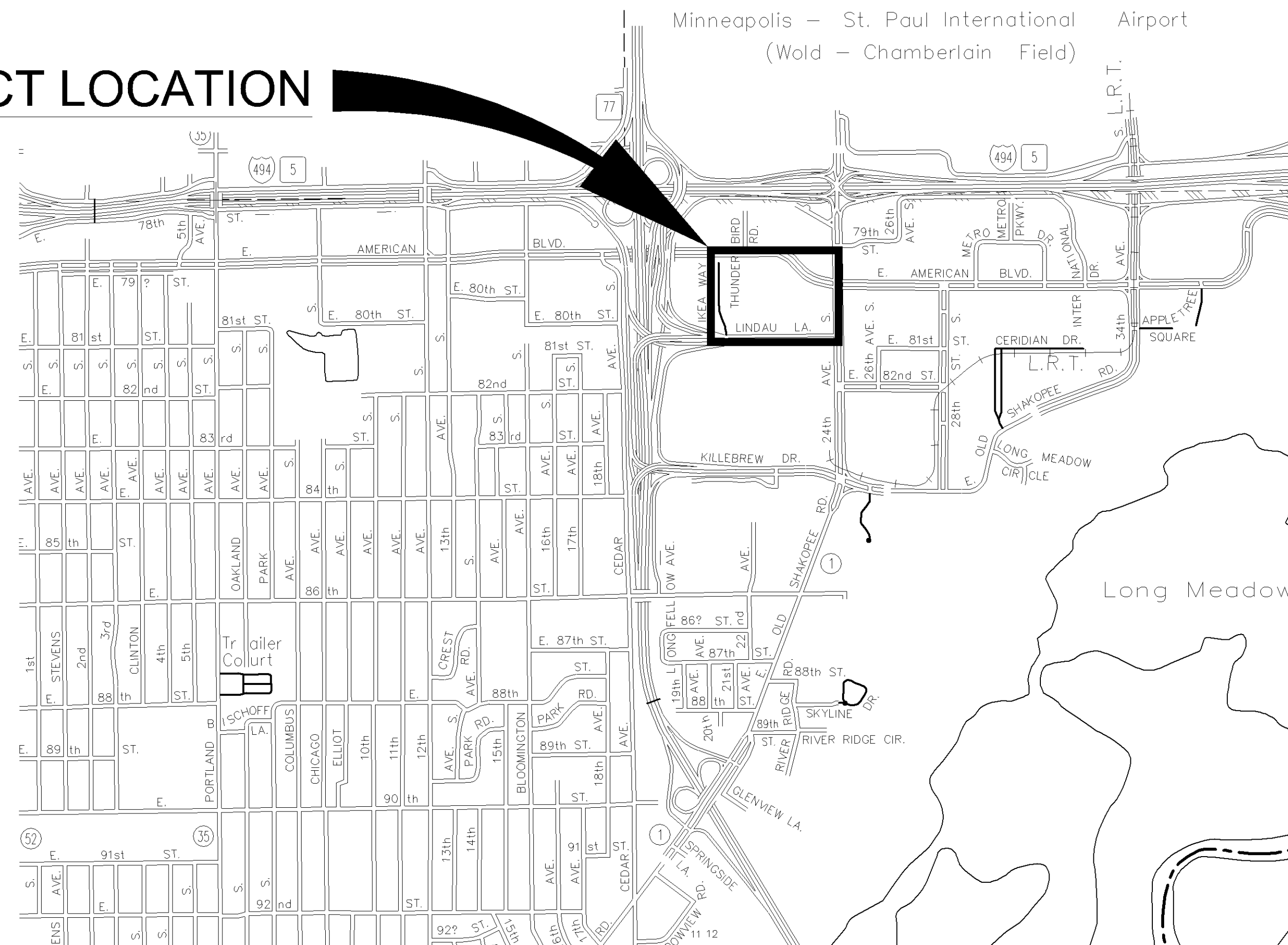


# CITY OF BLOOMINGTON, MINNESOTA

## 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.



Know what's below.  
Call before you dig.

#### 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.

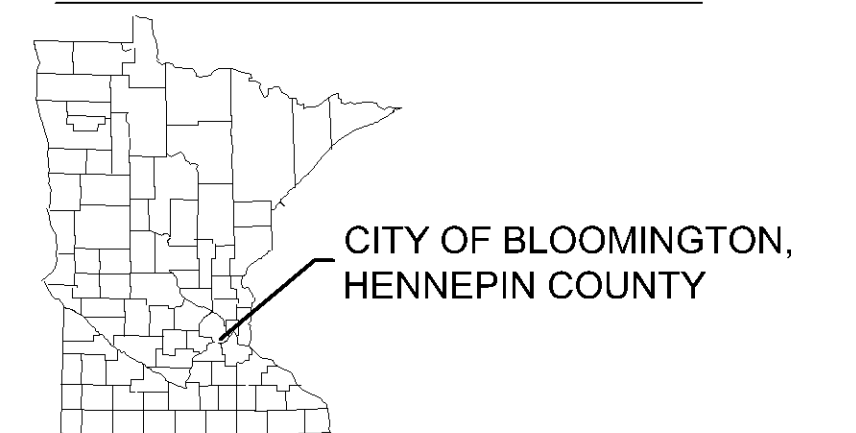
ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE LATEST EDITION OF THE  
MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE LATEST  
FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS.

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THIS PLAN CONTAINS 72 SHEETS.

#### PROJECT LOCATION



APPROVED:

CITY ENGINEER OF BLOOMINGTON DATE

APPROVED:

COUNTY ENGINEER DATE

BLOOMINGTON, MINNESOTA



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.

FILE NO.

151051

**PRELIMINARY**

1

72

Date: \_\_\_\_\_ Lic. No. \_\_\_\_\_

#### EXISTING

- RIGHT OF WAY
- PERMANENT EASEMENT
- PROPERTY LINE
- △ XX 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

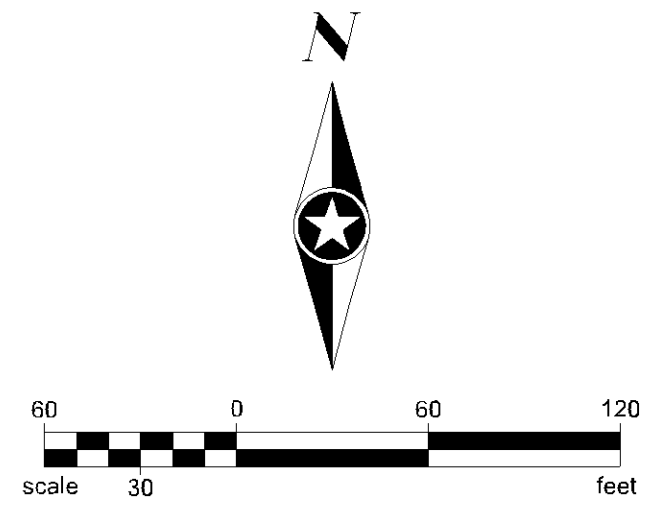
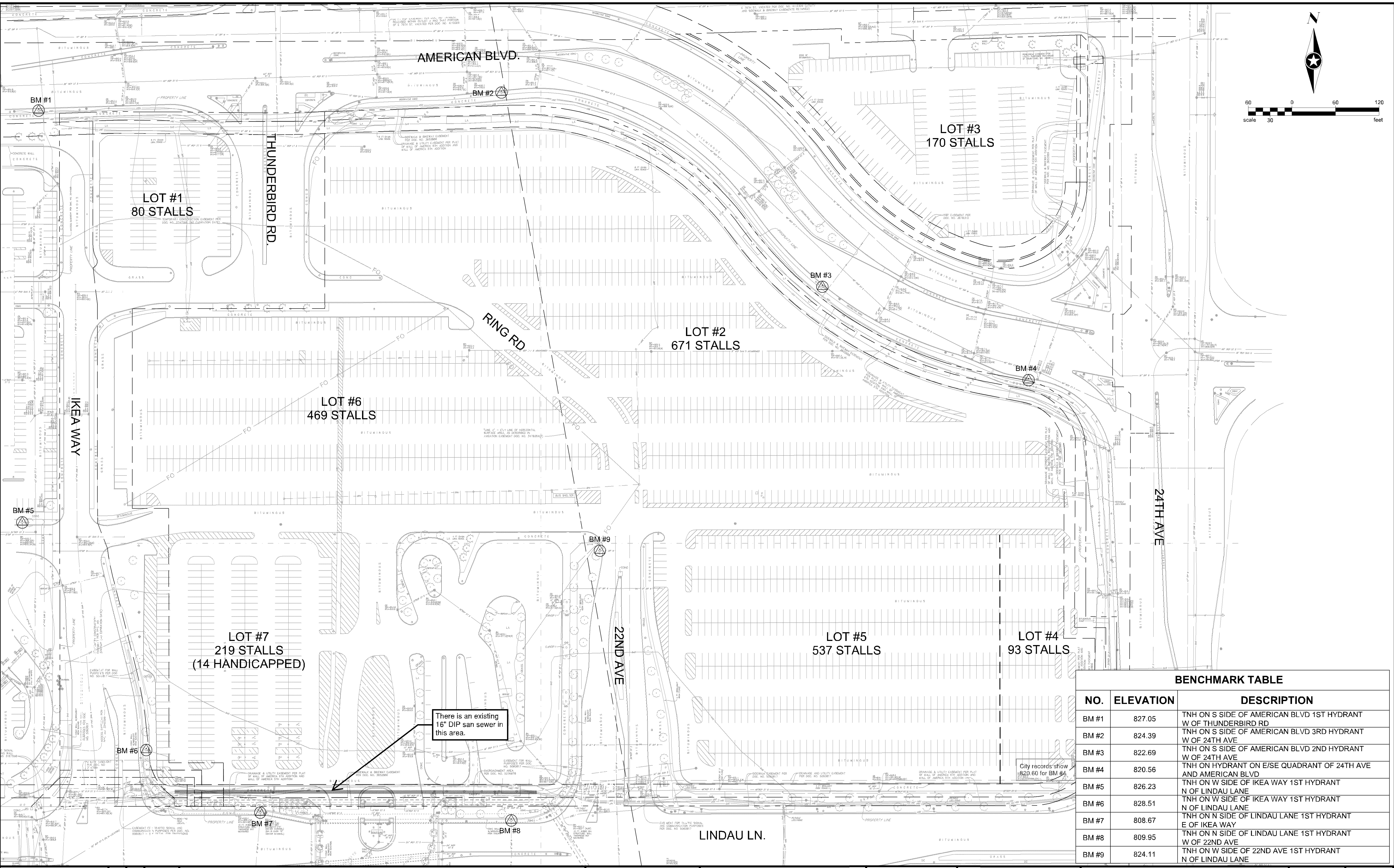
#### PROPOSED

- STREET CENTERLINE
- RIGHT-OF-WAY
- PERMANENT EASEMENT
- TEMPORARY EASEMENT
- CONSTRUCTION LIMITS
- SANITARY SEWER, BULKHEAD AND MANHOLE
- FM FORCE MAIN
- CO 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

- 7-17-2019 50% SUBMITTAL
- 9-9-2019 100% SD SUBMITTAL
- 9-20-2019 100% SD SUBMITTAL
- 10-2-2019 FDP SUBMITTAL

Save: 9/10/2019 11:03 AM csweney Plot: 10/2/2019 10:49 AM P:\KOW\MMoac015105115-final-dsgn\51-drawings\10-Civil\csw\dwg\sheet42-EXISTING CONDITIONS.dwg



BENCHMARK TABLE		
NO.	ELEVATION	DESCRIPTION
BM #1	827.05	TNH ON S SIDE OF AMERICAN BLVD 1ST HYDRANT W OF THUNDERBIRD RD
BM #2	824.39	TNH ON S SIDE OF AMERICAN BLVD 3RD HYDRANT W OF 24TH AVE
BM #3	822.69	TNH ON S SIDE OF AMERICAN BLVD 2ND HYDRANT W OF 24TH AVE
BM #4	820.56	TNH ON HYDRANT ON E/SE QUADRANT OF 24TH AVE AND AMERICAN BLVD
BM #5	826.23	TNH ON W SIDE OF IKEA WAY 1ST HYDRANT N OF LINDAU LANE
BM #6	828.51	TNH ON W SIDE OF IKEA WAY 1ST HYDRANT N OF LINDAU LANE
BM #7	808.67	TNH ON N SIDE OF LINDAU LANE 1ST HYDRANT E OF IKEA WAY
BM #8	809.95	TNH ON N SIDE OF LINDAU LANE 1ST HYDRANT W OF 22ND AVE
BM #9	824.11	TNH ON W SIDE OF 22ND AVE 1ST HYDRANT N OF LINDAU LANE

DRAWN BY: CS  
 DESIGNER: JG  
 CHECKED BY: JG

DESIGN TEAM	NO.	BY	DATE	REVISIONS

**SEH**  
 PHONE: 952.912.2600  
 10901 RED CIRCLE DRIVE,  
 SUITE 300  
 MINNETONKA, MN 55343  
 www.sehinc.com

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. \_\_\_\_\_

www.ryancompanies.com

**SOUTH LOOP WATERPARK**  
 BLOOMINGTON, MINNESOTA

**EXISTING CONDITIONS**

FILE NO. 151051  
 2  
 72

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	???'

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'	

- CITY OF BLOOMINGTON STANDARD NOTES:**
- TEMPORARY STREET SIGNS, LIGHTING AND ADDRESSES SHALL BE PROVIDED DURING CONSTRUCTION.
  - 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.
  - 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.
  - RESTORE CITY STREET BY COMPLYING WITH THE CITY STREET IMPROVEMENT POLICY. CONTACT UTILITIES AT 952-563-4568 FOR THE REQUIREMENTS.
  - ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE LATEST EDITION OF THE MMUTCD, INCLUDING FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL LAYOUTS.
  - ALL PUBLIC SIDEWALKS SHALL NOT BE OBSTRUCTED.
  - ALL PARKING STALLS TO BE PAINTED WITH WHITE STRIPING
  - ALL CONSTRUCTION AND POST-CONSTRUCTION PARKING SHALL BE ON SITE. NO ON STREET PARKING/LOADING/UNLOADING ALLOWED.
  - STORAGE OF MATERIALS OR EQUIPMENT SHALL NOT BE ALLOWED ON PUBLIC STREETS OR WITHIN PUBLIC RIGHT-OF-WAY.
  - INSTALL CROSSWALK PAVEMENT MARKINGS IN ACCORDANCE WITH MMUTCD.
  - A MN LICENSED CIVIL ENGINEER MUST DESIGN AND SIGN ALL RETAINING WALLS 4-FOOT HIGH AND HIGHER.
  - CONTRACTOR TO CONTACT UTILITIES DIVISION @ 952-563-8777 REGARDING PERMIT FOR STORM SEWER CONSTRUCTION.
  - 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.
  - A REVIEW OF ALL PRIOR PDP AND FDP COUNCIL CONDITIONS WILL BE COMPLETED FOR THIS SUBMITTAL.
  - STREET LIGHTING AND INTERCONNECT CONDUIT MUST BE EXPOSED FOR CITY INSPECTION PRIOR TO POURING CONCRETE OR BACKFILLING EXCAVATIONS IN CITY RIGHT-OF-WAY.
  - SEE SHEET 7 - DETAILS 2 FOR CASTING DETAILS. CATCH BASINS WITHIN SIDEWALK TO RECEIVE ADA FRAME AND GRATE CASTING.

- GENERAL CONSTRUCTION NOTES:**
- ALL REFERENCE TO THE OWNER IN THESE PLANS SHALL BE INTERPRETED TO MEAN SOUTH LOOP WATERPARK.
  - 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.
  - 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.
  - 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.
  - ALL WATERMAIN SHALL BE CLASS 52 DIP & WRAPPED IN 8 MIL POLYWRAP.
  - INSTALL INTERNAL CHIMNEY SEALS ON ALL SANITARY MANHOLES.
  - 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.
  - ALL DIMENSIONS SHOWN ON THE PLAN ARE THE EDGE OF PAVEMENT OR FACE/GUTTER OF CURB UNLESS NOTED.
  - CONTRACTOR SHALL PROTECT ALL INPLACE UTILITIES, PAVEMENT, AND STRUCTURES NOT IDENTIFIED FOR REMOVAL.
  - 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.
  - SOIL BORING INFORMATION FOR THE BORINGS SHOWN ON THE PLAN CAN BE PROVIDED UPON REQUEST.
  - CONTRACTOR SHALL DEVELOP A TRAFFIC CONTROL AND PHASING PLANS TO BE APPROVED BY THE OWNER AND THE CITY PRIOR TO THE START OF CONSTRUCTION.
  - CONTRACTOR SHALL PROVIDE AND MAINTAIN TEMPORARY RESTROOM FACILITIES ON SITE FOR ALL WORKERS.
  - 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.
  - 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\*\*
  - 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.
  - UTILITY AS-BUILTS MUST BE PROVIDED PRIOR TO ISSUANCE OF CERTIFICATE OF OCCUPANCY.
  - THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL EROSION CONTROL MAINTENANCE OUTLINED WITHIN THE SWPPP.
  - UTILITY PERMITS ARE REQUIRED FOR CONNECTIONS TO THE PUBLIC STORM, SANITARY, AND WATER SYSTEM. CONTACT UTILITIES (952-563-8777) FOR PERMIT INFORMATION.
  - 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.
  - ALL UNUSED WATER SERVICES MUST BE PROPERLY ABANDONED AT THE MAIN. ALL UNUSED SANITARY SEWER SERVICES MUST BE PROPERLY ABANDONED AT THE PROPERTY LINE.
  - INSTALL INTERNAL CHIMNEY SEALS ON ALL SANITARY SEWER MANHOLES.
  - TAPS OF LIVE WATER MAINS ARE TO BE COMPLETED BY CITY FORCES AND PAID FOR AND COORDINATED BY THE CONTRACTOR.
  - UTILITY AND MECHANICAL CONTRACTORS MUST COORDINATE THE INSTALLATION OF ALL WATER AND SEWER SERVICE PIPES INTO THE BUILDING TO ACCOMMODATE CITY INSPECTION AND TESTING.
  - COMBINATION FIRE AND DOMESTIC SERVICES MUST TERMINATE WITH A THREAD ON FLANGE OR AN MJ TO FLANGE ADAPTER.
  - ALL COMPONENTS OF THE WATER SYSTEM, UP TO THE WATER METER OR FIRE SERVICE EQUIPMENT MUST UTILIZE PROTECTIVE INTERNAL COATINGS MEETING CURRENT ANSII/AWWA STANDARDS FOR CEMENT MORTAR LINING OR SPECIAL COATINGS. THE USE OF UNLINED OR UNCOATED PIPE IS NOT ALLOWED.

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



PHONE: 952.912.2600  
10901 RED CIRCLE DRIVE,  
SUITE 300  
MINNETONKA, MN 55343  
www.sehinc.com

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. \_\_\_\_\_

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**SOUTH LOOP WATERPARK**  
BLOOMINGTON, MINNESOTA

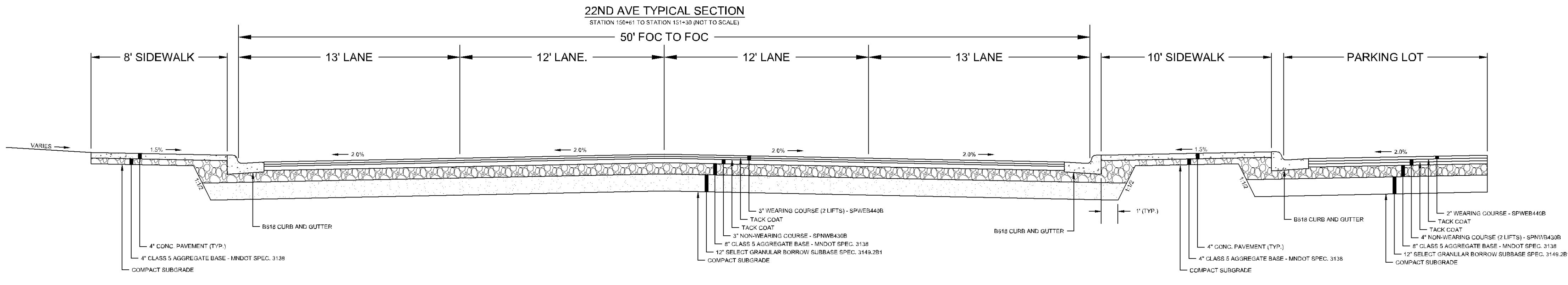
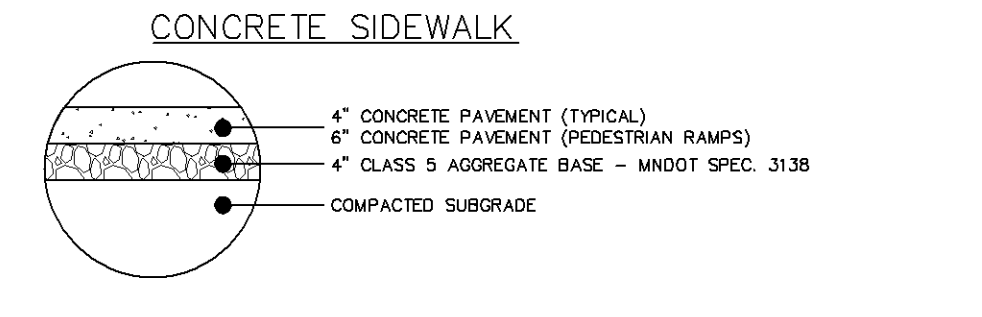
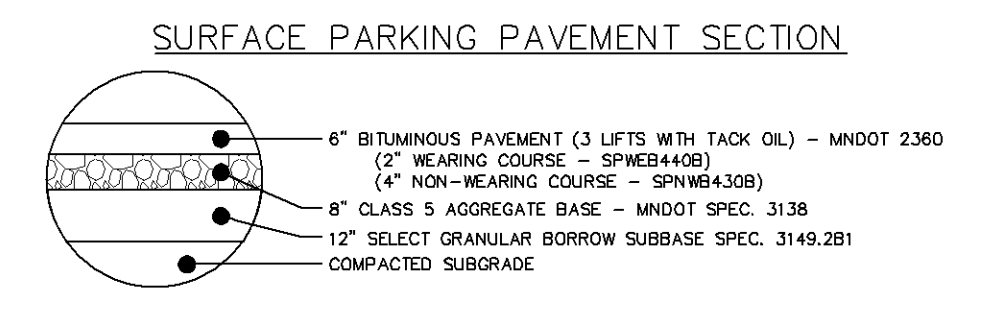
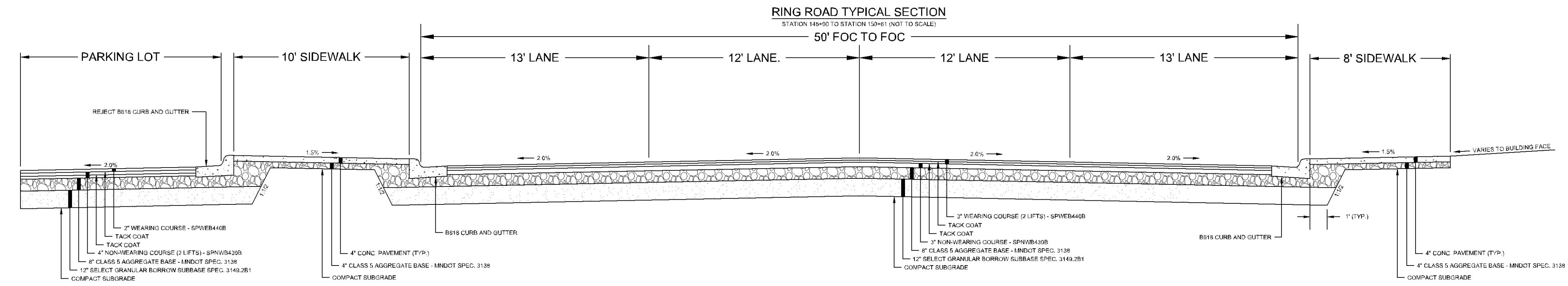
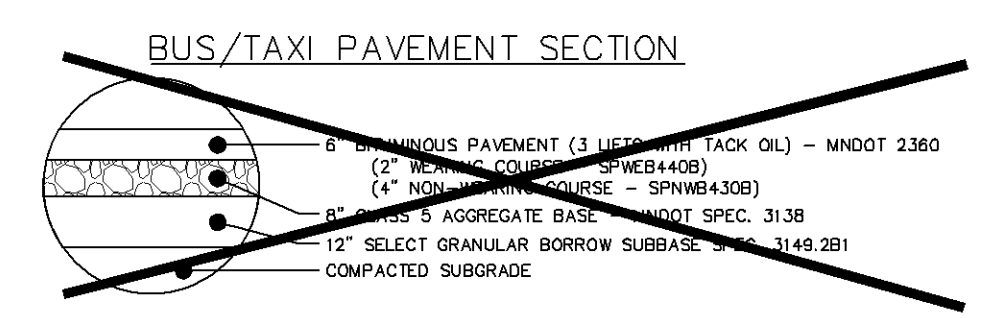
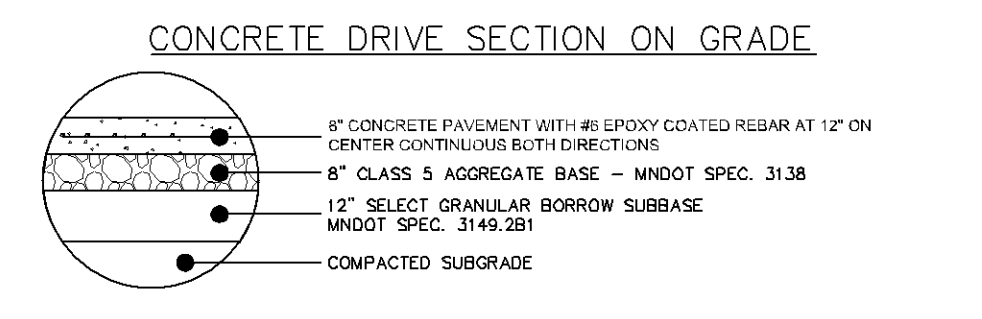
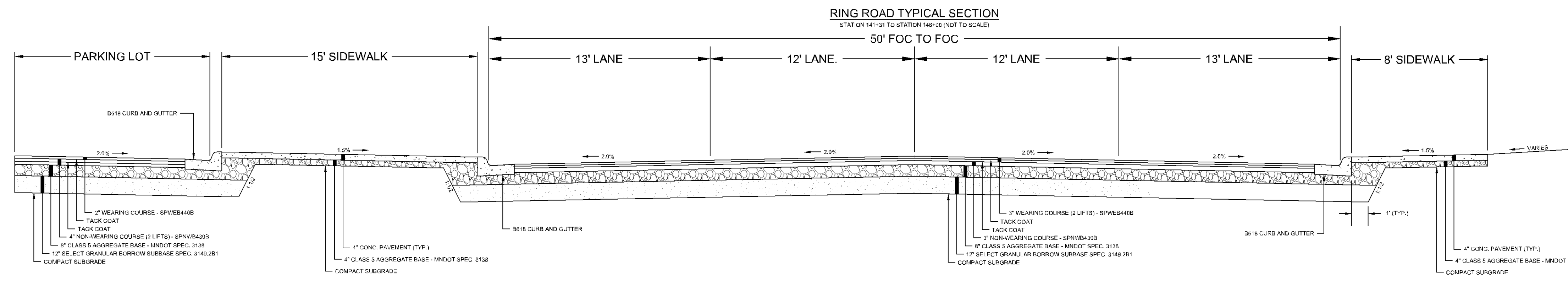
**NOTES AND STRUCTURE SCHEDULE**

FILE NO. 151051

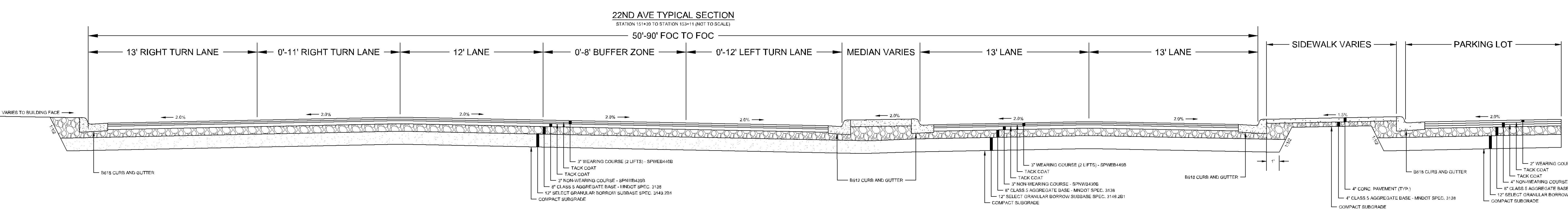
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Final typical sections will come from the traffic study.



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

NO.	BY	DATE	REVISIONS

**SEH**  
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**PRELIMINARY**  
 Date: \_\_\_\_\_ Lic. No. \_\_\_\_\_

**RYAN**  
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**SOUTH LOOP WATERPARK**  
 BLOOMINGTON, MINNESOTA

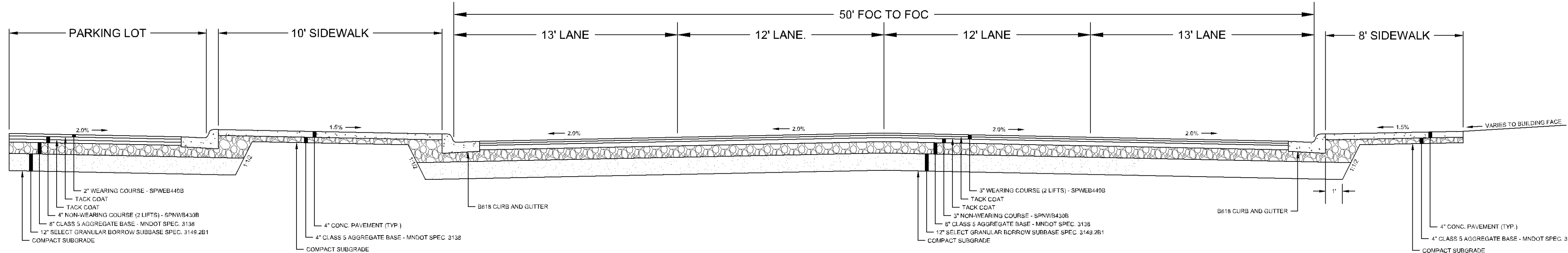
**TYPICAL SECTIONS**

FILE NO.  
151051

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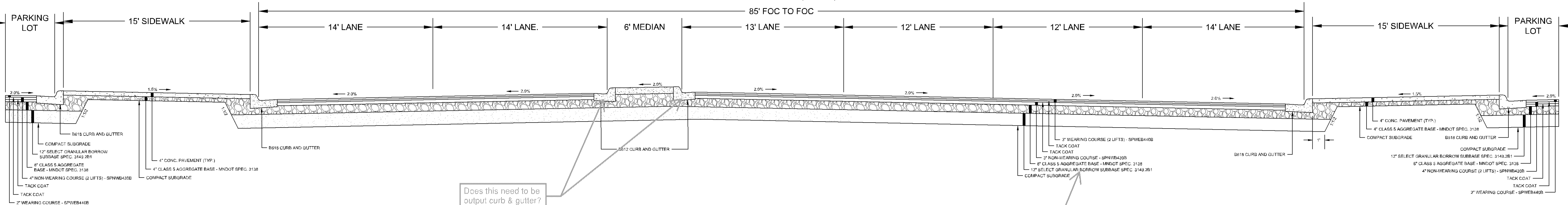
**RAMP ROAD TYPICAL SECTION**

STATION 181+50 TO STATION 185+16 (NOT TO SCALE)



**THUNDERBIRD ROAD TYPICAL SECTION**

STATION 191+31 TO STATION 192+56 (NOT TO SCALE)



Does this need to be output curb & gutter?

Verify all pavement sections meet geotech report

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

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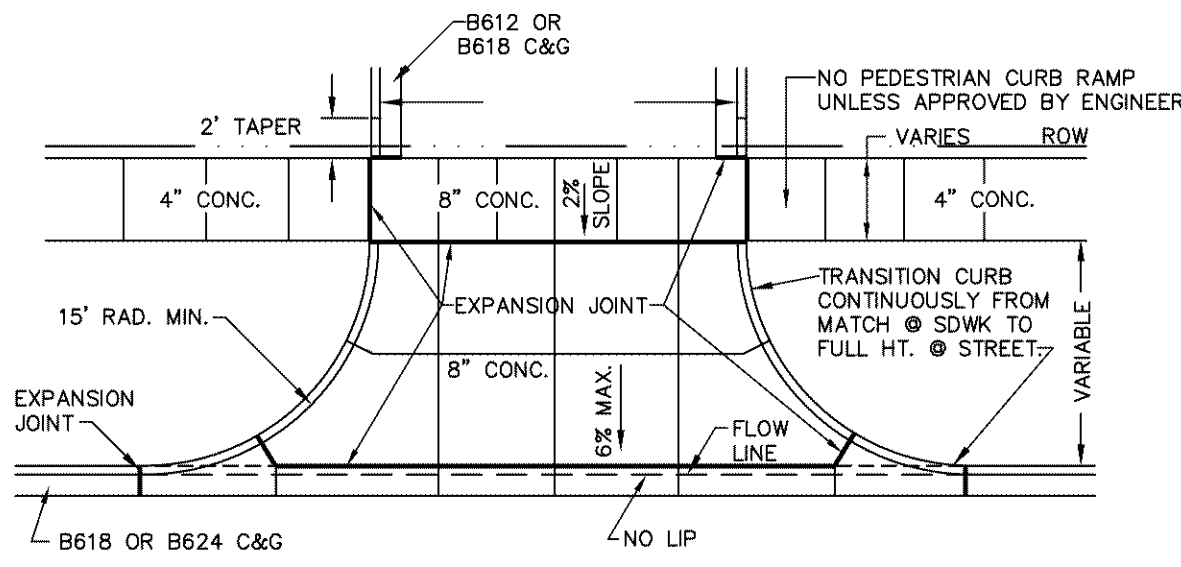
**SOUTH LOOP WATERPARK**  
 BLOOMINGTON, MINNESOTA

**TYPICAL SECTIONS**

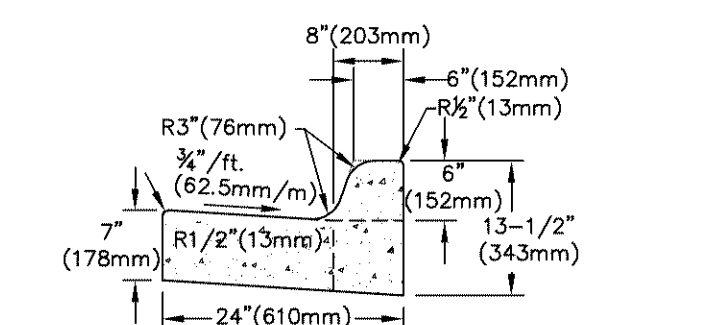
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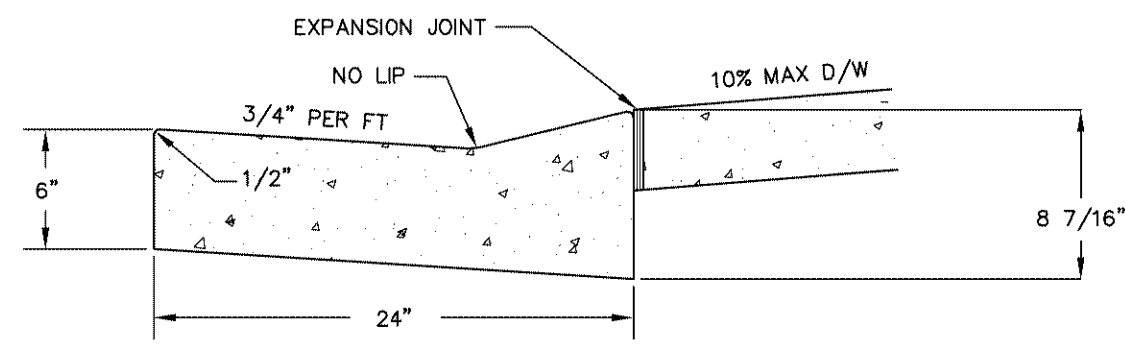
NOTE:  
 - EACH DRIVEWAY PANEL NOT TO EXCEED 100 SF.  
 - REINFORCEMENT BARS OR WELDED WIRE FABRIC (STEEL MESH) ARE NOT ALLOWED IN THE RIGHT-OF-WAY.  
 - CLASS 5 AGGREGATE BASE REQUIRED UNDER CURB AND GUTTER.  
 - IF PRESENT, STREET LIGHT, SIGNAL AND INTERCONNECT CONDUIT OR DIRECT BURIED STREET LIGHT WIRING MUST BE EXPOSED FOR INSPECTION PRIOR TO POUR.



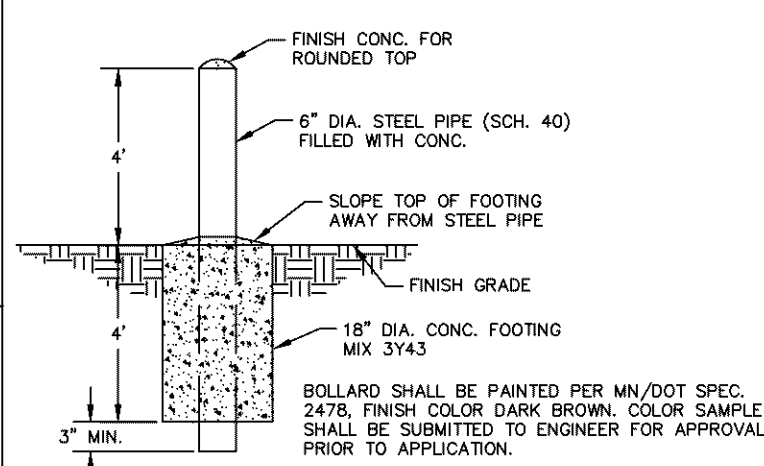
100 - NONRESIDENTIAL DRIVEWAY APPROACH WITH BOULEVARD SIDEWALK  
 100 - Drwy (Commercial).dwg 5/2015



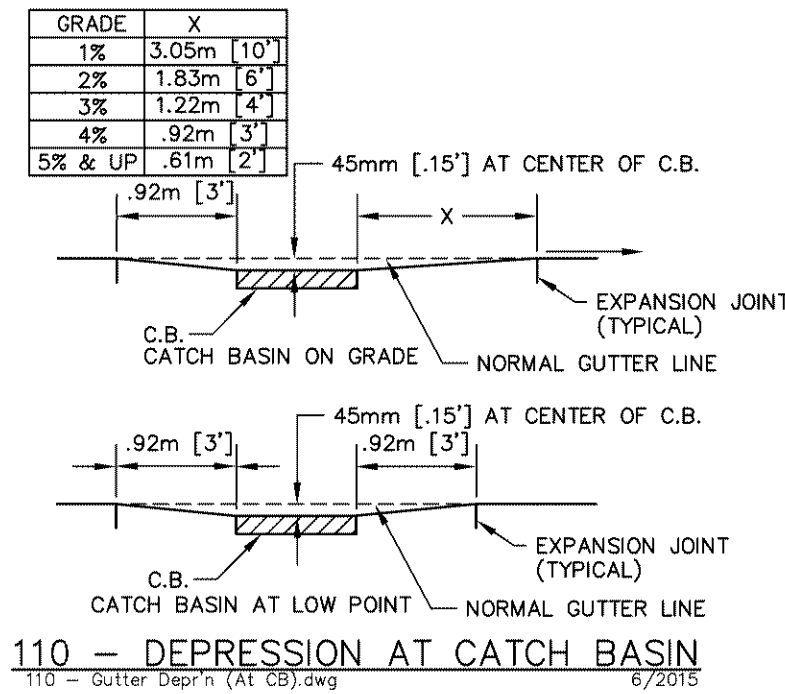
105 - B618 STANDARD CURB & GUTTER  
 105 - C&G (Bloom Std).dwg 5/2015



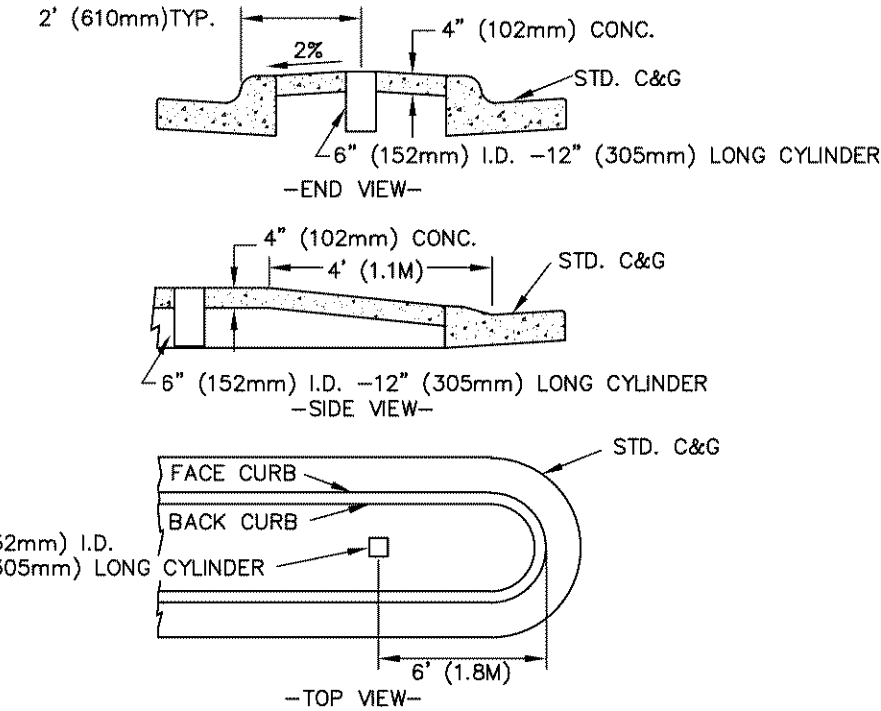
111 - STANDARD DRIVEWAY CURB  
 111 - Std Driveway C&G.dwg 6/2015



133 - STEEL BOLLARD  
 133 - Steel Bollard.dwg 6/2015

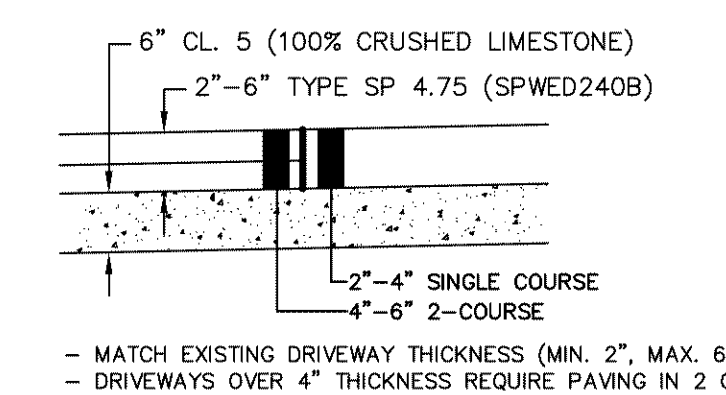


110 - DEPRESSION AT CATCH BASIN  
 110 - Gutter Dep'n (At CB).dwg 6/2015

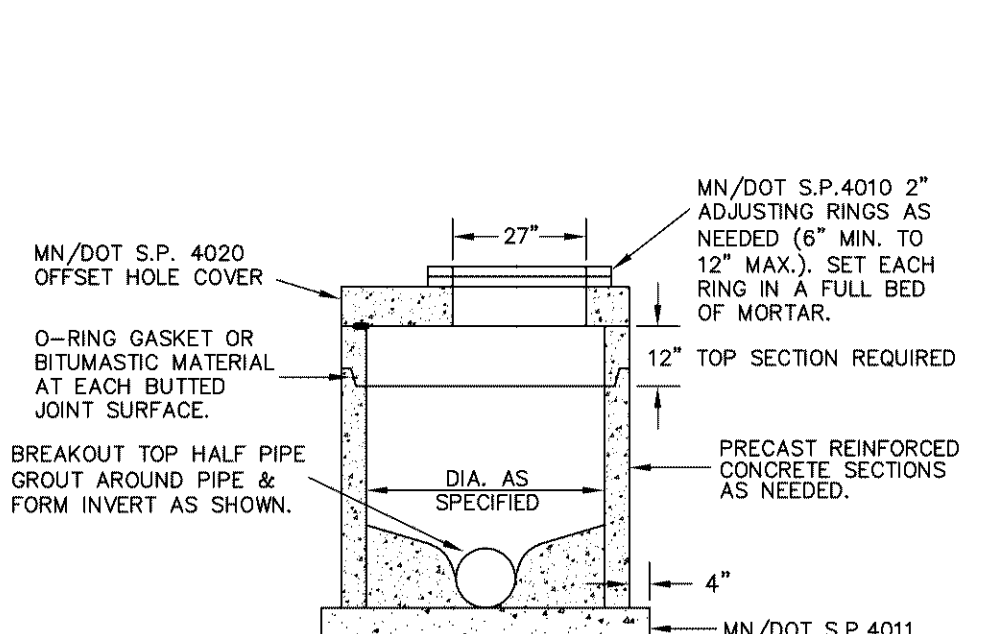


112 - STANDARD CURB & GUTTER MEDIAN  
 112 - Median Detail (Round Nose).dwg 6/2015

TYPICAL RESIDENTIAL DRIVEWAY (BITUMINOUS)

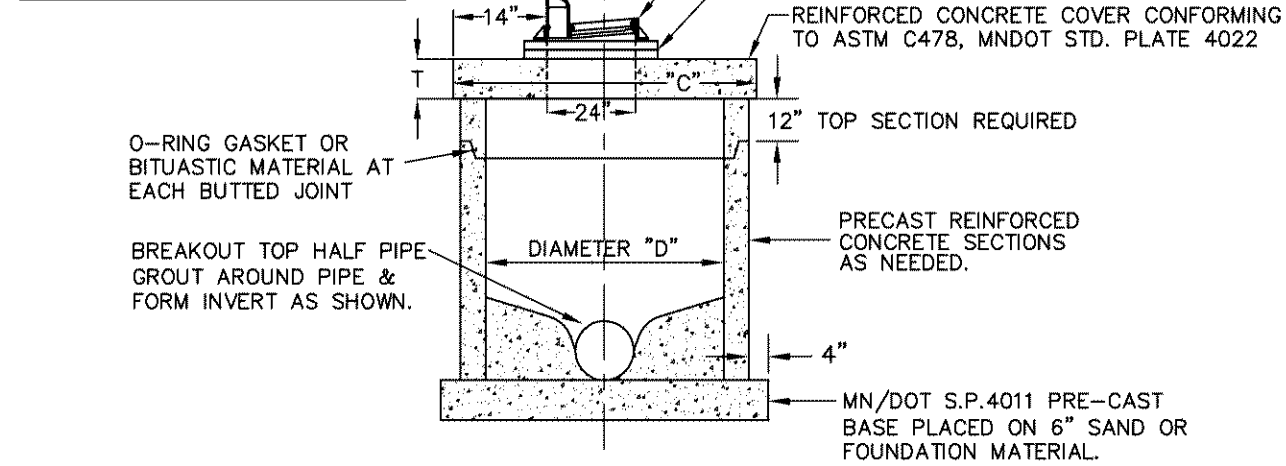


STREET DETAILS

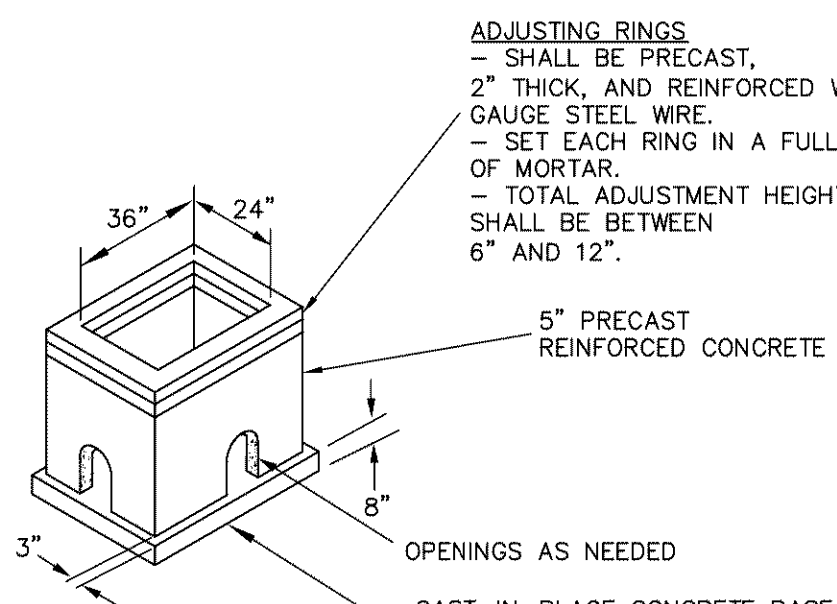


200 - STANDARD MANHOLE  
 DESIGN SPEC X, X & X  
 200 - STD\_MH.DWG 9/2013

DIA. "D"	COVER "C"	THICKNESS "T"	B.C. TO C.L. "A"
48"	58"	6"	15"
60"	72"	8"	21"
66"	78"	8"	24"
72"	86"	8"	27"
84"	100"	8"	35"
96"	114"	8"	39"
108"	128"	12"	45"
120"	144"	12"	48"

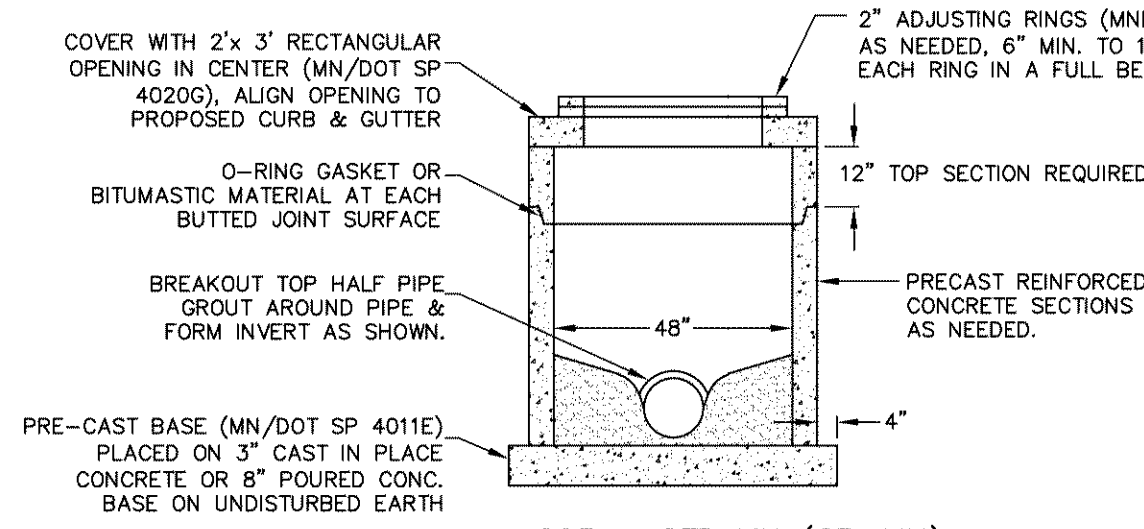


201 - STANDARD MANHOLE w/ 2x3' CASTING  
 201 - STD MH (2X3 COV).DWG 9/2016

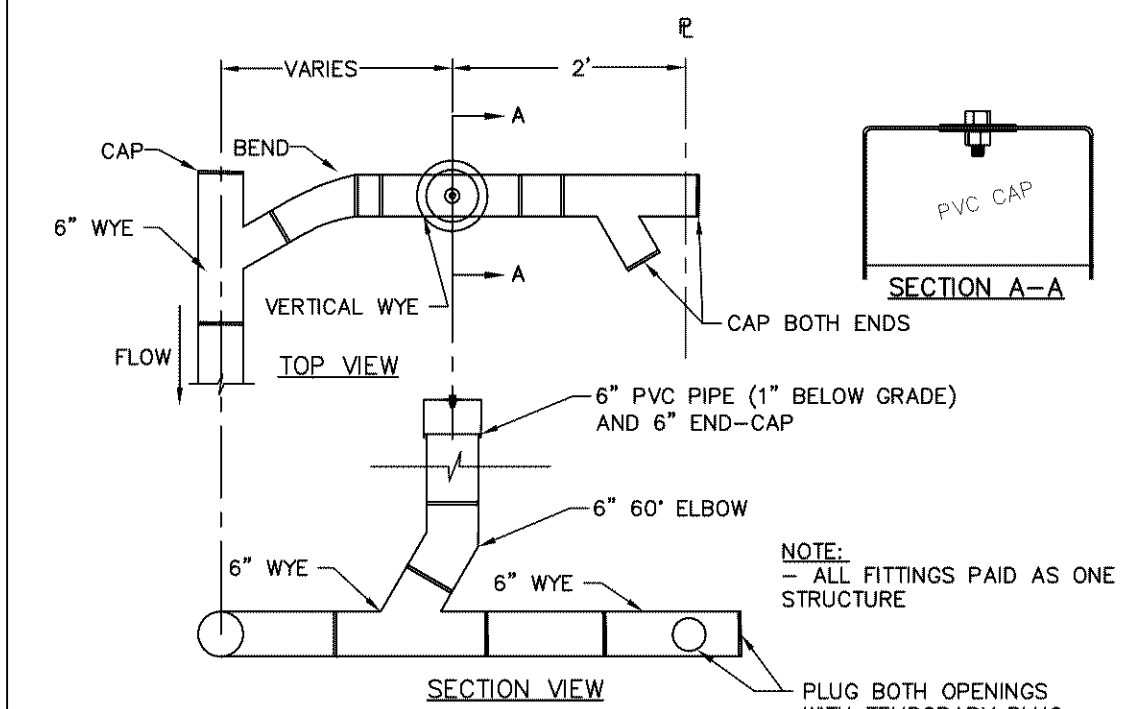


206 - STD CB  
 206 - STD CB.DWG 9/2016

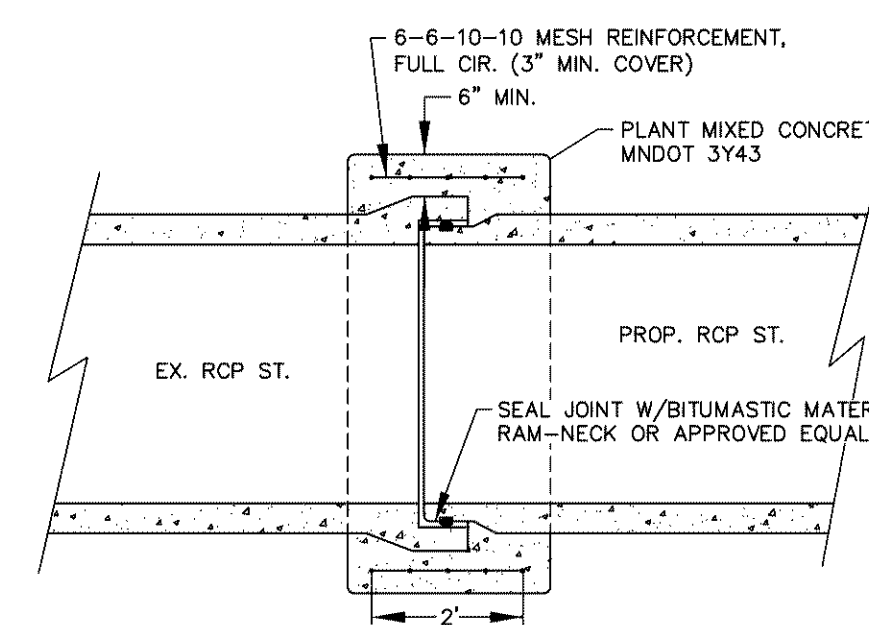
STORM SEWER DETAILS



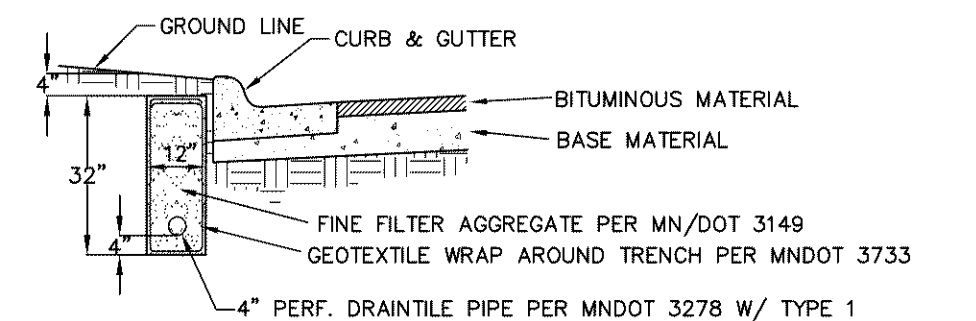
203 - STD MH (CB-MH)  
 203 - STD MH (CB-MH).DWG 9/2016



218 - DRN TILE (CLEANOUT)  
 218 - DRN TILE (CLEANOUT).DWG 9/2016

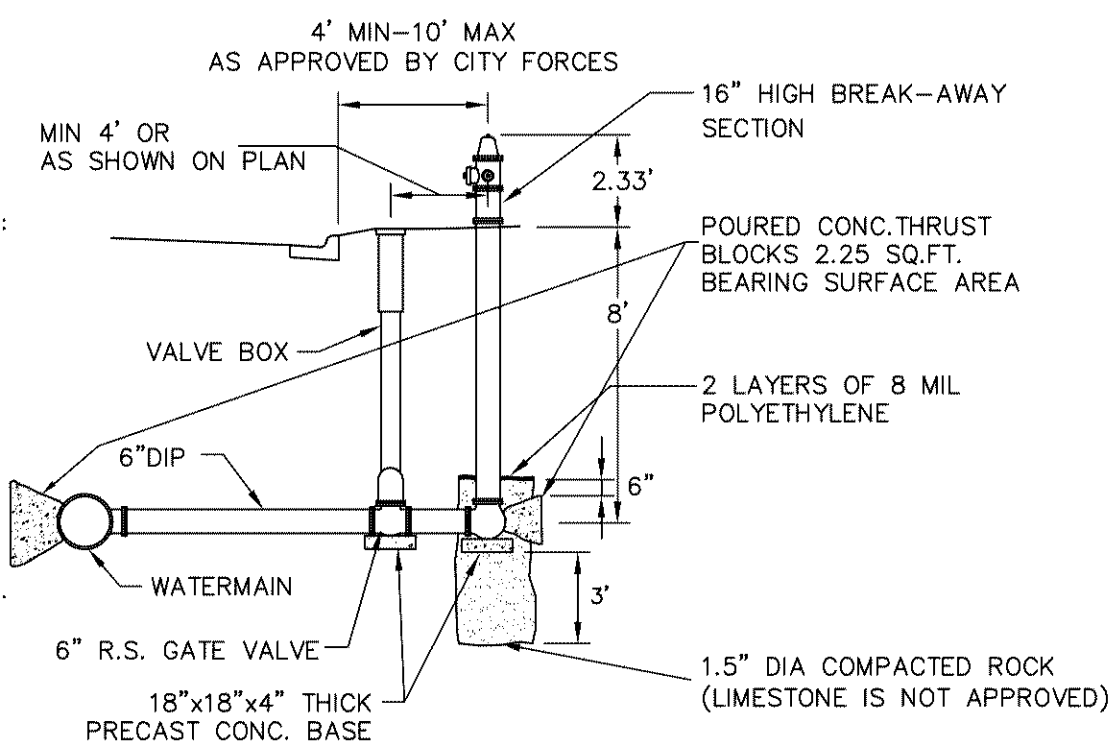


212 - STD CONST. JOINT  
 212 - STD CONST. JOINT.DWG 6/2016

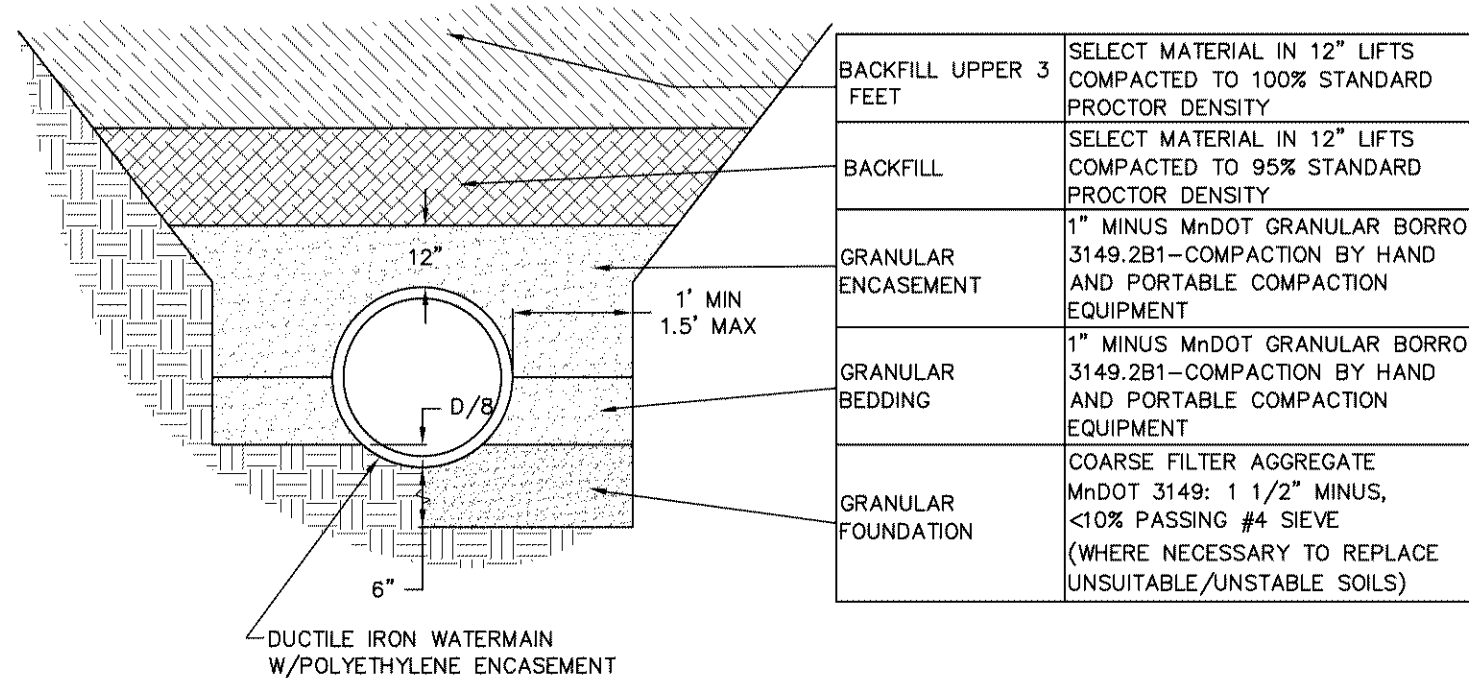


217 - DRN TILE (BEHIND CURB)  
 217 - DRN TILE (BEHIND CURB).DWG 9/2016

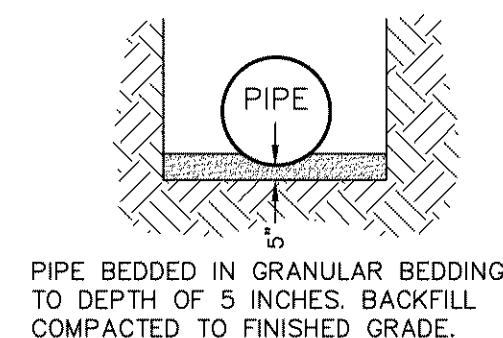
- HYDRANT TO BE:
  - WATEROUS PACER CLASSIC.
  - MUELLER SUPERCENTURION 250 MODEL A-423.
  - OR APPROVED EQUAL.
- EQUIP WITH THREE HOSE NOZZLES/CONNECTIONS AS FOLLOWS:
  - ONE - FACTORY INSTALLED 5 INCH STORZ PUMPER NOZZLE/CONNECTOR, INCLUDING A MANUFACTURER SUPPLIED AND INSTALLED ANODIZED ALUMINUM NOZZLE CAP WITH A 1.5 INCH PENTAGON NUT AND NO ROCKER LUG.
  - TWO - 2.5 INCH HOSE NOZZLES/CONNECTIONS (WITH NATIONAL STANDARD THREADS) AND STANDARD NOZZLE CAPS WITH 1.5 INCH PENTAGON NUTS, AND NO ROCKER LUGS.
- USE SS NUTS AND BOLTS AS APPROVED BY THE ENGINEER.
- ALL EXPOSED WATERMAIN SHALL BE WRAPPED WITH POLYETHYLENE IN ACCORDANCE WITH AWWA C-105.
- BARREL TO BE BRIGHT RED.
- ALL VALVES TO OPEN COUNTER-CLOCKWISE.
- SEE TYPICAL VALVE INSTALLATION DETAIL FOR VALVE DETAILS.
- WATEROUS PACER CLASSIC HYDRANTS SHALL INCLUDE INSTALLATION OF THE MANUFACTURERS MOST CURRENT ANTI-CHATTER BRASS UPPER VALVE WASHER.



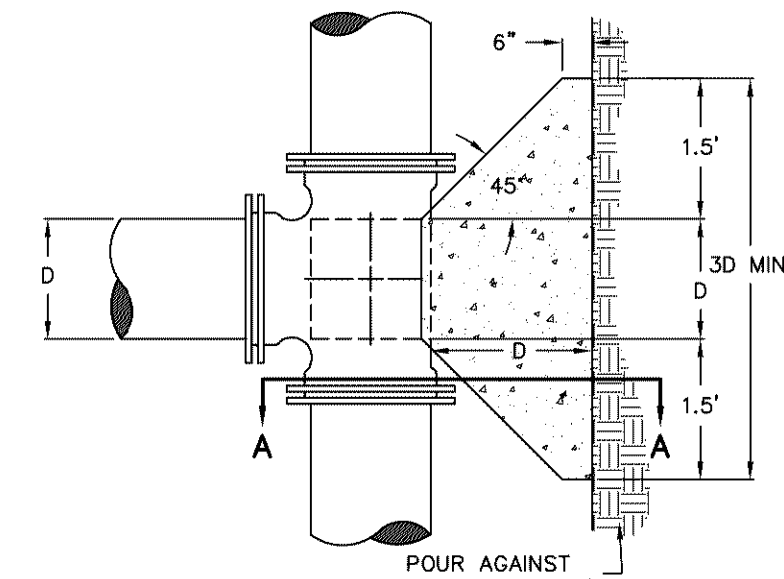
300 - TYPICAL HYDRANT INSTALLATION  
 300 - Hyd Install.dwg 6/2015



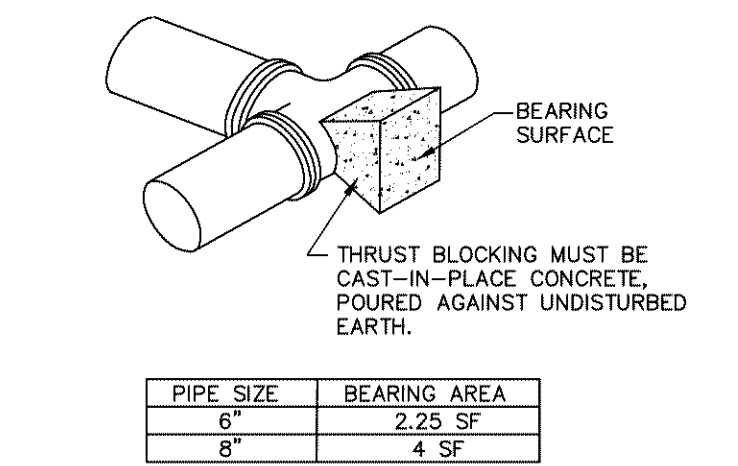
308 - TYPICAL WATER MAIN INSTALLATION DETAIL  
 308 - Watermain install.dwg 6/2015



309 - PIPE BEDDING DETAIL  
 309 - Pipe Bedding.dwg 6/2015



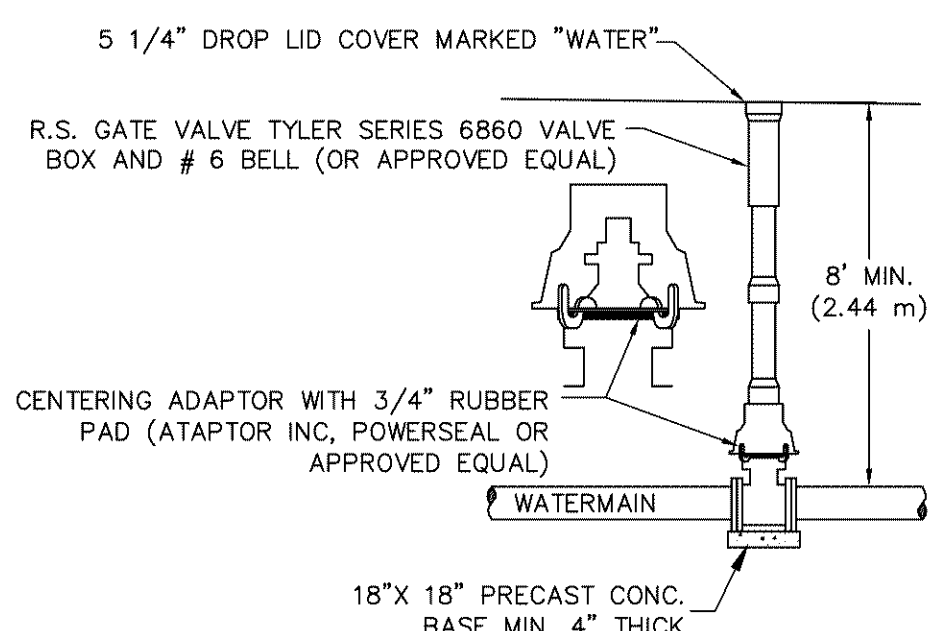
311 - LARGE THRUST BLOCK DETAIL  
 311 - Thrust Bk (Large).dwg 6/2015



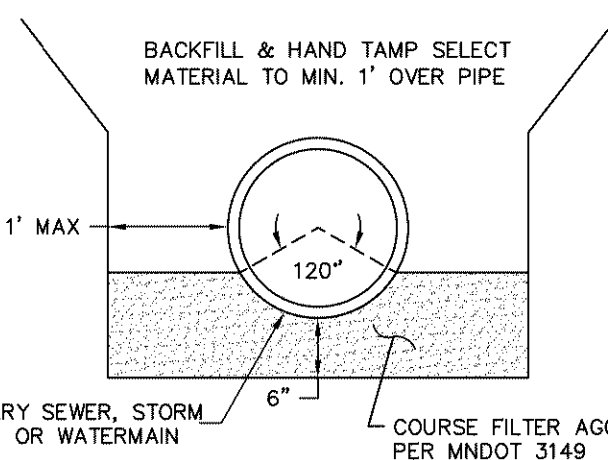
PIPE SIZE	BEARING AREA
6"	2.25 SF
8"	4 SF

- NOTES:
- THRUST BLOCKS TO BE USED FOR BENDS 22 1/2" AND OVER, INCLUDING HYDRANTS AND HYDRANT TEES.
  - THRUST BLOCKS ARE REQUIRED REGARDLESS OF ANY OTHER RESTRAINT METHODS USED ON WATERMAIN LESS THAN 12" IN DIA.
  - RESTRAINT METHODS ON WATERMAIN LARGER THAN 12" SHALL BE MEGALUGS, LOCKING GASKETS OR OTHER APPROVED EQUAL. THE LENGTH OF RESTRAINT SHALL BE AS COMPUTED BY DIPRA.

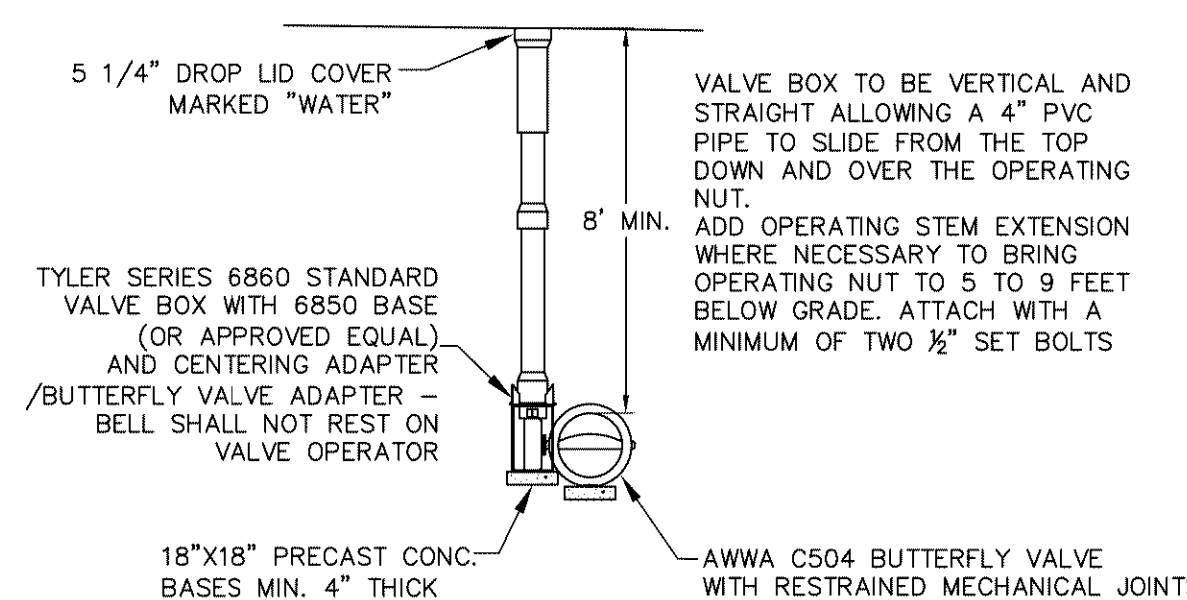
310 - STANDARD THRUST BLOCK  
 310 - Thrust Bk (Std).dwg 6/2015



302 - TYPICAL VALVE INSTALLATION  
 302 - Valve (R50V).dwg 6/2015



307 - FOUNDATION MATERIAL DETAIL  
 307 - Foundation Material.dwg 6/2015



303 - TYPICAL BUTTERFLY VALVE INSTALLATION  
 303 - Valve (Butterfly).dwg 6/2015

WATER MAIN DETAILS

DRAWN BY: CS  
 DESIGNER: JG  
 CHECKED BY: JG

DESIGN TEAM	NO.	BY	DATE

REVISIONS	NO.	BY	DATE

SEH  
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 10901 RED CIRCLE DRIVE,  
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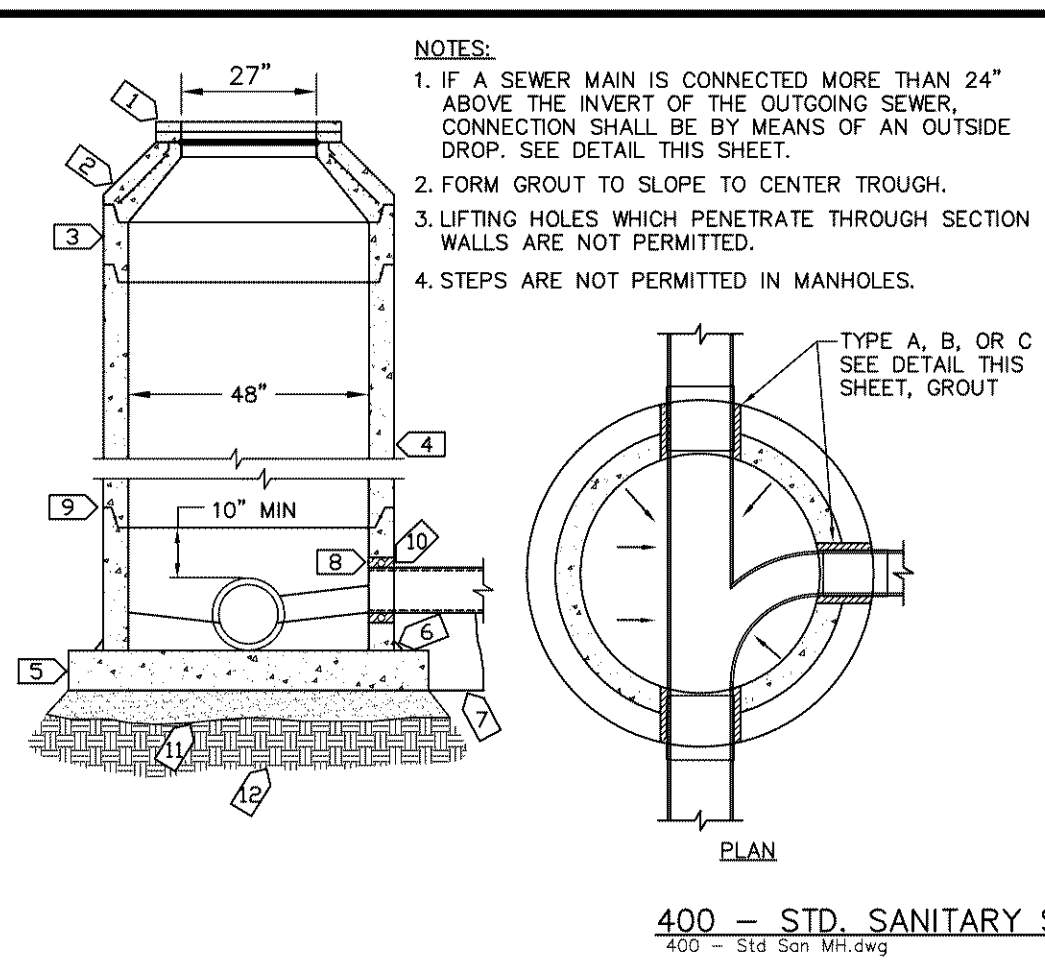
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SOUTH LOOP WATERPARK  
 BLOOMINGTON, MINNESOTA

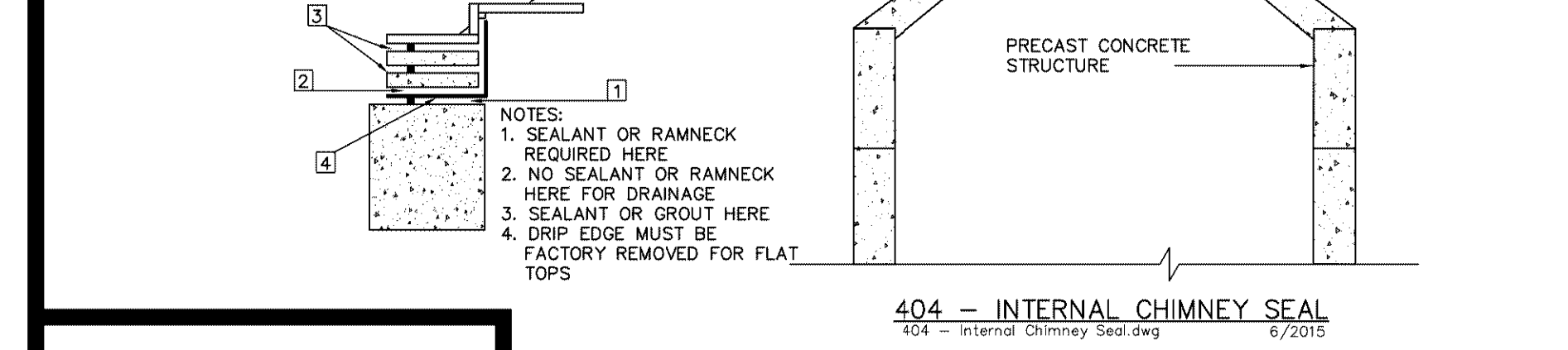
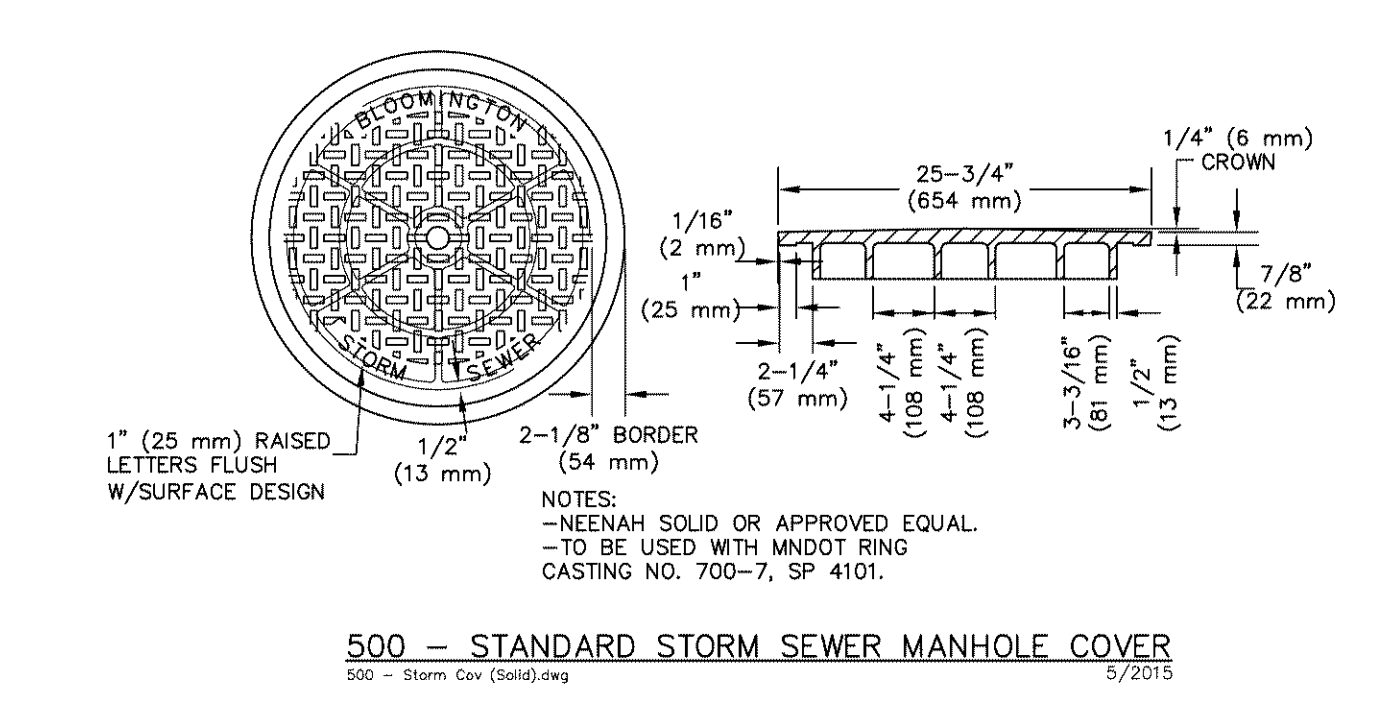
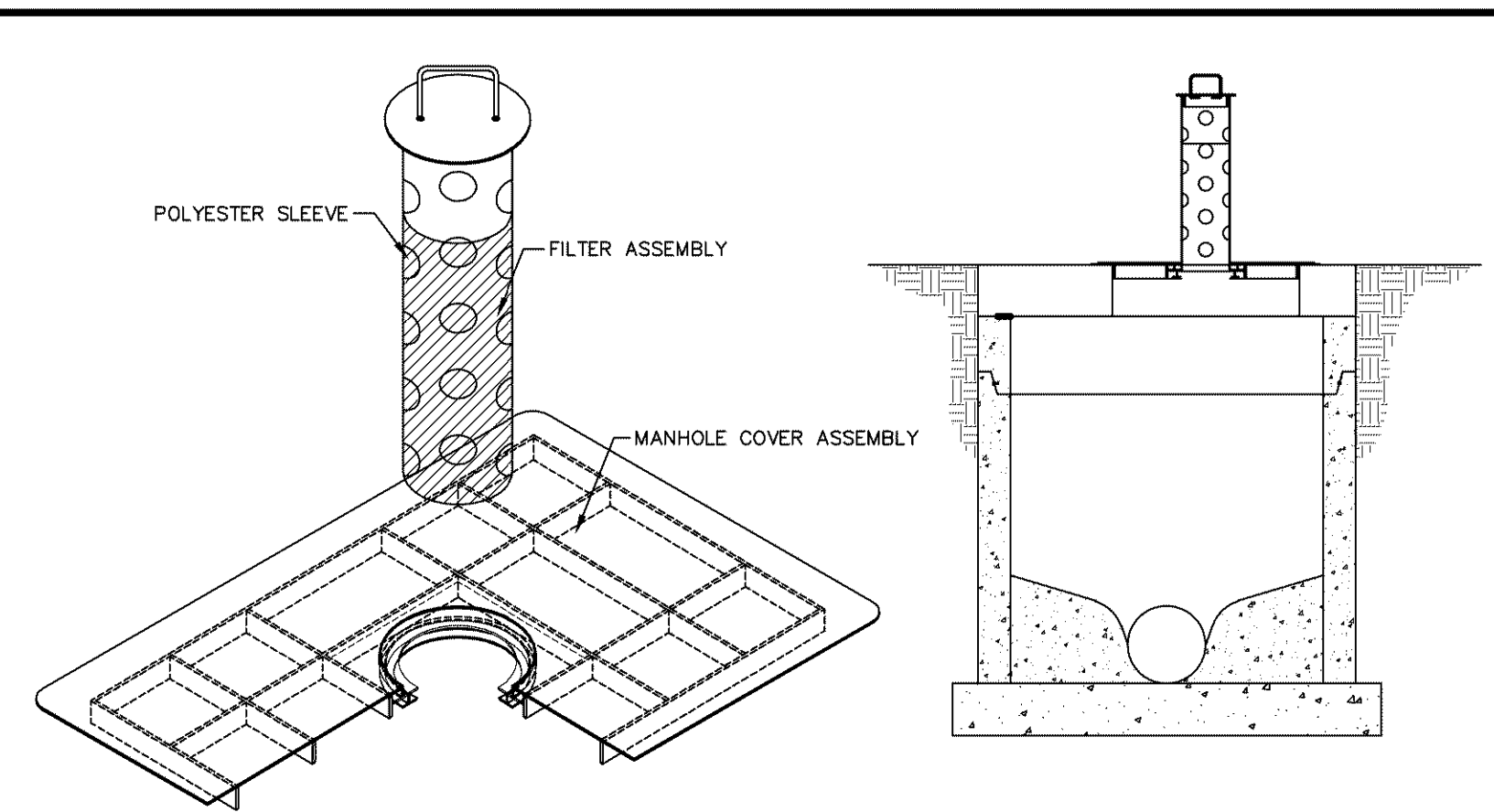
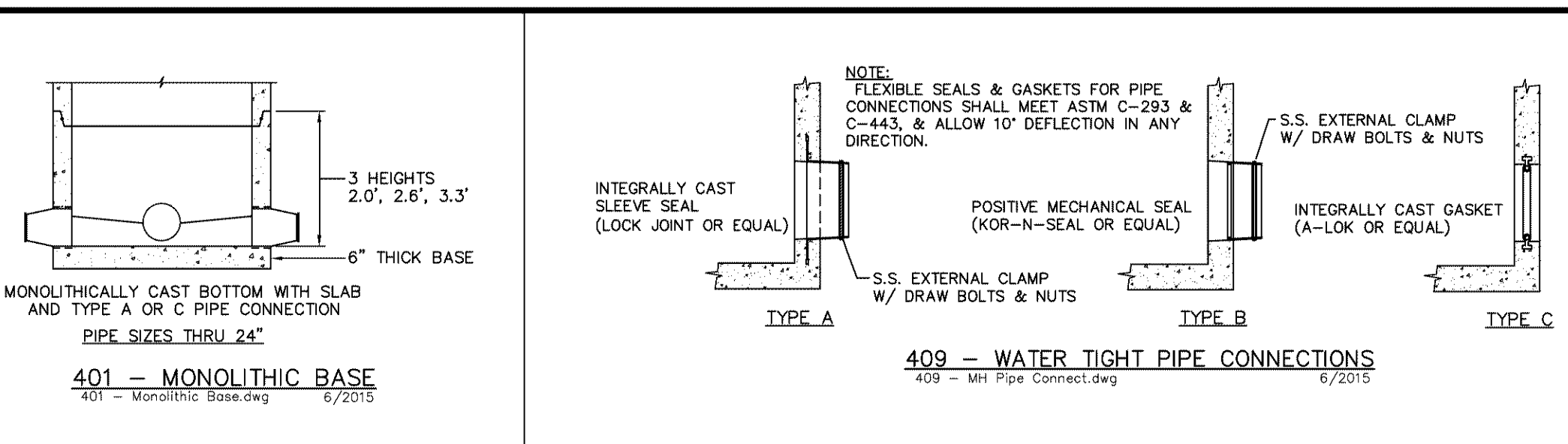
DETAILS  
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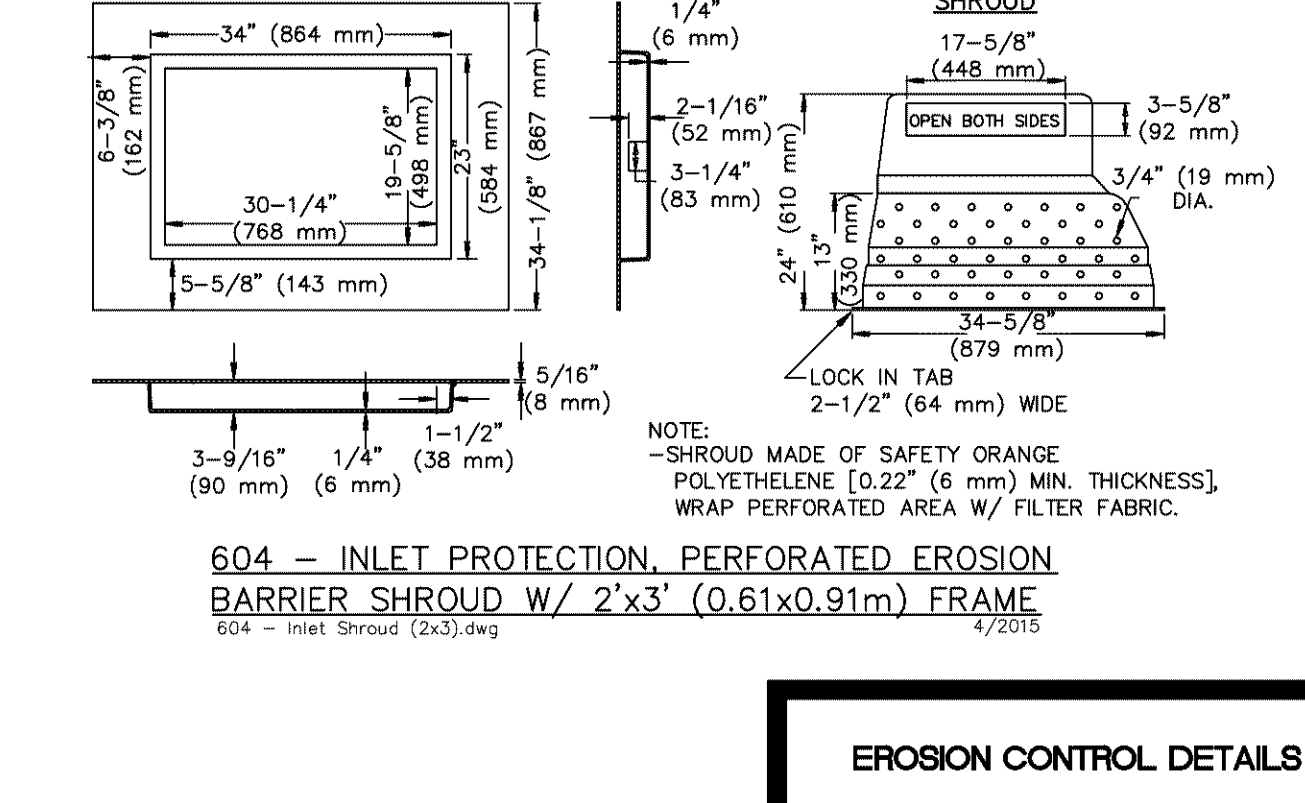
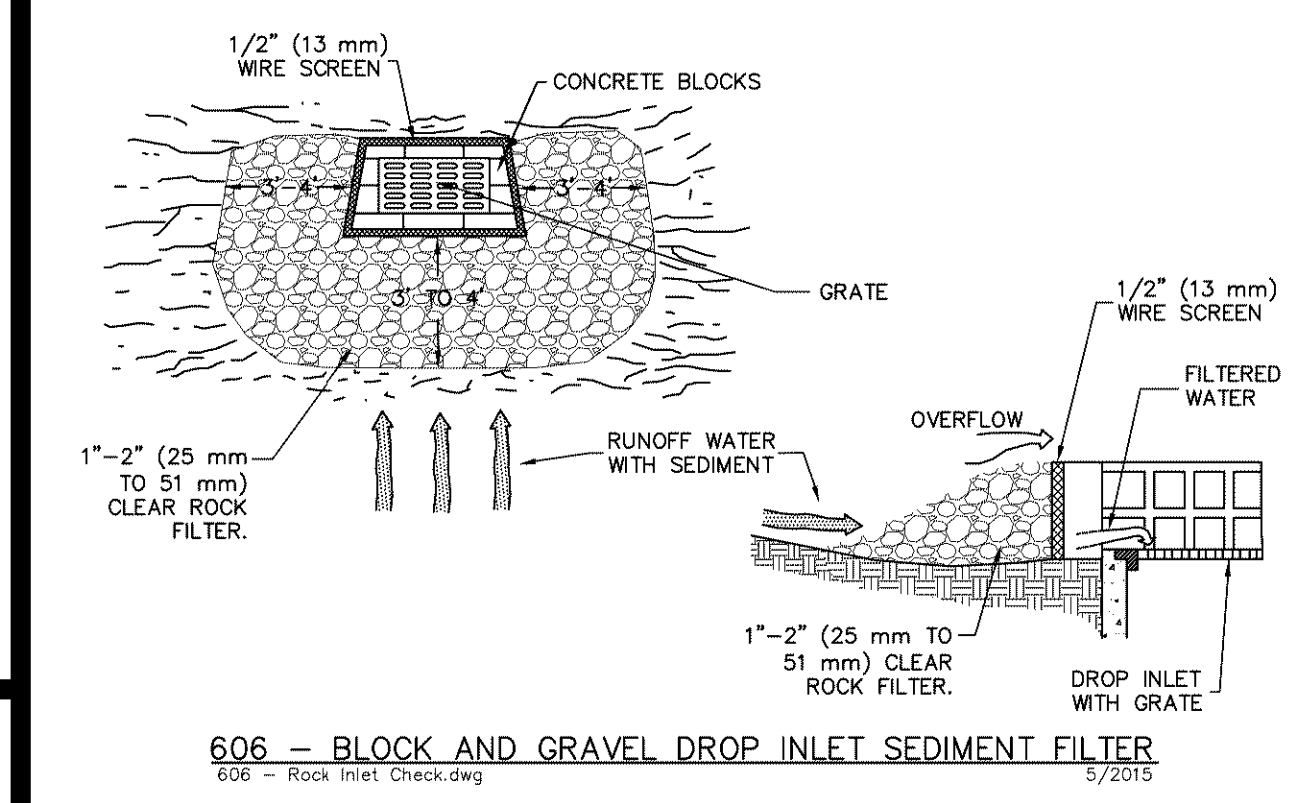
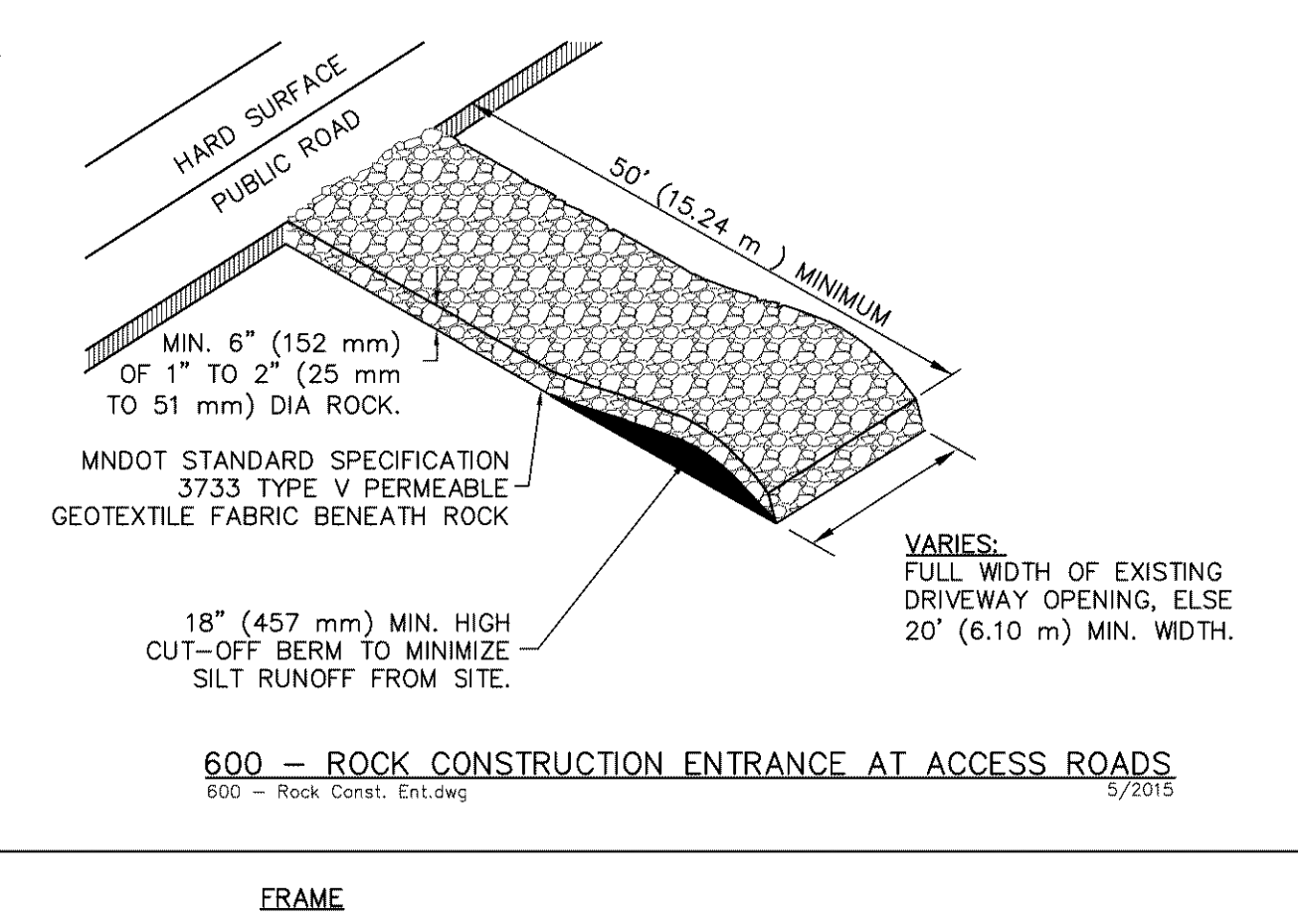
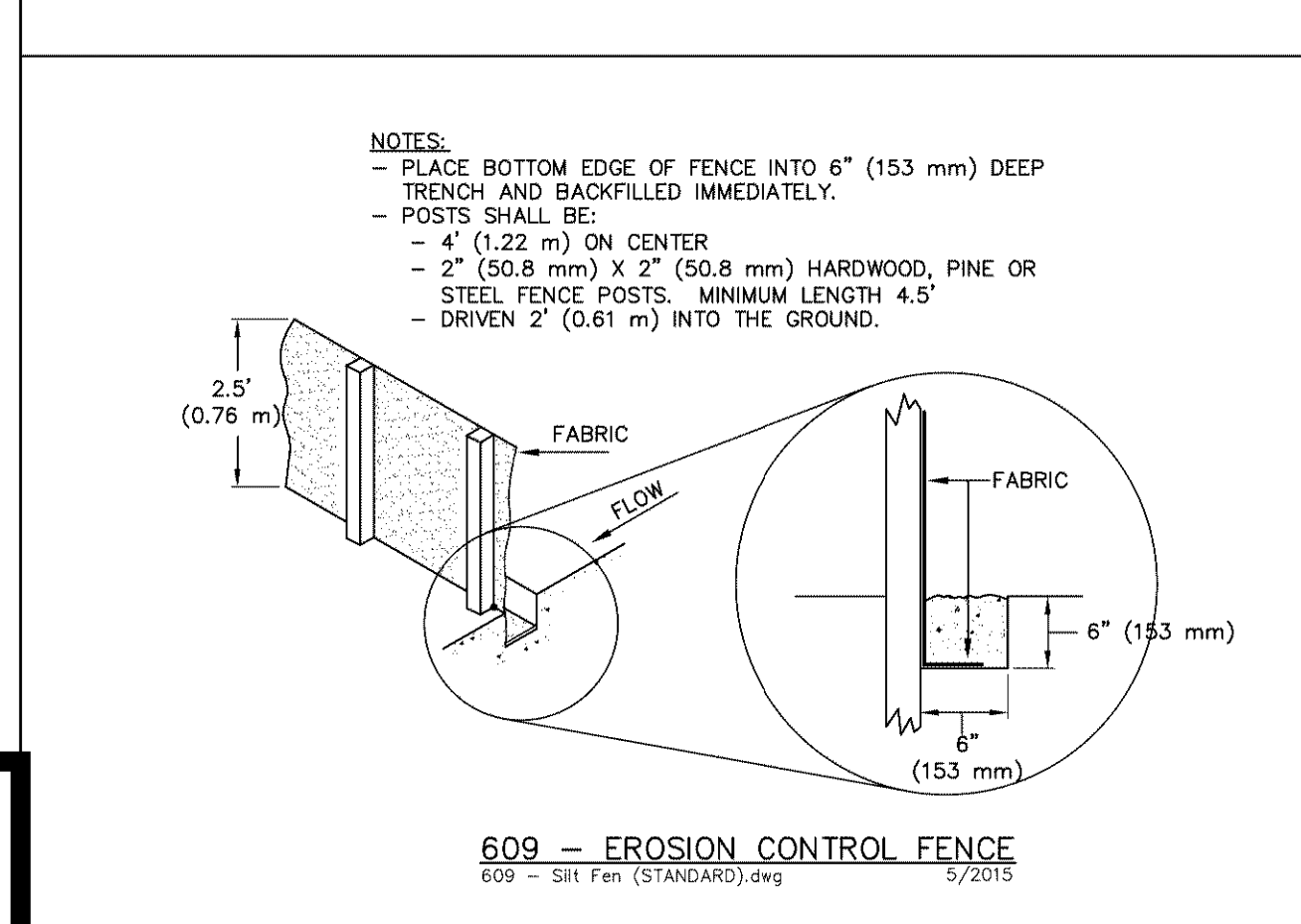
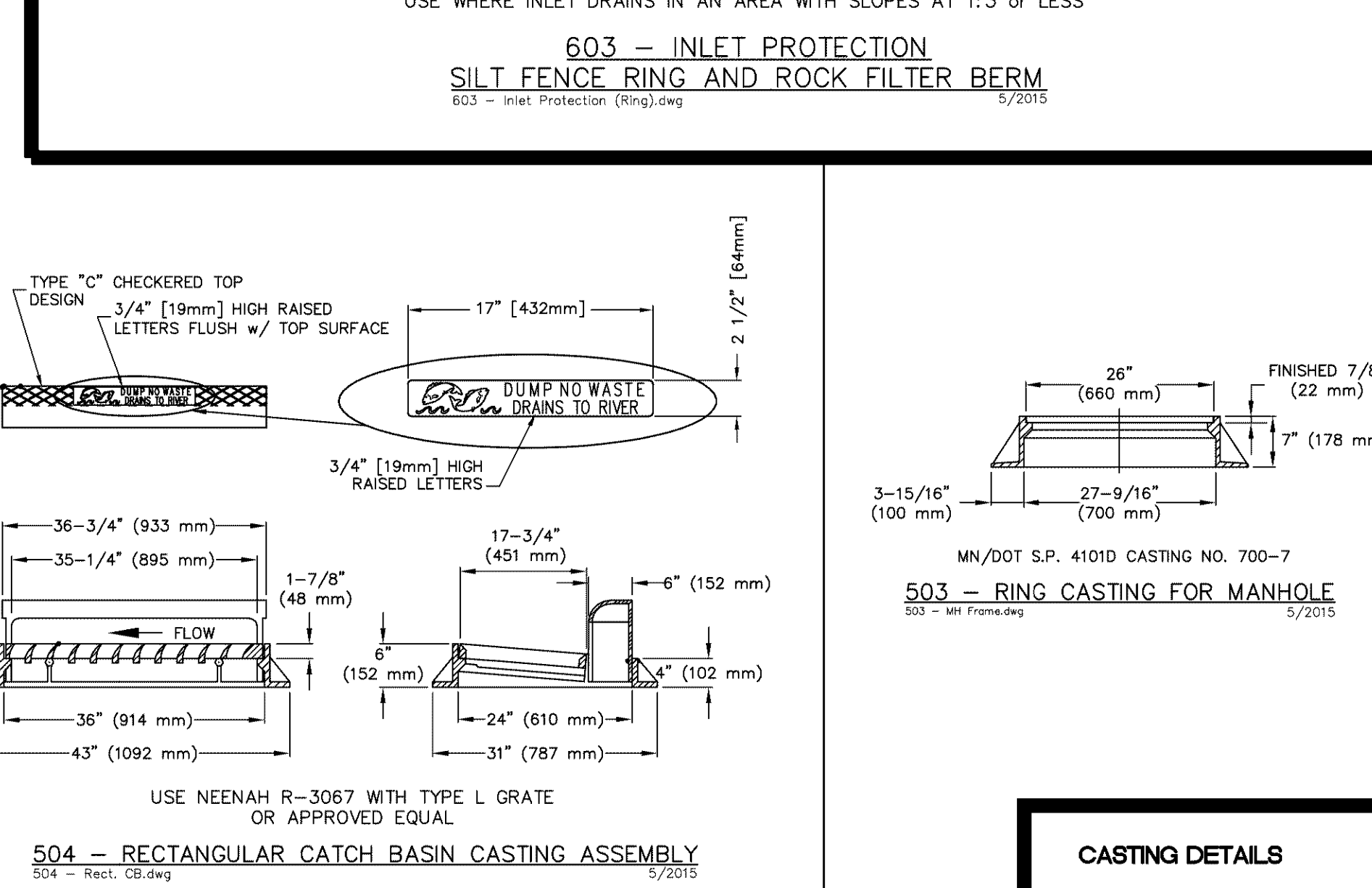
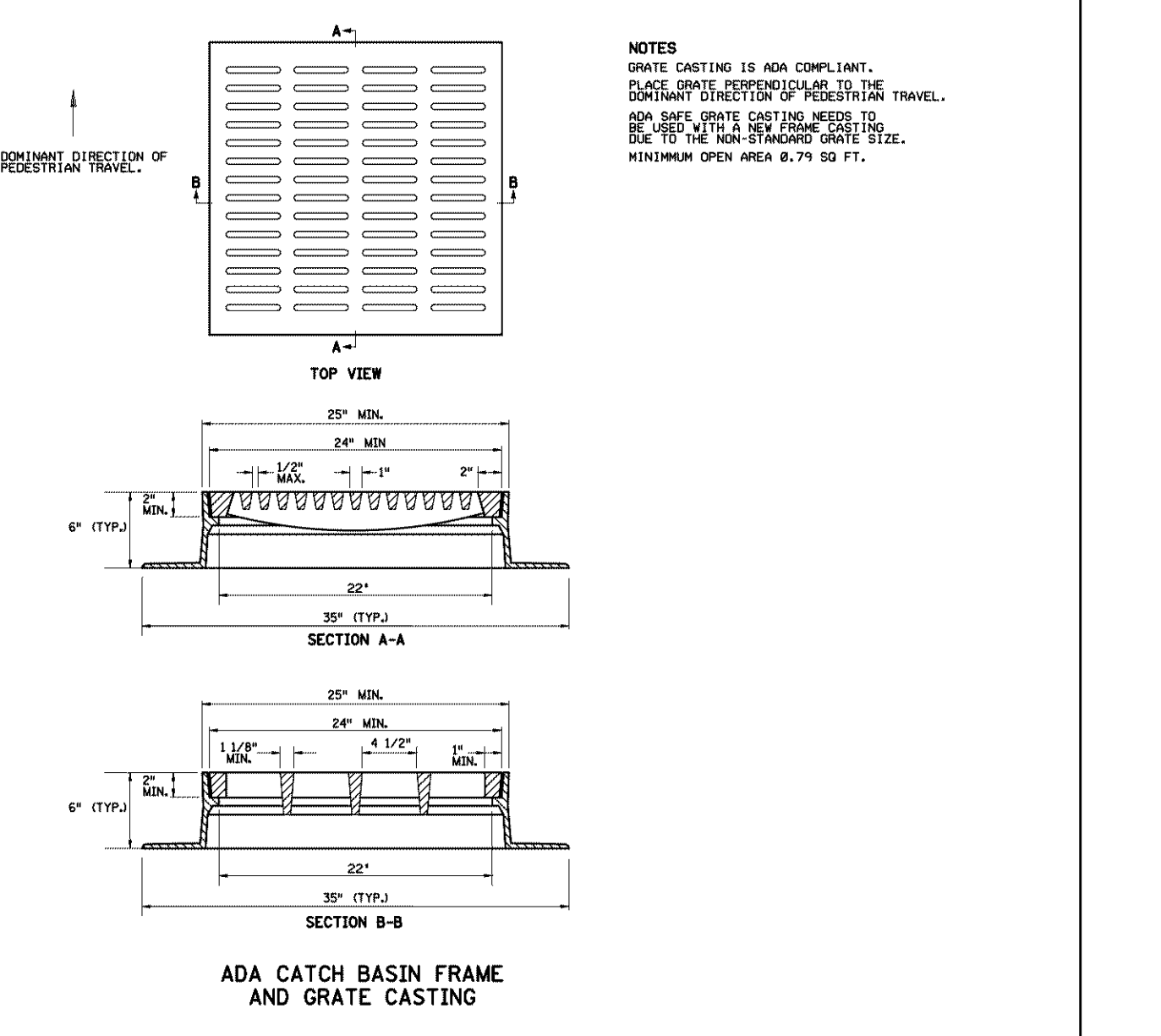
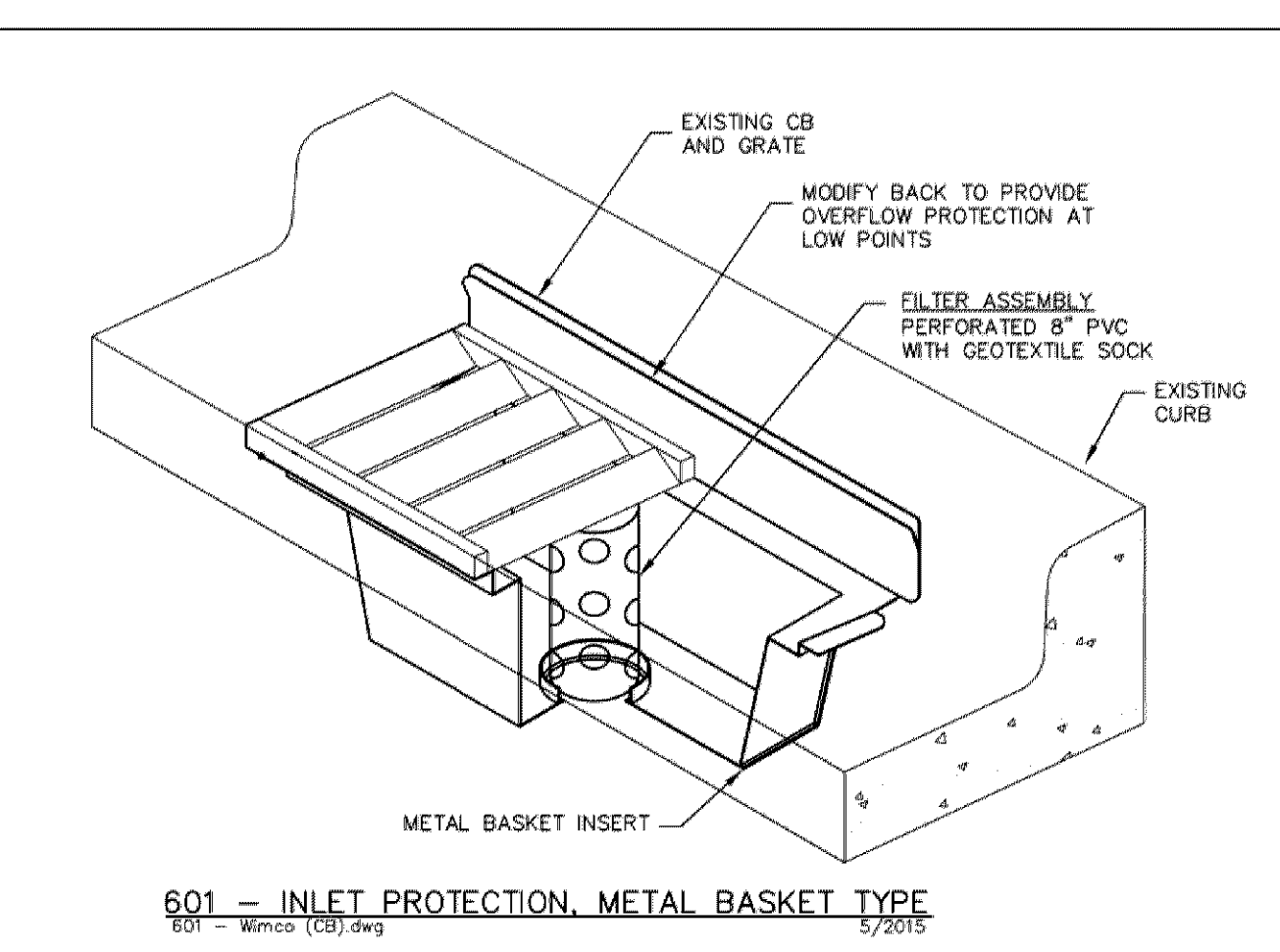
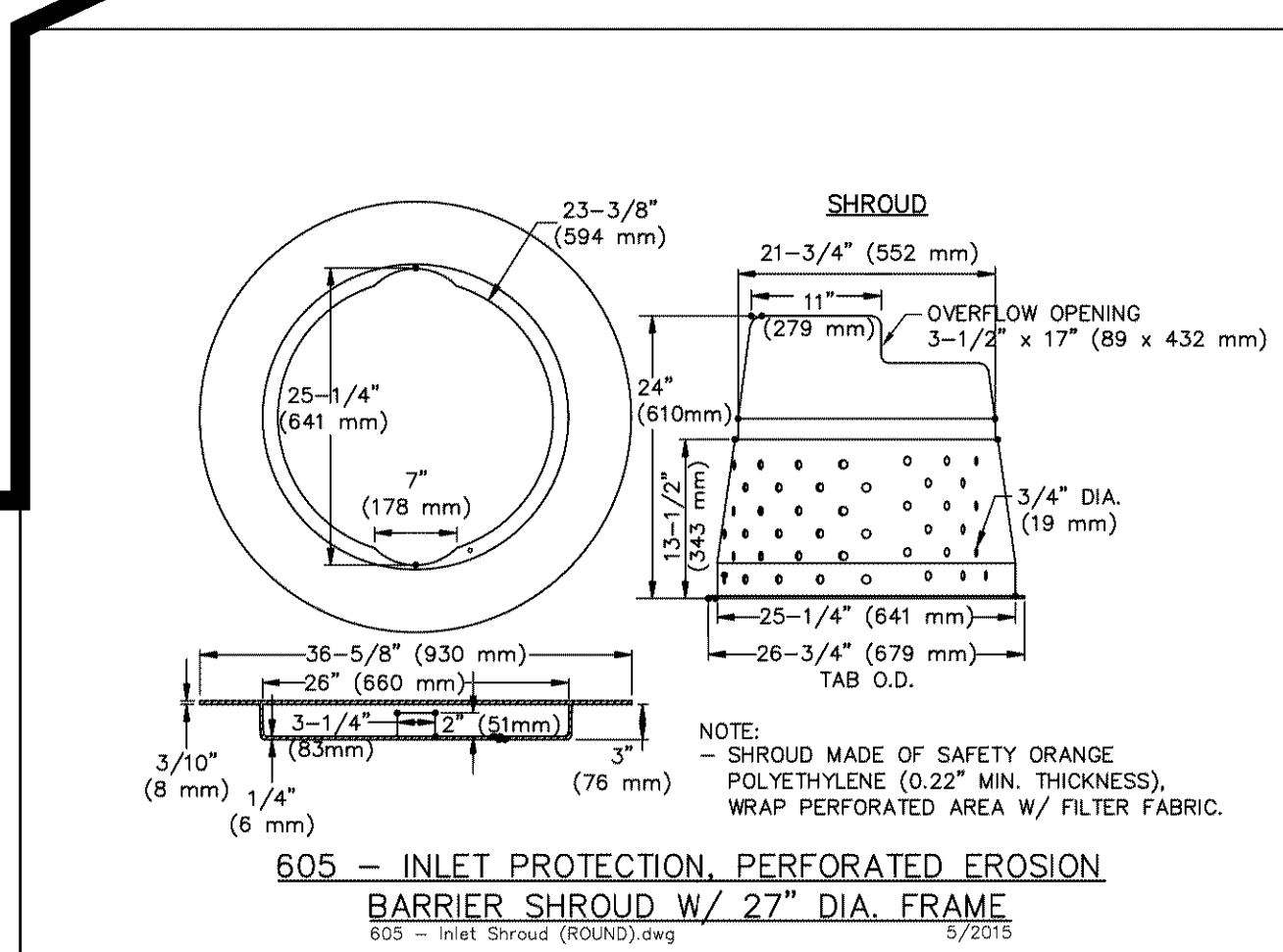
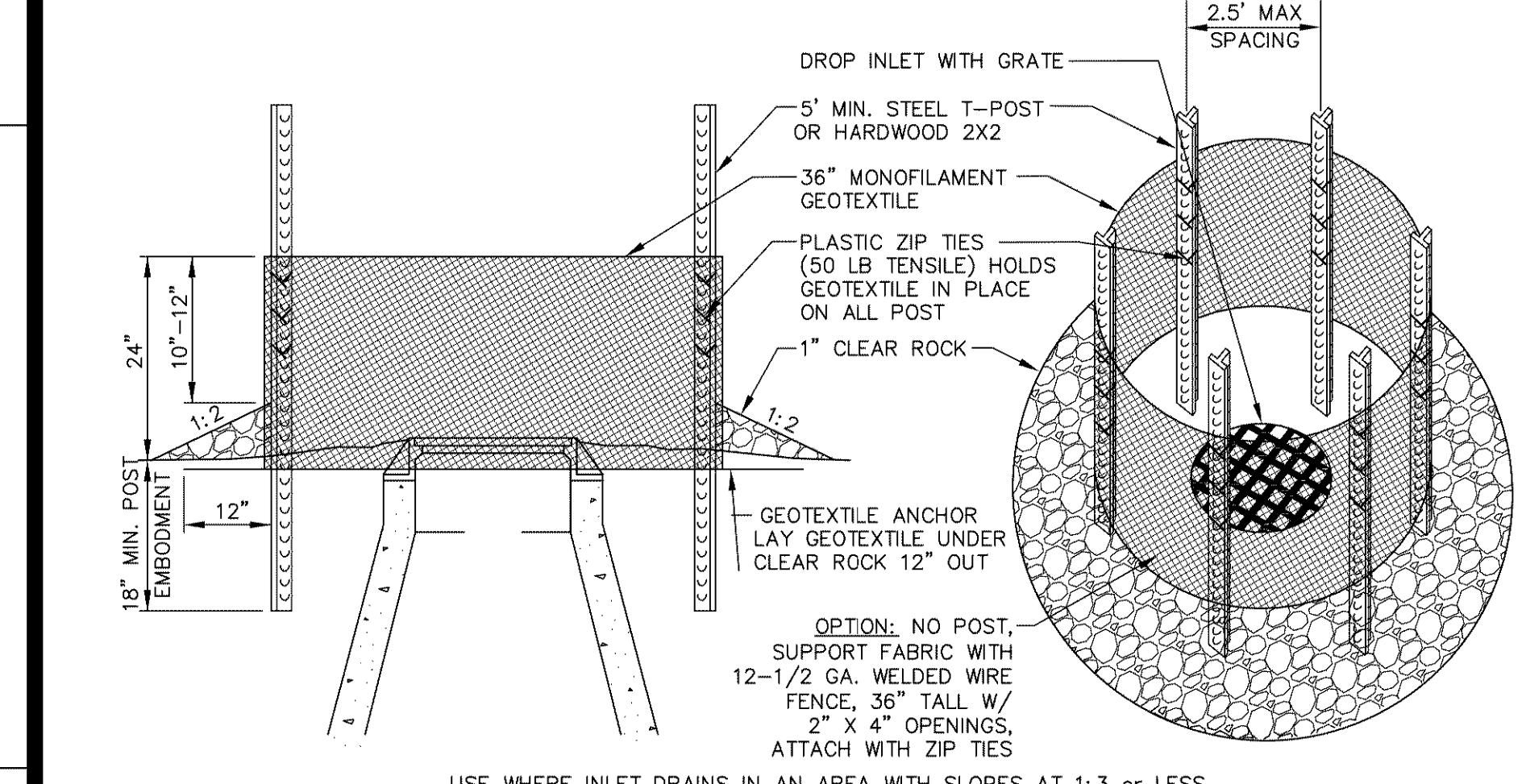
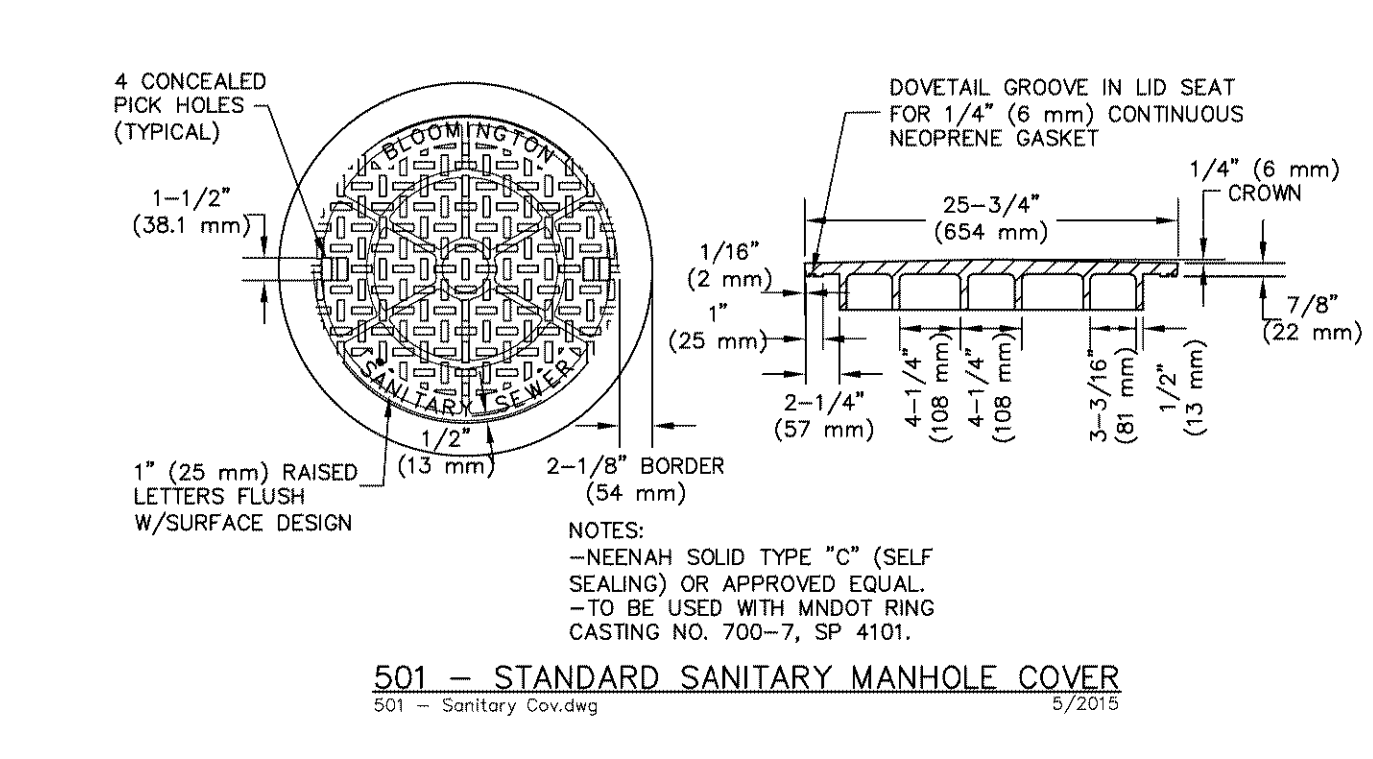
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**400 - STD. SANITARY SEWER MH**  
 400 - Std San MH.dwg 6/2015



**SANITARY SEWER DETAILS**



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

NO.	BY	DATE	REVISIONS
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Date: \_\_\_\_\_ Lic. No. \_\_\_\_\_

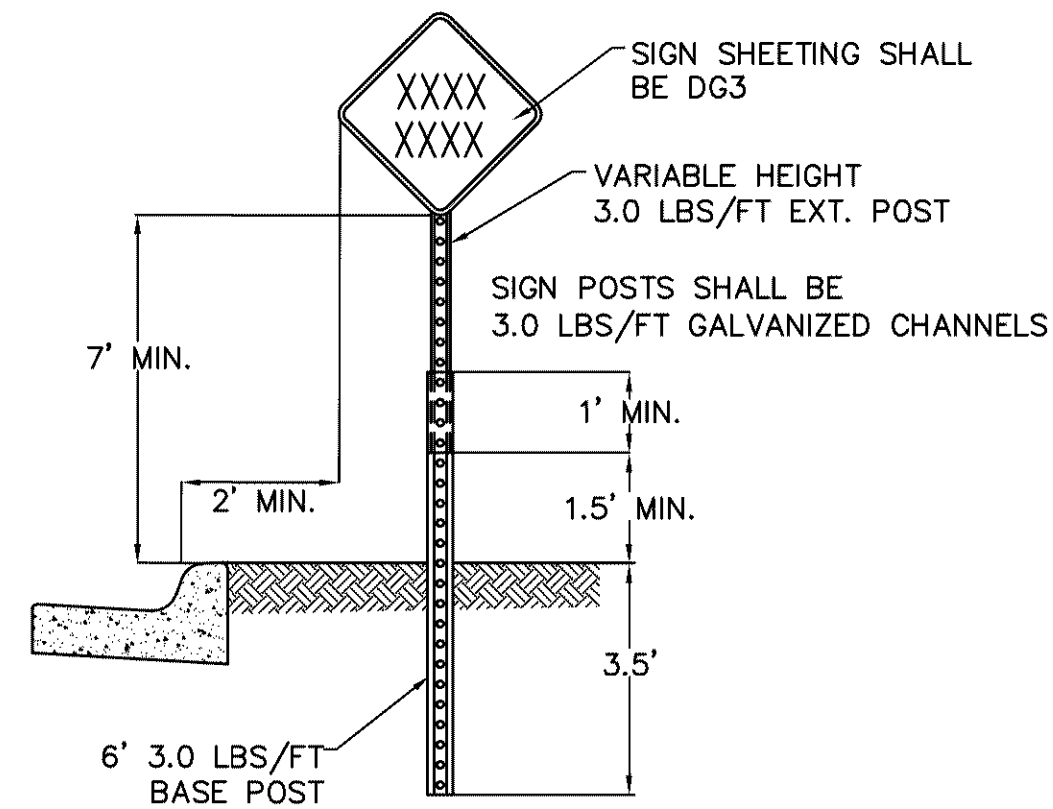
**RYAN** www.ryancompanies.com

**SOUTH LOOP WATERPARK**  
 BLOOMINGTON, MINNESOTA

**DETAILS**

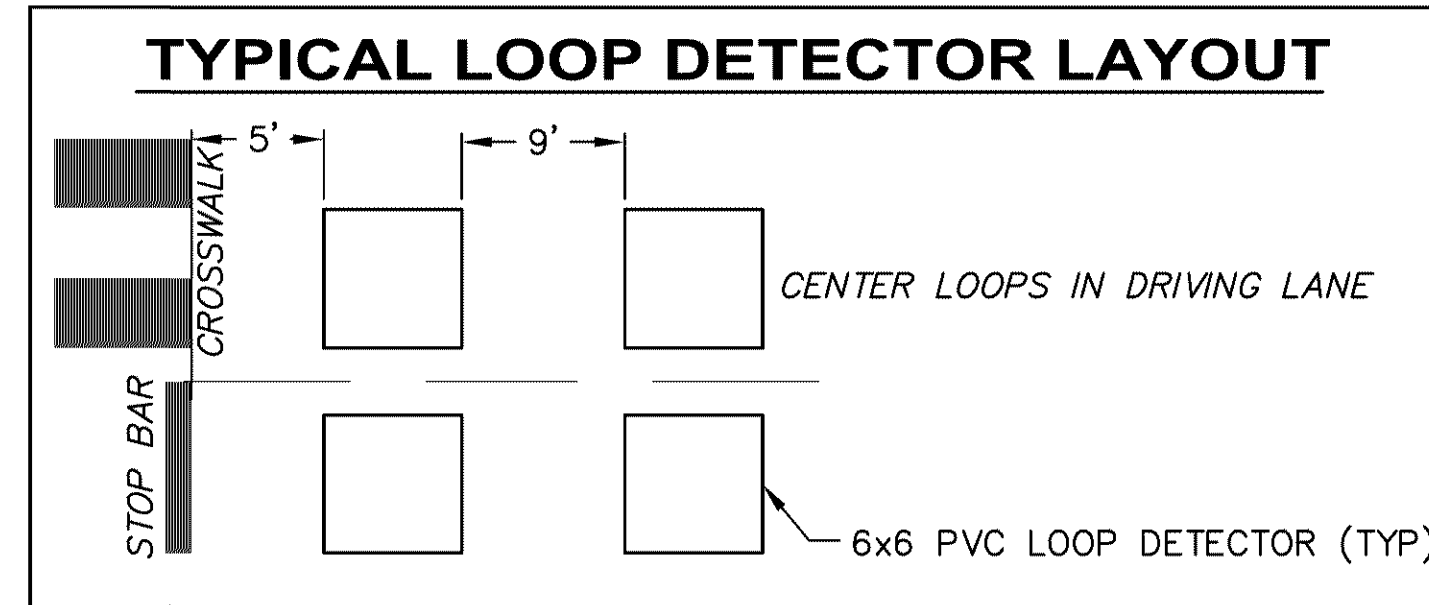
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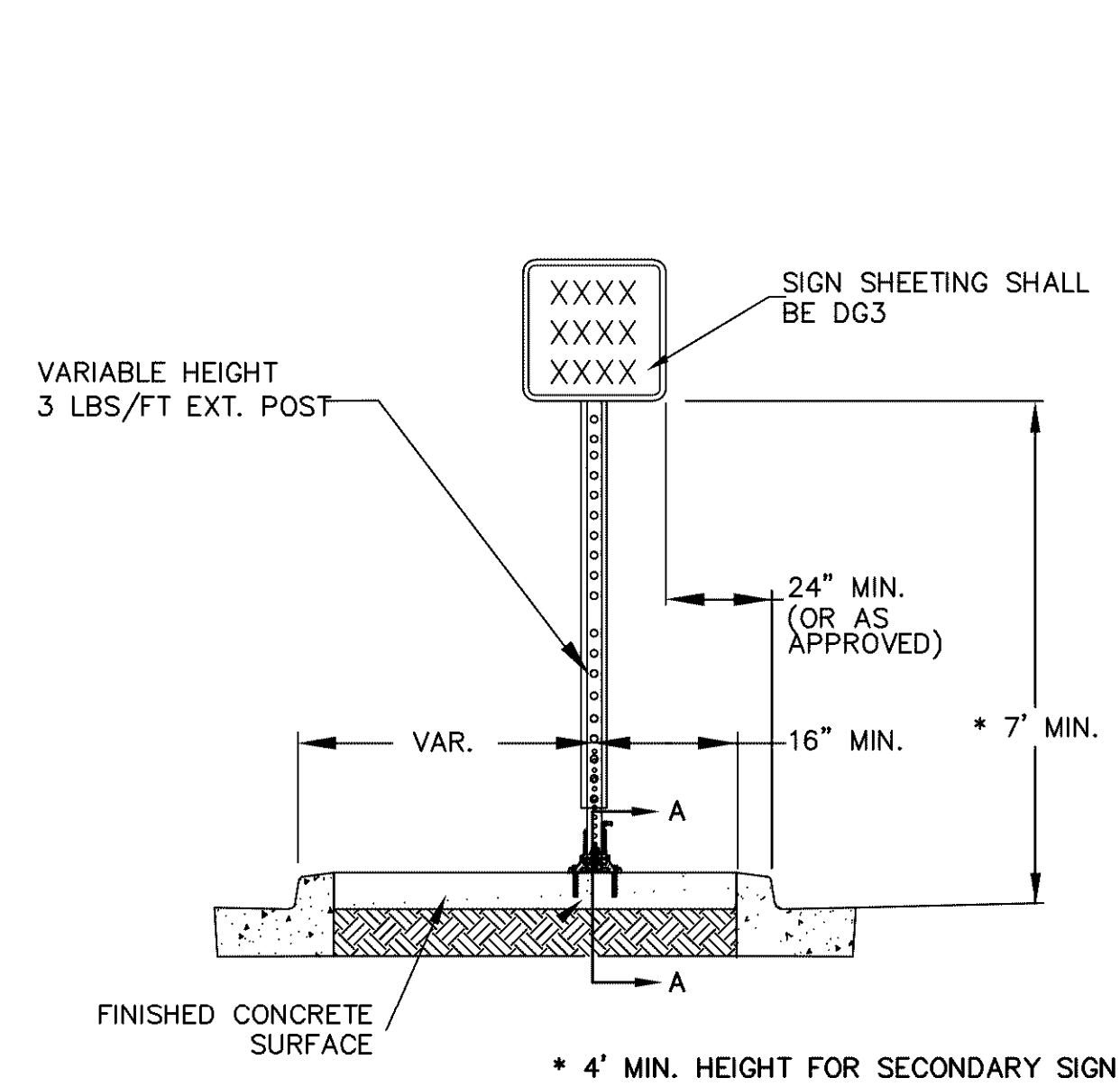


NOTE:  
ALL TRAFFIC CONTROL DEVICES, INSTALLATION AND SIGNING SHALL CONFORM TO THE LATEST VERSION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MMUTCD).

**701 - SIGN (GROUND MOUNTED)**  
701 - SIGN (GROUND MOUNTED).DWG 9/2016

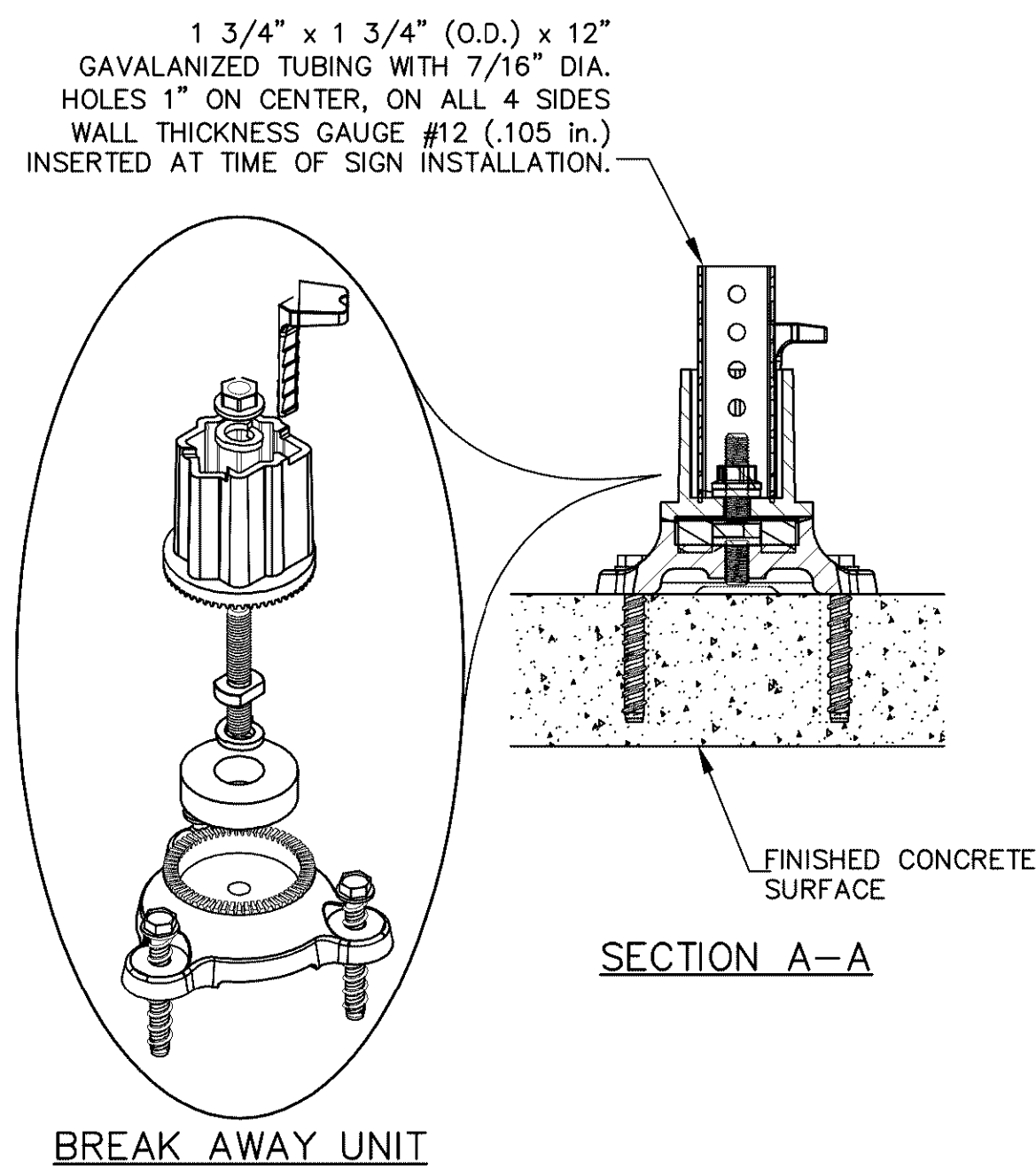


707 - LOOP LAYOUT.DWG 9/2016



NOTES:  
1. ALL TRAFFIC CONTROL DEVICES, INSTALLATION AND SIGNING SHALL CONFORM TO THE LATEST VERSION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MMUTCD).  
2. ALL PRODUCTS SHALL CONFORM WITH THE LATEST MnDOT APPROVED PRODUCTS LIST.  
3. NO SUBSTITUTIONS MAY BE MADE ITEMS SHOWN IN THIS DETAIL WITHOUT THE EXPRESS AUTHORIZATION OF THE PROJECT ENGINEER.

**700 - SIGN (CONC. MOUNTED)**  
700 - SIGN (CONC. MOUNTED).DWG 3/2018

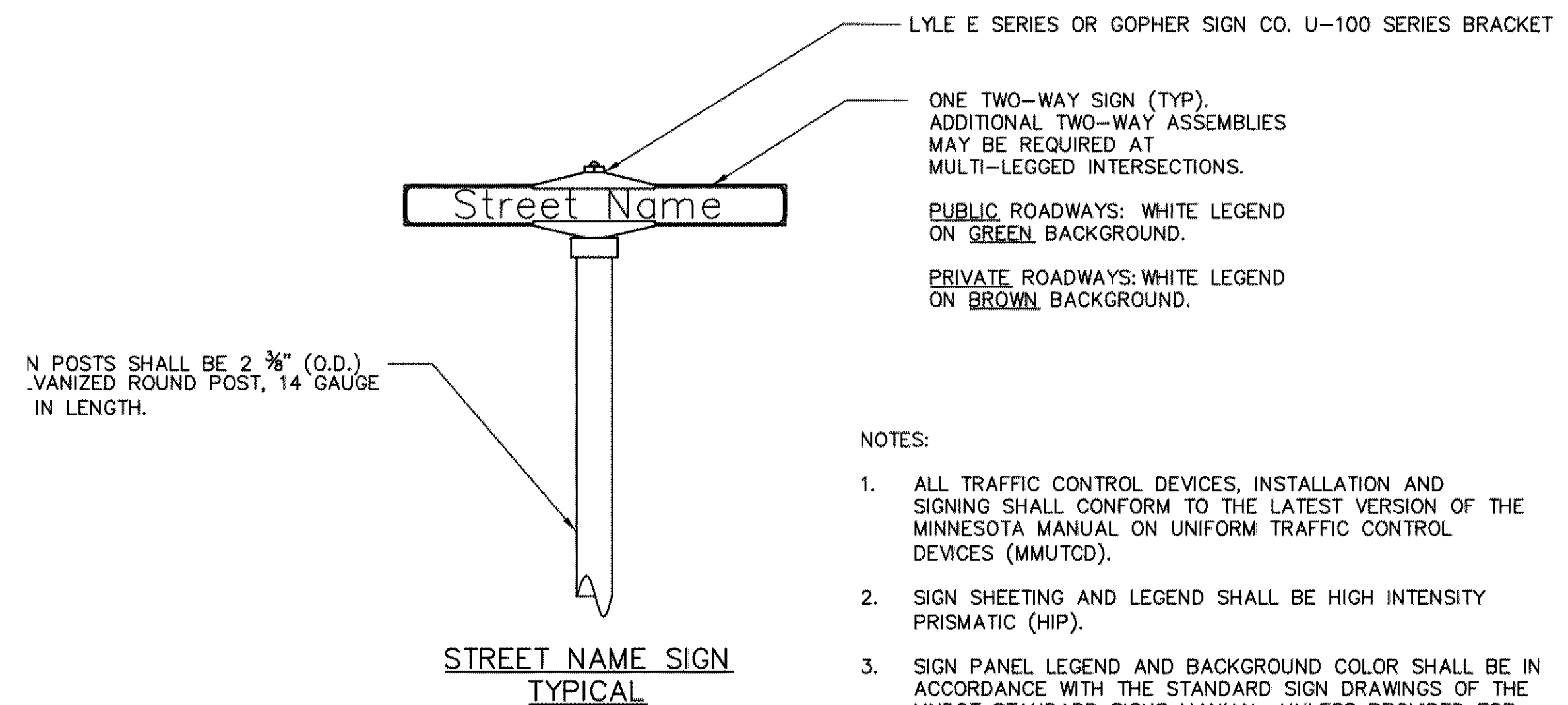


**BREAK AWAY MOUNTING UNIT NOTES:**  
1. GENERAL REQUIREMENTS:  
1.1. SURFACE MOUNTED UNIT SHALL BE ATTACHED WITH NO LESS THAN 3 TITAN HD ANCHORS WITH A MINIMUM DIAMETER OF 1/2" AND A MINIMUM LENGTH OF 4". THE MINIMUM EMBEDDED DEPTH SHALL BE 3-3/8". THE ALLOWABLE TENSION LOAD SHALL BE 2270lbs WHEN INSTALLED IN NORMAL WEIGHT, 3000psi CONCRETE.  
1.2. UNITS SHALL BE INSTALLED PLUMB (SURFACE UNITS CAN BE SHIMMED TO A MAXIMUM HEIGHT OF 1/2").  
1.3. UNIT SHALL ALLOW FOR 360° INDEXING TO ALLOW FOR PROPER SIGN ORIENTATION AFTER INSTALLATION.  
1.4. UNIT SHALL HAVE A STUB HEIGHT OF 4" MAXIMUM AFTER BREAK AWAY.  
1.5. UNIT SHALL UTILIZE A SHEAR BOLT AS ITS MEANS OF BREAKING AWAY.  
1.6. UNIT SHALL UTILIZE A LOCKING WEDGE OR SHIM TO ELIMINATE ALL TOLERANCE BETWEEN MOUNTING UNIT AND TELESPAR POST.  
1.7. UNIT SHALL CONFORM WITH THE MnDOT APPROVED PRODUCTS LIST.  
2. UNIT SHALL BE INSTALLED PER THE MANUFACTURERS SPECIFICATIONS

PAYMENT: FURNISH AND INSTALLATION OF BREAK AWAY UNIT IS CONSIDERED INCIDENTAL TO "INSTALL SIGN" OR "SIGN PANEL TYPE C"; NO DIRECT PAYMENT THEREOF WILL BE MADE.



NOTES:  
1. LETTERING SHALL BE UPPER AND LOWER CASE.  
2. INITIAL UPPER-CASE LETTERING SHALL BE:  
4" ON 6" BLANK (LOCAL 2-LANE STREETS 30 MPH OR LESS)  
6" ON 9" BLANK (LOCAL 2-LANE STREETS >30 MPH & MULTI-LANE)  
REFER TO MMUTCD FOR POSTED SPEEDS ABOVE 40 MPH.  
3. LETTERING SHALL BE A 'C' FONT.  
4. CORNERS EXTENDING BEYOND THE BORDER SHALL NOT BE TRIMMED.  
5. BORDER SHALL BE 0.5" WITH NO MARGIN.



NOTES:  
1. ALL TRAFFIC CONTROL DEVICES, INSTALLATION AND SIGNING SHALL CONFORM TO THE LATEST VERSION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MMUTCD).  
2. SIGN SHEETING AND LEGEND SHALL BE HIGH INTENSITY PRISMATIC (HIP).  
3. SIGN PANEL LEGEND AND BACKGROUND COLOR SHALL BE IN ACCORDANCE WITH THE STANDARD SIGN DRAWINGS OF THE MnDOT STANDARD SIGNS MANUAL, UNLESS PROVIDED OTHERWISE IN THE STANDARD SPECIFICATIONS FOR TRAFFIC CONTROL SIGNAL DEVICES.  
4. MOUNTING HEIGHT: MINIMUM 7' FROM FINISHED GROUND TO BOTTOM OF SIGN.

**703 - SIGN GROUND MOUNT STREET NAME**  
703 - SIGN\_GROUND\_MOUNT\_STREET\_NAME.DWG 9/2016

TRAFFIC DETAILS

DRAWN BY: CS  
DESIGNER: JG  
CHECKED BY: JG

NO.	BY	DATE

NO.	BY	DATE

NO.	BY	DATE

NO.	BY	DATE

**SEH**  
PHONE: 952.912.2600  
10901 RED CIRCLE DRIVE,  
SUITE 300  
MINNETONKA, MN 55343  
www.sehinc.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. \_\_\_\_\_

**RYAN**  
www.ryancompanies.com

**SOUTH LOOP WATERPARK**  
BLOOMINGTON, MINNESOTA

**DETAILS**

FILE NO.  
151051

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72

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**SOUTH LOOP  
WATERPARK**  
BLOOMINGTON, MINNESOTA

**DETAILS**

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BLOOMINGTON, MINNESOTA

**DETAILS**

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**SOUTH LOOP  
WATERPARK**  
BLOOMINGTON, MINNESOTA

**DETAILS**

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**SOUTH LOOP  
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BLOOMINGTON, MINNESOTA

**DETAILS**

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**DETAILS**

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CHECKED BY:	JG
DESIGN TEAM	

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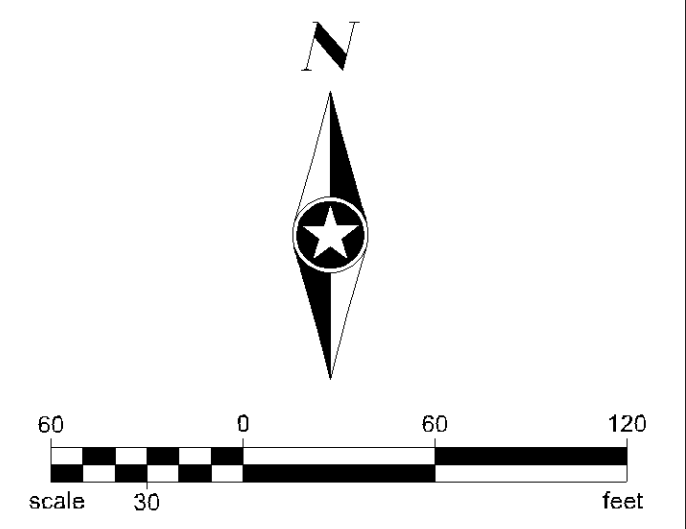
**SOUTH LOOP  
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 BLOOMINGTON, MINNESOTA

**DETAILS**

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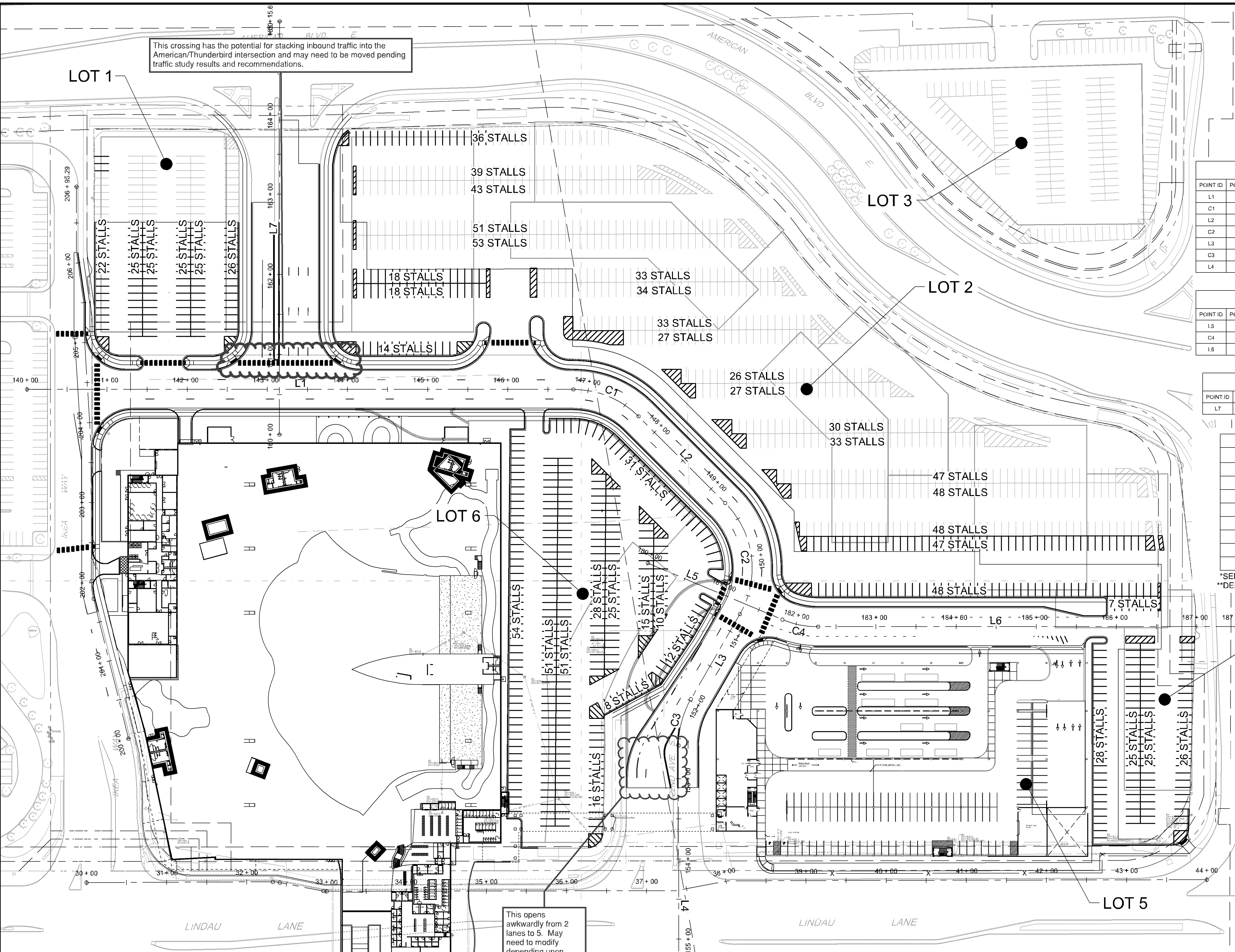
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This crossing has the potential for stacking inbound traffic into the American/Thunderbird intersection and may need to be moved pending traffic study results and recommendations.

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

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



**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		146+81.73	045° 00' 00"	115.00	47.63	90.32	124703.4948	536912.1159	
L2		147+72.05				152.83	124699.8120	536993.4330	S 45° 00' 00" E
C2		149+24.87	075° 00' 00"	115.00	88.24	150.53	124551.7476	537101.4975	
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	537217.4838	N 90° 00' 00" E

**ALIGNMENT TABULATION - THUNDERBIRD ROAD**

POINT ID	POINT	STATION	DELTA	RADIUS	TANGENT	LENGTH	NORTHING	EASTING	BEARING
L7		180+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	**1,425
LOT 6	469	301
LOT 7	219	NA
<b>TOTAL</b>	<b>2,069</b>	<b>2,738</b>

\*SEE SHEET 2  
\*\*DENOTES PARKING RAMP

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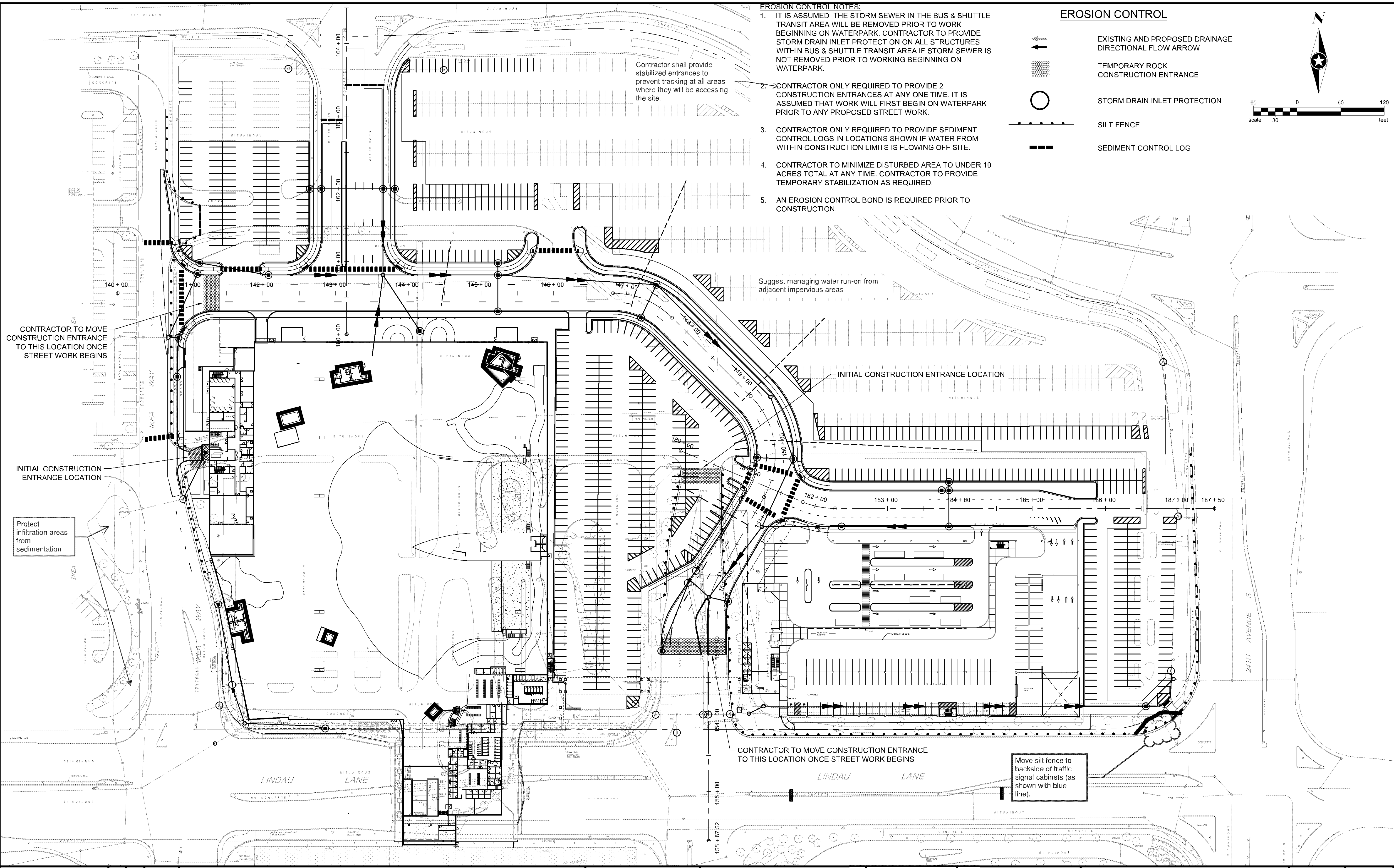
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**SOUTH LOOP WATERPARK**  
 BLOOMINGTON, MINNESOTA

**ALIGNMENT AND GENERAL LAYOUT PLAN**

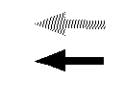


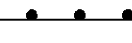

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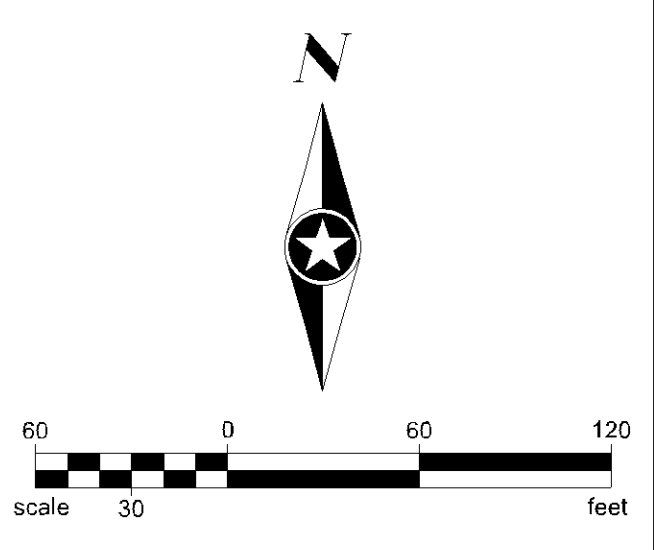
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- EROSION CONTROL NOTES:**
1. IT IS ASSUMED THE STORM SEWER IN THE BUS & SHUTTLE TRANSIT AREA WILL BE REMOVED PRIOR TO WORK BEGINNING ON WATERPARK. CONTRACTOR TO PROVIDE STORM DRAIN INLET PROTECTION ON ALL STRUCTURES WITHIN BUS & SHUTTLE TRANSIT AREA IF STORM SEWER IS NOT REMOVED PRIOR TO WORKING BEGINNING ON WATERPARK.
  2. CONTRACTOR ONLY REQUIRED TO PROVIDE 2 CONSTRUCTION ENTRANCES AT ANY ONE TIME. IT IS ASSUMED THAT WORK WILL FIRST BEGIN ON WATERPARK PRIOR TO ANY PROPOSED STREET WORK.
  3. CONTRACTOR ONLY REQUIRED TO PROVIDE SEDIMENT CONTROL LOGS IN LOCATIONS SHOWN IF WATER FROM WITHIN CONSTRUCTION LIMITS IS FLOWING OFF SITE.
  4. CONTRACTOR TO MINIMIZE DISTURBED AREA TO UNDER 10 ACRES TOTAL AT ANY TIME. CONTRACTOR TO PROVIDE TEMPORARY STABILIZATION AS REQUIRED.
  5. AN EROSION CONTROL BOND IS REQUIRED PRIOR TO CONSTRUCTION.

**EROSION CONTROL**

-  EXISTING AND PROPOSED DRAINAGE DIRECTIONAL FLOW ARROW
-  TEMPORARY ROCK CONSTRUCTION ENTRANCE
-  STORM DRAIN INLET PROTECTION
-  SILT FENCE
-  SEDIMENT CONTROL LOG



Contractor shall provide stabilized entrances to prevent tracking at all areas where they will be accessing the site.

Suggest managing water run-on from adjacent impervious areas

CONTRACTOR TO MOVE CONSTRUCTION ENTRANCE TO THIS LOCATION ONCE STREET WORK BEGINS

INITIAL CONSTRUCTION ENTRANCE LOCATION

Protect infiltration areas from sedimentation

INITIAL CONSTRUCTION ENTRANCE LOCATION

CONTRACTOR TO MOVE CONSTRUCTION ENTRANCE TO THIS LOCATION ONCE STREET WORK BEGINS

Move silt fence to backside of traffic signal cabinets (as shown with blue line).

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

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Date: \_\_\_\_\_ Lic. No. \_\_\_\_\_



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**SOUTH LOOP WATERPARK**  
BLOOMINGTON, MINNESOTA

**EROSION CONTROL PLAN**

FILE NO. 151051

16  
72



**SWPPP SUMMARY/OVERVIEW:**  
 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.

**PROJECT INFORMATION:**

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

**CONTACTS:**

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

ENGINEER:	SHORT ELLIOTT HENDRICKSON INC. (SEH)
CONTACT:	CRAIG SWENEY, PE
PHONE:	(651) 414-5189
EMAIL:	CSWENEY@SEHINC.COM
PROJECT NO.:	MOAC0 151051

**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.

CONTRACTOR	
CONTACT	
PHONE	
EMAIL	

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.

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

THE SWPPP WILL BE AMENDED AS NEEDED AND/OR AS REQUIRED BY PROVISIONS OF THE PERMIT. PERMITTEES MUST AMEND THE SWPPP TO INCLUDE ADDITIONAL OR MODIFIED BMPS AS NECESSARY TO CORRECT PROBLEMS IDENTIFIED OR ADDRESS SITUATIONS WHENEVER THERE IS A CHANGE IN DESIGN, CONSTRUCTION, OPERATION, MAINTENANCE, WEATHER OR SEASONAL CONDITIONS HAVING A SIGNIFICANT EFFECT ON THE DISCHARGE OF POLLUTANTS TO SURFACE WATERS OR GROUNDWATER. AMENDMENTS WILL BE APPROVED BY BOTH THE OWNER AND CONTRACTOR AND WILL BE ATTACHED OR OTHERWISE INCLUDED WITH THE SWPPP DOCUMENTS. THE SWPPP AMENDMENTS SHALL BE INITIATED, FACILITATED, AND PROCESSED BY THE CONTRACTOR.

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.

BOTH THE OWNER AND CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER TERMINATION AND/OR TRANSFER OF THE PERMIT.

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

**LONG TERM OPERATION AND MAINTENANCE**  
 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).

THE OWNER WILL PREPARE AND IMPLEMENT A PERMANENT STORMWATER TREATMENT SYSTEM(S) MAINTENANCE PLAN.

**TRAINING DOCUMENTATION:**

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

**CONTENT OF TRAINING AVAILABLE UPON REQUEST.**

THE CONTRACTOR (OPERATOR) SHALL ADD TO THE SWPPP TRAINING RECORDS FOR THE FOLLOWING PERSONNEL:

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

TRAINING MUST RELATE TO THE INDIVIDUAL'S JOB DUTIES AND RESPONSIBILITIES AND SHALL INCLUDE:

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

THE CONTRACTOR SHALL ENSURE THAT THE INDIVIDUALS ARE TRAINED BY LOCAL, STATE, FEDERAL AGENCIES, PROFESSIONAL ORGANIZATIONS, OR OTHER ENTITIES WITH EXPERTISE IN EROSION PREVENTION, SEDIMENT CONTROL, PERMANENT STORMWATER MANAGEMENT AND THE MINNESOTA NPDES/SDS CONSTRUCTION STORMWATER PERMIT.

**PROJECT SUMMARY:**

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

**RECEIVING WATER(S) WITHIN ONE MILE FROM PROJECT BOUNDARIES:**  
 (<http://pca-gis02.pca.state.mn.us/CSW/index.html>)

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

WATERBODY	NO WORK DURING
LAKES	APRIL 1 - JUNE 30
NON-TROUT STREAMS	MARCH 15 - JUNE 15
TROUT STREAMS	SEPTEMBER 1 - APRIL 1

SEE DNR PERMIT FOR MORE INFORMATION

**SITE SOIL INFORMATION:** (<http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>)  
 (SOIL INFORMATION PROVIDED IS FOR NPDES PERMIT INFORMATION ONLY. SOIL INFORMATION WAS OBTAINED FROM THE USGS WEBSITE. THE CONTRACTOR SHALL NOT RELY ON THIS SOIL INFORMATION FOR CONSTRUCTION PURPOSES.)

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

**RELATED REVIEWS & PERMITS:**  
 ENVIRONMENTAL, WETLAND, ENDANGERED OR THREATENED SPECIES, ARCHEOLOGICAL, LOCAL, STATE, AND/OFF FEDERAL REVIEWS/PERMITS:

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

Update as needed as stormwater management plan is developed

**IMPLEMENTATION SEQUENCE:**  
 THE CONTRACTOR SHALL COMPLY WITH THE FOLLOWING SEQUENCE. THE ENGINEER MAY APPROVE ADJUSTMENTS TO THE SEQUENCE AS NEEDED.

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.

**PROJECT SPECIFIC NOTES:**  
 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.

IT SHOULD BE NOTED THAT AT THE CORNER OF 24TH AVE S AND EAST OLD SHAKOPEE ROAD IS AN UNIDENTIFIED TROUT STREAM MONITORED BY THE DNR. ADDITIONAL EFFORTS MAY BE REQUIRED IF REQUESTED BY THE DNR.

**THE FOLLOWING DOCUMENTS ARE CONSIDERED PART OF THE SWPPP:**

- 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:

**TEMPORARY BMP DESIGN FACTORS:**  
 EROSION PREVENTION AND SEDIMENT CONTROL BMP'S MUST BE DESIGNED TO ACCOUNT FOR:

THE EXPECTED AMOUNT, FREQUENCY, INTENSITY, AND DURATION OF PRECIPITATION

THE NATURE OF STORMWATER RUNOFF AND RON-ON AT THE SITE, INCLUDING FACTORS SUCH AS EXPECTED FLOW FROM IMPERVIOUS SURFACES, SLOPES, AND SITE DRAINAGE FEATURES

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 RANGE OF SOIL PARTICLE SIZES EXPECTED TO BE PRESENT.

**TEMPORARY SEDIMENT BASINS:**  
 THE CONTRACTOR SHALL INSTALL TEMPORARY SEDIMENT BASIN(S) INDICATED ON PLANS AND REQUIRED BY THE NPDES CONSTRUCTION PERMIT.

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 BASIN OUTLETS SHALL BE CONSTRUCTED TO PREVENT SHORT-CIRCUITING AND PREVENT THE DISCHARGE OF FLOATING DEBRIS.

OUTLET STRUCTURES MUST BE DESIGNED TO WITHDRAW WATER FROM THE SURFACE TO MINIMIZE THE DISCHARGE OF POLLUTANTS.

BASINS MUST INCLUDE A STABILIZED EMERGENCY OVERFLOW, WITHDRAW WATER FROM THE SURFACE, AND PROVIDE ENERGY DISSIPATION AT THE OUTLET.

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**

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.

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



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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. \_\_\_\_\_

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**SOUTH LOOP WATERPARK**  
 BLOOMINGTON, MINNESOTA

**SWPPP**

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