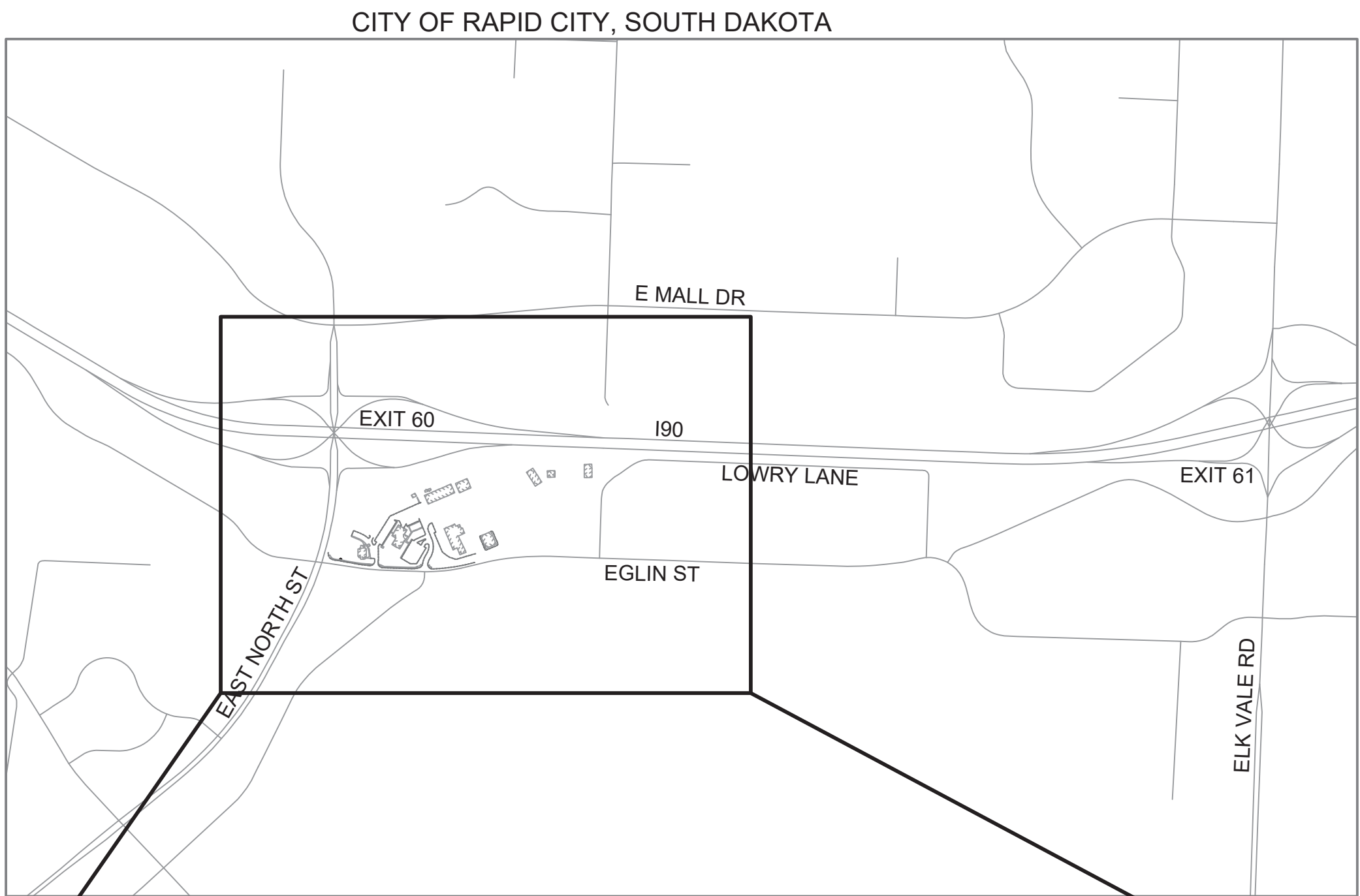


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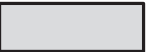
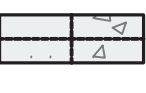

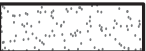










RAPID CITY REGION YARD - PHASE 1

PROJECT NUMBER 410394



PROJECT LOCATION MAP NOT TO SCALE

EXISTING LEGEND	
	BOREHOLE
	CABLE TV OR TELEPHONE RISER
	ELECTRICAL JUNCTION BOX
	FIBER OPTIC VAULT
	BLACK HILLS FIBER
	DECIDUOUS TREE
	CONIFEROUS TREE
	DECIDUOUS HEDGE/TREE LINE
	CONIFEROUS HEDGE/TREE LINE
	DECIDUOUS BUSH
	CONIFEROUS BUSH
	STUMP
	2 POLE SIGN
	1 POLE SIGN
	POST / BOLLARD
	FIRE HYDRANT
	MONITORING WELL
	CURB STOP
	IRRIGATION CONTROL VALVE
	GATE VALVE
	WATER MANHOLE
	TELEPHONE MANHOLE
	STORM SEWER MANHOLE
	SANITARY SEWER MANHOLE
	CLEAN OUT
	GAS METER
	CONTROL POINT
	RIGHT-OF-WAY MARKER
	ELECTRICAL MANHOLE
	LIGHT POLE
	GUY WIRE ANCHOR
	LUMINAIRE
	POWER POLE
	TYPE "E" INLET
	TYPE "B" INLET
	MAILBOX
	DELINEATOR
	EXISTING CURB AND GUTTER
	SANITARY SEWER LINE
	18" RCP STORM SEWER LINE
	WATER LINE
	WATER SERVICE LINE
	TELEPHONE LINE
	OVERHEAD LINES (POWER, CABLE, ETC)
	POWER LINE
	GAS LINE
	FIBEROPTIC LINE
	CABLE TV LINE
	BARBED WIRE FENCE
	BUILDING LINE
	PROPERTY LINE
	SECTION LINE
	EASEMENT LINE
	MAJOR CONTOUR
	MINOR CONTOUR

PROPOSED LEGEND	
	4 INCHES OF ASPHALT OVER 5 INCHES OF BASE COURSE
	8 INCHES OF CONCRETE WITH TIE BARS OVER 4 INCHES OF GRAVEL CUSHION
	8 INCHES OF CONCRETE OVER 4 INCHES OF BASE COURSE
	GRAVEL CUSHION
	LANDSCAPE ROCK
	JOINT WITH TIE BARS
	JOINT WITHOUT TIE BARS
	STEEL BAR INSTALLATION
	CHAINLINK FENCE
	PROPOSED MAJOR CONTOUR
	PROPOSED MINOR CONTOUR
	STORM SEWER LINE
	STORM SEWER INLET
	STORM SEWER JUNCTION BOX

N.T.S.

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5.1-5.6	STANDARD DETAILS

STORM WATER PERMIT

Major Receiving Body of Water: Box Elder Creek
Area Disturbed: 5.6 Acres
Total Project Area: 8.9 Acres
Approx. Begin Lat/Long 44.0553/103.1030

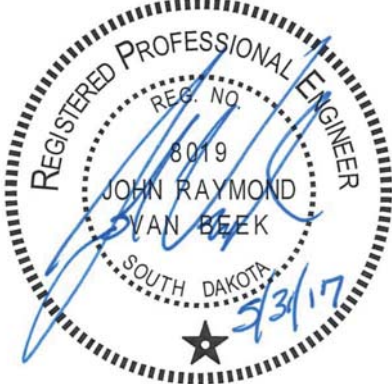


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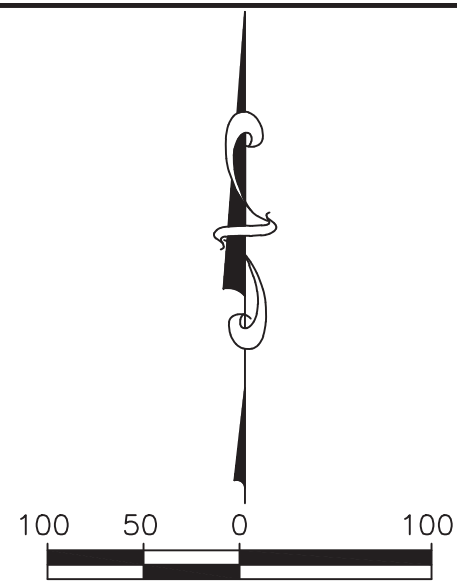
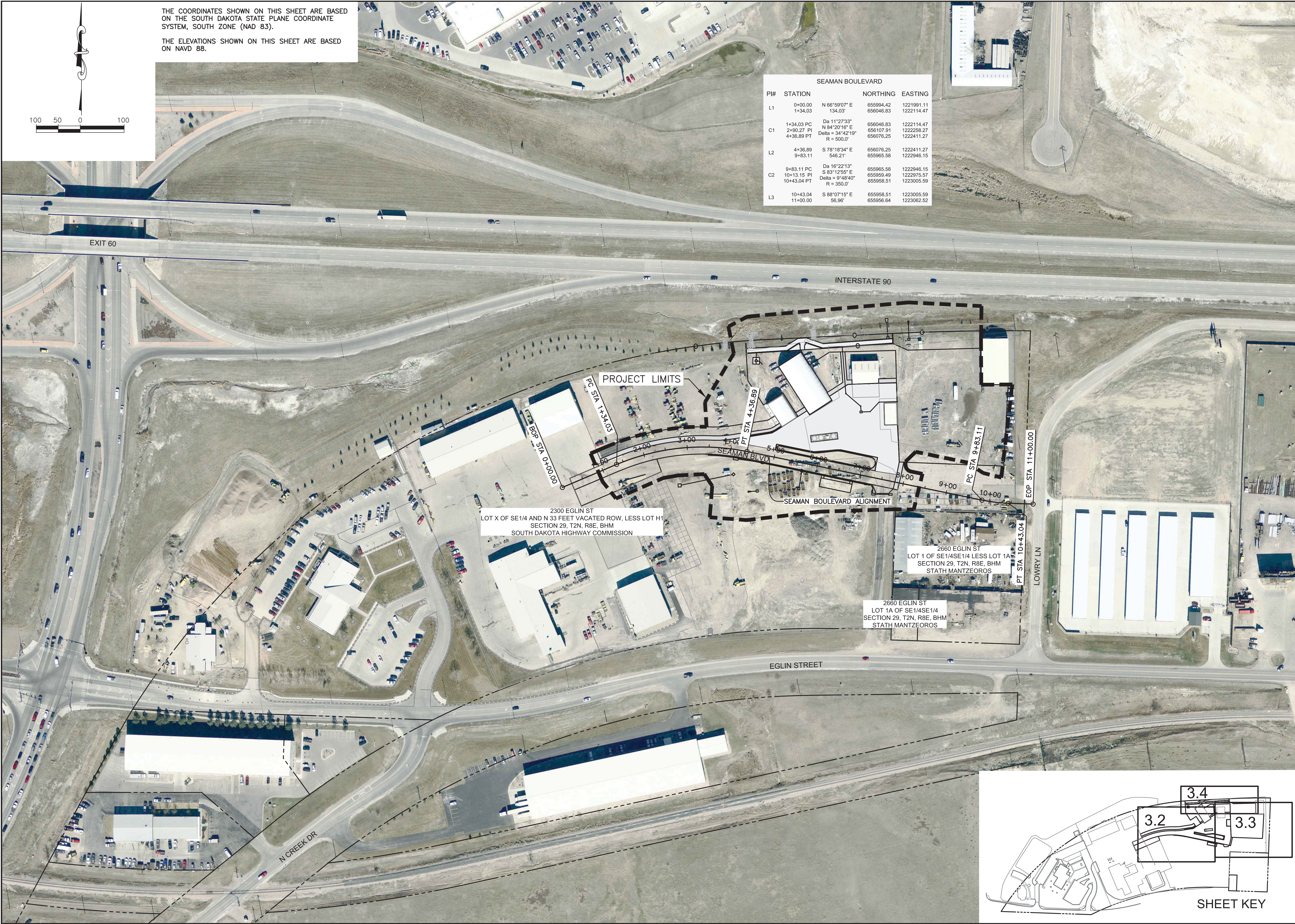


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THE COORDINATES SHOWN ON THIS SHEET ARE BASED ON THE SOUTH DAKOTA STATE PLANE COORDINATE SYSTEM, SOUTH ZONE (NAD 83).

THE ELEVATIONS SHOWN ON THIS SHEET ARE BASED ON NAVD 88.



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SOUTH DAKOTA DEPARTMENT OF TRANSPORTATION

PROJECT NUMBER 410394

RAPID CITY REGION YARD PHASE 1

RAPID CITY, SD

Sheet Title:

PROJECT OVERVIEW

Sheet:

1.2

ESTIMATE OF QUANTITIES:

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
100E0020	Clear and Grub Tree	6	Each
110E0605	Remove Chain Link Fence	851	Ft
110E1010	Remove Asphalt Concrete Pavement	4878	SqYd
110E1100	Remove Concrete Pavement	207	SqYd
110E7200	Remove Luminaire Pole for Reset	1	Each
120E0010	Unclassified Excavation	5626	CuYd
120E0900	Contaminated Material Excavation	669	CuYd
120E1000	Muck Excavation	1012	CuYd
120E2000	Undercutting	2501	CuYd
120E6300	Water for Vegetation	120	MGal
230E0020	Contractor Furnished Topsoil	1046	CuYd
250E0010	Incidental Work	Lump Sum	LS
260E1010	Base Course	256	Ton
260E2010	Gravel Cushion	3755	Ton
260E2030	Gravel Cushion, Salvaged	1060	Ton
320E1200	Asphalt Concrete Composite	203	Ton
380E0050	8" Nonreinforced PCC Pavement	7503	SqYd
380E6000	Dowel Bar	2066	Each
380E6110	Insert Steel Bar in PCC Pavement	105	Each
421E0100	Pipe Culvert Undercut	100	CuYd
450E0103	12" RCP Class 3, Furnish	34	Ft
450E0110	12" RCP Class 3, Install	34	Ft
450E0123	18" RCP Class 3, Furnish	242	Ft
450E0130	18" RCP, Install	242	Ft
450E0143	24" RCP Class 3, Furnish	478	Ft
450E0150	24" RCP, Install	478	Ft
450E0182	36" RCP Calss 2, Furnish	130	Ft
450E0190	36" RCP, Install	130	Ft
450E0416	24" RCP Bend, Furnish	2	Each
450E0417	24" RCP Bend, Install	2	Each
450E2000	12" RCP Flared End, Furnish	2	Each
450E2001	12" RCP Flared End, Install	2	Each
450E2008	18" RCP Flared End, Furnish	4	Each
450E2009	18" RCP Flared End, Install	4	Each
450E2028	36" RCP Flared End, Furnish	1	Each
450E2029	36" RCP Flared End, Install	1	Each
450E3013	24" RCP Arch Class 3, Furnish	38	Ft
450E3020	24" RCP Arch, Install	38	Ft
450E4504	24" RCP Arch Flared End, Furnish	1	Each
450E4505	24" RCP Arch Flared End, Install	1	Each
530E0300	Type C Concrete Retaining Wall	532	SqFt
530E0310	Special Type C Concrete Retaining Wall	6831	SqFt
621E0160	6' Chain Link Fence with Tension Wired Top	657	Ft
621E0240	Special 4' Chain Link Fence	369	Ft
635E7000	Install Luminaire Pole	1	Each
635E8140	4" Rigid Conduit, Schedule 40	44	Ft
650E0080	Type B68 Concrete Curb and Gutter	789	Ft
650E4680	Type P8 Concrete Gutter	150	Ft
670E1015	3' x 4' Type B Drop Inlet	1	Each
670E1025	4' x 4' Type B Drop Inlet	2	Each
670E1200	Type B Frame and Grate Assembly	3	Each
670E2015	3' x 4' Type C Drop Inlet	2	Each
670E2200	Type C Frame and Grate	2	Each
670E4440	4' x 11' Concrete Type S Drop Inlet Base	1	Each
670E5340	4' x 11' Drop Inlet Cover	1	Each
671E0060	6' x 6' Junction Box	1	Each
671E0550	Special Mahole	5	Each
700E0110	Class A Riprap	120	Ton
730E0210	Type F Permanent Seed Mixture	36	Lb
731E0100	Fertilizing	2062	Lb
732E0250	Fiber Mulching	2750	Lb
734E0102	Type 2 Erosion Control Blanket	3318	SqYd
734E0604	High Flow Silt Fence	30	Ft
734E0845	Sediment Control at Inlet with Frame and Grate	6	Each
734E0847	Sediment Control at Type S Reinforced Concrete Drop Inlet	12	Ft
734E0855	Interim Sediment Control at Inlet	10	Each
735E2060	6' to 8' Tree, Furnish and Plant	6	Each
831E0110	Type B Drainage Fabric	200	SqYd
900E1320	Construction Entrance	1	Each
900E5149	Landscaping Rock	70	CuYd

NOTES:

SPECIFICATIONS

STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES, 2015 EDITION AND REQUIRED PROVISIONS, SUPPLEMENTAL SPECIFICATIONS, AND SPECIAL PROVISIONS AS INCLUDED IN THE PROPOSAL.

UTILITIES

THE CONTRACTOR SHALL BE AWARE THAT THE EXISTING UTILITIES SHOWN IN THE PLANS WERE SURVEYED PRIOR TO THE DESIGN OF THIS PROJECT AND MIGHT HAVE BEEN RELOCATED OR REPLACED BY A NEW UTILITY FACILITY PRIOR TO CONSTRUCTION OF THIS PROJECT. MIGHT BE RELOCATED OR REPLACED BY A NEW UTILITY FACILITY DURING THE CONSTRUCTION OF THIS PROJECT. OR MIGHT NOT REQUIRE ADJUSTMENT AND MAY REMAIN IN ITS CURRENT LOCATION. THE CONTRACTOR SHALL CONTACT EACH UTILITY OWNER AND CONFIRM THE STATUS OF ALL EXISTING AND NEW UTILITY FACILITIES. THE UTILITY CONTACT INFORMATION IS PROVIDED ELSEWHERE IN THE PLANS OR BIDDING DOCUMENTS.

SEQUENCE OF OPERATIONS

ALL PAVING OUTSIDE OF SEAMAN BOULEVARD SHALL BE COMPLETED AND OPEN TO TRAFFIC NO LATER THAN SEPTEMBER 15, 2017. ALL REMAINING WORK, INCLUDING CLEANUP, SHALL BE COMPLETED NO LATER THAN NOVEMBER 3, 2017.

CONSTRUCTION EQUIPMENT SHALL NOT ACCESS THE WORK AREA FROM THE INTERSTATE

CONSTRUCTION STAKING

CONSTRUCTION STAKING SHALL BE DONE BY THE SDDOT OR A REPRESENTATIVE OF THE SDDOT. THE CONTRACTOR WILL NOT BE RESPONSIBLE FOR CONSTRUCTION STAKING.

TRAFFIC CONTROL

ROAD CONSTRUCTION AHEAD SIGNS SHALL BE INSTALLED ALONG THE EAST BOUND I-90 MAINLINE AND ON RAMP.

TRAFFIC CONTROL DEVICES SUCH AS CONES OR DELINEATORS SHALL BE INSTALLED TO SEPARATE STATE VEHICLE TRAFFIC FROM THE WORK AREA. ALL TRAFFIC CONTROL RELATED ITEMS SHALL BE INCIDENTAL TO THE PROJECT.

CONDUIT INSTALLATION

EACH END OF EACH CONDUIT SHALL BE MARKED WITH A ½--INCH DIA. X 12--INCH LONG REINFORCING BAR DRIVEN FLUSH WITH THE FINISHED GRADE, EXCEPT WHEN THE CONDUIT END TERMINATES INSIDE A JUNCTION BOX. THE ENDS OF EACH CONDUIT RUN SHALL BE CAPPED TO PREVENT WATER AND SOIL FROM ENTERING. THIS WORK SHALL BE DONE BY THE LIGHTING CONTRACTOR AND SHALL NOT BE DISTURBED BY THE GRADING CONTRACTOR.

REMOVE AND RESET EXISTING LIGHT POLE

ALL WORK AND MATERIALS INCLUDING BUT NOT LIMITED TO CONDUIT, WIRING, FLOWABLE FILL ETC. NEEDED TO RESET THE EXISTING POLE AND FOOTINGS AT THE ISLAND LEFT OF STATION 6+00 SHALL BE INCIDENTAL TO THE CONTRACT UNIT PRICE FOR "INSTALL LUMINAIRE POLE"

UNDERCUTTING

IN ALL CUT SECTIONS THE EARTHEN SUBGRADE SHALL BE UNDERCUT 1 FEET BELOW THE EARTHEN SUBGRADE SURFACE. THE UNDERCUT MATERIAL OR OTHER SUITABLE MATERIAL, AS DIRECTED BY THE ENGINEER, SHALL THEN BE REPLACED AND COMPACTED TO THE DENSITY SPECIFIED FOR THE SECTION BEING CONSTRUCTED.

AN EXCEPTION TO THE UNDERCUT REQUIREMENTS SHALL BE MADE IN SECTIONS THAT ENCOUNTER IN PLACE ROCK. CUT SECTIONS MADE THROUGH IN PLACE ROCK SHALL BE EXCAVATED TO THE TOP OF THE SUBGRADE SURFACE ONLY. SHALLOW EMBANKMENT SECTIONS (AS DESCRIBED ABOVE) PLACED OVER IN PLACE ROCK WITH LESS THAN 2 FEET OF SOIL COVER SHALL BE EXCAVATED TO THE SURFACE OF THE ROCK PRIOR TO PLACING ANY FILL.

THE PLAN SHOWN QUANTITY WILL BE THE BASIS OF PAYMENT. HOWEVER, IF THERE ARE ADDITIONAL AREAS OF UNDERCUT OTHER THAN WHAT IS SHOWN IN THE PLANS, THE ENGINEER SHALL DIRECT REMOVAL OF THESE AREAS AND THE ADDITIONAL AREAS WILL BE MEASURED ACCORDING TO THE ENGINEER.

EXCAVATION

EXCAVATION MATERIAL SHALL BE SPLIT INTO TWO CATEGORIES, UNCLASSIFIED EXCAVATION AND CONTAMINATED MATERIAL EXCAVATION. THE CATEGORY OF EXCAVATION SHALL BE DETERMINED DURING CONSTRUCTION BY THE ENGINEER. IF THE EXCAVATED MATERIAL IS DETERMINED TO BE USABLE BY THE ENGINEER IT SHALL BE CONSIDERED UNCLASSIFIED EXCAVATION, AND STOCKPILED ON SITE AT A LOCATION DETERMINED BY THE ENGINEER. IF THE EXCAVATED MATERIAL IS DETERMINED TO BE UNUSABLE BY THE ENGINEER IT SHALL BE CONSIDERED CONTAMINATED MATERIAL EXCAVATION AND SHALL BE HAULED OFF--SITE AND DISPOSED OF PROPERLY BY THE CONTRACTOR. THE CONTAMINATED MATERIAL EXCAVATION IS NOT CONTAMINATED WITH PETROLEUM BASED CHEMICALS AND WILL NOT REQUIRE SPECIAL MATERIAL HANDLING, IT IS WASTE MATERIAL.

FOR BIDDING PURPOSES IT IS ASSUMED THAT THE TOTAL EXCAVATION QUANTITY WILL BE SPLIT EQUALLY BETWEEN UNCLASSIFIED AND CONTAMINATED MATERIAL EXCAVATION.

THE STOCKPILED UNCLASSIFIED EXCAVATION SHALL BE MEASURED AFTER GRADING OPERATIONS TO DETERMINE QUANTITY FOR PAYMENT. UNCLASSIFIED EXCAVATION SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE PER CUBIC YARD FOR "UNCLASSIFIED EXCAVATION".

THE DIFFERENCE BETWEEN THE TOTAL EXCAVATION QUANTITY (1713 CY) AND THE MEASURED UNCLASSIFIED EXCAVATION QUANTITY WILL BE THE BASIS OF PAYMENT FOR THE WASTE MATERIAL . THE WASTE MATERIAL SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE PER CUBIC YARD FOR "CONTAMINATED MATERIAL EXCAVATION".

TABLE OF EXCAVATION IS LOCATED ON SHEET 1.4.

MUCK EXCAVATION

THE AREAS OF MUCK EXCAVATION ARE SHOWN ON THE PLANS WITHIN THE INTERSTATE 90 DITCH RIGHT OF WAY. THE ESTIMATED QUANTITY OF 1012 CUBIC YARDS OF MUCK EXCAVATION SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE PER CUBIC YARD FOR "MUCK EXCAVATION".

MUCK EXCAVATION CONSISTS OF THE REMOVAL OF HIGHLY ORGANIC AND/OR HIGHLY SATURATED MATERIAL FROM THE DESIGNATED AREAS SHOWN ON THE PLANS. HIGHLY ORGANIC MUCK MATERIAL SHALL NOT BE USED IN THE EMBANKMENT BUT MAY BE USED AS TOPSOIL. NON--ORGANIC MUCK MATERIAL MAY BE USED AS EMBANKMENT OUTSIDE OF THE FILL SUBGRADE SHOULDER IF IT IS PROPERLY HANDLED AND DRIED PRIOR TO PLACEMENT IN THE EMBANKMENT.

FIELD MEASUREMENT OF MUCK EXCAVATION WILL NOT BE MADE UNLESS THE ENGINEER ORDERS ADDITIONAL EXCAVATION, OR WHEN THE ENGINEER DETERMINES, IN ACCORDANCE WITH SECTION 120.3 A.1. OF THE SPECIFICATIONS, THAT THE CLASSIFICATION OF EXCAVATION BE CHANGED.

MUCK EXCAVATION SHALL NOT BE USED AS BACKFILL, EMBANKMENT OR TOPSOIL. IT SHALL BE DISPOSED OF PROPERLY AND SHALL BE CONSIDERED WASTE MATERIAL.

PIPE CULVERT UNDERCUT

PIPE CULVERT UNDERCUT MAY BE REQUIRED FOR THIS PROJECT. A QUANTITY OF 100 CY HAS BEEN INCLUDED IN THE ESTIMATE OF QUANTITIES. THE ENGINEER WILL DETERMINE WHICH PIPE SHALL BE UNDERCUT IN ACCORDANCE WITH SECTION 421 OF THE SPECIFICATIONS.

REINFORCED CONCRETE PIPE

HIGH SULFATE LEVELS ARE LIKELY TO BE ENCOUNTERED ON THIS PROJECT. THE TYPE OF CEMENT USED FOR THE REINFORCED CONCRETE PIPES SHALL BE EITHER A TYPE II WITH 25% CLASS F MODIFIED FLY ASH SUBSTITUTED FOR CEMENT IN ACCORDANCE WITH SPECIFICATIONS SECTION 605 OR A TYPE V. THE WATER/CEMENTITIOUS MATERIAL RATIO SHALL NOT EXCEED 0.45 AS DEFINED IN SPECIFICATIONS SECTION 460.3 A. THE MIX SHALL BE AS PER THE FABRICATOR'S DESIGN; HOWEVER, MINIMUM COMPRESSIVE STRENGTH SHALL NOT BE LESS THAN 4500 PSI AT 28 DAYS. THE PIPE MUST BE MARKED IN AN ACCEPTABLE WAY TO DESIGNATE MEETING REQUIREMENTS FOR SULFATE RESISTANCE.

STORM SEWER

REINFORCED CONCRETE PIPE MAY BE BELL AND SPIGOT. THE PIPE SECTIONS SHALL BE ADJOINED SUCH THAT THE ENDS ARE FULLY ENTERED AND THE INNER SURFACES ARE REASONABLY FLUSH AND EVEN.

LIFT HOLES IN THE REINFORCED CONCRETE PIPE SHALL BE PLUGGED WITH GROUT.

DROP INLETS

THE CONTRACTOR SHALL COVER THE INSTALLED DROP INLETS TO PROVIDE SAFE TRAVEL FOR MOTORISTS AND TO PREVENT SURFACING MATERIALS FROM ENTERING THE STORM SEWER SYSTEM. THE METHOD AND TYPE OF COVER SHALL BE APPROVED BY THE ENGINEER. ALL COSTS INVOLVED WITH THE COVERINGS AND SHAPING OF THE INTERIM SURFACING SHALL BE INCIDENTAL TO THE CONTRACT UNIT PRICES FOR THE COMPONENTS OF THE DROP INLETS.

WHERE DROP INLETS ARE CONSTRUCTED WITHIN AREAS OF CURB AND GUTTER, THE CONTRACTOR SHALL CONSTRUCT WEEP HOLES OF AT LEAST 3 INCHES IN DIAMETER IN THE DROP INLET WALLS. THE WEEP HOLES SHALL BE CONSTRUCTED AT THE SAME ELEVATION AS THE ADJACENT TOP OF THE EARTHEN SUBGRADE AND SHALL BE MAINTAINED CLEAN AND OPEN AT ALL TIMES UNTIL THE PERMANENT SURFACING IS PLACED. THE DROP INLETS SHALL BE COVERED THROUGHOUT CONSTRUCTION OPERATIONS AS NECESSARY WITH AN ENGINEER APPROVED COVER TO PROVIDE SAFE TRAVEL FOR MOTORISTS AND TO PREVENT MATERIALS FROM ENTERING THE STORM SEWER SYSTEM. AFTER THE PERMANENT SURFACING HAS BEEN PLACED, THE CONTRACTOR SHALL SEAL THE WEEP HOLES WITH GROUT AND REMOVE ALL DEBRIS FROM THE DROP INLET. ALL COSTS INVOLVED WITH THE COVERINGS, WEEP HOLES, AND REMOVING DEBRIS FROM THE DROP INLETS SHALL BE INCIDENTAL TO THE CONTRACT UNIT PRICES FOR THE COMPONENTS OF THE DROP INLETS.

THE PLAN SHOWN QUANTITIES OF THE DROP INLETS, TYPE B FRAME AND GRATE ASSEMBLY, TYPE C FRAME AND GRATE, PRECAST DROP INLET COLLAR, AND PRECAST CONCRETE TYPE S DROP INLET LID WILL BE THE BASIS OF PAYMENT FOR THESE ITEMS.

SPECIAL MANHOLE

THERE ARE FIVE SPECIAL MANHOLE/INLETS THAT SERVE AS STORM WATER QUALITY OUTLET STRUCTURES. THE OUTLET STRUCTURES SHALL BE BUILT ACCORDING TO THE DETAILS IN THE PLANS. EACH INLET WILL SLIGHTLY VARY DEPENDING ON THE LOCATION AND INTENT OF EACH STRUCTURE. FOR DETAILED INFORMATION REFER TO SECTION 4.

THE STORM WATER QUALITY STRUCTURES SHALL BE PAID FOR UNDER THE CONTRACT UNIT PRICE PER EACH FOR "SPECIAL MANHOLE". PAYMENT INCLUDES BUT IS NOT LIMITED TO ALL LABOR, CONCRETE, REINFORCEMENT, GRATES AND TRASH SCREENS NECESSARY TO PROPERLY CONSTRUCT EACH STRUCTURE.

LOCATION OF CONCRETE PAVEMENT JOINTS

THE LOCATION OF JOINTS, AS SHOWN ON THE "SITE GRADING" SHEETS, ARE ONLY APPROXIMATE LOCATIONS TO BE USED AS A GUIDE IN THE FINAL LOCATION OF JOINTS AND TO AFFORD BIDDERS A BASIS FOR ESTIMATING THE CONSTRUCTION COSTS OF THE JOINTS. THE FINAL LOCATIONS OF THE JOINTS ARE TO BE DESIGNATED BY THE ENGINEER DURING CONSTRUCTION.

8" NONREINFORCED CONCRETE PAVEMENT

THE FINE AGGREGATE SHALL BE SCREENED OVER A 1--INCH SQUARE OPENING SCREEN JUST PRIOR TO INTRODUCTION INTO THE CONCRETE PAVING MIX. THE CONTRACTOR WILL SCREEN ALL OF THE AGGREGATE TO PREVENT THE INCORPORATION OF FOREIGN MATERIALS (IE: MUD BALLS) INTO THE CONCRETE MIX.

A CONSTRUCTION JOINT WILL BE SAWED WHENEVER NEW CONCRETE PAVEMENT IS PLACED ADJACENT TO EXISTING CONCRETE PAVEMENT.

THE TRANSVERSE CONTRACTION JOINTS SHALL BE PERPENDICULAR TO THE CENTERLINE AS DETAILED IN THE STANDARD PLATES 380.01 AND 380.08. IN MULTILANE AREAS THE TRANSVERSE CONTRACTION JOINTS SHALL BE PERPENDICULAR THE CENTERLINE AND BE IN A STRAIGHT LINE ACROSS THE WIDTH OF THE PAVEMENT. IN SPECIAL SITUATIONS THE ENGINEER MAY PRE--APPROVE TRANSVERSE CONTRACTION JOINTS THAT DO NET MEET THESE REQUIREMENTS. ALL NONCONFORMING TRANSVERSE CONTRACTION JOINTS THAT ARE NOT PRE--APPROVED SHALL BE REMOVED AT THE CONTRACTOR'S EXPENSE. ANY METHOD OF PLACEMENT THAT CANNOT PRODUCE THESE REQUIREMENTS SHALL BE ALLOWED TO CONTINUE.

CONCRETE JOINT SEALING MAY ALL BE HOT POURED JOINT SEALANT.

EXPANSION MATERIAL SHALL BE USED IN ALL INSTANCES WHERE NEW CONCRETE IS BEING PLACED AROUND EXISTING STRUCTURES INCLUDING FOUNDATIONS, FOOTINGS, BUILDINGS ETC.

LANDSCAPE ROCK

LANDSCAPE ROCK PLACED SHALL BE THREE TO SIX INCH RIVER ROCK PLACED AT A NOMINAL DEPTH OF SIX INCHES. THE ROCK SHALL BE PLACED ON TOP OF DRAINAGE FABRIC. THE DRAINAGE FABRIC SHALL BE INCIDENTAL TO THE INSTALLATION OF THE RIVER ROCK. LANDSCAPE ROCK SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE PER CUBIC YARD FOR LANDSCAPE ROCK.

CHAIN LINK FENCE

CHAIN LINK FENCE SHALL BE 6' CHAIN LINK FENCE WITH TENSION WIRED TOP AND BARBED WIRE TOP. MEASUREMENT AND PAYMENT SHALL BE MADE PER LINEAL FOOT FOR "6' CHAIN LINK FENCE WITH TENSION WIRED TOP" ACCORDING TO THE STANDARD SPECIFICATIONS AND PLATES.

SPECIAL 4' CHAIN LINK FENCE

SPECIAL CHAIN LINK FENCE SHALL BE INSTALLED ON THE TOP OF THE SPECIAL TYPE C RETAINING WALL AS SHOWN ON THE PLANS. THE RAILING SHALL BE CONSTRUCTED ACCORDING THE THE DETAILS IN SECTION 4. PAYMENT SHALL BE MADE PER LINEAL FOOT FOR "SPECIAL 4' CHAIN LINK FENCE" AND INCLUDES ALL NECESSARY LABOR, MATERIALS, PAINT, FASTENERS ETC TO PROPERLY CONSTRUCT THE HAND RAILING.

SPECIAL TYPE C RETAINING WALL

THE CONCRETE STORM WATER QUALITY FACILITIES LOCATED ON THE NORTH SIDE OF THE PROPERTY ADJACENT TO THE INTERSTATE 90 RIGHT--OF--WAY SHALL BE CONSTRUCTED ACCORDING TO THE PLANS AND DETAILS IN SECTION 4. THE ENTIRE STRUCTURE, INCLUDING WALLS AND FOUNDATION SHALL BE PAID FOR UNDER THE CONTRACT UNIT PRICE PER SQUARE FOOT FOR "SPECIAL TYPE C RETAINING WALL" FOR DETAILED INFORMATION REFER TO SHEET 4.1.

TYPE C RETAINING WALL

TYPE C WALLS WILL BE CONSTRUCTED AROUND THE EXISTING TANKS AS SHOWN IN THE PLANS. THE WALLS SHALL BE 3.5' HIGH. EXPANSION SHALL BE PLACED BETWEEN THE EXISTING TANK FOUNDATIONS AND THE PROPOSED TYPE C WALLS. THE CONCRETE PAVEMENT SURROUNDING THE TYPE C WALLS WILL SERVE AS THE "SIDEWALK" FOR REINFORCEMENT.

INCIDENTAL WORK

THIS WORK INCLUDES ALL MISCELLANEOUS ITEMS NOT INCLUDED UNDER THE REGULAR ITEMS COVERED BY UNIT PRICES AS LISTED IN THE PROPOSAL, BUT WHICH MUST ME PERFORMED IN ORDER TO COMPLETE THE CONTRACT. SPECIFIC INCIDENTAL ITEMS ARE SHOWN ON THE DRAWINGS AND WILL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE FRO "INCIDENTAL WORK." INCIDENTAL WORK INCLUDES, BUT IS NOT LIMITED TO THE FOLLOWING:

1. STORM SEWER REMOVALS, INCLUDING RCP, PVC, HDPE ETC.
2. ASPHALT SAW CUTTING OPERATIONS
3. SWEEPING
4. TRAFFIC CONTROL
5. EXCAVATION FOR RIPRAP
6. MISCELLANEOUS GRADING AROUND INLETS, OUTLETS AND RIPRAP.
7. DEWATERING
8. WASTE DISPOSAL SITE
9. DUST CONTROL
10. ADJUST PRIVATE UTILITIES
11. PROTECTION OF EXISTING FEATURES/UTILITIES
12. EXISTING UTILITY LOCATION AND VERIFICATION;

Prepared For:



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Prepared By:

- Civil Engineering
- Geospatial Solutions
- Water Resources
- Transportation
- Land Surveying



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Registered Professional Engineer

REG. NO.

6019

JOHN R. MOND

WASH. BECK

SOUTH DAKOTA

Sheet Title:

ESTIMATE OF
QUANTITIES AND
GENERAL NOTES

Sheet:

1.3

CONTRACTOR FURNISHED TOPSOIL

CONTRACTOR FURNISHED TOPSOIL SHALL BE FREE FROM CLAY LUMPS, STONES, COARSE GRAVEL, OR SIMILAR OBJECTS LARGER THAN 1/2 INCH IN DIAMETER. BRUSH, STUMPS, ROOTS, WOOD, OBJECTIONABLE WEEDS, LITTER, OR ANY OTHER MATERIAL WHICH MAY BE HARMFUL TO PLANT GROWTH WILL NOT BE ALLOWED. ORGANIC MATERIAL SHALL BE DECOMPOSED.

ALL COSTS TO FURNISH AND PLACE THE CONTRACTOR FURNISHED TOPSOIL SHALL BE INCIDENTAL TO THE CONTRACT UNIT PRICE PER CUBIC YARD FOR "CONTRACTOR FURNISHED TOPSOIL".

THE ESTIMATED AMOUNT OF TOPSOIL TO BE FURNSHED IS AS FOLLOWS:

STATION TO	STATION	TOPSOIL (CUYD)	
3+39	8+86	845	(I-90 ROW)
3+88	5+94	201	(SWQ POND)
TOTAL:		1046	

MYCORRHIZAL INOCULUM

MYCORRHIZAL INOCULUM SHALL CONSIST OF MYCORRHIZAL FUNGI SPORES AND MYCORRHIZAL FUNGI-INFECTED ROOT FRAGMENTS IN A SOLID CARRIER. THE CARRIER MAY INCLUDE ORGANIC MATERIALS, CALCINATED CLAY, OR OTHER MATERIALS CONSISTENT WITH APPLICATION AND GOOD PLANT GROWTH. THE SUPPLIER SHALL PROVIDE CERTIFICATION OF THE FUNGAL SPECIES CLAIMED AND THE LIVE PROPAGULE COUNT. THE INOCULUM SHALL INCLUDE THE FOLLOWING FUNGAL SPECIES:

GLOMUS INTRARADICES	25%
GLOMUS AGGREGATU	25%
GLOMUS MOSSEAE	25%
GLOMUS ETUNICATUM	25%

ALL SEED SHALL BE INOCULATED BY THE SEED SUPPLIER WITH A MINIMUM OF 100,000 LIVE PROPAGULES OF MYCORRHIZAL FUNGI PER ACRE. ALL COSTS OF INOCULATING THE SEED SHALL BE INCIDENTAL TO THE CONTRACT UNIT PRICE PER POUND FOR THE CORRESPONDING PERMANENT SEED MIXTURE.

THE MYCORRHIZAL INOCULUM SHALL BE AS SHOWN BELOW OR AN APPROVED EQUAL:

PRODUCT	MANUFACTURER
MYCOAPPLY	MYCORRHIZAL APPLICATIONS, INC. GRANTS PASS, OR PHONE: 1-866-476-7800 www.mycorrhizae.com

FERTILIZING

THE CONTRACTOR SHALL APPLY AN ALL-NATURAL SLOW RELEASE FERTILIZER PRIOR TO SEEDING OR PLACING SOD. THE ALL-NATURAL FERTILIZER SHALL HAVE A MINIMUM GUARANTEED ANALYSIS OF 4-6-4 AND BE USDA CERTIFIED BIOBASED. IT SHOULD PROVIDE A MINIMUM OF 4% (N) NITROGEN WITH A MINIMUM WATER INSOLUBLE NITROGEN (WIN) FRACTION OF 3.2%. A MINIMUM OF 6% (P205) AVAILABLE PHOSPHATE, A MINIMUM OF 4% (K2O) SOLUBLE POTASH, AND A MAXIMUM CARBON TO NITROGEN RATIO (C:N RATIO) OF 5:1. THE ALL-NATURAL FERTILIZER SHALL BE FREE OF WEED-SEED AND PATHOGENS ACCOMPLISHED THROUGH THERMOPHILIC COMPOSTING, AND NOT MECHANICAL OR CHEMICAL STERILIZATION, TO ASSURE PRESENCE OF BENEFICIAL SOIL MICROBIOLOGY. THE FERTILIZER SHALL HAVE A NEAR NEUTRAL PH, A LOW SALT INDEX, A LOW BIOLOGICAL OXYGEN DEMAND, CONTAIN ORGANIC HUMIC AND FULVIC ACIDS, AND HAVE HIGH AEROBIC ORGANISM COUNTS. THE FERTILIZER SHALL ALSO BE STABLE, FREE OF BAD ODORS, AND BE UNATTRACTIVE AS A FOOD SOURCE FOR ANIMALS. IT SHOULD ALSO BE IN A GRANULAR FORM THAT IS EASILY SPREAD.

THE FERTILIZER SHALL BE APPLIED AT A RATE OF 1,500 POUNDS PER ACRE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDED METHOD OF APPLICATION.

THE ALL-NATURAL SLOW RELEASE FERTILIZER SHALL BE AS SHOWN BELOW OR AN APPROVED EQUAL:

PRODUCT	MANUFACTURER
SUSTANE	SUSTANE CORPORATE HEADQUARTERS CANNON FALLS, MINNESOTA PHONE: 1-800-352-9245 www.sustane.com

PERMANENT SEEDING

THE AREAS TO BE SEEDED CONSIST OF ALL NEWLY GRADED AREAS WITHIN THE PROJECT LIMITS EXCEPT FOR THE TOP OF ROADWAYS, GRAVELED AREAS, AND OTHER AREAS AS DIRECTED BY THE ENGINEER.

TYPE F PERMANENT SEED MIXTURE SHALL CONSIST OF THE FOLLOWING:

GRASS SPECIES	VARIETY	PURE LIVE SEED (PLS) (POUNDS/ACRE)
WESTERN WHEATGRASS	ARRIBA, FLINTLOCK, RODAN, ROSANA	7
SIDEOATS GRAMA	BUTTE, KILLDEER, PIERRE, TRILWAY	3
GREEN NEEDLEGRASS	LODOM	4
BLUE GRAMA	BAD RIVER, WILLIS	2
OATS OR SPRING WHEAT: APRIL THROUGH MAY; WINTER WHEAT: AUGUST THROUGH NOVEMBER		10
TOTAL:		26

WATER FOR VEGETATION

WATER FOR VEGETATION CONSISTS OF APPLYING WATER TO SEEDED AREAS TO ENHANCE GERMINATION AND/OR ROOT GROWTH. WHEN WATERING, USE THE FOLLOWING GUIDELINES:

IMMEDIATELY AFTER SEEDING:

- KEEP THE TOPSOIL MOIST BUT NOT EXCESSIVELY WET UNTIL THE SEED HAS GERMINATED.
- WATER A MINIMUM OF 3 DAYS A WEEK FOR 2 WEEKS PREFERABLY WATERING 2 OR 3 TIMES A DAY IN SMALL QUANTITIES.
- USE FINE SPRAY AND LOW PRESSURE TO AVOID TOPSOIL WASH AND TO PREVENT UNCOVERING BURIED SEEDS.

AFTER EMERGENCE:

- TOPSOIL SHALL BE KEPT THOROUGHLY MOISTENED BY SPRINKLING, AS NECESSARY, FOR 6 WEEKS. AFTER THE 6 WEEK PERIOD, AN INSPECTION SHALL BE MADE TO DETERMINE IF GRASS IS ESTABLISHED ENOUGH TO SUSPEND WATERING. CONTINUE WATERING UNTIL GRASS HAS BEEN THOROUGHLY ESTABLISHED.
- NEVER APPLY WATER AT A RATE FASTER THAN THE TOPSOIL CAN ABSORB.
- WATER DURING EARLY MORNING HOURS OR EARLY EVENING HOURS.
- DO NOT WATER WHEN RAIN IS FORECASTED FOR THE AREA.
- IF RAINFALL OCCURS, SUSPEND WATERING ACCORDING TO RAINFALL AMOUNT.

AN ESTIMATED 18 GALLONS OF WATER PER SQUARE YARD OF SEEDING AREA WAS USED TO COMPUTE THE QUANTITY FOR THE BID ITEM "WATER FOR VEGETATION".

ALL COSTS FOR FURNISHING AND APPLYING THE WATER INCLUDING HAULING, MATERIALS, EQUIPMENT, LABOR, AND INCIDENTALS NECESSARY SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE PER MGAL FOR "WATER FOR VEGETATION".

HIGH FLOW SILT FENCE

THE HIGH FLOW SILT FENCE FABRIC PROVIDED SHALL BE FROM THE APPROVED PRODUCT LIST. THE APPROVED PRODUCT LIST FOR HIGH FLOW SILT FENCE MAY BE VIEWED AT THE FOLLOWING INTERNET SITE:

http://sddot.com/business/certification/products/default.aspx

HIGH FLOW SILT FENCE SHALL BE PLACED AT THE LOCATIONS NOTED IN THE TABLE AND AT LOCATIONS THAT WILL MINIMIZE SILTATION OF ADJACENT STREAMS, LAKES, DAMS, OR DRAINAGE AREAS AS DETERMINED BY THE ENGINEER DURING CONSTRUCTION. REFER TO STANDARD PLATE 734.05 FOR DETAILS.

FIBER MULCHING

FIBER MULCH SHALL BE APPLIED IN A SEPARATE OPERATION FOLLOWING PERMANENT SEEDING.

AN ADDITIONAL 1% BY WEIGHT OF TACKIFIER SHALL BE ADDED TO THE FIBER MULCH PRODUCT SELECTED FROM THE APPROVED PRODUCT LIST. IF THE PRODUCT SELECTED HAS GUAR GUM TACKIFIER INCLUDED, THEN THE ADDITIONAL 1% OF TACKIFIER SHALL BE GUAR GUM. IF THE PRODUCT SELECTED HAS SYNTHETIC TACKIFIER INCLUDED, THEN THE ADDITIONAL 1% OF TACKIFIER SHALL BE SYNTHETIC.

FIBER MULCH SHALL BE APPLIED AT THE RATE OF 2,000 POUNDS PER ACRE.

THE CONTRACTOR SHALL ALLOW THE FIBER MULCH TO CURE A MINIMUM OF 18 HOURS PRIOR TO WATERING OR ANY STORM EVENT TO ENSURE PROPER COHESION BETWEEN THE SOIL AND FIBER PARTICLES.

ALL COSTS FOR THE ADDITIONAL TACKIFIER ADDED TO THE FIBER MULCH INCLUDING LABOR, EQUIPMENT, AND MATERIALS SHALL BE INCIDENTAL TO THE CONTRACT UNIT PRICE PER POUND FOR "FIBER MULCHING".

THE FIBER MULCH PROVIDED SHALL BE FROM THE APPROVED PRODUCT LIST. THE APPROVED PRODUCT LIST FOR FIBER MULCH MAY BE VIEWED AT THE FOLLOWING INTERNET SITE:

http://sddot.com/business/certification/products/Default.aspx

EROSION CONTROL BLANKET

EROSION CONTROL BLANKET SHALL BE INSTALLED 16 FEET WIDE AT THE LOCATIONS NOTED IN THE TABLE AND AT LOCATIONS DETERMINED BY THE ENGINEER DURING CONSTRUCTION.

THE EROSION CONTROL BLANKET PROVIDED SHALL BE FROM THE APPROVED PRODUCT LIST. THE APPROVED PRODUCT LIST FOR EROSION CONTROL BLANKET MAY BE VIEWED AT THE FOLLOWING INTERNET SITE:

http://sddot.com/business/certification/products/default.aspx

SHAPING FOR EROSION CONTROL BLANKET

THE DITCHES SHALL BE SHAPED FOR THE EROSION CONTROL BLANKET AS SPECIFIED ON STANDARD PLATE 734.01.

INTERIM SEDIMENT CONTROL AT INLETS, MANHOLES, AND JUNCTION BOXES AFTER SURFACING REMOVAL AND BEFORE PLACEMENT OF SURFACING

REFER TO STANDARD PLATE 734.05 FOR DETAILS OF INSTALLATION OF HIGH FLOW SILT FENCE AT DROP INLETS, MANHOLES, AND JUNCTION BOXES.

THE HIGH FLOW SILT FENCE FABRIC PROVIDED SHALL BE FROM THE APPROVED PRODUCT LIST. THE APPROVED PRODUCT LIST FOR HIGH FLOW SILT FENCE MAY BE VIEWED AT THE FOLLOWING INTERNET SITE:

http://sddot.com/business/certification/products/default.aspx

IN ADDITION, THE CONTRACTOR SHALL DO THE FOLLOWING FOR THIS INSTALLATION:

- A SPACE OF AT LEAST 1' SHALL BE PROVIDED BETWEEN THE SILT FENCE INSTALLATION AND THE INLET. THIS SPACE SHALL BE FILLED COMPLETELY WITH A 2" DEPTH OF AGGREGATE, 2' MINUS OR SMALLER.
- THE TOP ELEVATION OF THE SILT FENCE SHALL BE SUCH THAT A 12" HORIZONTAL FLAP OF SILT FENCE WILL REMAIN AT THE BOTTOM.
- THE BASE OF THE SILT FENCE SHALL CONFORM TO THE NATURAL GROUND PROFILE BUT DOES NOT NEED TO BE TRENCHED IN AT THE BOTTOM.
- THE EXTRA 12" OF THE SILT FENCE MATERIAL MAY BE CUT SO THAT THE MATERIAL WILL LAY FLAT UPON THE SUBGRADE.
- SEDIMENT FILTER BAGS SHALL BE PLACED ON THE 12" FLAP AROUND THE PERIMETER OF THE SILT FENCE INSTALLATION. THE SEDIMENT FILTER BAGS SHALL OVERLAP 6" AT THE ENDS AND BE PLACED TIGHTLY TOGETHER.
- THE SEDIMENT FILTER BAGS SHALL BE FILLED WITH CLEAN AGGREGATE 2" MINUS OR SMALLER.

SEDIMENT FILTER BAG	
PRODUCT	MANUFACTURER
SNAKE BAG	SACRAMENTO BAG MANUFACTURING CO. SACRAMENTO, CA PHONE: 1-800-287-2247 www.sacbag.com

THE SEDIMENT FILTER BAG SHALL BE THE SNAKE BAG FROM SACRAMENTO BAG MANUFACTURING COMPANY OR AN APPROVED EQUAL.

ALL COSTS FOR FURNISHING AND INSTALLING THE SEDIMENT FILTER BAGS SHALL BE INCIDENTAL TO THE CONTRACT UNIT PRICE PER FOOT FOR "REMOVE SEDIMENT FILTER BAG".

ALL COSTS FOR REMOVING THE SEDIMENT FILTER BAGS SHALL BE INCIDENTAL TO THE CONTRACT UNIT PRICE PER FOOT FOR "REMOVE SEDIMENT FILTER BAG".

PAYMENT FOR HIGH FLOW SILT FENCE SHALL BE AS STATED IN SECTION 734.5 OF THE SPECIFICATIONS.

ALL COSTS FOR FURNISHING, INSTALLING, AND REMOVING THE 2" DEPTH OF AGGREGATE SHALL BE INCIDENTAL TO OTHER EROSION AND SEDIMENT CONTROL BID ITEMS.

ALL COSTS FOR REMOVING AND DISPOSING OF SEDIMENT COLLECTED BY THE SEDIMENT CONTROL DEVICE SHALL BE INCIDENTAL TO THE CONTRACT UNIT PRICE PER CUBIC YARD FOR "REMOVE SEDIMENT".

THE REMOVED SEDIMENT SHALL BE PLACED AT A LOCATION AWAY FROM THE DROP INLET WHERE THE SEDIMENT WILL NOT BE WASHED BACK INTO THE DROP INLET OR OTHER STORM SEWER SYSTEM.

THE CONTRACTOR AND ENGINEER SHALL INSPECT AND MAINTAIN THE SEDIMENT CONTROL DEVICE ONCE EVERY WEEK AND WITHIN 24 HOURS AFTER EVERY RAINFALL EVENT GREATER THAN 1/2".

SEDIMENT CONTROL AT INLETS WITH FRAMES AND GRATES

THIS TYPE OF SEDIMENT CONTROL DEVICE SHOULD BE USED WHERE THERE IS PAVEMENT IN THE VICINITY OF THE DROP INLETS AND STORM WATER OR SEDIMENT COULD POSSIBLY ENTER THE FRAME AND GRATE. SEDIMENT CONTROL AT INLET WITH FRAME AND GRATE SHALL BE INSTALLED PRIOR TO WORKING IN THE VICINITY OF THE DROP INLETS.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING AND REPAIRING THE SEDIMENT CONTROL DEVICES FOR THE DURATION OF THE PROJECT FOR WHICH SEDIMENT CONTROL MEASURES ARE REQUIRED. MAINTENANCE SHALL BE SCHEDULED TO PREVENT STORM WATER FROM BACKING UP INTO THE DRIVING LANE.

"SEDIMENT CONTROL AT INLET WITH FRAME AND GRATE" WILL BE PAID FOR ONE TIME AT EACH LOCATION, REGARDLESS OF THE NUMBER OF TIMES THE SEDIMENT CONTROL DEVICES ARE INSTALLED, INSPECTED, CLEANED, REMOVED, REPAIRED, OR REPLACED. ALL COSTS ASSOCIATED WITH FURNISHING, INSTALLING, INSPECTING, MAINTAINING, CLEANING, SEDIMENT REMOVAL, AND REPAIRING SEDIMENT CONTROL AT INLET WITH FRAME AND GRATE SHALL BE INCIDENTAL TO THE CONTRACT UNIT PRICE PER EACH FOR "SEDIMENT CONTROL AT INLET WITH FRAME AND GRATE".

SEDIMENT COLLECTION DEVICES SHALL BE:

A COMMERCIAL MADE SEDIMENT COLLECTION DEVICE FROM THE "SEDIMENT CONTROL AT INLET WITH FRAME AND GRATE" LIST OR AN APPROVED EQUAL. THE DEVICE SHALL BE INSTALLED IN REINFORCED CONCRETE DROP INLETS ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS. SEDIMENT CONTROL AT INLET WITH FRAME AND GRATE APPROVED LIST:

PRODUCT	MANUFACTURER
INFRASAFE DEBRIS COLLECTION DEVICE WITH FILTER SOCK	ROYAL ENVIRONMENTAL SYSTEMS, INC. STACY, MN PHONE: 1-800-817-3240 www.royalenterprises.net
DANDY CURB SACK	DANDY PRODUCTS INC. DUBLIN, OH PHONE: 1-800-591-2284 www.dandyproducts.com
SILT TRAPPER	STORM WATER SOLUTIONS LAKEVILLE, MN PHONE: 1-952-461-4376 www.silttrapper.com
DIP BASKET	SKYVIEW CONSTRUCTION CO., LLC WAUBAY, SD PHONE: 1-605-520-0555 www.skyviewconst.com
FLEXSTORM INLET FILTERS	INLET AND PIPE PROTECTION, INC. NAPERVILLE, IL PHONE: 1-866-287-8655 www.inletfilters.com
GR-8 GUARD OR COMBO GUARD	ERTEC ENVIRONMENTAL SYSTEMS LLC ALAMEDA, CA PHONE: 1-866-521-0724 www.ertecsystems.com
SEDIMENT CATCHERS	SHAUN JENSEN BROOKINGS, SD PHONE: 1-605-690-4950
GRATE FX, SLAMMER, OR VERTPRO	ENVIROSCAPE ECM, LTD. OAKWOOD, OH PHONE: 1-419-594-3210 www.strawblanket.com
BX INLET SEDIMENT BOXES	BX CIVIL AND CONSTRUCTION DELL RAPIDS, SD PHONE: 1-605-428-5483 bx-cc.com

TABLE OF SEDIMENT CONTROL AT INLETS WITH FRAMES AND GRATES

SEE EROSION CONTROL LAYOUT SHEET IN PLANS FOR LOCATIONS, TYPES AND QUANTITIES OF SEDIMENT CONTROL AT INLETS.

SEDIMENT CONTROL AT TYPE S REINFORCED CONCRETE DROP INLETS

THE SEDIMENT CONTROL DEVICE PROVIDED SHALL BE FROM THE LIST SHOWN BELOW. REFER TO STANDARD PLATE 734.11 FOR DETAILS.

PRODUCT	MANUFACTURER
DANDY CURB	DANDY PRODUCTS INC. DUBLIN, OH PHONE: 1-800-591-2284 www.dandyproducts.com
GUTTERBUDDY	ACF ENVIRONMENTAL RICHMOND, VA PHONE: 1-800-448-3636 www.acfenvironmental.com
SS-300	SILT-SAVER, INC. CONYERS, GA PHONE: 1-888-382-7458 www.silt saver.com
CURB INLET GUARD	ECTEC ENVIRONMENTAL SYSTEMS LLC ALAMEDA, CA PHONE: 1-866-521-0724 www.ertecsystems.com

TABLE OF SEDIMENT CONTROL AT TYPE S REINFORCED CONCRETE DROP INLETS

SEE EROSION CONTROL LAYOUT SHEET IN PLANS FOR LOCATIONS, TYPES AND QUANTITIES OF SEDIMENT CONTROL AT INLETS.

STREET SWEEPING

VEHICLE TRACKING OF SEDIMENT FROM THE CONSTRUCTION SITE SHALL BE MINIMIZED. STREET SWEEPING SHALL BE USED IF EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES ARE NOT ADEQUATE TO PREVENT SEDIMENT FROM BEING TRACKED ONTO THE STREET.

THE CONTRACTOR SHALL USE A PICKUP BROOM HAVING INTEGRAL SELF-CONTAINED STORAGE TO CLEAN THE ROADWAY. THE PICKUP BROOM USED SHALL BE A MINIMUM OF 6 FEET WIDE AND HAVE WORKING GUTTER BROOMS.

AT A MINIMUM, SWEEPING WILL BE REQUIRED AS DIRECTED BY THE ENGINEER.

ALL COSTS FOR CLEANING THE ROADWAY WITH A PICKUP BROOM SHALL BE INCIDENTAL TO THE PROJECT.

SDDOT CONSTRUCTION ENTRANCE

IF THE SDDOT CONSTRUCTION ENTRANCE IS UTILIZED, THEN THE CONTRACTOR SHALL INSTALL THE SDDOT CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THESE NOTES AND THE DETAIL DRAWINGS.

PIT RUN MATERIAL SHALL BE OBTAINED FROM A GRANULAR SOURCE AND SHALL CONFORM TO THE FOLLOWING GRADATION:

SIEVE SIZE	PERCENT PASSING
6"	100%
#4	0-60%
#200	0-20%

THE PIT RUN MATERIAL SHALL BE COMPACTED TO THE SATISFACTION OF THE ENGINEER.

THE AGGREGATE FOR THE GRANULAR MATERIAL SHALL CONFORM TO THE FOLLOWING GRADATION REQUIREMENTS:

SIEVE SIZE	PERCENT PASSING
3"	100%
2 1/2"	90-100%
1 1/2"	25-60%
3/4"	0-10%
1/2"	0-5%

THE GRANULAR MATERIAL SHALL BE PLACED IN 6" MAXIMUM LIFTS.

IT IS ANTICIPATED THAT THE GRANULAR MATERIAL WILL NEED TO BE PERIODICALLY REMOVED AND REPLACED AS IT BECOMES INUNDATED WITH MUD AND SEDIMENT.

THE REINFORCEMENT FABRIC (MSE) SHALL CONFORM TO SECTION 831 OF THE SPECIFICATIONS. THE MSE GEOTEXTILE SHALL BE ON THE APPROVED PRODUCTS LIST FOR THIS MATERIAL OR WILL BE CERTIFIED BY THE SUPPLIER TO MEET THIS SPECIFICATION PRIOR TO INSTALLATION.

THE REINFORCEMENT FABRIC (MSE) SHOULD BE KEPT AS TAUT AS POSSIBLE PRIOR TO PLACING.

EQUIPMENT SHALL NOT BE ALLOWED ON THE REINFORCEMENT FABRIC (MSE) UNTIL THE FIRST LIFT OF GRANULAR MATERIAL IS IN PLACE.

ALL SEAMS IN THE REINFORCEMENT FABRIC (MSE) SHALL BE OVERLAPPED AT LEAST 2' AND SHINGLED.

TREE REPLACEMENT

TREES SHALL BE PLANTED AT A 20' SPACING BETWEEN TREES AND IN A RANDOM PATTERN TO MIMIC NATURE.

PLANTING LOCATIONS FOR EACH INDIVIDUAL TREE SHALL BE IDENTIFIED PRIOR TO PLANTING AND APPROVED BY THE ENGINEER.

ALL TREES SHALL BE PURCHASED FROM COUNTY CONSERVATION DISTRICTS, A LANDSCAPE NURSERY, OR OTHER APPROVED SOURCE. TREES FURNISHED SHALL BE OF THE SAME GENUS, SPECIES, CULTIVAR, AND HEIGHT AS SPECIFIED IN THE PLANS. EACH TREE SHALL HAVE AN IDENTIFICATION LABEL.

AFTER BEING PLANTED, EACH TREE SHALL RECEIVE 10 GALLONS OF WATER TO THOROUGHLY SATURATE THE BACKFILL SOIL AS THIS PROVIDES SETTLEMENT AND FILLING OF VOIDS IN THE BACKFILL. AS SOON AS THE INITIAL PLANTING IS COMPLETED, THE ENGINEER SHALL VISUALLY INSPECT THE TREES FOR HEALTH, VIGOR, AND CONDITION, AND SHALL AT THAT TIME ACCEPT OR REJECT THEM.

WOOD CHIP MULCH SHALL BE APPLIED AT THE BASE OF EACH TREE AT A 4 INCH DEPTH AND IN A 3 FOOT DIAMETER FOR WEED SUPPRESSION. THE WOOD CHIP MULCH SHALL BE PULLED BACK FROM THE BASE OF THE TREE TRUNK 2 INCHES TO EXPOSE THE TRUNK.

THE CONTRACTOR SHALL PROVIDE A ONE YEAR WARRANTY FOR ALL TREES. AFTER ONE YEAR FROM INITIAL PLANTING, THE ENGINEER SHALL MAKE AN INSPECTION AND DEAD, UNHEALTHY, OR OTHERWISE NOT ACCEPTABLE PLANTS SHALL BE REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE STATE.

ALL COSTS FOR FURNISHING, HANDLING, STORING, AND PLANTING THE TREES INCLUDING THE MATERIALS, EQUIPMENT, LABOR, PREPARATION OF THE GROUND, INITIAL WATERING, CLEANUP OF THE PLANTED AREAS, TREE SHELTERS, WOOD CHIP MULCH, AND THE WARRANTY SHALL BE INCIDENTAL TO THE CONTRACT UNIT PRICE PER EACH FOR THE CORRESPONDING "6 TO 8" TREE, FURNISH AND PLANT" BID ITEM.

TABLE OF TREE REPLACEMENT

COMMON NAME	BOTANICAL NAME	HEIGHT	QUANTITY
BLUE SPRUCE	PICEA PUNGENS	6' TO 8'	6

Prepared For:

Prepared By:



Civil Engineering

Geospatial Solutions

Water Resources

Transportation

Land Surveying

729 East Watertown St, Rapid City, SD 57701 ~ Phone: (605) 343-3311

Sheet Title:

EROSION AND
SEDIMENT
CONTROL NOTES

Sheet:

STORM WATER POLLUTION PREVENTION PLAN CHECKLIST
(THE NUMBERS RIGHT OF THE TITLE HEADINGS ARE REFERENCE NUMBERS TO THE GENERAL PERMIT FOR STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITIES)

SITE DESCRIPTION (4.2.1)

- **PROJECT LIMITS:** SEE TITLE SHEET (4.2.1.B)
- **PROJECT DESCRIPTION:** SEE TITLE SHEET (4.2.1.A.)
- **SITE MAP(S):** SEE TITLE SHEET AND PLANS (4.2.1.F. (1)-(6))
- **MAJOR SOIL DISTURBING ACTIVITIES** (CHECK ALL THAT APPLY)
 - ☒ CLEARING AND GRUBBING
 - ☐ EXCAVATION/BORROW
 - ☒ GRADING AND SHAPING
 - ☐ FILLING
 - ☐ CUTTING AND FILLING
 - ☐ OTHER (DESCRIBE):
- **TOTAL PROJECT AREA** 8.9 AC (4.2.1.B.)
- **TOTAL AREA TO BE DISTURBED** 5.6 AC (4.2.1.B.)
- **EXISTING VEGETATIVE COVER (%)** 15
- **SOIL PROPERTIES:** UNK
- **CLASSIFICATION** (4.2.1. D.)
- **NAME OF RECEIVING WATER BODY/BODIES** TRIBUTARY TO BOXELDER CREEK (4.2.1.E.)

ORDER OF CONSTRUCTION ACTIVITIES (4.2.1.C.)

- (STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS POSSIBLE, BUT IN NO CASE LATER THAN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED. INITIATION OF FINAL OR TEMPORARY STABILIZATION MAY EXCEED THE 14-DAY LIMIT IF EARTH DISTURBING ACTIVITIES WILL BE RESUMED WITHIN 21 DAYS.)
- **INSTALL STABILIZED CONSTRUCTION ENTRANCE(S).**
 - **INSTALL PERIMETER PROTECTION WHERE RUNOFF SHEETS FROM THE SITE.**
 - **INSTALL CHANNEL AND DITCH BOTTOM PROTECTION.**
 - **CLEARING AND GRUBBING.**
 - **REMOVE AND STORE TOPSOIL.**
 - **STABILIZE DISTURBED AREAS.**
 - **INSTALL UTILITIES, STORM SEWERS, CURB AND GUTTER.**
 - **INSTALL INLET AND CULVERT PROTECTION AFTER COMPLETING STORM DRAINAGE AND OTHER UTILITY INSTALLATIONS.**
 - **COMPLETE FINAL GRADING.**
 - **COMPLETE FINAL PAVING AND SEALING OF CONCRETE.**
 - **COMPLETE TRAFFIC CONTROL INSTALLATION AND PROTECTION DEVICES.**
 - **RESEED AREAS DISTURBED BY REMOVAL ACTIVITIES.**

EROSION AND SEDIMENT CONTROLS (4.2.2.A.1)(A)-(F))

- (CHECK ALL THAT APPLY)
- **STABILIZATION PRACTICES** (SEE DETAIL PLAN SHEETS)
 - ☐ TEMPORARY SEEDING (COVER CROP SEEDING)
 - ☐ PERMANENT SEEDING
 - ☐ SODDING
 - ☐ PLANTING (WOODY VEGETATION FOR SOIL STABILIZATION)
 - ☐ MULCHING (GRASS HAY OR STRAW)
 - ☐ HYDRAULIC MULCH (WOOD FIBER MULCH)
 - ☐ SOIL STABILIZER
 - ☐ BONDED FIBER MATRIX
 - ☒ EROSION CONTROL BLANKETS OR MATS
 - ☐ VEGETATION BUFFER STRIPS
 - ☐ ROUGHENED SURFACE (E.G. TRACKING)
 - ☐ DUST CONTROL
 - ☐ OTHER:

➤ **STRUCTURAL TEMPORARY EROSION AND SEDIMENT CONTROLS**

- ☒ SILT FENCE
- ☐ FLOATING SILT CURTAIN
- ☐ STRAW BALE CHECK
- ☐ TEMPORARY BERM
- ☐ TEMPORARY SLOPE DRAIN
- ☐ STRAW WATTLES OR ROLLS
- ☐ TURF REINFORCEMENT MAT
- ☒ RIP RAP
- ☐ GABIONS
- ☐ ROCK CHECK DAMS
- ☒ SEDIMENT TRAPS/BASINS
- ☒ INLET PROTECTION
- ☐ OUTLET PROTECTION
- ☒ SURFACE INLET PROTECTION (AREA DRAIN)
- ☒ CURB INLET PROTECTION
- ☒ STABILIZED CONSTRUCTION ENTRANCES
- ☐ ENTRANCE/EXIT EQUIPMENT TIRE WASH
- ☐ INTERCEPTOR DITCH
- ☐ CONCRETE WASHOUT FACILITY
- ☐ TEMPORARY DIVERSION CHANNEL
- ☐ WORK PLATFORM
- ☐ TEMPORARY WATER BARRIER
- ☐ TEMPORARY WATER CROSSING
- ☐ OTHER:

➤ **WETLAND AVOIDANCE**

- WILL CONSTRUCTION AND/OR EROSION AND SEDIMENT CONTROLS IMPINGE ON REGULATED WETLANDS? YES ☐ NO ☒ IF YES, THE STRUCTURAL AND EROSION AND SEDIMENT CONTROLS HAVE BEEN INCLUDED IN THE TOTAL PROJECT WETLAND IMPACTS AND HAVE BEEN INCLUDED IN THE 404 PERMIT PROCESS WITH THE USACE.

➤ **STORM WATER MANAGEMENT (4.2.2.B., (1) AND (2))**

- STORM WATER MANAGEMENT WILL BE HANDLED BY TEMPORARY CONTROLS OUTLINED IN "EROSION AND SEDIMENT CONTROLS" ABOVE, AND ANY PERMANENT CONTROLS NEEDED TO MEET PERMANENT STORM WATER MANAGEMENT NEEDS IN THE POST CONSTRUCTION PERIOD. PERMANENT CONTROLS WILL BE SHOWN ON THE PLANS AND NOTED AS PERMANENT.

➤ **OTHER STORM WATER CONTROLS (4.2.2.C., (1) AND (2))**

- **WASTE DISPOSAL**

ALL LIQUID WASTE MATERIALS WILL BE COLLECTED AND STORED IN SEALED METAL CONTAINERS APPROVED BY THE PROJECT ENGINEER. ALL TRASH AND CONSTRUCTION DEBRIS FROM THE SITE WILL BE DEPOSITED IN THE APPROVED CONTAINERS. CONTAINERS WILL BE SERVICED AS NECESSARY, AND THE TRASH WILL BE HAULED TO AN APPROVED DISPOSAL SITE OR LICENSED LANDFILL. ALL ONSITE PERSONNEL WILL BE INSTRUCTED IN THE PROPER PROCEDURES FOR WASTE DISPOSAL, AND NOTICES STATING PROPER PRACTICES WILL BE POSTED IN THE FIELD OFFICE. THE GENERAL CONTRACTOR'S REPRESENTATIVE RESPONSIBLE FOR THE CONDUCT OF WORK ON THE SITE WILL BE RESPONSIBLE FOR SEEING WASTE DISPOSAL PROCEDURES ARE FOLLOWED.
- **HAZARDOUS WASTE**

ALL HAZARDOUS WASTE MATERIALS WILL BE DISPOSED OF IN A MANNER SPECIFIED BY LOCAL OR STATE REGULATIONS OR BY THE MANUFACTURER. SITE PERSONNEL WILL BE INSTRUCTED IN THESE PRACTICES, AND THE INDIVIDUAL DESIGNATED AS THE CONTRACTOR'S ON-SITE REPRESENTATIVE WILL BE RESPONSIBLE FOR SEEING THAT THESE PRACTICES ARE FOLLOWED.
- **SANITARY WASTE**

PORTABLE SANITARY FACILITIES WILL BE PROVIDED ON ALL CONSTRUCTION SITES. SANITARY WASTE WILL BE COLLECTED FROM THE PORTABLE UNITS IN A TIMELY MANNER BY A LICENSED WASTE MANAGEMENT CONTRACTOR OR AS REQUIRED BY ANY LOCAL REGULATIONS.

MAINTENANCE AND INSPECTION (4.2.3. AND 4.2.4.)

- **MAINTENANCE AND INSPECTION PRACTICES**
 - INSPECTIONS WILL BE CONDUCTED AT LEAST ONE TIME PER WEEK AND AFTER A STORM EVENT OF 0.50 INCHES OR GREATER.
 - ALL CONTROLS WILL BE MAINTAINED IN GOOD WORKING ORDER. NECESSARY REPAIRS WILL BE INITIATED WITHIN 24 HOURS OF THE SITE INSPECTION REPORT.
 - SILT FENCE WILL BE INSPECTED FOR DEPTH OF SEDIMENT AND FOR TEARS IN ORDER TO ENSURE THE FABRIC IS SECURELY ATTACHED TO THE POSTS AND THAT THE POSTS ARE WELL ANCHORED. SEDIMENT BUILDUP WILL BE REMOVED FROM THE SILT FENCE WHEN IT REACHES ½ OF THE HEIGHT OF THE SILT FENCE.
 - SEDIMENT BASINS AND TRAPS WILL BE CHECKED. SEDIMENT WILL BE REMOVED WHEN DEPTH REACHES APPROXIMATELY 50 PERCENT OF THE STRUCTURE'S CAPACITY, AND AT THE CONCLUSION OF THE CONSTRUCTION.
 - CHECK DAMS WILL BE INSPECTED FOR STABILITY. SEDIMENT WILL BE REMOVED WHEN DEPTH REACHES ½ THE HEIGHT OF THE DAM.
 - ALL SEEDED AREAS WILL BE CHECKED FOR BARE SPOTS, WASHOUTS, AND VIGOROUS GROWTH FREE OF SIGNIFICANT WEED INFESTATIONS.
 - INSPECTION AND MAINTENANCE REPORTS WILL BE PREPARED ON FORM DOT 298 FOR EACH SITE INSPECTION. THIS FORM WILL ALSO BE USED TO DOCUMENT CHANGES TO THE SWPPP. A COPY OF THE COMPLETED INSPECTION FORM WILL BE FILED WITH THE SWPPP DOCUMENTS.
 - THE SDDOT PROJECT ENGINEER AND CONTRACTOR'S EROSION CONTROL SUPERVISOR ARE RESPONSIBLE FOR INSPECTIONS. MAINTENANCE, REPAIR ACTIVITIES ARE THE RESPONSIBILITY OF THE CONTRACTOR. THE SDDOT PROJECT ENGINEER WILL COMPLETE THE INSPECTION AND MAINTENANCE REPORTS AND DISTRIBUTE COPIES PER THE DISTRIBUTION INSTRUCTIONS ON DOT 298.

NON-STORM WATER DISCHARGES (3.0)

- THE FOLLOWING NON-STORM WATER DISCHARGES ARE ANTICIPATED DURING THE COURSE OF THIS PROJECT (CHECK ALL THAT APPLY).
- ☐ DISCHARGES FROM WATER LINE FLUSHING.
 - ☒ PAVEMENT WASH-WATER, WHERE NO SPILLS OR LEAKS OF TOXIC OR HAZARDOUS MATERIALS HAVE OCCURRED.
 - ☐ UNCONTAMINATED GROUND WATER ASSOCIATED WITH DETERAERING ACTIVITIES.

MATERIALS INVENTORY (4.2.2.C.(2))

- THE FOLLOWING MATERIALS OR SUBSTANCES ARE EXPECTED TO BE PRESENT ON THE SITE DURING THE CONSTRUCTION PERIOD. THESE MATERIALS WILL BE HANDLED AS NOTED UNDER THE HEADINGS "EROSION AND SEDIMENT CONTROLS" AND "SPILL PREVENTION" (CHECK ALL THAT APPLY).
- ☒ CONCRETE AND PORTLAND CEMENT
 - ☐ DETERGENTS
 - ☐ PAINTS
 - ☐ METALS
 - ☐ BITUMINOUS MATERIALS
 - ☐ PETROLEUM BASED PRODUCTS
 - ☐ CLEANING SOLVENTS
 - ☐ WOOD
 - ☒ CURE
 - ☐ TEXTURE
 - ☐ CHEMICAL FERTILIZERS
 - ☐ OTHER:

SPILL PREVENTION (4.2.2.C.(2))

- **MATERIAL MANAGEMENT**
 - **HOUSEKEEPING**
 - ONLY NEEDED PRODUCTS WILL BE STORED ON-SITE BY THE CONTRACTOR.
 - EXCEPT FOR BULK MATERIALS THE CONTRACTOR WILL STORE ALL MATERIALS UNDER COVER AND IN APPROPRIATE CONTAINERS.
 - PRODUCTS MUST BE STORED IN ORIGINAL CONTAINERS AND LABELED.
 - MATERIAL MIXING WILL BE CONDUCTED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
 - WHEN POSSIBLE, ALL PRODUCTS WILL BE COMPLETELY USED BEFORE PROPERLY DISPOSING OF THE CONTAINER OFF-SITE.
 - THE MANUFACTURER'S DIRECTIONS FOR DISPOSAL OF MATERIALS AND CONTAINERS WILL BE FOLLOWED.
 - THE CONTRACTOR'S SITE SUPERINTENDENT WILL INSPECT MATERIALS STORAGE AREAS REGULARLY TO ENSURE PROPER USE AND DISPOSAL.
 - DUST GENERATED WILL BE CONTROLLED IN AN ENVIRONMENTALLY SAFE MANNER.
 - VEGETATION AREAS NOT ESSENTIAL TO THE CONSTRUCTION PROJECT WILL BE PRESERVED AND MAINTAINED AS NOTED ON THE PLANS.
 - **HAZARDOUS MATERIALS**
 - PRODUCTS WILL BE KEPT IN ORIGINAL CONTAINERS UNLESS THE CONTAINER IS NOT RESEALABLE.
 - ORIGINAL LABELS AND MATERIAL SAFETY DATA SHEETS WILL BE RETAINED IN A SAFE PLACE TO RELAY IMPORTANT PRODUCT INFORMATION.
 - IF SURPLUS PRODUCT MUST BE DISPOSED OF, MANUFACTURER'S LABEL DIRECTIONS FOR DISPOSAL WILL BE FOLLOWED.
 - MAINTENANCE AND REPAIR OF ALL EQUIPMENT AND VEHICLES INVOLVING OIL CHANGES, HYDRAULIC SYSTEM DRAIN DOWN, DE-GREASING OPERATIONS, FUEL TANK DRAIN DOWN AND REMOVAL, AND OTHER ACTIVITIES WHICH MAY RESULT IN THE ACCIDENTAL RELEASE OF CONTAMINANTS WILL BE CONDUCTED ON AN IMPERVIOUS SURFACE AND UNDER COVER DURING WET WEATHER TO PREVENT THE RELEASE OF CONTAMINANTS ONTO THE GROUND.
 - WHEEL WASH WATER WILL BE COLLECTED AND ALLOWED TO SETTLE OUT SUSPENDED SOLIDS PRIOR TO DISCHARGE. WHEEL WASH WATER WILL NOT BE DISCHARGED DIRECTLY INTO ANY STORM WATER SYSTEM OR STORM WATER TREATMENT SYSTEM.
 - POTENTIAL PH-MODIFYING MATERIALS SUCH AS: BULK CEMENT, CEMENT KILN DUST, FLY ASH, NEW CONCRETE WASHINGS, CONCRETE PUMPING, RESIDUALS FROM CONCRETE SAW CUTTING (EITHER WET OR DRY), AND MIXER WASHOUT WATERS WILL BE COLLECTED ON SITE AND MANAGED TO PREVENT CONTAMINATION OF STORM WATER RUNOFF.

➤ **PRODUCT SPECIFIC PRACTICES (6.8)**

- **PETROLEUM PRODUCTS**

ALL ON-SITE VEHICLES WILL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTIVE MAINTENANCE TO REDUCE THE CHANCE OF LEAKAGE. PETROLEUM PRODUCTS WILL BE STORED IN TIGHTLY SEALED CONTAINERS WHICH ARE CLEARLY LABELED.
- **FERTILIZERS**

FERTILIZERS WILL BE APPLIED ONLY IN THE AMOUNTS SPECIFIED BY THE SDDOT. ONCE APPLIED, FERTILIZERS WILL BE WORKED INTO THE SOIL TO LIMIT THE EXPOSURE TO STORM WATER. FERTILIZERS WILL BE STORED IN AN ENCLOSED AREA. THE CONTENTS OF PARTIALLY USED FERTILIZER BAGS WILL BE TRANSFERRED TO SEALABLE CONTAINERS TO AVOID SPILLS.
- **PAINTS**

ALL CONTAINERS WILL BE TIGHTLY SEALED AND STORED WHEN NOT REQUIRED FOR USE. THE EXCESS WILL BE DISPOSED OF ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS AND ANY APPLICABLE STATE AND LOCAL REGULATIONS.
- **CONCRETE TRUCKS**

CONTRACTORS WILL PROVIDE DESIGNATED TRUCK WASHOUT FACILITIES ON THE SITE. THESE AREAS MUST BE SELF-CONTAINED AND NOT CONNECTED TO ANY STORM WATER OUTLET OF THE SITE. UPON COMPLETION OF CONSTRUCTION, THE AREA AT THE WASHOUT FACILITY WILL BE PROPERLY STABILIZED.

➤ **SPILL CONTROL PRACTICES (4.2.2.C.(2))**

- IN ADDITION TO THE PREVIOUS HOUSEKEEPING AND MANAGEMENT PRACTICES, THE FOLLOWING PRACTICES WILL BE FOLLOWED FOR SPILL PREVENTION AND CLEANUP IF NEEDED.
- FOR ALL HAZARDOUS MATERIALS STORED ON SITE, THE MANUFACTURER'S RECOMMENDED METHODS FOR SPILL CLEANUP WILL BE CLEARLY POSTED. SITE PERSONNEL WILL BE MADE AWARE OF THE PROCEDURES AND THE LOCATIONS OF THE INFORMATION AND CLEANUP SUPPLIES.
 - APPROPRIATE CLEANUP MATERIALS AND EQUIPMENT WILL BE MAINTAINED BY THE CONTRACTOR IN THE MATERIALS STORAGE AREA ON-SITE. AS APPROPRIATE, EQUIPMENT AND MATERIALS MAY INCLUDE ITEMS SUCH AS BROOMS, DUST PANS, MOPS, RAGS, GLOVES, GOGGLES, KITTY LITTER, SAND, SAWDUST, AND PLASTIC AND METAL TRASH CONTAINERS SPECIFICALLY FOR CLEANUP PURPOSES.
 - ALL SPILLS WILL BE CLEANED IMMEDIATELY AFTER DISCOVERY AND THE MATERIALS DISPOSED OF PROPERLY.
 - THE SPILL AREA WILL BE KEPT WELL VENTILATED AND PERSONNEL WILL WEAR APPROPRIATE PROTECTIVE CLOTHING TO PREVENT INJURY FROM CONTACT WITH A HAZARDOUS SUBSTANCE.
 - AFTER A SPILL A REPORT WILL BE PREPARED DESCRIBING THE SPILL, WHAT CAUSED IT, AND THE CLEANUP MEASURES TAKEN. THE SPILL PREVENTION PLAN WILL BE ADJUSTED TO INCLUDE MEASURES TO PREVENT THIS TYPE OF SPILL FROM REOCCURRING, AS WELL AS CLEAN UP INSTRUCTIONS IN THE EVENT OF REOCCURRENCES.
 - THE CONTRACTOR'S SITE SUPERINTENDENT, RESPONSIBLE FOR DAY-TO-DAY OPERATIONS, WILL BE THE SPILL PREVENTION AND CLEANUP COORDINATOR. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT THE SITE SUPERINTENDENT HAS HAD APPROPRIATE TRAINING FOR HAZARDOUS MATERIALS HANDLING, SPILL MANAGEMENT, AND CLEANUP.

➤ **SPILL RESPONSE (4.2.2.C.(2))**

- THE PRIMARY OBJECTIVE IN RESPONDING TO A SPILL IS TO QUICKLY CONTAIN THE MATERIAL(S) AND PREVENT OR MINIMIZE MIGRATION INTO STORM WATER RUNOFF AND CONVEYANCE SYSTEMS. IF THE RELEASE HAS IMPACTED ON-SITE STORM WATER, IT IS CRITICAL TO CONTAIN THE RELEASED MATERIALS ON-SITE AND PREVENT THEIR RELEASE INTO RECEIVING WATERS. IF A SPILL OF POLLUTANTS THREATENS STORM WATER OR SURFACE WATER AT THE SITE, THE SPILL RESPONSE PROCEDURES OUTLINED BELOW MUST BE IMPLEMENTED IN A TIMELY MANNER TO PREVENT THE RELEASE OF POLLUTANTS.
- THE CONTRACTOR'S SITE SUPERINTENDENT WILL BE NOTIFIED IMMEDIATELY WHEN A SPILL OR THE THREAT OF A SPILL IS OBSERVED. THE SUPERINTENDENT WILL ASSESS THE SITUATION AND DETERMINE THE APPROPRIATE RESPONSE.
 - IF SPILLS REPRESENT AN IMMINENT THREAT OF ESCAPING EROSION AND SEDIMENT CONTROLS AND ENTERING RECEIVING WATERS, PERSONNEL WILL BE DIRECTED TO RESPOND IMMEDIATELY TO CONTAIN THE RELEASE AND NOTIFY THE SUPERINTENDENT AFTER THE SITUATION HAS BEEN STABILIZED.
 - SPILL KITS CONTAINING APPROPRIATE MATERIALS AND EQUIPMENT FOR SPILL RESPONSE AND CLEANUP WILL BE MAINTAINED BY THE CONTRACTOR AT THE SITE.
 - IF OIL SHEEN IS OBSERVED ON SURFACE WATER (E.G. SETTLING PONDS, DETENTION PONDS, SWALES), ACTION WILL BE TAKEN IMMEDIATELY TO REMOVE THE MATERIAL CAUSING THE SHEEN. THE CONTRACTOR WILL USE APPROPRIATE MATERIALS TO CONTAIN AND ABSORB THE SPILL. THE SOURCE OF THE OIL SHEEN WILL ALSO BE IDENTIFIED AND REMOVED OR REPAIRED AS NECESSARY TO PREVENT FURTHER RELEASES.
 - IF A SPILL OCCURS THE SUPERINTENDENT OR THE SUPERINTENDENT'S DESIGNEE WILL BE RESPONSIBLE FOR COMPLETING THE SPILL REPORTING FORM AND FOR REPORTING THE SPILL TO SD DENR.
 - PERSONNEL WITH PRIMARY RESPONSIBILITY FOR SPILL RESPONSE AND CLEAN UP WILL RECEIVE TRAINING BY THE CONTRACTOR'S SITE SUPERINTENDENT OR DESIGNEE. THE TRAINING MUST INCLUDE IDENTIFYING THE LOCATION OF THE SPILL KITS AND OTHER SPILL RESPONSE EQUIPMENT AND THE USE OF SPILL RESPONSE MATERIALS.
 - SPILL RESPONSE EQUIPMENT WILL BE INSPECTED AND MAINTAINED AS NECESSARY TO REPLACE ANY MATERIALS USED IN SPILL RESPONSE ACTIVITIES.

SPILL NOTIFICATION

IN THE EVENT OF A SPILL, THE CONTRACTOR'S SITE SUPERINTENDENT WILL MAKE THE APPROPRIATE NOTIFICATION(S), CONSISTENT WITH THE FOLLOWING PROCEDURES:

- **A RELEASE OR SPILL OF A REGULATED SUBSTANCE** (INCLUDES PETROLEUM AND PETROLEUM PRODUCTS) MUST BE REPORTED TO DENR IMMEDIATELY IF **ANY ONE OF THE FOLLOWING** CONDITIONS EXISTS:
 - THE DISCHARGE THREATENS OR IS IN A POSITION TO THREATEN THE WATERS OF THE STATE (SURFACE WATER OR GROUND WATER).
 - THE DISCHARGE CAUSES AN IMMEDIATE DANGER TO HUMAN HEALTH OR SAFETY.
 - THE DISCHARGE EXCEEDS 25 GALLONS.
 - THE DISCHARGE CAUSES A SHEEN ON SURFACE WATER.
 - THE DISCHARGE OF ANY SUBSTANCE THAT EXCEEDS THE GROUND WATER QUALITY STANDARDS OF ARSD (ADMINISTRATIVE RULES OF SOUTH DAKOTA) CHAPTER 74:51.01.
 - THE DISCHARGE OF ANY SUBSTANCE THAT HARMS OR THREATENS TO HARM WILDLIFE OR AQUATIC LIFE.
 - THE DISCHARGE OF CRUDE OIL IN FIELD ACTIVITIES UNDER SDCL (SOUTH DAKOTA CODIFIED LAWS) CHAPTER 45-9 IS GREATER THAN 1 BARREL (42 GALLONS).

TO REPORT A RELEASE OR SPILL, CALL DENR AT 605-773-3296 DURING REGULAR OFFICE HOURS (8 A.M. TO 5 P.M. CENTRAL TIME). TO REPORT THE RELEASE AFTER HOURS, ON WEEKENDS OR HOLIDAYS, CALL STATE RADIO COMMUNICATIONS AT 605-773-3231. REPORTING THE RELEASE TO DENR DOES NOT MEET ANY OBLIGATION FOR REPORTING TO OTHER STATE, LOCAL, OR FEDERAL AGENCIES. THEREFORE, THE RESPONSIBLE PERSON MUST ALSO CONTACT LOCAL AUTHORITIES TO DETERMINE THE LOCAL REPORTING REQUIREMENTS FOR RELEASES. DENR RECOMMENDS THAT SPILLS ALSO BE REPORTED TO THE NATIONAL RESPONSE CENTER AT (800) 424-8802.

CONSTRUCTION CHANGES (4.4)

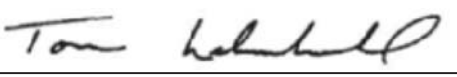
WHEN CHANGES ARE MADE TO THE CONSTRUCTION PROJECT THAT WILL REQUIRE ALTERATIONS IN THE TEMPORARY EROSION CONTROLS OF THE SITE, THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) WILL BE AMENDED TO PROVIDE APPROPRIATE PROTECTION TO DISTURBED AREAS, ALL STORM WATER STRUCTURES, AND ADJACENT WATERS. THE SDDOT PROJECT ENGINEER WILL MODIFY THE SWPPP PLAN (DOT 298) AND DRAWINGS TO REFLECT THE NEEDED CHANGES. COPIES OF CHANGES WILL BE ROUTED PER DOT 298. COPIES OF FORMS AND THE SWPPP WILL BE RETAINED IN A DESIGNATED PLACE FOR REVIEW OVER THE COURSE OF THE PROJECT.

CERTIFICATIONS

- **CERTIFICATION OF COMPLIANCE WITH FEDERAL, STATE, AND LOCAL REGULATIONS**

THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) FOR THIS PROJECT REFLECTS THE REQUIREMENTS OF ALL LOCAL MUNICIPAL JURISDICTIONS FOR STORM WATER MANAGEMENT AND SEDIMENT AND EROSION CONTROL AS ESTABLISHED BY ORDINANCE, AS WELL AS OTHER STATE AND FEDERAL REQUIREMENTS FOR SEDIMENT AND EROSION CONTROL PLANS, PERMITS, NOTICES OR DOCUMENTATION AS APPROPRIATE.
- **SOUTH DAKOTA DEPARTMENT OF TRANSPORTATION**

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.



AUTHORIZED SIGNATURE (SEE THE GENERAL PERMIT, SECTION 6.9.1.C.)

➤ **PRIME CONTRACTOR**

THIS SECTION IS TO BE EXECUTED BY THE GENERAL CONTRACTOR AFTER THE AWARD OF THE CONTRACT. THIS SECTION MAY BE EXECUTED ANY TIME THERE IS A CHANGE IN THE PRIME CONTRACTOR OF THE PROJECT.

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WILL BE REVISED OR MAINTAINED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

AUTHORIZED SIGNATURE

CONTACT INFORMATION

➤ **CONTRACTOR INFORMATION:**

- PRIME CONTRACTOR NAME: _____
- CONTRACTOR CONTACT NAME: _____
- ADDRESS: _____
- CITY: _____ STATE: _____ ZIP: _____
- OFFICE PHONE: _____ FIELD: _____
- CELL PHONE: _____ FAX: _____

➤ **EROSION CONTROL SUPERVISOR**

- NAME: _____
- ADDRESS: _____
- CITY: _____ STATE: _____ ZIP: _____
- OFFICE PHONE: _____ FIELD: _____
- CELL PHONE: _____ FAX: _____

➤ **SDDOT PROJECT ENGINEER**

- NAME: _____
- BUSINESS ADDRESS: _____
- JOB OFFICE LOCATION: _____
- CITY: _____ STATE: _____ ZIP: _____
- OFFICE PHONE: _____ FIELD: _____
- CELL PHONE: _____ FAX: _____

➤ **SD DENR CONTACT SPILL REPORTING**

- BUSINESS HOURS MONDAY-FRIDAY (605) 773-3296
- NIGHTS AND WEEKENDS (605) 773-3231

➤ **SD DENR CONTACT FOR HAZARDOUS MATERIALS.**

- (605) 773-3153
- **NATIONAL RESPONSE CENTER HOTLINE**

- (800) 424-8802.

Prepared For:



South Dakota
DOT
Connecting South Dakota and the Nation

Prepared By:



HEX



Registered Professional Engineer
SD 6019
JOHN RAYMOND
RAPID CITY, SD
3/31/17

Prepared For:

- Civil Engineering
- Geospatial Solutions
- Water Resources
- Transportation
- Land Surveying

729 East Watertown St, Rapid City, SD 57701 ~ Phone: (605) 343-3311

5/26/2017 P:\16-147\AutoCAD\PlotSheets\16-147-EROS.dwg

LEGEND

EXISTING FLOW DIRECTION

HIGH FLOW SILT FENCE

INLET PROTECTION DEVICE

SDDOT CONSTRUCTION ENTRANCE

EROSION CONTROL BLANKET

TURF REINFORCEMENT MAT

AREA TO BE SEEDED

INLET PROTECTION DEVICE

ALIGNMENT	STA	OFFSET	TYPE
SEAMAN BOULEVARD	4+10	234' LT	OTH
SEAMAN BOULEVARD	4+14	21' RT	S
SEAMAN BOULEVARD	4+15	57' RT	OTH
SEAMAN BOULEVARD	4+22	207' LT	E
SEAMAN BOULEVARD	4+76	18' RT	B
SEAMAN BOULEVARD	4+78	83' RT	OTH
SEAMAN BOULEVARD	5+68	18' RT	B
SEAMAN BOULEVARD	6+73	141' LT	C
SEAMAN BOULEVARD	6+99	318' LT	OTH
SEAMAN BOULEVARD	7+16	18' RT	B

INLET PROTECTION DEVICE

ALIGNMENT	STA	OFFSET	TYPE
SEAMAN BOULEVARD	7+46	325' LT	OTH

HIGH FLOW SILT FENCE

ALIGNMENT	STATION	OFFSET	TO	STATION	OFFSET	QUANTITY
SEAMAN BOULEVARD	4+14	64' RT	4+22	55' RT	14 FT	
SEAMAN BOULEVARD	4+78	76' RT	4+82	91' RT	16 FT	

SDDOT CONSTRUCTION ENTRANCE

ALIGNMENT	STATION	OFFSET	QUANTITY
SEAMAN BOULEVARD	1+21	10' LT	1 EACH

TYPE 2 EROSION CONTROL BLANKET

ALIGNMENT	STATION	OFFSET	TO	STATION	OFFSET	QUANTITY
SEAMAN BOULEVARD	3+88	33' RT	5+94	87' RT	933 SQYD	
SEAMAN BOULEVARD	3+90	258' LT	8+93	385' LT	1808 SQYD	
SEAMAN BOULEVARD	7+30	340' LT	8+97	341' LT	577 SQYD	

CONTOUR INTERVAL = 1'



Prepared For:

Prepared By:

Registered Professional Engineer

REG. NO. 8019

JOHN RAYMOND

JOHN RAYMOND

3/31/17

• Civil Engineering

• Geospatial Solutions

• Water Resources

• Transportation

• Land Surveying

SOUTH DAKOTA DEPARTMENT OF TRANSPORTATION

PROJECT NUMBER 410394

RAPID CITY REGION YARD PHASE 1

RAPID CITY, SD

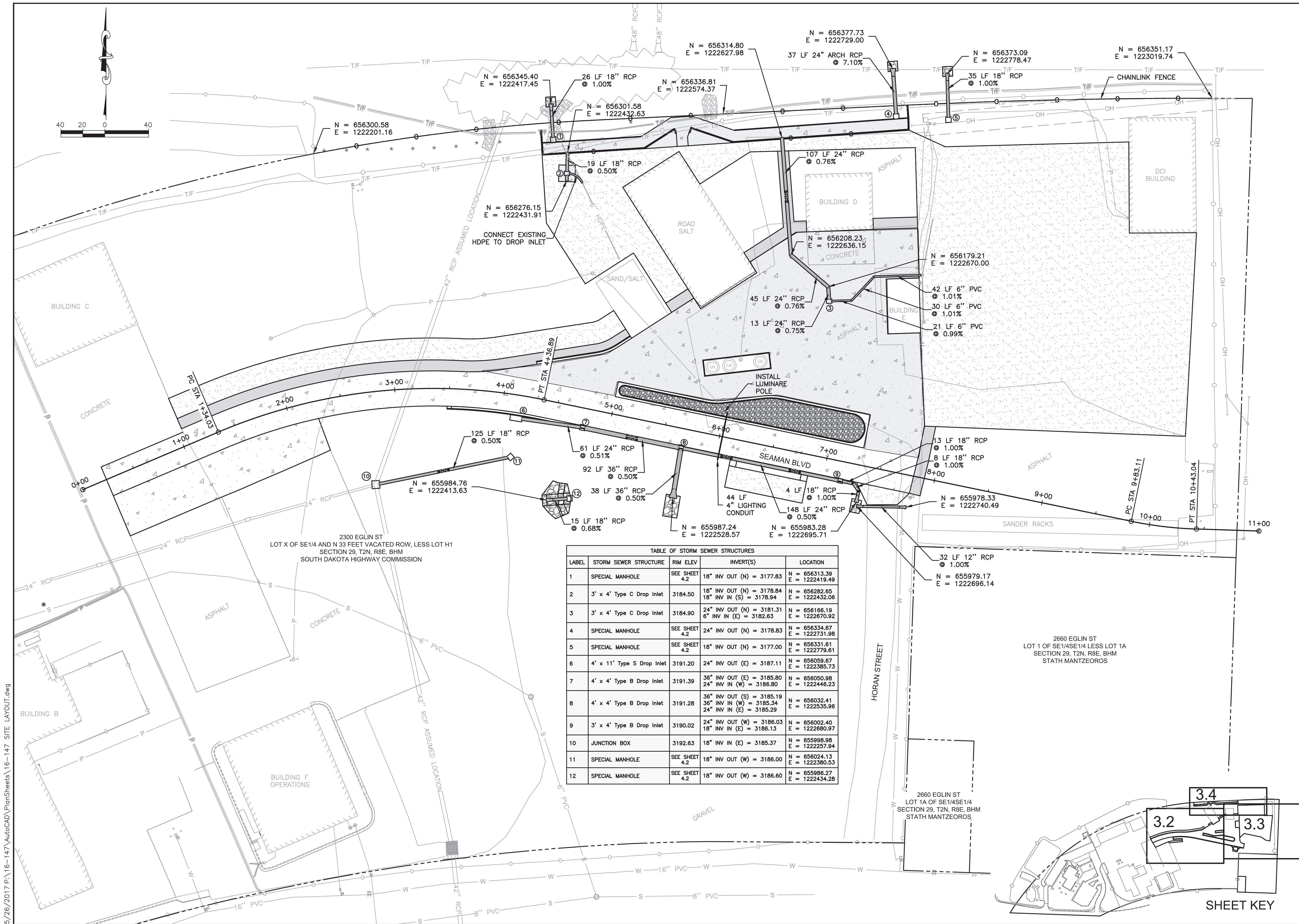
Sheet Title:

EROSION AND SEDIMENT CONTROL LAYOUT

Sheet:

2.3

5/26/2017 P:\16-147\AutoCAD\PlanSheets\16-147 SITE LAYOUT.dwg





Prepared For:

Civil Engineering

Geospatial Solutions

Water Resources

Transportation

Land Surveying



Registered Professional Engineer

John Raymond

South Dakota

3317

SOUTH DAKOTA DEPARTMENT OF TRANSPORTATION

PROJECT NUMBER 410394

RAPID CITY REGION YARD PHASE 1

RAPID CITY, SD

Sheet Title:

SITE LAYOUT

Sheet:

3.1

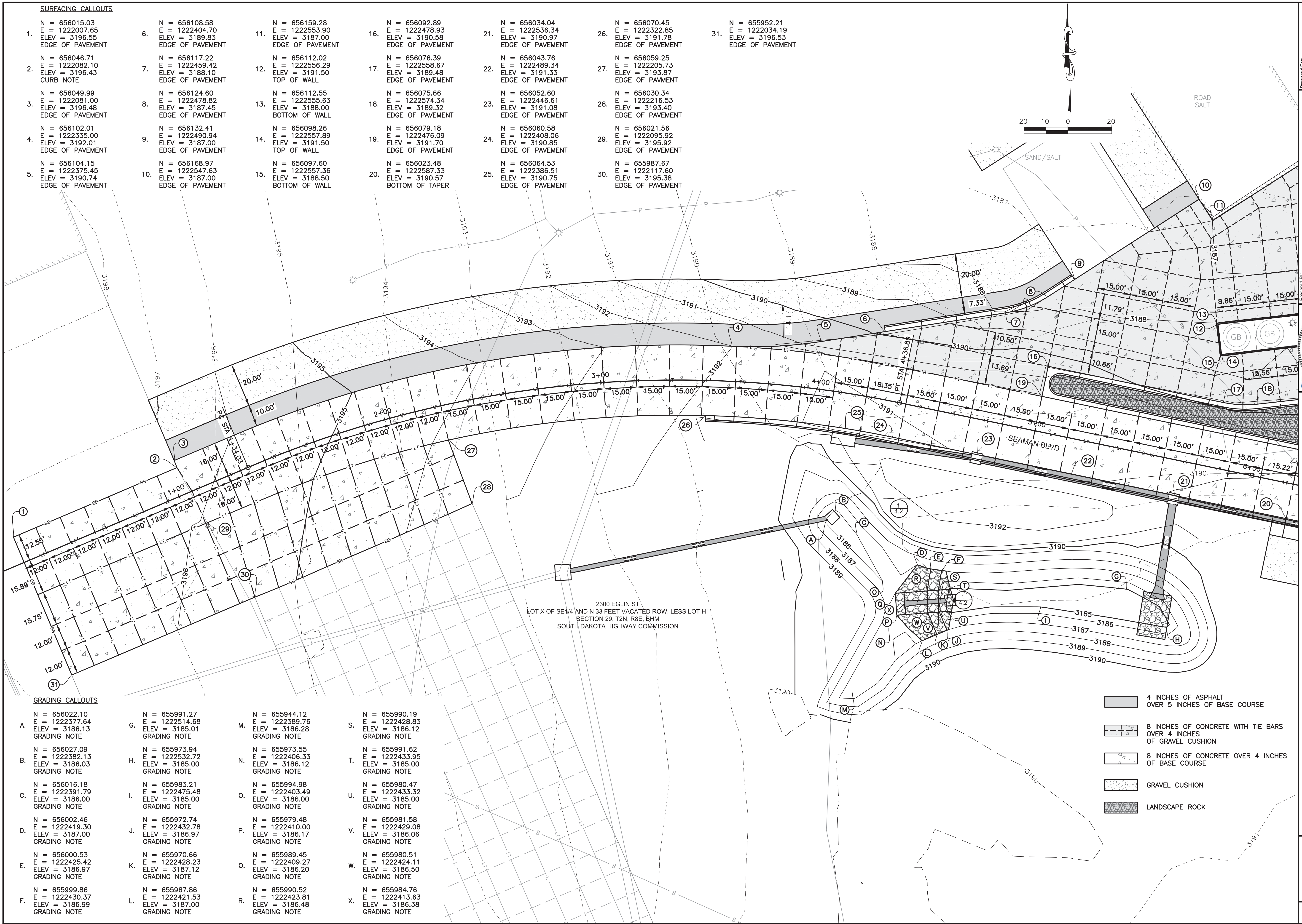
5/26/2017 P:\16-147\AutoCAD\PlotSheets\16-147 SITE GRADING.dwg

SURFACING CALLOUTS

- | | | | | | | |
|--|---|---|---|---|---|---|
| 1. N = 656015.03
E = 1222007.65
ELEV = 3196.55
EDGE OF PAVEMENT | 6. N = 656108.58
E = 1222404.70
ELEV = 3189.83
EDGE OF PAVEMENT | 11. N = 656159.28
E = 1222553.90
ELEV = 3187.00
EDGE OF PAVEMENT | 16. N = 656092.89
E = 1222478.93
ELEV = 3190.58
EDGE OF PAVEMENT | 21. N = 656034.04
E = 1222536.34
ELEV = 3190.97
EDGE OF PAVEMENT | 26. N = 656070.45
E = 1222322.85
ELEV = 3191.78
EDGE OF PAVEMENT | 31. N = 655952.21
E = 1222034.19
ELEV = 3196.53
EDGE OF PAVEMENT |
| 2. N = 656046.71
E = 1222082.10
ELEV = 3196.43
CURB NOTE | 7. N = 656117.22
E = 1222459.42
ELEV = 3188.10
EDGE OF PAVEMENT | 12. N = 656112.02
E = 1222556.29
ELEV = 3191.50
TOP OF WALL | 17. N = 656076.39
E = 1222558.67
ELEV = 3189.48
EDGE OF PAVEMENT | 22. N = 656043.76
E = 1222489.34
ELEV = 3191.33
EDGE OF PAVEMENT | 27. N = 656059.25
E = 1222205.73
ELEV = 3193.87
EDGE OF PAVEMENT | |
| 3. N = 656049.99
E = 1222081.00
ELEV = 3196.48
EDGE OF PAVEMENT | 8. N = 656124.60
E = 1222478.82
ELEV = 3187.45
EDGE OF PAVEMENT | 13. N = 656112.55
E = 1222555.63
ELEV = 3188.00
BOTTOM OF WALL | 18. N = 656075.66
E = 1222574.34
ELEV = 3189.32
EDGE OF PAVEMENT | 23. N = 656052.60
E = 1222446.61
ELEV = 3191.08
EDGE OF PAVEMENT | 28. N = 656030.34
E = 1222216.53
ELEV = 3193.40
EDGE OF PAVEMENT | |
| 4. N = 656102.01
E = 1222335.00
ELEV = 3192.01
EDGE OF PAVEMENT | 9. N = 656132.41
E = 1222490.94
ELEV = 3187.00
EDGE OF PAVEMENT | 14. N = 656098.26
E = 1222557.89
ELEV = 3191.50
TOP OF WALL | 19. N = 656079.18
E = 1222476.09
ELEV = 3191.70
EDGE OF PAVEMENT | 24. N = 656060.58
E = 1222408.06
ELEV = 3190.85
EDGE OF PAVEMENT | 29. N = 656021.56
E = 1222095.92
ELEV = 3195.92
EDGE OF PAVEMENT | |
| 5. N = 656104.15
E = 1222375.45
ELEV = 3190.74
EDGE OF PAVEMENT | 10. N = 656168.97
E = 1222547.63
ELEV = 3187.00
EDGE OF PAVEMENT | 15. N = 656097.60
E = 1222557.36
ELEV = 3188.50
BOTTOM OF WALL | 20. N = 656023.48
E = 1222587.33
ELEV = 3190.57
BOTTOM OF TAPER | 25. N = 656064.53
E = 1222386.51
ELEV = 3190.75
EDGE OF PAVEMENT | 30. N = 655987.67
E = 1222117.60
ELEV = 3195.38
EDGE OF PAVEMENT | |

GRADING CALLOUTS

- | | | | |
|--|--|--|--|
| A. N = 656022.10
E = 1222377.64
ELEV = 3186.13
GRADING NOTE | G. N = 655991.27
E = 1222514.68
ELEV = 3185.01
GRADING NOTE | M. N = 655944.12
E = 1222389.76
ELEV = 3186.28
GRADING NOTE | S. N = 655990.19
E = 1222428.83
ELEV = 3186.12
GRADING NOTE |
| B. N = 656027.09
E = 1222382.13
ELEV = 3186.03
GRADING NOTE | H. N = 655973.94
E = 1222532.72
ELEV = 3185.00
GRADING NOTE | N. N = 655973.55
E = 1222406.33
ELEV = 3186.12
GRADING NOTE | T. N = 655991.62
E = 1222433.95
ELEV = 3185.00
GRADING NOTE |
| C. N = 656016.18
E = 1222391.79
ELEV = 3186.00
GRADING NOTE | I. N = 655983.21
E = 1222475.48
ELEV = 3185.00
GRADING NOTE | O. N = 655994.98
E = 1222403.49
ELEV = 3186.00
GRADING NOTE | U. N = 655980.47
E = 1222433.32
ELEV = 3185.00
GRADING NOTE |
| D. N = 656002.46
E = 1222419.30
ELEV = 3187.00
GRADING NOTE | J. N = 655972.74
E = 1222432.78
ELEV = 3186.97
GRADING NOTE | P. N = 655979.48
E = 1222410.00
ELEV = 3186.17
GRADING NOTE | V. N = 655981.58
E = 1222429.08
ELEV = 3186.06
GRADING NOTE |
| E. N = 656000.53
E = 1222425.42
ELEV = 3186.97
GRADING NOTE | K. N = 655970.66
E = 1222428.23
ELEV = 3187.12
GRADING NOTE | Q. N = 655989.45
E = 1222409.27
ELEV = 3186.20
GRADING NOTE | W. N = 655980.51
E = 1222424.11
ELEV = 3186.50
GRADING NOTE |
| F. N = 655999.86
E = 1222430.37
ELEV = 3186.99
GRADING NOTE | L. N = 655967.86
E = 1222421.53
ELEV = 3187.00
GRADING NOTE | R. N = 655990.52
E = 1222423.81
ELEV = 3186.48
GRADING NOTE | X. N = 655984.76
E = 1222413.63
ELEV = 3186.38
GRADING NOTE |



Prepared For:

DOT
Connecting South Dakota and the Nation

Prepared By:

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Registered Professional Engineer
REG. NO. 6919
JOHN RAYMOND
JAN 06/06
SOUTH DAKOTA
3-317

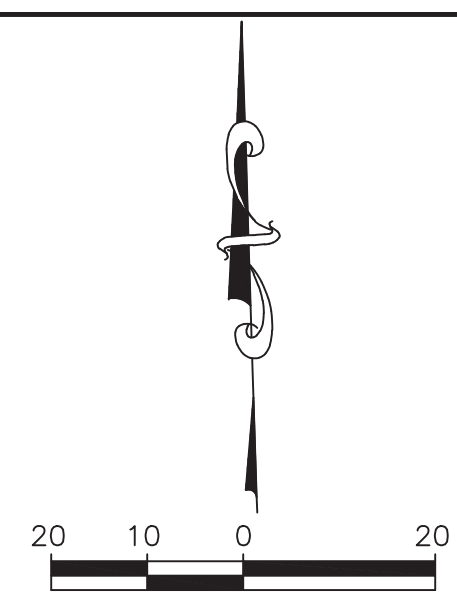
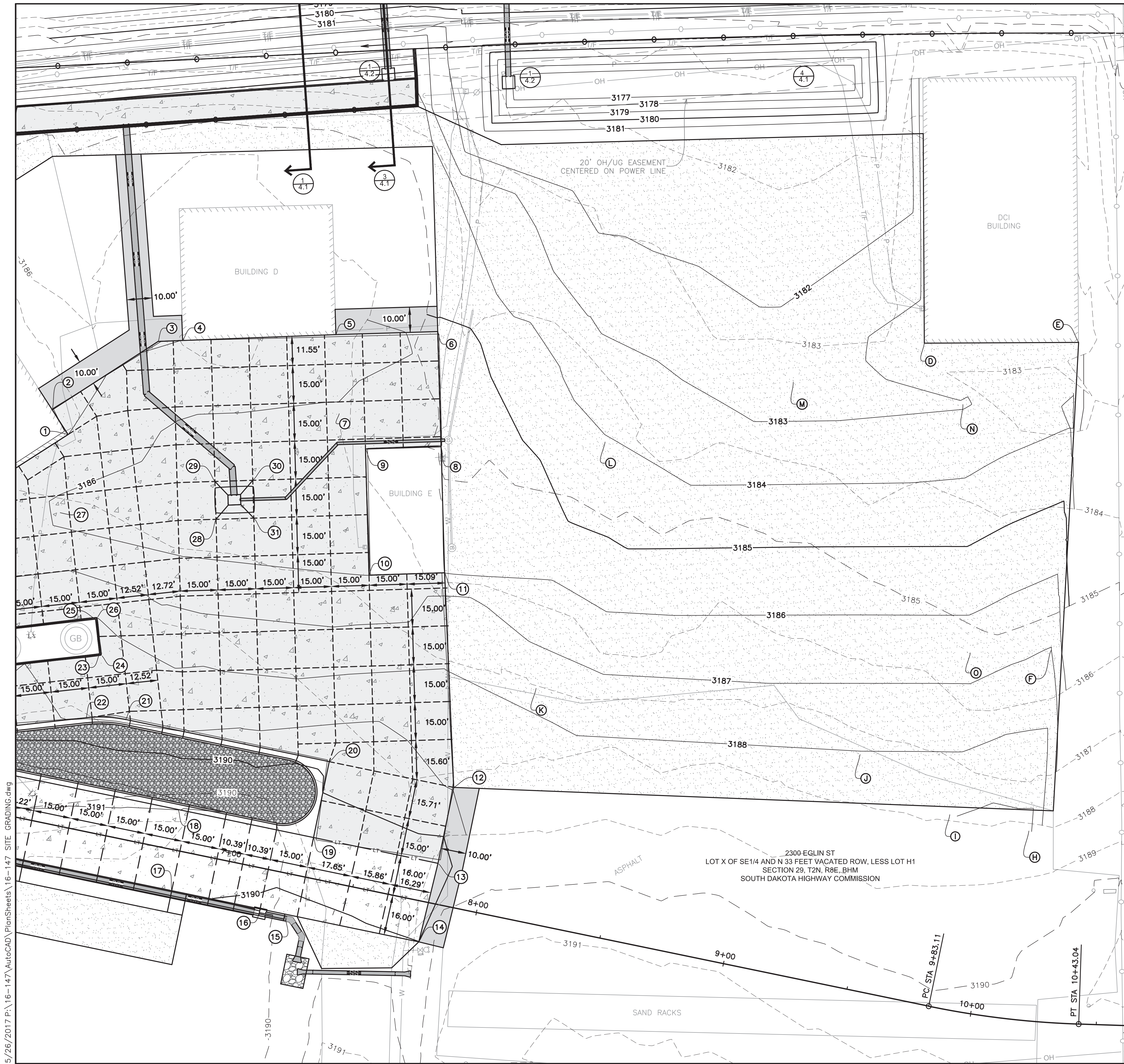
SOUTH DAKOTA DEPARTMENT OF TRANSPORTATION
PROJECT NUMBER 410394
RAPID CITY REGION YARD PHASE 1
RAPID CITY, SD

Sheet Title:

SITE GRADING

Sheet:

3.2



- 4 INCHES OF ASPHALT
OVER 5 INCHES OF BASE COURSE
- 8 INCHES OF CONCRETE WITH TIE BARS
OVER 4 INCHES
OF GRAVEL CUSHION
- 8 INCHES OF CONCRETE OVER 4 INCHES
OF BASE COURSE
- GRAVEL CUSHION
- LANDSCAPE ROCK

SURFACING CALLOUTS

- | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1. N = 656192.05
E = 1222605.00
ELEV = 3187.00
EDGE OF PAVEMENT | 2. N = 656201.87
E = 1222598.70
ELEV = 3187.00
EDGE OF PAVEMENT | 3. N = 656228.93
E = 1222640.69
ELEV = 3187.00
EDGE OF PAVEMENT | 4. N = 656229.31
E = 1222650.42
ELEV = 3187.00
EDGE OF PAVEMENT | 5. N = 656231.65
E = 1222711.16
ELEV = 3187.00
EDGE OF PAVEMENT | 6. N = 656232.85
E = 1222751.50
ELEV = 3185.54
EDGE OF PAVEMENT | 7. N = 656200.33
E = 1222712.49
ELEV = 3185.83
EDGE OF PAVEMENT | 8. N = 656187.17
E = 1222752.86
ELEV = 3186.00
EDGE OF PAVEMENT | 9. N = 656186.33
E = 1222722.88
ELEV = 3186.00
EDGE OF PAVEMENT | 10. N = 656136.34
E = 1222724.27
ELEV = 3186.00
EDGE OF PAVEMENT | 11. N = 656137.27
E = 1222754.27
ELEV = 3186.00
EDGE OF PAVEMENT |
| 12. N = 656052.24
E = 1222757.85
ELEV = 3188.93
EDGE OF PAVEMENT | 13. N = 656022.17
E = 1222751.63
ELEV = 3190.58
EDGE OF PAVEMENT | 14. N = 655991.07
E = 1222744.00
ELEV = 3190.00
EDGE OF PAVEMENT | 15. N = 656002.05
E = 1222690.91
ELEV = 3189.87
EDGE OF PAVEMENT | 16. N = 656004.03
E = 1222681.34
ELEV = 3189.85
EDGE OF PAVEMENT | 17. N = 656011.33
E = 1222646.09
ELEV = 3190.12
BOTTOM OF TAPER | 18. N = 656043.48
E = 1222648.64
ELEV = 3191.00
EDGE OF PAVEMENT | 19. N = 656032.37
E = 1222702.29
ELEV = 3190.35
EDGE OF PAVEMENT | 20. N = 656062.45
E = 1222708.51
ELEV = 3189.76
EDGE OF PAVEMENT | 21. N = 656079.14
E = 1222627.84
ELEV = 3188.75
EDGE OF PAVEMENT | 22. N = 656079.87
E = 1222754.27
ELEV = 3188.92
EDGE OF PAVEMENT |
| 23. N = 656105.16
E = 1222617.49
ELEV = 3191.50
TOP OF WALL | 24. N = 656104.64
E = 1222618.15
ELEV = 3185.50
BOTTOM OF WALL | 25. N = 656118.92
E = 1222615.90
ELEV = 3191.50
TOP OF WALL | 26. N = 656119.59
E = 1222616.42
ELEV = 3188.00
BOTTOM OF WALL | 27. N = 656161.15
E = 1222601.50
ELEV = 3185.94
EDGE OF PAVEMENT | 28. N = 656158.47
E = 1222663.63
ELEV = 3185.15
EDGE OF PAVEMENT | 29. N = 656173.46
E = 1222663.21
ELEV = 3185.09
EDGE OF PAVEMENT | 30. N = 656173.92
E = 1222678.20
ELEV = 3185.08
EDGE OF PAVEMENT | 31. N = 656158.93
E = 1222678.62
ELEV = 3185.12
EDGE OF PAVEMENT | | |

GRADING CALLOUTS

- | | | |
|--|--|--|
| A. N = 656306.20
E = 1222749.41
ELEV = 3184.10
GRADING NOTE | F. N = 656106.50
E = 1222994.60
ELEV = 3187.05
GRADING NOTE | K. N = 656091.51
E = 1222790.51
ELEV = 3187.68
GRADING NOTE |
| B. N = 656306.92
E = 1222776.68
ELEV = 3181.51
GRADING NOTE | G. N = 656042.95
E = 1222995.52
ELEV = ???
GRADING NOTE | L. N = 656189.14
E = 1222817.85
ELEV = 3184.07
GRADING NOTE |
| C. N = 656311.31
E = 1222943.93
ELEV = 3183.50
GRADING NOTE | H. N = 656034.98
E = 1222985.80
ELEV = 3189.28
GRADING NOTE | M. N = 656212.83
E = 1222892.44
ELEV = 3182.38
GRADING NOTE |
| D. N = 656228.27
E = 1222944.37
ELEV = 3183.50
GRADING NOTE | I. N = 656041.45
E = 1222954.47
ELEV = 3188.93
GRADING NOTE | N. N = 656203.95
E = 1222959.68
ELEV = 3182.93
GRADING NOTE |
| E. N = 656228.57
E = 1223005.55
ELEV = 3183.50
GRADING NOTE | J. N = 656065.18
E = 1222918.84
ELEV = 3188.06
GRADING NOTE | O. N = 656105.55
E = 1222962.61
ELEV = 3186.55
GRADING NOTE |

Prepared For:


Connecting South Dakota and the Nation

Prepared By:


Civil Engineering
• Geospatial Solutions
• Water Resources
• Transportation
• Land Surveying

Registered Professional Engineer


JOHN RAYMOND
3317

SOUTH DAKOTA DEPARTMENT OF TRANSPORTATION

PROJECT NUMBER 410394

RAPID CITY REGION YARD PHASE 1

RAPID CITY, SD

Sheet Title:

SITE GRADING

Sheet:

3.3

5/26/2017 P:\16-147\AutoCAD\PlotSheets\16-147 SITE GRADING.dwg

5/26/2017 P:\16-147\AutoCAD\PlotSheets\16-147 SITE GRADING.dwg

SURFACING CALLOUTS

1. N = 656322.17
E = 1222407.92
ELEV = 3183.00
TOP OF WALL
2. N = 656310.76
E = 1222409.65
ELEV = 3178.21
TOP OF LOWER WALL
3. N = 656316.45
E = 1222499.14
ELEV = 3180.17
TOP OF WALL
4. N = 656333.47
E = 1222526.64
ELEV = 3184.00
EDGE OF PAVEMENT
5. N = 656334.80
E = 1222546.17
ELEV = 3184.00
EDGE OF PAVEMENT
6. N = 656322.30
E = 1222584.83
ELEV = 3180.17
TOP OF WALL

7. N = 656333.41
E = 1222742.53
ELEV = 3179.17
TOP OF LOWER WALL
8. N = 656344.95
E = 1222742.71
ELEV = 3183.00
TOP OF WALL
9. N = 656299.22
E = 1222409.38
ELEV = 3185.00
TOP OF WALL
10. N = 656290.37
E = 1222424.76
ELEV = 3185.00
EDGE OF PAVEMENT
11. N = 656275.38
E = 1222424.39
ELEV = 3185.00
EDGE OF PAVEMENT
12. N = 656274.93
E = 1222439.38
ELEV = 3185.00
EDGE OF PAVEMENT

13. N = 656289.92
E = 1222439.75
ELEV = 3185.00
EDGE OF PAVEMENT
14. N = 656305.15
E = 1222502.69
ELEV = 3185.00
TOP OF WALL
15. N = 656322.28
E = 1222529.56
ELEV = 3185.00
TOP OF WALL
16. N = 656320.72
E = 1222530.56
ELEV = 3185.00
TOP OF WALL
17. N = 656319.08
E = 1222530.67
ELEV = 3185.00
TOP OF WALL
18. N = 656307.17
E = 1222532.48
ELEV = 3185.88
EDGE OF PAVEMENT

19. N = 656307.84
E = 1222542.46
ELEV = ???
EDGE OF PAVEMENT
20. N = 656319.54
E = 1222544.19
ELEV = 3185.00
TOP OF WALL
21. N = 656323.42
E = 1222545.49
ELEV = 3185.00
TOP OF WALL
22. N = 656310.64
E = 1222563.71
ELEV = 3185.00
TOP OF WALL
23. N = 656321.97
E = 1222743.86
ELEV = 3185.00
TOP OF WALL
24. N = 656310.26
E = 1222409.68
ELEV = 3178.00
BOTTOM OF WALL

25. N = 656300.28
E = 1222410.31
ELEV = 3178.00
BOTTOM OF WALL
26. N = 656306.13
E = 1222502.37
ELEV = 3180.00
BOTTOM OF WALL
27. N = 656315.95
E = 1222499.17
ELEV = 3180.00
BOTTOM OF WALL
28. N = 656323.66
E = 1222529.87
ELEV = 3184.00
BOTTOM OF WALL
29. N = 656319.15
E = 1222531.67
ELEV = 3185.00
BOTTOM OF WALL
30. N = 656319.86
E = 1222543.24
ELEV = 3185.00
BOTTOM OF WALL

31. N = 656324.69
E = 1222544.86
ELEV = 3184.00
BOTTOM OF WALL
32. N = 656311.67
E = 1222583.53
ELEV = 3180.00
BOTTOM OF WALL
33. N = 656321.79
E = 1222584.82
ELEV = 3180.00
BOTTOM OF WALL
34. N = 656332.91
E = 1222742.56
ELEV = 3179.00
BOTTOM OF WALL
35. N = 656322.90
E = 1222742.84
ELEV = 3179.00
BOTTOM OF WALL

GRADING CALLOUTS

- A. N = 656298.58
E = 1222399.40
ELEV = 3183.00
GRADING NOTE
- B. N = 656325.65
E = 1222397.68
ELEV = 3183.00
GRADING NOTE
- C. N = 656324.92
E = 1222498.39
ELEV = 3183.00
GRADING NOTE
- D. N = 656329.89
E = 1222497.58
ELEV = 3183.00
GRADING NOTE
- E. N = 656339.48
E = 1222526.12
ELEV = 3183.00
GRADING NOTE

- F. N = 656340.86
E = 1222546.19
ELEV = 3183.00
GRADING NOTE
- G. N = 656330.75
E = 1222584.05
ELEV = 3183.00
GRADING NOTE
- H. N = 656335.78
E = 1222584.09
ELEV = 3183.00
GRADING NOTE
- I. N = 656321.42
E = 1222749.29
ELEV = 3183.00
GRADING NOTE
- J. N = 656350.29
E = 1222747.35
ELEV = 3183.00
GRADING NOTE

- K. N = 656354.75
E = 1222761.07
ELEV = 3181.00
GRADING NOTE
- L. N = 656346.36
E = 1222769.27
ELEV = 3181.00
GRADING NOTE
- M. N = 656334.68
E = 1222781.57
ELEV = 3177.00
GRADING NOTE
- N. N = 656324.66
E = 1222781.85
ELEV = 3177.00
GRADING NOTE
- O. N = 656312.33
E = 1222770.20
ELEV = 3181.00
GRADING NOTE

- P. N = 656316.71
E = 1222929.08
ELEV = 3181.00
GRADING NOTE
- Q. N = 656328.38
E = 1222916.75
ELEV = 3177.00
GRADING NOTE
- R. N = 656341.45
E = 1222919.39
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GRADING NOTE
- S. N = 656350.70
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GRADING NOTE
- T. N = 656359.55
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GRADING NOTE



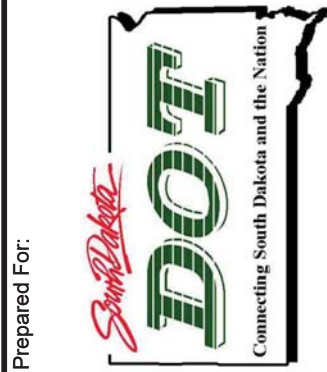
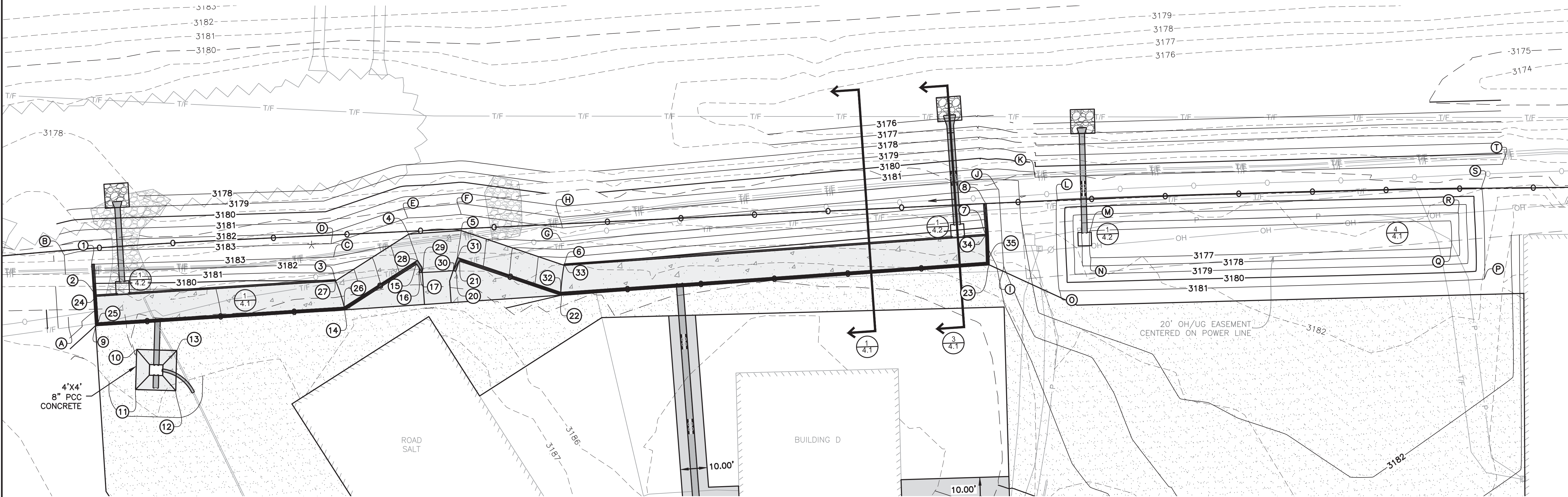
4 INCHES OF ASPHALT
OVER 5 INCHES OF BASE COURSE

8 INCHES OF CONCRETE WITH TIE BARS
OVER 4 INCHES
OF GRAVEL CUSHION

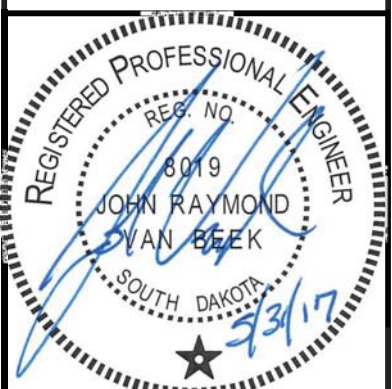
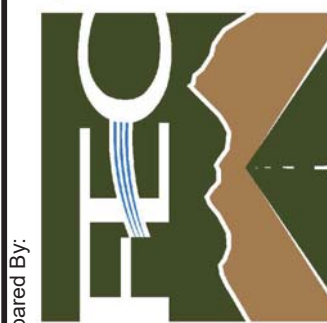
8 INCHES OF CONCRETE OVER 4 INCHES
OF BASE COURSE

GRAVEL CUSHION

LANDSCAPE ROCK



Prepared For:
Civil Engineering
Geospatial Solutions
Water Resources
Transportation
Land Surveying



SOUTH DAKOTA DEPARTMENT OF TRANSPORTATION
PROJECT NUMBER 410394
RAPID CITY REGION YARD PHASE 1
RAPID CITY, SD

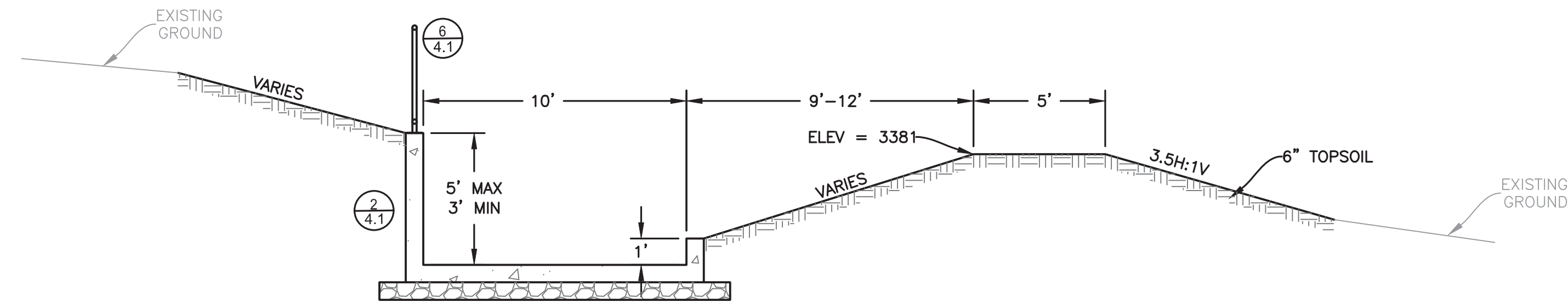
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SITE GRADING

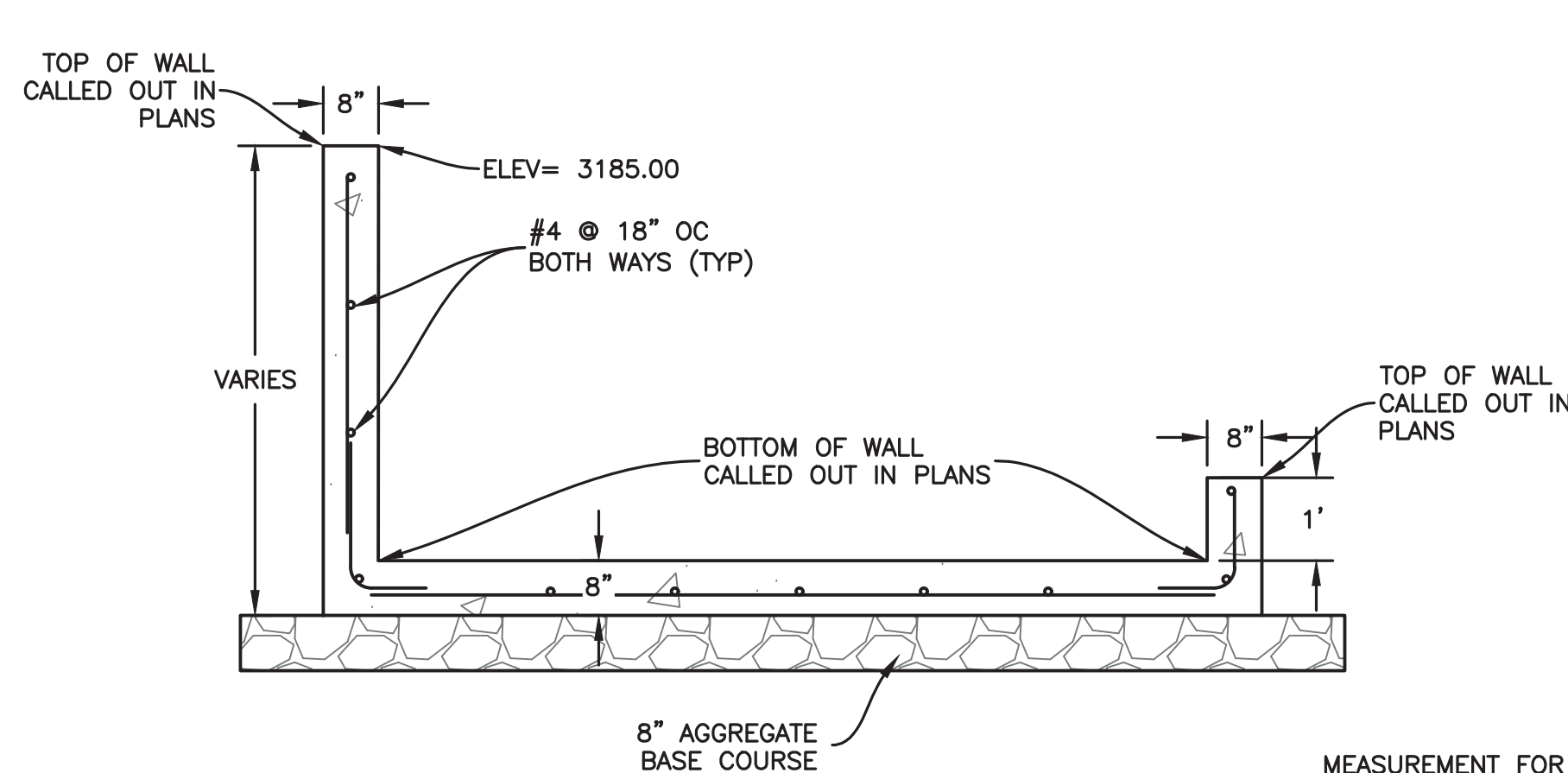
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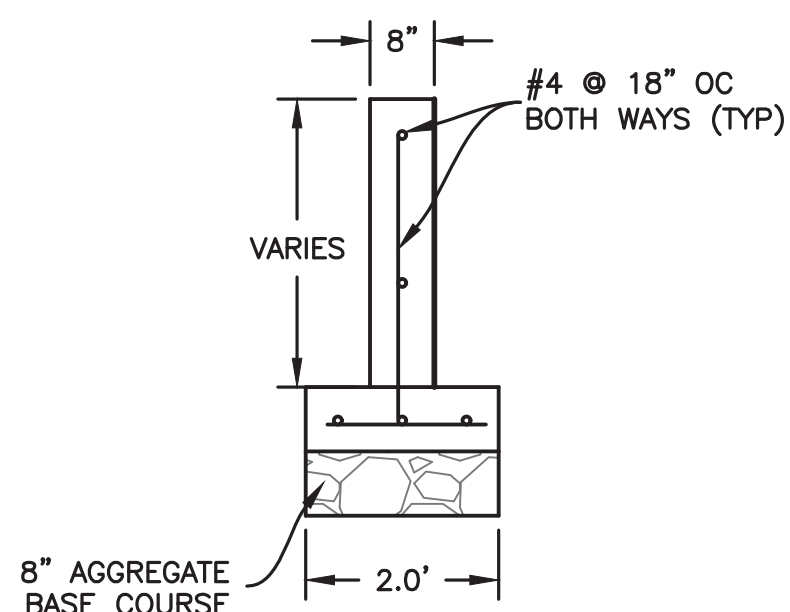
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NORTH SIDE SEDIMENT BASINS WNSB & MNSB TYPICAL SECTION
NTS



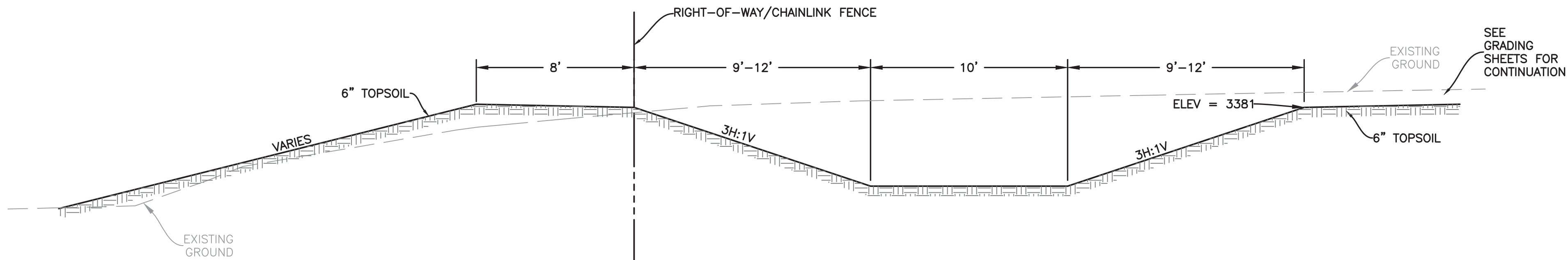
BASIN TYPICAL SECTION
NTS



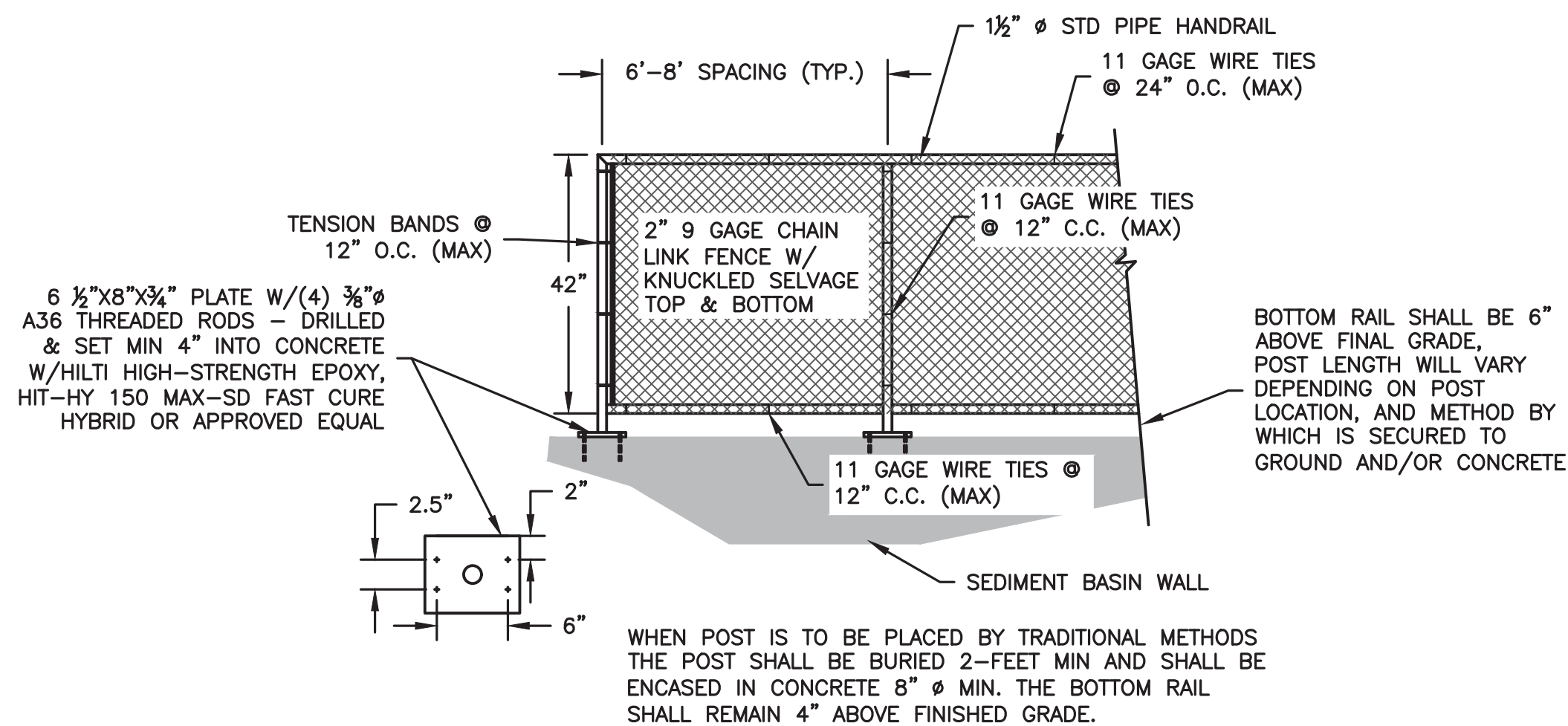
END WALL TYPICAL SECTION
NTS

MEASUREMENT FOR SPECIAL TYPE C RETAINING WALL SHALL BE MADE TO THE NEAREST SQUARE FOOT FOR THE FLOOR, FOOTINGS, AND WALLS. THE FLOOR IS MEASURED FROM THE OUTSIDE WALL TO OUTSIDE WALL IN BOTH DIRECTIONS. THE WALLS ARE MEASURED FROM FINISHED FLOOR OR TOP OF FOOTING TO THE TOP OF WALL ALONG THE ENTIRE LENGTH. THE 2-FOOT WIDE SPREAD FOOTING FOR THE END WALLS SHALL ALSO BE MEASURED TO THE NEAREST SQUARE FOOT. ALL COSTS FOR EXCAVATION, FURNISHING AND PLACING BACKFILL AND CUSHION MATERIAL, LABOR, EQUIPMENT, PREFORMED EXPANSION JOINT FILLER, ALL REINFORCING STEEL, AND ALL CONCRETE SHALL BE INCIDENTAL TO THE CONTRACT UNIT PRICE PER SQUARE FOOT FOR "SPECIAL TYPE C RETAINING WALL" PLANS QUANTITY SHALL BE THE BASIS OF PAYMENT UNLESS CHANGES ARE MADE DURING CONSTRUCTION AS DIRECTED BY THE ENGINEER.

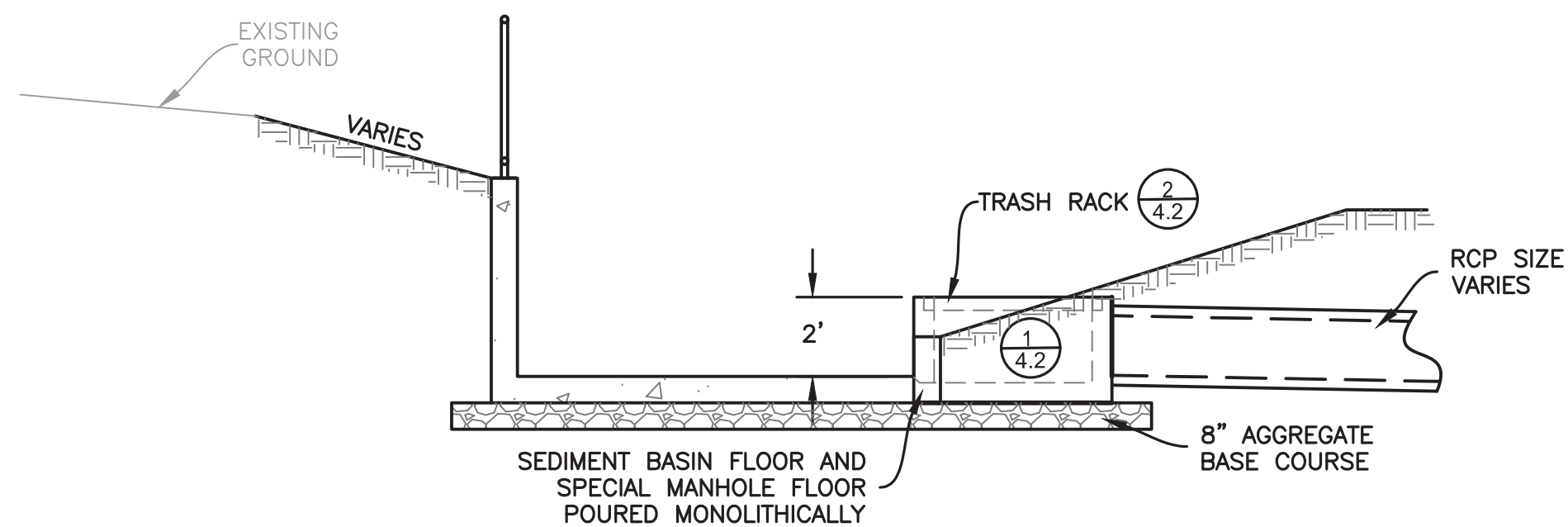
SPECIAL TYPE C WALL QUANTITIES	
FLOOR	3946 SqFt
APPROACH PAD	695 SqFt
END WALL FOOTINGS	46 SqFt
END WALLS	104 SqFt
NORTH WALLS (1' HIGH)	249 SqFt
SOUTH WALLS (VARYING HEIGHT)	1661 SqFt
WEST WALL (7' HIGH)	70 SqFt
EAST WALL (6' HIGH)	60 SqFt
TOTAL	6831 SqFt



SEDIMENT BASIN ENSB - TYPICAL SECTION
NTS



SPECIAL 4' CHAINLINK FENCE INSTALLATION
NTS



NORTH SIDE BASIN OUTLET WORKS
NTS



Prepared For:
Civil Engineering
Geospatial Solutions
Water Resources
Transportation
Land Surveying



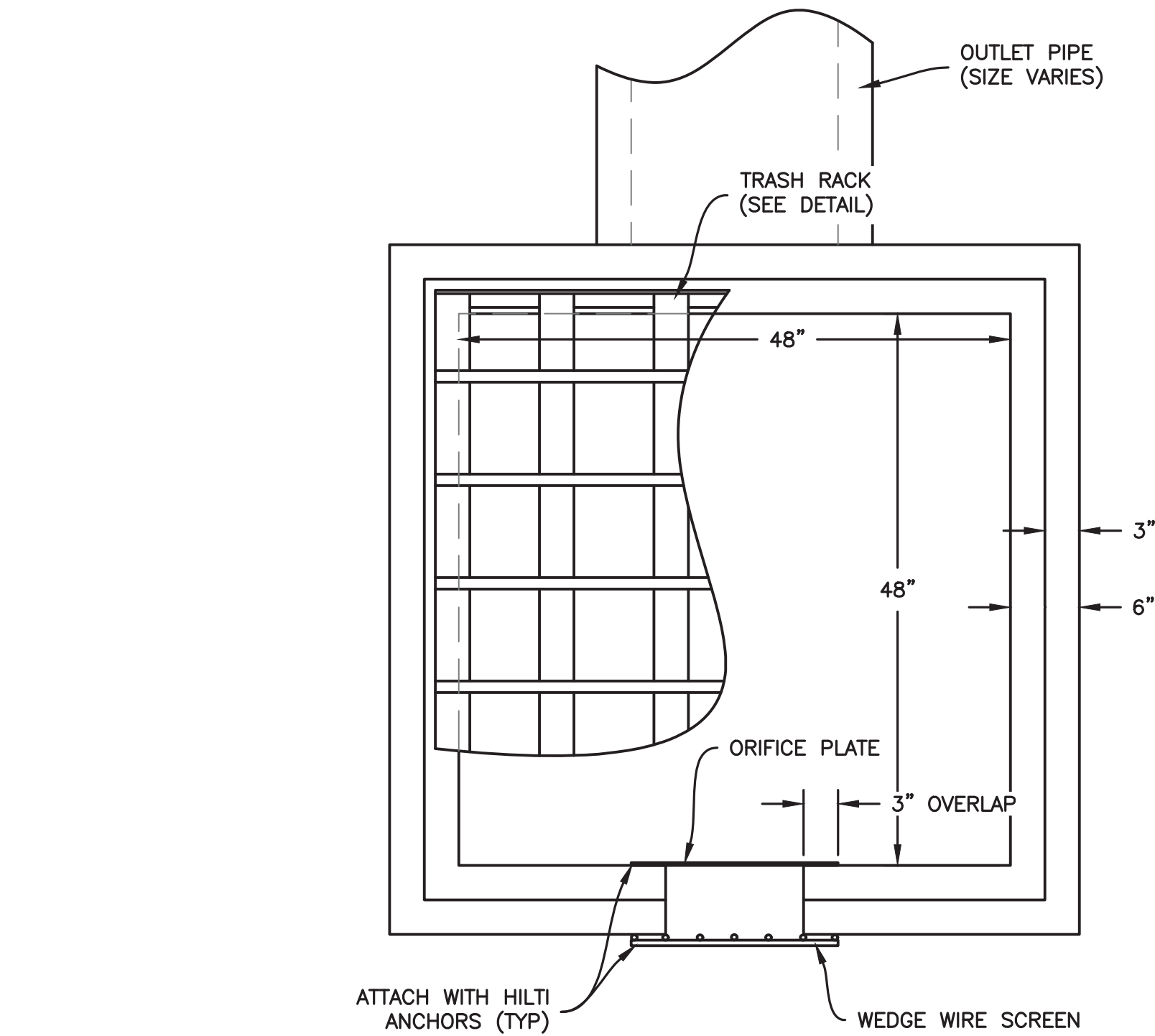
SOUTH DAKOTA DEPARTMENT OF TRANSPORTATION

PROJECT NUMBER 410394

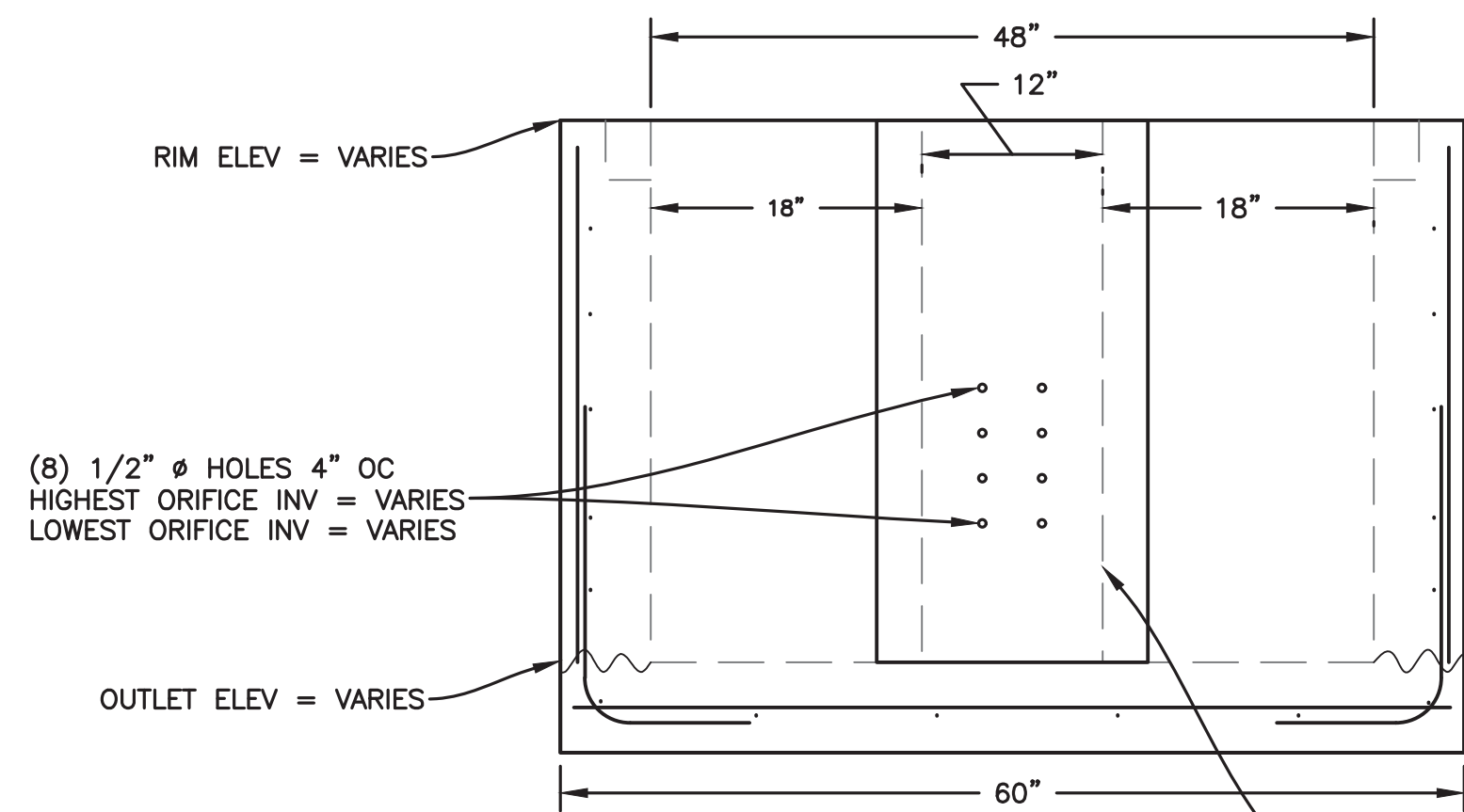
RAPID CITY REGION YARD PHASE 1
RAPID CITY, SD

Sheet Title:
PROJECT SPECIFIC
DETAILS
Sheet:
4.1

5/26/2017 P:\16-147\AutoCAD\PlanSheets\16-147 SPCL DTLS.dwg



TOP



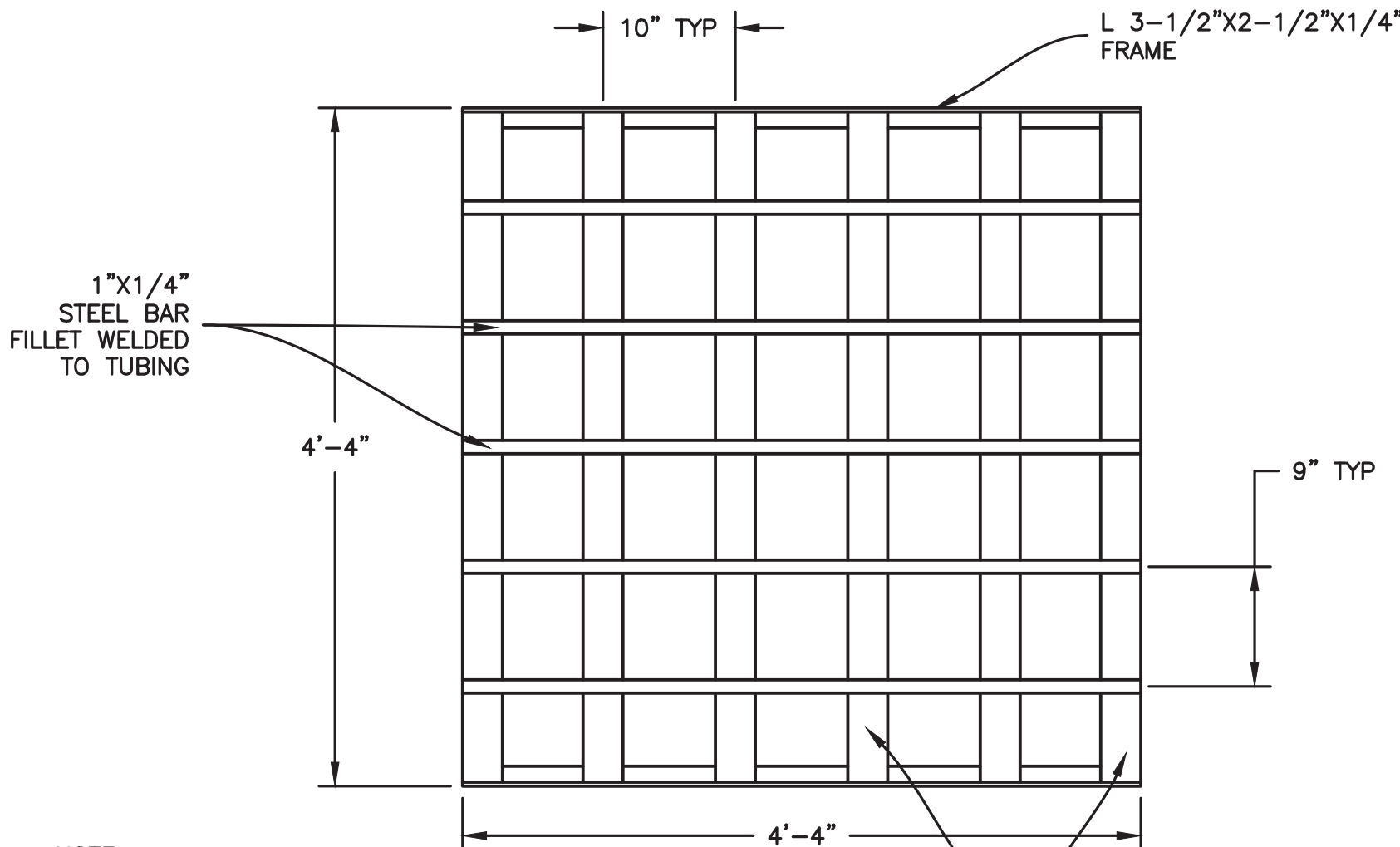
FRONT

NOTES:

1. CONCRETE SHALL BE TYPE M6.
2. STRUCTURE SHALL BE REINFORCED WITH #4 REBAR 6" OC.
3. ALL PLATES, SCREENS, AND FASTENERS SHALL BE TYPE 304 STAINLESS STEEL.
4. ATTACH PLATES AND SCREENS TO DROP INLET WITH 1/2" Ø HILTI HIT-TZ SST ADHESIVE ANCHORS @ 12" OC.

SPECIAL MANHOLE

1
4.2



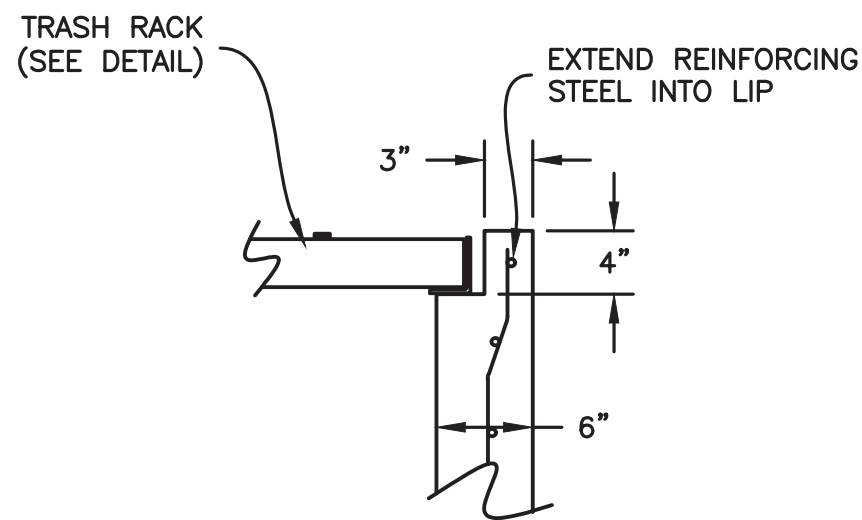
TRASH RACK

2
4.2

NOTE:

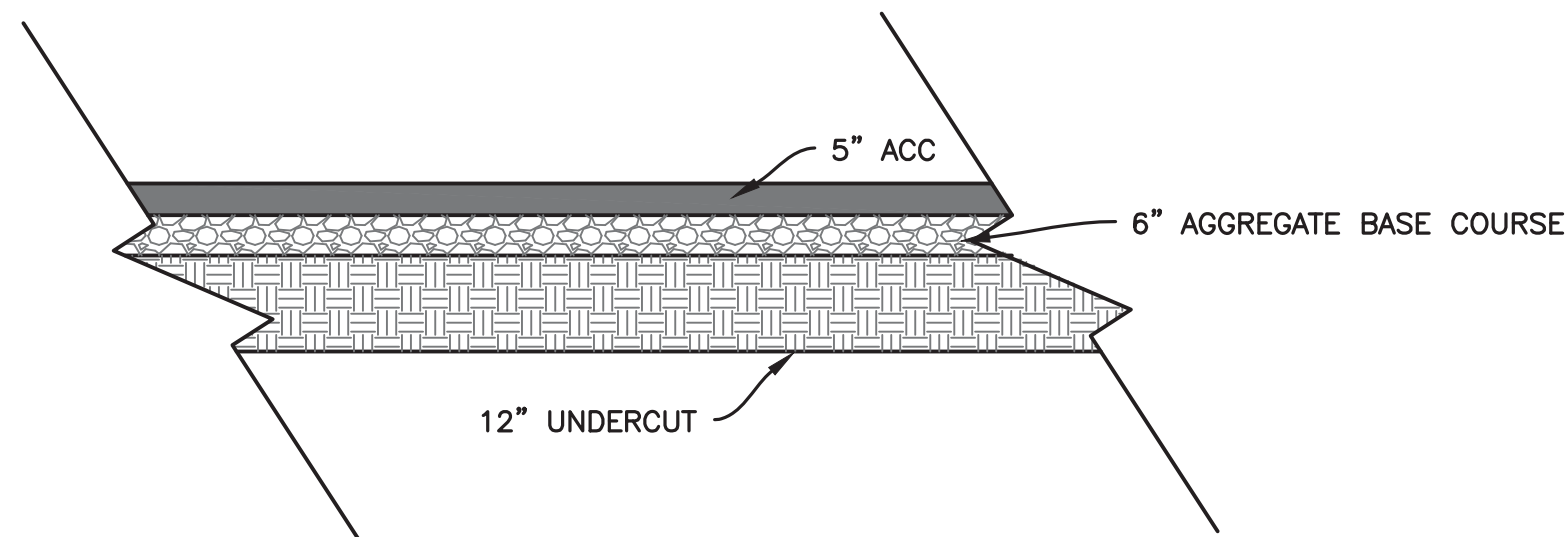
FOLLOWING FABRICATION APPLY "10-99 TREMEC PRIMER" OR "RUSTOLEUM NUMBER 5769"

CONTRACTOR MAY CHOOSE TO HAVE THE FABRICATED TRASH RACK POWDER COATED COLOR BROWN.



TYPICAL WALL SECTION

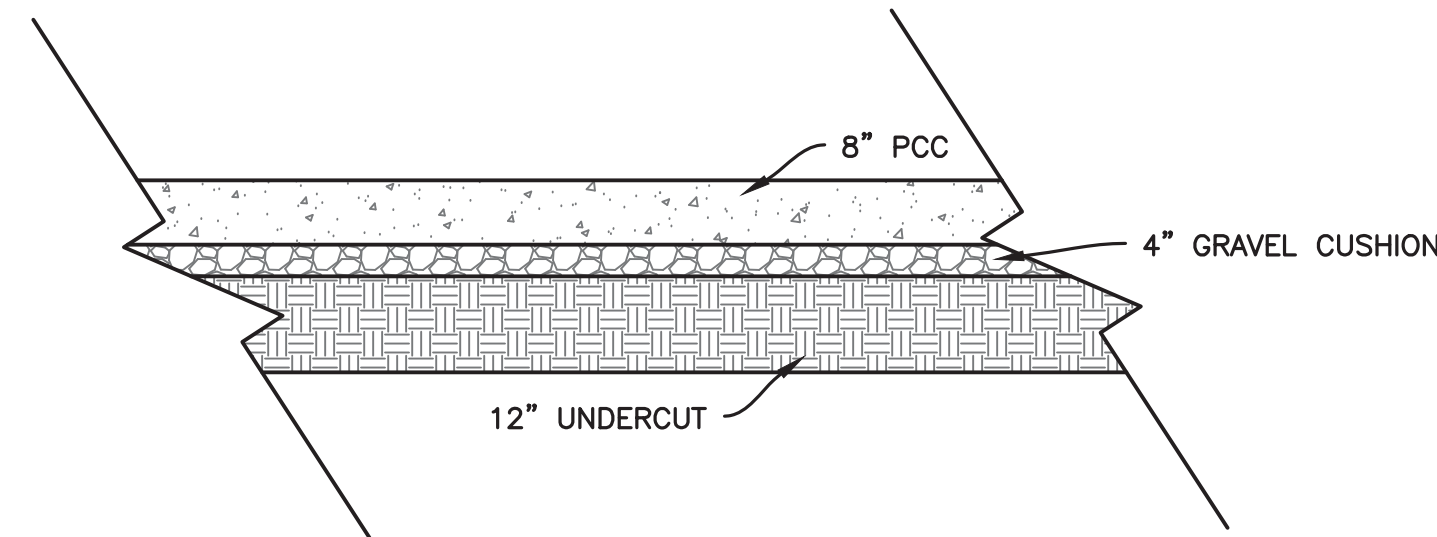
TABLE OF SPECIAL MANHOLE ELEVATIONS				
LABEL (SHEET 3.1)	RIM ELEV.	INV. HIGHEST ORIFICE HOLES	INV. LOWEST ORIFICE HOLES	OUTLET ELEV.
1	3179.83	3179.50	3178.50	3177.83
4	3180.83	3180.50	3179.50	3178.83
5	3180.00	3178.50	3177.50	3177.00
11	3188.00	3187.50	3186.50	3186.00
12	3188.60	3187.70	3186.70	3186.60



4" ACC PAVEMENT TYPICAL SECTION

NTS

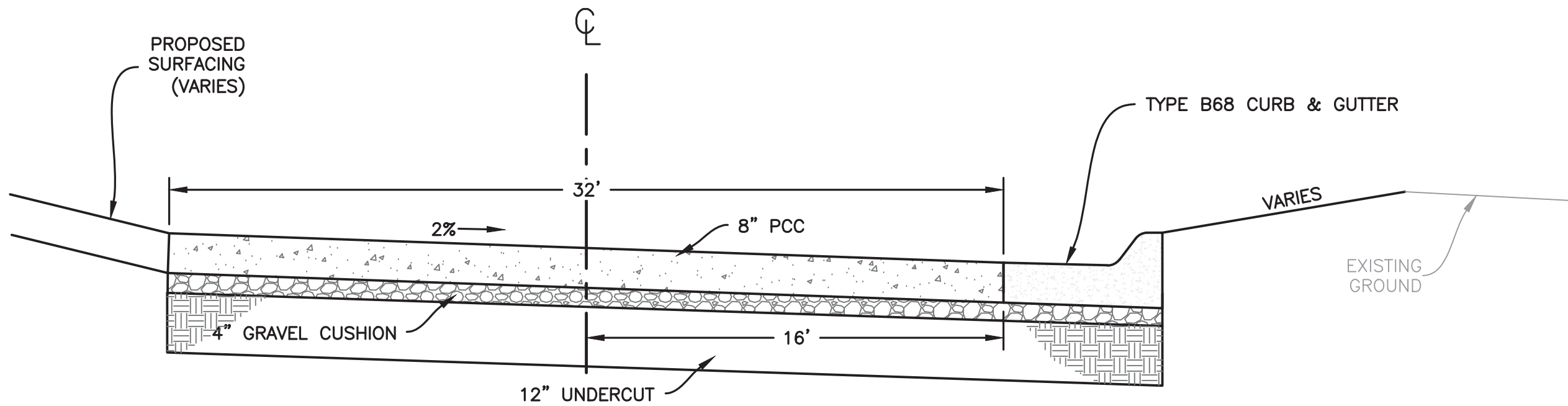
3
4.2



8" PCC PAVEMENT TYPICAL SECTION

NTS

4
4.2



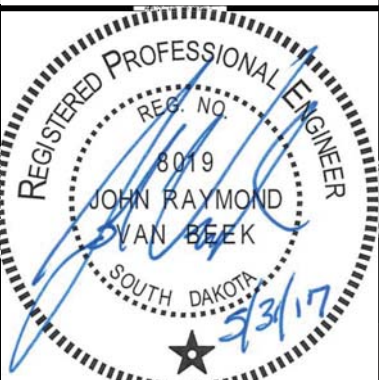
SEAMAN BOULEVARD TYPICAL SECTION

NTS

5
4.2



Prepared For:
Civil Engineering
Geospatial Solutions
Water Resources
Transportation
Land Surveying



SOUTH DAKOTA DEPARTMENT OF TRANSPORTATION

PROJECT NUMBER 410394

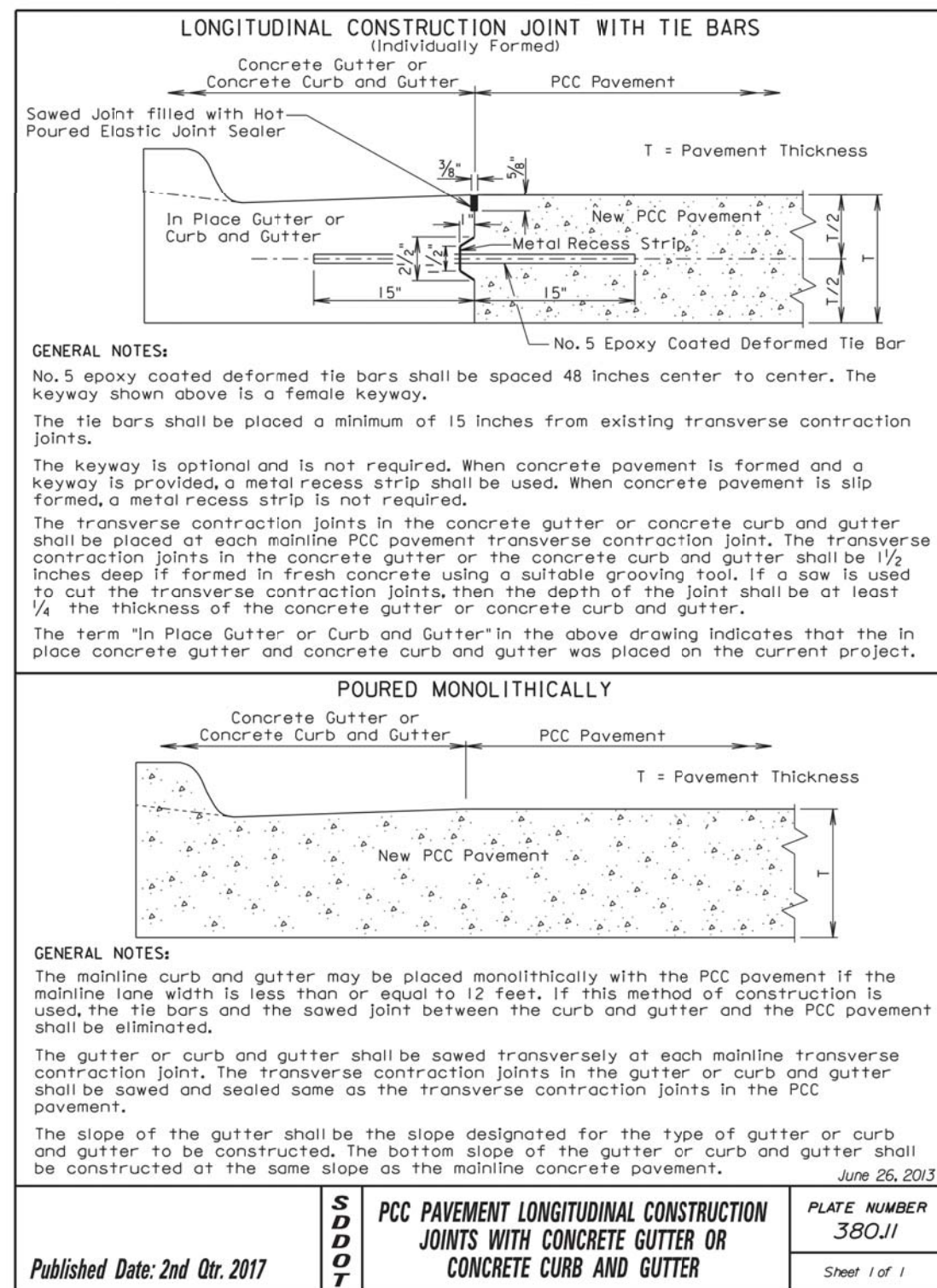
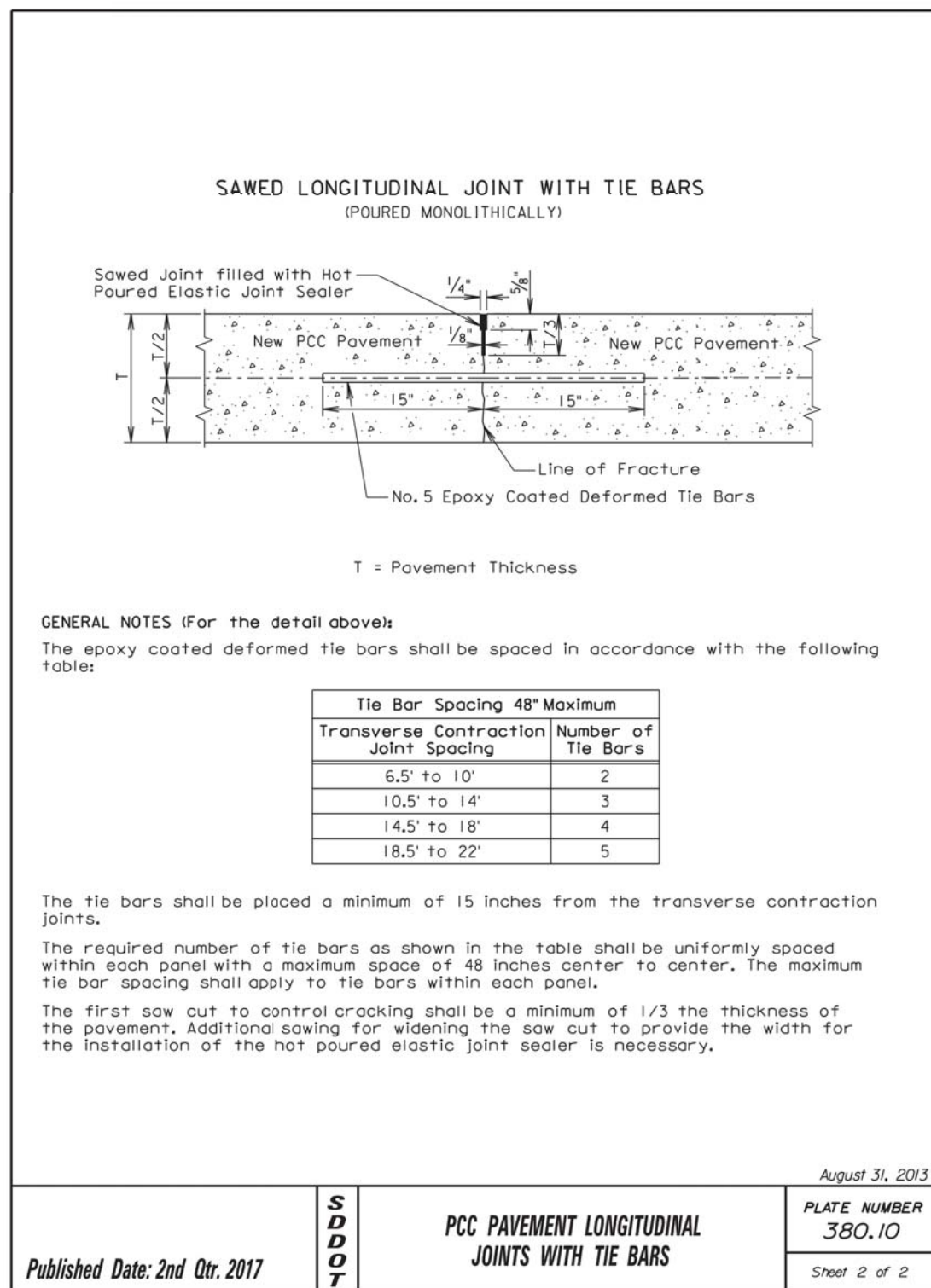
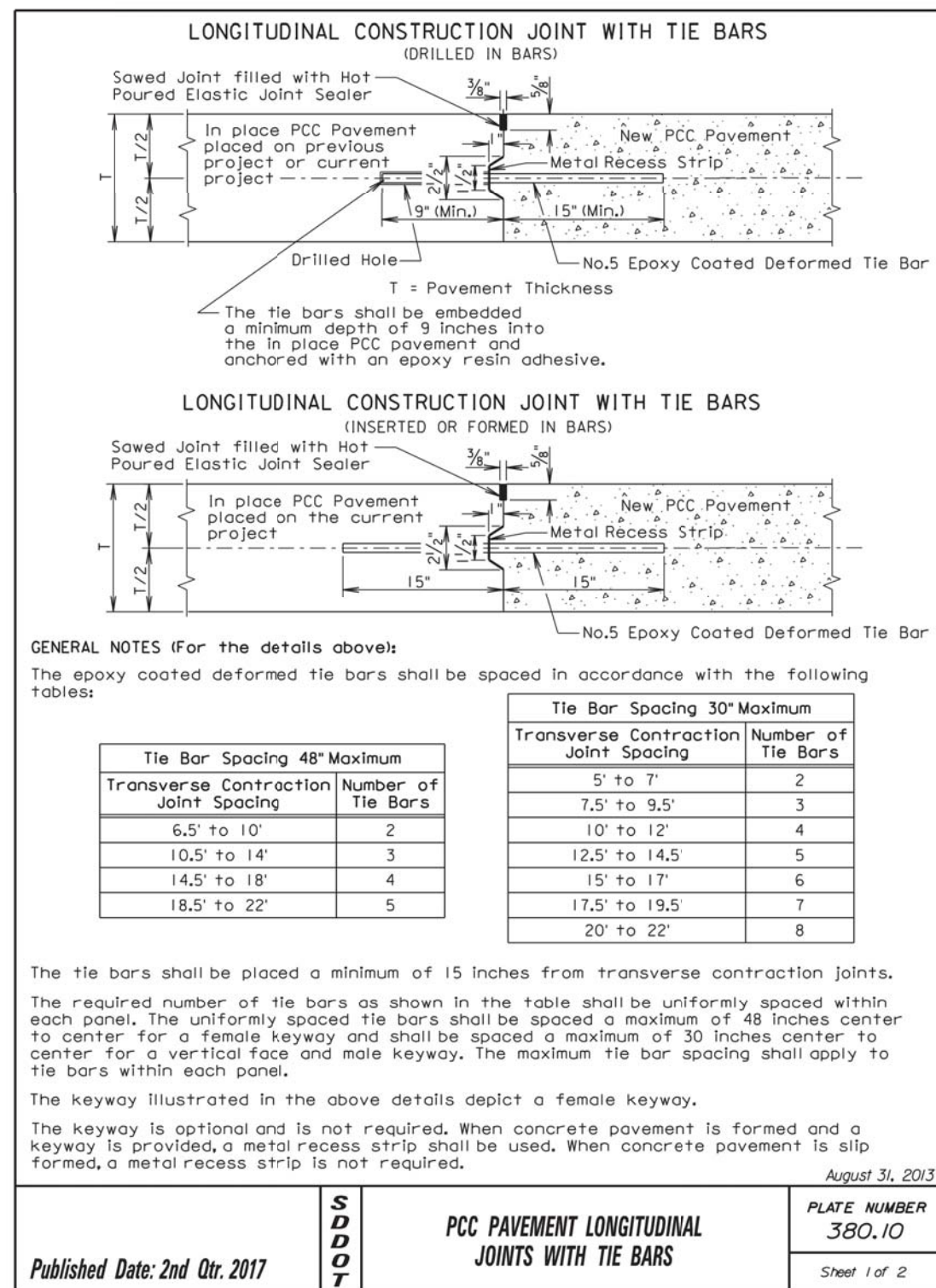
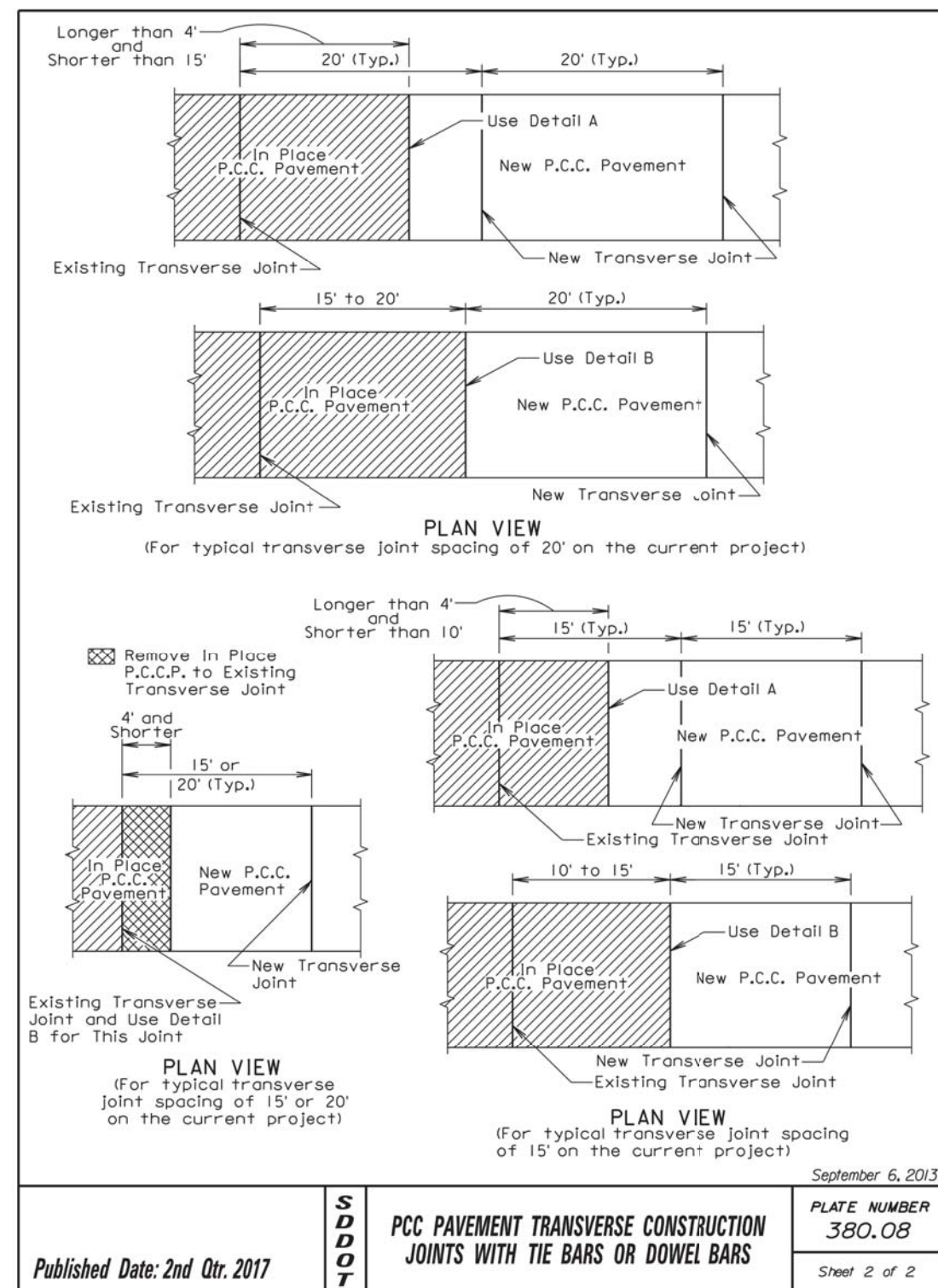
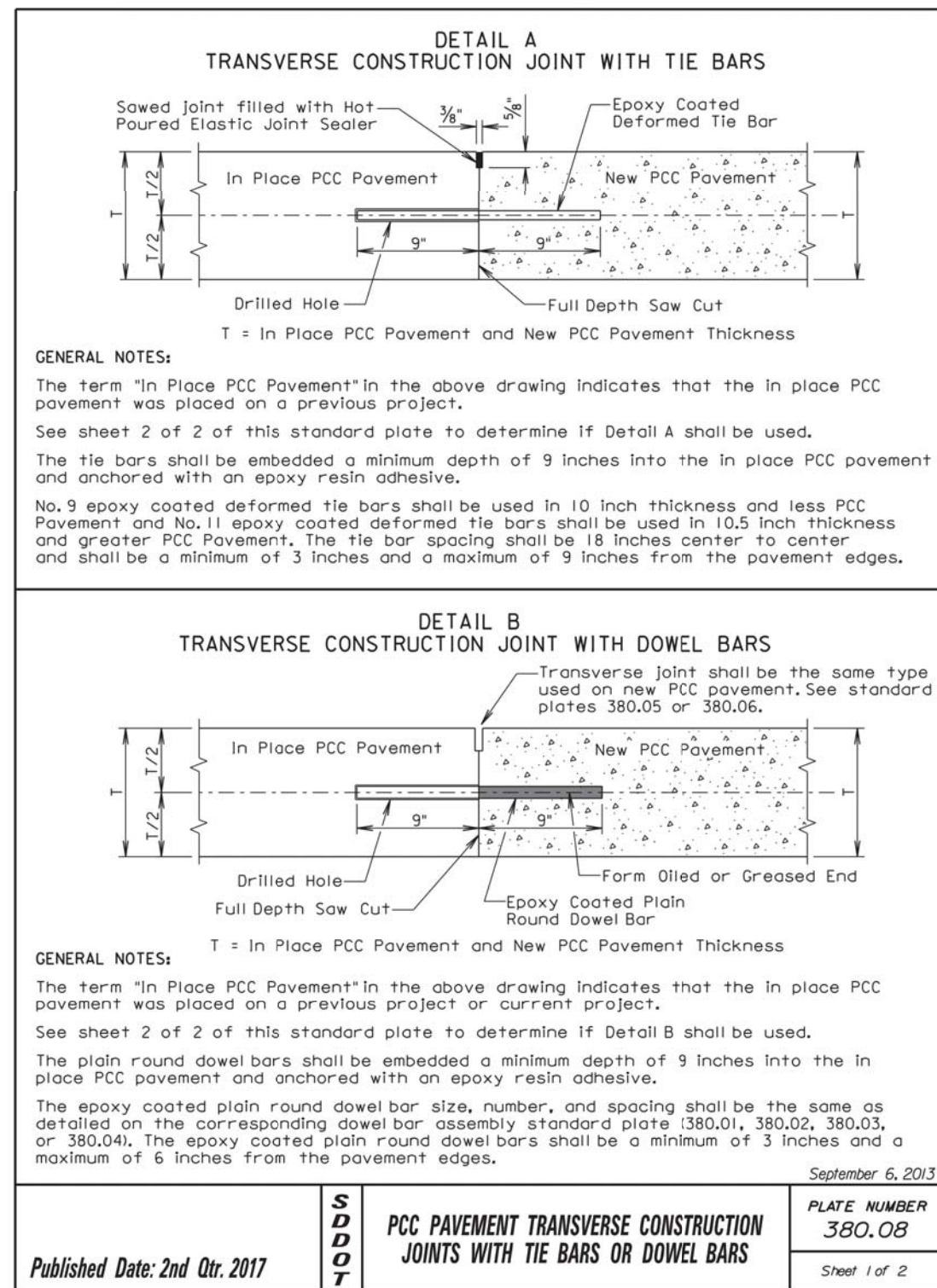
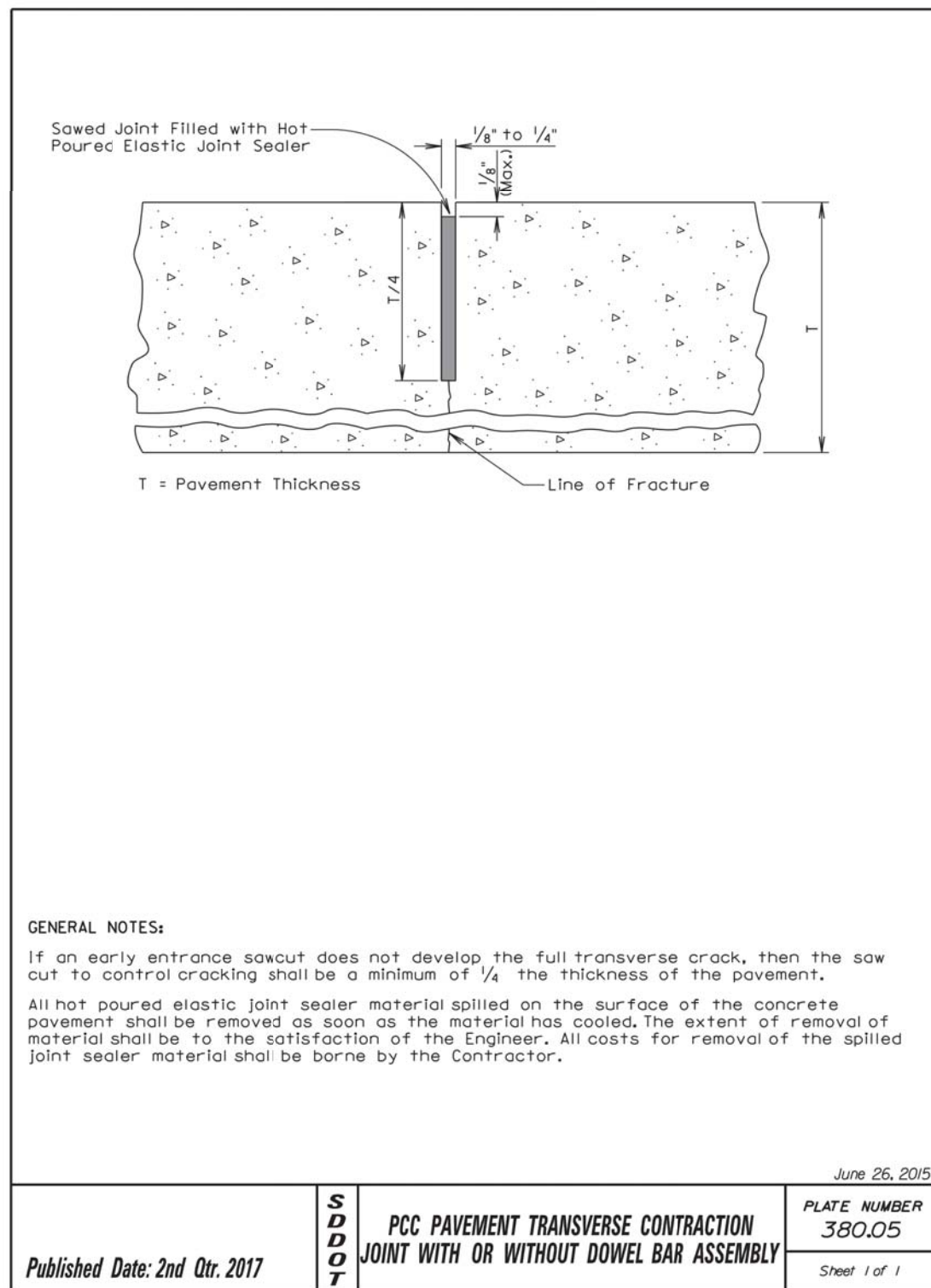
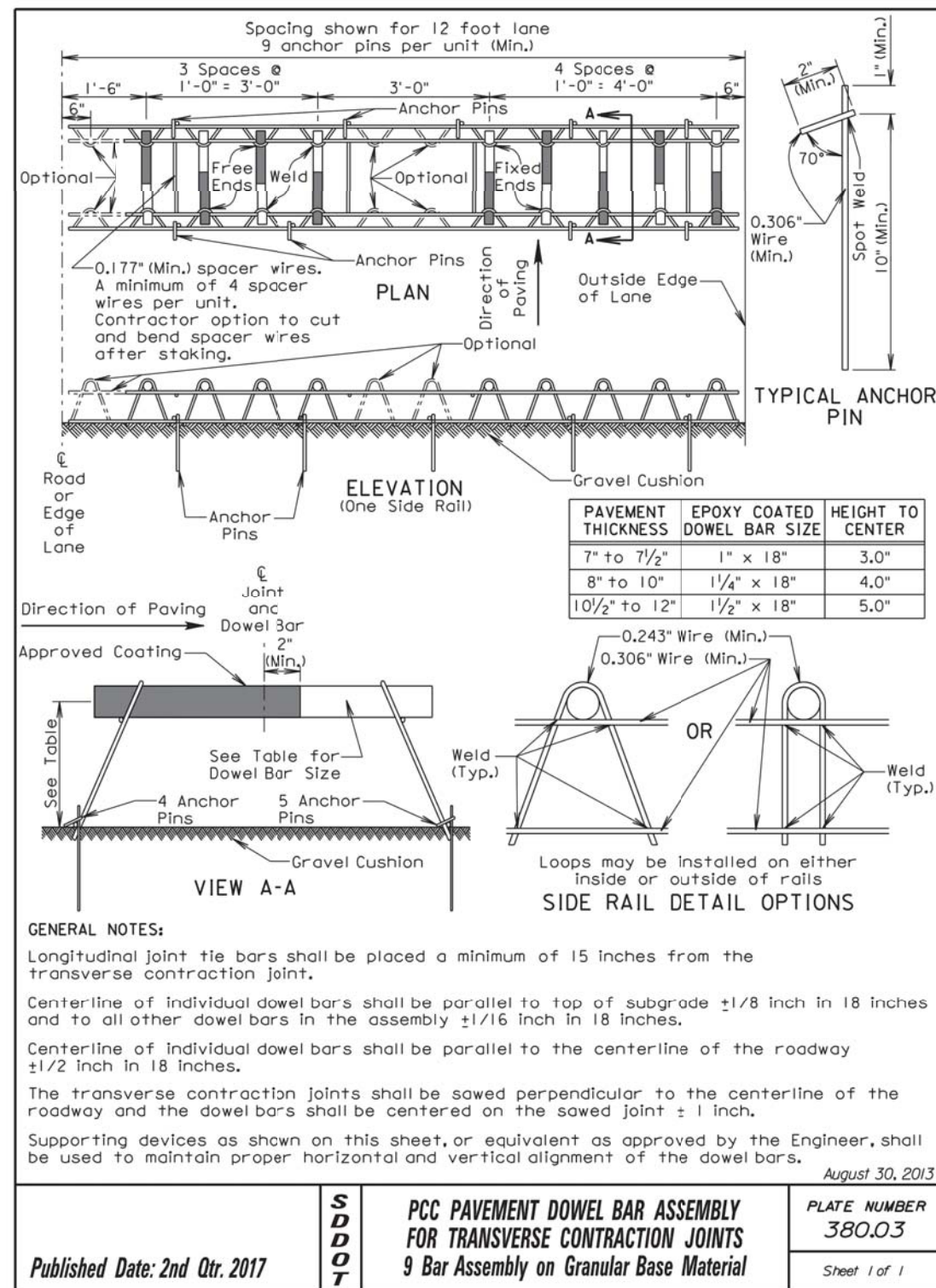
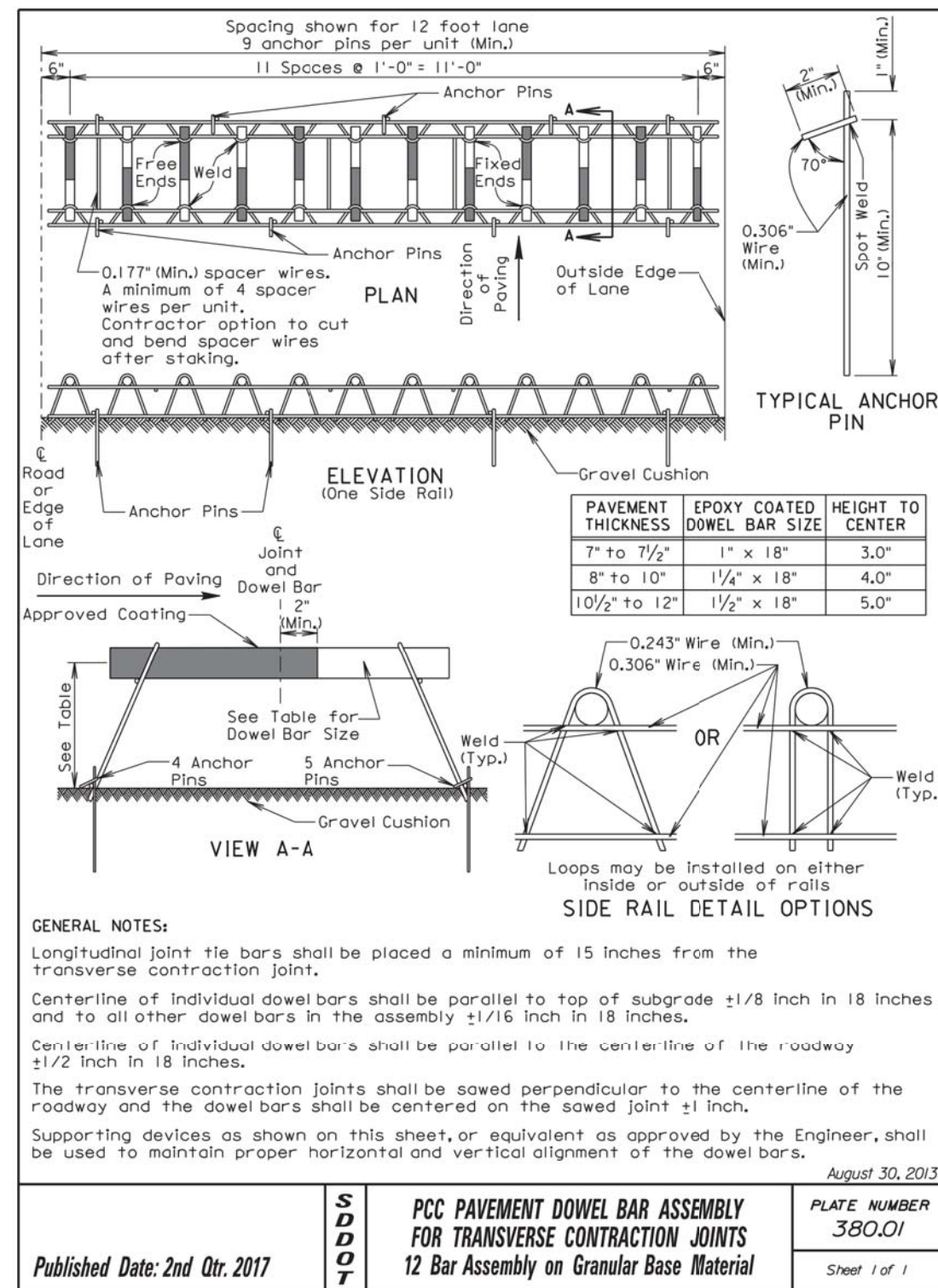
RAPID CITY REGION YARD PHASE 1
RAPID CITY, SD

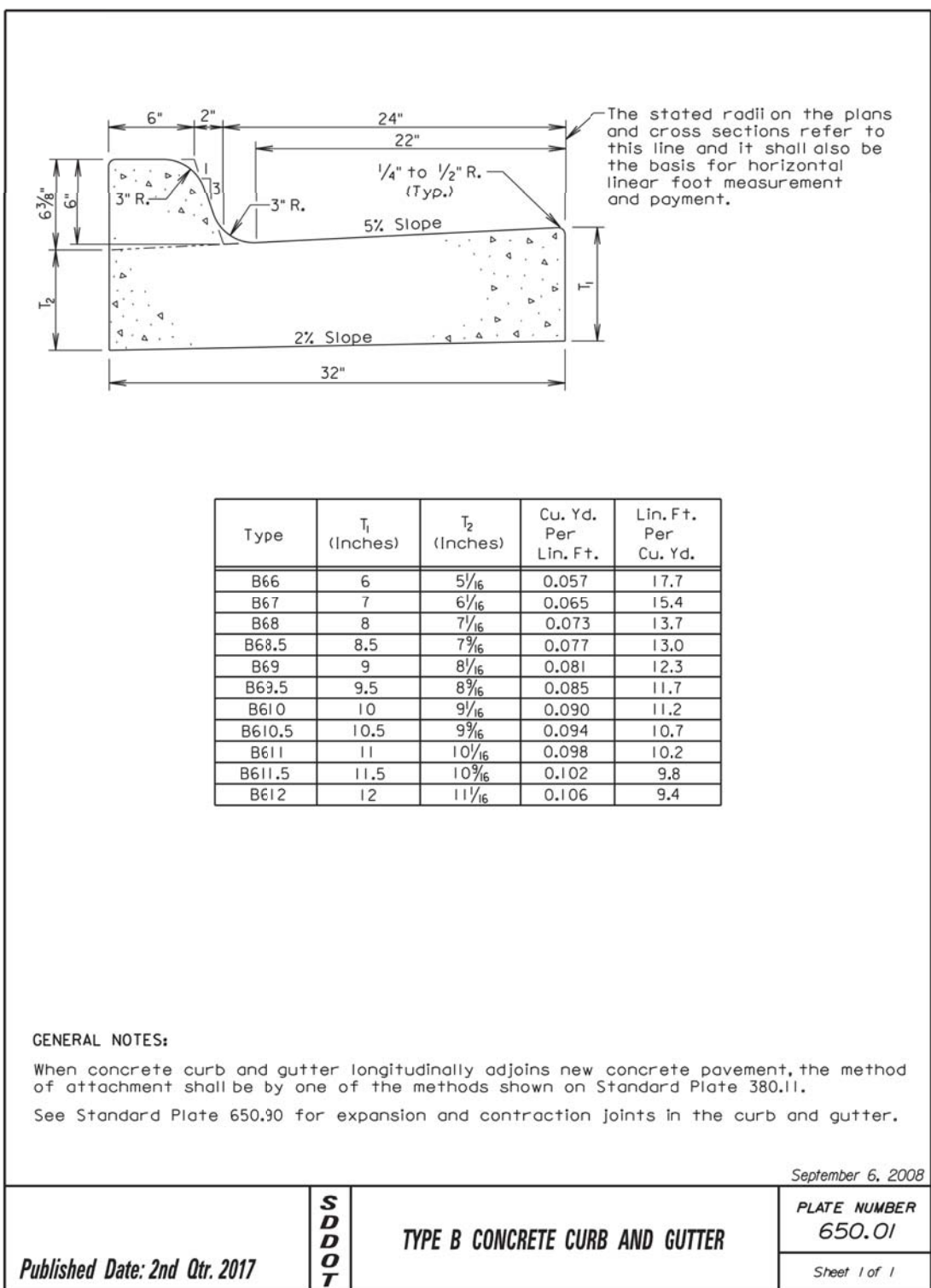
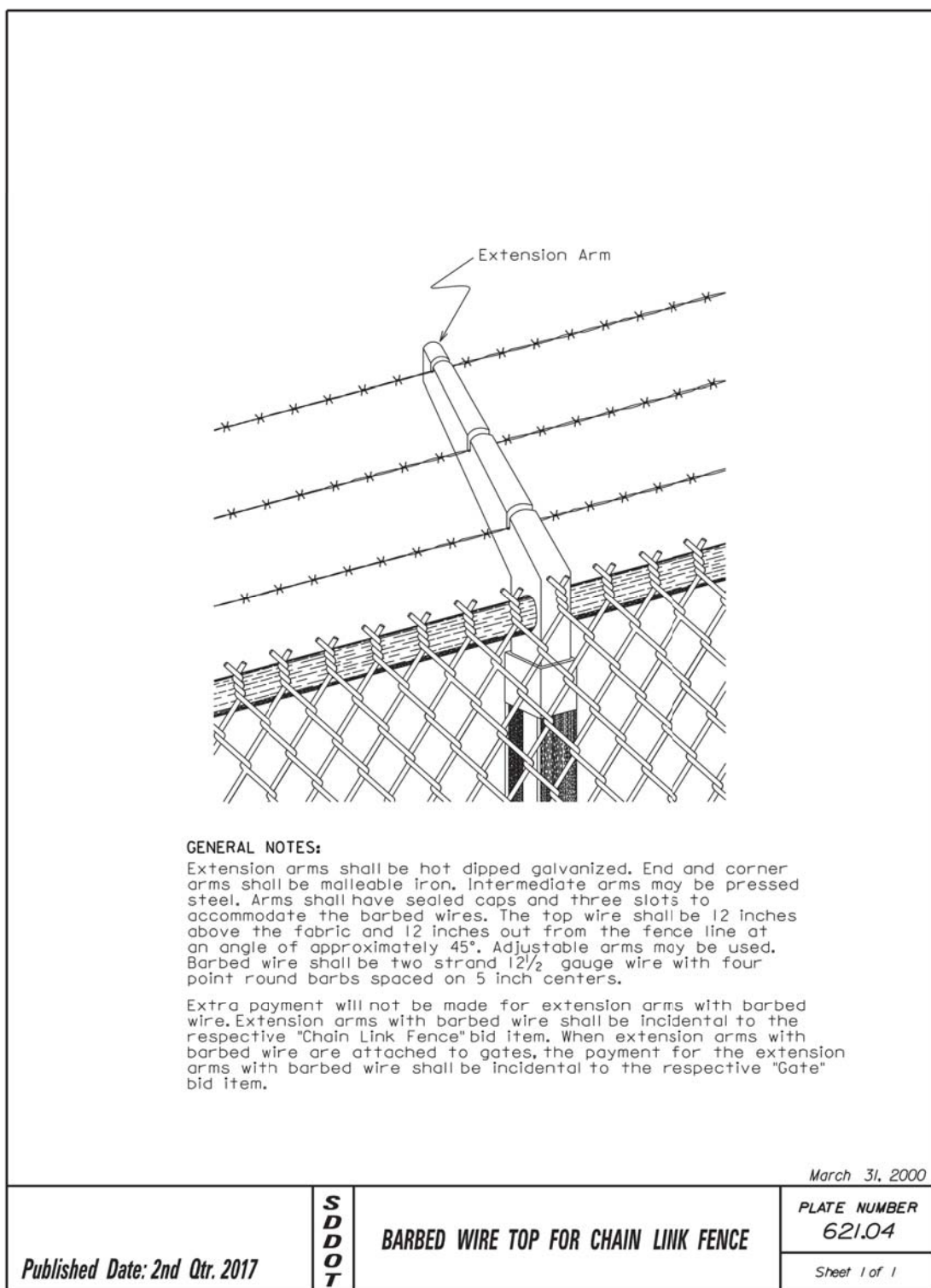
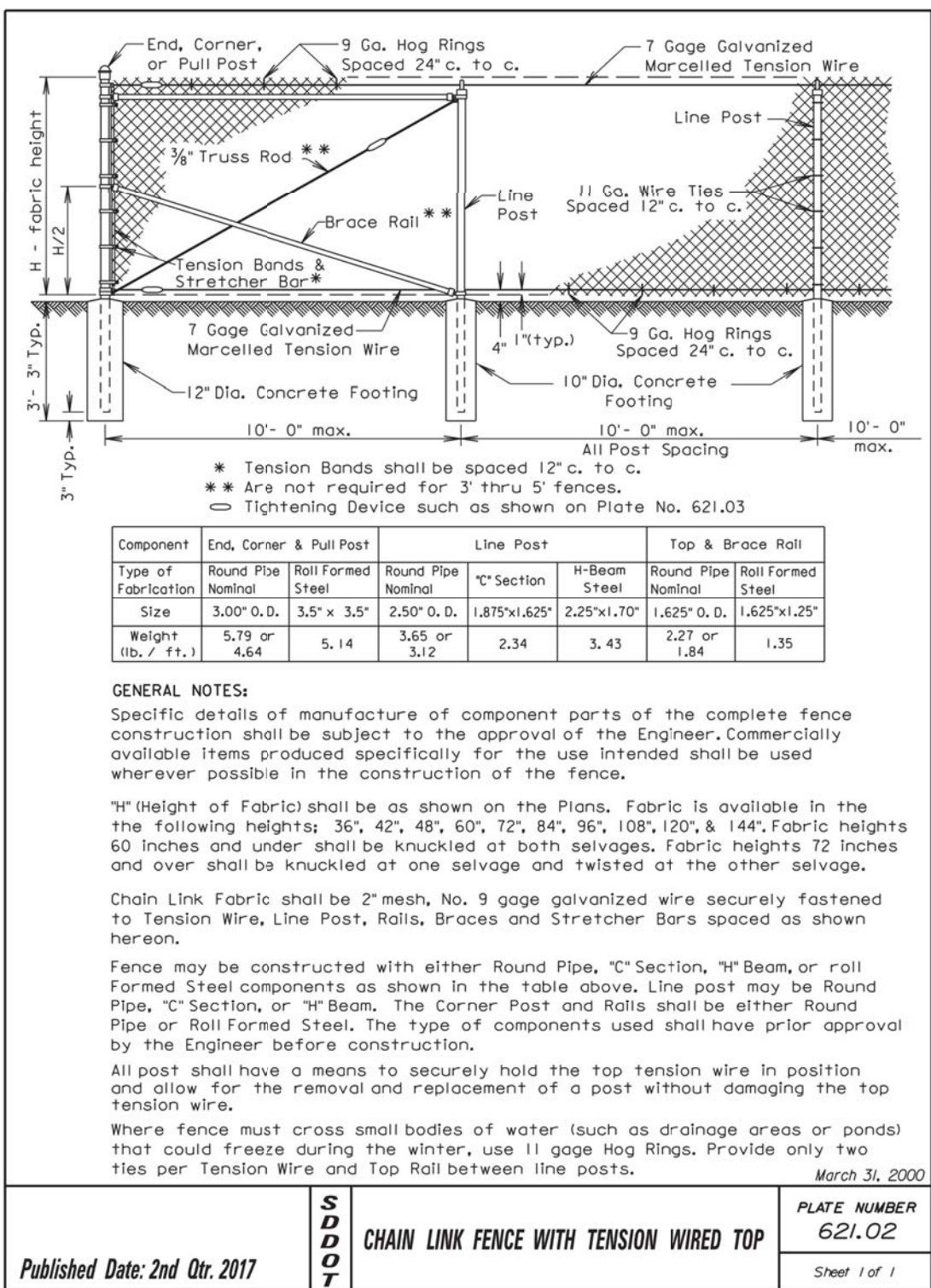
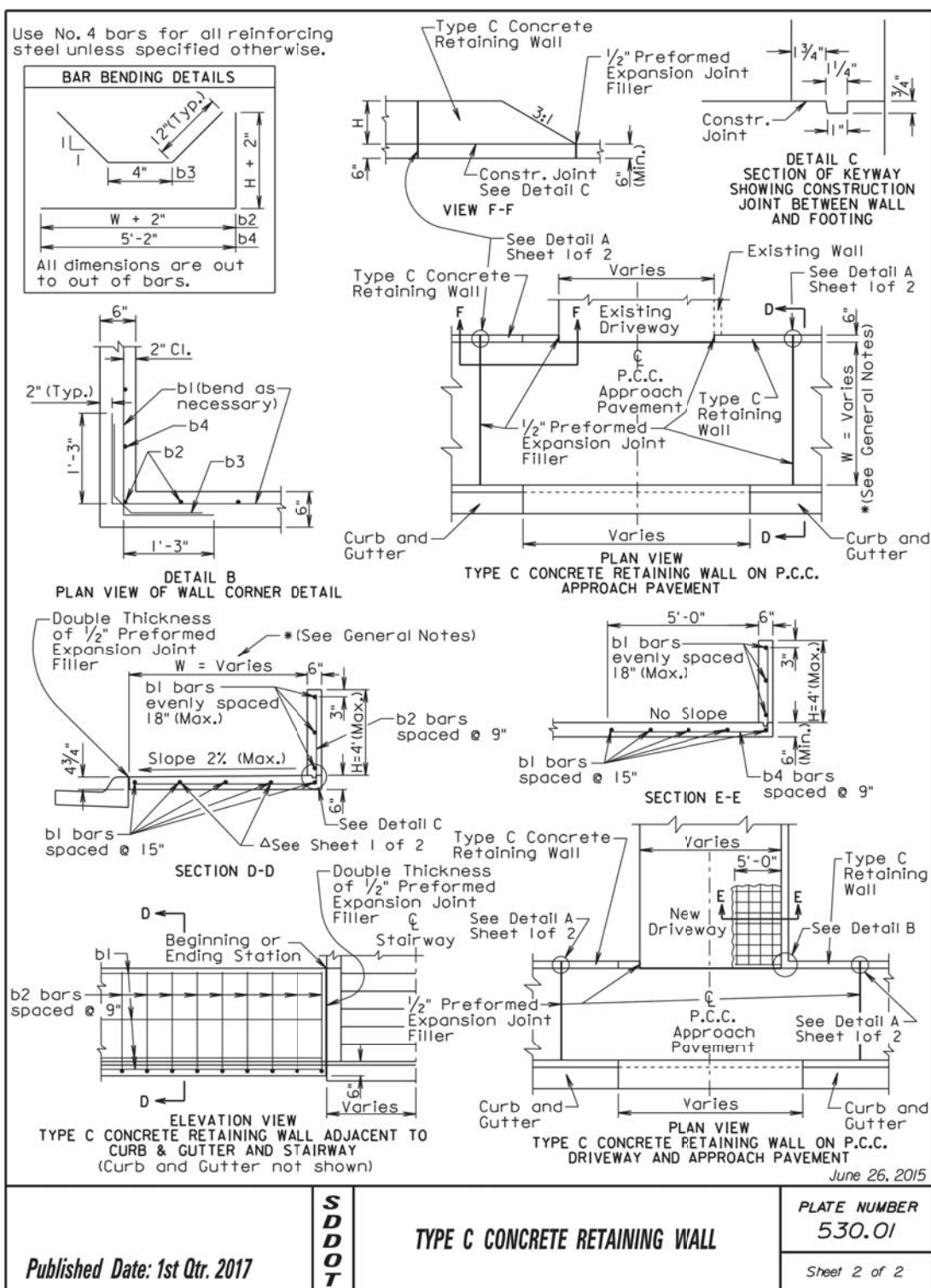
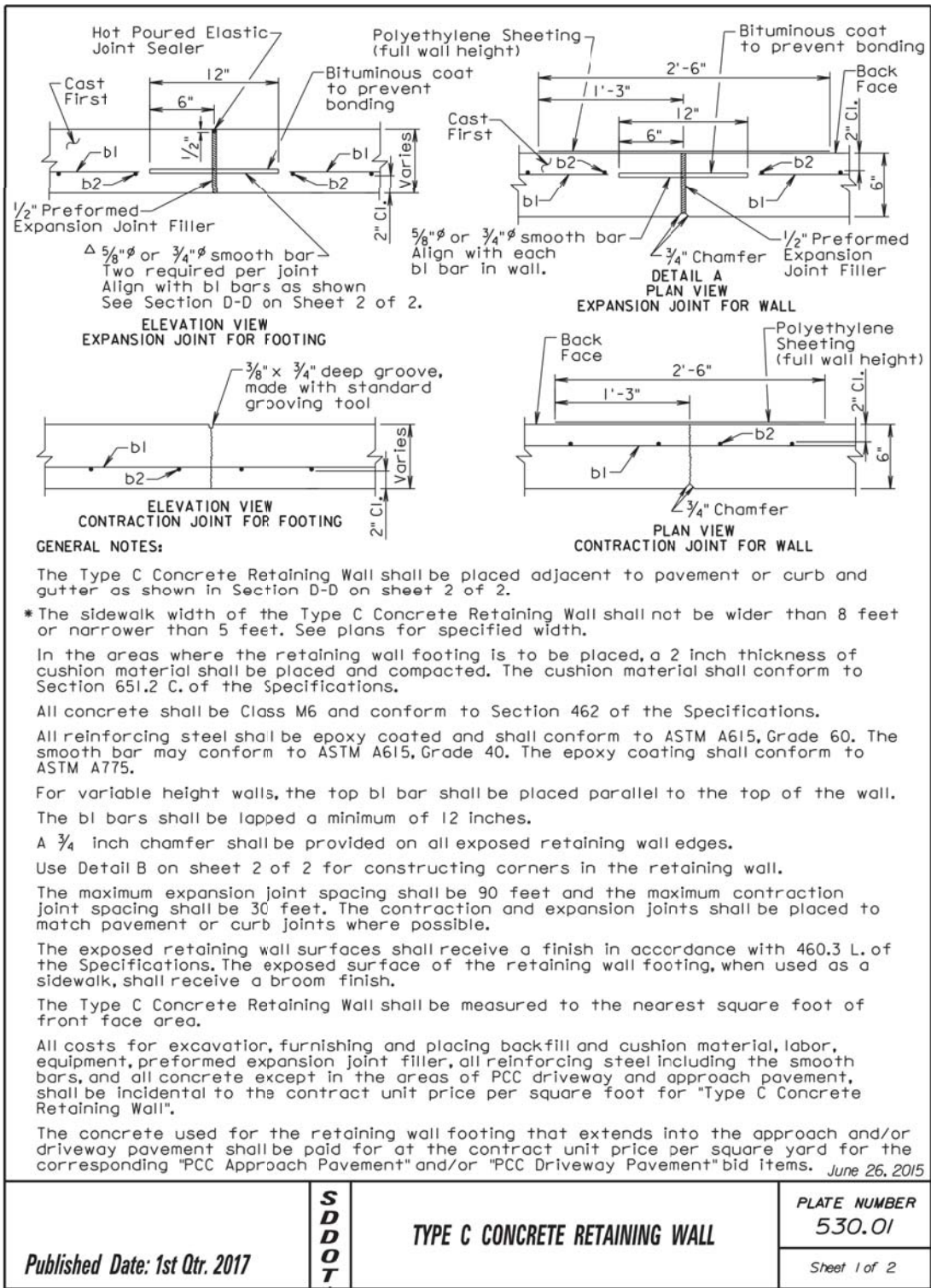
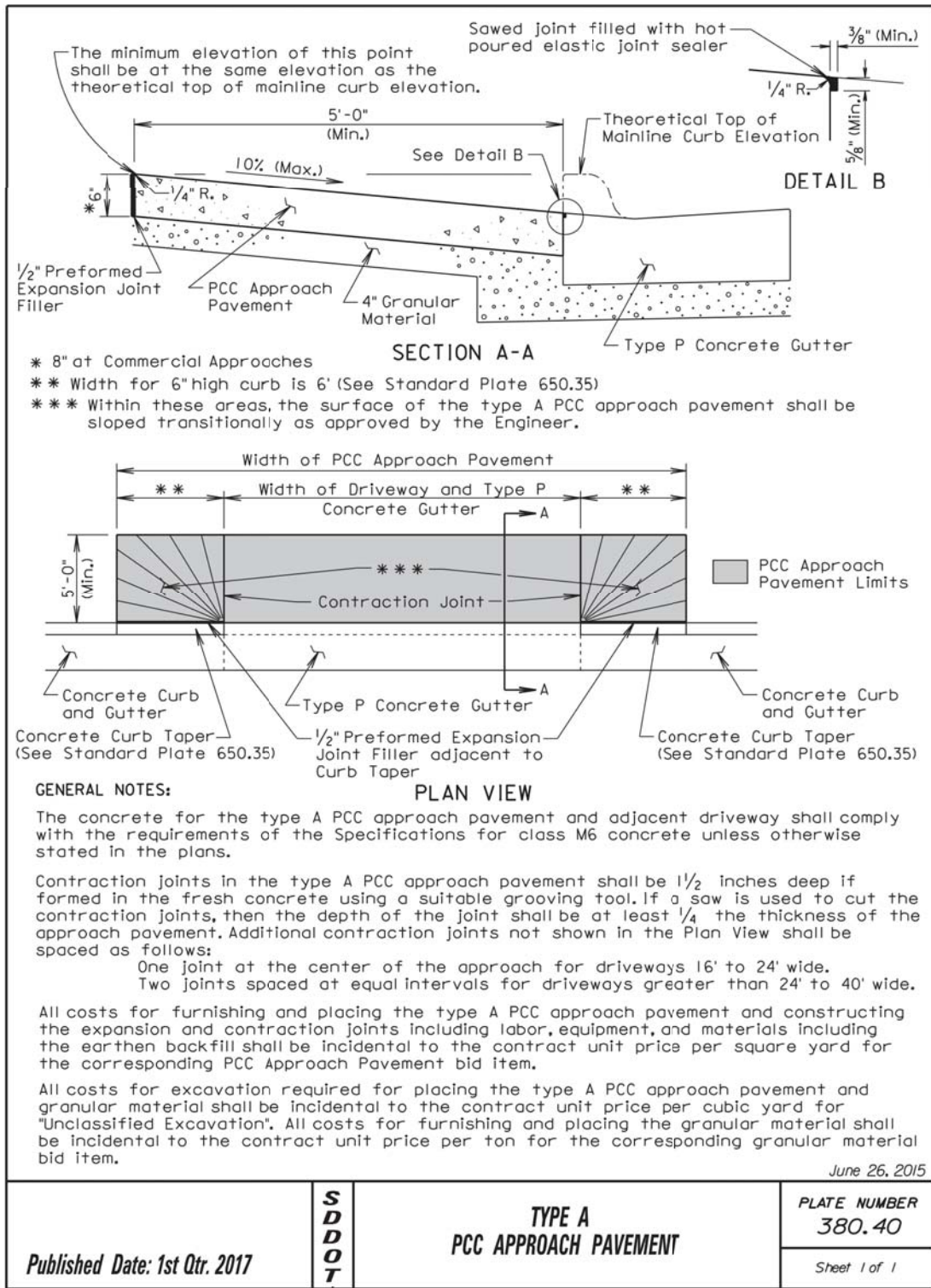
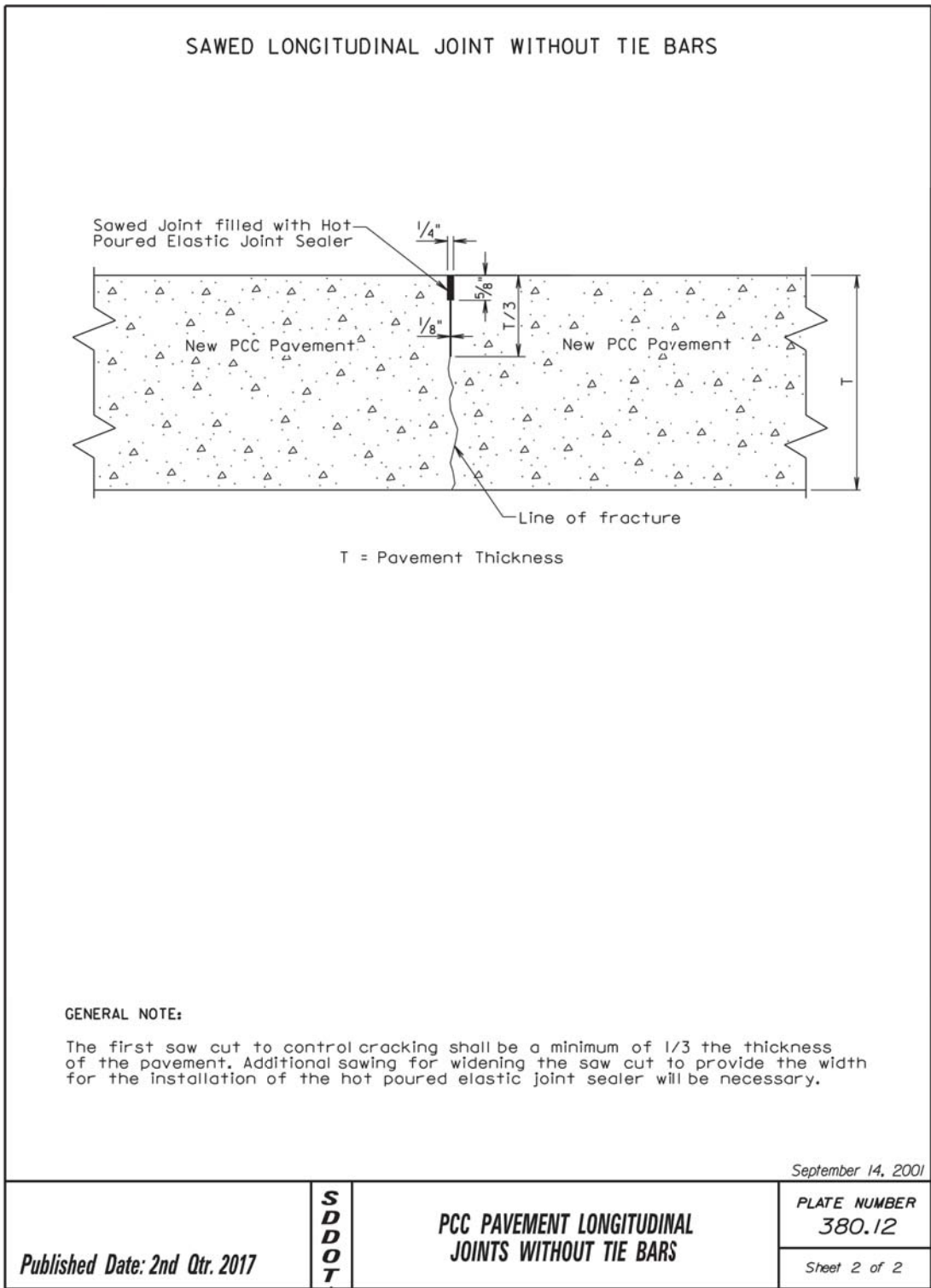
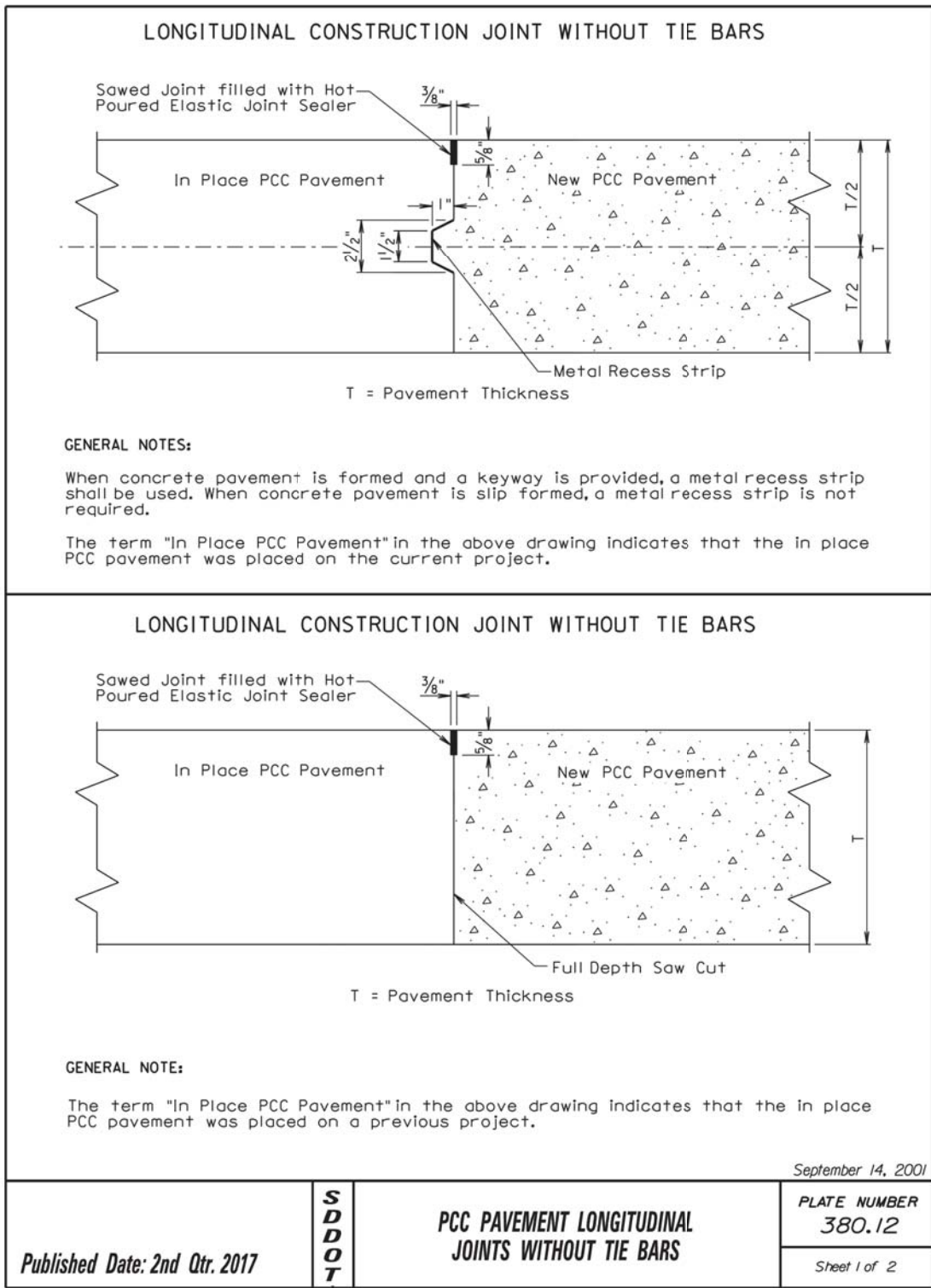
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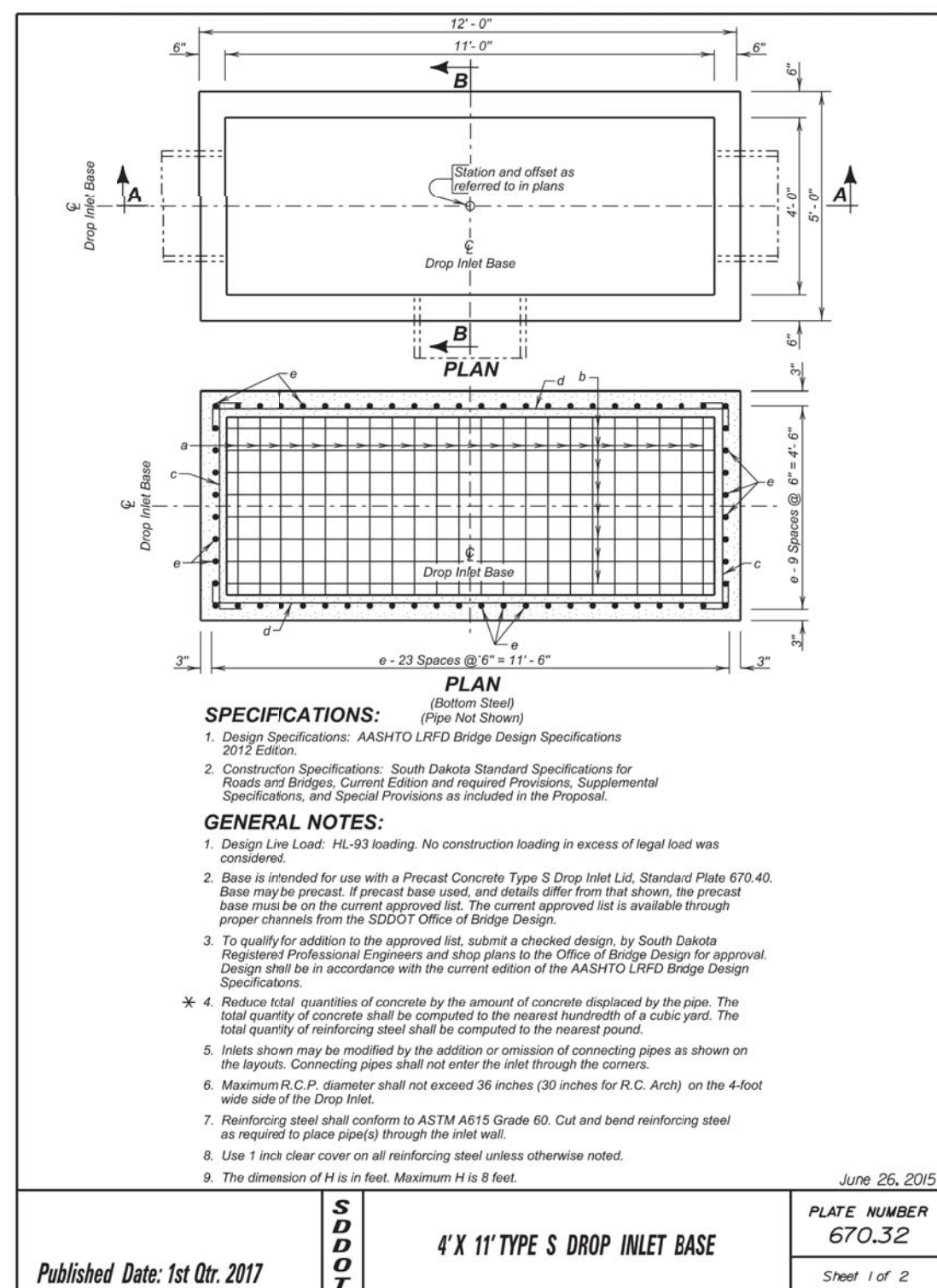
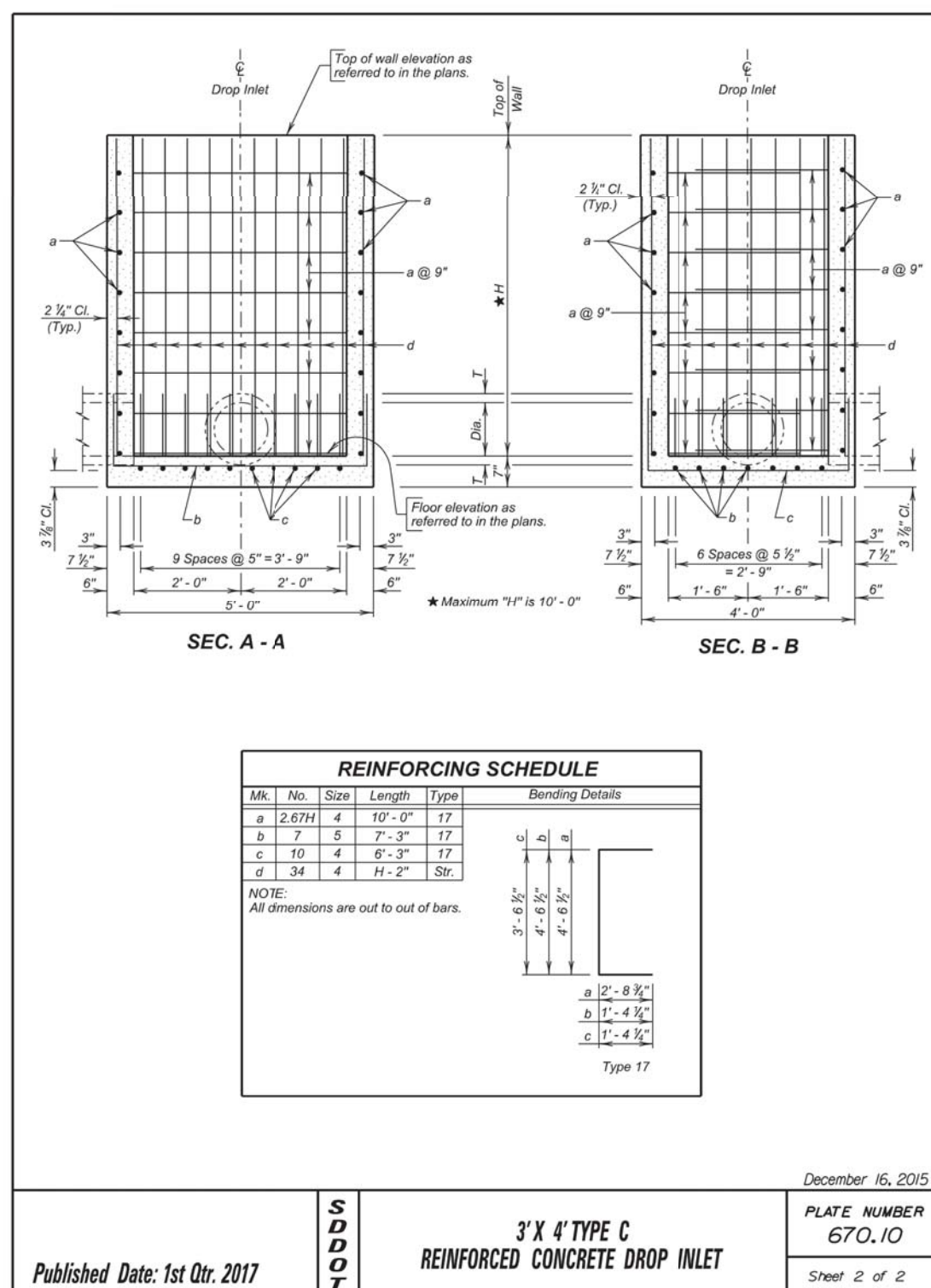
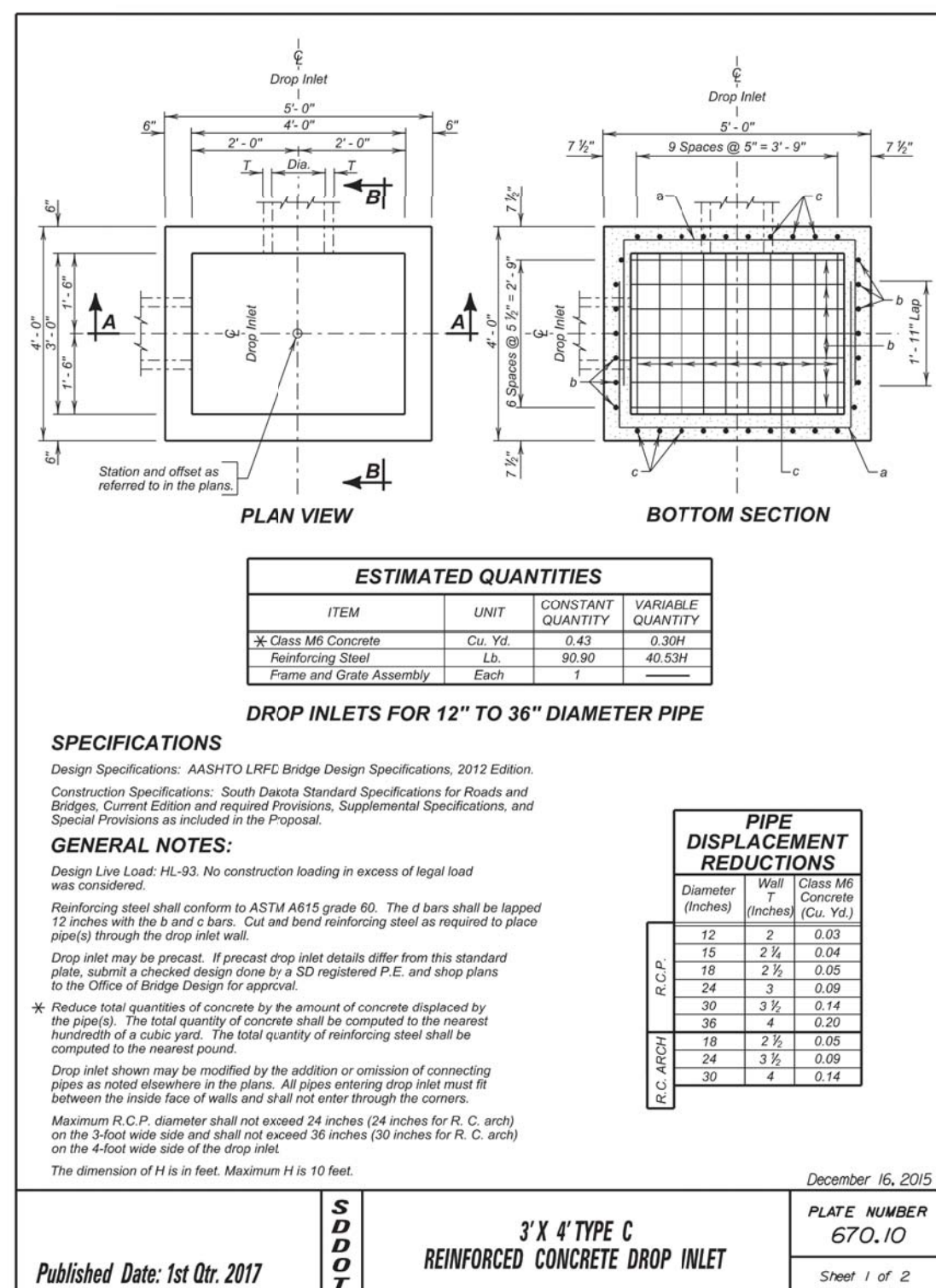
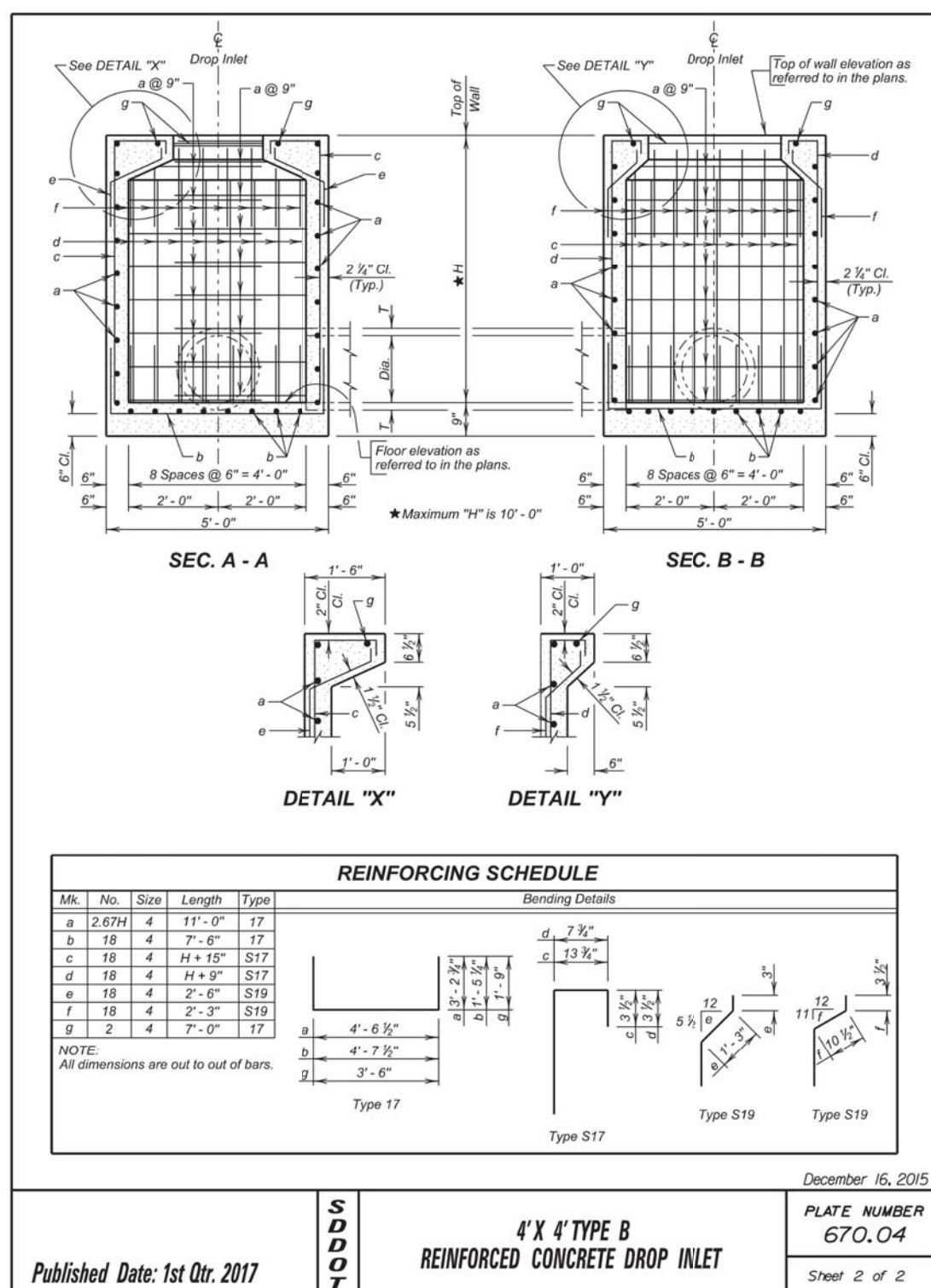
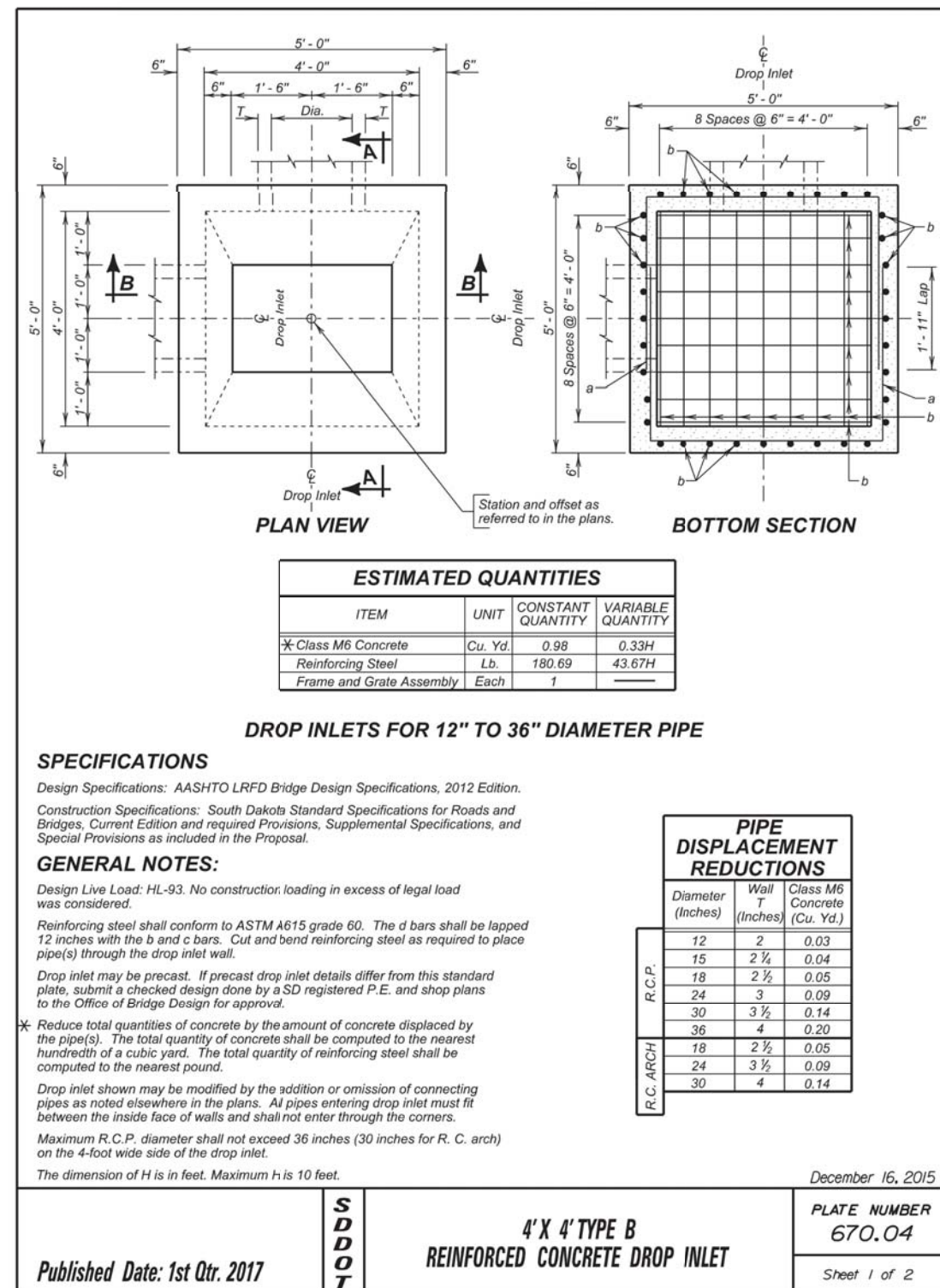
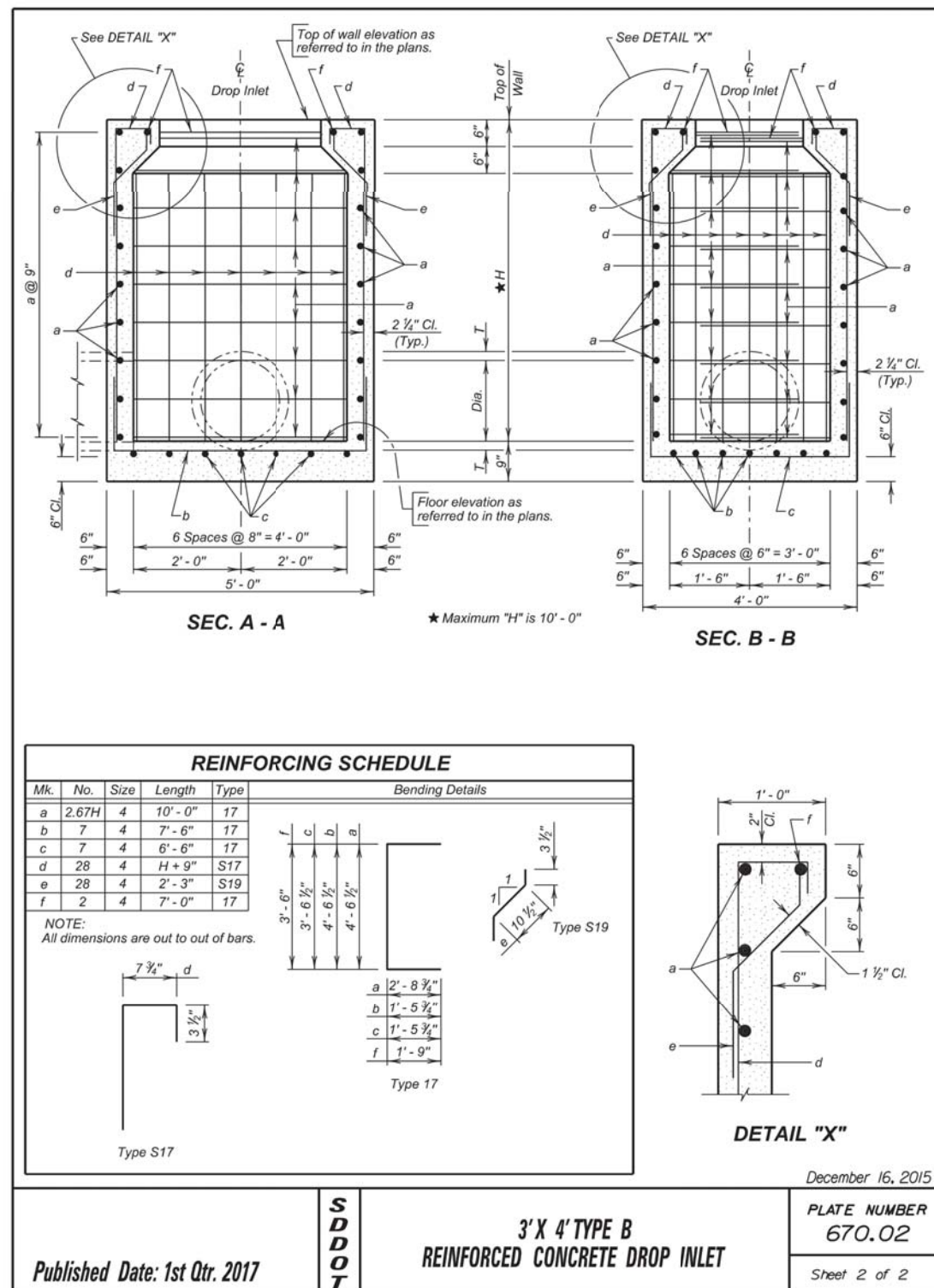
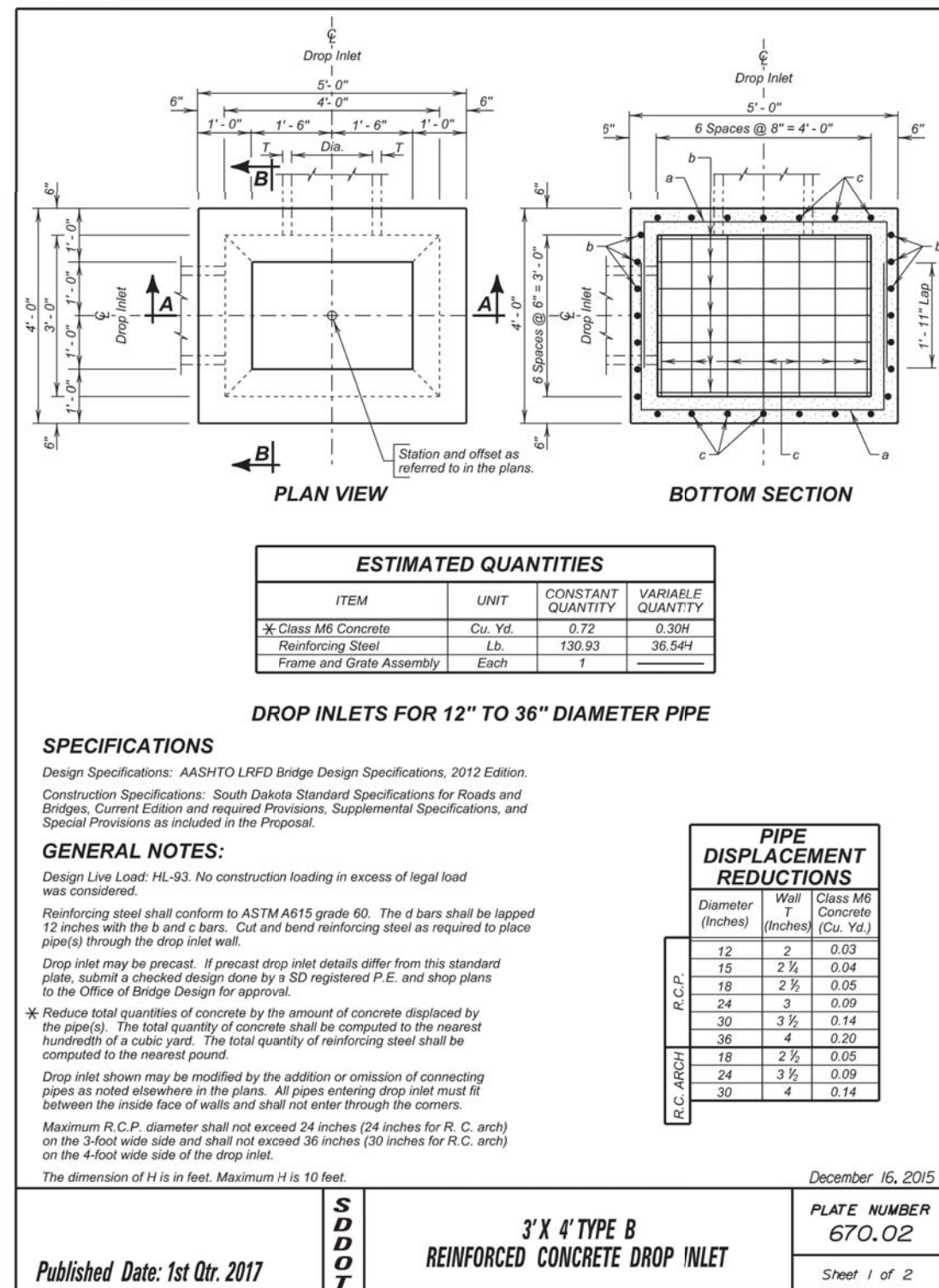
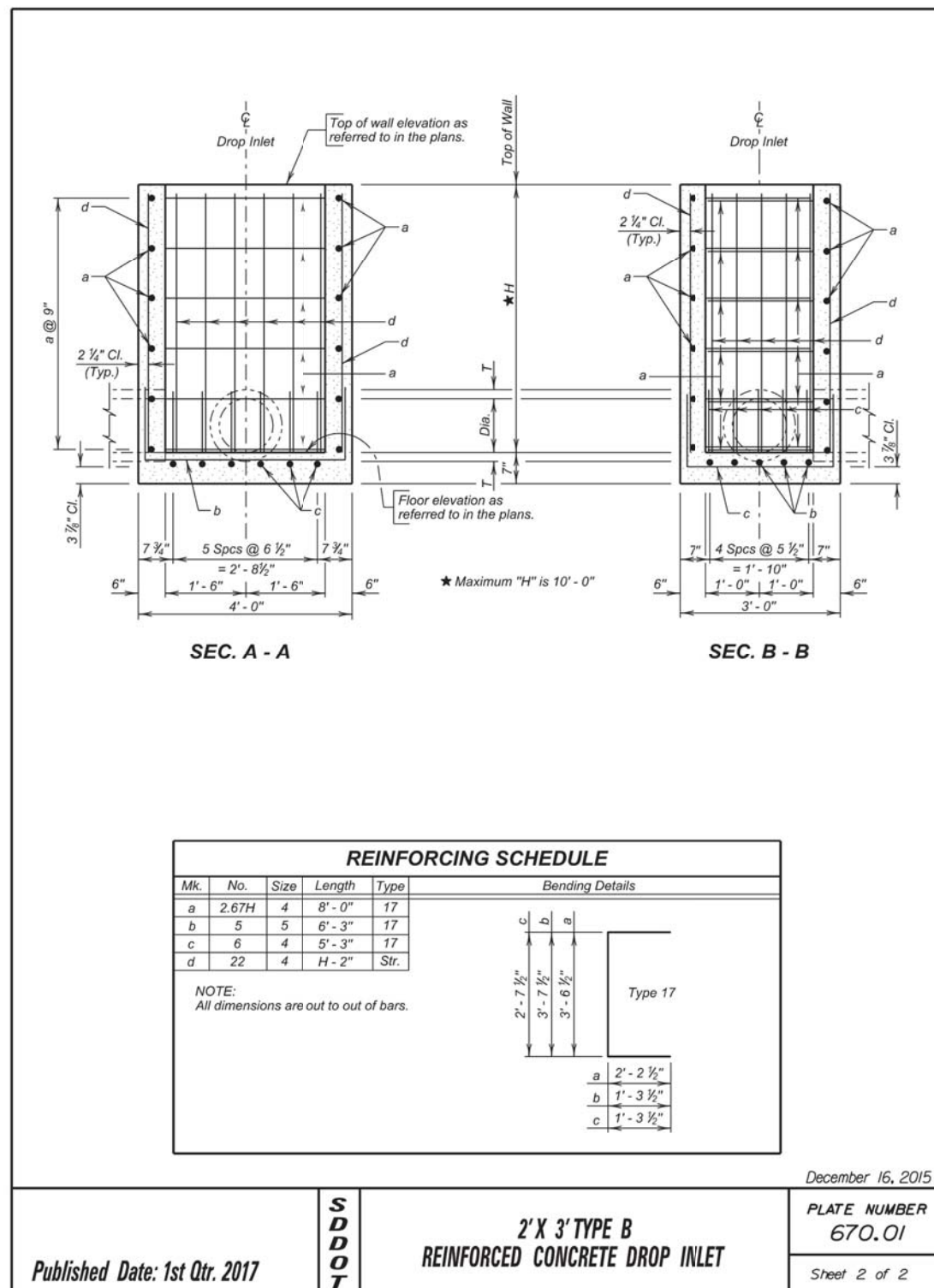
PROJECT SPECIFIC
DETAILS

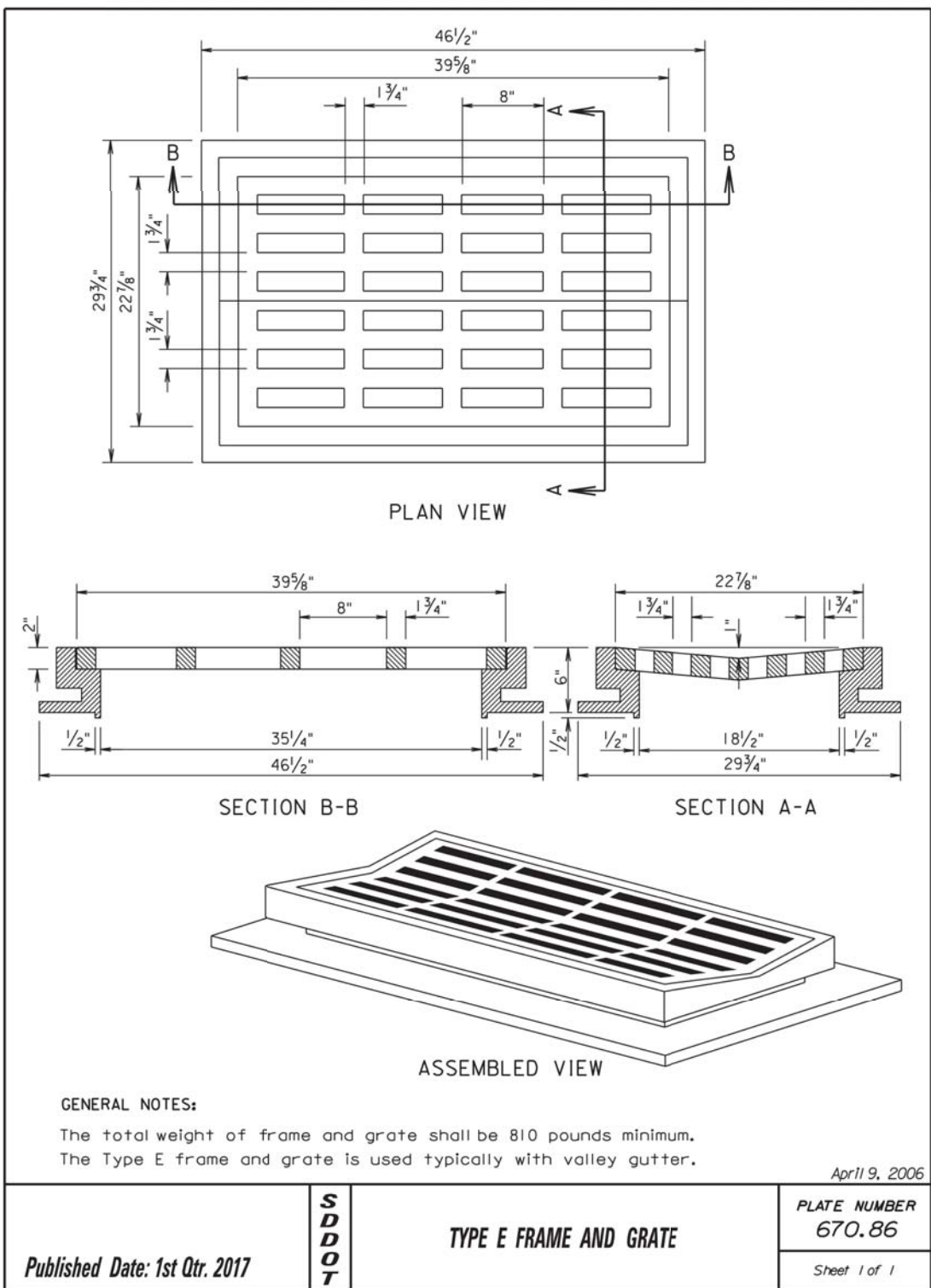
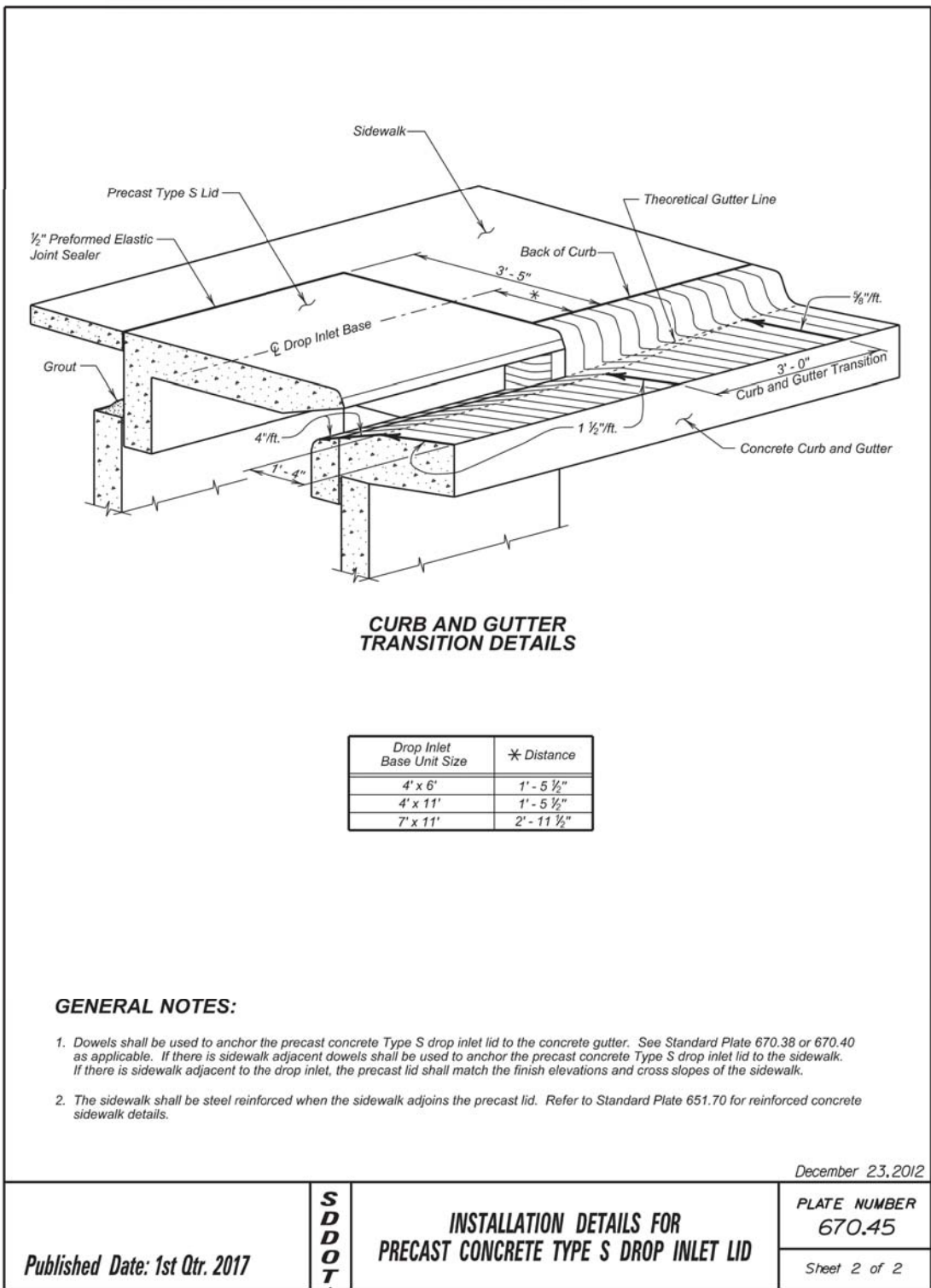
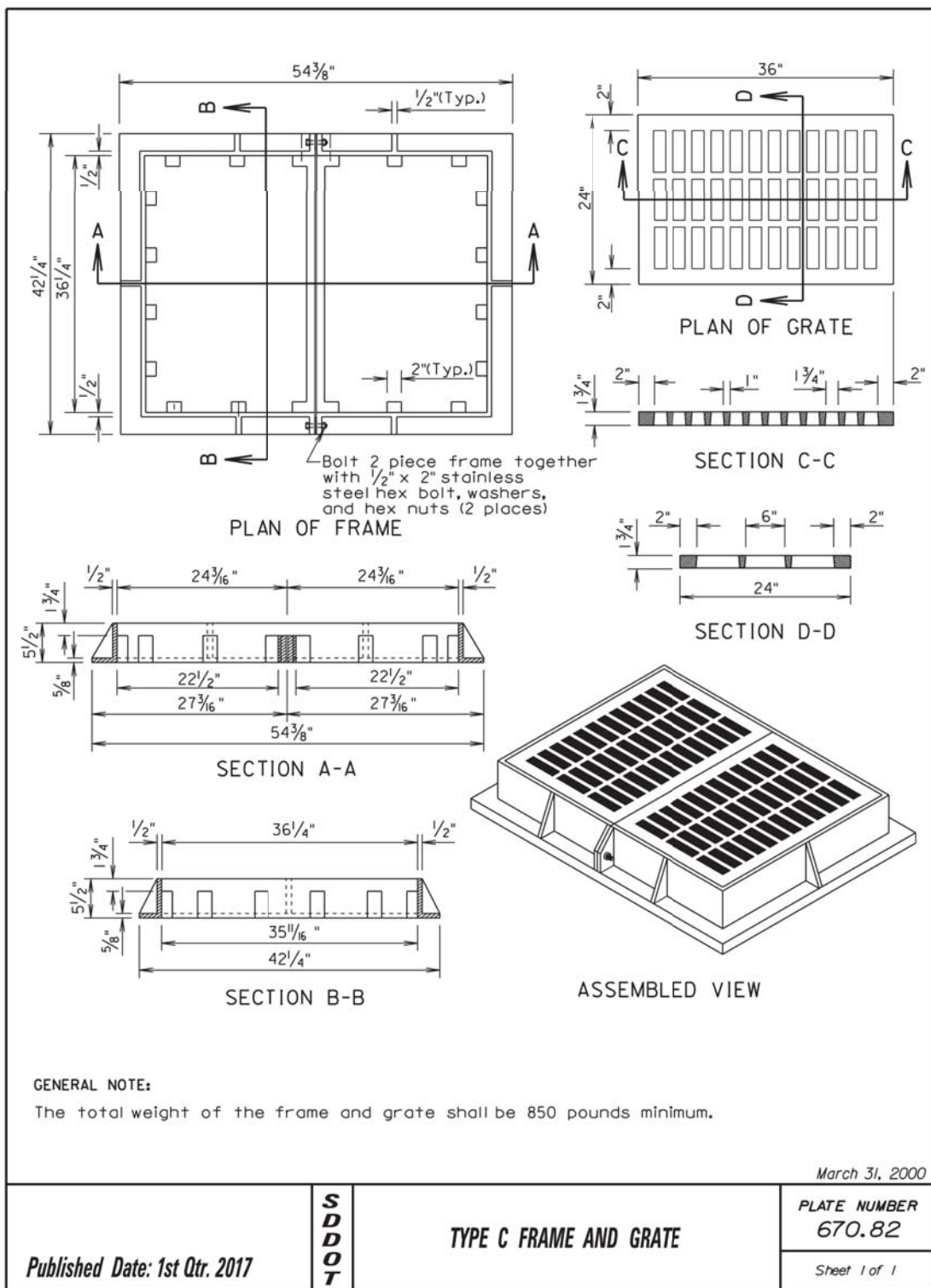
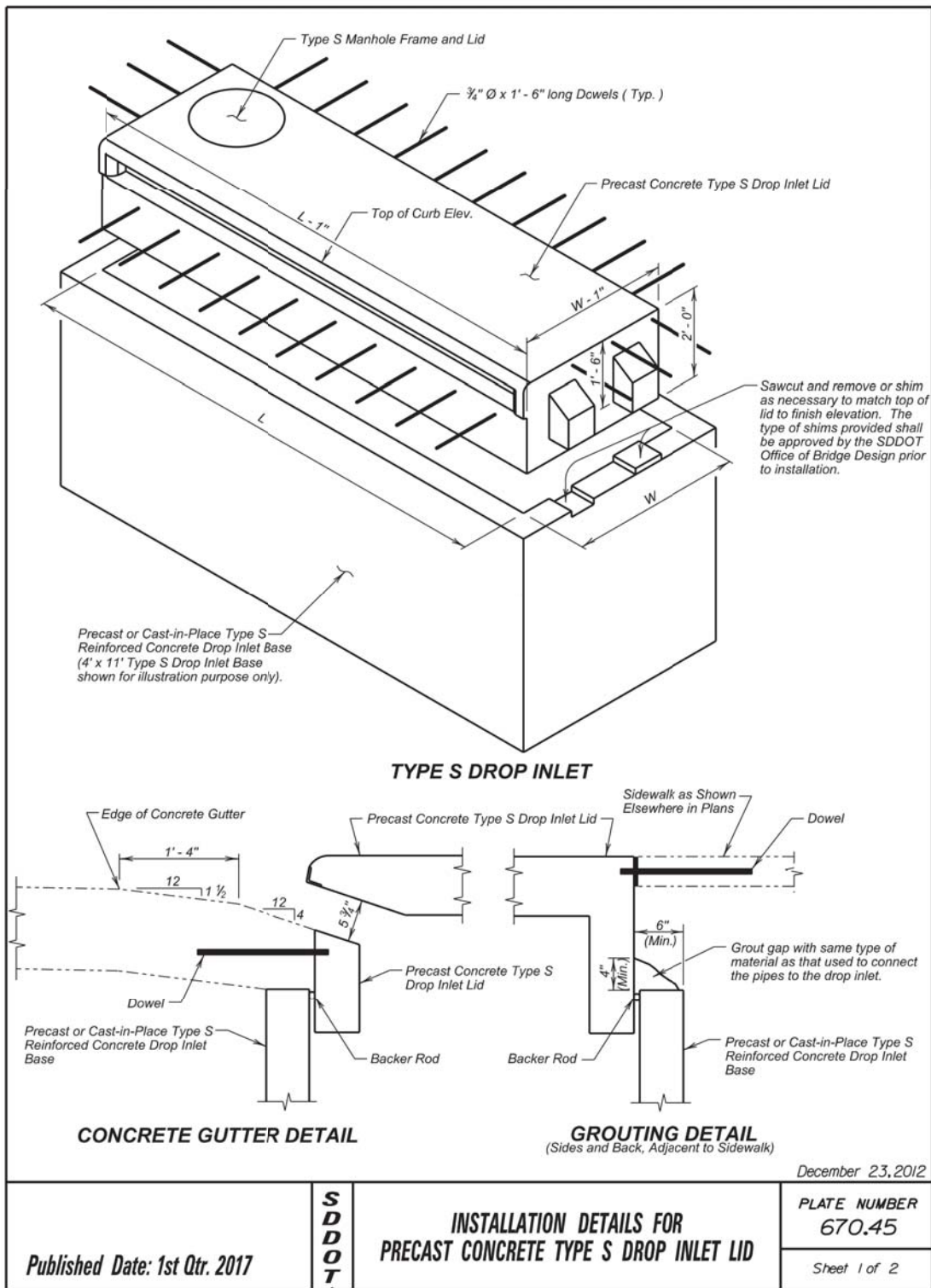
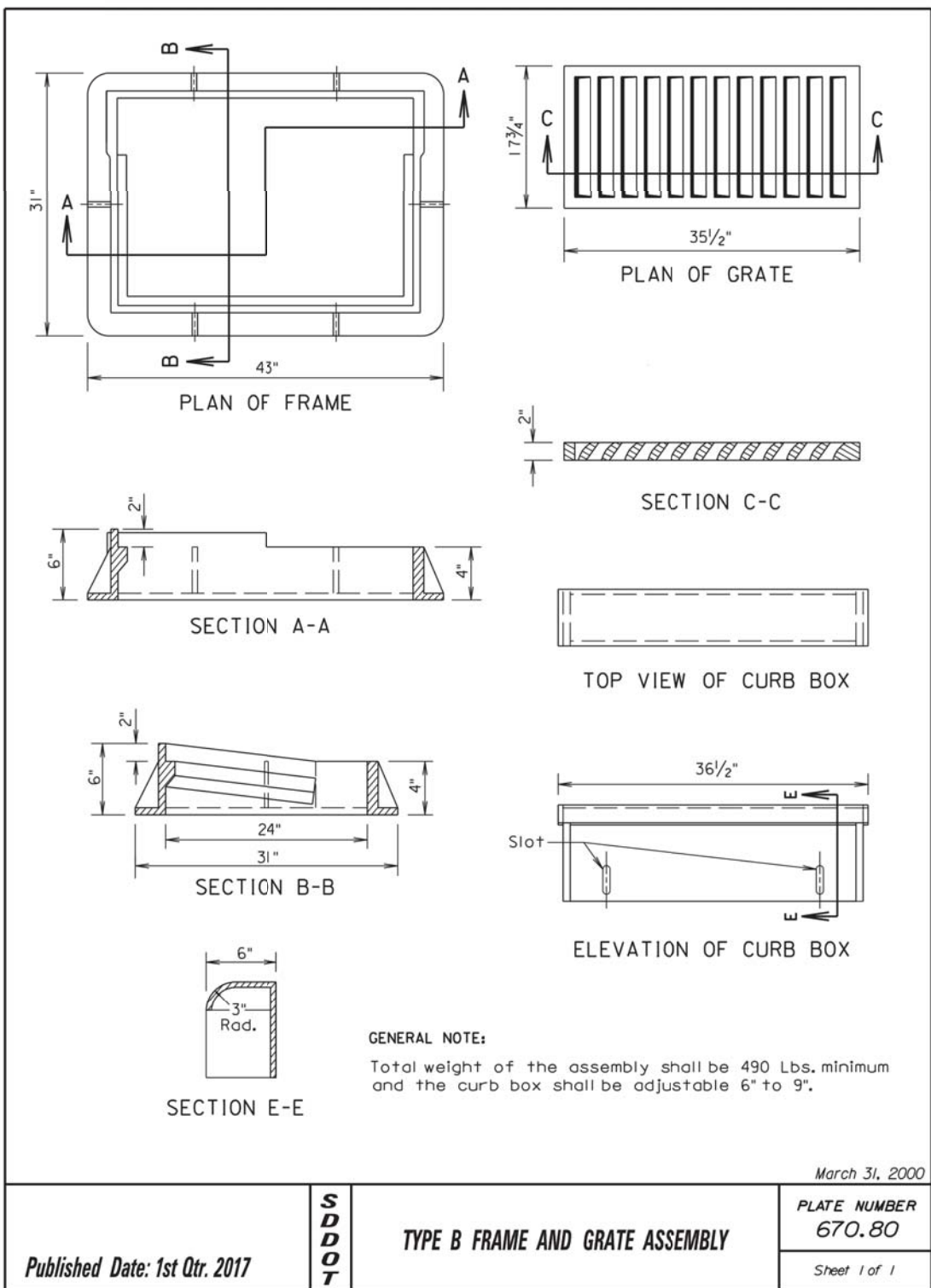
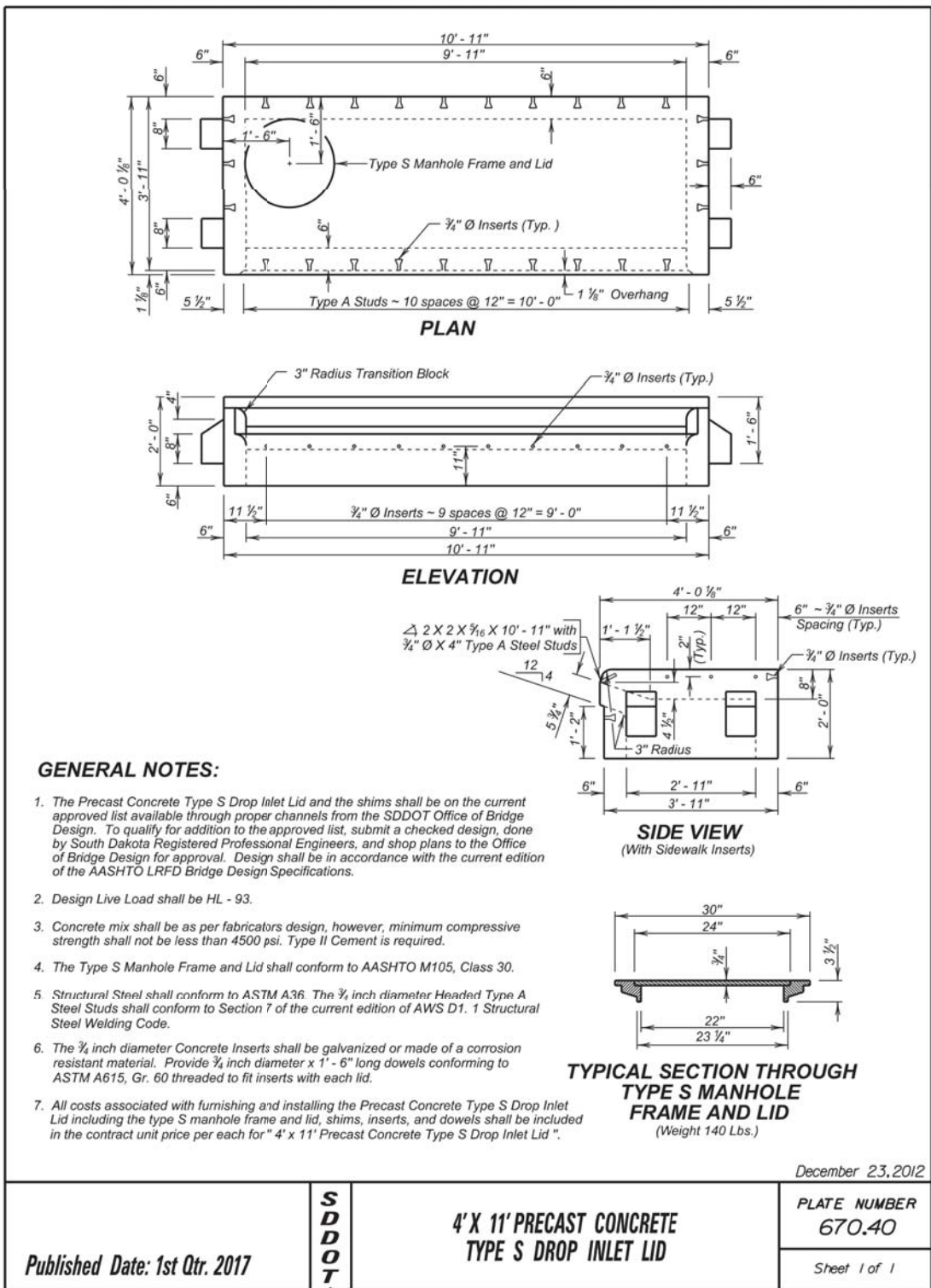
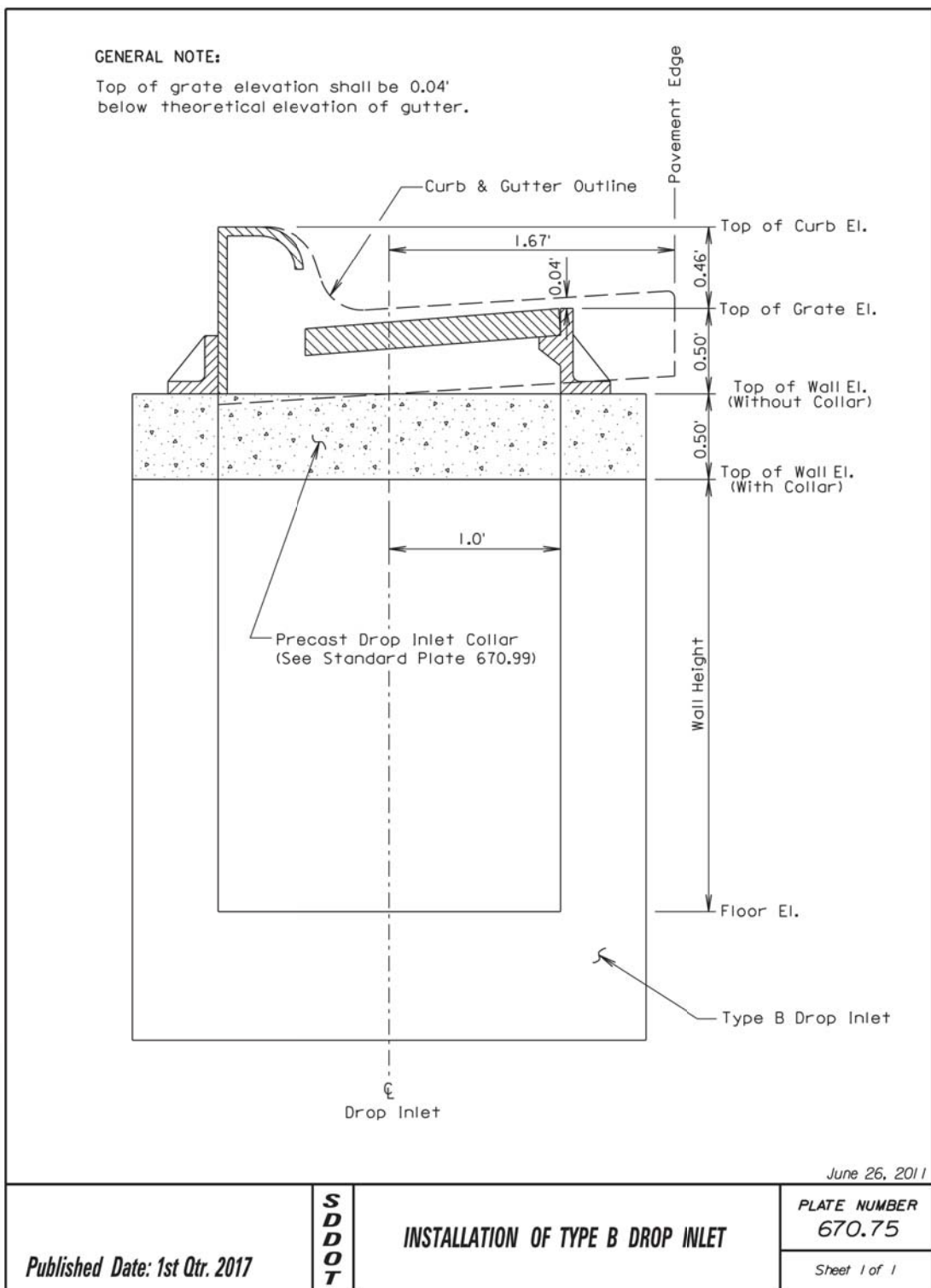
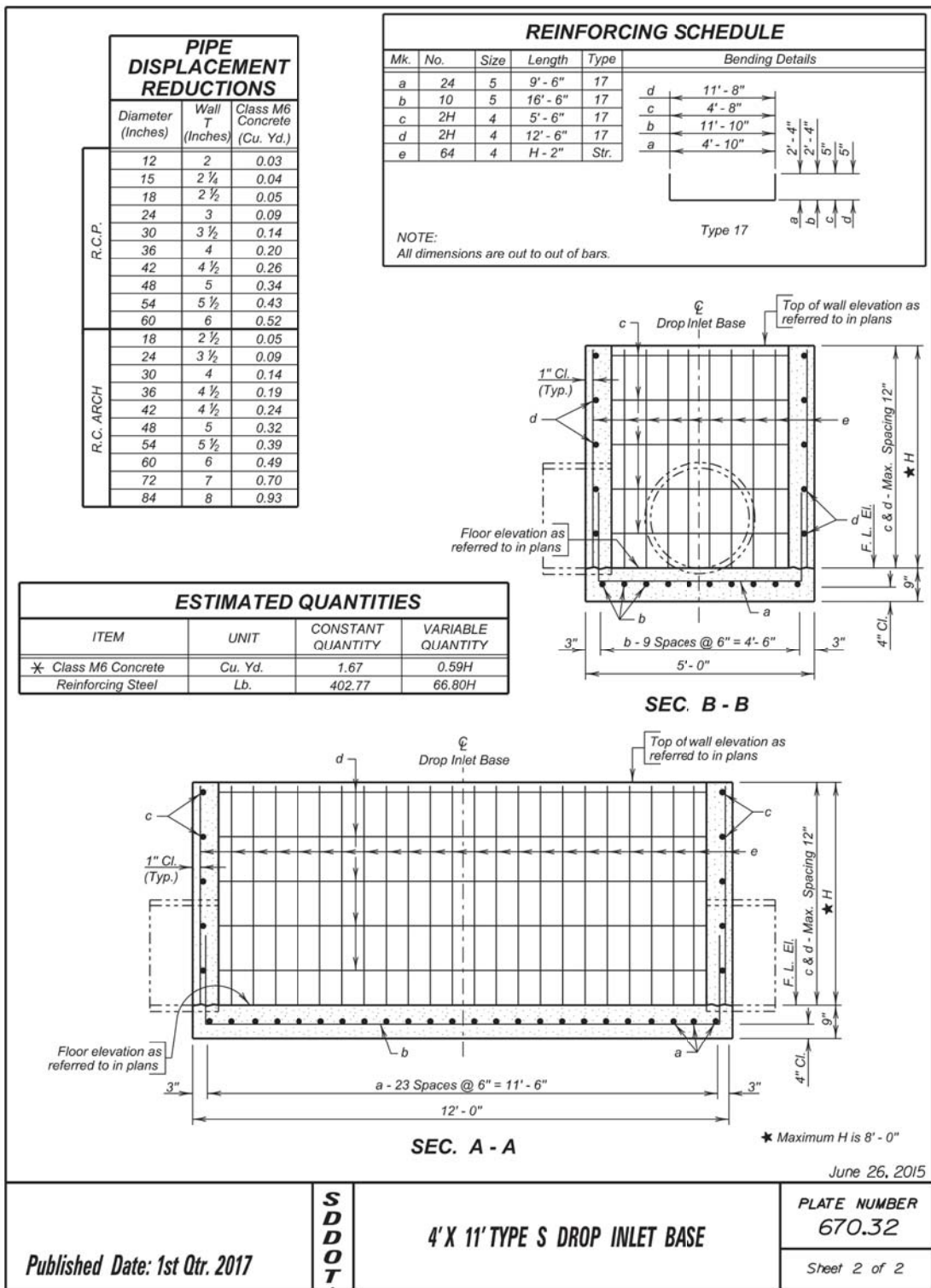
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4.2









INFORMATIONAL QUANTITIES				
ITEM	Class M6 Concrete	Reinforcing Steel	Install Dowel in Concrete	
DROP INLET COVER SIZE	Cu. Yd	Lb.		Each
4'-0" x 11'-0"	1.1	116		12
5'-0" x 11'-0"	1.6	153		12
7'-0" x 11'-0"	1.8	218		12

* Quantity of #1 Dowel Bars is not included in Reinforcing Steel.

SPECIFICATIONSDesign Specifications: AASHTO LRFD Bridge Design Specifications, 2012 Edition.
Construction Specifications: South Dakota Standard Specifications for Roads and Bridges, Current Edition and required Provisions, Supplemental Specifications, and Special Provisions as included in the Proposal.**GENERAL NOTES**

Design Live Load: HL-93. No construction loading in excess of legal load was considered.

Drop inlet covers may be precast. If precast drop inlet cover details differ from the standard plate, submit a checked design done by a SD registered P.E. and shop plans to the Office of Bridge Design for approval. If precast, top side of lid shall be marked.

All exposed edges shall be chamfered 5/16 inch.

Maximum fill over drop inlet cover shall be 3 feet, including surfacing.

Contractor shall break out drop inlet walls as necessary for the drop inlet cover to fit below roadway surfacing.

Apply a thin layer of grout between drop inlet and cover to ensure uniform bearing. Grout shall conform to Section 460.2 K.

All costs involved in furnishing and installing the drop inlet cover including the epoxy resin and dowels shall be incidental to the contract unit price per Each for "4' x 11' Drop Inlet Cover", "5.5' x 11' Drop Inlet Cover", or "7' x 11' Drop Inlet Cover".

INSTALLING DOWELS IN CONCRETE

Holes drilled in the existing concrete shall be true and normal or as shown in the plans. Care shall be taken not to damage the existing reinforcing steel. It is very likely that the existing reinforcing steel shown in the original construction plans may have been placed out of position during original construction. Therefore, prior to drilling holes in the concrete, an effort will be made by the Department forces to mark locations of the in place reinforcing steel on the concrete surface. In spite of the precautions, the Contractor can still expect to encounter and have to drill through reinforcing steel or shift the dowel spacing as approved by the Engineer to miss the existing reinforcing steel.

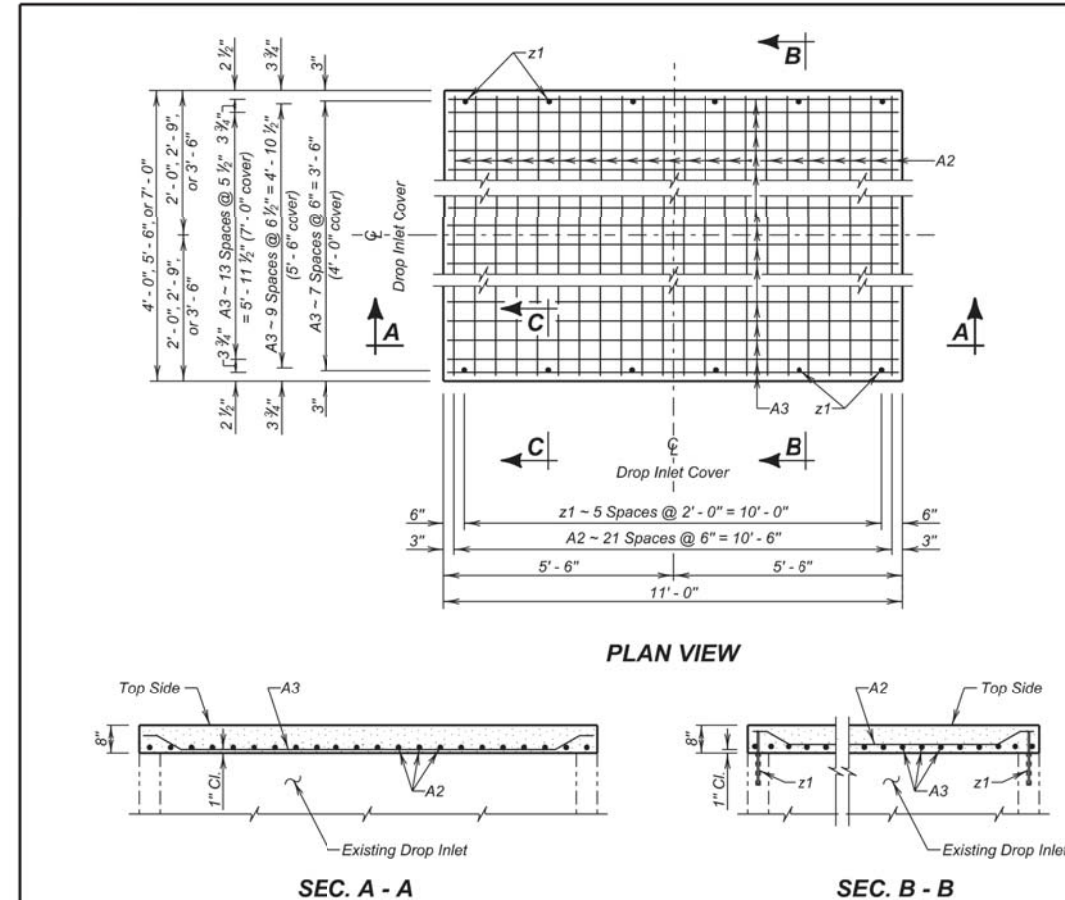
The epoxy resin mixture shall be of a type for bonding steel to hardened concrete and shall conform to AASHTO M235 Type IV, Grade 3 (Equivalent to ASTM C881, Type IV, Grade 3).

The diameter of the drilled holes shall not be less than 1/8 inch greater, nor more than 1/8 inch greater than the diameter of the dowels or as per the Manufacturer's recommendation. Use compressed air or other techniques to ensure that the hole is free of any loose material before epoxy resin is applied.

Mix epoxy resin as recommended by the Manufacturer and apply by an injection method as approved by the Engineer. Beginning at the bottom of the drilled holes, fill the holes 1/2 full of epoxy resin. Rotate the steel bar during installation to eliminate voids and insure complete bonding of the bar. Insertion of the bars by the dipping method will not be allowed.

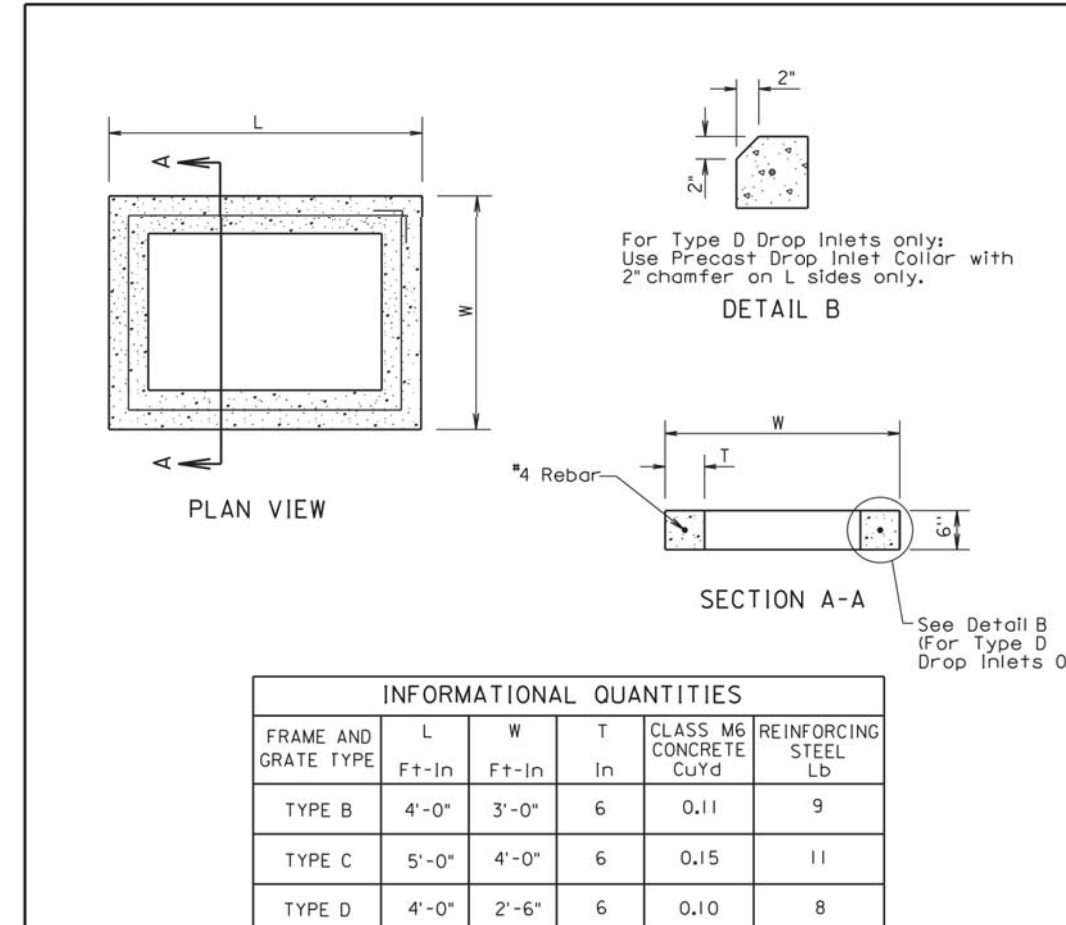
No loads shall be applied to the epoxy grouted dowel bars until the epoxy resin has had sufficient time to cure as specified by the epoxy resin manufacturer.

Embed dowels 9 inches into existing concrete.



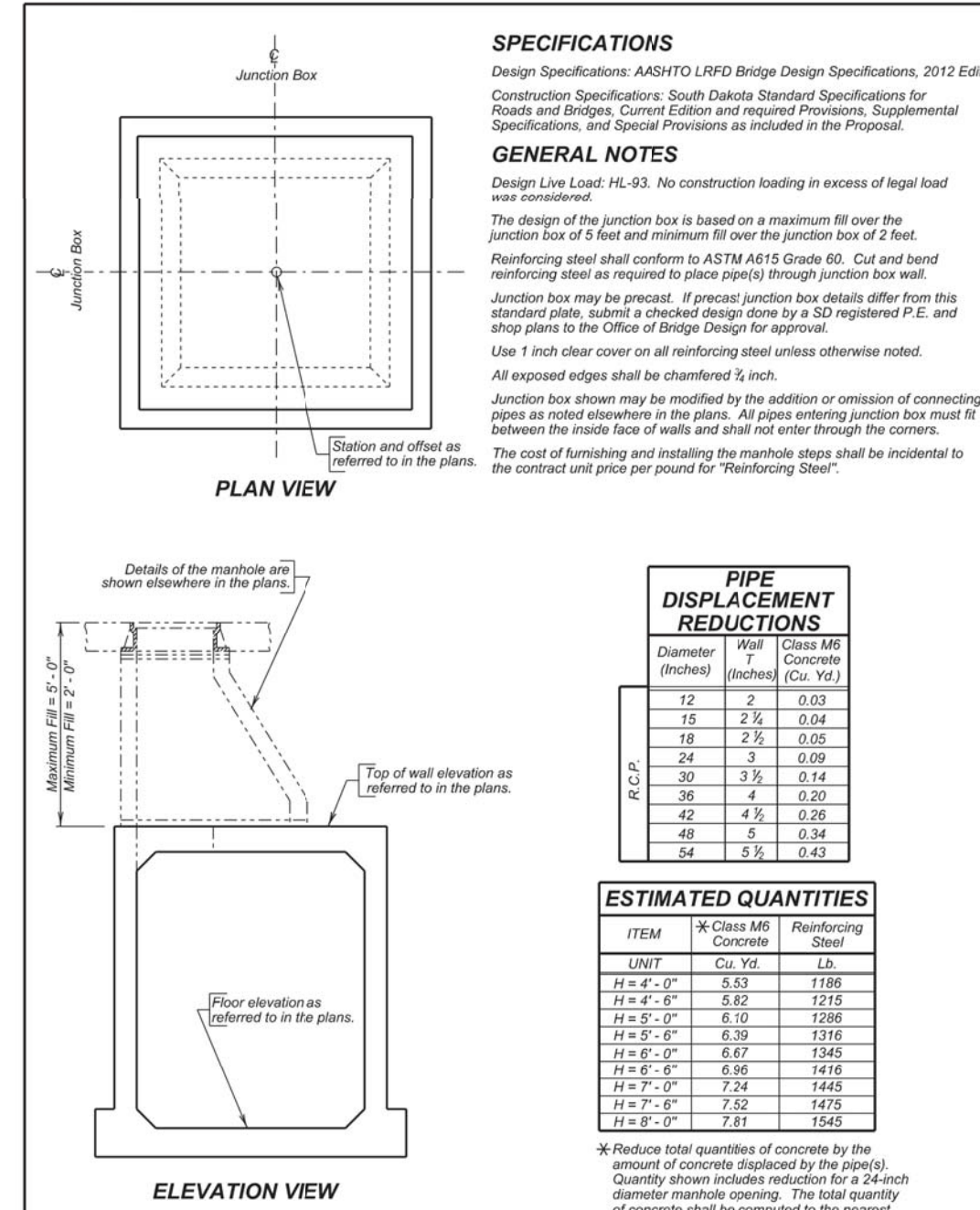
REINFORCING SCHEDULE				
Mk.	No.	Size	Length	Type
A1	22	4	3'-11"	14A
A3	8	4	10'-11"	14A
A21	12	4	1'-3"	Str.
A2	22	4	9'-5"	14A
A3	10	4	10'-11"	14A
A21	12	4	1'-3"	Str.
A2	22	4	6'-11"	14A
A3	16	4	10'-11"	14A
A21	12	4	1'-3"	Str.
A3	8	4	9'-0"	14A
A21	12	4	1'-3"	Str.

December 16, 2015	PLATE NUMBER	670.92
Published Date: 1st Qtr. 2017	PERMANENT	4'X 11', 5.5'X 11', AND 7'X 11' DROP INLET COVERS
	SD	DOT
	Sheet	2 of 2



INFORMATIONAL QUANTITIES				
FRAME AND GRATE TYPE	L Ft.-In	W Ft.-In	T In	CLASS M6 CONCRETE CUYG
TYPE B	4'-0"	3'-0"	6	0.11
TYPE C	5'-0"	4'-0"	6	0.15
TYPE D	4'-0"	2'-6"	6	0.10

March 31, 2000	PLATE NUMBER	670.99
Published Date: 1st Qtr. 2017	PERMANENT	4'X 11', 5.5'X 11', AND 7'X 11' DROP INLET COVERS
	SD	DOT
	Sheet	1 of 1



December 16, 2015	PLATE NUMBER	671.02
Published Date: 2nd Qtr. 2017	PERMANENT	4'X 11', 5.5'X 11', AND 7'X 11' DROP INLET COVERS
	SD	DOT
	Sheet	1 of 3

REINFORCING SCHEDULE				
Mk.	No.	Size	Length	Type
A1	1	6	9'-0"	13
A2	4	-	-	-
A3	32	4	5'-0"	17A
A14	56	4	8'-0"	17
m2	22	6	7'-0"	Str.
m3	22	6	6'-0"	Str.
p2	56	4	6'-0"	Str.
q1	8	4	3'-6"	17A
A1	1	6	9'-0"	13
A2	4	-	-	-
A3	32	4	5'-0"	17A
A14	56	4	8'-0"	17
m2	22	6	7'-0"	Str.
m3	22	6	6'-0"	Str.
p2	56	4	6'-0"	Str.
q1	8	4	3'-6"	17A
A1	1	6	9'-0"	13
A2	4	-	-	-
A3	32	4	5'-0"	17A
A14	56	4	8'-0"	17
m2	22	6	7'-0"	Str.
m3	22	6	6'-0"	Str.
p2	56	4	6'-0"	Str.
q1	8	4	3'-6"	17A
A1	1	6	9'-0"	13
A2	4	-	-	-
A3	32	4	5'-0"	17A
A14	56	4	8'-0"	17
m2	22	6	7'-0"	Str.
m3	22	6	6'-0"	Str.
p2	56	4	6'-0"	Str.
q1	8	4	3'-6"	17A
A1	1	6	9'-0"	13
A2	4	-	-	-
A3	32	4	5'-0"	17A
A14	56	4	8'-0"	17
m2	22	6	7'-0"	Str.
m3	22	6	6'-0"	Str.
p2	56	4	6'-0"	Str.
q1	8	4	3'-6"	17A
A1	1	6	9'-0"	13
A2	4	-	-	-
A3	32	4	5'-0"	17A
A14	56	4	8'-0"	17
m2	22	6	7'-0"	Str.
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p2	56	4	6'-0"	Str.
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A1	1	6	9'-0"	13
A2	4	-	-	-
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A2	4	-	-	-
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A2	4	-	-	-
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