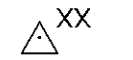
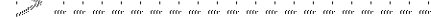
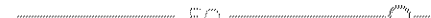
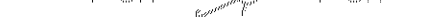
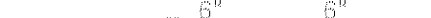
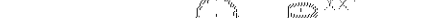
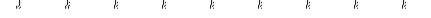


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EXISTING	
	RIGHT OF WAY
	PERMANENT EASEMENT
	PROPERTY LINE
	HORIZONTAL CONTROL POINT
	BENCHMARK
	SURVEY MARKER
	SOIL BORING
	SANITARY SEWER AND MANHOLE
	FORCE MAIN AND LIFT STATION
	SANITARY SEWER SERVICE & CLEANOUT
	WATER MAIN, HYDRANT, VALVE AND MANHOLE
	WATER SERVICE AND CURB STOP BOX
	STORM SEWER, MANHOLE AND CATCH BASIN
	CULVERT AND APRON ENDWALL
	GAS MAIN, VALVE, VENT AND METER
	HANDHOLE
	BURIED FIBER OPTIC CABLE AND MANHOLE
	BURIED PHONE CABLE, PEDESTAL AND MANHOLE
	BURIED TV CABLE, PEDESTAL AND MANHOLE
	BURIED ELECTRIC CABLE, PEDESTAL, MANHOLE, TRANSFORMER AND METER
	OVERHEAD WIRE, POLE AND GUY WIRE
	LIGHT POLE
	TRAFFIC SIGNAL
	STREET NAME SIGN
	SIGN (NON STREET NAME)
	RAILROAD TRACKS
	DECIDUOUS AND CONIFEROUS TREE
	BUSH / SHRUB AND STUMP
	EDGE OF WOODED AREA
	WETLAND
	BUILDING
	FENCE (UNIDENTIFIED)
	BARBED WIRE FENCE
	CHAIN LINK FENCE
	ELECTRIC WIRE FENCE
	WOOD FENCE
	WOVEN WIRE FENCE
	PLATE BEAM GUARDRAIL
	CABLE GUARDRAIL
	POST / BOLLARD
	RETAINING WALL
PROPOSED	
	STREET CENTERLINE
	RIGHT-OF-WAY
	PERMANENT EASEMENT
	TEMPORARY EASEMENT
	CONSTRUCTION LIMITS
	SANITARY SEWER, BULKHEAD AND MANHOLE
	FORCE MAIN
	SANITARY SERVICE AND CLEANOUT
	WATER MAIN, TEE, HYDRANT, BULKHEAD AND VALVE
	WATER VALVE MANHOLE, REDUCER, BEND AND CROSS
	WATER SERVICE AND CURB STOP BOX
	STORM SEWER, MANHOLE AND CATCH BASIN
	CULVERT AND APRON ENDWALL
	DRAIN TILE
	DITCH / SWALE
	RIPRAP
	STREET NAME SIGN
	SIGN (NON STREET NAME)
	RETAINING WALL

SUBMITTALS

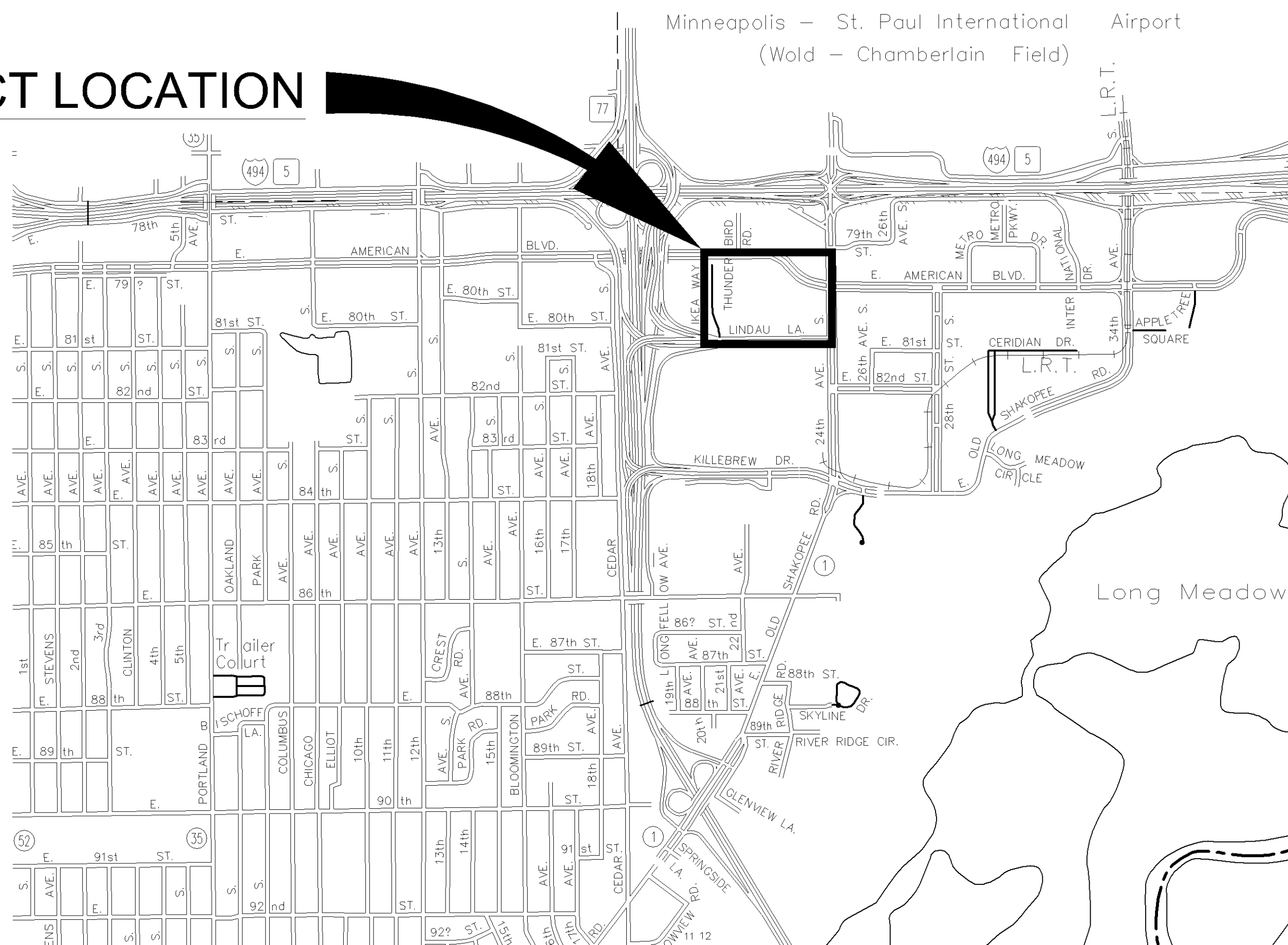
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9-9-2019	100% SD SUBMITTAL
9-20-2019	100% SD SUBMITTAL
10-2-2019	FDP SUBMITTAL

CITY OF BLOOMINGTON, MINNESOTA

CONSTRUCTION PLANS FOR SANITARY SEWER, WATER MAIN, STORM SEWER, AGGREGATE BASE, CONCRETE CURB AND GUTTER, BITUMINOUS SURFACING, CONCRETE SIDEWALK, STREET LIGHTING

SOUTH LOOP WATERPARK & PARKING RAMP AT SOUTH LOOP

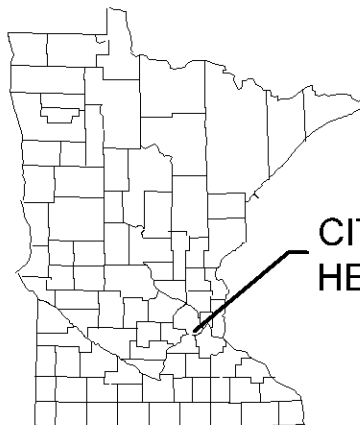
PROJECT LOCATION



NOTE:
THE SUBSURFACE UTILITY QUALITY INFORMATION IN THIS PLAN IS LEVEL D.
THIS UTILITY QUALITY LEVEL WAS DETERMINED ACCORDING TO THE
GUIDELINES OF CI/ASCE 38-02 ENTITLED "STANDARD GUIDELINES FOR THE
COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA."

THE CONTRACTOR SHALL CALL THE GOPHER STATE ONE CALL SYSTEM AT
811 BEFORE COMMENCING EXCAVATION.



GOVERNING SPECIFICATIONS	
THE 2018 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN EXCEPT AS MODIFIED BY THE SPECIFICATIONS FOR THIS PROJECT.	
INDEX	
SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	EXISTING CONDITIONS
3	NOTES AND STRUCTURE SCHEDULE
4-5	TYPICAL SECTIONS
6-14	DETAILS
15	ALIGNMENT AND GENERAL LAYOUT PLAN
16	EROSION CONTROL PLAN
17-18	SWPPP
19	REMOVAL PLAN
20	TRAFFIC CONTROL PLAN
21	HAUL AND DELIVERY ROUTE PLAN
22	OVERALL SITE PLAN
23	OVERALL SITE UTILITY PLAN
24	SANITARY SEWER & WATER MAIN PLAN AND PROFILE - LINDAU LANE
25-27	SANITARY SEWER & WATER MAIN PLAN AND PROFILE - RING ROAD
28	SANITARY SEWER & WATER MAIN PLAN AND PROFILE - THUNDERBIRD ROAD
29	SANITARY SEWER & WATER MAIN PLAN AND PROFILE - IKEA WAY
30-31	STREET & STORM SEWER PLAN AND PROFILE - LINDAU LANE
32-34	STREET & STORM SEWER PLAN AND PROFILE - RING ROAD
35	STREET & STORM SEWER PLAN AND PROFILE - RAMP ROAD
36	STREET & STORM SEWER PLAN AND PROFILE - THUNDERBIRD ROAD
37	STREET & STORM SEWER PLAN AND PROFILE - IKEA WAY
38-44	SIGNAL SYSTEMS
45	OVERALL SITE GRADING PLAN
46	WATERPARK BACK OF HOUSE GRADING AND UTILITY PLAN
47	WATERPARK SIDEWALK GRADING PLAN
48	PARKING STRUCTURE GRADING PLAN
49-52	SIGNING & STRIPING PLANS & DETAILS
53-58	LIGHTING PLANS & DETAILS
59-60	CROSS SECTIONS - LINDAU LANE
61-67	CROSS SECTIONS - RING ROAD
68	CROSS SECTIONS - THUNDERBIRD ROAD
69-70	CROSS SECTIONS - RAMP ROAD
71-72	CROSS SECTIONS - IKEA WAY
THIS PLAN CONTAINS 72 SHEETS.	
PROJECT LOCATION	
	
CITY OF BLOOMINGTON, HENNEPIN COUNTY	
APPROVED:	
CITY ENGINEER OF BLOOMINGTON	DATE
APPROVED:	
COUNTY ENGINEER	DATE
BLOOMINGTON, MINNESOTA	
 PHONE: 952.912.2800 10901 RED CIRCLE DRIVE, SUITE 300 MINNETONKA, MN 55343 www.sehinc.com	 www.ryancompanies.com
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.	
PRELIMINARY	
Date: _____	Lic. No. _____
FILE NO. 151051	
1 72	

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PROPOSED SANITARY SEWER SCHEDULE												
STRUCTURE	ALIGNMENT	STATION	OFFSET	DRAINS TO	TOP OF CASTING ELEVATION	INLET INV. EL.	OUTLET INV. EL.	PIPE LENGTH	PIPE DIA.	GRADE %	STRUCTURE DIA.	STRUCTURE HEIGHT
1	Ring Road	140+51.72	0.00		821.25	803.28 (E)					48 IN MH	17.97'
2	Ring Road	144+51.72	0.00	1	825.15	804.40 (E) 810.94 (N) 804.40 (N)	804.40 (W)	400'	12"	0.28%	48 IN MH	20.75'
3	Ring Road	147+13.31	-4.48	2	823.27	805.13 (SE) 809.38 (NE) 811.60 (S) 805.13 (N) 805.13 (S)	805.13 (W)	262'	12"	0.28%	48 IN MH	18.14'
4	Ring Road	149+24.87	0.00	3	821.91	805.73 (SE) 808.04 (NE) 805.73 (NE)	805.73 (NW)	212'	12"	0.28%	48 IN MH	16.18'
5	Ring Road	149+99.60	-3.85	4	821.32	805.94 (S) 807.53 (E) 805.94 (E)	805.94 (NW)	75'	12"	0.28%	48 IN MH	15.38'
6	Ring Road	151+19.75	0.00	5	820.58		806.27 (N)	119'	12"	0.28%	48 IN MH	14.31'
11	Ikea Way - Flagline	201+76.56	-28.48		822.82	802.88 (E)					48 IN MH	20.19'
12	Ikea Way - Flagline	201+62.07	29.57	11	824.44	803.62 (E) 804.29 (S)	803.62 (W)	60'	12"	1.23%	48 IN MH	20.44'
223	Ring Road	141+16.12	308.37	224	0.45	804.75 (E)	804.75 (N)	7'	4"	1.23%	NULL STRUCTURE	???'
224	Ring Road	141+16.12	301.37	12	-4.58	804.66 (S)	804.66 (N)	30'	4"	1.23%	NULL STRUCTURE	???'

CITY OF BLOOMINGTON STANDARD NOTES:

1. TEMPORARY STREET SIGNS, LIGHTING AND ADDRESSES SHALL BE PROVIDED DURING CONSTRUCTION.

2. CONTRACTOR SHALL OBTAIN A PUBLIC WORKS PERMIT APPLICATION FOR OBSTRUCTIONS AND CONCRETE WORK WITHIN THE RIGHT-OF-WAY. PERMIT IS REQUIRED PRIOR TO REMOVALS OR INSTALLATION. CONTACT SEAN JENKINS AT 952-563-4545 OR SJENKINS@CI.BLOOMINGTON.MN.US FOR PERMIT APPLICATION AND FEE INFORMATION.

3. PUBLIC WORKS PERMIT APPLICATION FOR UNDERGROUND WORK WITHIN THE RIGHT-OF-WAY IS REQUIRED PRIOR TO REMOVAL OR INSTALLATION OF SANITARY, WATER OR STORM WORK WITHIN THE PUBLIC RIGHT-OF-WAY. CONTACT UTILITIES AT 952-563-4568 FOR PERMIT APPLICATION AND FEE INFORMATION.

4. RESTORE CITY STREET BY COMPLYING WITH THE CITY STREET IMPROVEMENT POLICY; CONTACT UTILITIES AT 952-563-4568 FOR THE REQUIREMENTS.

5. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE LATEST EDITION OF THE MMUTCD, INCLUDING FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL LAYOUTS.

6. ALL PUBLIC SIDEWALKS SHALL NOT BE OBSTRUCTED.

7. ALL PARKING STALLS TO BE PAINTED WITH WHITE STRIPING

8. ALL CONSTRUCTION AND POST-CONSTRUCTION PARKING SHALL BE ON SITE. NO ON STREET PARKING/LOADING/UNLOADING ALLOWED.

9. STORAGE OF MATERIALS OR EQUIPMENT SHALL NOT BE ALLOWED ON PUBLIC STREETS OR WITHIN PUBLIC RIGHT-OF-WAY.

10. INSTALL CROSSWALK PAVEMENT MARKINGS IN ACCORDANCE WITH MMUTCD.

11. A MN LICENSED CIVIL ENGINEER MUST DESIGN AND SIGN ALL RETAINING WALLS 4-FOOT HIGH AND HIGHER.

12. CONTRACTOR TO CONTACT UTILITIES DIVISION @ 952-563-8777 REGARDING PERMIT FOR STORM SEWER CONSTRUCTION.

13. CONTRACTOR SHALL OBTAIN HENNEPIN COUNTY PERMIT FOR WORK WITHIN RIGHT-OF-WAY. CONTACT HENNEPIN COUNTY PERMIT ENGINEER AT 612-596-0336 FOR PERMIT APPLICATION AND FEE INFORMATION.

14. A REVIEW OF ALL PRIOR PDP AND FDP COUNCIL CONDITIONS WILL BE COMPLETED FOR THIS SUBMITTAL.

15. STREET LIGHTING AND INTERCONNECT CONDUIT MUST BE EXPOSED FOR CITY INSPECTION PRIOR TO POURING CONCRETE OR BACKFILLING EXCAVATIONS IN CITY RIGHT-OF-WAY.

16. SEE SHEET 7 - DETAILS 2 FOR CASTING DETAILS. CATCH BASINS WITHIN SIDEWALK TO RECEIVE ADA FRAME AND GRATE CASTING.

GENERAL CONSTRUCTION NOTES:

1. ALL REFERENCE TO THE OWNER IN THESE PLANS SHALL BE INTERPRETED TO MEAN SOUTH LOOP WATERPARK.

2. THE LOCATIONS & ELEVATIONS OF PUBLIC OR PRIVATE UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE. SEH AND THE OWNER DO NOT GUARANTEE THEIR ACCURACY. BACKGROUND INFORMATION SHOWN IS FROM SURVEY PROVIDED BY SUNDE LAND SURVEYING, FOR THE OWNER AND CITY OF BLOOMINGTON, MN. OTHER UTILITY AND LINDAU LANE INFORMATION PROVIDED BY THE CITY. EXISTING CONDITIONS SHALL BE VERIFIED PRIOR TO START OF CONSTRUCTION.

3. CONTRACTOR MUST PROVIDE ALL NECESSARY PEDESTRIAN AND VEHICULAR TRAFFIC CONTROL. ALL TRAFFIC FLOW THROUGH CONSTRUCTION AREA MUST NOT BE INTERRUPTED AT ANY TIME. CONTRACTOR SHALL COORDINATE ALL TRAFFIC CONTROL AND PHASING/STAGING WITH OWNER AND CITY ROADWAY PROJECT.

4. CONTRACTOR SHALL SAWCUT PAVEMENT, CURB, AND SIDEWALKS AS INDICATED ON THE PLANS ACCORDING TO THE CONSTRUCTION LIMITS SHOWN. CARE SHALL BE TAKEN SO AS NOT TO DAMAGE THE ASPHALT, OR CONCRETE THAT ARE DESIGNATED TO REMAIN. ANY DAMAGE TO THE EXISTING MATERIALS DURING CONSTRUCTION SHALL BE REPAIRED AT THE CONTRACTORS EXPENSE.

5. ALL WATERMAIN SHALL BE CLASS 52 DIP & WRAPPED IN 8 MIL POLYWRAP.

6. INSTALL INTERNAL CHIMNEY SEALS ON ALL SANITARY MANHOLES.

7. APPROPRIATE STORM SEWER INLET SILT PROTECTION AND EROSION CONTROL SILT FENCE/FILTER LOGS SHALL BE INSTALLED BY CONTRACTOR IN ALL NECESSARY LOCATIONS AND STORM SEWER STRUCTURES. THIS WORK MUST BE APPROVED BY THE CITY PRIOR TO START OF CONSTRUCTION.

8. ALL DIMENSIONS SHOWN ON THE PLAN ARE THE EDGE OF PAVEMENT OR FACE/GUTTER OF CURB UNLESS NOTED.

9. CONTRACTOR SHALL PROTECT ALL INPLACE UTILITIES, PAVEMENT, AND STRUCTURES NOT IDENTIFIED FOR REMOVAL.

10. ALL CONSTRUCTION PHASING, STAGING, PARKING, MATERIAL/EQUIPMENT STORAGE, AND ALL LOADING/UNLOADING SHALL BE COORDINATED WITH THE OWNER AND CITY'S ROADWAY PROJECT. ALL WORK SHALL BE STAGED AND OCCUR FROM PRIVATE PROPERTY.

11. SOIL BORING INFORMATION FOR THE BORINGS SHOWN ON THE PLAN CAN BE PROVIDED UPON REQUEST.

12. CONTRACTOR SHALL DEVELOP A TRAFFIC CONTROL AND PHASING PLANS TO BE APPROVED BY THE OWNER AND THE CITY PRIOR TO THE START OF CONSTRUCTION.

13. CONTRACTOR SHALL PROVIDE AND MAINTAIN TEMPORARY RESTROOM FACILITIES ON SITE FOR ALL WORKERS.

14. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING AND PAYING FOR THE REQUIRED PERMITS FROM THE CITY OF BLOOMINGTON. PERMITS INCLUDE BUT NOT LIMITED TO A STORM SEWER PERMIT, REQUIRED FROM THE UTILITIES DEPT. CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR OBTAINING THE NPDES PERMIT WITH THE APPLICATION PREPARED BY ENGINEER. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR KEEPING THE SWPPP ON SITE AT ALL TIMES AND FOLLOWING/IMPLEMENTING THE REQUIREMENTS OUTLINED IN THE SWPPP.

15. PARKING LOT STRIPING SHALL BE REPLACED IN THE SAME CONFIGURATION AND LAYOUT AS THE EXISTING PARKING LOT FOLLOWING PAVING WORK UNLESS NOTED OTHERWISE ON THE PLAN. CONTRACTOR SHALL VISIT THE SITE PRIOR TO CONSTRUCTION TO NOTE THE CHARACTERISTICS OF THE EXISTING LOT STRIPING SUCH AS THE LOCATIONS OF SYMBOLS, AND LAYOUT. STRIPING SHALL BE ACRYLIC OR LATEX ALKYD. **NOTE ALL STRIPING SHALL BE WHITE IN COLOR**

16. CONTRACTOR SHALL ADJUST ALL EXISTING MANHOLE CASTINGS OR VALVE BOXES AS NECESSARY PRIOR TO PAVING. CONTRACTOR SHALL REPLACE ANY BROKEN OR DAMAGED CASTINGS OR VALVE BOXES.

17. UTILITY AS-BUILTS MUST BE PROVIDED PRIOR TO ISSUANCE OF CERTIFICATE OF OCCUPANCY.

18. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL EROSION CONTROL MAINTENANCE OUTLINED WITHIN THE SWPPP.

19. UTILITY PERMITS ARE REQUIRED FOR CONNECTIONS TO THE PUBLIC STORM, SANITARY, AND WATER SYSTEM. CONTACT UTILITIES (952-563-8777) FOR PERMIT INFORMATION.

20. MAINTAIN MINIMUM 10-FOOT HORIZONTAL SEPARATION AND 18-INCH VERTICAL SEPARATION BETWEEN WATERMAIN AND SEWERS. MAINTAIN MINIMUM 8' OF COVER ABOVE SANITARY SEWER AND WATER MAIN TO PREVENT FREEZING. IF COVER WILL BE LESS THAN 8', PROVIDE INSULATION ABOVE MAIN.

21. ALL UNUSED WATER SERVICES MUST BE PROPERLY ABANDONED AT THE MAIN. ALL UNUSED SANITARY SEWER SERVICES MUST BE PROPERLY ABANDONED AT THE PROPERTY LINE.

22. INSTALL INTERNAL CHIMNEY SEALS ON ALL SANITARY SEWER MANHOLES.

23. TAPS OF LIVE WATER MAINS ARE TO BE COMPLETED BY CITY FORCES AND PAID FOR AND COORDINATED BY THE CONTRACTOR.

24. UTILITY AND MECHANICAL CONTRACTORS MUST COORDINATE THE INSTALLATION OF ALL WATER AND SEWER SERVICE PIPES INTO THE BUILDING TO ACCOMMODATE CITY INSPECTION AND TESTING.

25. COMBINATION FIRE AND DOMESTIC SERVICES MUST TERMINATE WITH A THREAD ON FLANGE OR AN MJ TO FLANGE ADAPTER.

26. ALL COMPONENTS OF THE WATER SYSTEM, UP TO THE WATER METER OR FIRE SERVICE EQUIPMENT MUST UTILIZE PROTECTIVE INTERNAL COATINGS MEETING CURRENT ANSI/AWWA STANDARDS FOR CEMENT MORTAR LINING OR SPECIAL COATINGS. THE USE OF UNLINED OR UNCOATED PIPE IS NOT ALLOWED.

PROPOSED STORM SEWER SCHEDULE												
STRUCTURE	ALIGNMENT	STATION	OFFSET	DRAINS TO	TOP OF CASTING ELEVATION	INLET INV. EL.	OUTLET INV. EL.	PIPE LENGTH	PIPE DIA.	GRADE %	STRUCTURE DIA.	STRUCTURE HEIGHT
AREA WELL DRAIN	Ikea Way - Flagline	202+21.89	40.82		823.00		819.00 (SW)	71'	4"	1.26%	DESIGN H	4.00'
EX. MH 500	Lindau Ln Curb	31+95.87	-19.28		824.11	818.95 (W) 819.87 (E)					120 -4020 MH	5.16'
100	Ring Road	152+32.49	2.04		819.43	806.73 (NE) 809.14 (NW) 814.39 (E)					60 -4020 MH	12.70'
104	Ring Road	151+12.41	-18.00	100	820.20	809.46 (NE) 810.96 (E)	809.46 (SW)	121'	36"	2.26%	84 -4020 MH	10.74'
108	Ring Road	150+19.33	-25.02	104	820.68	810.08 (N) 816.20 (W)	810.08 (SW)	103'	36"	0.60%	60 -4020 CB	10.60'
112	Ring Road	149+41.98	-19.93	108	821.39	810.63 (NW)	810.63 (S)	91'	36"	0.60%	60 -4020 MH	10.77'
116	Ring Road	147+32.34	-25.00	112	822.67	811.95 (W) 818.19 (SW)	811.95 (SE)	220'	36"	0.60%	60 -4020 CB	10.72'
120	Ring Road	145+23.26	-25.00	116	824.10	813.25 (W) 819.60 (N) 819.60 (S)	813.25 (E)	219'	36"	0.60%	60 -4020 CB	10.85'
124	Ring Road	143+65.09	-25.00	120	825.06	815.95 (N) 815.95 (W) 817.08 (SE) 814.70 (S)	814.20 (E)	158'	36"	0.60%	96 -4020 MH	10.86'
128	Ring Road	142+07.44	-25.00	124	824.08	816.91 (W)	816.91 (E)	158'	15"	0.61%	48 -4020 CB	7.17'
132	Thunderbird Road	162+00.00	49.98	124	823.58	819.29 (W) 819.29 (E)	819.04 (S)	119'	15"	2.60%	48 -4020 CB	4.54'
136	Thunderbird Road	162+00.00	-34.96	132	824.08	820.14 (W)	820.14 (E)	85'	12"	1.00%	48 -4020 CB	3.94'
140	Ring Road	152+19.02	34.08	100	818.98	809.74 (S) 814.98 (NE)	809.49 (SE)	36'	15"	1.00%	48 -4020 CB	9.48'
142	Ring Road	153+06.16	64.92	140	814.75		810.79 (N)	105'	12"	1.00%	2' X 3' RECT STRUCTURE	3.96'
144	Ring Road	152+32.56	-24.92	100	818.66		814.66 (W)	27'	12"	1.00%	2' X 3' RECT STRUCTURE	4.00'
146	Ring Road	152+03.65	30.36	140	819.60		815.60 (SW)	20'	12"	3.10%	2' X 3' RECT STRUCTURE	4.00'
148	Ring Road	150+19.33	25.00	108	820.70		816.70 (E)	50'	12"	1.00%	2' X 3' RECT STRUCTURE	4.00'
152	Ring Road	147+32.34	25.00	116	822.67		818.69 (NE)	50'	15"	1.00%	2' X 3' RECT STRUCTURE	3.98'
156	Ring Road	145+23.26	25.00	120	824.10		820.10 (N)	50'	12"	1.00%	2' X 3' RECT STRUCTURE	4.00'
160	Ring Road	144+15.76	51.91	124	822.00		818.00 (NW)	92'	12"	1.00%	DESIGN H	4.00'
164	Ring Road	141+12.30	-41.81	128	821.40		817.39 (E)	97'	15"	0.50%	2' X 3' RECT STRUCTURE	4.01'
168	Thunderbird Road	162+00.00	66.32	132	823.81		819.81 (W)	16'	12"	3.18%	2' X 3' RECT STRUCTURE	4.00'
172	Thunderbird Road	162+00.00	-50.87	136	824.30		820.30 (E)	16'	12"	1.00%	2' X 3' RECT STRUCTURE	4.00'
176	Thunderbird Road	160+97.79	208.16	120	824.33		820.33 (S)	16'	12"	4.47%	2' X 3' RECT STRUCTURE	4.00'
200	Lindau Ln Curb	43+80.99	-80.98		812.52	800.00 (SW)					60 -4020 MH	12.52'
204	Lindau Ln Curb	43+43.00	-43.47	200	810.95	800.30 (W)	800.30 (NE)	53'	48"	0.56%	60 -4020 CB	10.65'
208	Lindau Ln Curb	38+16.98	-44.79	204	818.27	803.14 (SW)	803.14 (E)	526'	48"	0.54%	60 -4020 MH	15.13'
212	Lindau Ln Curb	38+01.54	-35.01	208	817.41		803.26 (NE)	23'	48"	0.54%	60 -4020 MH	14.15'
300	Ramp Road	183+84.58	25.00	316	816.79	812.38 (N)	812.13 (W)	148'	18"	0.45%	48 -4020 CB	4.66'
304	Ramp Road	183+84.58	-25.00	300	816.79	812.88 (N) 812.88 (W)	812.63 (S)	50'	15"	0.50%	48 -4020 CB	4.16'
308	Ramp Road	183+84.58	-36.34	304	816.94		812.94 (S)	11'	12"	0.50%	2' X 3' RECT STRUCTURE	4.00'
312	Ramp Road	183+74.58	-25.00	304	816.80		812.98 (E)	10'	12"	1.00%	2' X 3' RECT STRUCTURE	3.82'
316	Ramp Road	182+36.79	25.00	104	818.66	811.46 (E)	811.46 (W)	110'	18"	0.45%	48 -4020 CB	7.20'
400	Ikea Way - Flagline	203+80.91	-9.55		820.43	816.25 (NE) 816.25 (E)					48 -4020 MH	4.18'
404	Ikea Way - Flagline	203+79.81	4.25	400	820.27	816.58 (S)	816.58 (W)	14'	12"	2.39%	48 -4020 CB	3.69'
408	Ikea Way - Flagline	204+66.01	35.74	400	821.16		817.66 (SW)	96'	12"	1.46%	2' X 3' RECT STRUCTURE	3.50'
412	Ikea Way - Flagline	203+26.29	1.50	404	820.62		817.12 (N)	54'	12"	1.00%	2' X 3' RECT STRUCTURE	3.50'
501	Lindau Ln Curb	32+11.24	-15.54	EX. MH 500	823.95		819.95 (W)	16'	12"	0.50%	DESIGN H	4.00'
502	Lindau Ln Curb	31+00.48	-23.04	EX. MH 500	824.82	819.43 (N)	819.43 (E)	95'	12"	0.50%	48 -4020 MH	5.39'
503	Lindau Ln Curb	30+85.24	-67.97	502	824.23	819.66 (N)	819.66 (S)	47'	12"	0.50%	DESIGN H	4.57'
504	Ikea Way - Flagline	200+04.40	13.11	503	824.27		820.27 (S)	121'	12"	0.51%	DESIGN H	4.00'

DRAWN BY: CS												
DESIGNER: JG												
CHECKED BY: JG												
DESIGN TEAM	NO.	BY	DATE	REVISIONS								

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PRELIMINARY
Date: _____ Lic. No. _____

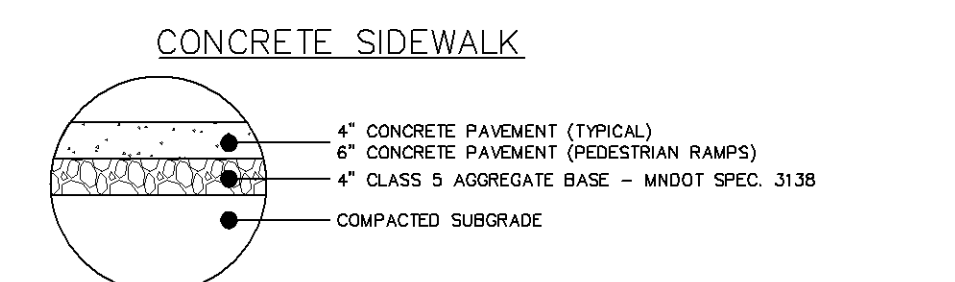
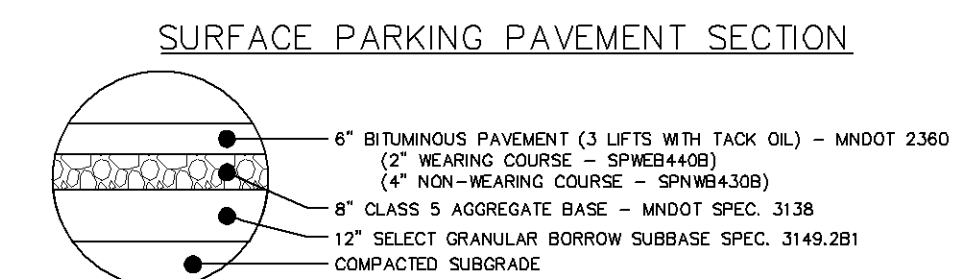
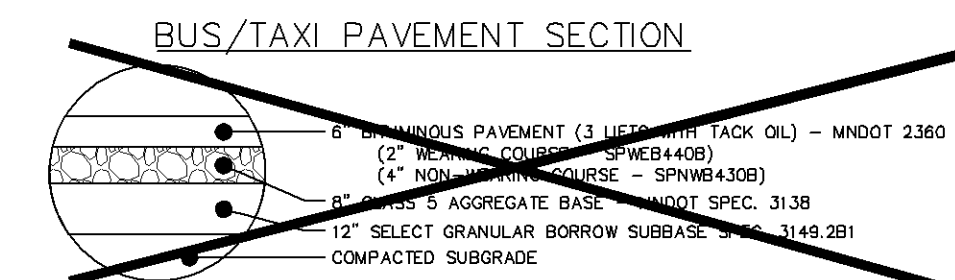
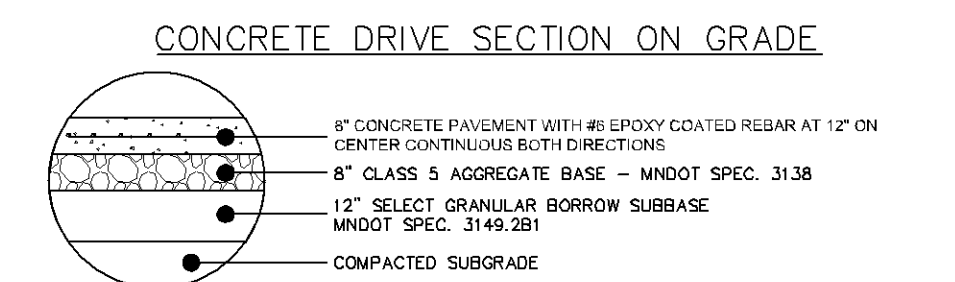
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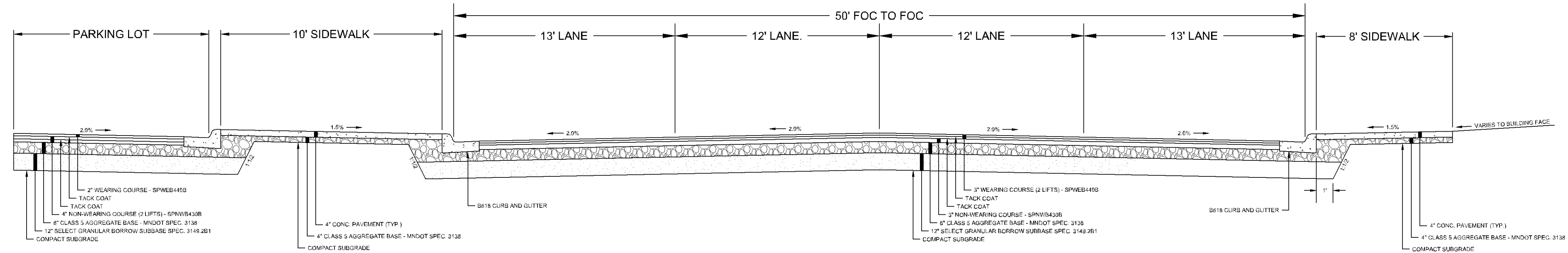
NOTES AND STRUCTURE SCHEDULE

FILE NO.
151051

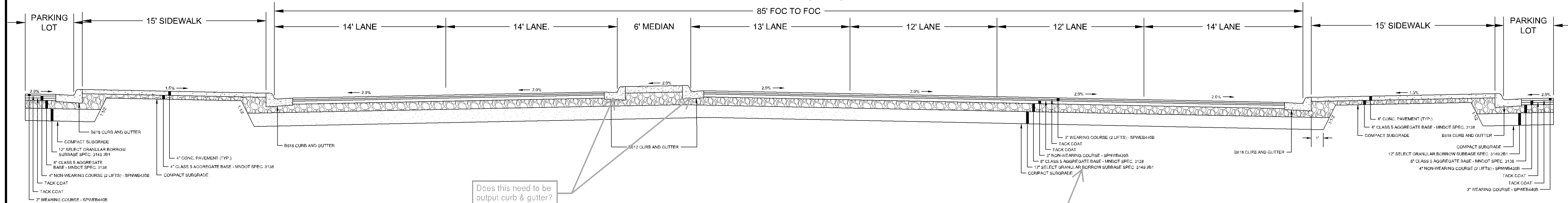
3
72



STATION 181+50 TO STATION 185+10 (NOT TO SCALE)



STATION 151+31 TO STATION 162+55 (NOT TO SCALE)



Does this need to be
output, such as `B_output`?

Verify all pavement sections meet geotech report

DRAWN BY: _____ CS
DESIGNER: _____ JG
CHECKED BY: _____ JG
DESIGN TEAM

NO.	BY	DATE	REVISIONS



DATE: _____ Lic. No. _____

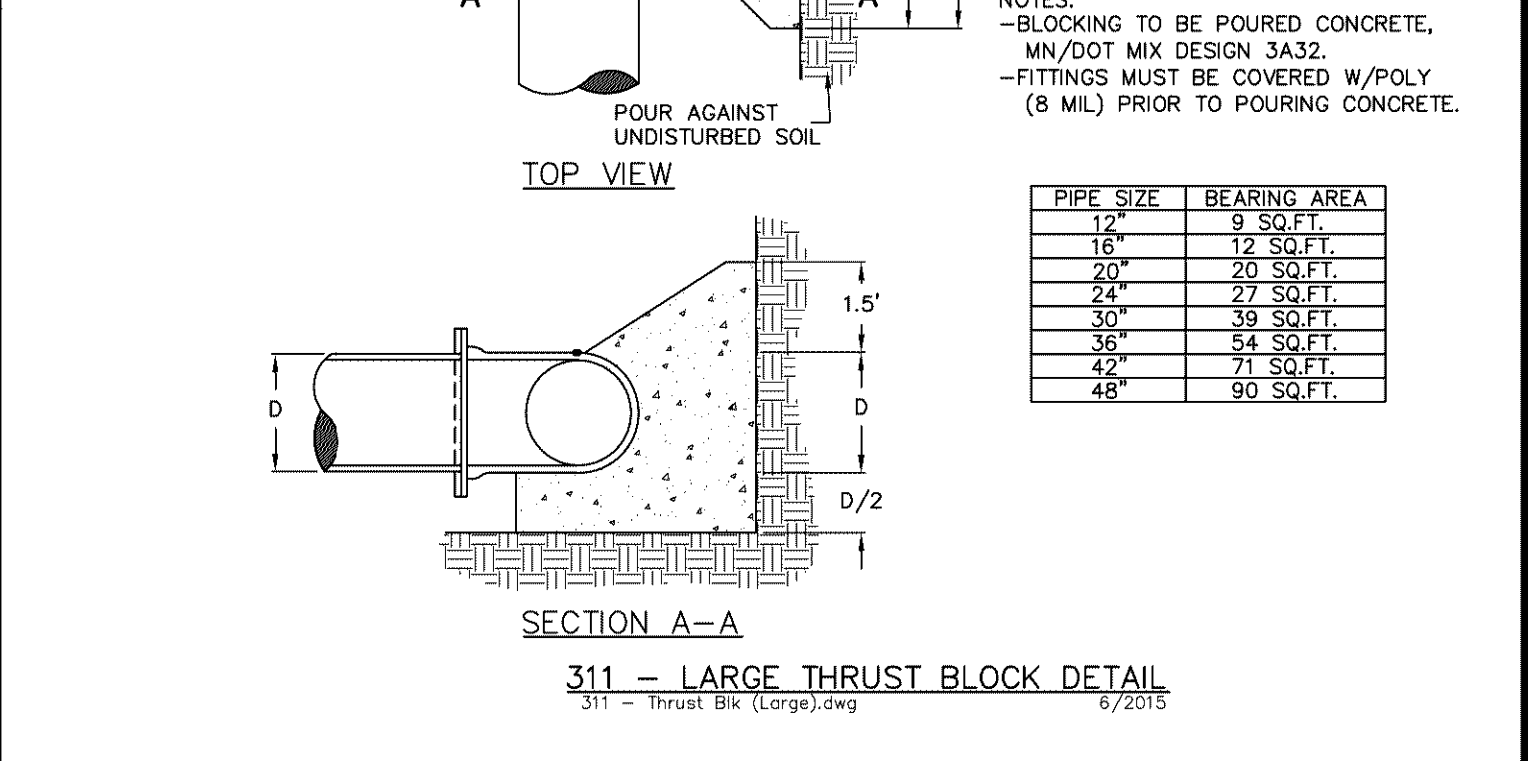
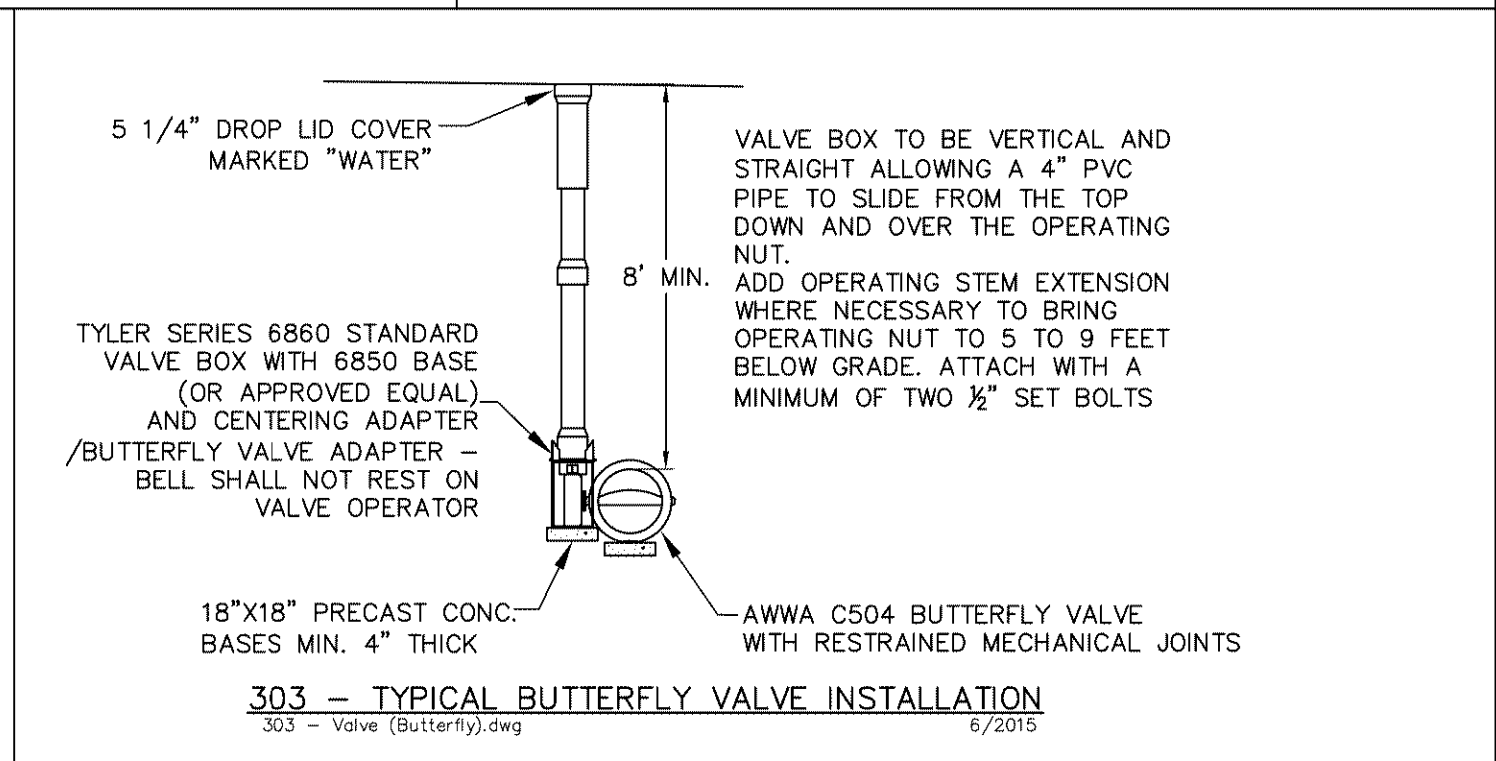
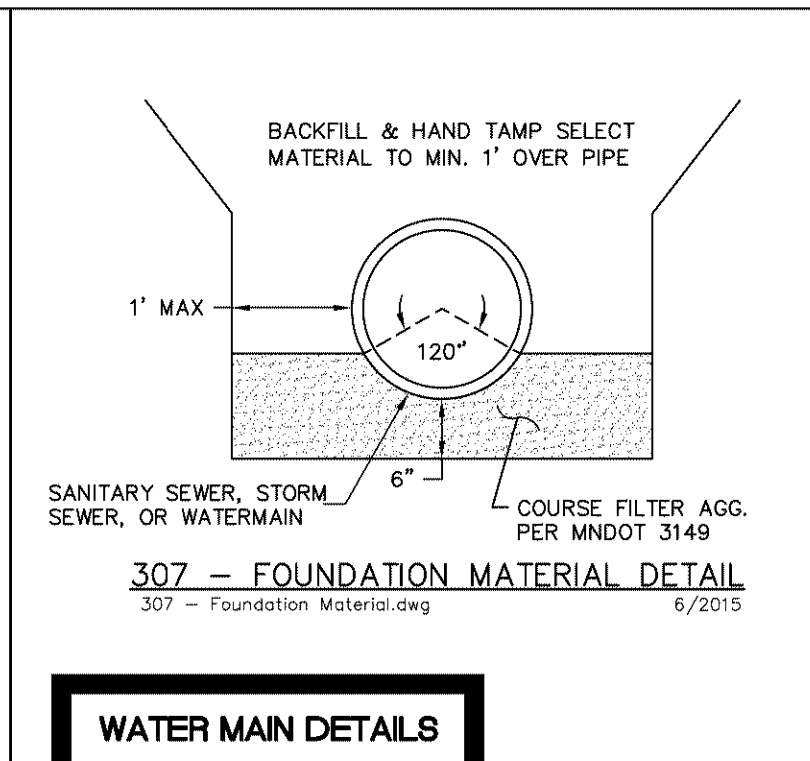
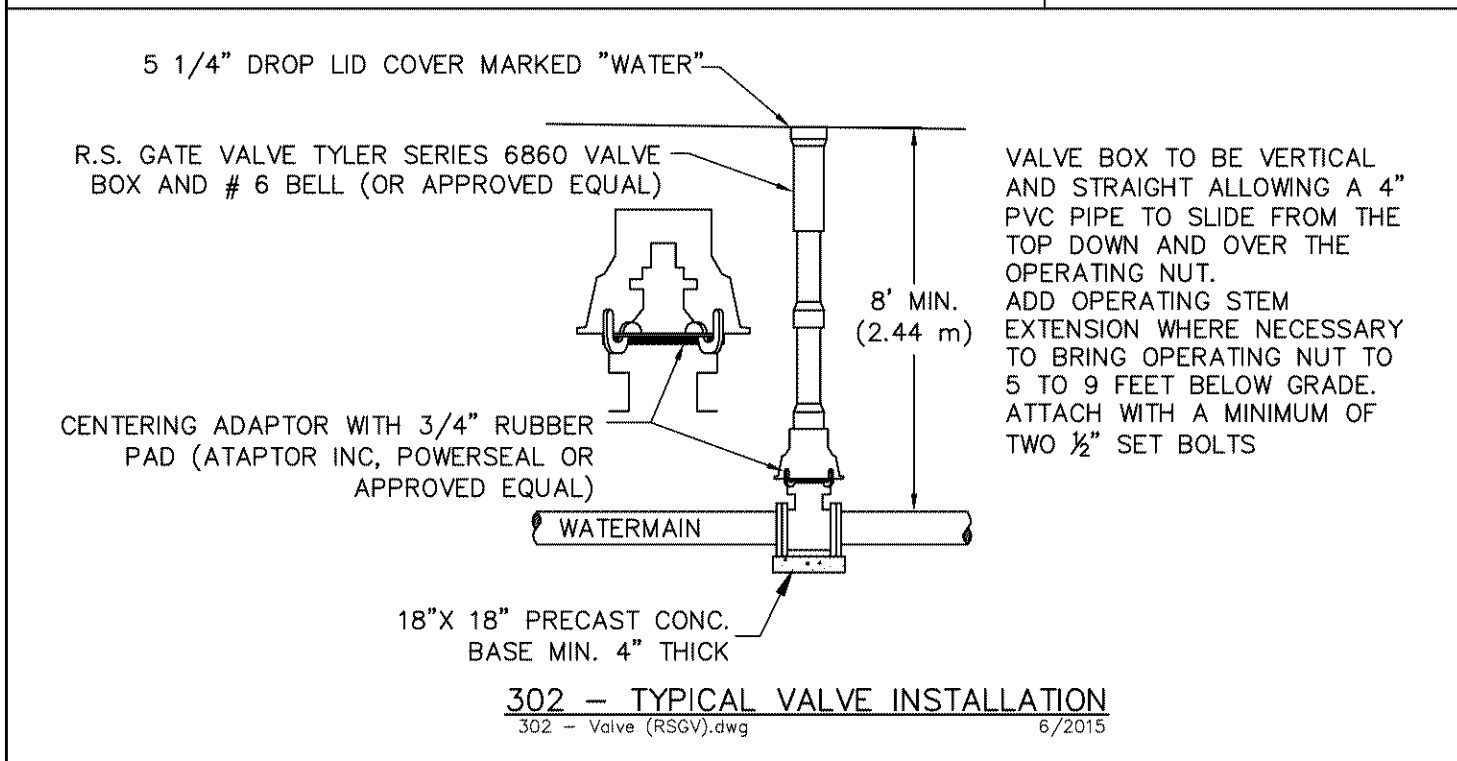
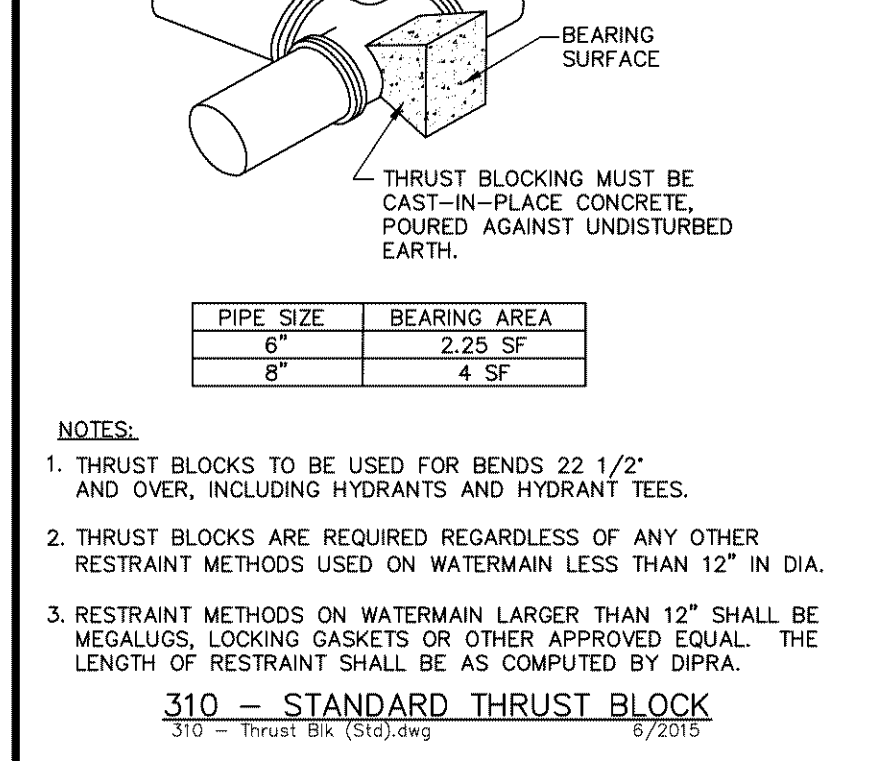
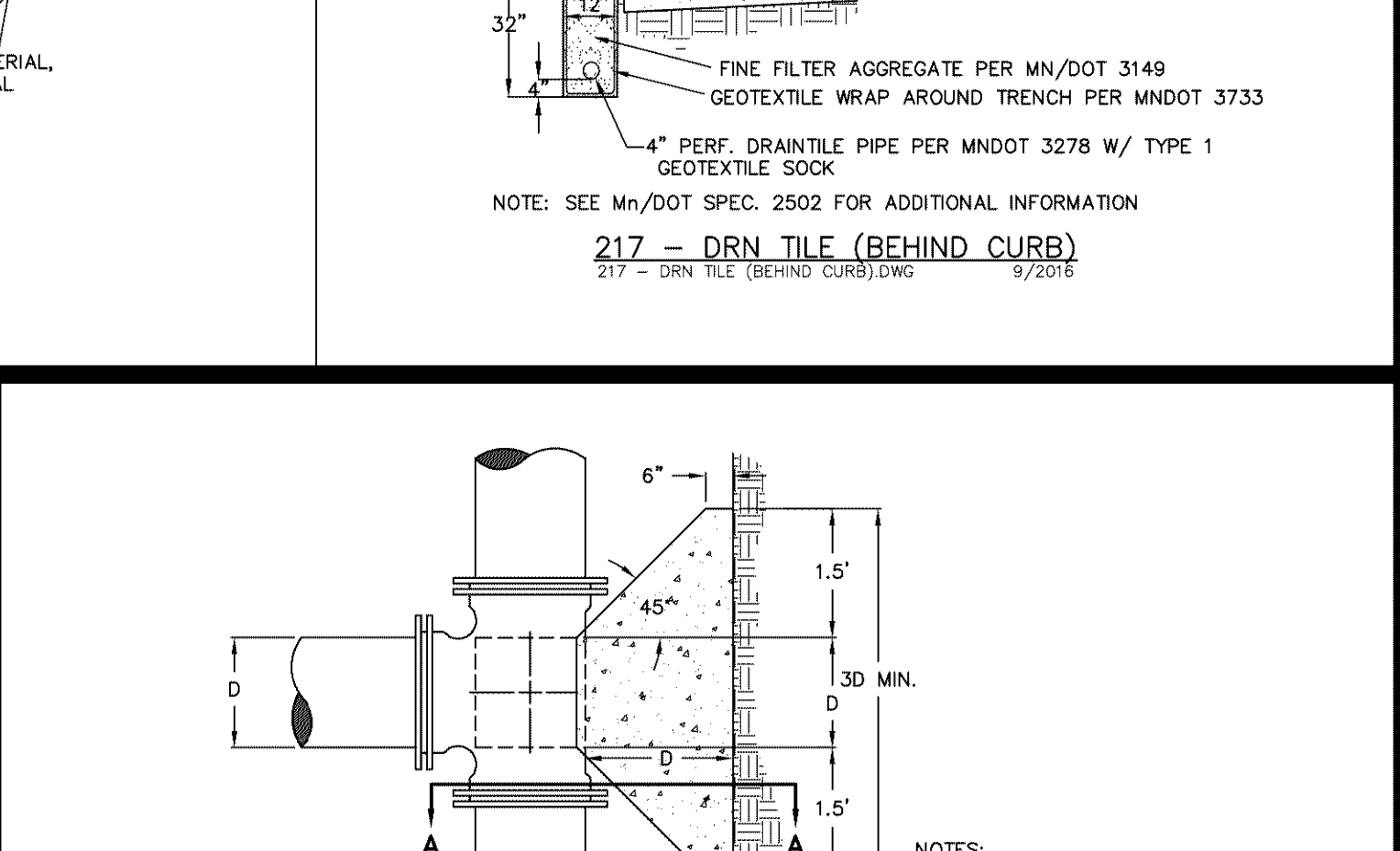
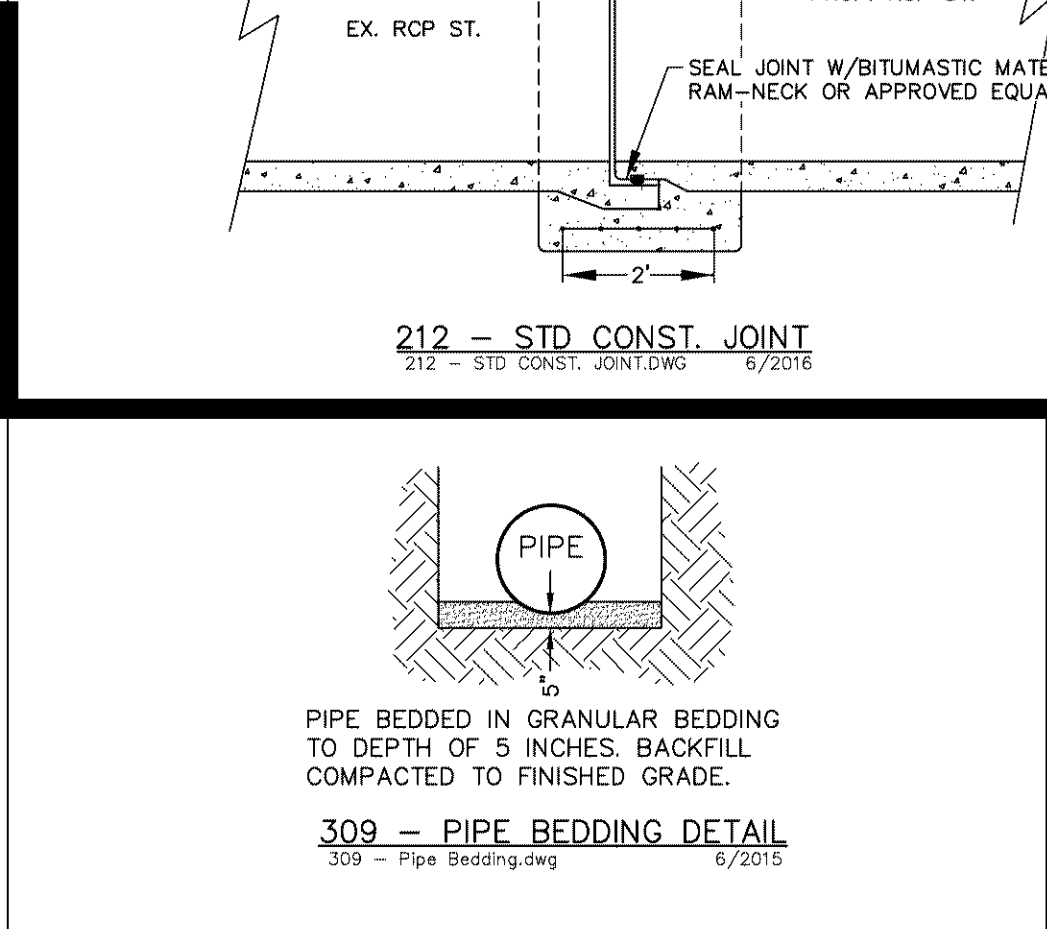
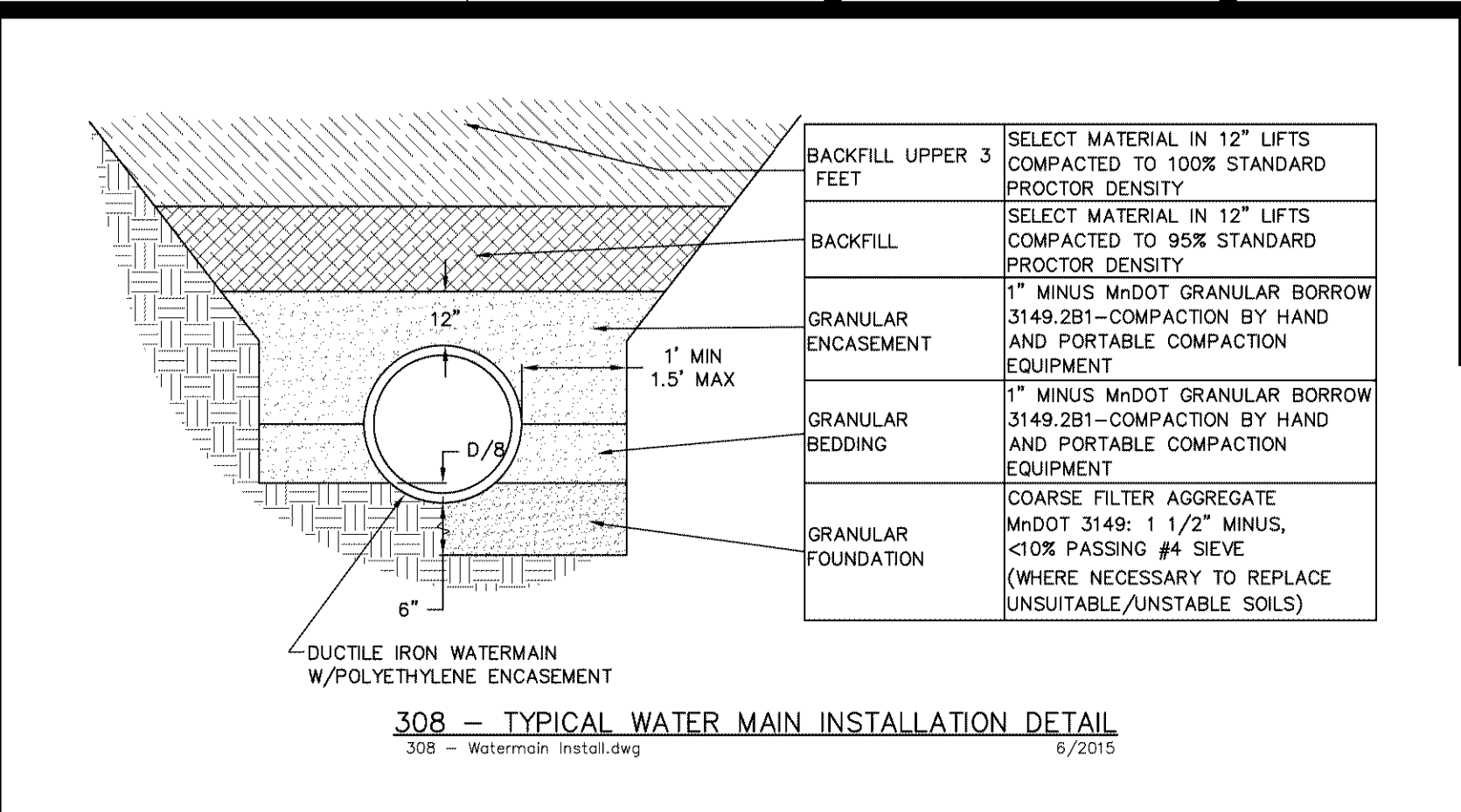
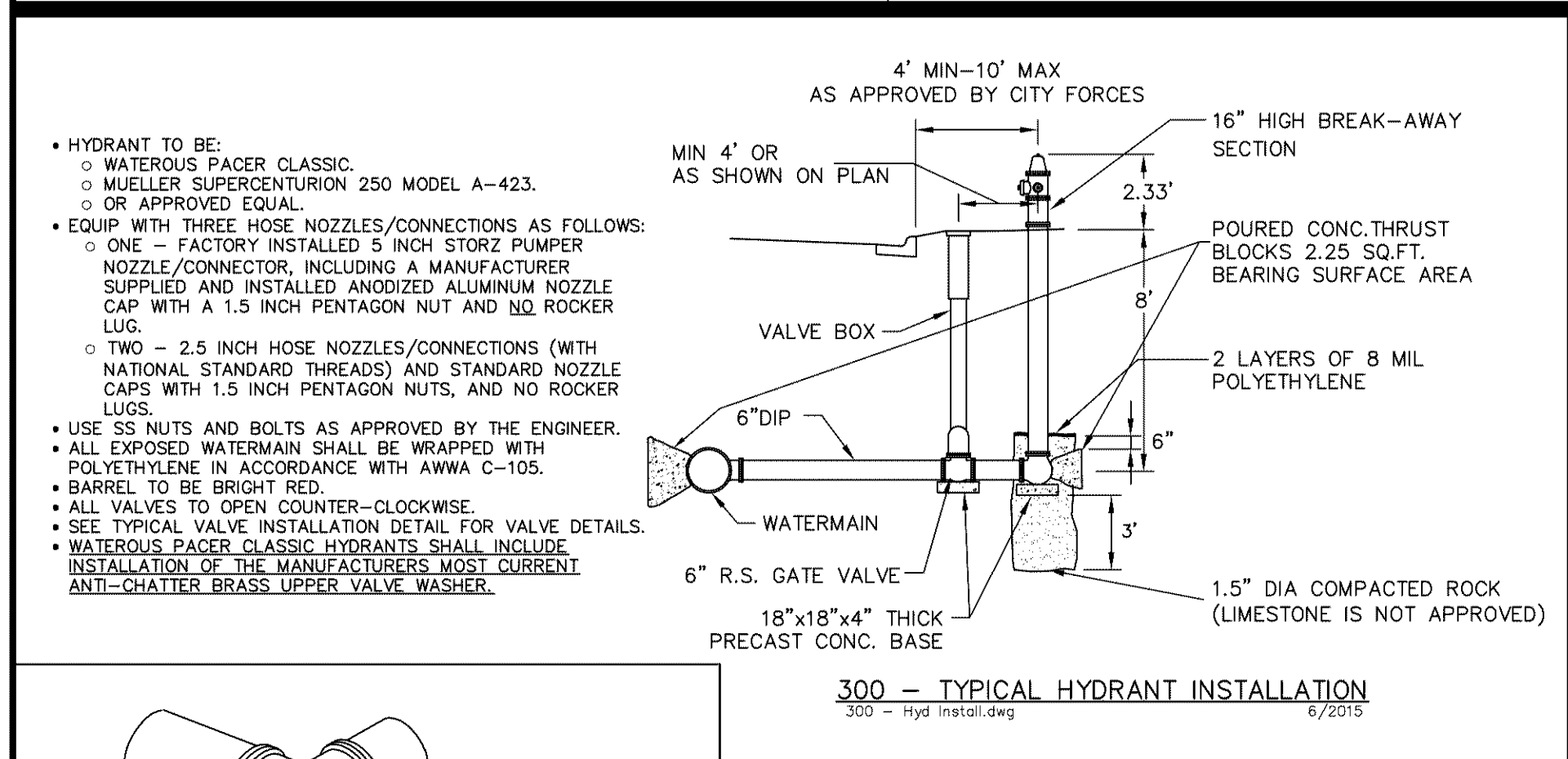
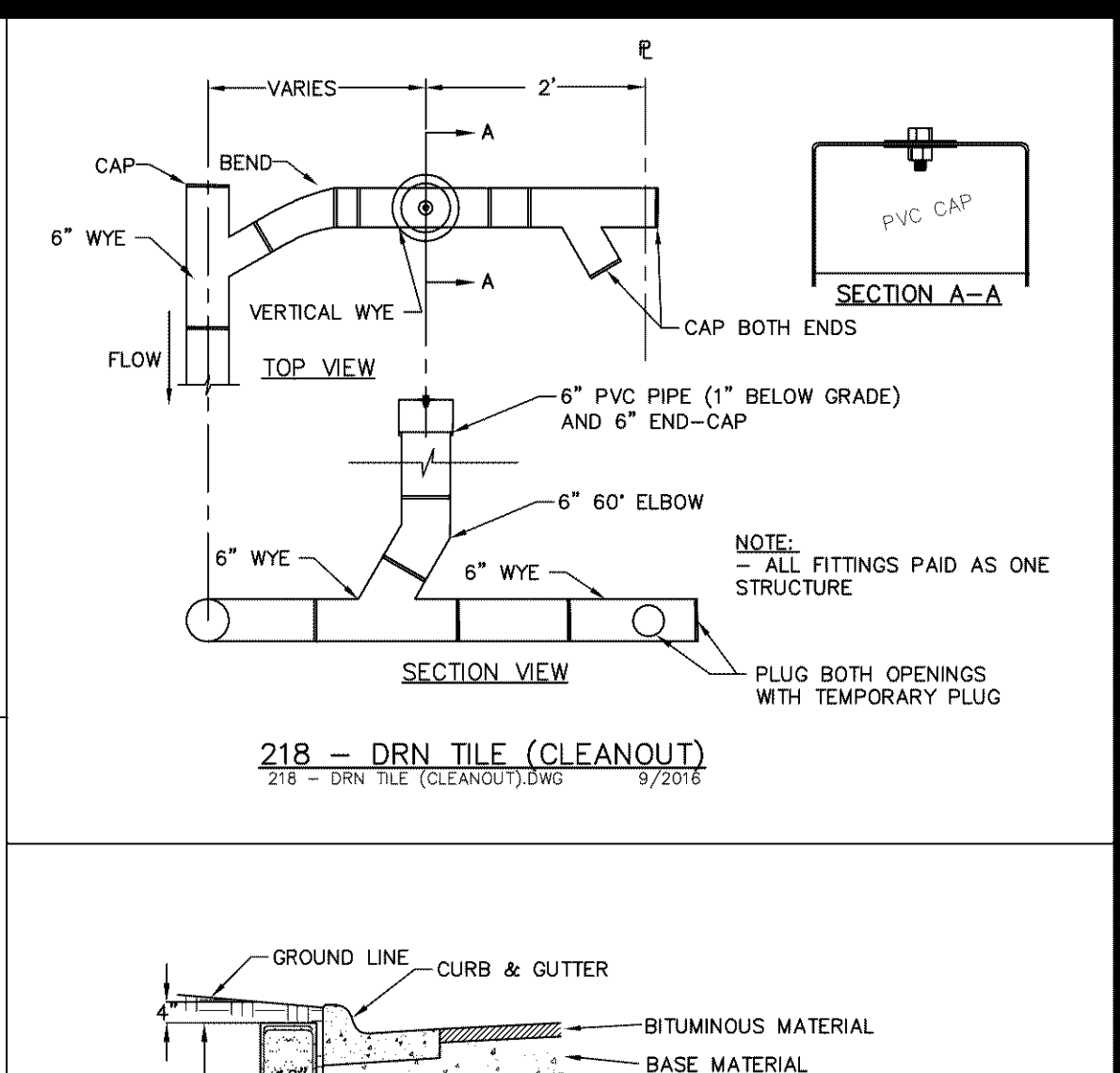
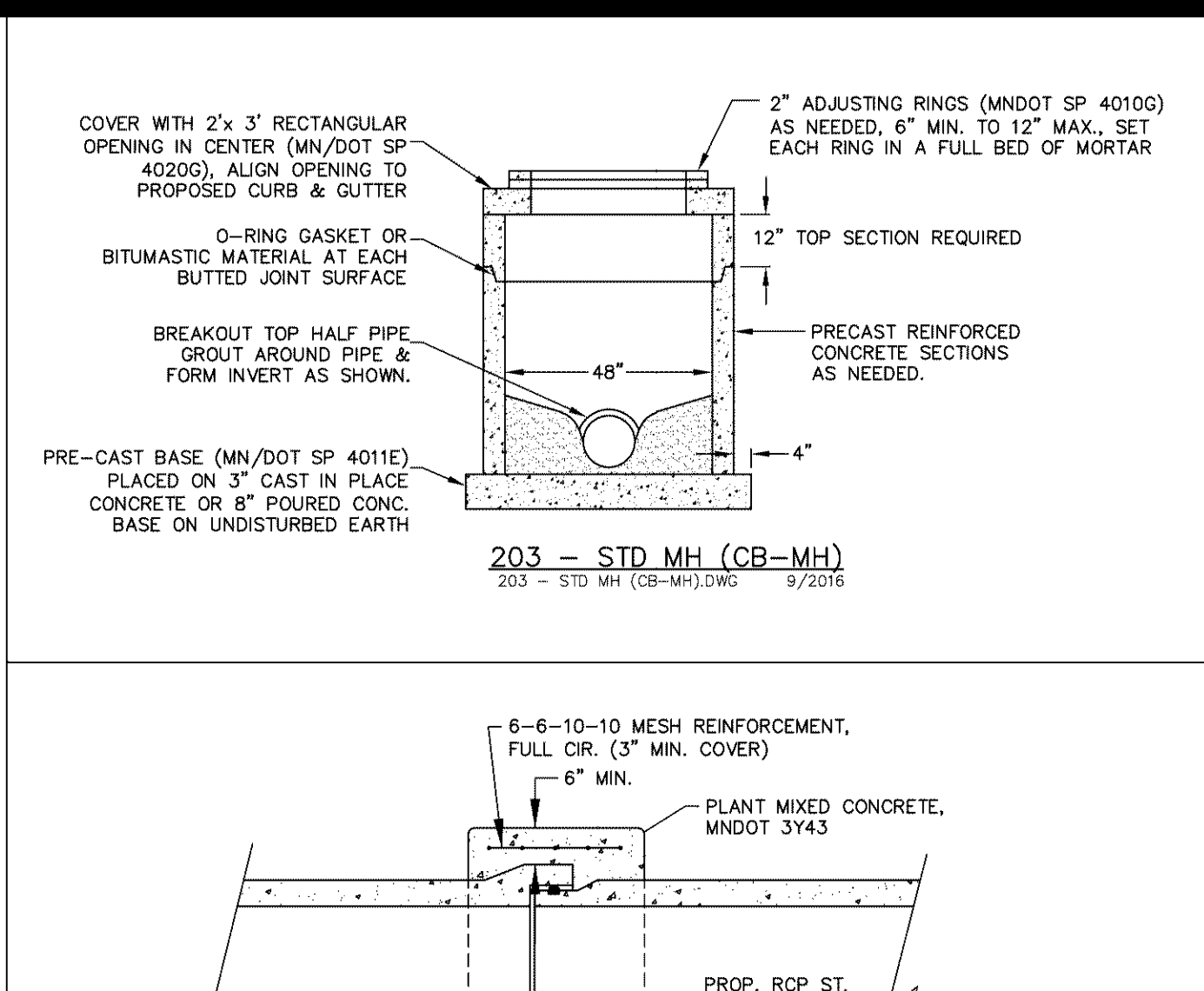
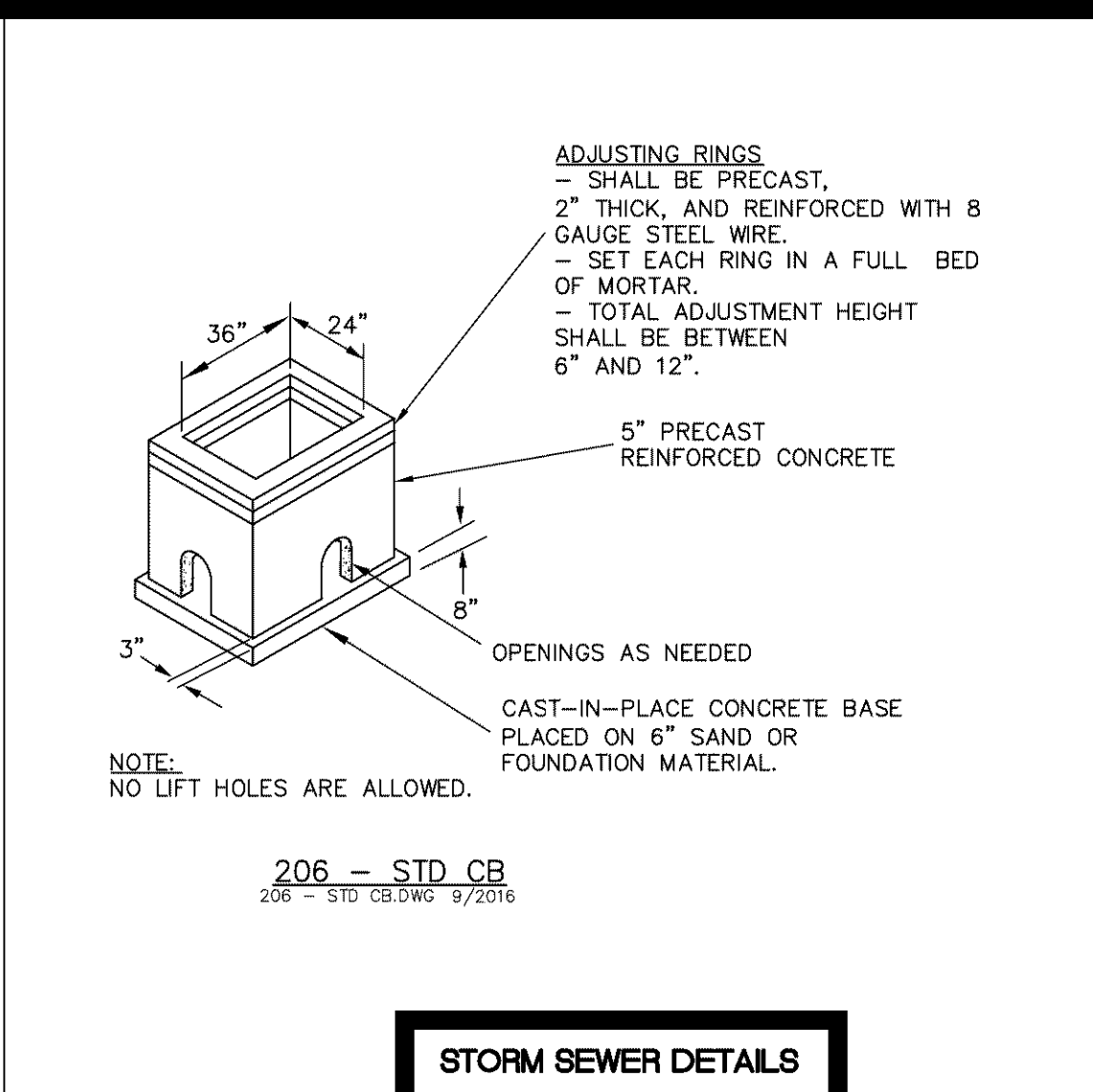
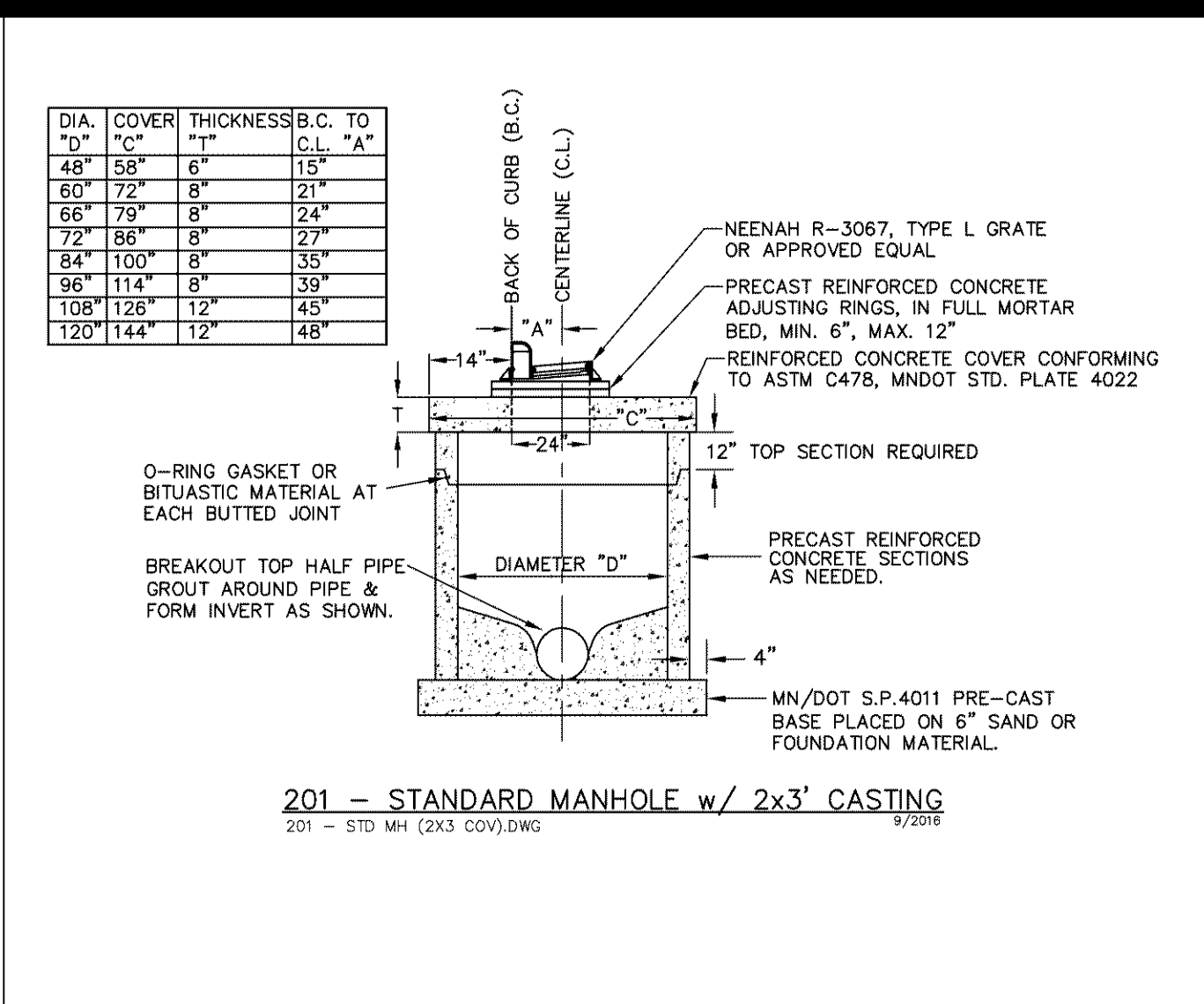
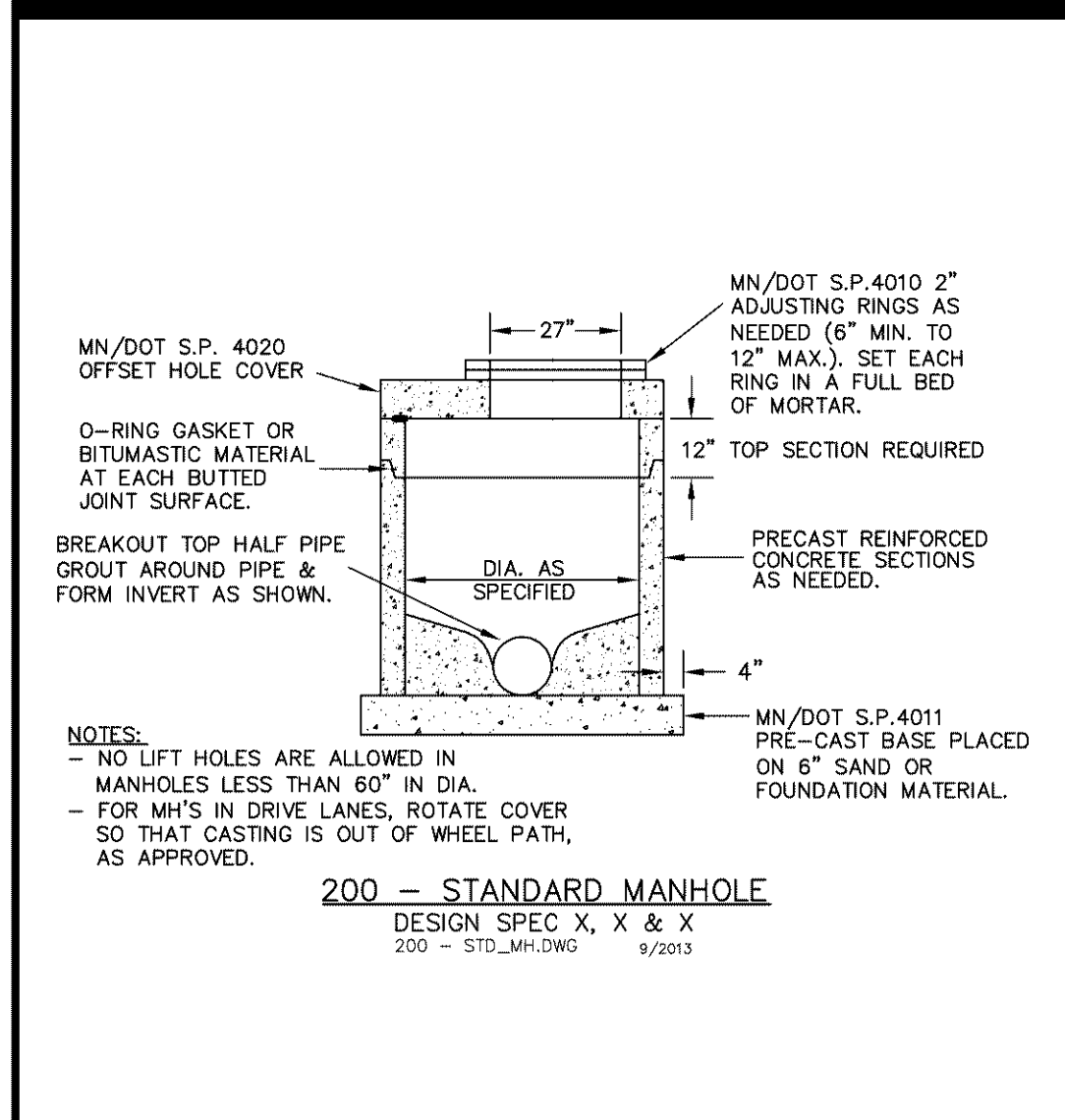
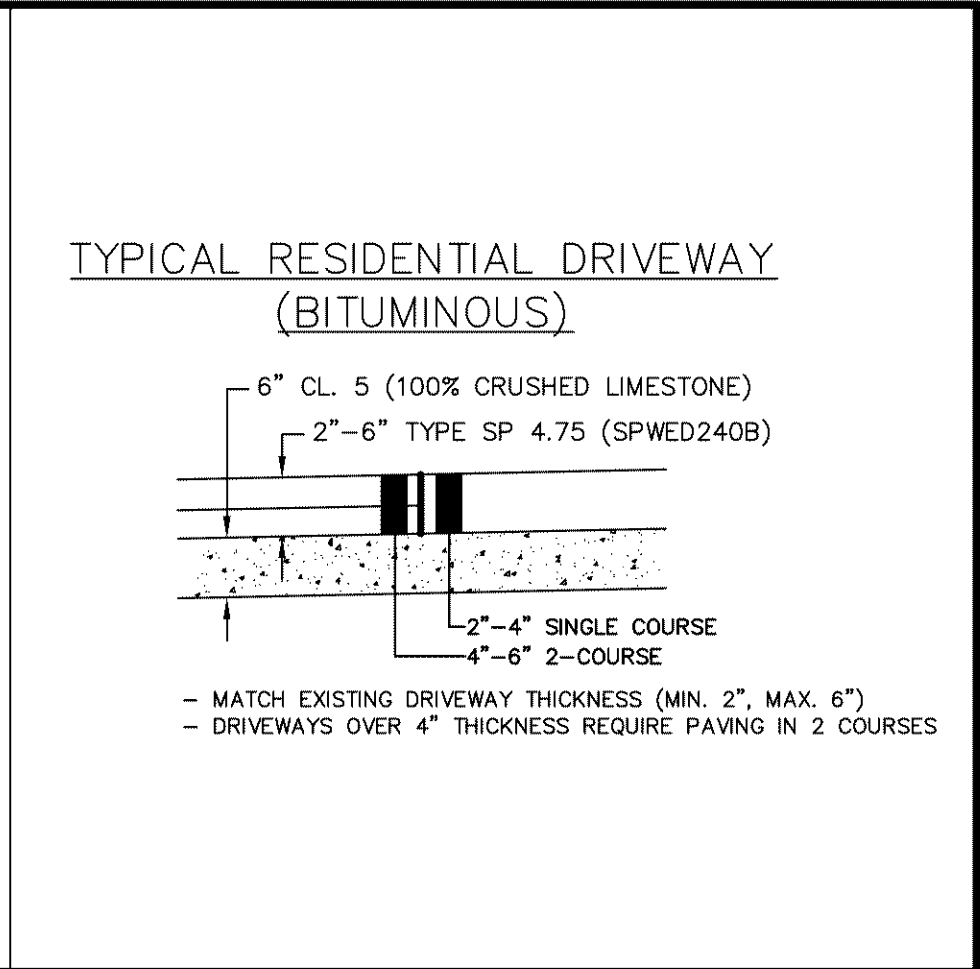
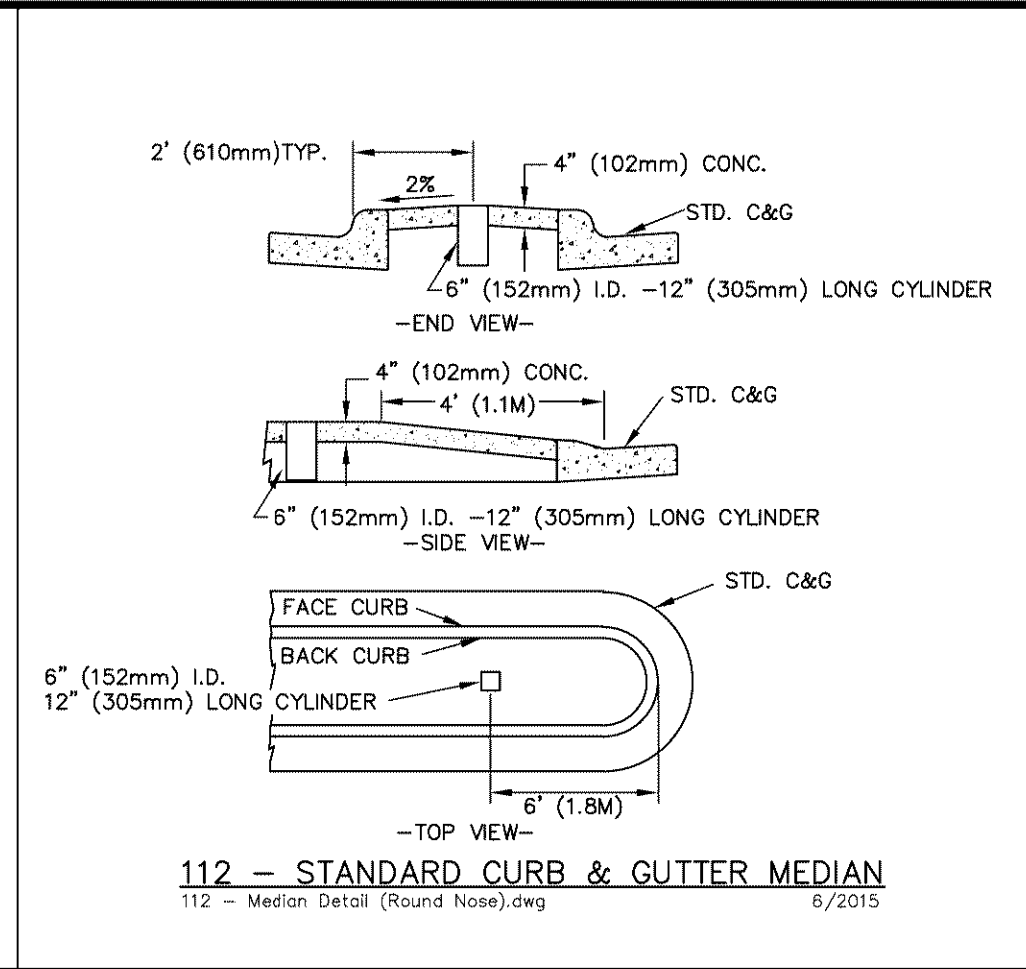
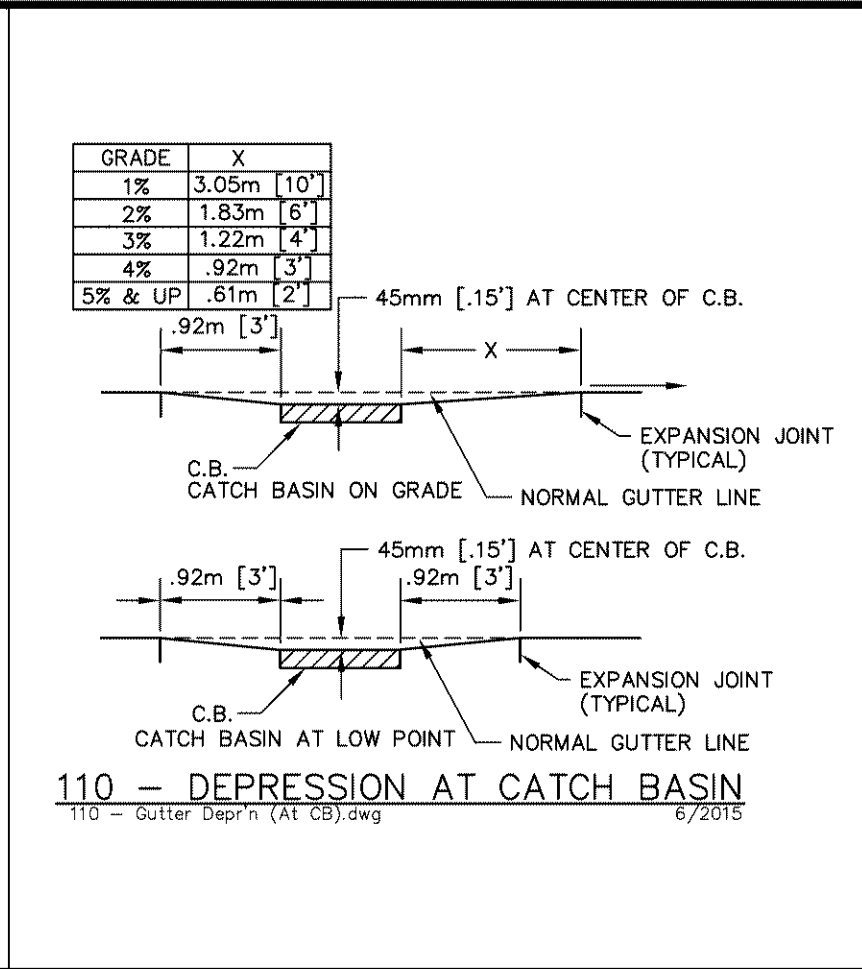
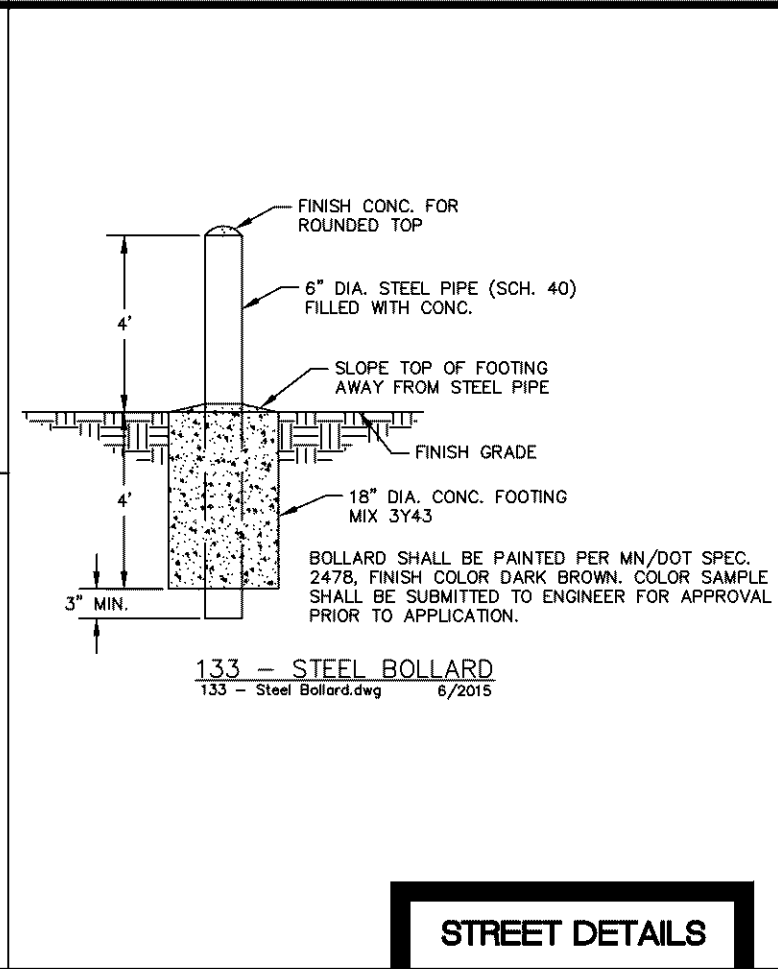
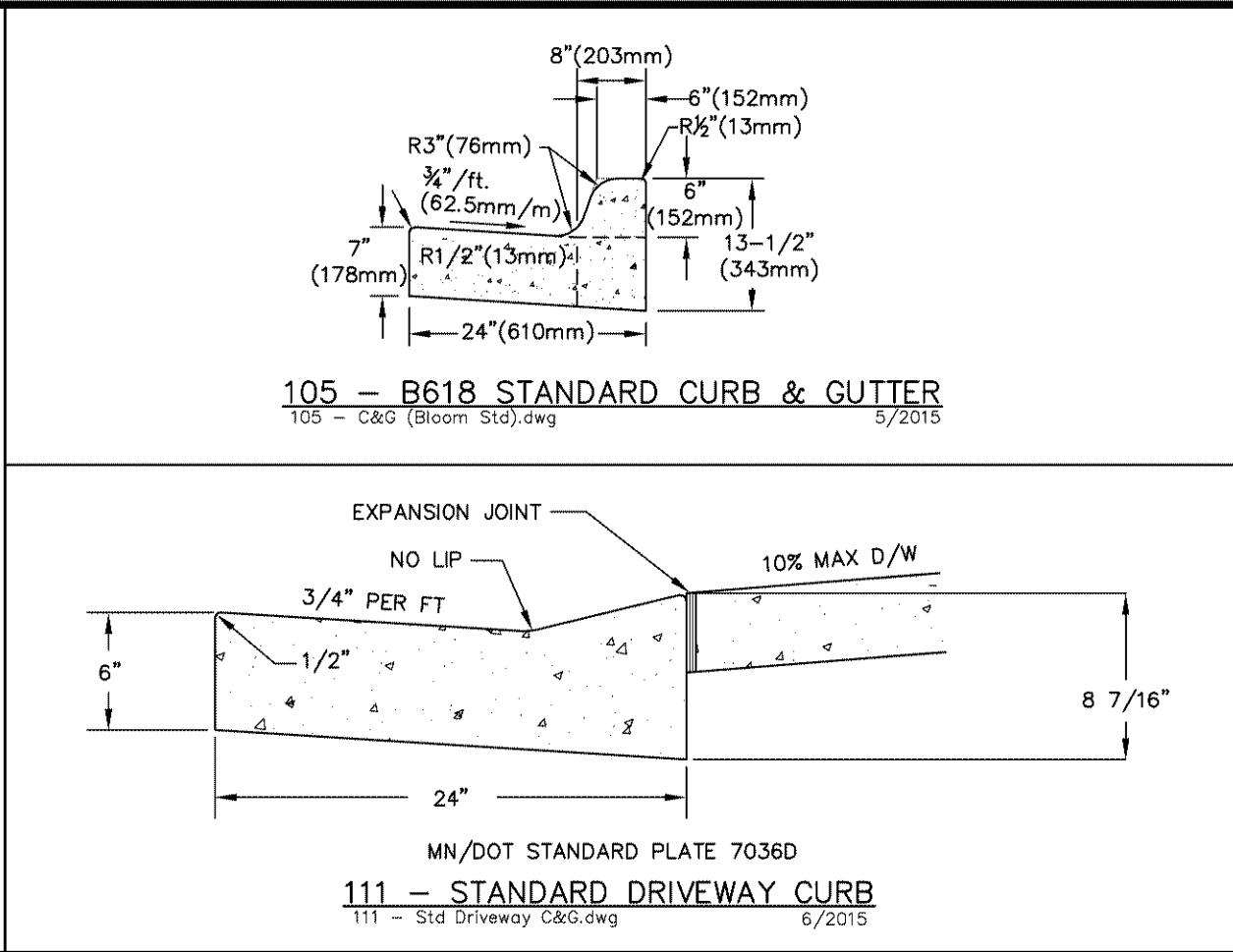
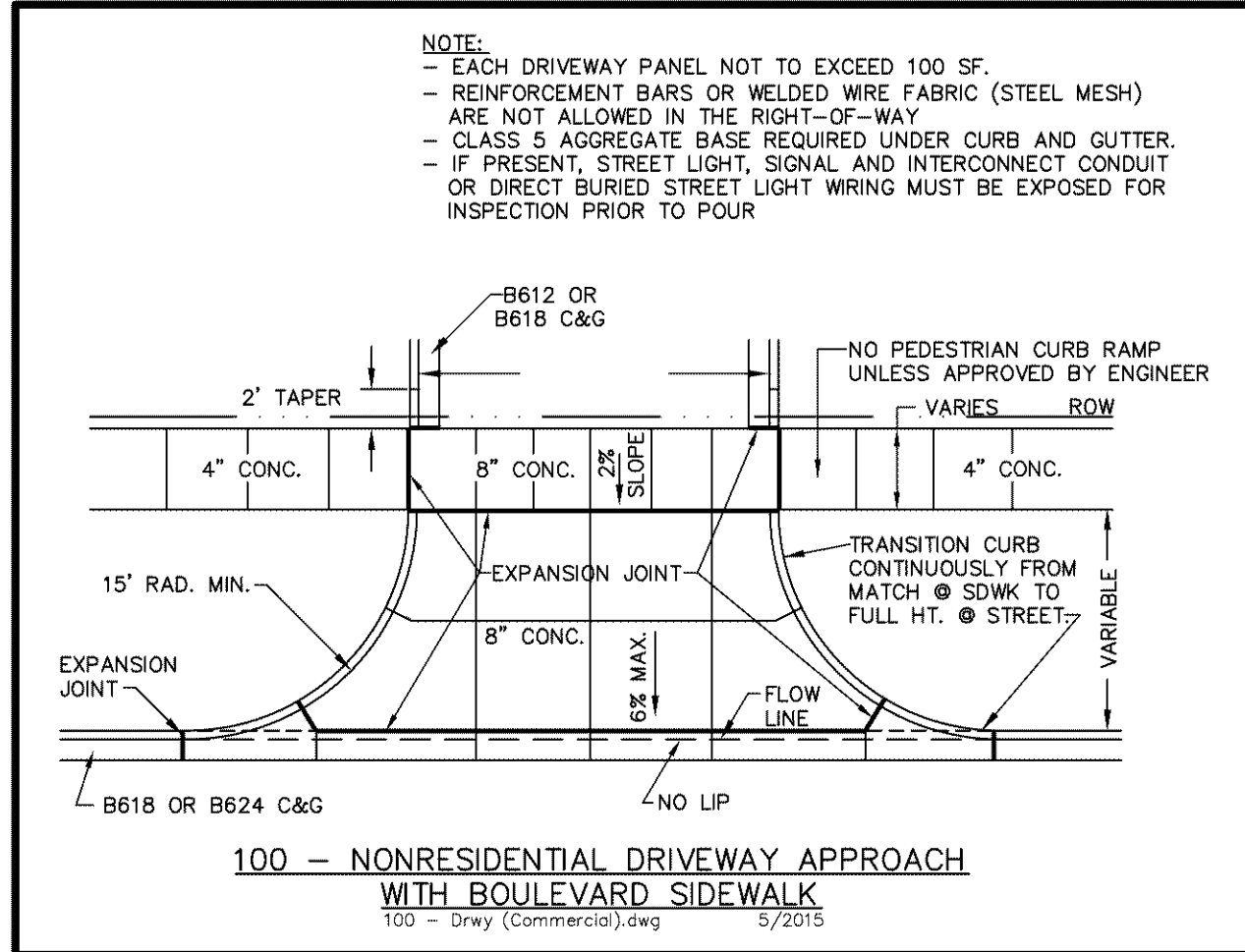


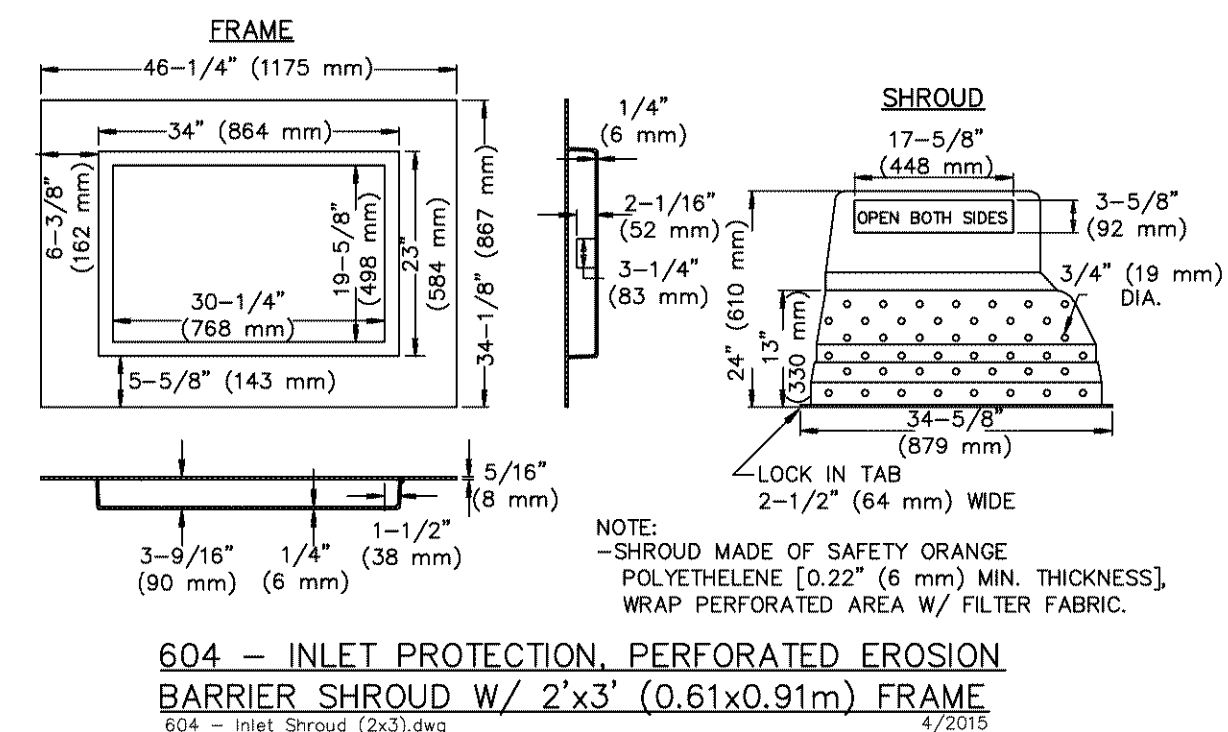
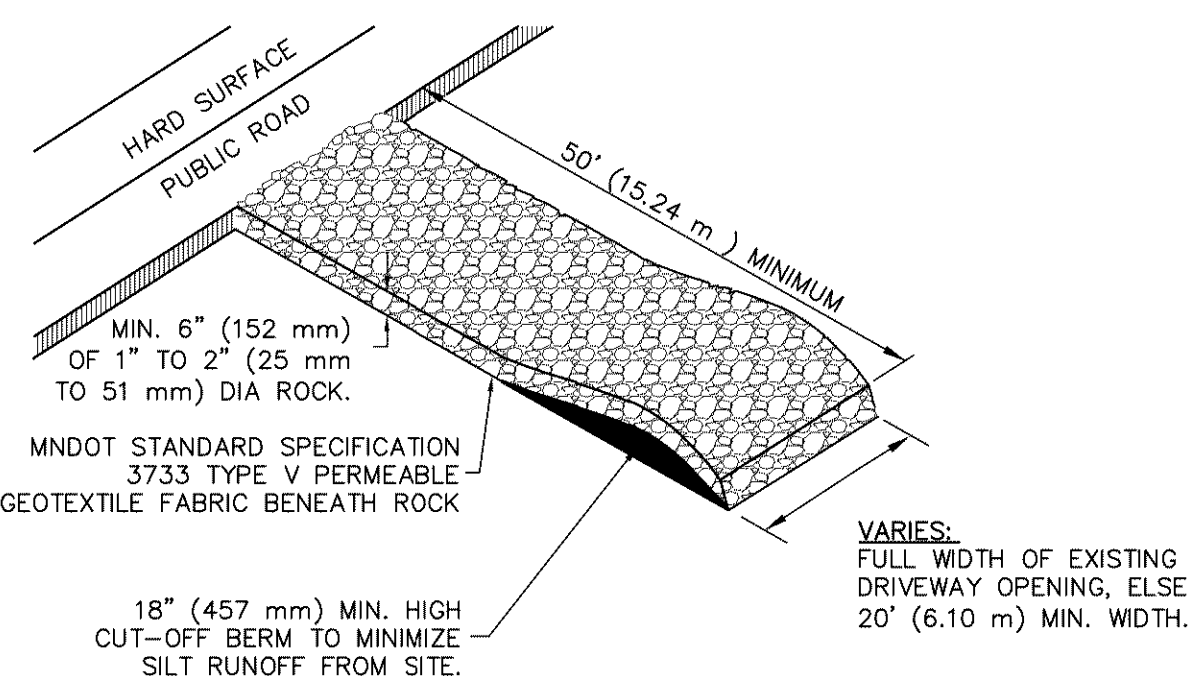
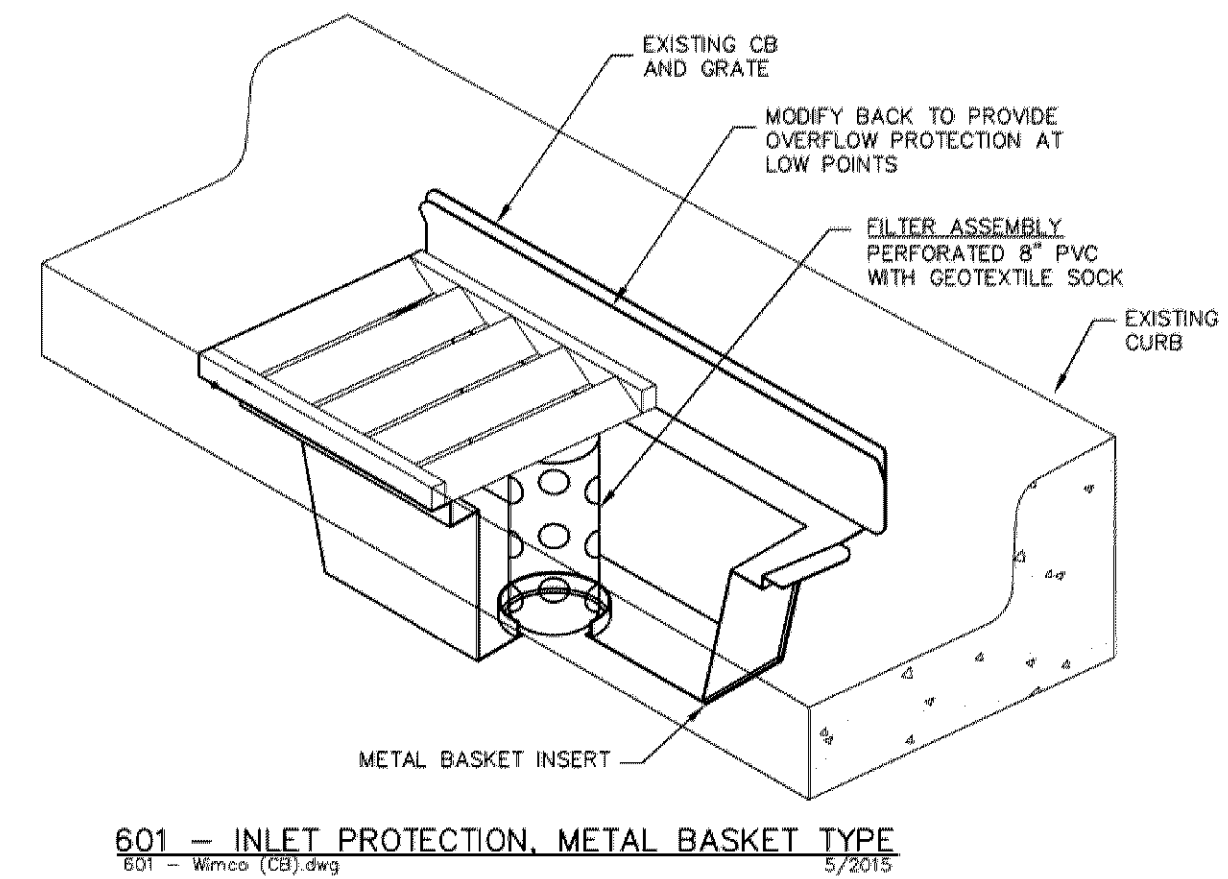
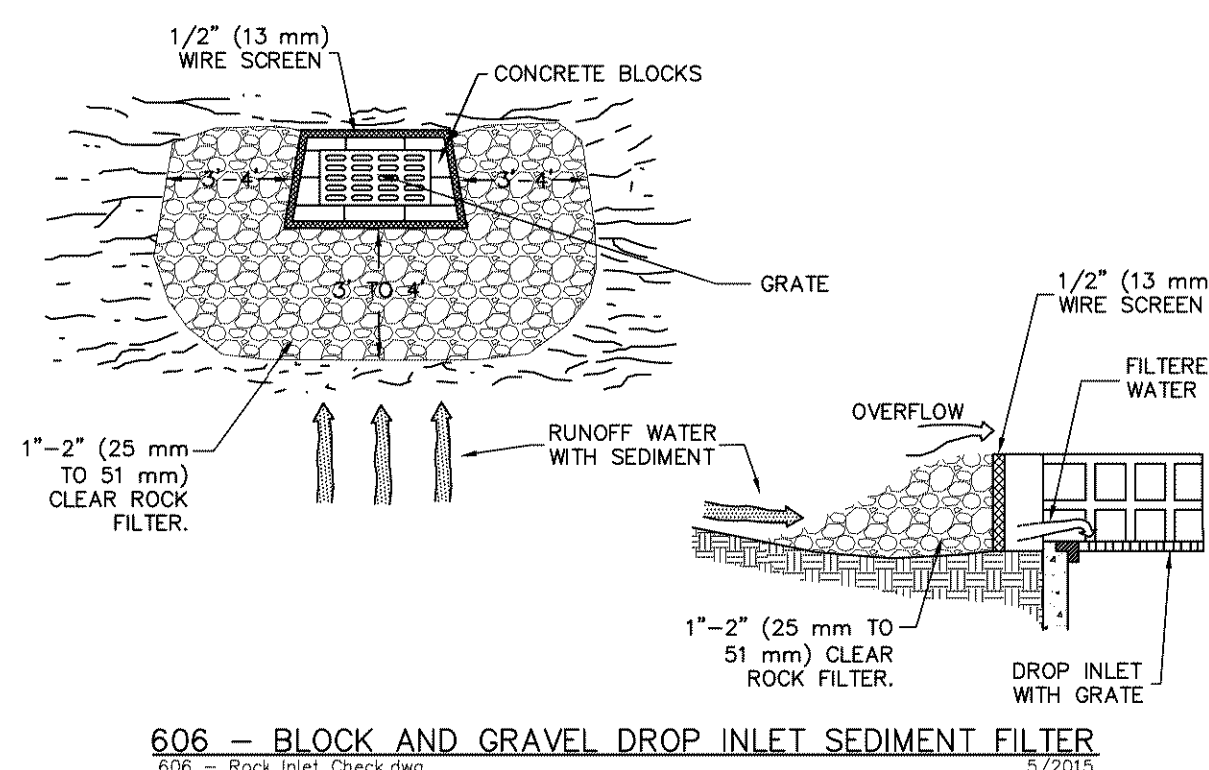
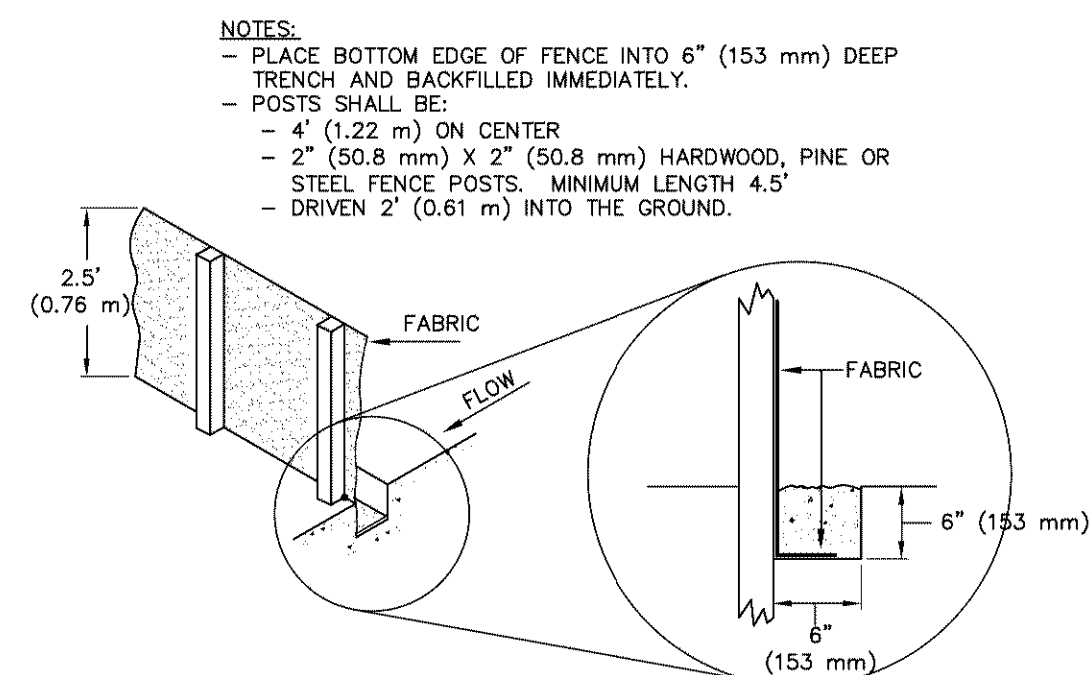
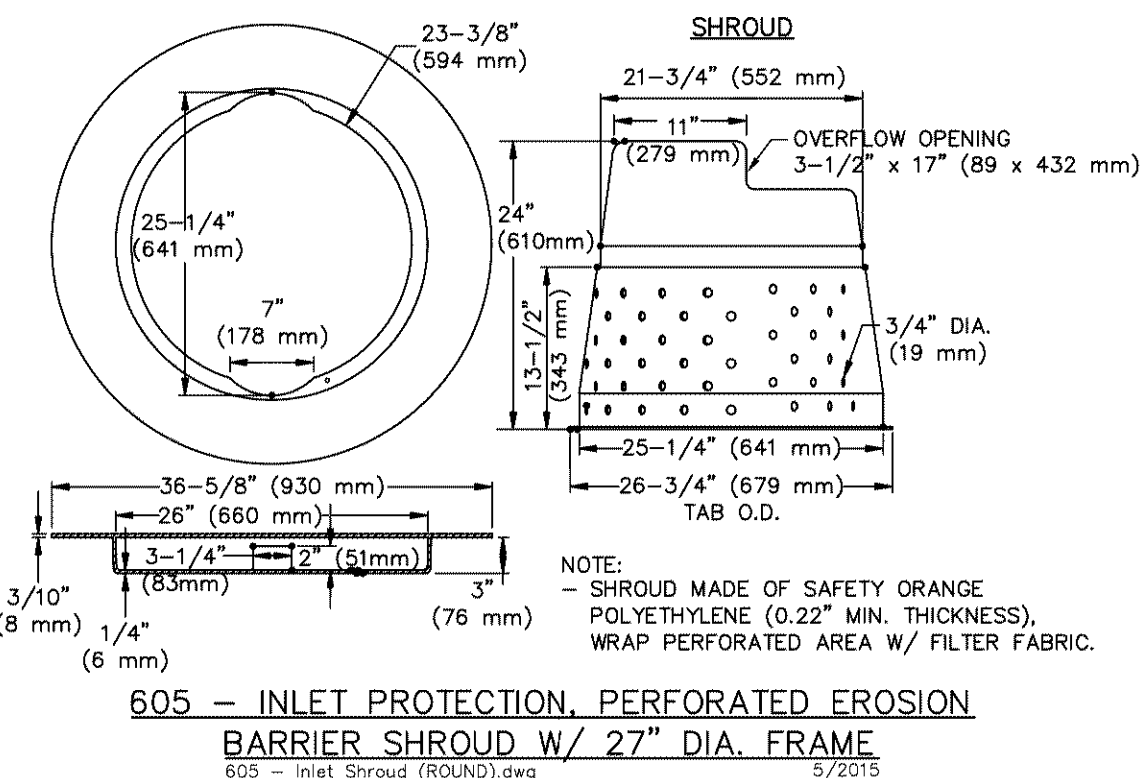
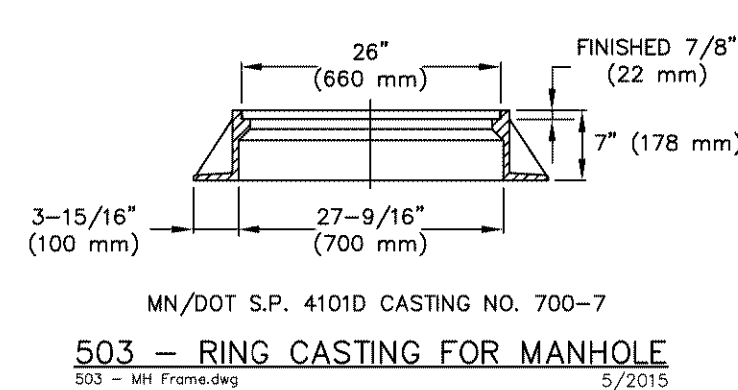
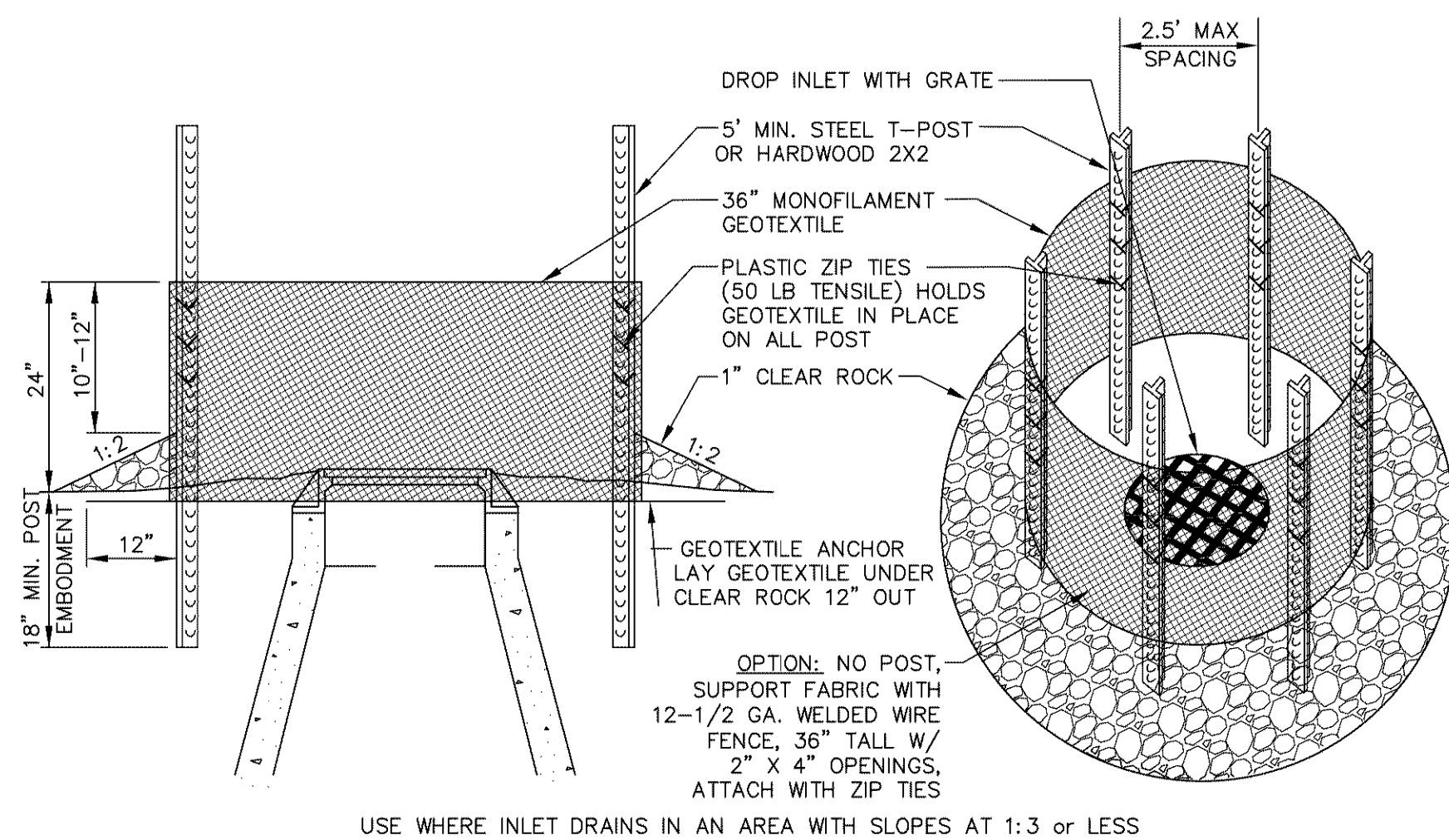
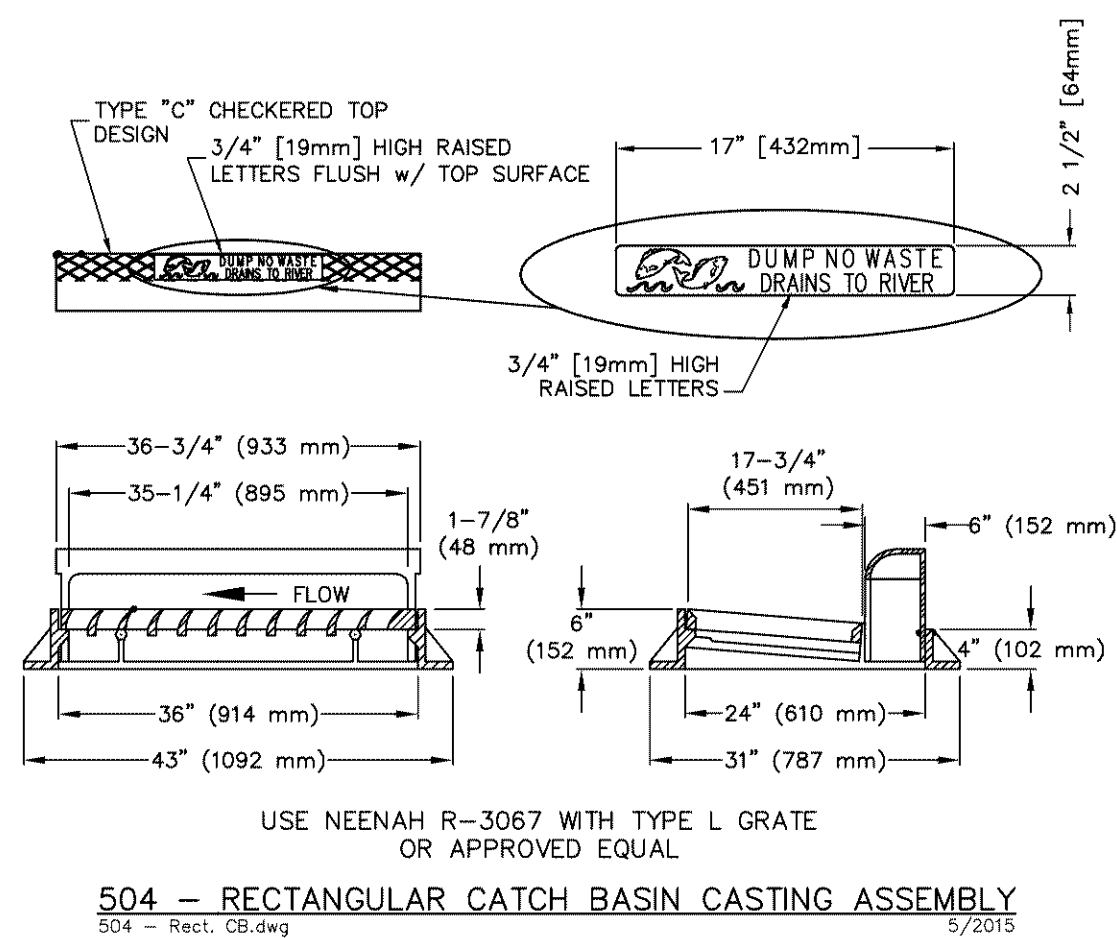
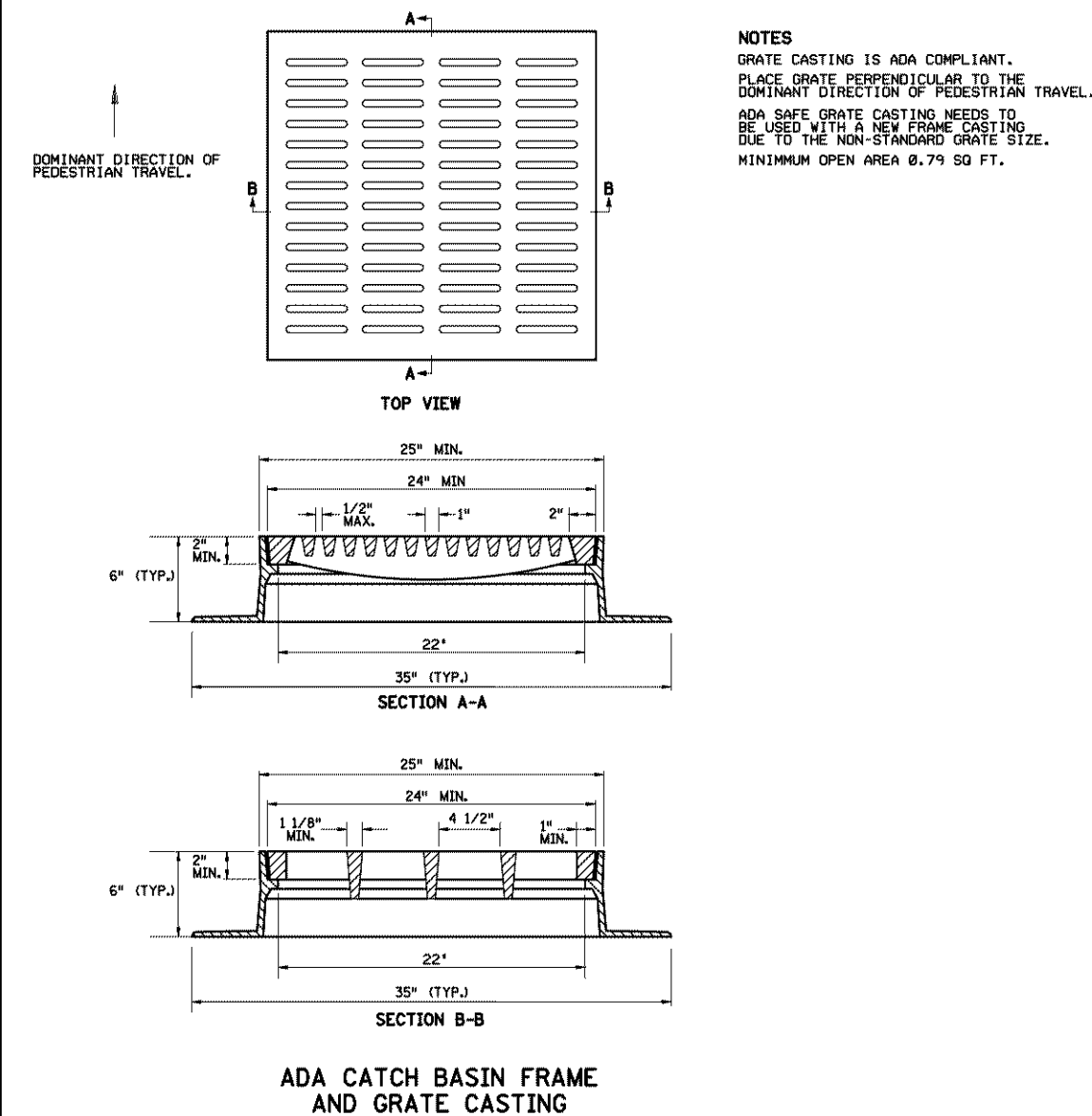
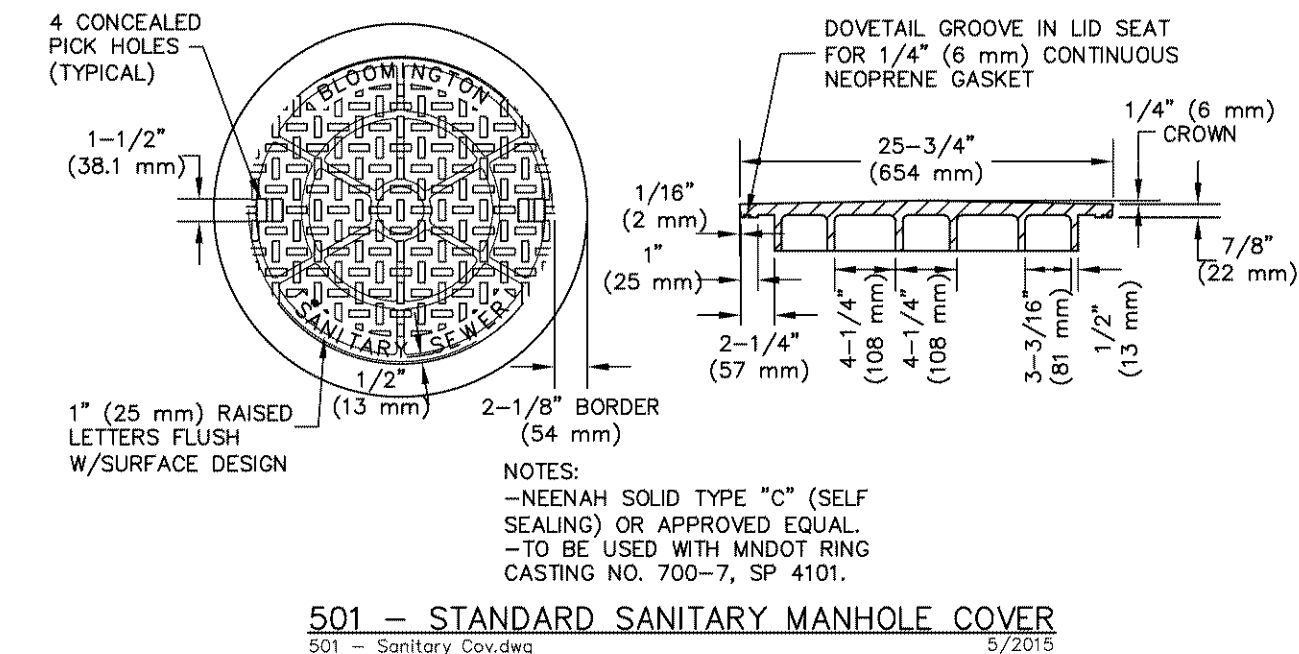
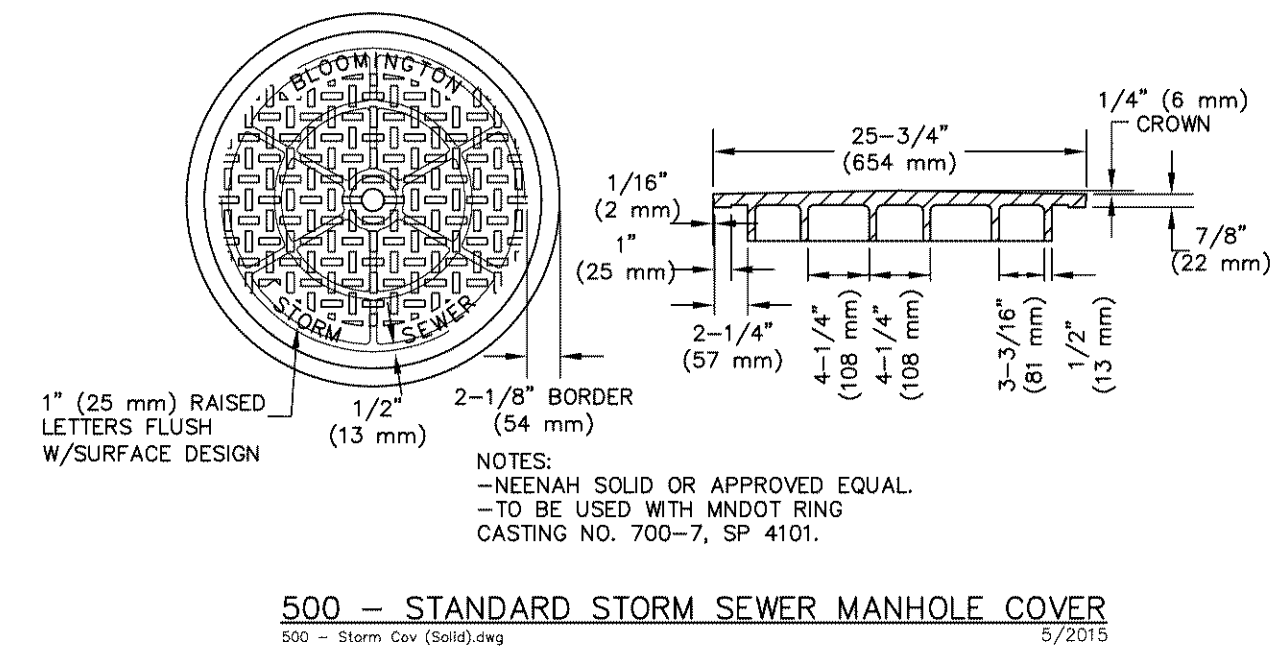
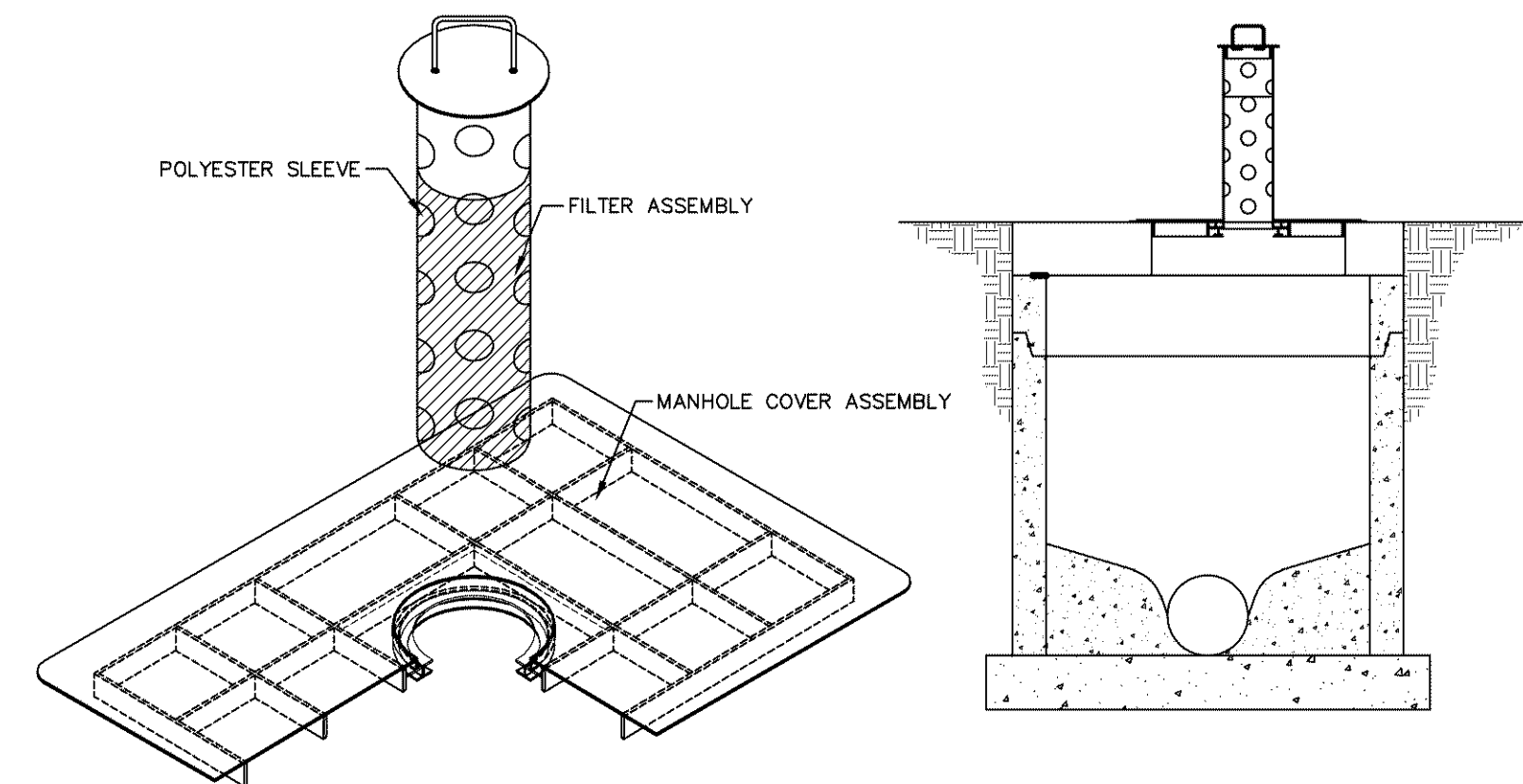
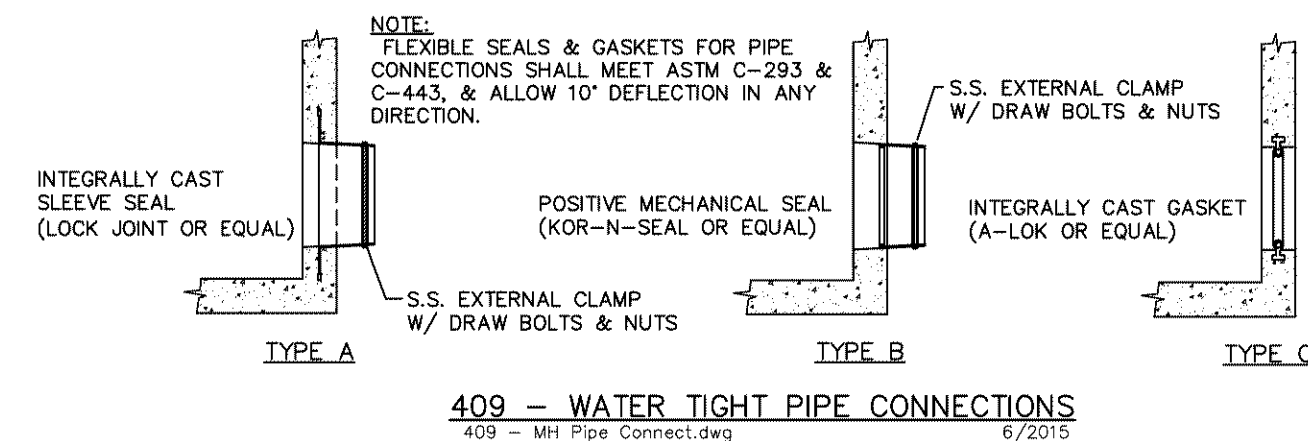
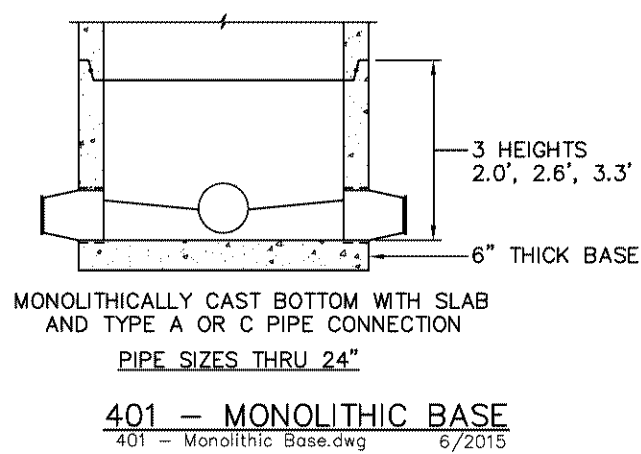
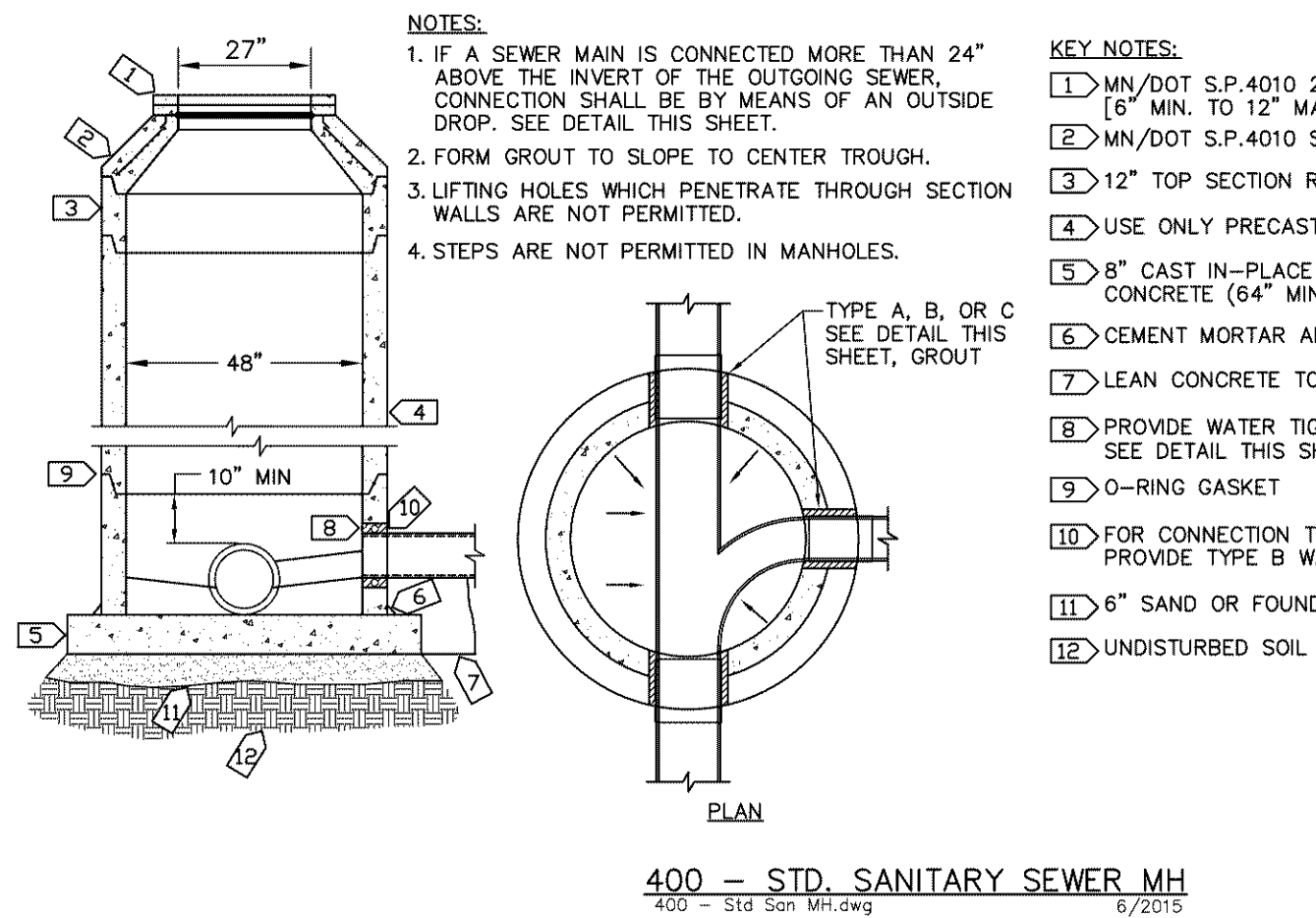
**SOUTH LOOP
WATERPARK**
BLOOMINGTON, MINNESOTA

TYPICAL SECTIONS

FILE NO.
151051

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DESIGNER: _____ JG
CHECKED BY: _____ JG
DESIGN TEAM

NO.	BY	DATE

REVISIONS

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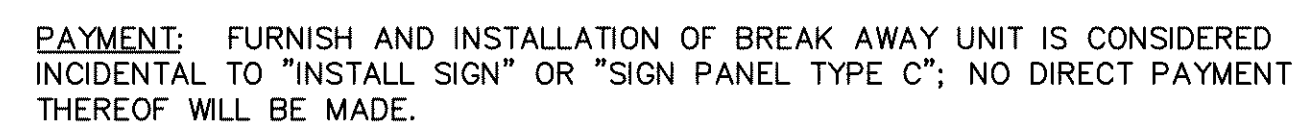
**SOUTH LOOP
WATERPARK**
BLOOMINGTON, MINNESOTA

DETAILS

FILE NO.
151051

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DESIGNER: _____	JG				
CHECKED BY: _____	JG				
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**SOUTH LOOP
WATERPARK**
BLOOMINGTON, MINNESOTA

DETAILS

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DETAILS

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BLOOMINGTON, MINNESOTA

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WATERPARK**
BLOOMINGTON, MINNESOTA

DETAILS

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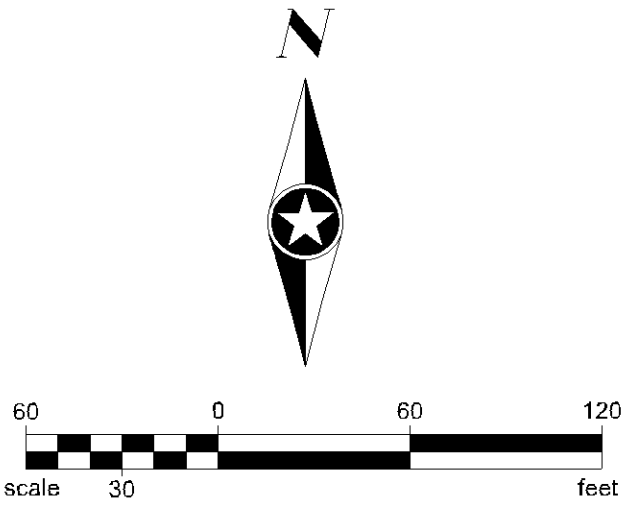
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**SOUTH LOOP
WATERPARK**
BLOOMINGTON, MINNESOTA

DETAILS

FILE NO.
151051

14
72



ALIGNMENT TABULATION - RING ROAD									
POINT ID	POINT	STATION	DELTA	RADIUS	TANGENT	LENGTH	NORTHING	EASTING	BEARING
L1		140+00.00				881.73	124703.4957	536230.3907	S 90° 00' 00" E
C1		148+81.73	045° 00' 00"	115.00	47.83	90.32	124703.4948	536912.1159	
L2		147+72.05				152.83	124669.8120	536993.4330	S 45° 00' 00" E
C2		149+24.87	075° 00' 00"	115.00	88.24	150.53	124551.7476	537101.4875	
L3		150+75.41				122.38	124422.9305	537119.7732	S 30° 00' 00" W
C3		151+97.78	030° 05' 57"	115.00	30.92	60.41	124316.9490	537058.5851	
L4		152+58.20				309.32	124259.2502	537043.1784	S 00° 05' 57" E

ALIGNMENT TABULATION - RAMP ROAD									
POINT ID	POINT	STATION	DELTA	RADIUS	TANGENT	LENGTH	NORTHING	EASTING	BEARING
L5		180+00.00				182.05	124486.7578	537005.1079	S 67° 13' 36" E
C4		181+82.05	022° 46' 24"	115.00	23.16	45.71	124416.2875	537172.9689	
L6		182+27.76				522.24	124407.3225	537127.4838	N 90° 00' 00" E

ALIGNMENT TABULATION - THUNDERBIRD ROAD									
POINT ID	POINT	STATION	DELTA	RADIUS	TANGENT	LENGTH	NORTHING	EASTING	BEARING
L7		160+00.00				515.66	124647.0421	536545.4992	N 00° 00' 00" E

SURFACE PARKING COUNTS		
PARKING	●EXISTING	PROPOSED
LOT 1	80	148
LOT 2	671	760
LOT 3 (EXISTING)	N/A	N/A
LOT 4	93	104
LOT 5	537	425
LOT 6	469	301
LOT 7	219	NA
TOTAL	2,069	2,738

*SEE SHEET 2
*DENOTES PARKING RAMP

Why is Lot 3, the "Porkchop," listed as NA in the surface parking tabulation? Is it not available for overflow parking?

NO.	BY	DATE	REVISIONS

This opens awkwardly from 2 lanes to 5. May need to modify depending upon recommendations from traffic study



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**SOUTH LOOP
WATERPARK**
BLOOMINGTON, MINNESOTA

ALIGNMENT AND GENERAL LAYOUT PLAN

FILE NO.
151051

THIS STORM WATER POLLUTION PREVENTION PLAN (SWPPP) HAS BEEN DEVELOPED TO ADDRESS THE REQUIREMENTS OF NPDES PERMIT MN R100001. THIS SWPPP INCLUDES A COMBINATION OF NARRATIVE AND PLAN SHEETS THAT DESCRIBE THE TEMPORARY AND PERMANENT STORM WATER MANAGEMENT PLAN FOR THE PROJECT.

LOCATION:	CITY OF BLOOMINGTON, HENNEPIN COUNTY, MN
LATITUDE/LONGITUDE:	44.8577 / -93.2421
PROJECT DESCRIPTION:	WATERPARK
SOIL DISTURBING ACTIVITIES:	BITUMINOUS REMOVAL, PUBLIC AND PRIVATE UTILITIES, CONCRETE SIDEWALK AND C&G, LIGHTING

OWNER:	X
CONTACT:	X
ADDRESS:	X
PHONE:	X
EMAIL:	X

KNOWLEDGEABLE PERSON/CHAIN OF RESPONSIBILITY
THE CONTRACTOR SHALL IDENTIFY A PERSON KNOWLEDGEABLE AND EXPERIENCED IN THE APPLICATION OF EROSION PREVENTION AND SEDIMENT CONTROL BMPs WHO WILL COORDINATE WITH ALL CONTRACTORS, SUBCONTRACTORS, AND OPERATORS ON-SITE TO OVERSEE THE IMPLEMENTATION OF THE SWPPP.

THE CONTRACTOR SHALL ESTABLISH A CHAIN OF RESPONSIBILITY FOR ALL CONTRACTORS AND SUB-CONTRACTORS ON SITE TO ENSURE THE SWPPP IS BEING PROPERLY IMPLEMENTED AND MAINTAINED. THE CONTRACTOR SHALL PROVIDE THE CHAIN OF RESPONSIBILITY TO THE OWNER AND ATTACH TO THE SWPPP PRIOR TO ANY CONSTRUCTION ACTIVITY.

THE CONTRACTOR SHALL KEEP THE SWPPP, INCLUDING ALL AMENDMENTS AND INSPECTION AND MAINTENANCE RECORDS ON SITE DURING CONSTRUCTION.

ALL SWPPP CHANGES MUST BE DONE BY AN INDIVIDUAL TRAINED IN ACCORDANCE WITH SECTION 21.4 OR 21.5. CHANGES INVOLVING THE USE OF A LESS STRINGENT BMP MUST INCLUDE A JUSTIFICATION DESCRIBING HOW THE REPLACEMENT BMP IS EFFECTIVE FOR THE SITE CHARACTERISTICS.

A NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) CONSTRUCTION SITE PERMIT AND STORM WATER POLLUTION PREVENTION PLAN (SWPPP) MUST BE PROVIDED PRIOR TO CONSTRUCTION.

THE OWNER WILL BE RESPONSIBLE OR WILL OTHERWISE IDENTIFY WHO WILL BE RESPONSIBLE FOR THE LONG TERM OPERATION AND MAINTENANCE OF THE PERMANENT STORMWATER MANAGEMENT SYSTEM(S).

PREPARER/DESIGNER OF SWPPP:	KATELYN HOLMBERG
EMPLOYER:	SHORT ELLIOTT HENDRICKSON INC. (SEH)
DATE OBTAINED / REFRESHED	MAY 2019
INSTRUCTOR(S)/ENTITY PROVIDING TRAINING:	UNIVERISTY OF MINNESOTA

- INDIVIDUALS OVERSEEING THE IMPLEMENTATION OF, REVISING, AND AMENDING THE SWPPP
- INDIVIDUALS PERFORMING INSPECTIONS
- INDIVIDUALS PERFORMING OR SUPERVISING THE INSTALLATION, MAINTENANCE AND REPAIR OF BMPs

1) DATES OF TRAINING
2) NAME OF INSTRUCTORS
3) CONTENT AND ENTITY PROVIDING TRAINING

TOTAL DISTURBED AREA:	15.67 AC
PRE-CONSTRUCTION IMPERVIOUS AREA:	15.67 AC
POST-CONSTRUCTION IMPERVIOUS AREA:	15.67 AC
IMPERVIOUS AREA ADDED:	0 AC

ID	NAME	TYPE	SPECIAL WATER?	IMPAIRED WATER?	CONSTRUCTION RELATED IMPAIRMENT OR SPECIAL WATER CLASSIFICATION	TMDL
07020012-505	MINNESOTA RIVER	RIVER	Y	Y	Y	N/A
27-0002-00	LONG MEADOW LAKE	LAKE	N	N	N	N/A
ADDITIONAL BMPS AND/OR ACTIONS REQUIRED: NOT REQUIRED - MORE THAN 1 MILE FROM MINNESOTA RIVER						
SEE SECTION 23 OF THE PERMIT AND APPLICABLE TMDL WLA'S						

SEE DNR PERMIT FOR MORE
INFORMATION

SOIL NAME:	HYDROLOGIC CLASSIFICATION:
URBAN LAND-UDIPSAMMENTS (CUT AND FILL LAND) COMPLEX, 0 TO 2 PERCENT SLOPES	N/A
ANTICIPATED RANGE OF PARTICLE SIZES	N/A

AGENCY:	TYPE OF PERMIT:
MPCA	MS4 PERMIT
RICHFIELD-BLOOMINGTON WATERSHED MANAGEMENT ORGANIZATION	STORMWATER PERMIT

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

PRELIMINARY

Date: _____ Lic. No. _____

1.	INSTALL ROCK CONSTRUCTION ENTRANCE(S)
2.	INSTALL PERIMETER CONTROL AND STABILIZE DOWN GRADIENT BOUNDARIES
3.	INSTALL INLET PROTECTION ON EXISTING CATCH BASINS
4.	COMPLETE SITE GRADING
5.	INSTALL UTILITIES, STORM SEWER, INLET PROTECTION, CURB & GUTTER, PAVING
6.	COMPLETE FINAL GRADING AND STABILIZE DISTURBED AREAS
7.	AFTER CONSTRUCTION IS COMPLETE AND THE SITE IS STABILIZED, REMOVE ACCUMULATED SEDIMENT, REMOVE BMPS, AND RE-STABILIZE ANY AREAS DISTURBED BY THEIR REMOVAL.

ANY STOCKPILES ON SITE MUST HAVE A BIOROLL PERIMETER. THE TOTAL DISTURBED AREA AT A SINGLE TIME CANNOT BE GREATER THAN 10 ACRES. IF THE TOTAL DISTURBED AREA EXCEEDS 10 ACRES A TEMPORARY SEDIMENTATION BASIN WILL BE REQUIRED.

PLAN AND PROFILE PLAN SHEETS:
EROSION AND SEDIMENT CONTROL PLAN SHEETS:
TURF ESTABLISHMENT PLAN SHEETS:
STORM SEWER PLAN & PROFILE PLAN SHEETS:
GRADING PLAN SHEETS:
DETAIL PLAN SHEETS:
SWPPP NOTE AND DETAIL SHEETS:
PROJECT SPECIFICATIONS:
PROJECT BID FORM:

THE STORMWATER VOLUME, VELOCITY, AND PEAK FLOW RATES TO MINIMIZE DISCHARGE OF POLLUTANTS IN STORMWATER AND TO MINIMIZE CHANNEL AND STREAMBANK EROSION AND SCOUR IN THE IMMEDIATE VICINITY OF DISCHARGE POINTS

THE TEMPORARY BASIN MUST PROVIDE LIVE STORAGE FOR A CALCULATED VOLUME OF RUNOFF FROM A TWO (2)-YEAR, 24-HOUR STORM FROM EACH ACRE DRAINED TO THE BASIN OR 1,800 CUBIC FEET OF LIVE STORAGE PER ACRE DRAINED, WHICHEVER IS GREATER.

TEMPORARY SEDIMENT BASINS SHALL BE PROVIDED WITH ENERGY DISSIPATION AT ANY BASIN OUTLET TO PREVENT SOIL EROSION.

SEDIMENT BASINS MUST BE SITUATED OUTSIDE OF SURFACE WATERS AND ANY BUFFER ZONES, AND MUST BE DESIGNED TO AVOID THE DRAINING WATER FROM WETLANDS.

PERMANENT STORMWATER MANAGEMENT SYSTEM IS DESIGNED TO MEET THE REQUIREMENTS OF NPDES GENERAL STORMWATER PERMIT FOR CONSTRUCTION ACTIVITY.

REQUIRED WATER QUALITY VOLUME (WQV):		1.44 AF
PERMANENT MANAGEMENT SYSTEM:	WQV INFILTRATED	WQV TREATED (NOT INFILTRATED)
UNDERGROUND STORAGE TANKS, MS4, POND	0 AF	1.44 AF
TOTAL WQV INFILTRATED/TREATED		1.44 AF
REVIEW AND COMPLETE CONTAMINATION SCREENING CHECKLIST TO DETERMINE FEASIBILITY OF INFILTRATION.		