAWINGS FOR CONNECTION LOCATIONS.
- LADDER RUNGS: PROVIDE PLASTIC COATED STEEL LADDER RUNGS IN BOXES OVER 6 FEET DEEP. PLACE BOTTOM RUNG 6 INCHES ABOVE TOP OF PIPE.
- CURB FACE OPENING: MAKE OPENING AT LEAST 4 INCHES HIGH. PROVIDE AT LEAST A 2 INCH DROP FROM THE CONCRETE GUTTER FLOW-LINE TO THE TOP OF THE GRATE AT THE CURB FACE OPENING.



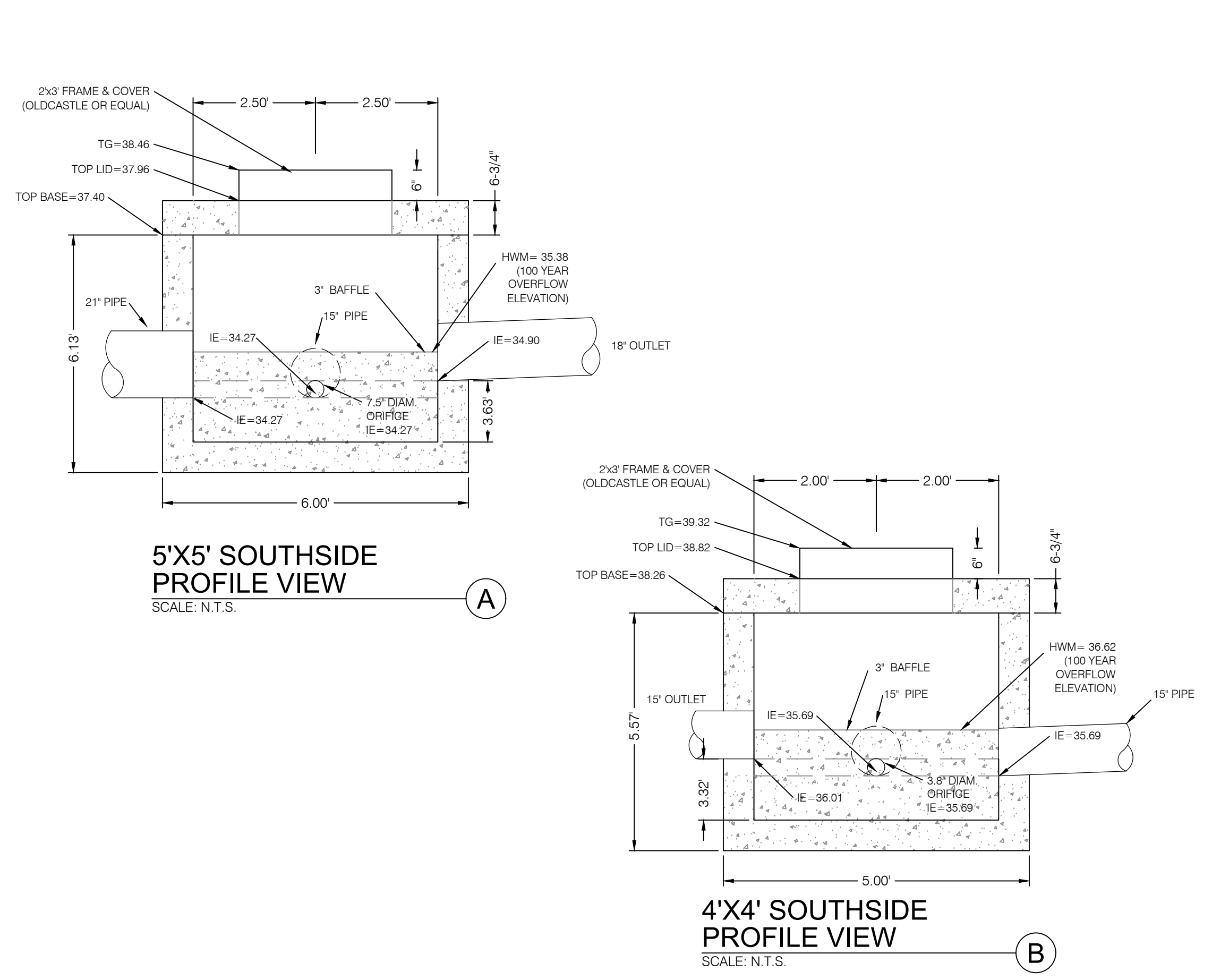
**FLARED END SECTION WITH TRASH GATE**  
SCALE: N.T.S.



**FLARED END SECTION for Round Pipe**  
SCALE: N.T.S.



**ORIFICE RESTRICTOR**  
SCALE: N.T.S.



**CATCH BASIN WITH BAFFLE**  
SCALE: N.T.S.

PROJECT NO. 1607138  
**WINSTON PARK**  
 3908 W 1800 S  
 WEBER COUNTY, UTAH  
 SCALE MEASURES FUND ON FULL SIZE SHEETS  
 ADJUST ACCORDINGLY FOR REDUCED SIZE SHEETS  
 DESIGNED BY: MCP SURVEY  
 DATE: 8/28/2017  
 DRAWN BY: JUB  
 DATE: 8/28/2017  
 CHECKED BY: JUB  
 DATE: 8/28/2017  
 PROJECT: SURVEY  
 SHEET: PI-1  
 TITLE: COMBINATION AIR-VAC DETAIL  
 SCALE: N.T.S.  
 PROFESSIONAL ENGINEER  
 No. 10360773  
 M. CHRIS PULSEN  
 STATE OF UTAH  
**BENCHMARK ENGINEERING & LAND SURVEYING**  
 930 SOUTH STATE STREET SUITE # 100  
 SANDY, UTAH 84070 (801) 542-7192  
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**BENCHMARK CIVIL**  
**DETAILS & NOTES**  
 CDT.04  
 24 OF 24