

SITE OF WORK

CATTARAUGUS COUNTY DEPARTMENT OF PUBLIC WORKS



REPLACEMENT OF LEON BRIDGE #8 LEON-NEW ALBION ROAD (CR 6) OVER MUD CREEK TOWN OF LEON CATTARAUGUS COUNTY PIN 5762.94 & BIN 3322120

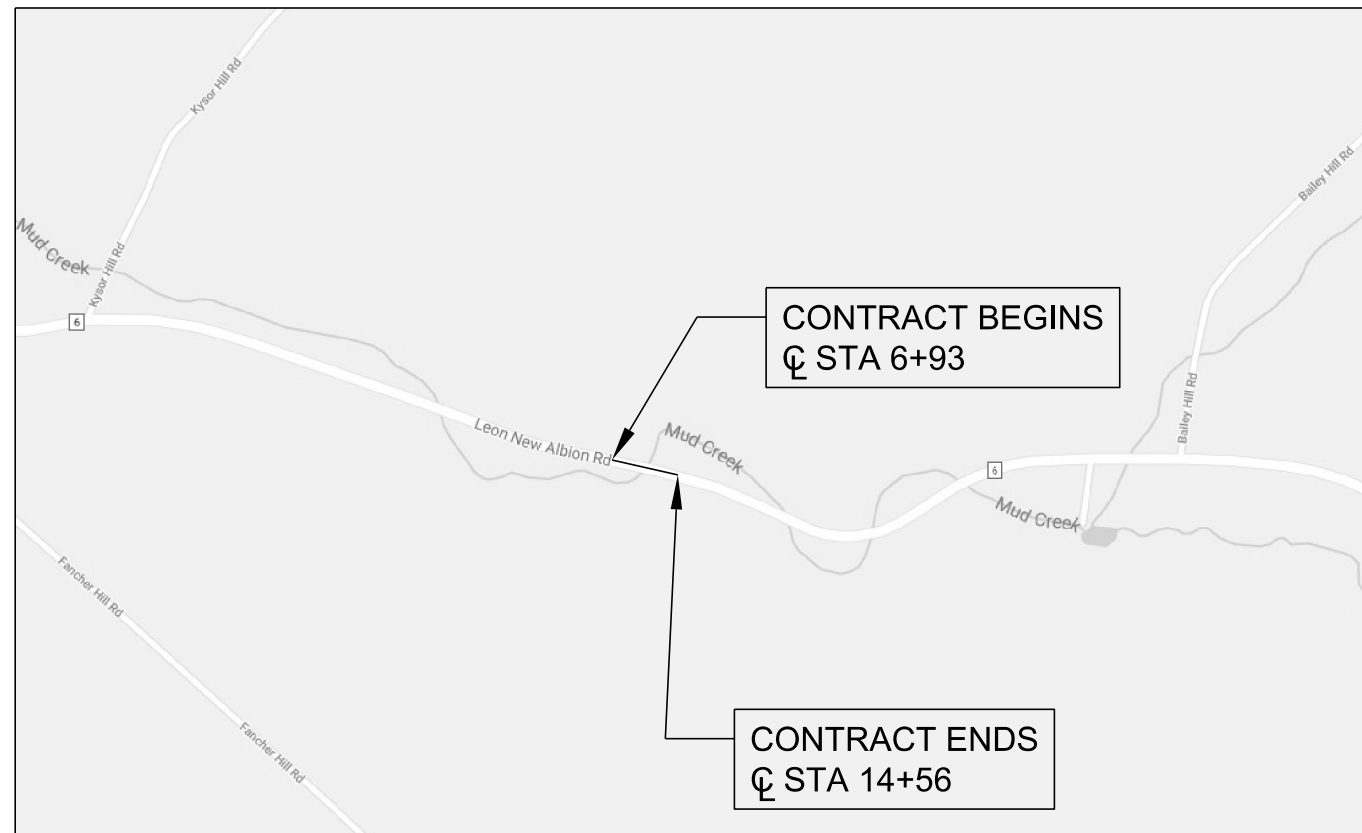
40 SHEETS

RECOMMENDED BY:
KATHLEEN M. ELLIS
COMMISSIONER
CATTARAUGUS COUNTY DPW

PREPARED AND RECOMMENDED BY:

TIMOTHY E. MAJOR, P.E.
N.Y.S.P.E. LICENSE NO. 081051
WATTS ARCHITECTURE & ENGINEERING

CONTRACTOR'S NAME: _____
AWARD DATE: _____
COMPLETION DATE: _____
ENGINEER IN CHARGE: _____



PROJECT LOCATION

NOT TO SCALE

THE LEON-NEW ALBION ROAD BRIDGE (BIN 3322120) IS LOCATED IN THE TOWN OF LEON IN CATTARAUGUS COUNTY. THE EXISTING BRIDGE CARRIES LEON-NEW ALBION ROAD (CR 6) OVER MUD CREEK.

INDEX ON SHEET NO. 2

TYPE OF CONSTRUCTION

BRIDGE REPLACEMENT WITH CAST IN PLACE CONCRETE CANTILEVER ABUTMENTS FOUNDED ON ROCK, PRESTRESSED CONCRETE BEAM SUPERSTRUCTURE AND APPROACH ROADWAY IMPROVEMENTS.

HIGHWAY STANDARD SHEETS

209-01, 606-04, 608-03, 619-01, 619-02, 619-04, 619-10, 619-11, 619-12, 619-66, 645-01, 646-13, 646-14, 616-15, 685-01

NOTICE:

ALL WORK CONTEMPLATED UNDER THIS CONTRACT IS TO BE COVERED BY AND IN CONFORMANCE WITH THE NEW YORK STATE DEPARTMENT OF TRANSPORTATION'S (NYSDOT'S) STANDARD SPECIFICATIONS (ENGLISH UNITS) AND ALL CURRENT ADDITIONS AND MODIFICATIONS EXCEPT AS MODIFIED BY THESE PLANS OR BY CHANGES SET FORTH IN THE CONTRACT PROJECT PROPOSAL.

MAINTENANCE JURISDICTION:

NO CHANGES IN MAINTENANCE JURISDICTION WILL RESULT FROM THIS PROJECT.

WARNING:

IT IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW FOR ANY PERSON UNLESS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER ANY ITEM IN THESE PLANS IN ANY WAY. IF ALTERATIONS TO THESE PLANS ARE REQUIRED, THE ALTERATIONS SHALL BE MADE IN ACCORDANCE WITH ARTICLE 145 SUBSECTION 7209 OF THE NEW YORK STATE EDUCATION LAW.

STREAM RESTRICTION:

THERE WILL BE NO IN-STREAM WORK ALLOWED FROM SEPTEMBER 15 - MAY 31



95 Perry Street, Suite 300
Buffalo, New York 14203
p: 716.206.5100 f: 716.206.5199

PROJECT NO.	PIN 5762.94	
DWG. NO.	COVER	
SHEET	1	OF 40
PROJECT NO.	19106	
FILE NAME	R:\2019\19106 Leon Bridge 8 over Mud Creek\18. CADD\Bridge\19106_cpb_cov.dgn	

ALIGNMENT	
ABBR.	DESCRIPTION
AH	AHEAD
AZ	AZIMUTH
BK	BACK
b	BASELINE
BRG	BEARING
c	CENTERLINE
CS	CURVE TO SPIRAL
e	SUPERELEVATION RATE (CROSS SLOPE)
EQ	EQUALITY
EXT	EXTERNAL
HCL	HORIZONTAL CONTROL LINE
HSD	HEADLIGHT SIGHT DISTANCE
L	LENGTH OF CIRCULAR CURVE
LS	LENGTH OF SPIRAL
LVC	LENGTH OF VERTICAL CURVE
E	CENTER CORRECTION OF VERTICAL CURVE
f	MAIN LINE
PC	POINT OF CURVATURE
PI	POINT OF INTERSECTION
POL	POINT ON LINE
PSD	PASSING SIGHT DISTANCE
PT	POINT OF TANGENT
PVC	POINT OF VERTICAL CURVE
PVI	POINT OF VERTICAL INTERSECTION
PVT	POINT OF VERTICAL TANGENT
R	RADIUS
SC	SPIRAL TO CURVE
SSD	STOPPING SIGHT DISTANCE
ST	SPIRAL TO TANGENT
STA	STATION
T	TANGENT LENGTH
TGL	THEORETICAL GRADE LINE
TS	TANGENT TO SPIRAL
VC	VERTICAL CURVE

TOPOGRAPHY (DRAINAGE)	
ABBR.	DESCRIPTION
BB	BOTTOM OF BANK (STREAM)
BC	BOTTOM OF CURB
BO	BOTTOM OF OPENING
CAP	CORRUGATED ALUMINUM PIPE
CB	CATCH BASIN
CIP	CAST IRON PIPE
c STRM	CENTERLINE OF STREAM
CMP	CORRUGATED METAL PIPE
CP	CONCRETE PIPE
CSP	CORRUGATED STEEL PIPE
CULV	CULVERT
DIA	DIAMETER
DMH	DRAINAGE MANHOLE
DS	DRAINAGE STRUCTURE PIPE
D'XING	DITCH CROSSING
EHW	EXTREME HIGH WATER
EL	ELEVATION
ELEV	ELEVATION
ELW	EXTREME LOW WATER
ES	END SECTION
HW	HEADWALL
INV	INVERT
MH	MANHOLE
MHW	MEAN HIGH WATER
OHW	ORDINARY HIGH WATER
OLW	ORDINARY LOW WATER
RCP	REINFORCED CONCRETE PIPE
TB	TOP OF BANK (STREAM)
TC	TOP OF CURB
TG	TOP OF GRATE
VCP	VITRIFIED CLAY PIPE
SICPP	SMOOTH INTERIOR CORRUGATED PE

TOPOGRAPHY (MISCELLANEOUS)	
ABBR.	DESCRIPTION
ABUT	ABUTMENT
AOBE	AS ORDERED BY ENGINEER
ASPH	ASPHALT
BDY	BOUNDARY
BLDG	BUILDING
BM	BENCH MARK
CC	CENTER TO CENTER
CONC	CONCRETE
CONST	CONSTRUCTION
CR	COUNTY ROAD
D	DEED DISTANCE
DM	DIRECT MEASUREMENT
DWY	DRIVEWAY
EP	EDGE OF PAVEMENT
ES	EDGE OF SHOULDER
FEE	FEE ACQUISITION
FEE WO/A	FEE ACQUISITION WITHOUT ACCESS
FP	FENCE POST
FD	FOUNDATION
FL	FENCE LINE
GAR	GARAGE
GR	GRAVEL
HO	HOUSE
HWY	HIGHWAY
IP	IRON PIN OR IRON PIPE
MB	MAILBOX
MON	MONUMENT
N&W	NAIL AND WASHER
OG	ORIGINAL GROUND
O/H	OVERHEAD
P	PARCEL
PAVT	PAVEMENT
PE	PERMANENT EASEMENT
PED POLE	PEDESTRIAN POLE
p	PROPERTY LINE
POR	PORCH
RR	RAILROAD
RTE	ROUTE
ROW	RIGHT OF WAY
RW	RETAINING WALL
SH	STATE HIGHWAY
SHLDR	SHOULDER
SPK	SPIKE
ST	STREET
STK	STAKE
STY	STORY
SW	SIDEWALK
TE	TEMPORARY EASEMENT
TO	TEMPORARY OCCUPANCY
U/G	UNDERGROUND
WW	WING WALL

UTILITIES	
ABBR.	DESCRIPTION
E	ELECTRIC
EMH	ELECTRIC MANHOLE
G	GAS
GP	GUY POLE
GSB	GAS SERVICE BOX (HOUSE LINE)
GV	GAS VALVE (MAIN LINE)
HYD	HYDRANT
LP	LIGHT POLE
LPG	LOW PRESSURE GAS
PP	POWER POLE
SA	SANITARY SEWER
SMH	SANITARY MANHOLE
ST	STORM SEWER
T	TELEPHONE
TCB	TRAFFIC CONTROL BOX
TELBOX	TELEPHONE BOX
TEL P	TELEPHONE POLE
TMH	TELEPHONE MANHOLE
CTV	CABLE TELEVISION
W	WATER
WSB	WATER SERVICE BOX (HOUSE LINE)
WV	WATER VALVE (MAIN LINE)

SUBSURFACE EXPLORATION	
ABBR.	DESCRIPTION
REPLACE ABBREVIATION "AB" WITH:	
AH	HAND AUGER
CP	CONE PENETROMETER
DA	2 INCHES CASED DRILL HOLE
DM	DRILLING MUD
DN	4 INCHES CASED DRILL HOLE
FH	HOLLOW FLIGHT AUGER
PA	POWER AUGER
PH	PROBE
PT	PERCOLATION TEST HOLE
RP	1 INCH SAMPLER (RETRACTABLE PLUG)
TO BE DEFINED AT THE TIME OF EXPLORATION	
SP	SEISMIC POINT
TP	TEST PIT

ABBREVIATION "C" IN CATAGORIES: DA, DM, DN, AND FH WITH:	
B	BRIDGE
C	CUT
D	DAM
F	FILL
K	CULVERT
W	WALL
X	TO BE USED IF ONE OF THE ABOVE CANNOT BE DEFINED AT THE TIME THE EXPLORATION IS MADE

project:

**Leon-New Albion
Road over
Mud Creek**
PIN 5762.94
BIN 3322120
Town of Leon
Cattaraugus County



WATTS
ARCHITECTURE &
ENGINEERING

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drawing history

number	date	description

sheet title

**SYMBOLS
AND
ABBREVIATIONS**

project number: 19106

drawn by: TEM

checked by: JCK

date: JUNE 2020

scale: AS SHOWN

sheet number

SA-02

project:

**Leon-New Albion
Road over
Mud Creek**
PIN 5762.94
BIN 3322120
Town of Leon
Cattaraugus County



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sheet title

SUMMARY OF QUANTITIES

project number: 19106
drawn by: TEM
checked by: JCK
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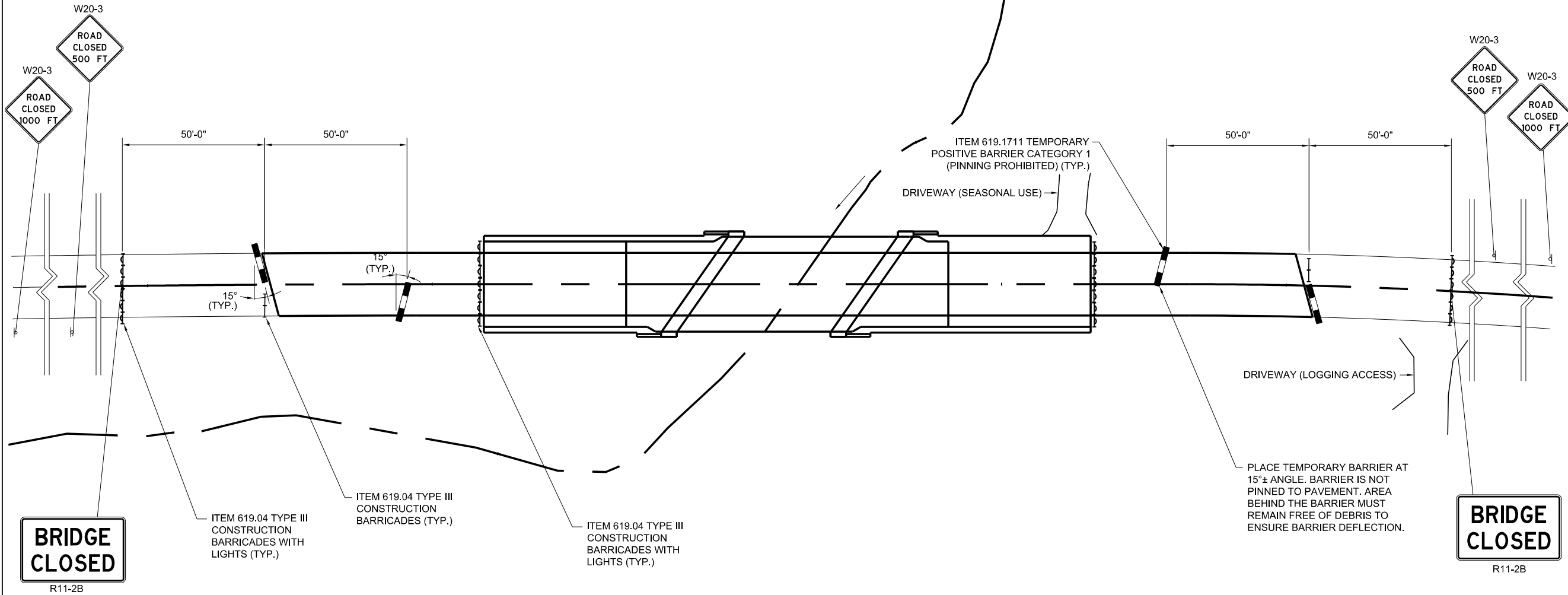
sheet number

SQ-01

SUMMARY OF QUANTITIES				
ITEM NO.	DESCRIPTION	UNIT	QUANTITY	AS-BUILT
201.06	CLEARING AND GRUBBING	LS	1	
202.120001	REMOVING EXISTING SUPERSTRUCTURES	LS	1	
202.19	REMOVAL OF SUBSTRUCTURES	CY	262	
203.02	UNCLASSIFIED EXCAVATION AND DISPOSAL	CY	202	
203.03	EMBANKMENT IN PLACE	CY	376	
203.21	SELECT STRUCTURE FILL	CY	103	
206.01	STRUCTURE EXCAVATION	CY	1100	
206.0201	TRENCH AND CULVERT EXCAVATION	CY	10	
207.26	PREFABRICATED COMPOSITE STRUCTURAL DRAIN	SY	100	
209.1003	SEED AND MULCH - TEMPORARY	SY	850	
209.13	SILT FENCE - TEMPORARY	LF	643	
209.1801	ROLLED EROSION CONTROL PRODUCT, CLASS I TYPE A, SHORT TERM	SY	638	
304.15	SUBBASE COURSE OPTIONAL TYPE	CY	200	
402.098303	9.5 F3 TOP COURSE HMA, 80 SERIES COMPACTION	TON	70	
402.198903	19 F9 BINDER COURSE HMA, 80 SERIES COMPACTION	TON	50	
402.378903	37.5 F9 BASE COURSE HMA, 80 SERIES COMPACTION	TON	90	
407.0102	DILUTED TACK COAT	GAL	85	
490.10	PRODUCTION COLD MILLING OF BITUMINOUS CONCRETE	SY	370	
553.030001	TEMPORARY WATERWAY DIVERSION STRUCTURE	EA	1	
555.08	FOOTING CONCRETE, CLASS HP	CY	104	
555.09	CONCRETE FOR STRUCTURES, CLASS HP	CY	145	
555.95000007	CORROSION INHIBITOR FOR STRUCTURAL CONCRETE	GAL	580	
556.0201	UNCOATED BAR REINFORCEMENT FOR CONCRETE STRUCTURES	LB	17800	
557.0503	SUPERSTRUCTURE SLAB WITH INTEGRAL WEARING SURFACE - BOTTOM FORMWORK NOT REQUIRED - TYPE 3 FRICTION	SY	234	
557.2003	STRUCTURAL APPROACH SLAB WITH INTEGRAL WEARING SURFACE TYPE 3 FRICTION	SY	170	
558.02	LONGITUDINAL SAWCUT GROOVING OF STRUCTURAL SLAB SURFACE	SY	356	
559.18960118	PROTECTIVE SEALING OF STRUCTURAL CONCRETE	SF	1000	
559.18960118	PROTECTIVE SEALING OF STRUCTURAL CONCRETE ON NEW BRIDGE DECKS AND BRIDGE DECK OVERLAYS	SF	3740	
563.02	PRESTRESSED CONCRETE BOX BEAMS UNITS	SF	1872	
565.1922	TYPE E.L. BEARING (56 TO 111 KIPS)	EA	16	
568.54	STEEL BRIDGE RAILING (THREE RAIL)	LF	144	
568.70	TRANSITION BRIDGE RAILING	LF	128	
586.0201	DRILLING AND GROUTING BOLTS OR REINFORCEMENT BARS	EA	360	
606.10	BOX BEAM GUIDE RAILING	LF	198	
606.100002	BOX BEAM GUIDE RAILING (SHOP BENT OR SHOP MITERED)	LF	9	
606.120101	BOX BEAM END PIECE	EA	1	
606.120102	BOX BEAM GUIDE RAILING END ASSEMBLY, TYPE I	EA	3	
606.71	REMOVING AND DISPOSING CORRUGATED BEAM GUIDE RAIL	LF	263	
606.7910	REMOVING AND DISPOSING ANCHORAGE UNITS FOR CORRUGATED BEAM GUIDE RAIL AND MEDIAN BARRIER	EA	4	
610.1402	TOPSOIL - ROADSIDE	CY	80	
610.1601	TURF ESTABLISHMENT - ROADSIDE	SY	700	
619.01	BASIC WORK ZONE TRAFFIC CONTROL	LS	1	
619.04	TYPE III CONSTRUCTION BARRICADES	EA	45	
619.1711	TEMPORARY POSITIVE BARRIER CATEGORY 1 (PINNING PROHIBITED)	LF	56	
620.05	STONE FILLING (HEAVY)	CY	160	
620.0801	BEDDING MATERIAL, TYPE 1	CY	40	
625.01	SURVEY OPERATIONS	LS	1	
637.03	CONCRETE CYLINDER CURING BOX	EA	1	
637.11	ENGINEERS FILED OFFICE, TYPE I	MO	5	
637.34	OFFICE TECHNOLOGY AND SUPPLIES	DC	500	
640.20	WHITE PAINT REFLECTORIZED PAVEMENT STRIPES - 20 MILS	LF	768	
640.21	YELLOW PAINT REFLECTORIZED PAVEMENT STRIPES - 20 MILS	LF	768	
646.22	DELINEATOR, SNOWPLOWING MARKER, SUPPLEMENTARY SNOWPLOWING MARKER PANELS	EA	6	
646.32	STEEL POST, 2.0 LB/FT	EA	4	
647.61	REM & DISPOSE GROUND MOUNTED TYPE A SIGN SUPPORT(S), FDNS AND ANY ATTACHED SIGNS - SIZE I (UNDER 30 SQFT)	EA	4	
697.03	FIELD CHANGE PAYMENT	DC	43000	
698.04	ASPHALT PRICE ADJUSTMENT	DC	100	
698.05	FUEL PRICE ADJUSTMENT	DC	100	
698.06	STEEL / IRON PRICE ADJUSTMENT	DC	100	
699.040001	MOBILIZATION	LS	1	

NOTES:

1. THE WORK ZONE TRAFFIC CONTROL SHOULD BE PLACED AS SHOWN ON THIS PLAN OR AS ORDERED BY THE ENGINEER. DURING NON-WORKING HOURS AND SHALL BE PROVIDED IN ACCORDANCE WITH SECTION 619 - WORK ZONE TRAFFIC CONTROL OF THE NYSDOT STANDARD SPECIFICATIONS, THE M.U.T.C.D. AND NYS SUPPLEMENT AND ANY PROVISIONS IN THE PLANS AND/OR PROPOSAL OF THIS CONTRACT.
2. THE COST OF THE CONSTRUCTION SIGNS SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 619.01.
3. THE TEMPORARY POSITIVE BARRIER SHALL BE REPLACED WITH TYPE III BARRICADES WHEN THE DROP OFF NO LONGER EXISTS. (COST FOR ADDITIONAL BARRICADES IS INCLUDED UNDER ITEM 619.04.)
4. ACCESS TO ALL PROPERTIES WITHIN THE WORK ZONE MUST BE MAINTAINED DURING CONSTRUCTION.
5. SEE DWG. NO. WTC-01 FOR ADDITIONAL INFORMATION AND ADDITIONAL DETOUR SIGNS.



BRIDGE CLOSED
R11-2B

BRIDGE CLOSED
R11-2B

LEGEND	
	TYPE III CONSTRUCTION BARRICADE (WITH WARNING LIGHTS), ITEM 619.04
	TYPE III CONSTRUCTION BARRICADE, ITEM 619.04
	CONSTRUCTION SIGN INCLUDED IN ITEM 619.01
	TEMPORARY POSITIVE BARRIER CATEGORY 1 (PINNING PROHIBITED) ITEM 619.1711

BRIDGE CLOSURE PLAN



project:
Leon-New Albion Road over Mud Creek
 PIN 5762.94
 BIN 3322120
 Town of Leon
 Cattaraugus County



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drawing history

number	date	description

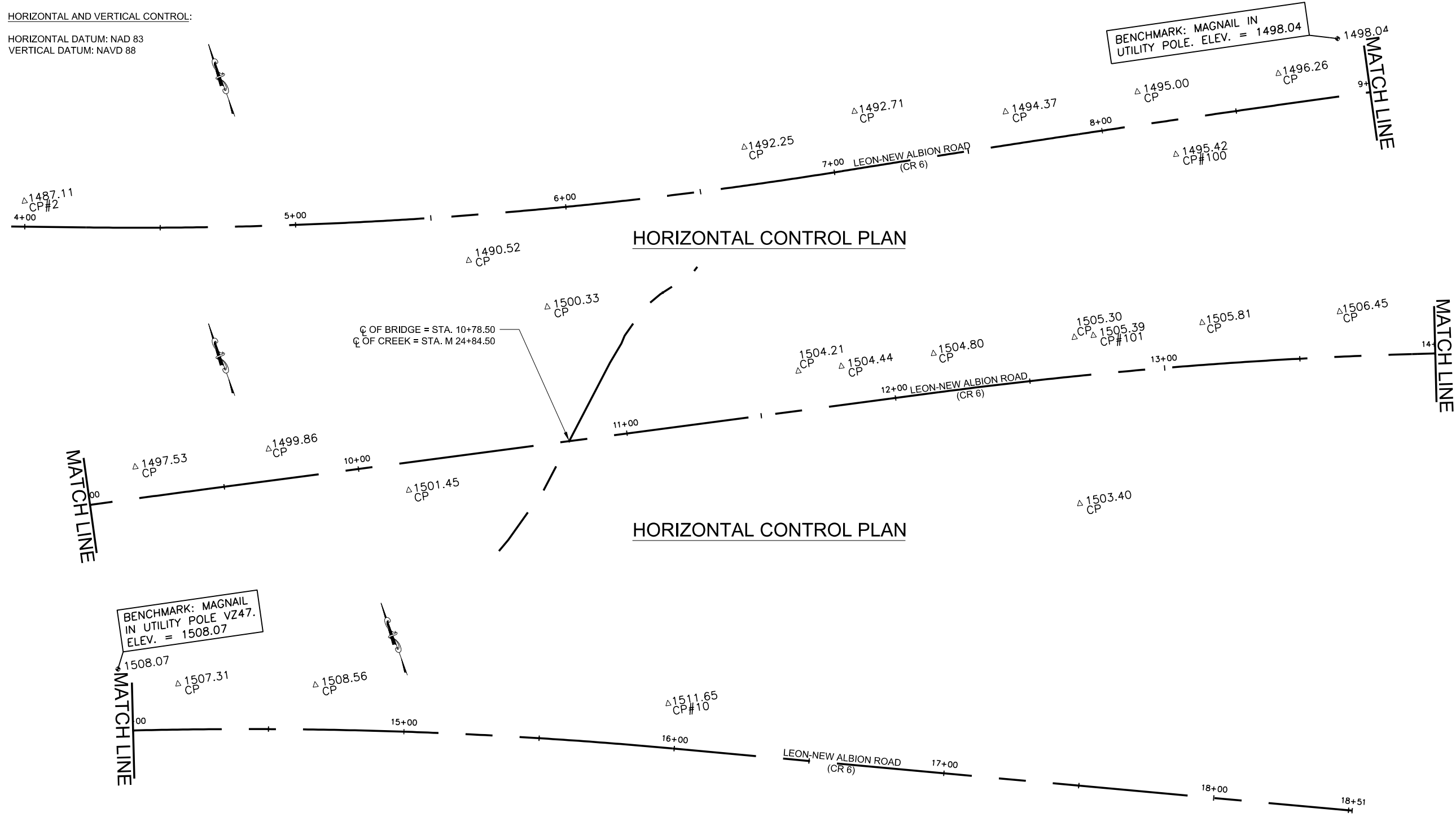
sheet title
BRIDGE CLOSURE

project number: 19106
 drawn by: TEM
 checked by: JCK
 date: JUNE 2020
 scale: AS SHOWN

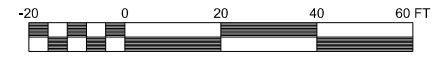
sheet number
WTC-02

HORIZONTAL AND VERTICAL CONTROL:

HORIZONTAL DATUM: NAD 83
 VERTICAL DATUM: NAVD 88



HORIZONTAL CONTROL PLAN



CONTROL POINTS

POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
2	833260.8143	1044215.6968	1487.11	REBAR & CAP
10	832946.7958	1045369.4428	1511.65	MAGNAIL
100	833129.4014	1044620.3375	1495.42	MAGNAIL
101	833056.1428	1045064.7049	1505.39	MAGNAIL

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Leon-New Albion Road over Mud Creek
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sheet title
SURVEY CONTROL DATA

project number: 19106
 drawn by: TEM
 checked by: JCK
 date: JUNE 2020
 scale: AS SHOWN

sheet number
SC-01

SIGN REMOVAL TABLE				
ITEM NUMBER	DESCRIPTION			
647.61	REM AND DISPOSE GROUND MOUNTED TYPE A SIGN SUPPORT(S), FDNS AND ANY ATTACHED SIGNS - SIZE I (UNDER 30 SQUARE FEET)			
STATION	SIDE	OFFSET	ITEM 647.61 (EA.)	SIGN DESCRIPTION
10+34	RT	14'	1	TYPE 3 OBJECT MARKER
10+48	LT	14'	1	TYPE 3 OBJECT MARKER
10+84	RT	14'	1	TYPE 3 OBJECT MARKER
11+00	LT	14'	1	TYPE 3 OBJECT MARKER
TOTAL:			4	

SNOWPLOWING MARKER TABLE				
ITEM NUMBER	DESCRIPTION			
646.22	DELINEATOR, SNOWPLOWING MARKER, SUPPLEMENTARY SNOWPLOWING MARKER			
646.32	STEEL POST, 2.0 LB/FT			
STATION	OFFSET	SIDE	ITEM 646.22 (EA)	ITEM 646.31 (EA)
8+33	15'-6"	RT	2	1
9+82	15'-6"	LT	1	1
11+31	15'-6"	RT	1	1
11+45	15'-6"	LT	2	1
TOTAL:			6	4

PAVEMENT MARKING TABLE					
ITEM NUMBER	DESCRIPTION				
640.20	WHITE PAINT REFLECTORIZED PAVEMENT STRIPES - 20 MILS				
640.21	YELLOW PAINT REFLECTORIZED PAVEMENT STRIPES - 20 MILS				
STATION TO STATION	SIDE	LENGTH	FACTOR	ITEM 640.20 (LF)	ITEM 640.21 (LF)
8+83 TO 12+67	LT	384'	--		384'
8+83 TO 12+67	CENTER	384'	2	768'	
8+83 TO 12+67	RT	384'	--		384'
TOTAL:				768'	768'

GUIDE RAILING TABLE										
ITEM NUMBER	DESCRIPTION									
568.54	STEEL BRIDGE RAILING (THREE RAIL)									
568.70	TRANSITION BRIDGE RAILING									
606.10	BOX BEAM GUIDE RAILING									
606.100002	BOX BEAM GUIDE RAILING (SHOP BENT OR SHOP MITERED)									
606.120101	BOX BEAM END PIECE									
606.120102	BOX BEAM GUIDE RAILING END ASSEMBLY, TYPE I									
STATION TO STATION	SIDE	POST SPACING (LF)	LENGTH (LF)	FACTOR	ITEM 568.54 (LF)	ITEM 568.70 (EA)	ITEM 606.10 (LF)	ITEM 606.100002 (LF)	ITEM 606.100101 (EA)	ITEM 606.100102 (EA)
7+66 TO 8+33	RT	NA	NA	--						1
8+33 TO 9+95	RT	6'	162	--			162			
9+95 TO 10+27	RT	NA	NA	--		1				
10+27 TO 10+99	RT	SEE BR-23	72	--	72					
10+99 TO 11+31	RT	NA	NA	--		1				
11+31 TO 11+98	RT	NA	NA	--						1
9+16 TO 9+82	LT	NA	NA	--						1
9+82 TO 10+18	LT	6'	36	--			36			
10+18 TO 10+50	LT	NA	NA	--		1				
10+50 TO 11+22	LT	SEE BR-23	72	--	72					
11+22 TO 11+54	LT	NA	NA	**		1				
11+54 TO 11+63	LT	NA	NA	--			9			
11+63 TO 11+69	LT	NA	NA	--				1		
TOTAL:					144	4	198	9	1	3

** THE TRANSITION RAILING IN THE NE QUADRANT IS MODIFIED WITH A PORTION OF SHOP CURVED RAILING. SEE DWG. NO. BR-24 FOR DETAILS.

GUIDE RAIL REMOVAL TABLE					
ITEM NUMBER	DESCRIPTION				
ITEM 606.71	REMOVING AND DISPOSING CORRUGATED BEAM GUIDE RAILING				
ITEM 606.7910	REMOVING AND DISPOSING ANCHORAGE UNITS FOR CORRUGATED BEAM GUIDE RAILING AND MEDIAN BARRIER				
BEGIN STATION	SIDE	END STATION	SIDE	ITEM 606.71 (LF)	ITEM 606.7910 (EA)
9+65	RT	-	-	-	1
9+65	RT	10+34	RT	69.0	-
10+84	RT	11+52	RT	68.0	-
11+52	RT	-	-	-	1
9+80	LT	-	-	-	1
9+80	LT	10+48	LT	68.0	-
11+00	LT	11+58	LT	58.0	-
11+58	LT	-	-	-	1
TOTAL:				263.0	4

SILT FENCE TABLE					
ITEM NO.	DESCRIPTION				
209.13	SILT FENCE - TEMPORARY				
STATION		OFFSET (LF)		SIDE	209.13 (LF)
BEGIN	END	BEGIN	END		
9+31	10+27	15	22	RT	101
10+33	10+45	29	15	RT	18
10+73	10+76	29	24	RT	6
10+78	11+95	23	28	RT	121
9+17	9+36	27	29	LT	19
9+36	10+53	18	25	LT	119
10+54	10+64	15	29	LT	18
10+61	10+76	15	29	LT	20
11+07	11+09	24	29	LT	6
11+07	11+15	19	29	LT	12
11+12	11+70	19	28	LT	63
10+45	10+66	15	15	LT-RT	37
10+76	11+07	15	15	LT-RT	53
TOTAL:					593

project:

**Leon-New Albion
Road over
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PIN 5762.94
BIN 3322120
Town of Leon
Cattaraugus County



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drawing history

number date description

sheet title

**ROADWAY
TABLES**

project number: 19106

drawn by: TEM

checked by: JCK

date: JUNE 2020

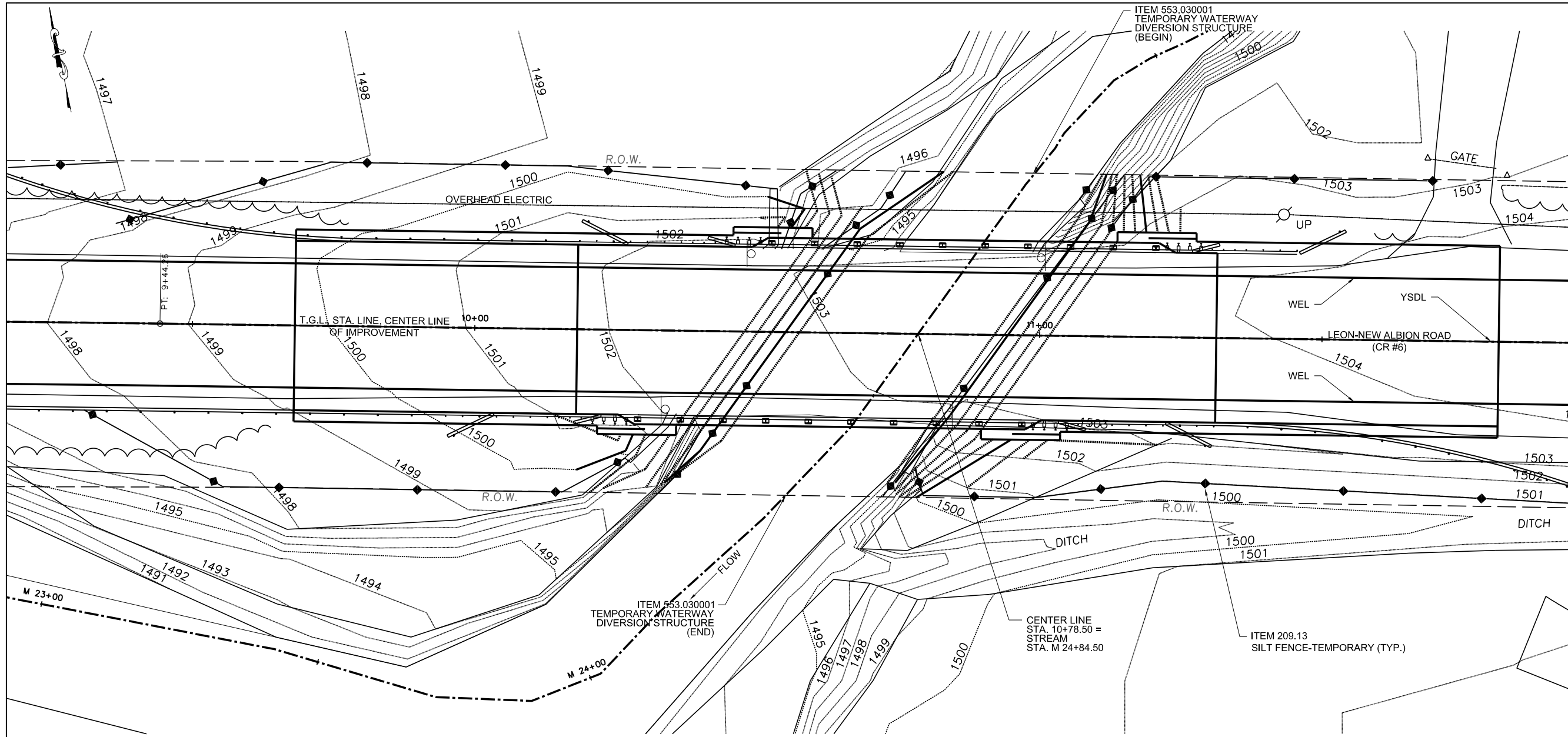
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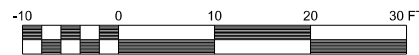
RT-01

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EROSION AND SEDIMENT CONTROL PLAN



EROSION & SEDIMENT CONTROL LEGEND	
SYMBOL	DESCRIPTION
	SILT FENCE (ITEM 209.13)

GENERAL NOTES:

- SEE DWG. NO. RT-01 FOR SILT FENCE TABLE.

EROSION AND SEDIMENT CONTROL NOTES:

- THE CONTRACTOR SHALL COMPLY WITH ALL GENERAL NOTES FOR THE UNITED STATES ARMY CORPS OF ENGINEERS, SECTION 404 NATIONWIDE PERMITS.
- THE CONTRACTOR SHALL COMPLY WITH ALL GENERAL NOTES FOR THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, SECTION 401 WATER QUALITY CERTIFICATION, WHICH ARE INCLUDED IN THE PROPOSAL.
- THE SITE SHALL AT ALL TIMES BE GRADED AND MAINTAINED SUCH THAT ALL STORM WATER RUNOFF IS DIVERTED TO SOIL EROSION AND SEDIMENT CONTROL DEVICES.
- STORM WATER FROM DISTURBED AREAS MUST BE PASSED THROUGH A SILTATION FENCE BEFORE DISCHARGE BEYOND DISTURBED AREAS OR INTO INLETS OF OTHER DRAINAGE SYSTEMS.
- DURING CONSTRUCTION, NO WET OR FRESH CONCRETE OR LEACHATE SHALL BE ALLOWED TO ESCAPE TO ANY WATERS NOR SHALL WASHINGS FROM CONCRETE TRUCKS, MIXERS, OR OTHER DEVICES BE ALLOWED TO ENTER ANY WATERS.
- ANY DEBRIS OR EXCESS MATERIALS FROM CONSTRUCTION OF THE PROJECT SHALL BE IMMEDIATELY AND COMPLETELY REMOVED FROM THE BED AND BANKS OF ALL WATER AREAS TO AN APPROPRIATE UPLAND AREA FOR DISPOSAL.

EROSION AND SEDIMENT CONTROL NOTES (CONTINUED)

- ALL DREDGED AND EXCAVATED MATERIAL SHALL BE DISPOSED OF ON AN UPLAND SITE AND BE SUITABLY STABILIZED SO THAT IT CANNOT REASONABLY RE-ENTER ANY WATER BODY.
- THE COST OF INSTALLING, CLEANING, MAINTAINING, AND REMOVING TEMPORARY SOIL EROSION AND SEDIMENT CONTROL DEVICES SHALL BE PAID FOR UNDER THE APPROPRIATE 209 ITEM.
- THE LOCATIONS OF EROSION AND SEDIMENT CONTROL MEASURES, AS INDICATED IN THE CONTACT DOCUMENTS MAY REQUIRE FIELD ADJUSTMENT DEPENDING ON THE SEQUENCE OF CONSTRUCTION ACTIVITIES, CONSTRUCTION METHODS, AND/OR ACTUAL FIELD CONDITIONS. THE ENGINEER SHALL BE NOTIFIED OF ANY SIGNIFICANT FIELD CHANGES TO THE EROSION AND SEDIMENT CONTROL MEASURES INDICATED IN THE CONTRACT DOCUMENTS.
- THE CONTRACTOR SHALL NOT USE THE STREAM BED OR BANKS AS A STAGING AREA FOR EQUIPMENT OR MATERIALS. AFTER EACH WORK DAY, ALL MECHANIZED EQUIPMENT SHALL BE REMOVED FROM THE STREAM BED AND BANKS AND STORED IN AN APPROVED UPLAND SITE.
- THE CONTRACTOR SHALL SUBMIT FOR APPROVAL TO THE ENGINEER A WRITTEN SCHEDULE AND PROPOSED MEASURES FOR TEMPORARY AND PERMANENT SOIL EROSION AND SEDIMENT CONTROL AS REQUIRED BY SECTION 209 OF THE NYS DOT STANDARD SPECIFICATIONS.

project:

**Leon-New Albion
Road over
Mud Creek**
PIN 5762.94
BIN 3322120
Town of Leon
Cattaraugus County



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drawing history

number	date	description

sheet title

**EROSION AND
SEDIMENT
CONTROL PLAN**

project number: 19106

drawn by: TEM

checked by: JCK

date: JUNE 2020

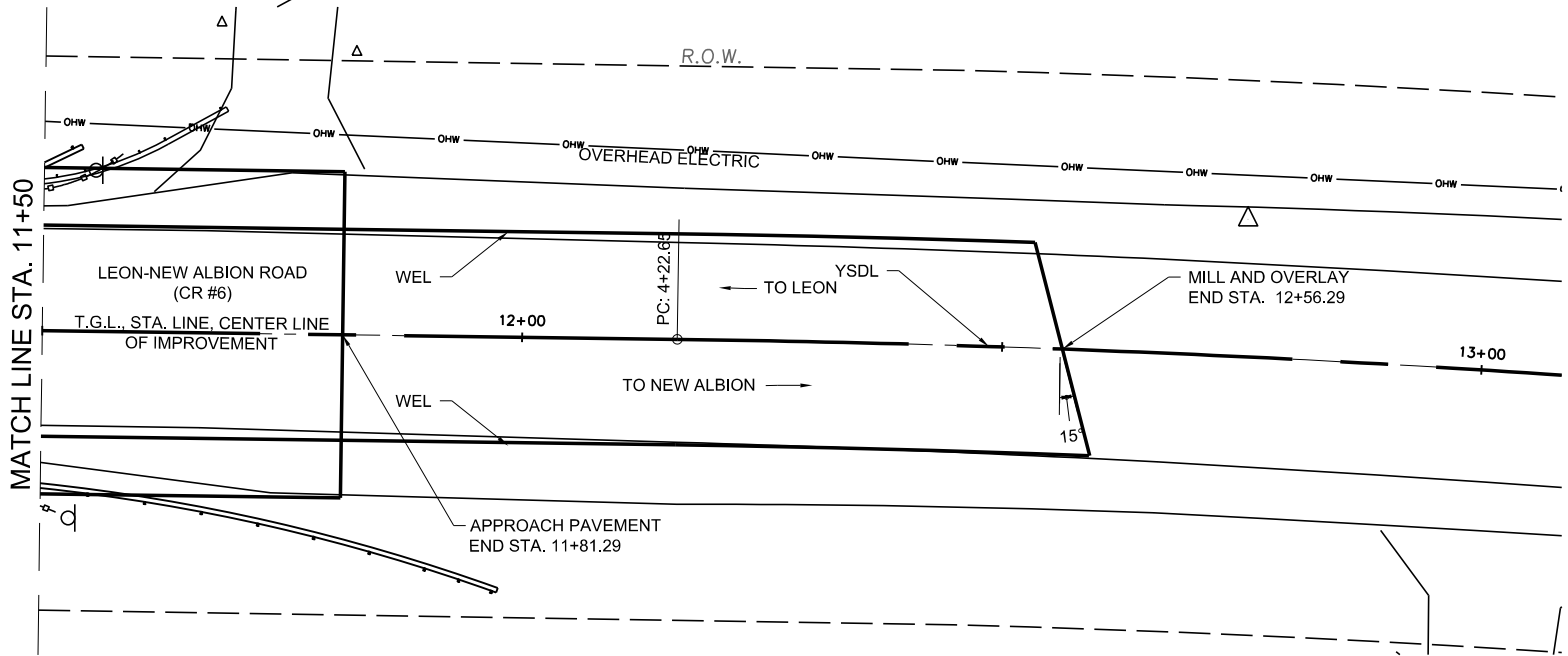
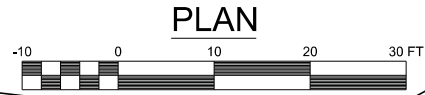
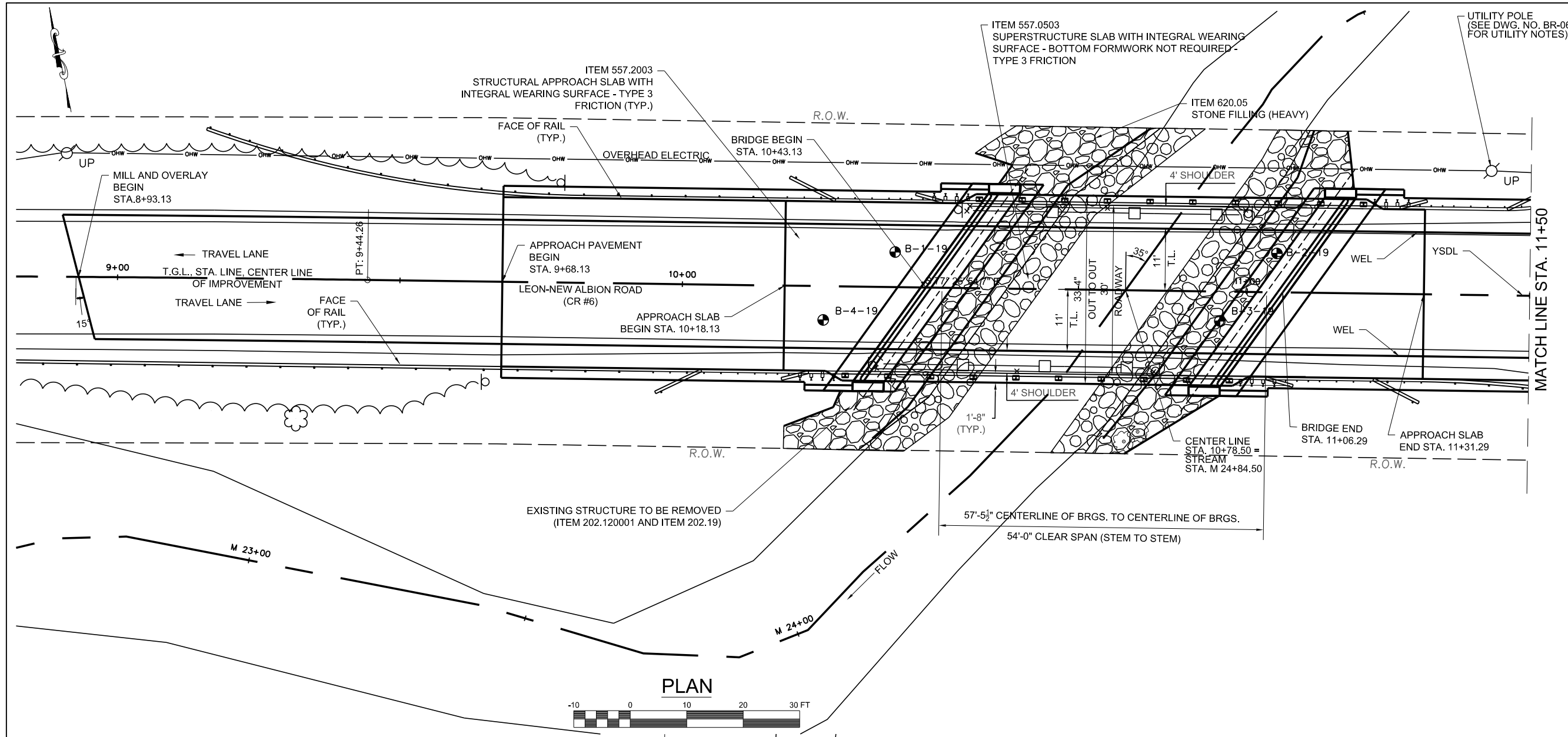
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PAVEMENT MARKING ABBREVIATIONS

WEL - WHITE NORMAL EDGE LINE (ITEM 640.20)

YSDL - YELLOW NORMAL SOLID DOUBLE LINE (ITEM 640.21)

- NOTES:**
- SEE DWG. NO. BR-07 & BR-08 FOR BORING LOGS FOR BORES B-1 THRU B-4 ON THIS PLAN.
 - SEE DWG. NO. BR-23 FOR RAILING PLAN AND ASSOCIATED ITEM NUMBERS.
 - NOTE THAT THE GUIDE RAIL IN THE SW QUADRANT EXTENDS BEYOND THE LIMITS SHOWN HERE. SEE DWG. NO. RT-01 FOR LIMITS AND END TERMINATION.
 - SEE DWG. NO. RT-01 FOR PAVEMENT MARKING TABLE.

DRAINAGE AREA	3.88 mi ²	DESIGN FLOOD	BASIC FLOOD
RECURRENCE INTERVAL	50yr	50yr	100 yr
PEAK DISCHARGE (ft ³ /s) (10% INCREASE)	1166	1166	1364
HIGH WATER ELEV. @ PT. OF MAX. BACKWATER	EXISTING	1498.69	1499.33
	PROPOSED	1497.57	1498.02
AVG. VELOCITY THRU STRUCTURE @ DESIGN FLOOD - 8.10 ft/s			
SCOUR ANALYSIS IS NOT APPLICABLE. FOUNDATIONS WILL BE ON BEDROCK TOP OF BEDROCK IS LOCATED AT EL.. 1493.6 TO 1492.0.			

* POINT OF MAXIMUM BACK WATER IS TAKEN AT APPROXIMATELY ONE BRIDGE LENGTH UPSTREAM

project:
Leon-New Albion Road over Mud Creek
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 Town of Leon
 Cattaraugus County



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drawing history

number	date	description

sheet title

PLAN

project number: 19106
 drawn by: TEM
 checked by: JCK
 date: JUNE 2020
 scale: AS SHOWN

sheet number
BR-01

project:
**Leon-New Albion
 Road over
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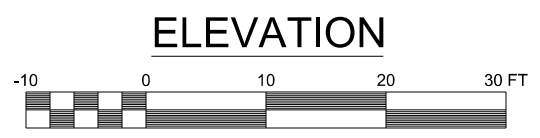
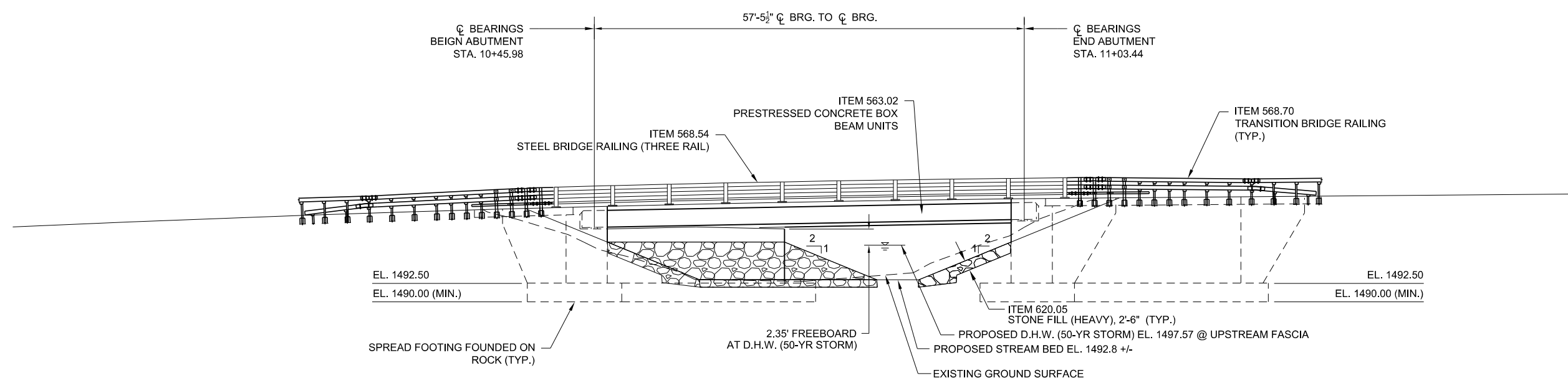
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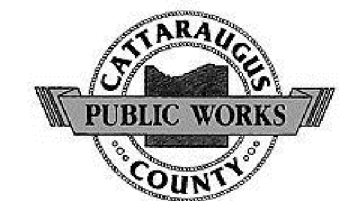
ELEVATION

project number: 19106
 drawn by: TEM
 checked by: JCK
 date: JUNE 2020
 scale: AS SHOWN

sheet number
BR-02



project:
**Leon-New Albion
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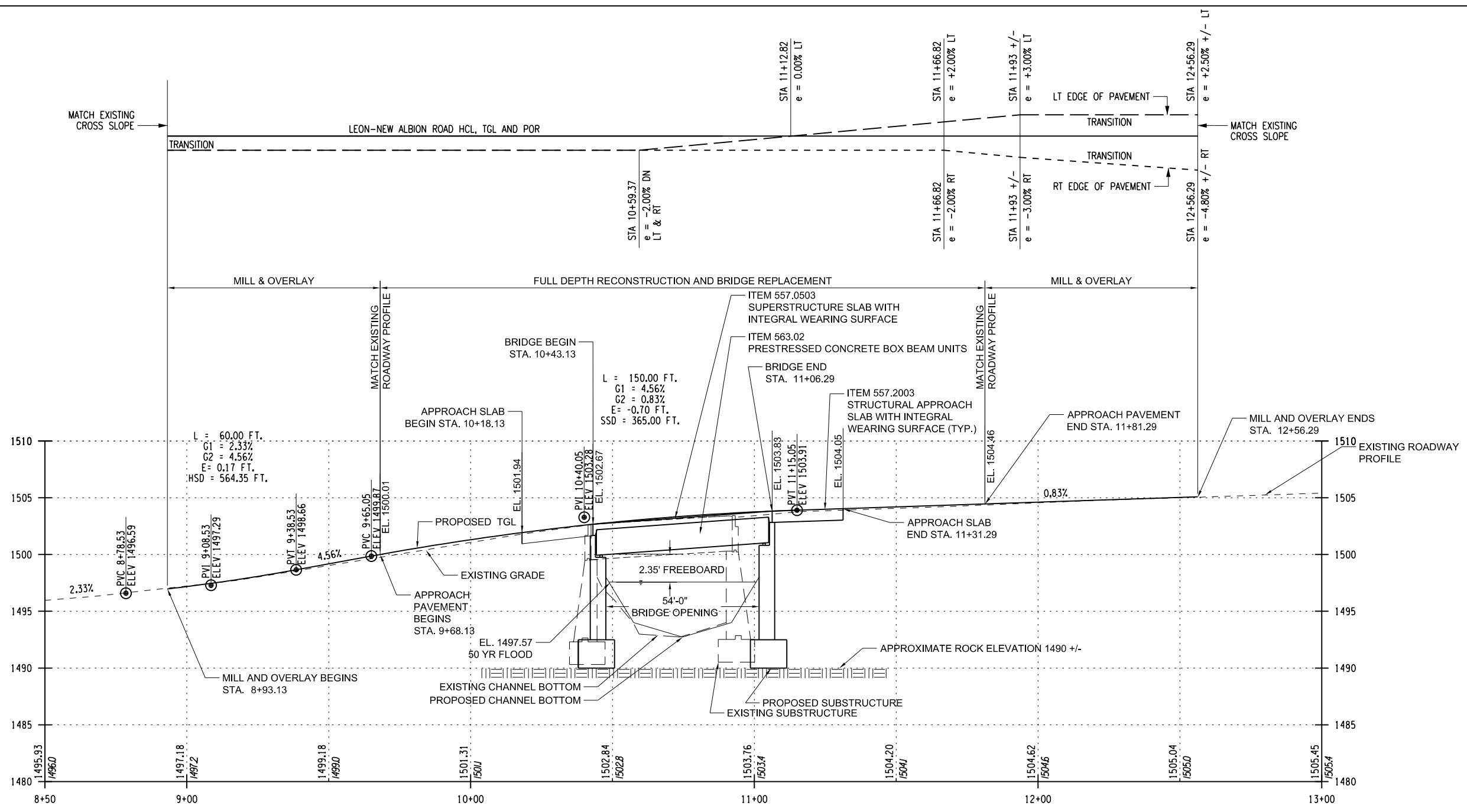
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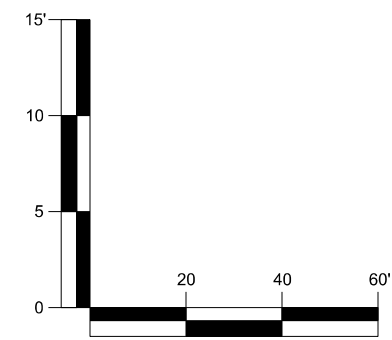
PROFILE

project number: 19106
 drawn by: TEM
 checked by: JCK
 date: JUNE 2020
 scale: AS SHOWN

sheet number
BR-03



CENTERLINE PROFILE



NOTE:
 RECORD PLANS FOR THIS BRIDGE ARE NOT AVAILABLE. THE EXACT SHAPE
 AND LIMITS OF THE EXISTING SUBSTRUCTURE IS UNKNOWN. ASSUMPTIONS
 WERE MADE AS TO THE TYPE AND LIMITS OF THE EXISTING ABUTMENT FOR
 ESTIMATING PURPOSES.

project:
**Leon-New Albion
 Road over
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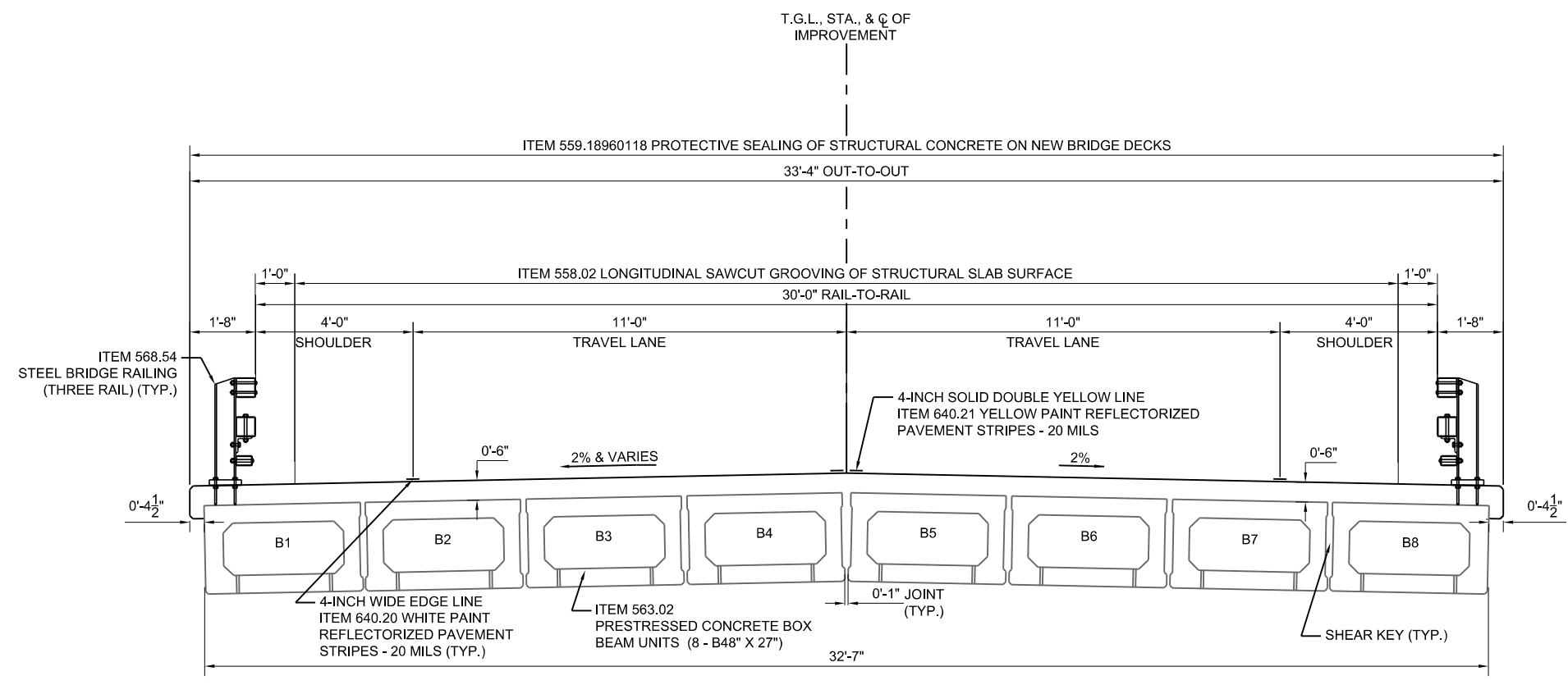
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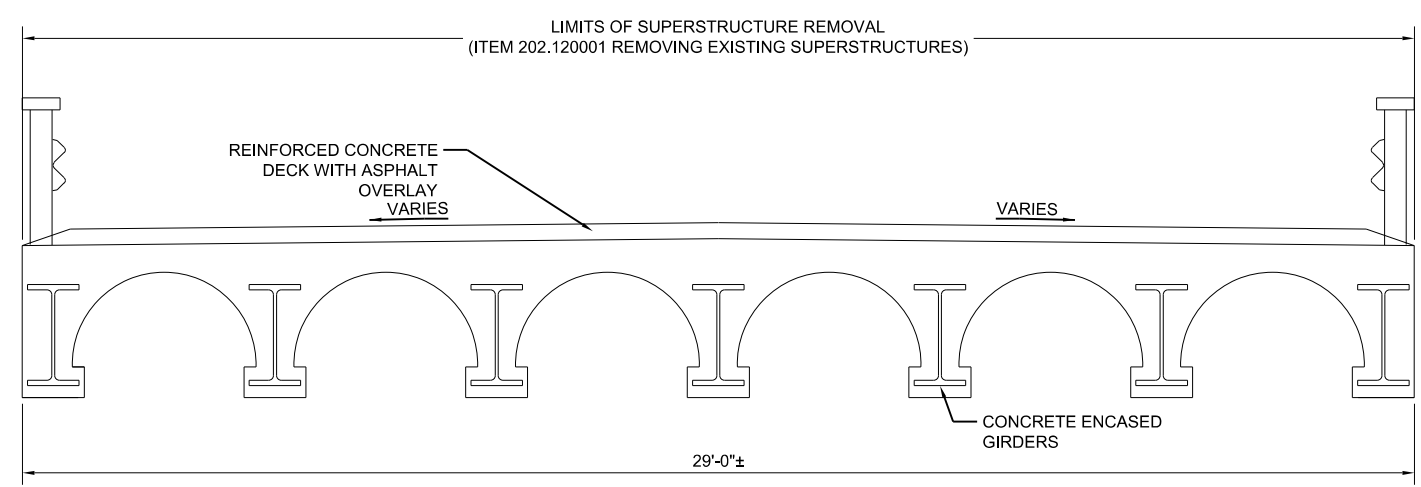
TYPICAL SECTIONS

project number: 19106
 drawn by: TEM
 checked by: JCK
 date: JUNE 2020
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 sheet number

BR-04

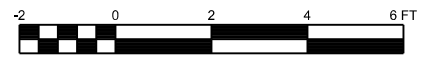


PROPOSED TRANSVERSE BRIDGE SECTION



EXISTING TRANSVERSE BRIDGE SECTION

- NOTES:
- SEE DWG. NO. BR-03 FOR PROFILE, CROSS SLOPE AND SUPERELEVATION INFORMATION.



project:

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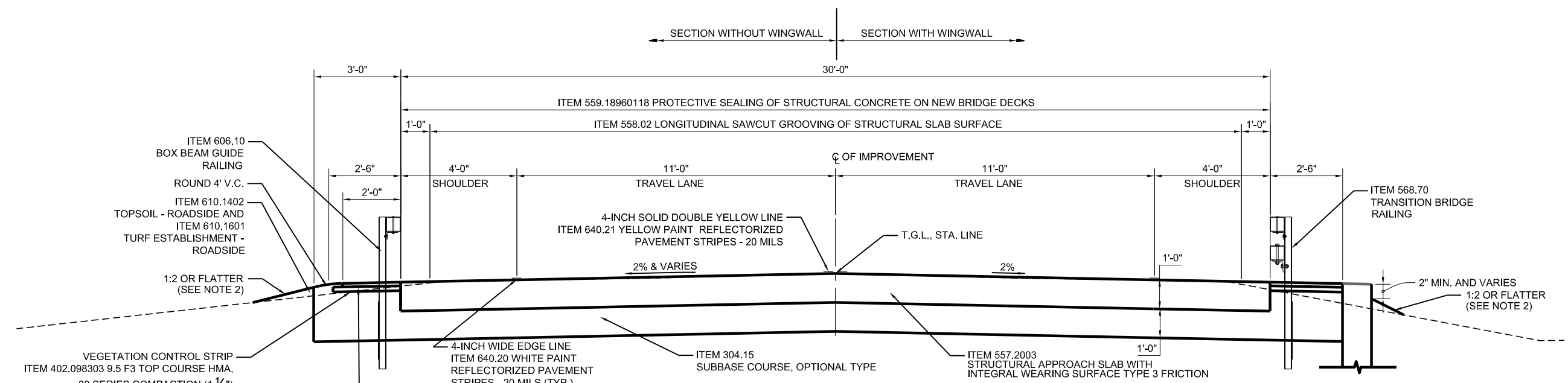
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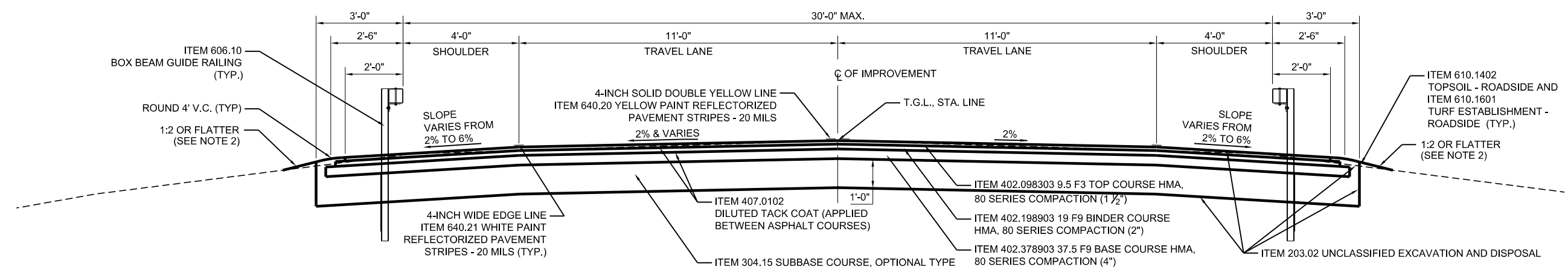
TYPICAL SECTIONS

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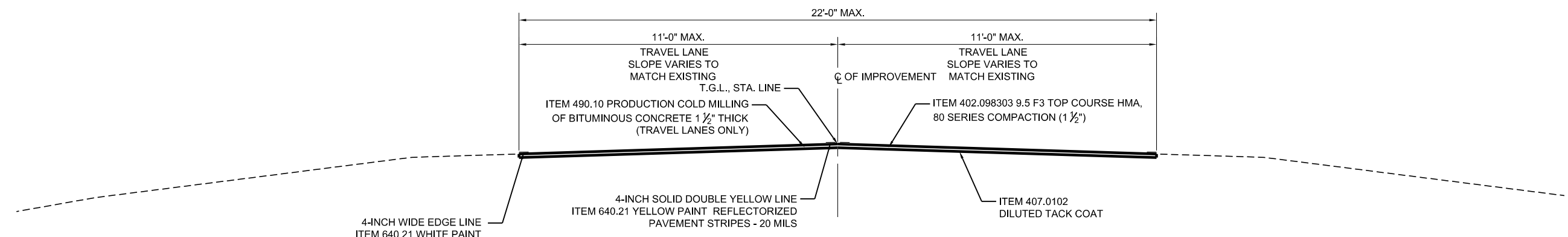
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BR-05



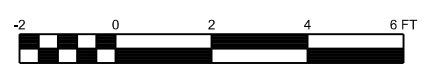
PROPOSED TYPICAL APPROACH SECTION



PROPOSED TYPICAL HIGHWAY SECTION (FULL DEPTH RECONSTRUCTION)



PROPOSED TYPICAL HIGHWAY SECTION (MILL AND OVERLAY)



- NOTES:
- SEE DWG. NO. BR-03 FOR PROFILE, CROSS SLOPE AND SUPERELEVATION INFORMATION.
 - PROPOSED SLOPE SHALL BE 1V:2H MAXIMUM WHERE GUIDE RAILING IS PRESENT AND 1V:4H MAXIMUM WHERE GUIDE RAILING IS NOT PRESENT.

GENERAL NOTES

- DESIGN SPECIFICATIONS: NYS DOT LRFD BRIDGE DESIGN SPECIFICATIONS WITH ALL PROVISIONS IN EFFECT AS OF APRIL 2020. (FOR DESIGN PURPOSES, COMPRESSIVE STRENGTH OF CONCRETE FOR SUBSTRUCTURES AND DECK SLABS AT 28 DAYS: $f_c = 3000$ PSI.)
- LIVE LOAD: AASHTO HL-93 AND NYS DOT DESIGN PERMIT VEHICLE.
- THIS BRIDGE SHALL BE MAINTAINED IN ACCORDANCE WITH THE GUIDELINES CONTAINED IN THE CURRENT EDITION OF THE AASHTO MAINTENANCE MANUAL FOR ROADWAYS AND BRIDGES.
- CONSTRUCTION AND MATERIALS SPECIFICATIONS: STANDARD SPECIFICATIONS, CONSTRUCTION AND MATERIALS, NEW YORK STATE DEPARTMENT OF TRANSPORTATION, OFFICE OF ENGINEERING, ALL CURRENT ADDITIONS AND MODIFICATIONS.
- DETAILS ON THE DRAWINGS LABELED AS "NOT TO SCALE" ARE INTENTIONALLY DRAWN NOT TO SCALE FOR VISUAL CLARITY. ALL OTHER DETAILS FOR WHICH NO SCALE IS SHOWN ARE DRAWN PROPORTIONAL AND ARE FULLY DIMENSIONED.
- ALL SHOP DRAWINGS SUBMITTED FOR THIS PROJECT SHALL BE IN U.S. CUSTOMARY UNITS.
- THE COST OF ALL JOINT MATERIAL SHALL BE INCLUDED IN THE UNIT PRICES BID FOR THE VARIOUS ITEMS OF THE CONTRACT, UNLESS OTHERWISE SPECIFIED ON THE PLANS.
- THE LOAD RATINGS ARE IN ACCORDANCE WITH THE AASHTO MANUAL FOR BRIDGE EVALUATION.
- THE CONTRACTOR MUST COMPLY WITH ALL PERMITS, INCLUDING N.Y.S.D.E.C. WATER QUALITY CERTIFICATION.
- THE CONTRACTOR SHALL REMOVE, STORE AND RE-ATTACH THE BIN PLATE TO THE BEGIN RIGHT WINGWALL AS DIRECTED BY THE ENGINEER.

FOUNDATION NOTES

- THE COST OF WATER USED FOR COMPACTION OF SELECT FILL ITEMS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 203.21 - SELECT STRUCTURE FILL.
- HIGHWAY EMBANKMENT MATERIAL AND SELECT STRUCTURE FILL, ITEM 203.21, SHALL BE PLACED SIMULTANEOUSLY, IN CONTACT, ON BOTH SIDES OF THE VERTICAL PAYMENT LINE.

SUBSTRUCTURE NOTES

- TOP OF BACKWALLS SHALL BE TROWEL FINISHED. TWO SHEETS OF SHEET GASKET (TREATED BOTH SIDES), §728-06, SHALL BE PLACED ON THE TOP OF THE BACKWALLS OF FIXED AND EXPANSION ABUTMENTS. THE CONTRACTOR SHALL INCLUDE COSTS FOR THIS WORK IN THE PRICE BID FOR THE APPROACH SLAB ITEM.
- THE CONTRACTOR, WITH THE PERMISSION OF THE DPW, MAY ELECT TO INTRODUCE CONSTRUCTION JOINTS IN THE ABUTMENTS AT LOCATIONS NOT SHOWN ON THE PLANS. THESE CONSTRUCTION JOINTS SHALL BE PROVIDED WITH SHEAR KEYS AND WATERSTOPS. VERTICAL CONSTRUCTION JOINTS INTRODUCED IN THE BACKWALL SHOULD PREFERABLY BE PLACED MIDWAY BETWEEN THE PEDESTALS.
- THE COST OF ALL MATERIAL AT EACH CONSTRUCTION JOINT, CONTRACTION JOINT AND CONCRETE EXPANSION JOINT SHALL BE INCLUDED IN THE PRICES BID FOR THE VARIOUS ITEMS OF THE CONTRACT.
- ALL EXPOSED EDGES OF CONCRETE ARE TO BE CHAMFERED 1 INCH UNLESS OTHERWISE NOTED.
- ALL FORMING HARDWARE SUCH AS TIES AND "ALL THREADS" THAT ARE TO REMAIN IN THE CONCRETE SHALL BE ELECTROPLATED OR MADE OF A NONFERROUS MATERIAL TO PREVENT CORROSION.
- ALL PLACEMENTS OF SELECT STRUCTURE FILL, ITEM 203.21, SHALL BE COMPACTED TO 95 PERCENT OF STANDARD PROCTOR MAXIMUM DENSITY.

HYDRAULIC NOTES

- ORDINARY HIGH WATER IS ESTIMATED TO BE 1495.70. THIS IS DEFINED AS THE WATER SURFACE ELEVATION FOR THE MEAN ANNUAL FLOOD, WHICH IS THE FLOOD THAT HAS A RECURRENCE INTERVAL OF 2.33 YEARS.
- ORDINARY WATER IS ESTIMATED TO BE 1493.50. THIS IS DEFINED AS THE HIGHEST SURFACE WATER ELEVATION LIKELY TO BE ENCOUNTERED DURING ONE CONSTRUCTION SEASON (OTHER THAN MAJOR FLOODS). IT IS ALWAYS LESS THAN THE ORDINARY HIGH WATER ELEVATION AND IT IS USUALLY AN OBSERVED ELEVATION RATHER THAN A COMPUTED ONE.
- LOW WATER IS ESTIMATED TO BE 1492.50. THIS WATER ELEVATION IS THE NORMAL LOW WATER ELEVATION PREVALENT DURING ONE CONSTRUCTION SEASON FOR MORE THAN 25% OF THE TIME. IT IS AN OBSERVED ELEVATION RATHER THAN A COMPUTED ONE.

SUPERSTRUCTURE NOTES

- TOP SURFACES OF NEW BRIDGE DECKS AND APPROACH SLABS SHALL BE SEALED ACCORDING TO ITEM 559.18960118 - PROTECTIVE SEALING OF STRUCTURAL CONCRETE ON NEW BRIDGE DECKS AND BRIDGE DECK OVERLAYS.
- CORROSION INHIBITOR SHALL BE ADDED TO THE PRESTRESSED CONCRETE BOX UNITS AT A RATE OF 5 GALLONS PER CUBIC YARD IN ACCORDANCE WITH THE NYS DOT PRESTRESSED CONCRETE CONSTRUCTION MANUAL (PCCM). COST TO BE INCLUDED IN THE UNIT PRICE BID IN ACCORDANCE WITH THE NYS DOT PRESTRESSED CONCRETE CONSTRUCTION MANUAL (PCCM) FOR ITEM 563.02. PENETRATING SEALER AS SPECIFIED IN THE PCCM SHALL BE APPLIED TO THE SIDES AND BOTTOM OF ALL PRESTRESSED CONCRETE BOX UNITS. COST TO BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 563.02.
- FOR BIN 3322120, SHOP DRAWING SUBMITTALS ARE REQUIRED FOR THE FOLLOWING BRIDGE RAIL/TRANSITION ITEMS: 568.54 AND 568.70.

PRESTRESSED CONCRETE BEAM NOTE

- THE CONTRACTOR MAY PROPOSE DEBONDING OF PRETENSIONING STRANDS FOR 6 INCHES FROM ENDS OF BEAMS TO REDUCE THE TENDENCY FOR BEAM ENDS TO CRACK. TOTAL NUMBER OF DEBONDED STRANDS (DESIGN BONDING SHOWN ON THE CONTRACT PLANS AND CRACK CONTROL DEBONDING COMBINED) SHALL NOT EXCEED 50% OF THE TOTAL NUMBER OF STRANDS.
- FOR BIN 3322120, SHOP DRAWING SUBMITTALS ARE REQUIRED ITEM 563.02 - PRESTRESSED CONCRETE BOX BEAMS UNITS.

REMOVAL NOTES

- EXISTING SUBSTRUCTURE SHALL BE REMOVED WITHIN THE LIMITS SHOWN ON THE PLANS UNDER ITEM 202.19.
- EXISTING SUPERSTRUCTURE SHALL BE REMOVED UNDER ITEM 202.120001.
- THE REQUIREMENTS OF §202-3.01 GENERAL AND SAFETY REQUIREMENTS. A REMOVAL PLAN SHALL BE SUBMITTED TO THE ENGINEER FIFTEEN (15) DAYS PRIOR TO BEGINNING THE DEMOLITION. THE REQUIREMENT THAT IT BE SIGNED BY A LICENSED AND REGISTERED PROFESSIONAL ENGINEER IS WAIVED.
- RECORD PLANS FOR THIS STRUCTURE ARE NOT AVAILABLE.
- DURING REMOVAL OPERATIONS, THE CONTRACTOR SHALL NOT BE ALLOWED TO DROP WASTE CONCRETE, DEBRIS AND OTHER MATERIALS TO THE AREA BELOW THE BRIDGE, EXCEPT WHERE PLANS SPECIFICALLY PERMIT THE DROPPING OF MATERIAL. PLATFORMS, NETS, SCREENS OR OTHER PROTECTIVE DEVICES SHALL BE USED TO CATCH THE MATERIAL. IF THE ENGINEER DETERMINES THAT ADEQUATE PROTECTIVE DEVICES ARE NOT BEING EMPLOYED, THE WORK SHALL BE SUSPENDED UNTIL ADEQUATE PROTECTION IS PROVIDED.
- ALL MATERIAL FALLING ON THE AREA BELOW AND ADJACENT TO THE BRIDGE SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR, AT NO COST TO THE COUNTY.
- CARE SHOULD BE TAKEN TO RETAIN NATURAL GROWTH AND PREVENT DAMAGE TO TREES WITHIN AND OUTSIDE THE LIMITS OF CONSTRUCTION, AND NOT SCHEDULED FOR REMOVAL. ANY DAMAGE CAUSED TO THIS NATURAL GROWTH SHALL BE RESTORED AT THE EXPENSE OF THE CONTRACTOR AS DIRECTED BY THE ENGINEER.
- EXCAVATION BELOW THE PLANNED BOTTOM OF FOOTING ELEVATION WILL NOT BE ALLOWED WITHOUT WRITTEN PERMISSION FROM THE ENGINEER. BACKFILL OF UNAUTHORIZED EXCAVATIONS BEYOND THE PAYMENT LINES WILL BE AT THE CONTRACTOR'S EXPENSE. BACKFILL MATERIAL WILL BE AS DIRECTED BY THE ENGINEER.
- WHENEVER ITEMS IN THE CONTRACT REQUIRE MATERIALS TO BE REMOVED AND DISPOSED OF, THE COST OF SUPPLYING A DISPOSAL AREA AND TRANSPORTATION TO THAT AREA SHALL BE INCLUDED IN THE UNIT PRICES FOR THOSE ITEMS.
- THE COST OF FURNISHINGS, INSTALLING, MAINTAINING, REMOVING AND DISPOSING OF ALL PLATFORMS, NETS, SCREENS OR OTHER PROTECTIVE DEVICES SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE APPROPRIATE ITEMS OF THE CONTRACT.
- THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY SUPPORTS, BRACING AND OTHER DEVICES REQUIRED OR DIRECTED BY THE ENGINEER TO PROTECT THE SAFETY OF THE ADJACENT STRUCTURES, ROADWAY AND UTILITIES.
- ASPHALT, TAR OR MACADAM PAVEMENT SHALL BE REMOVED FROM BRIDGE DECKS BEFORE PROCEEDING WITH OTHER DISMANTLING ACTIVITIES. ALL ASPHALT MATERIALS SHALL BE PROPERLY RECYCLED AND/OR DISPOSED OF AT AN APPROVED LANDFILL. (COST INCLUDED UNDER ITEM 202.120001.)

DECK PLACEMENT NOTES

- CONCRETE PLACEMENT AND FINISHING OPERATIONS SHALL BE PERFORMED AS RAPIDLY AS POSSIBLE. THE ENGINEER MAY ORDER THE CONTRACTOR TO STOP PLACEMENT OPERATIONS AT ANY TIME, IF IN THE ENGINEER'S OPINION, CONCRETE PLACED DURING THE PLACEMENT HAS STARTED TO SET, OR IS ABOUT TO SET, AND FURTHER PLACEMENT OF CONCRETE WILL CAUSE DEFLECTION CRACKING.
- LONGITUDINAL CONSTRUCTION JOINTS WILL NOT BE PERMITTED.
- THE CONTRACTOR SHALL OPERATE FINISHING MACHINE AS CLOSE TO THE SKEW ANGLE AS PRACTICABLE FOR SKEW ANGLES BETWEEN 0° AND 35°.
- THE CONTRACTOR SHALL PLACE WET BURLAP CURING BLANKETS ON THE CONCRETE DECK WITHIN 30 MINUTES OF THE CONCRETE BEING DEPOSITED INTO THE FORMS OR 5 MINUTES AFTER FINISHING, WHICHEVER COMES FIRST. THE PLACEMENT OF THE TURF DRAG TEXTURE SHALL NOT INTERFERE WITH THESE REQUIREMENTS.
- IF THE CONTRACTOR'S DECK PLACEMENT OPERATION IS STOPPED PRIOR TO COMPLETION, WHETHER BY THE CONTRACTOR'S DECISION OR BY DIRECTION OF THE ENGINEER, THE CONTRACTOR SHALL PROVIDE A FINISHED DECK GRADE WHICH MATCHES THE PLANNED PROFILE. ANY SUBSEQUENT REVISIONS TO DECK FORMS MADE NECESSARY BY SUCH ACTION SHALL BE AT NO COST TO THE COUNTY.
- SINCE THIS STRUCTURE HAS A CROSS SLOPE TRANSITION, IT MAY BE ADVISABLE TO PLACE THE FINISHING MACHINE PERPENDICULAR TO THE STATION LINE.

CONCRETE NOTE

ALL STRUCTURAL HP CONCRETE (EXCEPT ABUTMENT FOOTINGS) SHALL CONTAIN CORROSION INHIBITOR (4 GALLONS PER CUBIC YARD). THE COST OF THE CORROSION INHIBITOR SHALL BE PAID FOR UNDER ITEM 555.950000007.

REINFORCEMENT NOTES

- BAR REINFORCEMENT SPACINGS INDICATED ON THESE PLANS ARE MAXIMUM UNLESS OTHERWISE SPECIFIED.
- COVER FOR BAR REINFORCEMENT ON THESE PLANS SHALL BE 3" IN FOOTINGS AND 2" ELSEWHERE UNLESS OTHERWISE SPECIFIED.

STORAGE NOTE

THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING PERMISSION FROM THE COUNTY FOR LOCATIONS TO BE USED TO STORE MATERIALS WITHIN THE RIGHT-OF-WAY. THE CONTRACTOR SHALL OBTAIN THE WRITTEN PERMISSION OF PRIVATE PROPERTY OWNERS PRIOR TO UTILIZING ANY AREAS OUT OF THE RIGHT-OF-WAY TO STORE MATERIALS. A COPY OF ANY WRITTEN PERMISSION TO STORE MATERIALS ON PRIVATE PROPERTY, IF OBTAINED, SHALL BE SUBMITTED TO THE ENGINEER AND APPROVED PRIOR TO STORAGE OF ANY MATERIALS AT THE PROPOSED SITE.

ENGINEER'S FIELD OFFICE AND EQUIPMENT

THE CONTRACTOR SHALL SUPPLY THE FOLLOWING

- ITEM 637.03 - CONCRETE CYLINDER CURING BOX
- ITEM 637.11 - ENGINEERS FILED OFFICE, TYPE I
- ITEM 637.34 - OFFICE TECHNOLOGY AND SUPPLIES

INVASIVE SPECIES NOTES

- THE FOLLOWING INVASIVE SPECIES WERE OBSERVED TO BE ON SITE IN AUGUST OF 2019: WILD PARSNIP (PASTINACA SATIVA), COMMON REED GRASS (PHRAGMITES AUSTRALIS) AND MUGWORT (ARTEMISIA VULGARIS).
- TO PREVENT THE ACCIDENTAL INTRODUCTION OF INVASIVE SPECIES THAT ARE "HITCHING A RIDE" ON CONSTRUCTION EQUIPMENT, ALL EQUIPMENT THAT IS TO BE PLACED IN MUD CREEK SHALL BE CLEANED, AS APPROPRIATE, E.G. TRACKS, BUCKETS, ETC. TO REMOVE INVASIVE SPECIES AND THEIR SEEDS AND PROPAGULES. THIS REQUIREMENT APPLIES TO EQUIPMENT ARRIVING ON THE PROJECT AND EQUIPMENT THAT IS BEING RELOCATED WITHIN THE PROJECT.
- ALL TRACKED EQUIPMENT INVOLVED IN EARTHWORK SHOULD BE CLEANED TO REMOVE PLANTS, SEEDS AND PROPAGULES THAT MAY BE HITCH HIKING, PRIOR TO ARRIVAL ON-SITE. IF TRACKED EQUIPMENT IS USED IN EARTHWORK ON A PORTION OF A PROJECT WHERE INVASIVE SPECIES ARE KNOWN TO EXIST, THIS PORTION OF THE EARTHWORK SHOULD BE CONDUCTED LAST, OR THE EQUIPMENT SHALL BE CLEANED PRIOR TO USE ON ANY PORTION OF THE SITE THAT IS KNOWN TO BE FREE OF INVASIVE PLANTS.
- ONCE ON-SITE, IF EQUIPMENT INVOLVED IN EARTHWORK IS CONTAMINATED WITH INVASIVE SPECIES, THE EQUIPMENT SHOULD BE CLEANED PRIOR TO MOVING INTO UNCONTAMINATED AREAS. CLEANING SHALL CONSIST OF USING PHYSICAL MEANS AND HAND TOOLS, SUCH AS BRUSHES, BROOMS, RAKES OR SHOVELS, ON ALL TRACK AND BUCKET/BLADE COMPONENTS TO ADEQUATELY REMOVE ALL VISIBLE DIRT AND PLANT DEBRIS. IF WATER IS USED, THE WATER/SLURRY SHALL BE CONTAINED SO AS TO RESTRICT INTRODUCTION OF INVASIVE PLANTS, SEEDS AND PROPAGULES INTO THE PROJECT OR OFF-SITE THROUGH FUTURE SURPLUS MATERIAL DISPOSAL.
- NO SEPERATE PAYMENT SHALL BE MADE FOR THIS WORK.

STREAM RESTRICTION NOTE

NO IN-STREAM WORK WILL BE ALLOWED BETWEEN SEPTEMBER 15 AND MAY 31.

STREAM PROTECTION NOTES

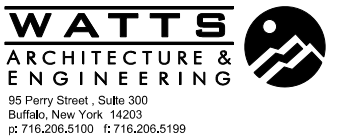
- THE CONTRACTOR SHALL NOT RETURN DIRECTLY TO A STREAM ANY WATER WHICH HAS BEEN USED FOR WASH PURPOSES OR OTHER SIMILAR OPERATIONS WHICH CAUSE THIS WATER TO BECOME POLLUTED WITH SAND, SILT CEMENT, OIL, OR OTHER IMPURITIES. IF THE CONTRACTOR USES WATER FROM A STREAM, THE CONTRACTOR SHALL CONSTRUCT AN INTAKE OR TEMPORARY DAM REQUIRED TO PROTECT AND MAINTAIN WATER RIGHTS AND TO SUSTAIN FISH LIFE DOWNSTREAM.
 - ONE OR MORE CONTAINMENT FACILITIES MEETING THE REQUIREMENTS OF NYSDEC'S NEW YORK STANDARDS FOR EROSIONS AND SEDIMENT CONTROL (AKA THE "BLUE BOOK") IS REQUIRED ON THIS PROJECT TO COLLECT WATER FROM ALL CONCRETE WORK CLEANING AND INVASIVE CLEANING.
 - THE COST FOR THE CONCRETE WASHOUT FACILITY SHALL BE INCLUDED IN THE PRICE BID FOR ALL THE CONCRETE ITEMS IN THE CONTRACT. IF A FACILITY IS NOT PROVIDED THE CONCRETE TRUCKS WILL BE REQUIRED TO RETURN TO THEIR PLANT WITH THEIR WASH WATER CONTAINED.
 - THE CONTRACTOR MUST COMPLY WITH ALL PERMITS, INCLUDING N.Y.S.D.E.C. WATER QUALITY CERTIFICATION.
- #### UTILITY NOTES
- LOCATION OF UTILITIES, PUBLIC AND/OR PRIVATE, INDICATED AS EXISTING AND/OR TO BE CONSTRUCTED AS SHOWN ON THE PLANS, ARE APPROXIMATE ONLY. THEIR EXACT LOCATION SHALL BE DETERMINED IN THE FIELD. ADDITIONAL UTILITY LINES, WHETHER ABANDONED OR IN SERVICE, MAY EXIST AND IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONDUCT HIS OPERATIONS AND TAKE THE NECESSARY PRECAUTIONS TO PREVENT INTERFERENCE WITH OR DAMAGE TO THESE OR OTHER FACILITIES DURING THE COURSE OF CONSTRUCTION.
 - SPECIAL CARE SHALL BE TAKEN TO AVOID DAMAGING EXISTING UTILITIES. ANY DAMAGE CAUSED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED BY THE CONTRACTOR AT NO COST TO THE COUNTY.
 - IN THE EVENT THE CONTRACTOR DAMAGES AN EXISTING UTILITY SERVICE, CAUSING AN INTERRUPTION IN SAID SERVICE, HE/SHE SHALL IMMEDIATELY COMMENCE WORK TO RESTORE SERVICE AND MAY NOT CEASE HIS/HER WORK OPERATION UNTIL SERVICE IS RESTORED.
 - TELEPHONE LINES ARE IN PROXIMITY TO THIS BRIDGE. REFER TO SUBSECTION 107-05 OF THE STANDARD SPECIFICATIONS FOR CONTRACTOR SAFETY REQUIREMENTS.
 - THE EXISTING UTILITY POLE ALONG THE NORTH R.O.W. LINE MAY NEED TO BE RELOCATED BY VERIZON.

SPECIAL NOTE GENERAL RIGHT OF WAY NOTE

- ALL WORK TO BE PERFORMED UNDER THIS CONTRACT WILL BE WITHIN THE PUBLIC RIGHT-OF-WAY (ROW) IN ACCORDANCE WITH SECTION 105-15 OF THE STANDARD SPECIFICATIONS. THE CONTRACTOR IS TO ASSURE HIMSELF THAT ALL WORK IS BEING PERFORMED WITHIN THE ROW, INCLUDING BUT NOT LIMITED TO VEHICLE ACCESS; STORAGE OF EQUIPMENT, MATERIALS, DEBRIS AND WASTE; LANDSCAPING; VEGETATION REMOVAL AND MANAGEMENT; GRADING, SEEDING AND THE INSTALLATION OF TURF; AND THE INSTALLATION OF ANY FENCES OR PROTECTIVE BARRIER.
- IF CONTRACTOR IS UNABLE TO IDENTIFY THE LIMITS OF THE RIGHTS-OF-WAY WHEN THE CONTRACT CALLS FOR WORK IN THOSE VICINITIES, THE CONTRACTOR MUST CONTACT THE ENGINEER IN CHARGE FOR DEFINITIVE BOUNDARY DETERMINATIONS BEFORE ANY WORK MAY BE INITIATED AT THOSE LOCATIONS (STANDARD SPECIFICATIONS SECTIONS 105-10 AND 625).
- IN ACCORDANCE WITH SECTION 105-15 OF THE STANDARD SPECIFICATIONS, RELEASES FOR ANY NON-ESSENTIAL CONTRACT WORK OUTSIDE OF THE EXISTING RIGHTS-OF-WAY, INCLUDING PLANTINGS, LANDSCAPING OR DRIVEWAY ENHANCEMENT, WILL BE PROVIDED BY THE PROJECT ENGINEER AND IN NO INSTANCE ARE TO BE SECURED BY THE CONTRACTOR. THE CONTRACTOR SHALL NOT INVADE UPON PRIVATE PROPERTIES, LANDS OR BUILDINGS OUTSIDE OF THE RIGHTS-OF-WAY FOR ANY REASON WITHOUT FIRST SECURING WRITTEN PERMISSION FROM THE PROPERTY OWNER (STANDARD SPECIFICATIONS SECTION 105-15).
- THE CONTRACTOR WILL BE HELD LIABLE FOR ANY DAMAGES DONE, ANY SUCH INJURIES OR DAMAGES SHALL BE SATISFACTORILY REPAIRED OR ITEMS REPLACED AT THE CONTRACTOR'S EXPENSE (STANDARD SPECIFICATIONS SECTION 107-08).

project:

Leon-New Albion Road over Mud Creek PIN 5762.94 BIN 3322120 Town of Leon Cattaraugus County



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number	date	description
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sheet title

GENERAL NOTES

project number: 19106

drawn by: TEM

checked by: JCK

date: JUNE 2020

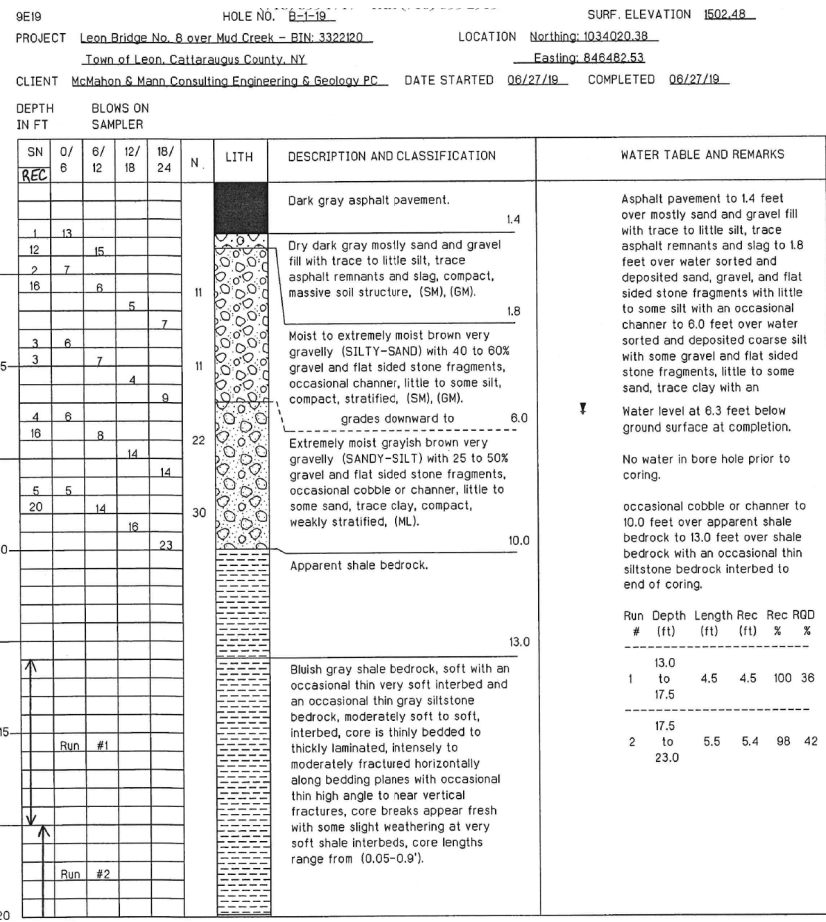
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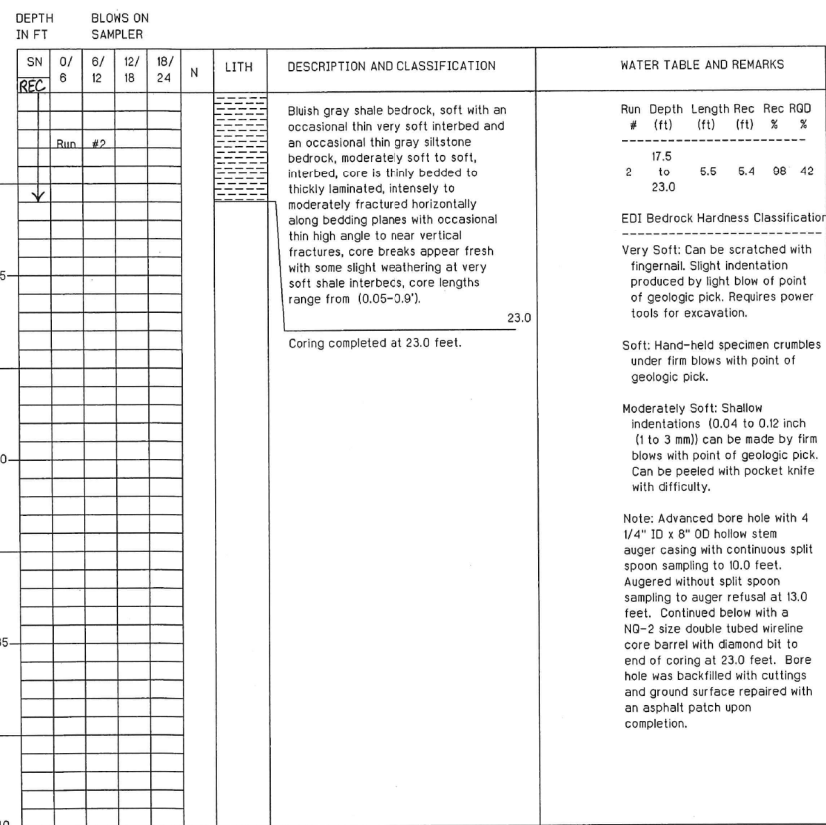
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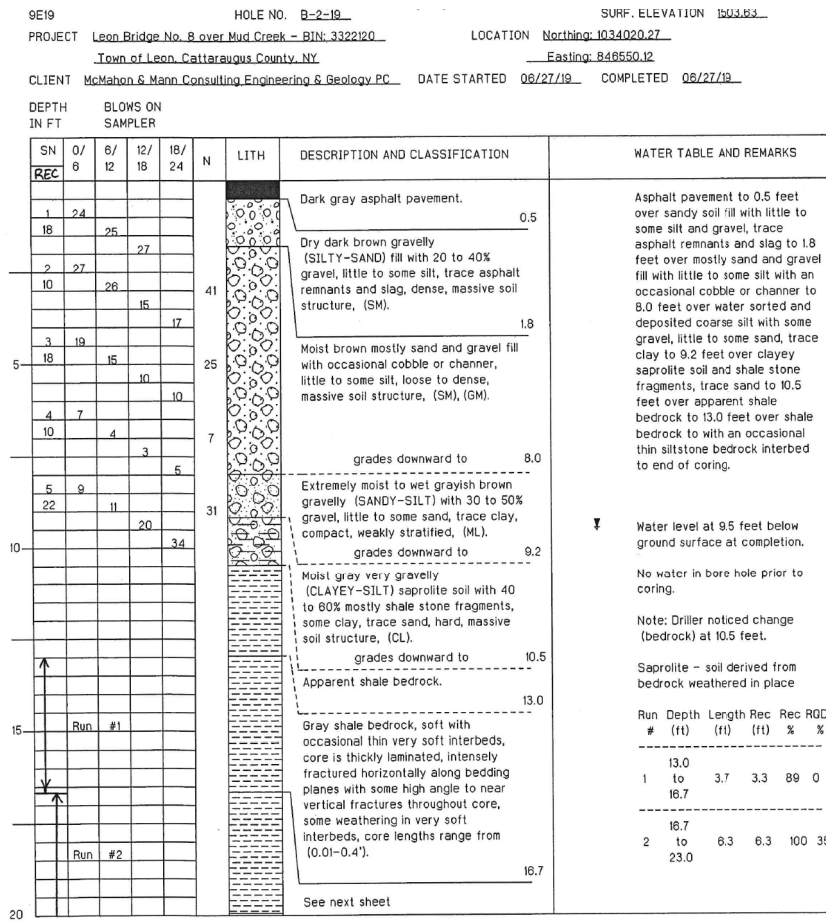
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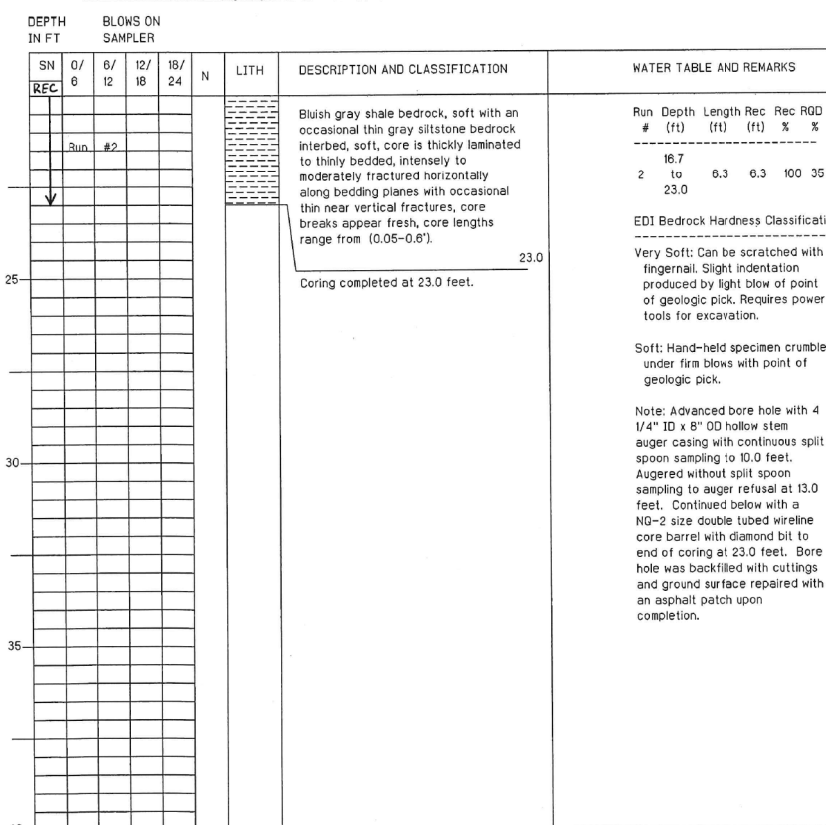
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 LOGGED BY Kyle A. Shearing, Geologist (cns) SHEET 1 OF 2
 9E19 HOLE NO. B-1-19 SURF. ELEVATION 1502.48
 PROJECT Leon Bridge No. 8 over Mud Creek - BIN: 3322120 LOCATION Northing: 1034020.38 Easting: 846482.53
 CLIENT McMahon & Mann Consulting Engineering & Geology PC. DATE STARTED 08/27/19 COMPLETED 08/27/19



N=NUMBER OF BLOWS TO DRIVE 2 * SPOON 12 * WITH 140 lb. WT. FALLING 30 * PER BLOW
 LOGGED BY Kyle A. Shearing, Geologist (cns) SHEET 2 OF 2



N=NUMBER OF BLOWS TO DRIVE 2 * SPOON 12 * WITH 140 lb. WT. FALLING 30 * PER BLOW
 LOGGED BY Kyle A. Shearing, Geologist (cns) SHEET 1 OF 2
 9E19 HOLE NO. B-2-19 SURF. ELEVATION 1503.63
 PROJECT Leon Bridge No. 8 over Mud Creek - BIN: 3322120 LOCATION Northing: 1034020.27 Easting: 846550.12
 CLIENT McMahon & Mann Consulting Engineering & Geology PC. DATE STARTED 08/27/19 COMPLETED 08/27/19



N=NUMBER OF BLOWS TO DRIVE 2 * SPOON 12 * WITH 140 lb. WT. FALLING 30 * PER BLOW
 LOGGED BY Kyle A. Shearing, Geologist (cns) SHEET 2 OF 2

NOTE:
 A GEOTECHNICAL REPORT HAS BEEN PREPARED FOR THIS PROJECT AND IS AVAILABLE AT THE CATTARAUGUS COUNTY DPW.

project:
Leon-New Albion Road over Mud Creek
 PIN 5762.94
 BIN 3322120
 Town of Leon
 Cattaraugus County



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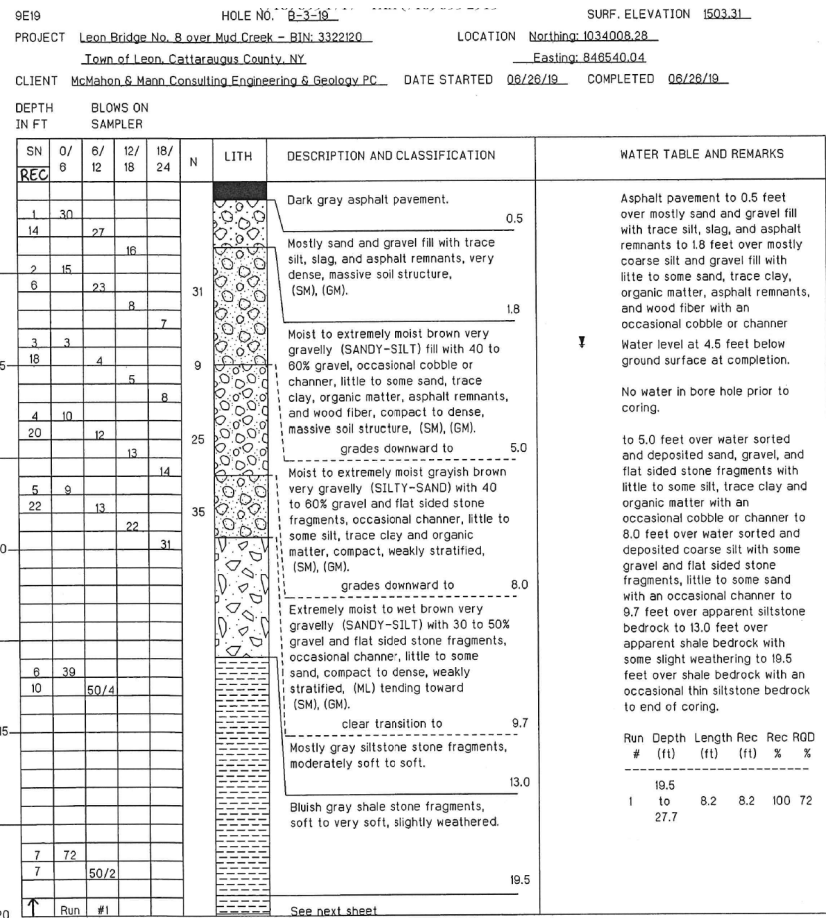
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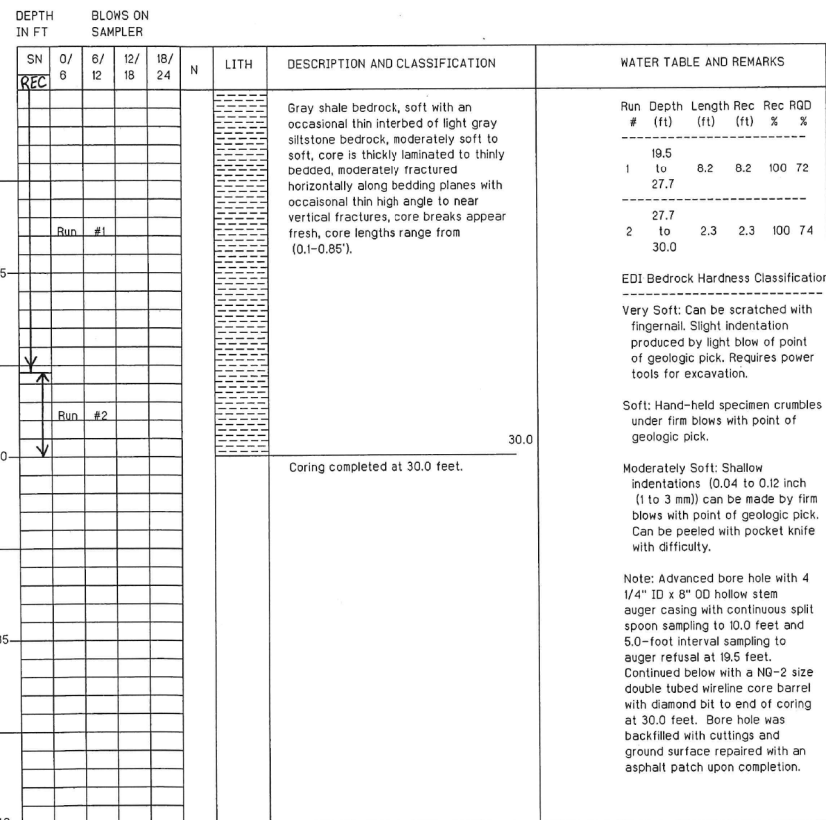
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project number: 19106
 drawn by: TEM
 checked by: JCK
 date: JUNE 2020
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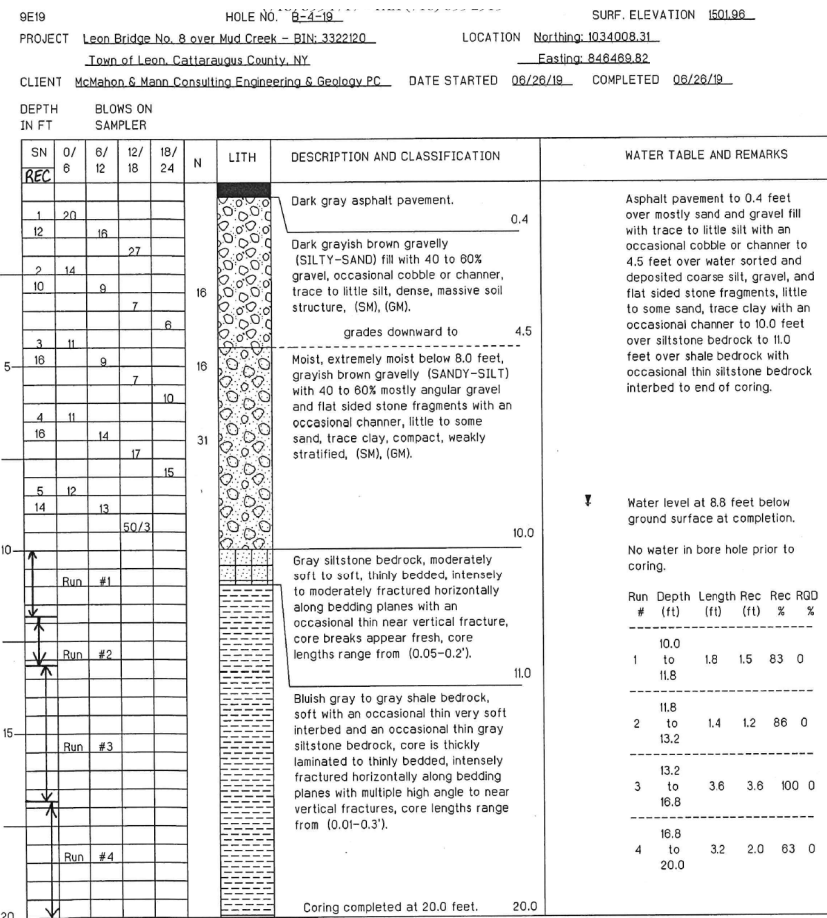
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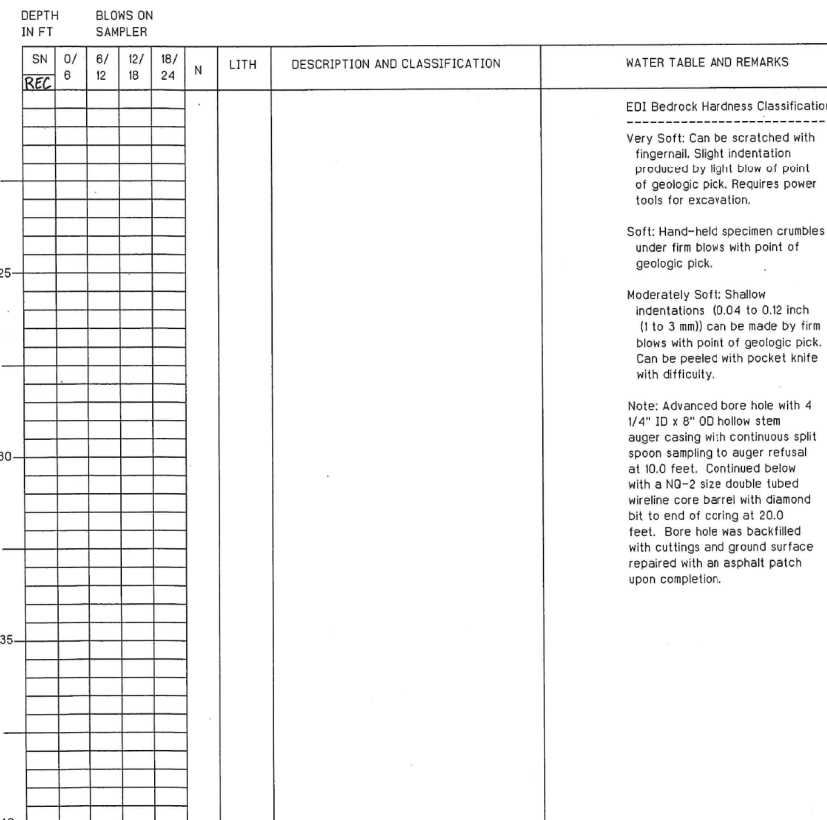
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 PROJECT Leon Bridge No. 8 over Mud Creek - BIN: 3322120 LOCATION Northing: 1034008.28
 Town of Leon, Cattaraugus County, NY Easting: 848540.04
 CLIENT McMahon & Mann Consulting Engineering & Geology PC. DATE STARTED 06/26/19 COMPLETED 06/26/19



N=NUMBER OF BLOWS TO DRIVE 2 * SPOON 12 * WITH 140 lb. WT. FALLING 30 * PER BLOW
 LOGGED BY Kyle A. Shearing, Geologist (cns) SHEET 2 OF 2



N=NUMBER OF BLOWS TO DRIVE 2 * SPOON 12 * WITH 140 lb. WT. FALLING 30 * PER BLOW
 LOGGED BY Kyle A. Shearing, Geologist (cns) SHEET 1 OF 2
 9E19 HOLE NO. B-4-16 SURF. ELEVATION 1501.88
 PROJECT Leon Bridge No. 8 over Mud Creek - BIN: 3322120 LOCATION Northing: 1034008.31
 Town of Leon, Cattaraugus County, NY Easting: 848469.82
 CLIENT McMahon & Mann Consulting Engineering & Geology PC. DATE STARTED 06/26/19 COMPLETED 06/26/19



N=NUMBER OF BLOWS TO DRIVE 2 * SPOON 12 * WITH 140 lb. WT. FALLING 30 * PER BLOW
 LOGGED BY Kyle A. Shearing, Geologist (cns) SHEET 2 OF 2

NOTE:

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project:
**Leon-New Albion
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**BORING
 LOGS
 2**

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date: JUNE 2020

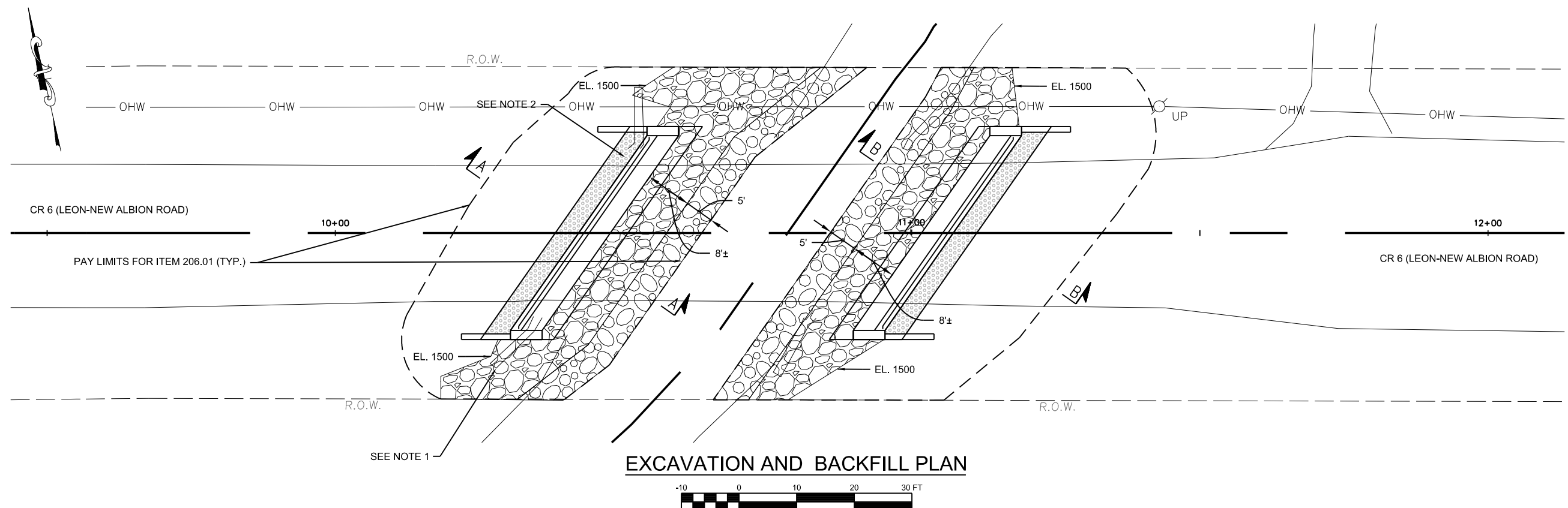
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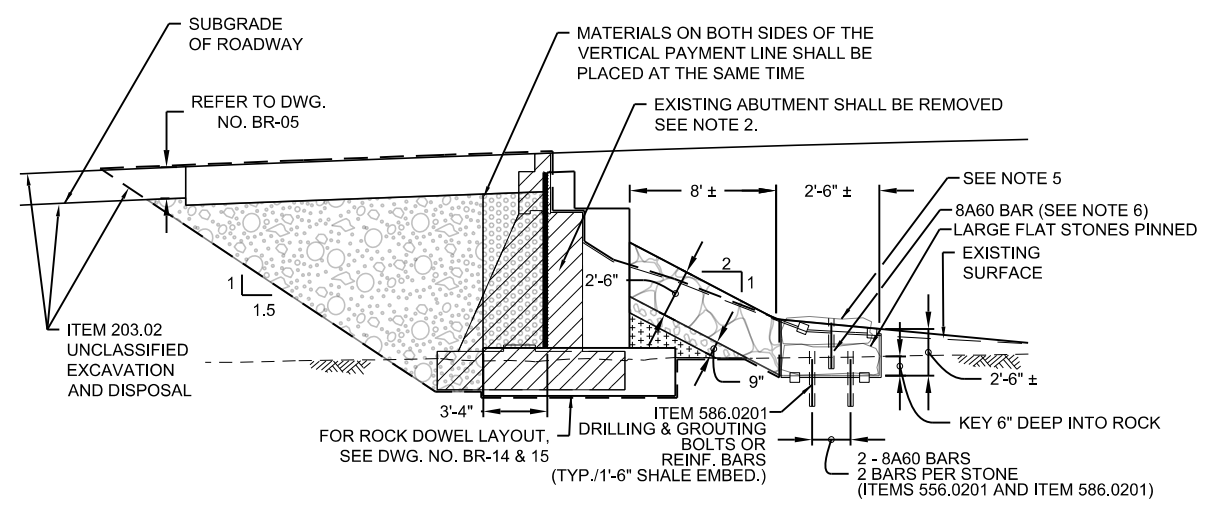
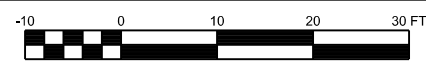
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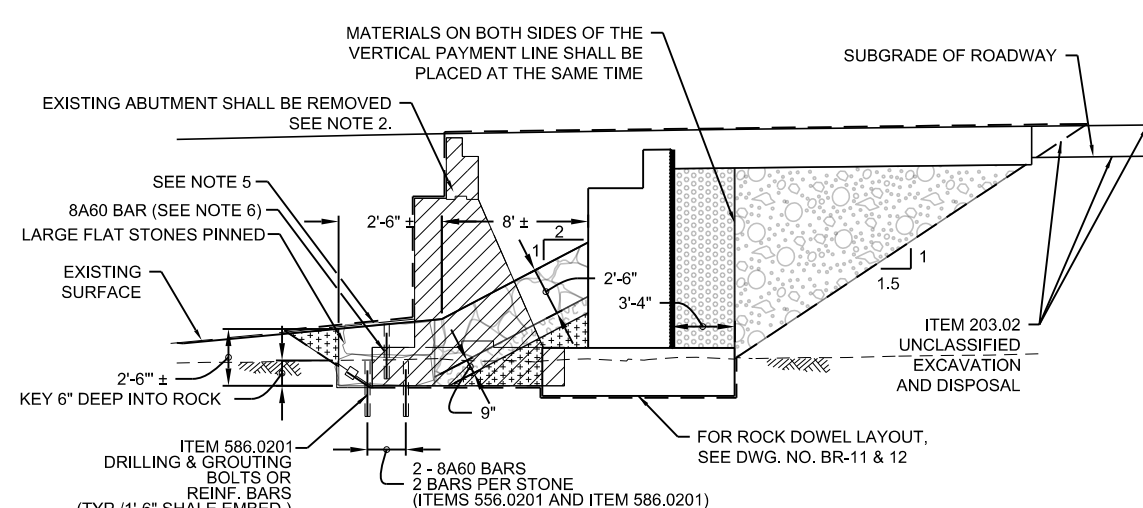
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EXCAVATION AND BACKFILL PLAN



SECTION A-A
NOT TO SCALE



SECTION B-B
NOT TO SCALE

LEGEND

- STRUCTURE EXCAVATION, ITEM 206.01
- STONE FILLING (HEAVY), ITEM 620.05
- BEDDING MATERIAL, TYPE 1, ITEM 620.0801
- EMBANKMENT IN PLACE, ITEM 203.03
- SELECT STRUCTURE FILL, ITEM 203.21
- BACKFILL WITH SUITABLE EXCAVATED MATERIAL AS PROVIDED UNDER STRUCTURE EXCAVATION, ITEM 206.01
- REMOVAL OF SUBSTRUCTURES, ITEM 202.19
- PREFABRICATED COMPOSITE STRUCTURAL DRAIN ITEM 207.26
- TRENCH AND CULVERT, ITEM 206.0201

NOTES:

1. PORTION OF EXISTING WING WALLS MAY BE LEFT IN PLACE. WINGWALLS LEFT IN PLACE SHALL BE CUT OF 2' BELOW GRADE AND SHALL NOT INTERFERE WITH ANY OF THE PROPOSED STRUCTURE.
2. RECORD PLANS FOR THIS BRIDGE ARE NOT AVAILABLE. EXACT SHAPE AND LIMITS OF THE EXISTING ABUTMENTS AND WINGWALLS ARE UNKNOWN. ASSUMPTIONS WERE MADE AS TO THE TYPE AND LIMITS OF THE EXISTING ABUTMENT FOR ESTIMATING PURPOSES.
3. THE CONTRACTOR SHALL SELECT FLAT HEAVY STONE THAT CAN BE PLACED AT THE BOTTOM OF THE STONE FILL TO BUTTRESS THE FILL. THE COST OF PINNED STONES IS INCLUDED IN ITEM 620.05 - STONE FILL (HEAVY).
4. THE CONTRACTOR SHALL DRILL A #8 REBAR (8A60) THROUGH THE STONE AND 18" MINIMUM INTO THE UNDERLING SHALE. THE #8 REBAR SHALL BE A MINIMUM OF 2'-6" LONG. THE ROCK PINS SHALL BE PAID FOR UNDER ITEM 556.0201 AND ITEM 586.0201.
5. IF ONE STONE IS NOT ENOUGH TO RETAIN THE FILL A SECOND STONE SHALL BE ADDED, A.O.B.E.
6. PINS BETWEEN THE STONES SHALL BE A MINIMUM OF 2'-0" (ESTIMATED AT 2'-6") WITH A 1'-0" MINIMUM EMBEDMENT INTO THE LOWER STONES. PINS IN THE UPPER STONES SHALL BE INSTALLED PERPENDICULAR TO THE PINS IN THE LOWER STONES.
7. IT IS ESTIMATED THAT 2 ROWS OF 50 STONES (100 STONES TOTAL) WILL BE REQUIRED FOR EACH KEY/STONE BUTTRESS.
8. ALL STONE FILL PLACEMENT AND DRILLING AND GROUTING SHALL OCCUR IN FULLY DEWATERED CONDITIONS.

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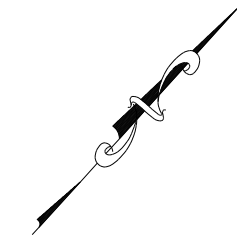
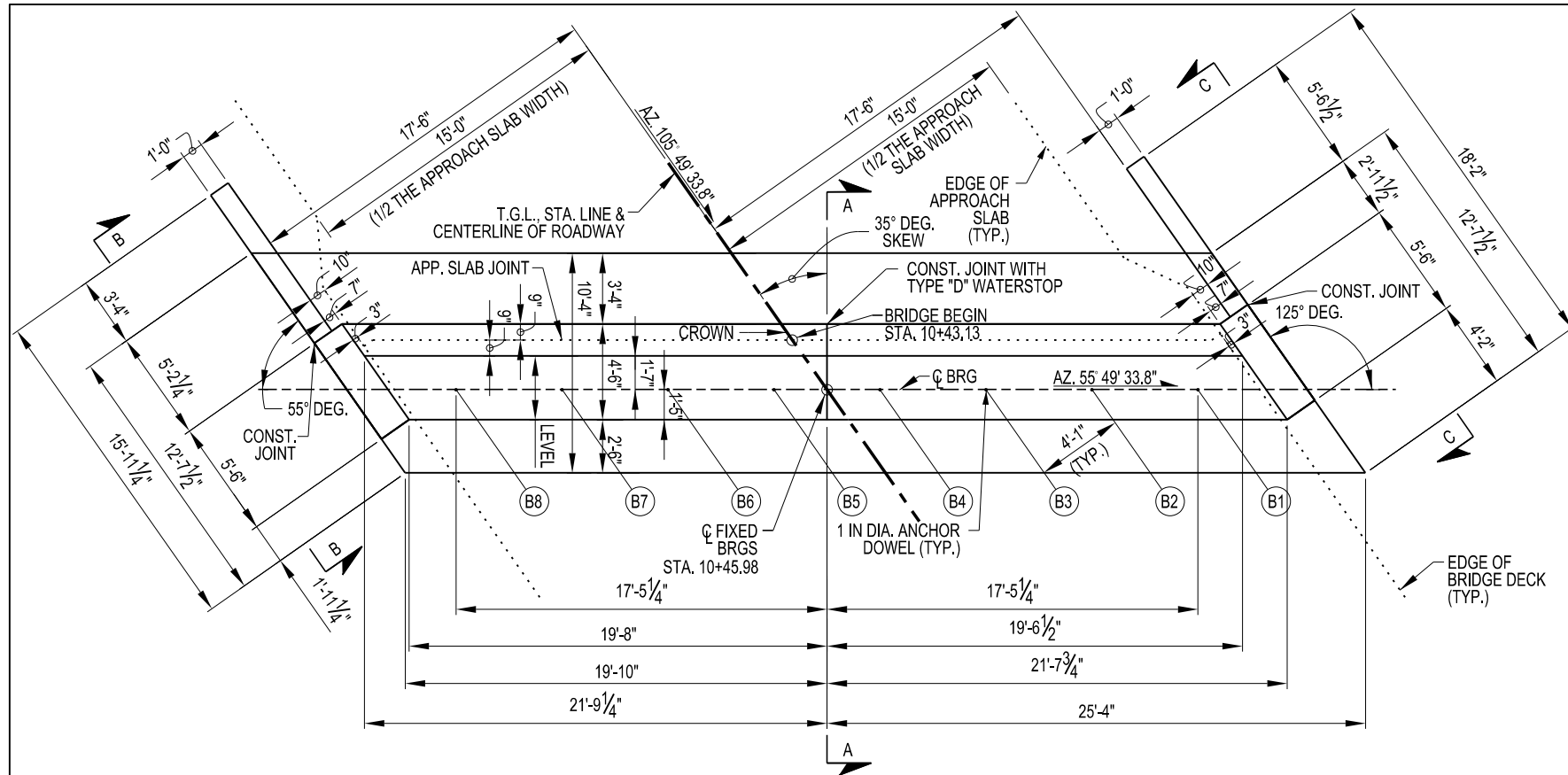
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EXCAVATION AND EMBANKMENT

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sheet number
BR-09



NOTES

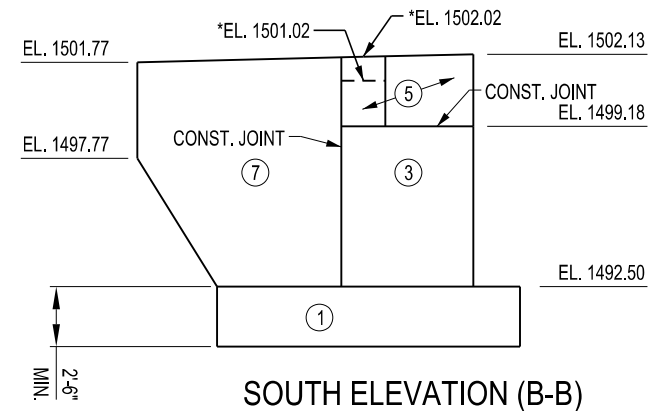
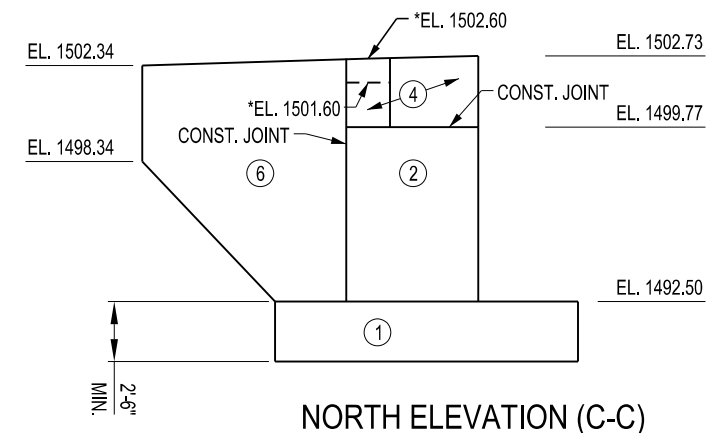
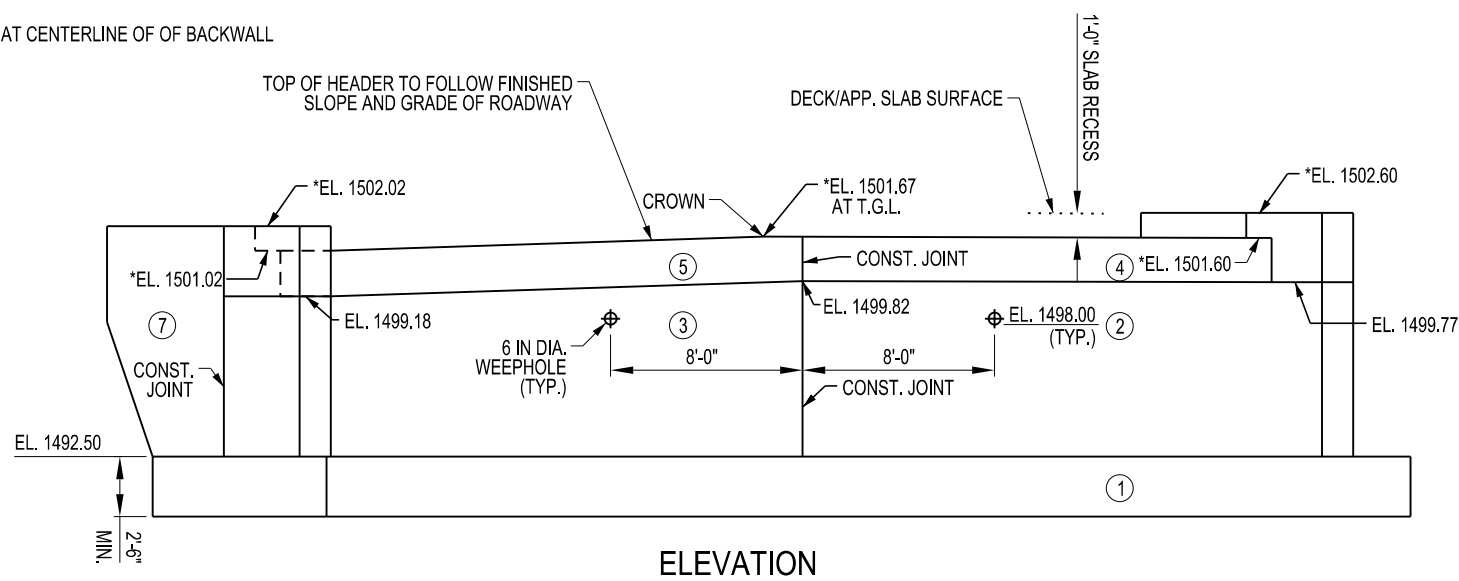
1. TOP OF BACKWALL TO CONFORM TO FINISHED SLOPE AND GRADE OF ROADWAY.
2. INSTALL TYPE 'D' WATERSTOP AT CONSTRUCTION JOINTS.
3. SEE DWG. NO. BR-12 FOR REINFORCEMENT SECTION A-A AND ELEVATION B-B & C-C.
4. FOR KEYWAY DETAILS, SEE DWG. NO. BR-12.
5. FOR CHAMFER DETAILS, SEE DWG. NO. BR-12.
6. FOR TYPE D WATERSTOP DETAILS, SEE DWG. NO. BR-15.
7. THE BEDROCK BEARING GRADE SHALL BE OBSERVED AND EVALUATED BY THE ENGINEER PRIOR TO THE PLACEMENT OF THE FOUNDATION. ANY LOOSE, DISTURBED OR OTHERWISE DELETERIOUS SOIL OR BEDROCK MATERIAL BENEATH THE PROPOSED FOUNDATION BEARING GRADES SHALL BE REMOVED.
8. ITEM 559.16960118 - PROTECTIVE SEALING OF STRUCTURAL CONCRETE SHALL BE APPLIED TO ALL EXPOSED SURFACES OF THE SUBSTRUCTURE, A.O.B.E.
9. CONCRETE (EXCEPT FOR POUR 1) SHALL CONTAIN CORROSION INHIBITOR ITEM 555.95000007 (4 GALLONS PER CUBIC YARD).

CONCRETE TABLE (CY)		
POUR	QUANTITY	ITEM NO.
①	43.3	555.08
②	26.8	555.09
③	27.1	555.09
④	3.0	555.09
⑤	3.3	555.09
⑥	2.6	555.09
⑦	2.7	555.09



LEGEND	
⊗	- BEAM NO.
⊙	- POUR NO.
◆	- WEEP HOLE

* ELEVATION AT CENTERLINE OF OF BACKWALL



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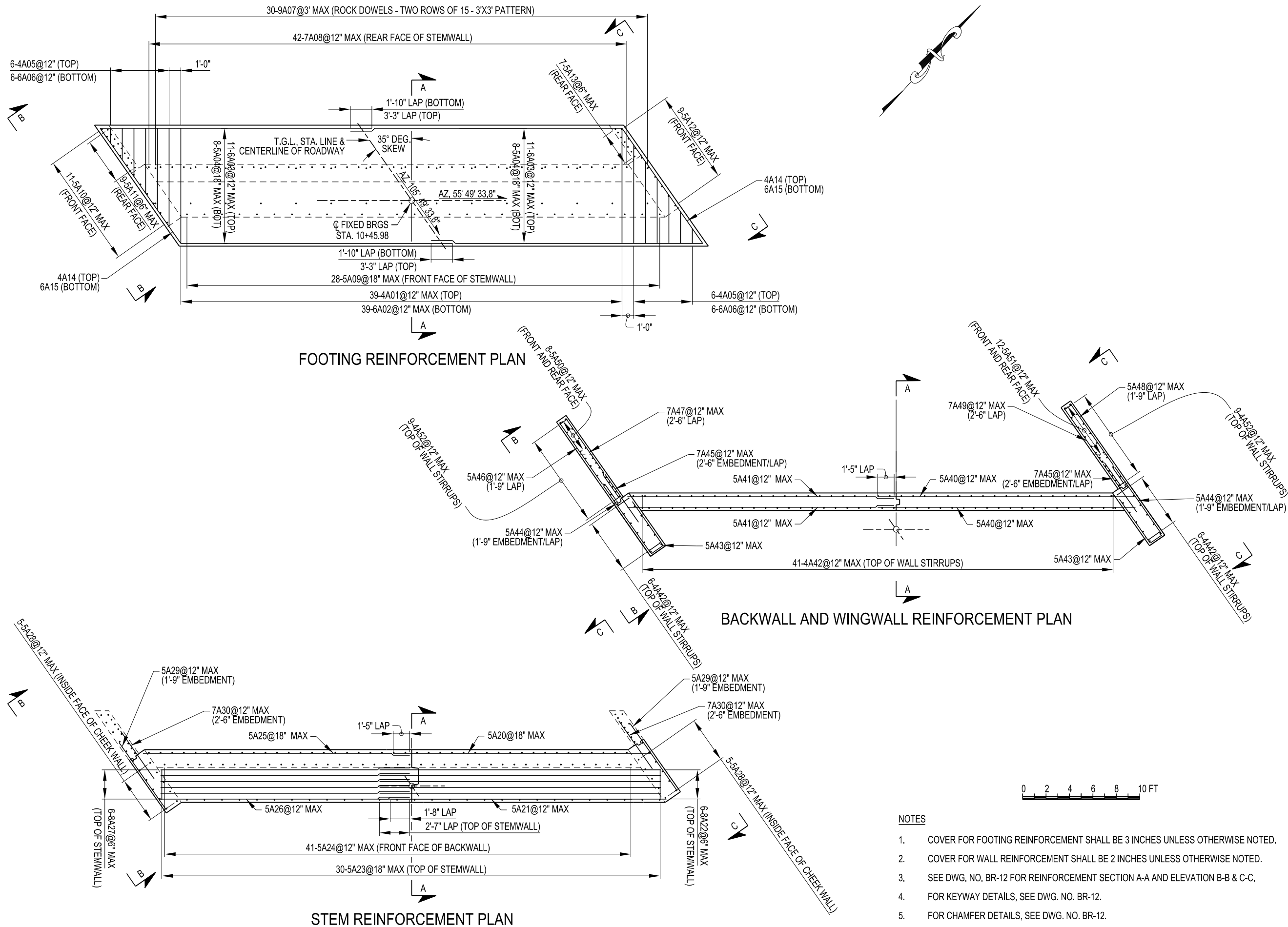
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drawing history		
number	date	description

sheet title
**WEST ABUTMENT
 PLAN AND
 ELEVATION**

project number: 19106
 drawn by: TEM
 checked by: JCK
 date: JUNE 2020
 scale: AS SHOWN

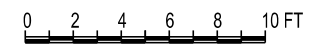
sheet number
BR-10



FOOTING REINFORCEMENT PLAN

BACKWALL AND WINGWALL REINFORCEMENT PLAN

STEM REINFORCEMENT PLAN



NOTES

1. COVER FOR FOOTING REINFORCEMENT SHALL BE 3 INCHES UNLESS OTHERWISE NOTED.
2. COVER FOR WALL REINFORCEMENT SHALL BE 2 INCHES UNLESS OTHERWISE NOTED.
3. SEE DWG. NO. BR-12 FOR REINFORCEMENT SECTION A-A AND ELEVATION B-B & C-C.
4. FOR KEYWAY DETAILS, SEE DWG. NO. BR-12.
5. FOR CHAMFER DETAILS, SEE DWG. NO. BR-12.
6. FOR TYPE D WATERSTOP DETAILS, SEE DWG. NO. BR-15.

project:
**Leon-New Albion
 Road over
 Mud Creek**
 PIN 5762.94
 BIN 3322120
 Town of Leon
 Cattaraugus County



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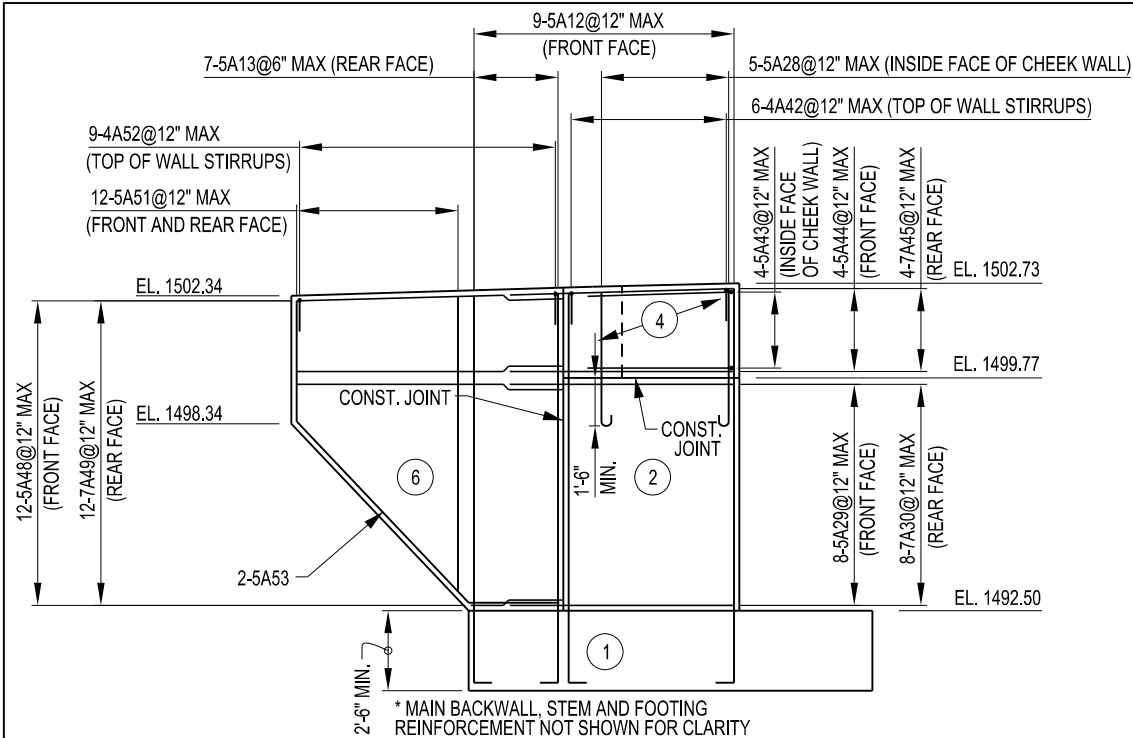
drawing history

number	date	description

sheet title
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 ABUTMENT
 REINFORCEMENT**

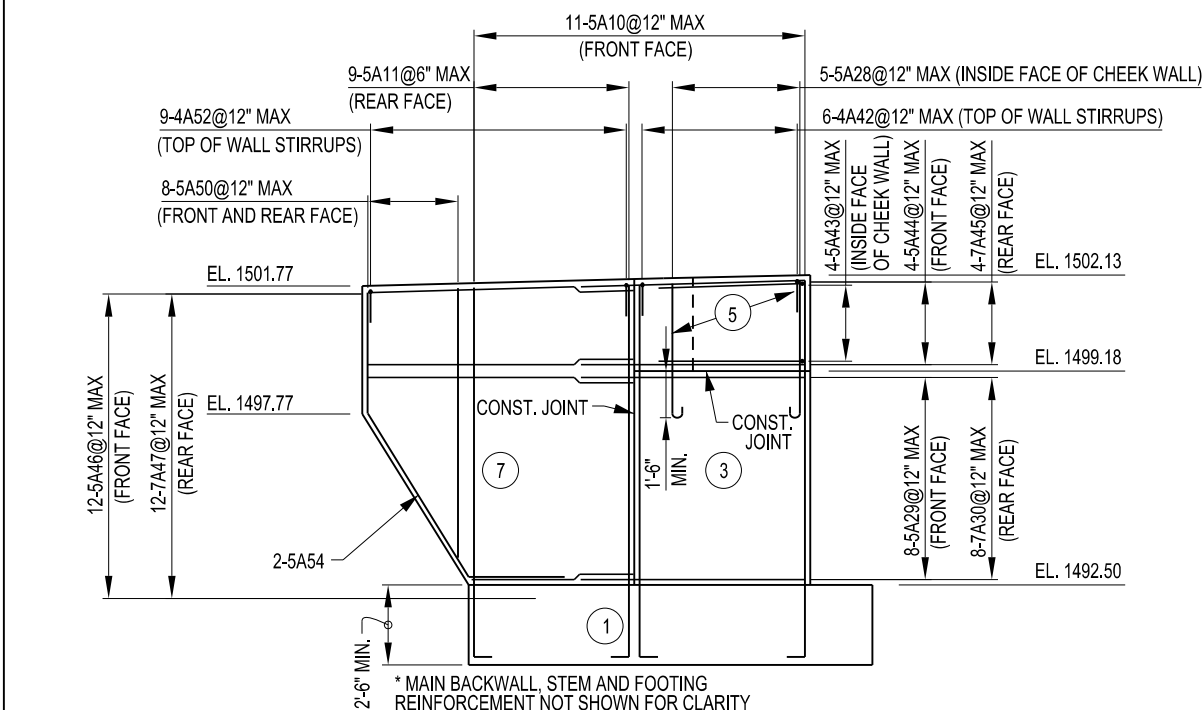
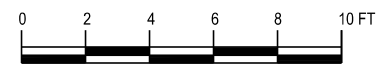
project number: 19106
 drawn by: TEM
 checked by: JCK
 date: JUNE 2020
 scale: AS SHOWN

sheet number
BR-11



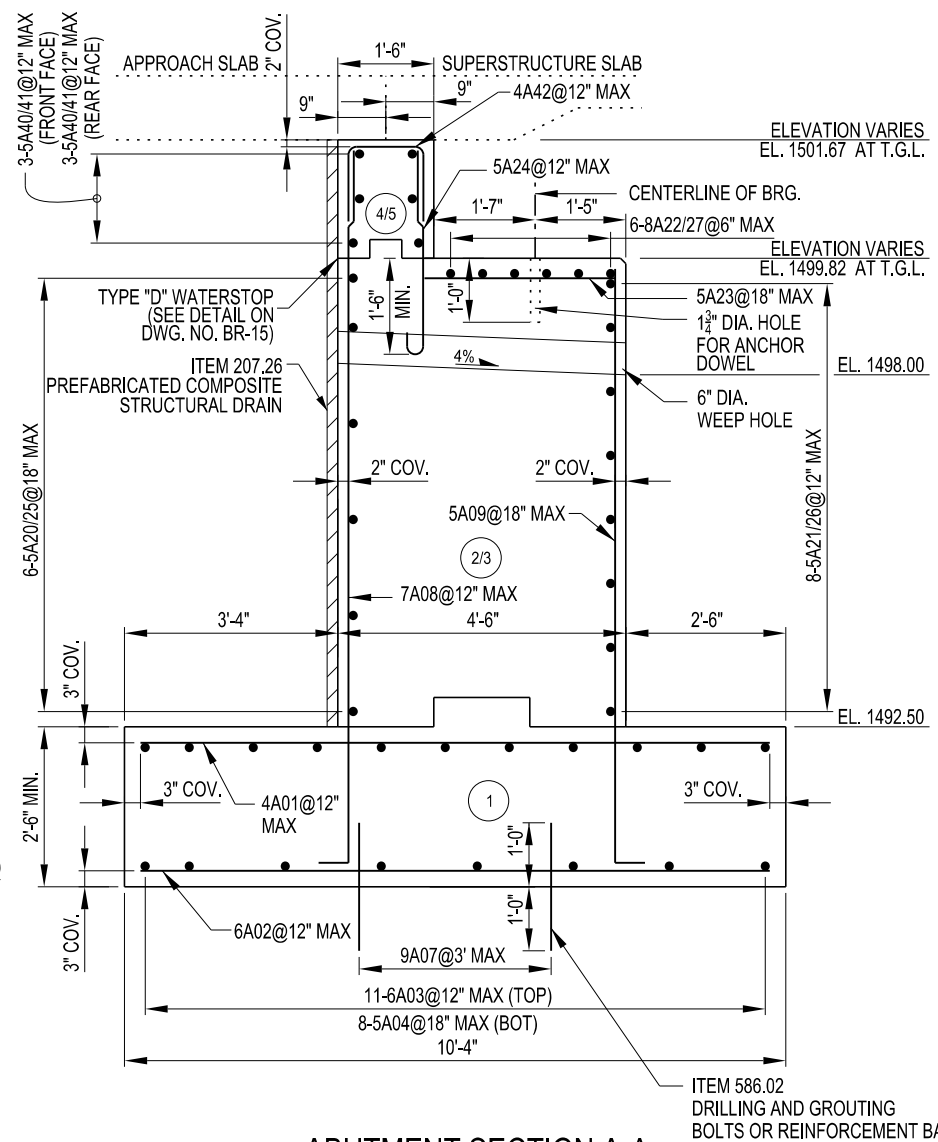
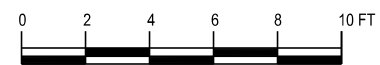
NORTH ELEVATION (C-C)

(X) - INDICATES CONCRETE PLACEMENT NUMBER



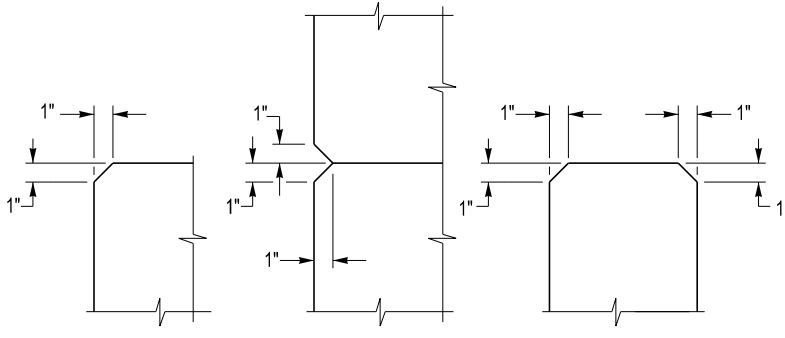
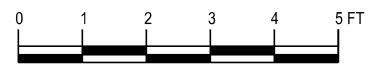
SOUTH ELEVATION (B-B)

(X) - INDICATES CONCRETE PLACEMENT NUMBER



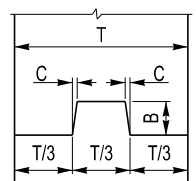
ABUTMENT SECTION A-A

(X) - INDICATES CONCRETE PLACEMENT NUMBER

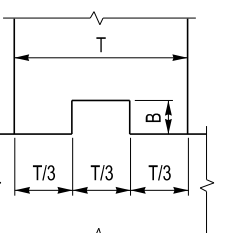


TYPICAL CHAMFER DETAILS
NOT TO SCALE

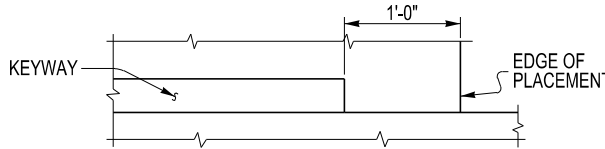
- NOTES
- COVER FOR FOOTING REINFORCEMENT SHALL BE 3 INCHES UNLESS OTHERWISE NOTED.
 - COVER FOR WALL REINFORCEMENT SHALL BE 2 INCHES UNLESS OTHERWISE NOTED.
 - SEE DWG. NO. BR-11 FOR LOCATION OF THE SECTIONS.



VERTICAL SECTION



HORIZONTAL SECTION



KEYWAY PROFILE

CONSTRUCTION JOINTS		
C	B	T/3
3/16"	1-1/2"	0 TO 6"
3/8"	3-1/2"	6" TO 10"
3/4"	5-1/2"	10" AND OVER

KEYWAY DETAILS
NOT TO SCALE

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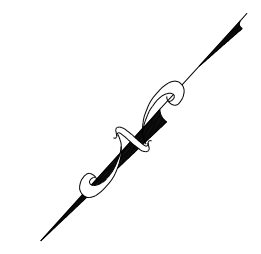
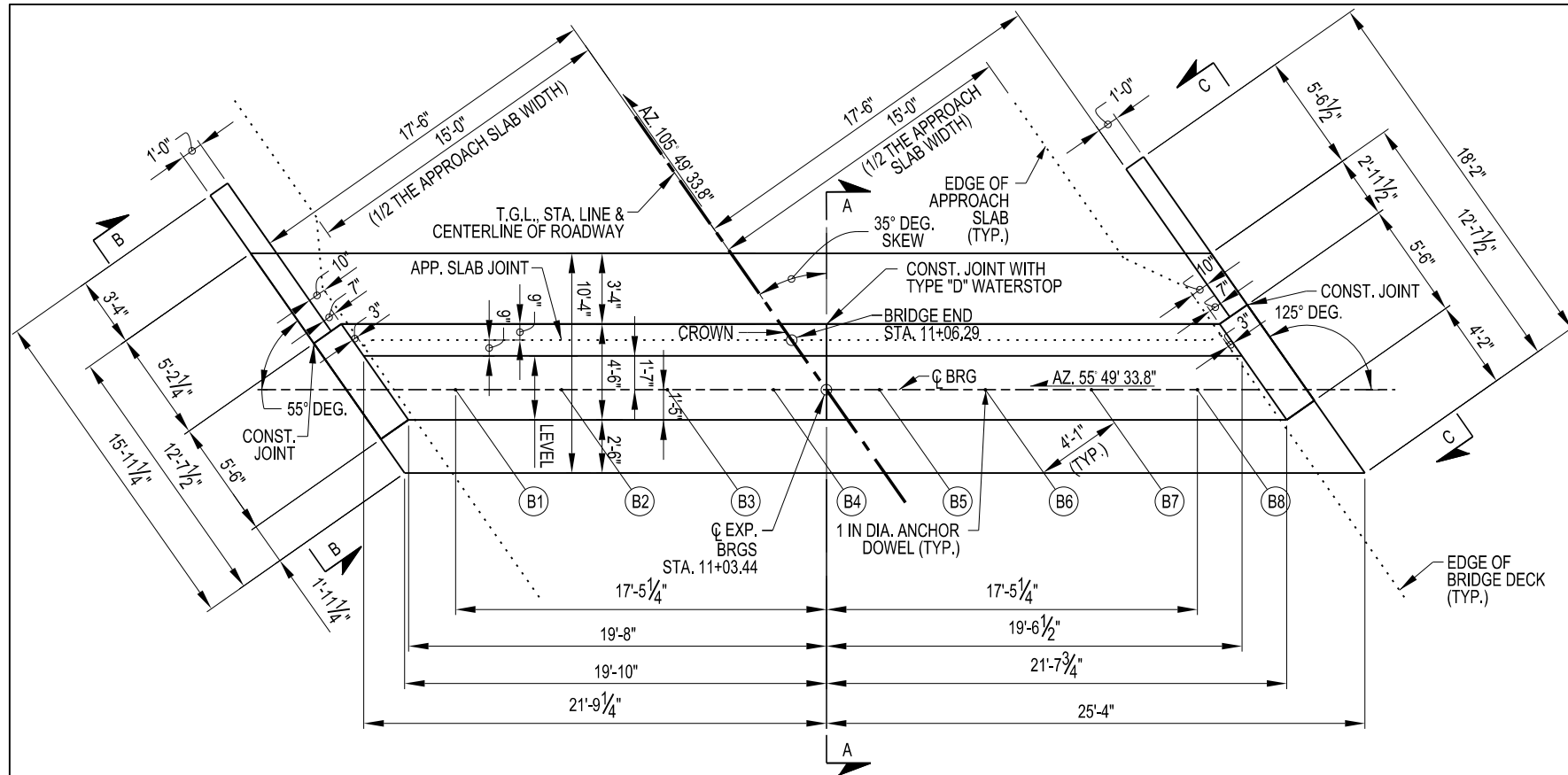
drawing history

number	date	description

sheet title
**WEST ABUTMENT
 SECTIONS
 AND DETAILS**

project number: 19106
 drawn by: TEM
 checked by: JCK
 date: JUNE 2020
 scale: AS SHOWN
 sheet number

BR-12



NOTES

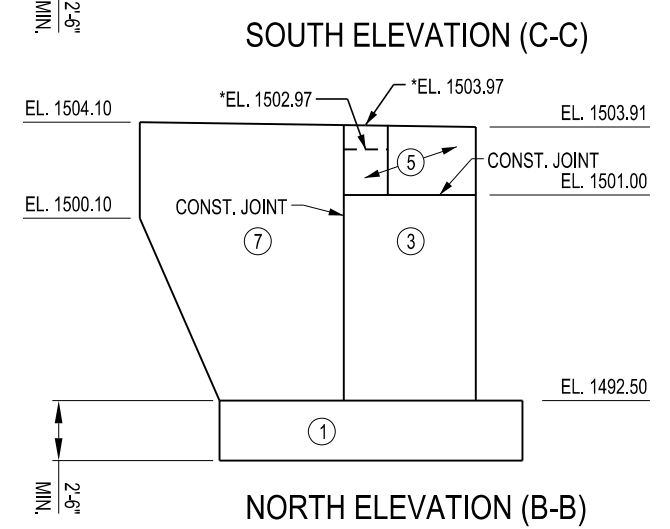
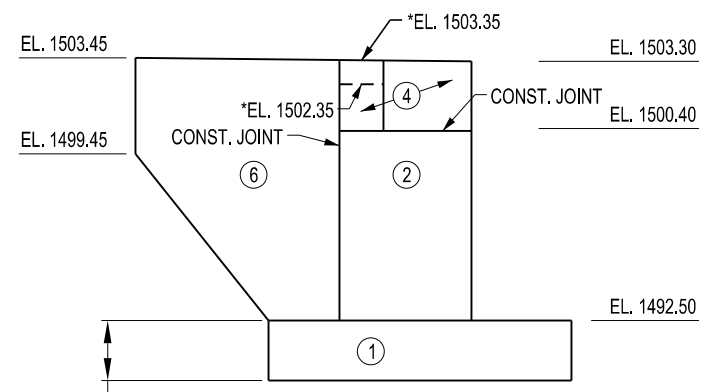
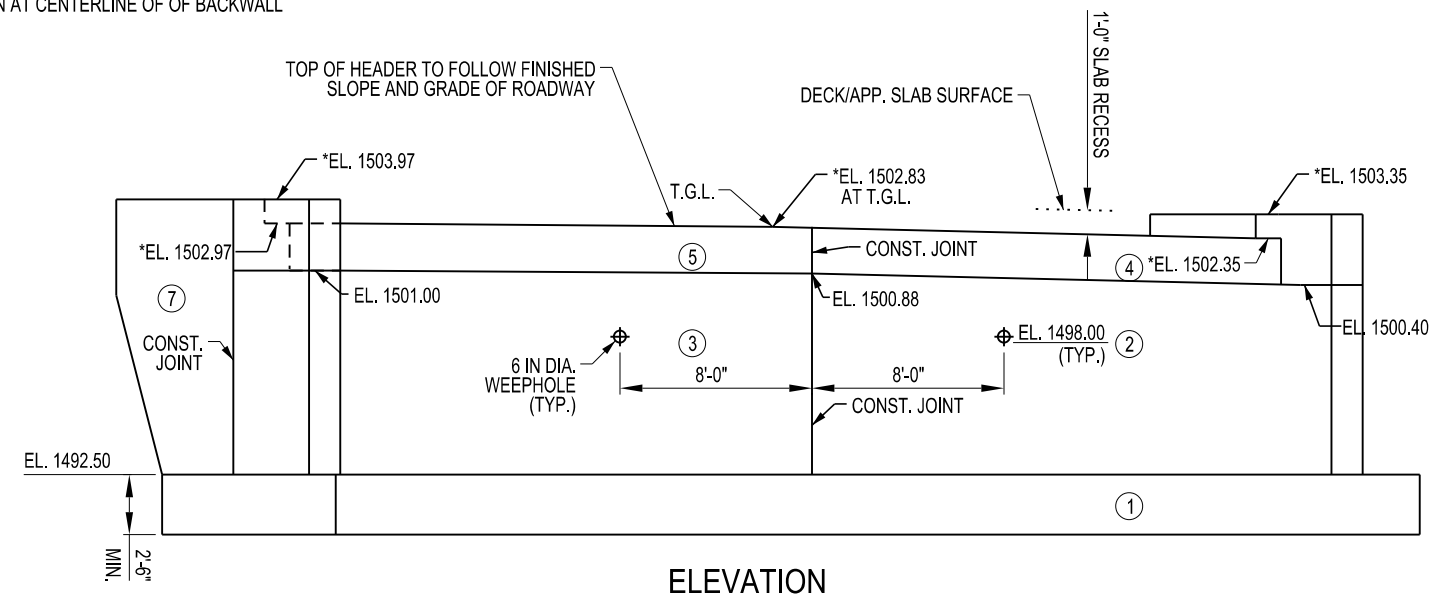
1. TOP OF BACKWALL TO CONFORM TO FINISHED SLOPE AND GRADE OF ROADWAY.
2. INSTALL TYPE 'D' WATERSTOP AT CONSTRUCTION JOINTS.
3. SEE DWG. NO. BR-15 FOR REINFORCEMENT SECTION A-A AND ELEVATION B-B & C-C.
4. FOR KEYWAY DETAILS, SEE DWG. NO. BR-12.
5. FOR CHAMFER DETAILS, SEE DWG. NO. BR-12.
6. FOR TYPE D WATERSTOP DETAILS, SEE DWG. NO. BR-15.
7. THE BEDROCK BEARING GRADE SHALL BE OBSERVED AND EVALUATED BY THE ENGINEER PRIOR TO THE PLACEMENT OF THE FOUNDATION. ANY LOOSE, DISTURBED OR OTHERWISE DELETERIOUS SOIL OR BEDROCK MATERIAL BENEATH THE PROPOSED FOUNDATION BEARING GRADES SHALL BE REMOVED.
8. ITEM 559.16960118 - PROTECTIVE SEALING OF STRUCTURAL CONCRETE SHALL BE APPLIED TO ALL EXPOSED SURFACES OF THE SUBSTRUCTURE, A.O.B.E.
9. CONCRETE (EXCEPT FOR POUR 1) SHALL CONTAIN CORROSION INHIBITOR ITEM 555.95000007 (4 GALLONS PER CUBIC YARD).

CONCRETE TABLE (CY)		
POUR	QUANTITY	ITEM NO.
①	43.3	555.08
②	29.9	555.09
③	32.8	555.09
④	3.0	555.09
⑤	3.3	555.09
⑥	2.7	555.09
⑦	3.2	555.09



LEGEND	
⊗	- BEAM NO.
⊙	- POUR NO.
⊕	- WEEP HOLE

* ELEVATION AT CENTERLINE OF OF BACKWALL



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drawing history		
number	date	description

sheet title
**EAST ABUTMENT
 PLAN AND
 ELEVATION**

project number: 19106
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BR-13

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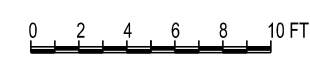
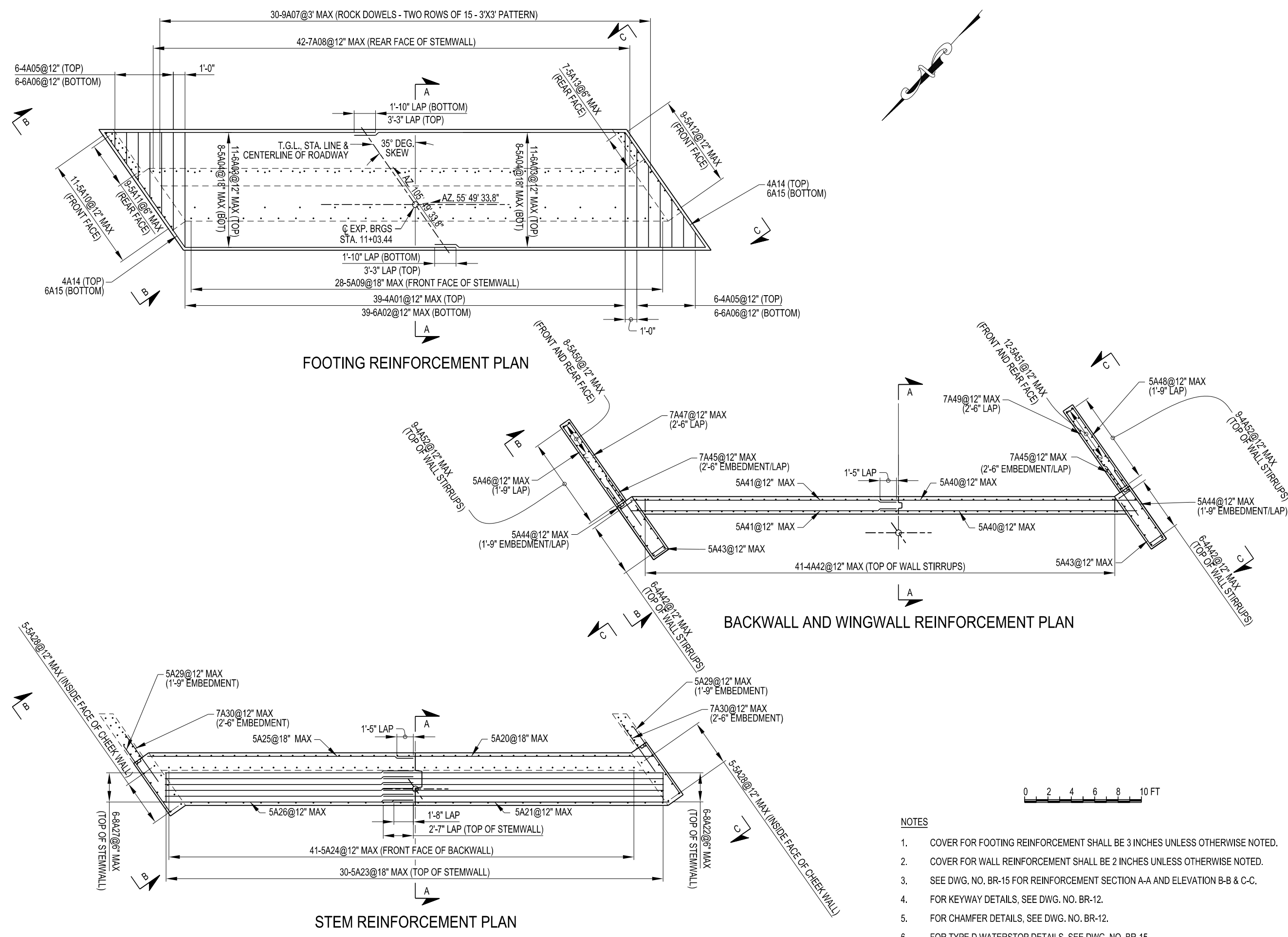
drawing history

number	date	description

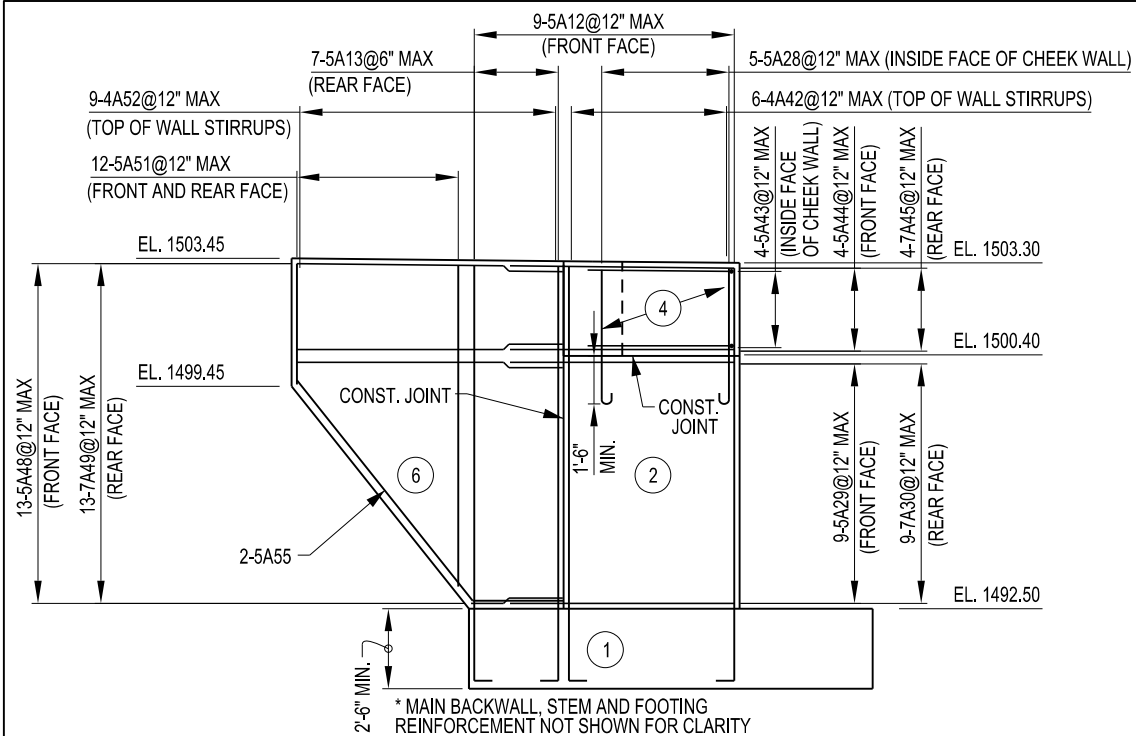
sheet title
**EAST
 ABUTMENT
 REINFORCEMENT**

project number: 19106
 drawn by: TEM
 checked by: JCK
 date: JUNE 2020
 scale: AS SHOWN

sheet number
BR-14

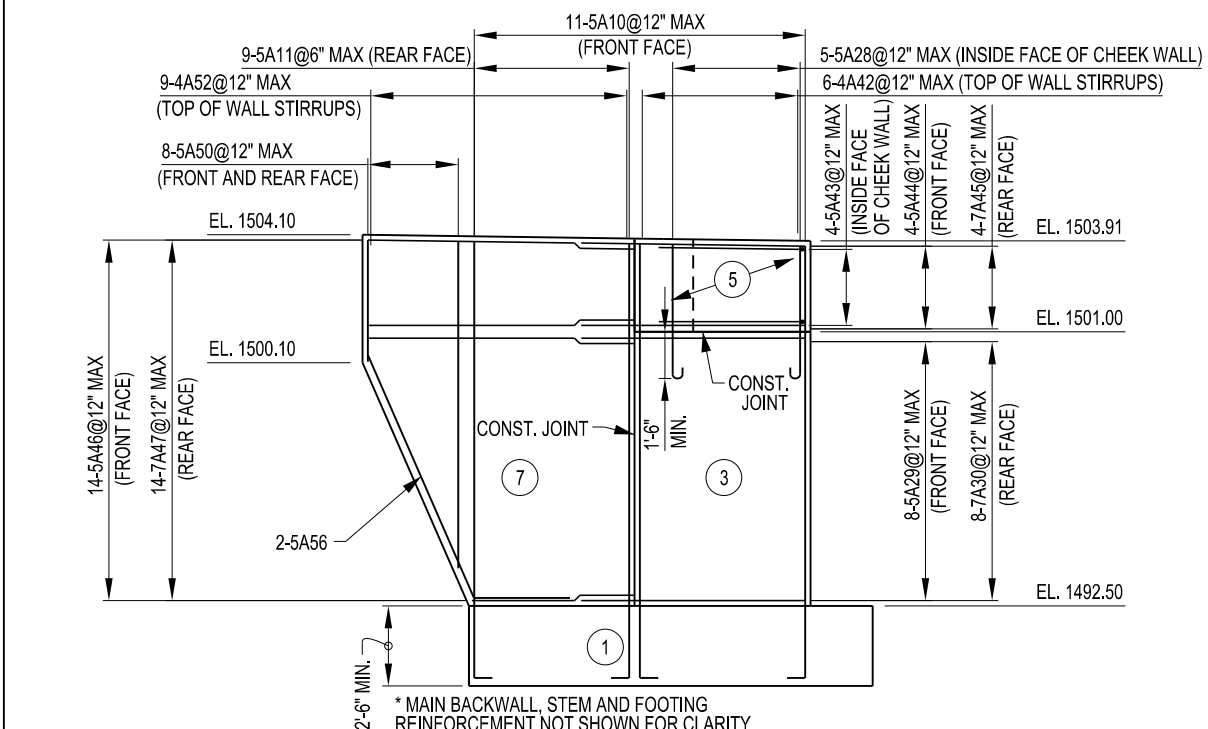


- NOTES**
- COVER FOR FOOTING REINFORCEMENT SHALL BE 3 INCHES UNLESS OTHERWISE NOTED.
 - COVER FOR WALL REINFORCEMENT SHALL BE 2 INCHES UNLESS OTHERWISE NOTED.
 - SEE DWG. NO. BR-15 FOR REINFORCEMENT SECTION A-A AND ELEVATION B-B & C-C.
 - FOR KEYWAY DETAILS, SEE DWG. NO. BR-12.
 - FOR CHAMFER DETAILS, SEE DWG. NO. BR-12.
 - FOR TYPE D WATERSTOP DETAILS, SEE DWG. NO. BR-15.



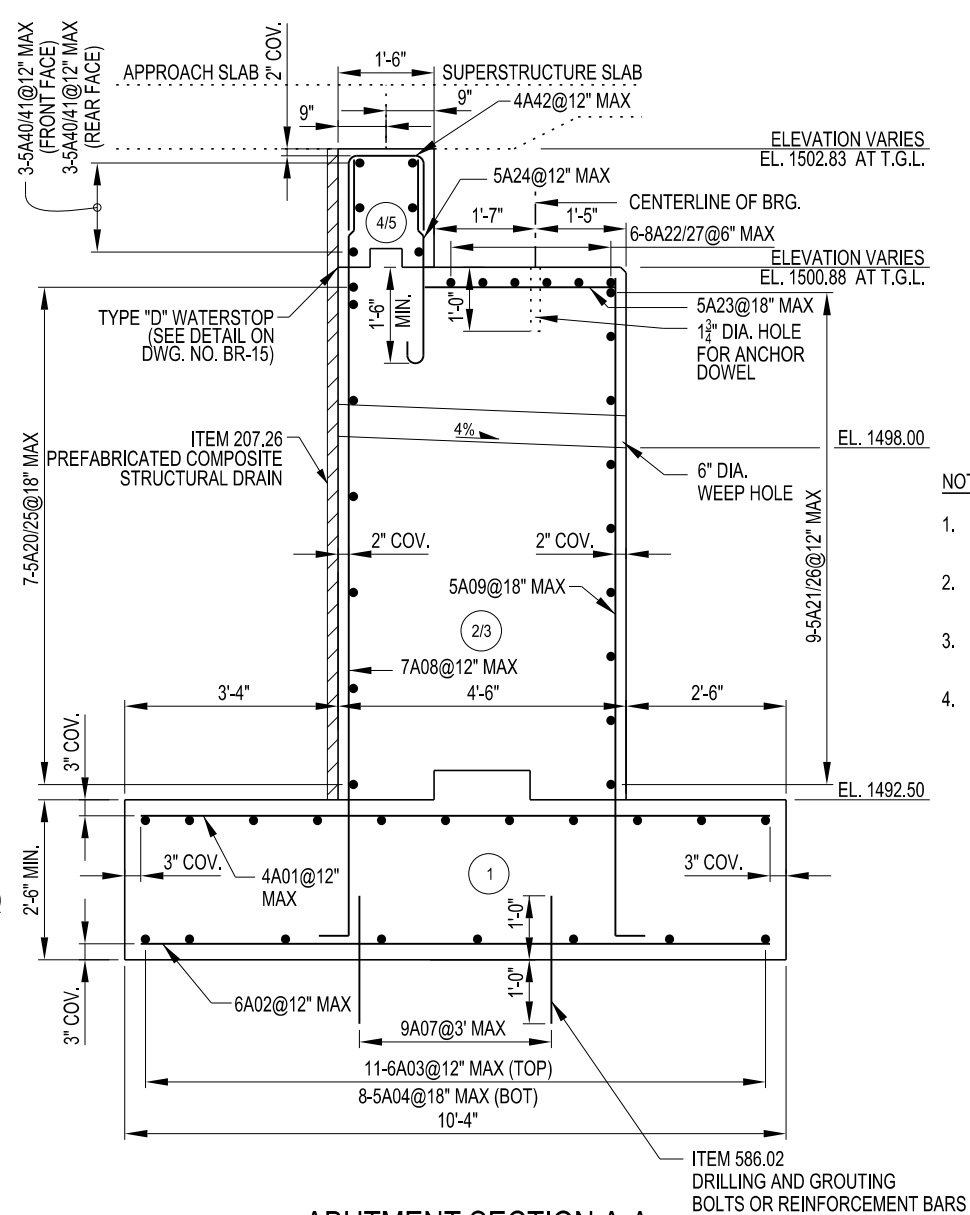
SOUTH ELEVATION (C-C)

(X) - INDICATES CONCRETE PLACEMENT NUMBER



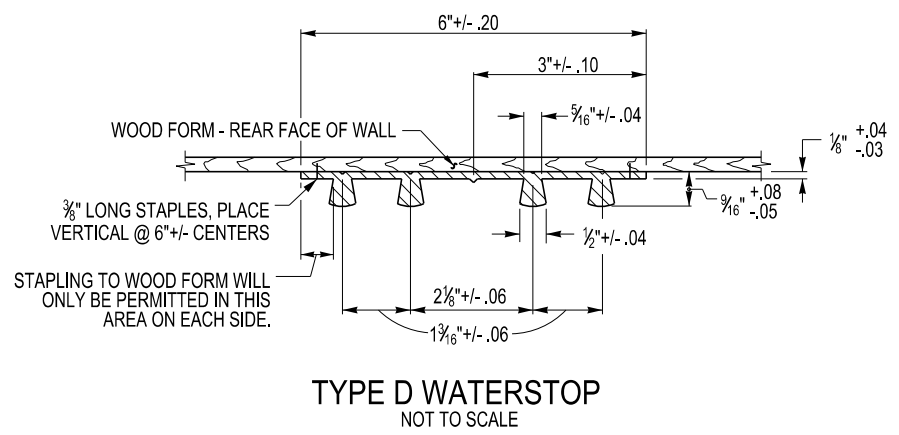
NORTH ELEVATION (B-B)

(X) - INDICATES CONCRETE PLACEMENT NUMBER



ABUTMENT SECTION A-A

(X) - INDICATES CONCRETE PLACEMENT NUMBER



TYPE D WATERSTOP
NOT TO SCALE

NOTES

- COVER FOR FOOTING REINFORCEMENT SHALL BE 3 INCHES UNLESS OTHERWISE NOTED.
- COVER FOR WALL REINFORCEMENT SHALL BE 2 INCHES UNLESS OTHERWISE NOTED.
- SEE DWG. NO. BR-14 FOR LOCATION OF THE SECTIONS.
- SEE DWG. NO. BR-12 FOR KEYWAY AND CHAMFER DETAILS.

WATERSTOP NOTES

- HOLES MUST NOT BE MADE IN WATERSTOP FOR ANY PURPOSE EXCEPT AS REQUIRED FOR STAPLING TO FORMS.
- TYPE D WATERSTOP SHALL BE LIGHT GRAY IN COLOR.
- PVC USED IN WATERSTOPS SHALL CONFORM TO THE REQUIREMENTS OF N.Y.S. STANDARD SPECIFICATIONS SUBSECTION 705-11.
- THE COST OF FURNISHING AND PLACING WATERSTOPS SHALL BE INCLUDED IN THE UNIT PRICES BID FOR THE CONCRETE ITEMS.
- FIELD SPLICES SHOULD BE AVOIDED IF POSSIBLE. HOWEVER, HEAT WELDED BUTT SPLICES WILL BE PERMITTED ON LONG STRAIGHT RUNS (GENERALLY IN EXCESS OF 50 FEET) AT POINTS APPROVED BY THE ENGINEER.
- WATERSTOP SHALL BE SHIPPED IN STRAIGHT SECTIONS HAVING A MINIMUM LENGTH OF 10 FEET UNLESS SHORTER LENGTHS ARE REQUIRED.

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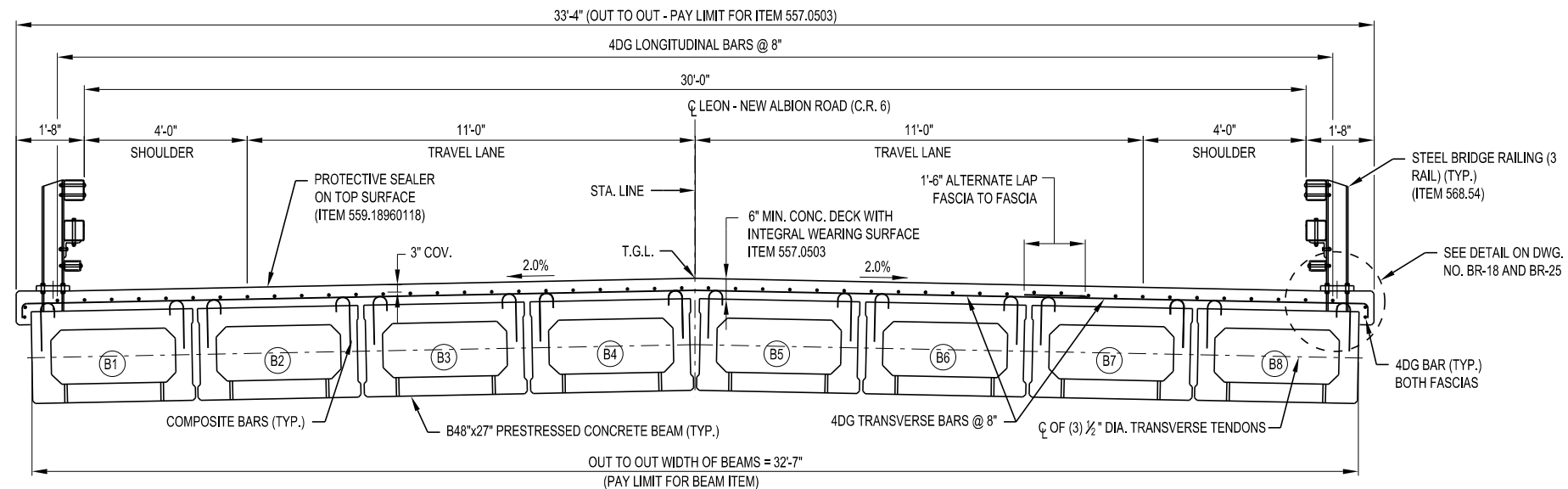
drawing history

number	date	description

sheet title
**EAST ABUTMENT
 SECTIONS
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project number: 19106
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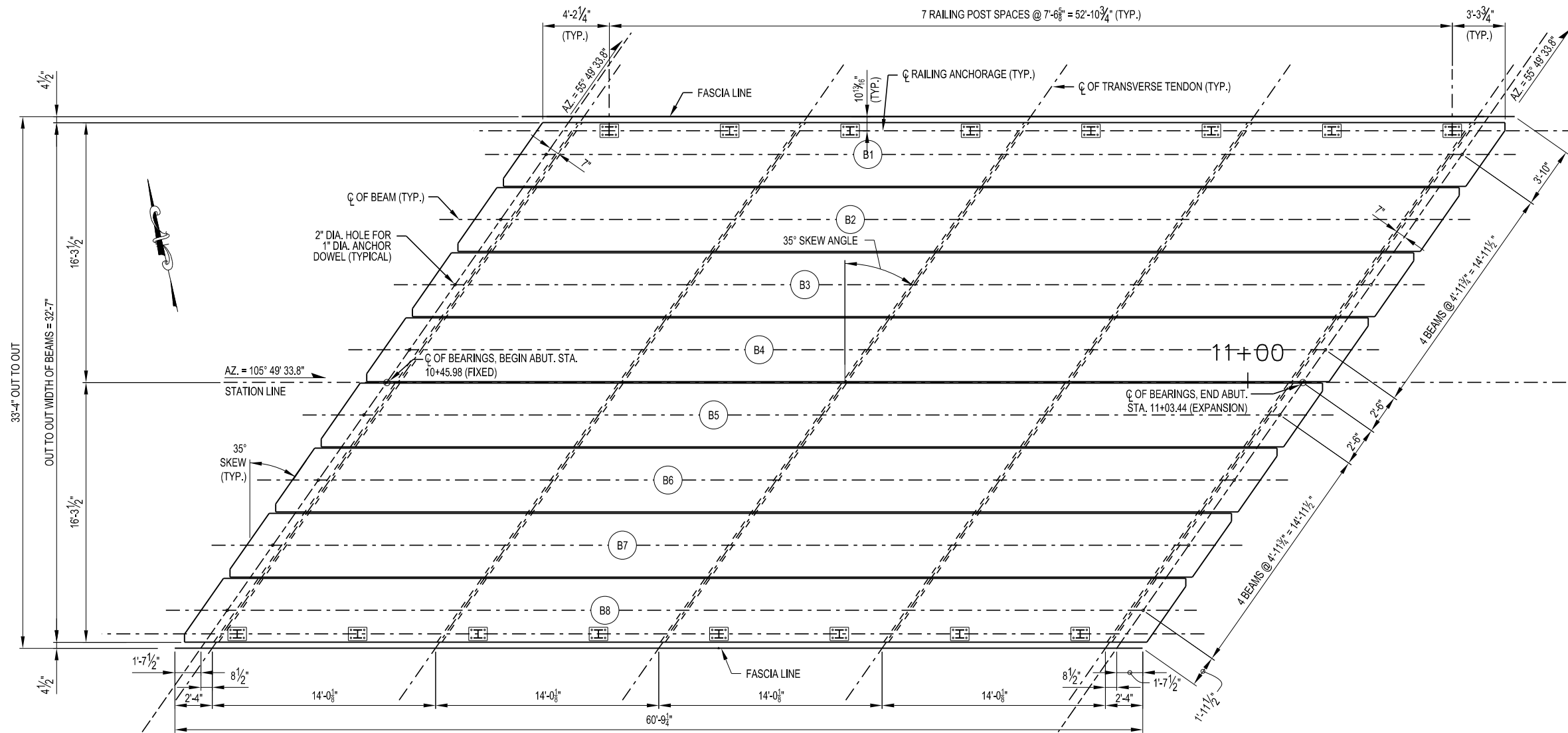
BR-15



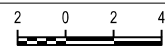
TRANSVERSE BRIDGE SECTION



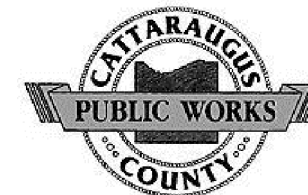
- NOTES:
1. SEE DWG. NO. BR-17 THOUGH BR-20 FOR BOX BEAM DETAILS.
 2. SEE DWG. NO. BR-21 FOR SUPERSTRUCTURE SLAB REINFORCEMENT.



BEAM LAYOUT



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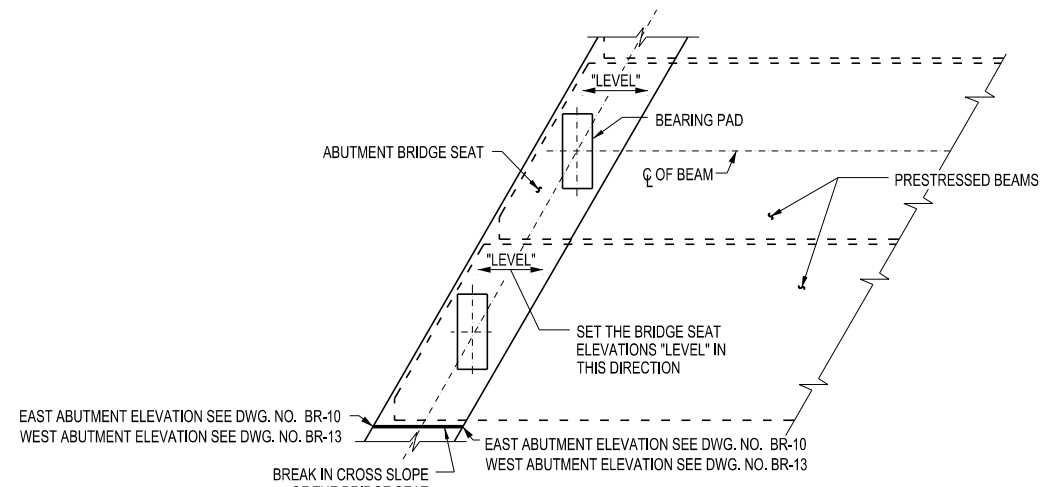
drawing history

number	date	description

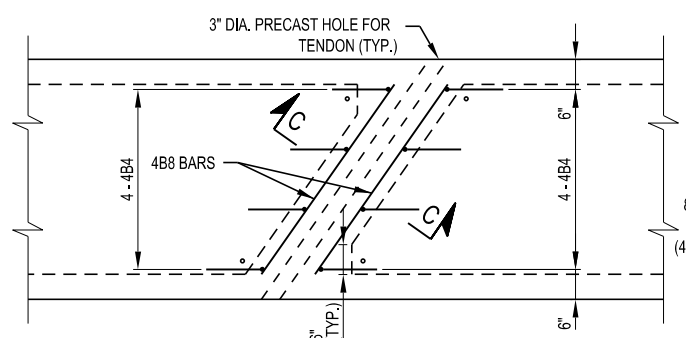
sheet title
**SUPERSTRUCTURE
 PLAN & TYPICAL
 SECTION**

project number: 19106
 drawn by: TEM
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 date: JUNE 2020
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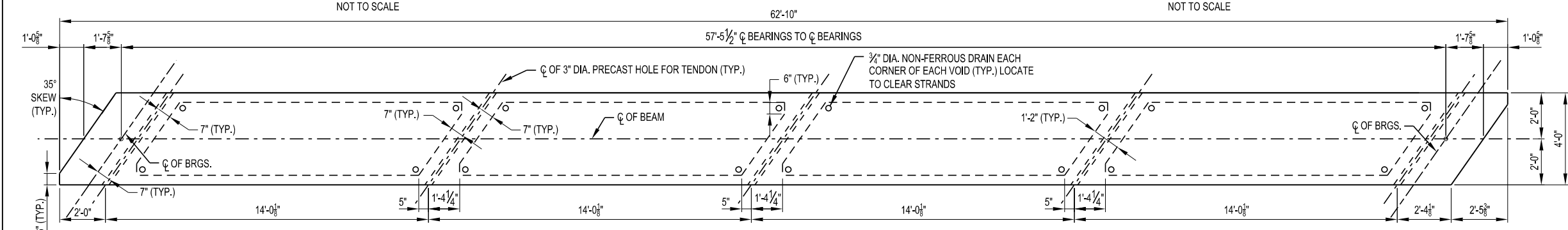
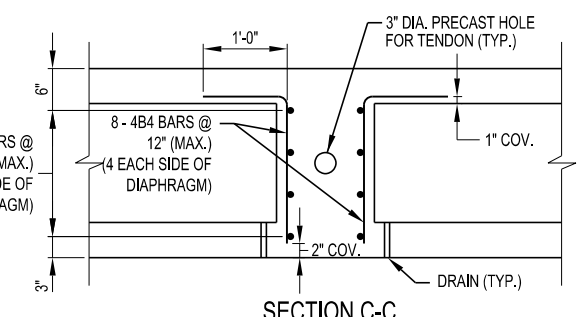
sheet number
BR-16



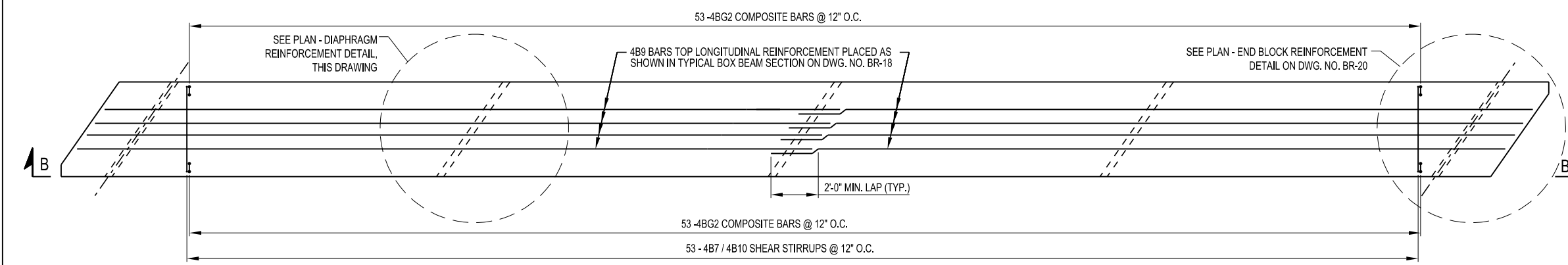
PROCEDURE FOR ESTABLISHING ABUTMENT ELEVATIONS
NOT TO SCALE



DIAPHRAM REINFORCEMENT
NOT TO SCALE



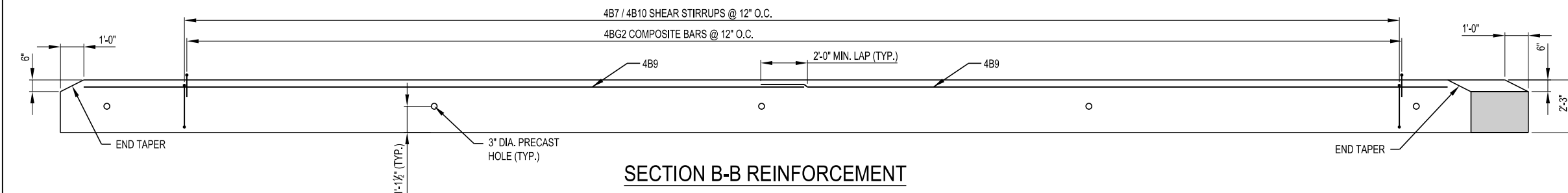
PLAN - BOX BEAM



REINFORCEMENT PLAN - BOX BEAM

NOTE:
STRANDS NOT SHOWN FOR CLARITY. SEE BEAM END BLOCK REINFORCEMENT AND DIAPHRAGM REINFORCEMENT DETAILS FOR MORE INFORMATION.

NOTES:
1. SEE DWG. NO. BR-20 FOR PRESTRESSED CONCRETE BOX BEAM BAR LIST AND END BLOCK REINFORCEMENT DETAILS.



SECTION B-B REINFORCEMENT

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sheet title
BOX BEAM DETAILS

project number: 19106
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BR-17

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drawing history

number	date	description

sheet title

BOX BEAM DETAILS

project number: 19106

drawn by: TEM

checked by: JCK

date: JUNE 2020

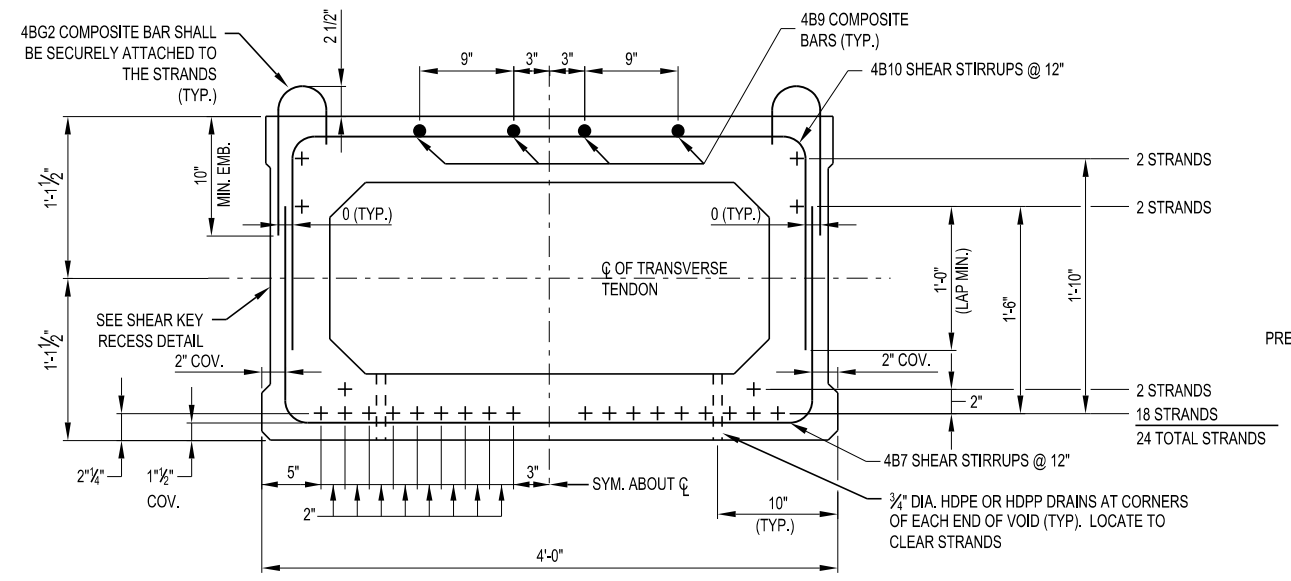
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BR-18

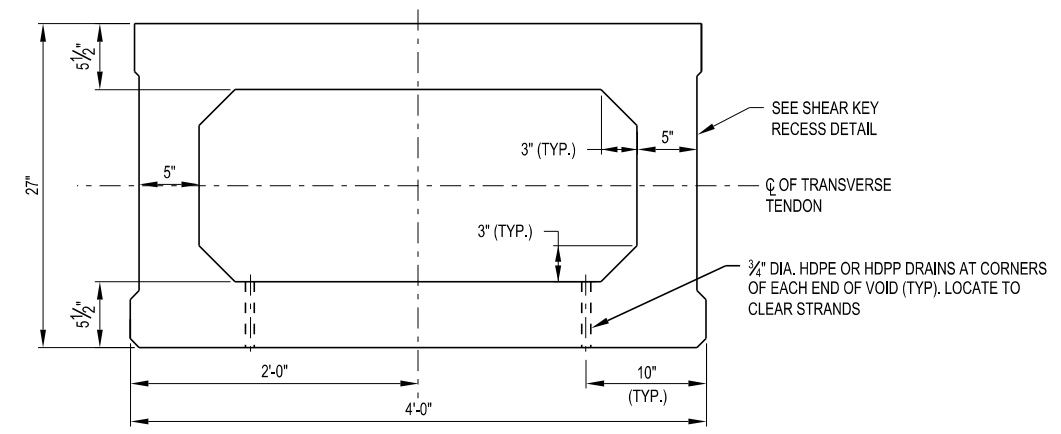
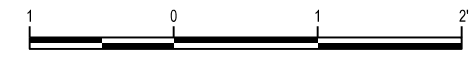
27 of 40

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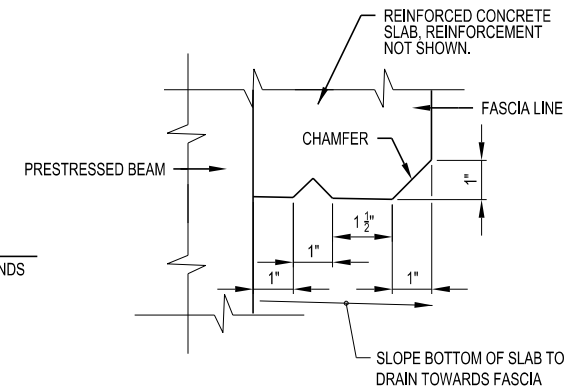


LEGEND
+ - DENOTES STRAIGHT BONDED STRANDS

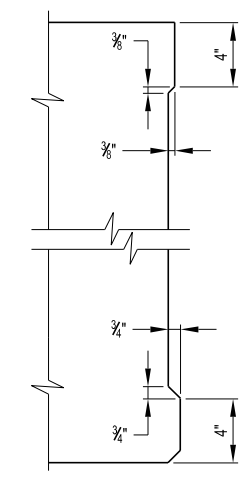
TYPICAL BOX BEAM REINFORCING SECTION



TYPICAL BOX BEAM SECTION (B48"x27")

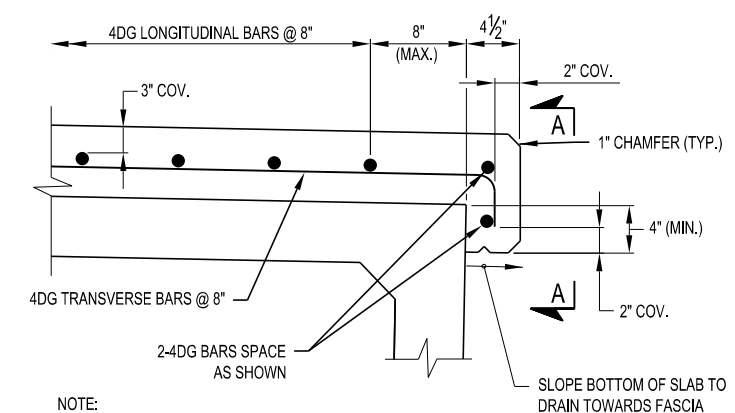


DRIP GROOVE DETAIL
NOT TO SCALE



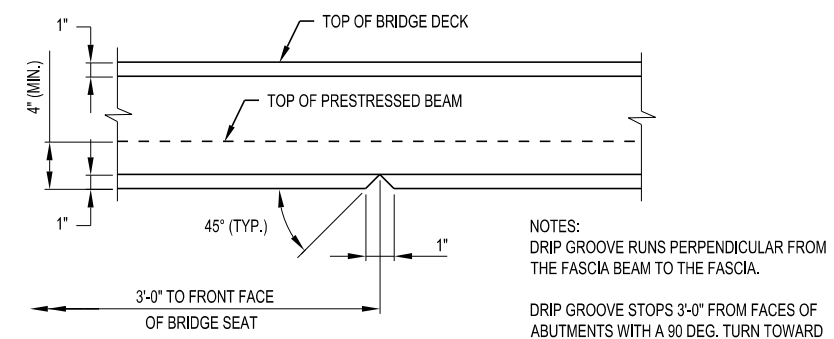
NOTE:
OMIT SHEAR KEY FROM OUTSIDE OF FASCIA BEAMS

SHEAR KEY RECESS DETAIL
NOT TO SCALE



NOTE:
1. STEEL RAILING NOT SHOWN FOR CLARITY
2. SEE DECK SLAB DRAWING FOR REINFORCEMENT CALL-OUTS, ETC.

STEEL RAILING FASCIA DETAIL
NOT TO SCALE



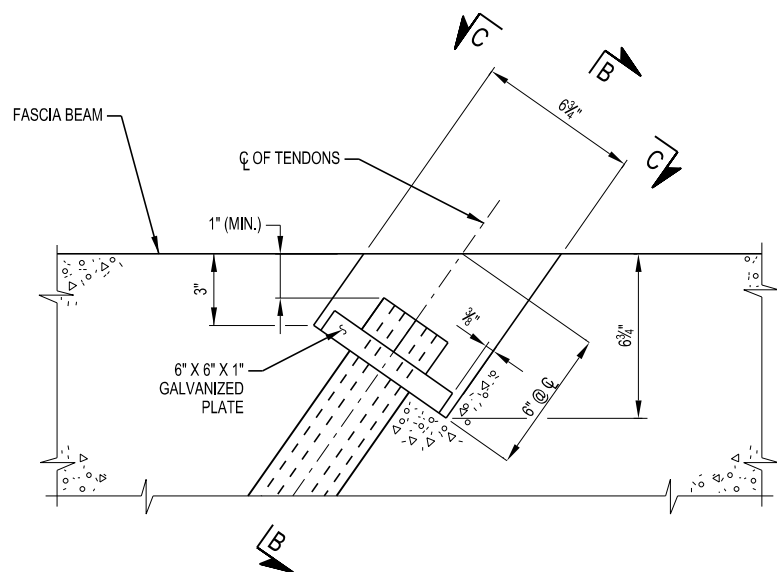
ELEVATION A-A
(SHOWING DRIP GROOVE DETAIL)
NOT TO SCALE

- NOTES:
- THE PRESTRESSING STRANDS SHALL BE 0.6" DIA. LOW RELAXATION STEEL STRAND WITH A GUARANTEED ULTIMATE STRENGTH OF 270 ksi. JACKING FORCE = 43.9 kips PER STRAND. REQUIRED MINIMUM CONCRETE STRENGTH AT TRANSFER = 7 ksi. REQUIRED MINIMUM CONCRETE STRENGTH AT 56 DAYS = 10 ksi. THE ALLOWABLE TENSION IN THE PRESTRESSED CONCRETE UNITS: AT TRANSFER = 0.20 ksi. AT SERVICE LIMIT STATE = 0.44 ksi.
 - ALL EXPOSED CORNERS, EXCEPT THE TOP, SHALL BE CHAMFERED 3/8" IN.
 - ALL TEMPORARY INSERTS SHALL BE APPROVED BY THE ENGINEER AND DETAILED ON THE PRESTRESSED CONCRETE "SHOP DRAWINGS".
 - PRESTRESSING STRANDS CUT FLUSH WITH THE END OF THE BEAM OR EXTENDED FOR INTEGRAL ABUTMENT APPLICATIONS SHALL BE PROTECTED AGAINST CORROSION BY THE APPLICATION OF ZINC PAINT IN ACCORDANCE WITH THE "REPAIR" PORTION OF THE NYS STANDARD SPECIFICATION SECTION 719.01. THE COST OF COATING THE STRANDS SHALL BE INCLUDED IN THE PRICE BID FOR THE BEAM ITEM.
 - BAR REINFORCEMENT SHALL BE ASTM A615, GRADE 60.
 - THE TOPS OF PRESTRESSED UNITS SHALL RECEIVE A TRANSVERSE ROUGHENED FINISH WITH AN AMPLITUDE OF 1/4" IN.
 - SEE DWG. NO. BR-20 FOR PRESTRESSED CONCRETE BOX BEAM BAR LIST.
 - SEE DWG. NO. BR-21 FOR SUPERSTRUCTURE SLAB REINFORCEMENT.

DESIGN LOAD TABLE			
	UNIT	REACTION AT ABUTMENT (kips)	MAX. MOM. MIDSPAN (kip-ft.)
D.L.	BEAM	20.6	296.2
	DIAPHRAM	1.9	26.9
	SLAB	9.5	136.2
S.D.L.	RAILINGS	1.6	17.3
	FUTURE W.S.	2.5	33.1
LL	HL-93	91.2	524.8

CAMBER TABLE			
		BEAM B1 & B8	BEAM B2 - B7
CAMBER DUE TO PRESTRESSED FORCE AND BEAM D.L. (WITHOUT GROWTH) @ TRANSFER (IN.)	↑	1.42"	1.42"
DEFLECTION DUE TO SLAB DEAD LOAD (IN.)	↓	0.56"	0.53"
DEFLECTION DUE TO SUPERIMPOSED D.L. (IN.)	↓	0.74"	0.74"

TOP OF SLAB ELEVATIONS					
UNIT	℄ BRGS.	1/4 PT.	MIDSPAN	3/4 PT.	℄ BRGS.
1	1502.70	1503.06	1503.39	1503.67	1503.90
2	1502.71	1503.06	1503.38	1503.64	1503.86
3	1502.73	1503.06	1503.37	1503.62	1503.83
4	1502.74	1503.07	1503.37	1503.61	1503.80
5	1502.66	1503.01	1503.30	1503.55	1503.74
6	1502.51	1502.86	1503.17	1503.42	1503.62
7	1502.35	1502.71	1503.03	1503.29	1503.50
8	1502.19	1502.56	1502.89	1503.16	1503.39



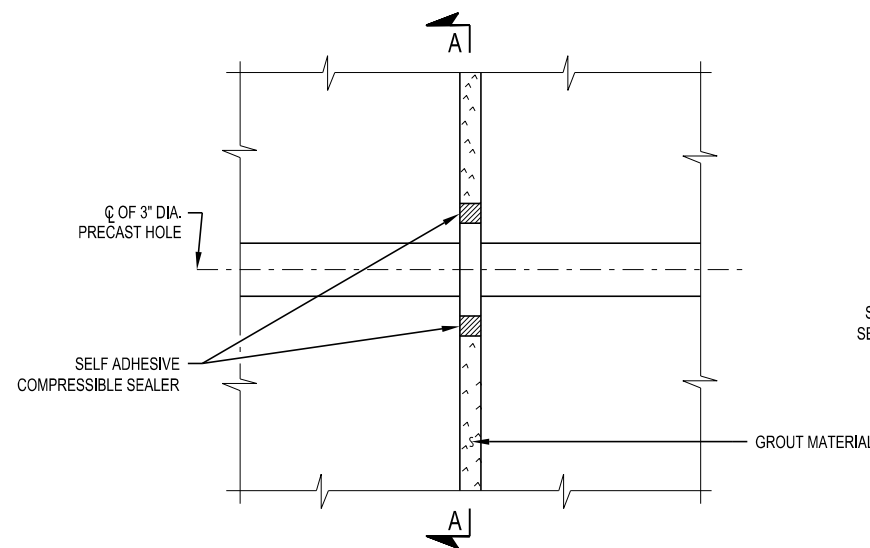
TRANSVERSE TENDON RECESS DETAIL PLAN
NOT TO SCALE

NOTES:

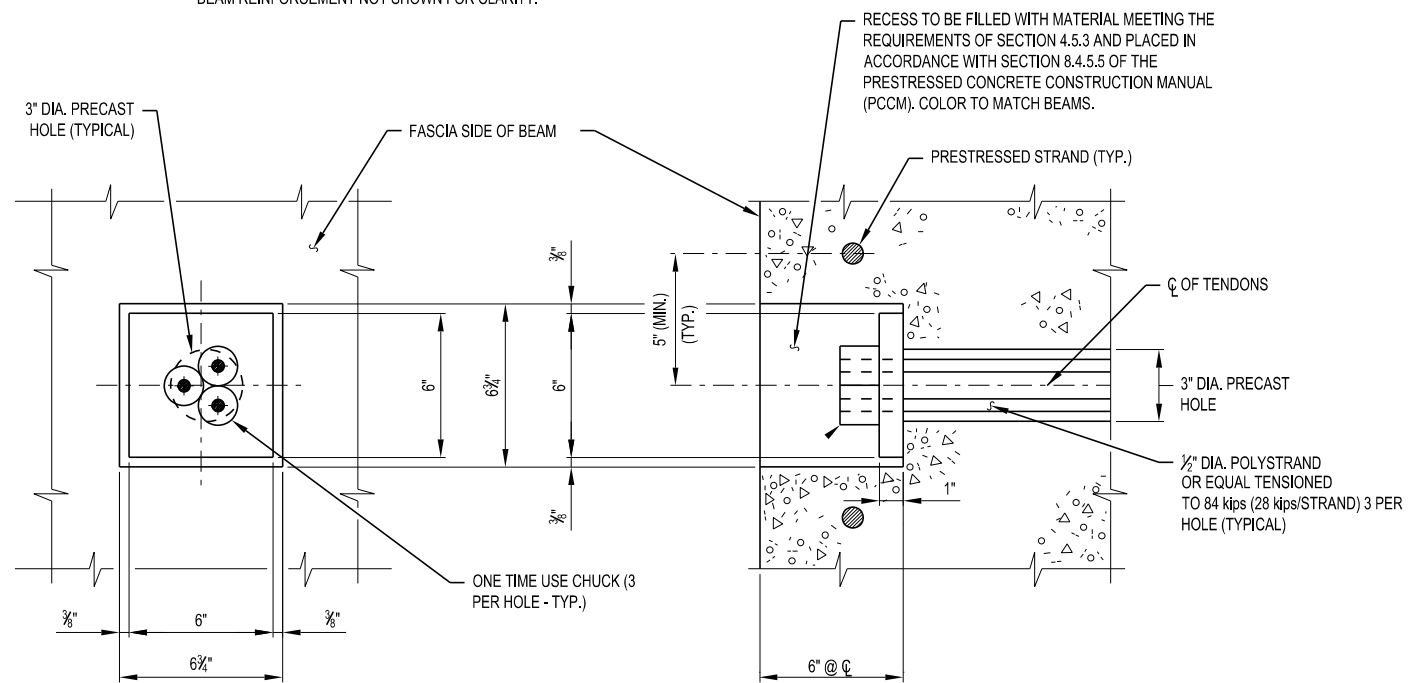
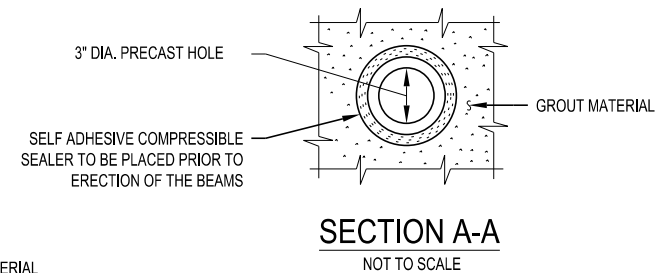
6" X 6" X 1" PLATES SHALL BE PERPENDICULAR TO THE LONGITUDINAL AXIS OF THE TENDON IN ALL PLANES AND SHALL HAVE THREE HOLES TO ACCOMMODATE STRANDS.

NO SEALER APPLIED TO THE NOTCH-OUT FOR TRANSVERSE TENDONS

BEAM REINFORCEMENT NOT SHOWN FOR CLARITY.

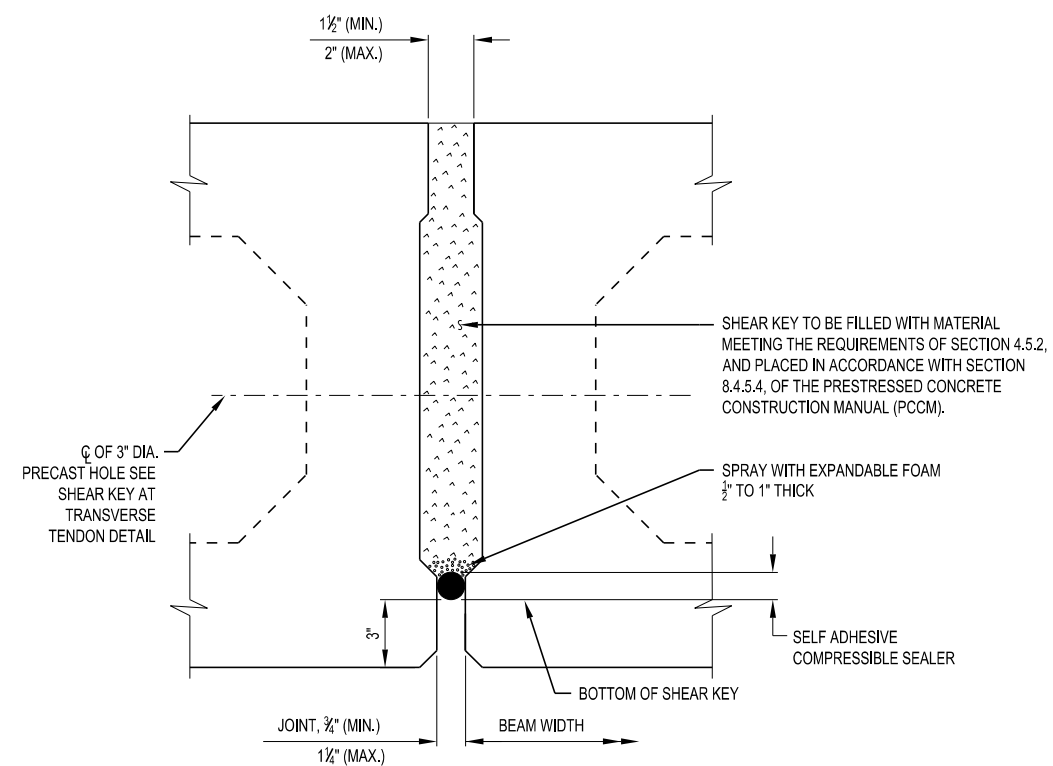


SHEAR KEY AT TRANSVERSE TENDON DETAIL PLAN
NOT TO SCALE



SECTION C-C
NOT TO SCALE

SECTION B-B
NOT TO SCALE



BOX BEAM SHEAR KEY DETAIL
NOT TO SCALE

project:
**Leon-New Albion
Road over
Mud Creek**
PIN 5762.94
BIN 3322120
Town of Leon
Cattaraugus County



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drawing history
number date description

sheet title

**BOX BEAM
DETAILS**

project number: 19106
drawn by: TEM
checked by: JCK
date: JUNE 2020
scale: AS SHOWN

sheet number

BR-19

project:
**Leon-New Albion
 Road over
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 PIN 5762.94
 BIN 3322120
 Town of Leon
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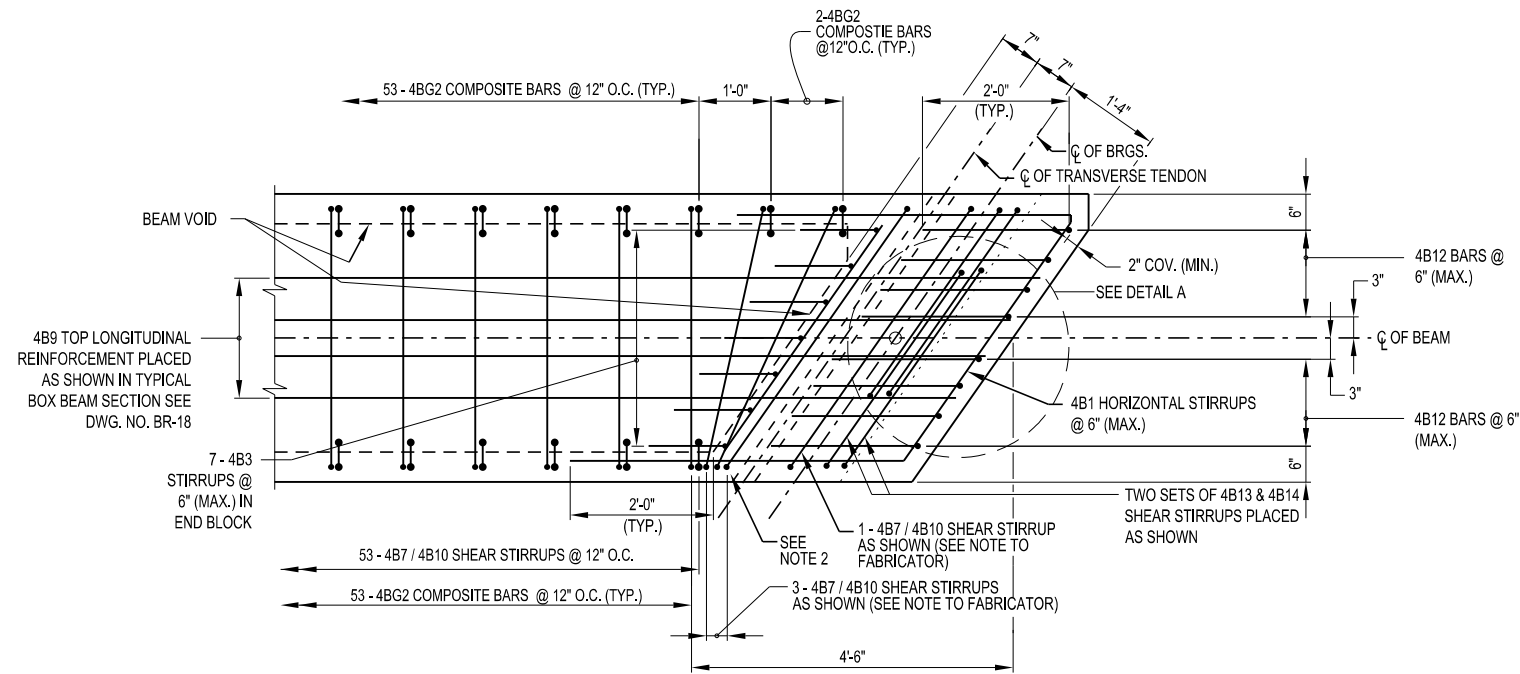
sheet title

**BOX BEAM
 DETAILS**

project number: 19106
 drawn by: TEM
 checked by: JCK
 date: JUNE 2020
 scale: AS SHOWN

sheet number

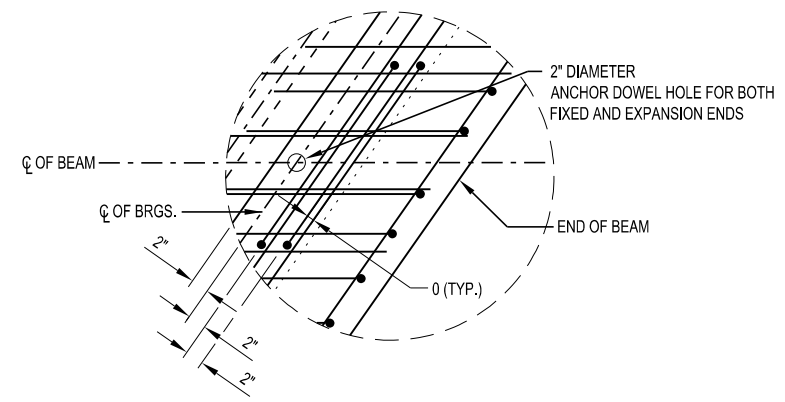
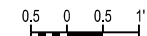
BR-20



PLAN - END BLOCK REINFORCEMENT

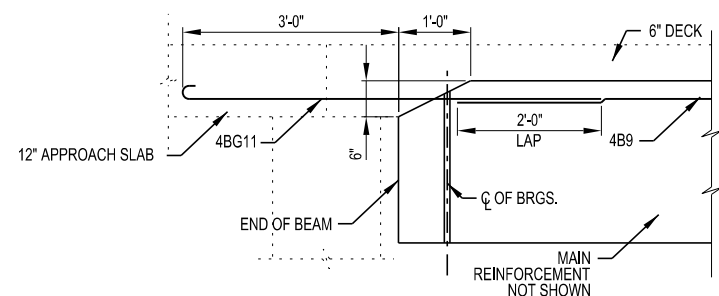
NOTES TO THE FABRICATOR:

1. BAR SPACING MAY BE SLIGHTLY ADJUSTED TO AVOID INTERFERENCE WITH THE TRANSVERSE TENDON TUBE.
2. MAINTAIN A MINIMUM OF 3/4" IN THIS AREA.

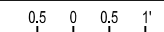


DETAIL 'A'

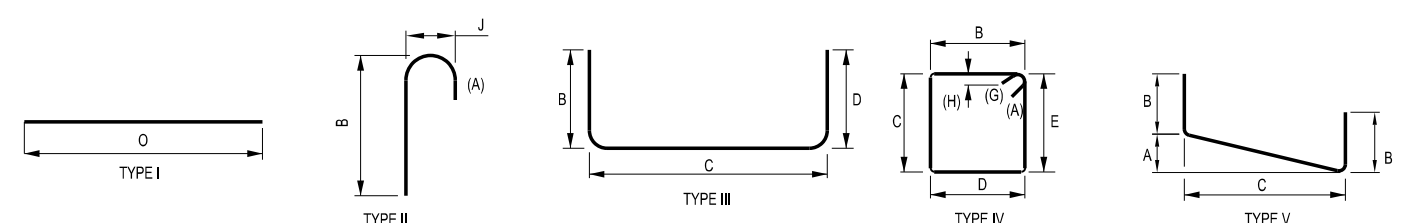
NOT TO SCALE



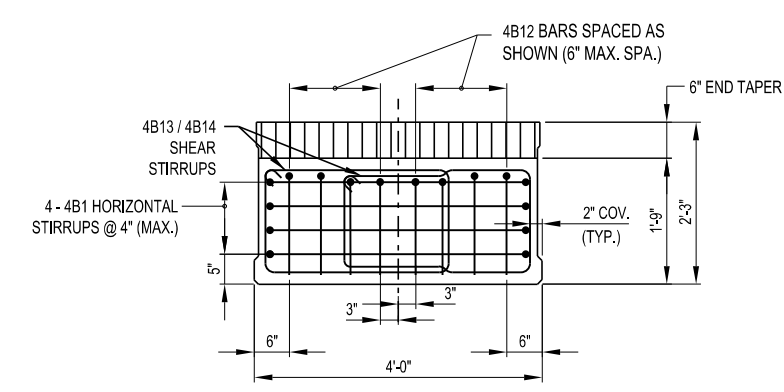
ELEVATION - END BLOCK REINFORCEMENT



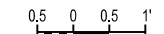
PRESTRESSED CONCRETE BOX BEAM REINFORCEMENT																	
MARK	# / BEAM	LENGTH (FT)	TYPE	WEIGHT (LB)	A	B	C	D	E	F	G	H	J	K	O	R	REMARKS
4B1	8	13-7	V	73	2-5	4-8	3-6										END BLOCK HORIZONTAL STIRRUP
4BG2	110	1-7	II	117	0-6	1-1									0-4		GALVANIZED COMPOSITE BARS
4B3	14	2-9	III	26		1-0	1-9	0-0									END BLOCK
4B4	24	2-9	III	44		1-0	1-9	0-0									DIAPHRAGM
4B5																	NOT USED
4B6																	NOT USED
4B7	61	7-6	III	306		1-11	3-8	1-11									BOTTOM STIRRUPS
4B8	12	3-10	I	31											3-10		DIAPHRAGM
4B9	8	30-2	I	162											30-2		TOP
4B10	61	8-2	III	252		1-3	3-8	1-3									TOP STIRRUPS
4BG11	8	6-4	II	34	0-6	5-10								0-4			GALVANIZED END BLOCK/APPROACH SLAB
4B12	16	3-5	III	37		2-0	1-5	0-0									END BLOCK
4B13	4	8-6	IV	23	0-5	2-4	1-6	2-4	1-6		0-5	0-4					END BLOCK
4B14	4	8-6	IV	23	0-5	2-4	1-6	2-4	1-6		0-5	0-4					END BLOCK
TOTAL BARS PER BEAM				1128													
TOTAL BARS				9024													

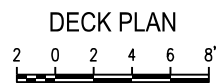
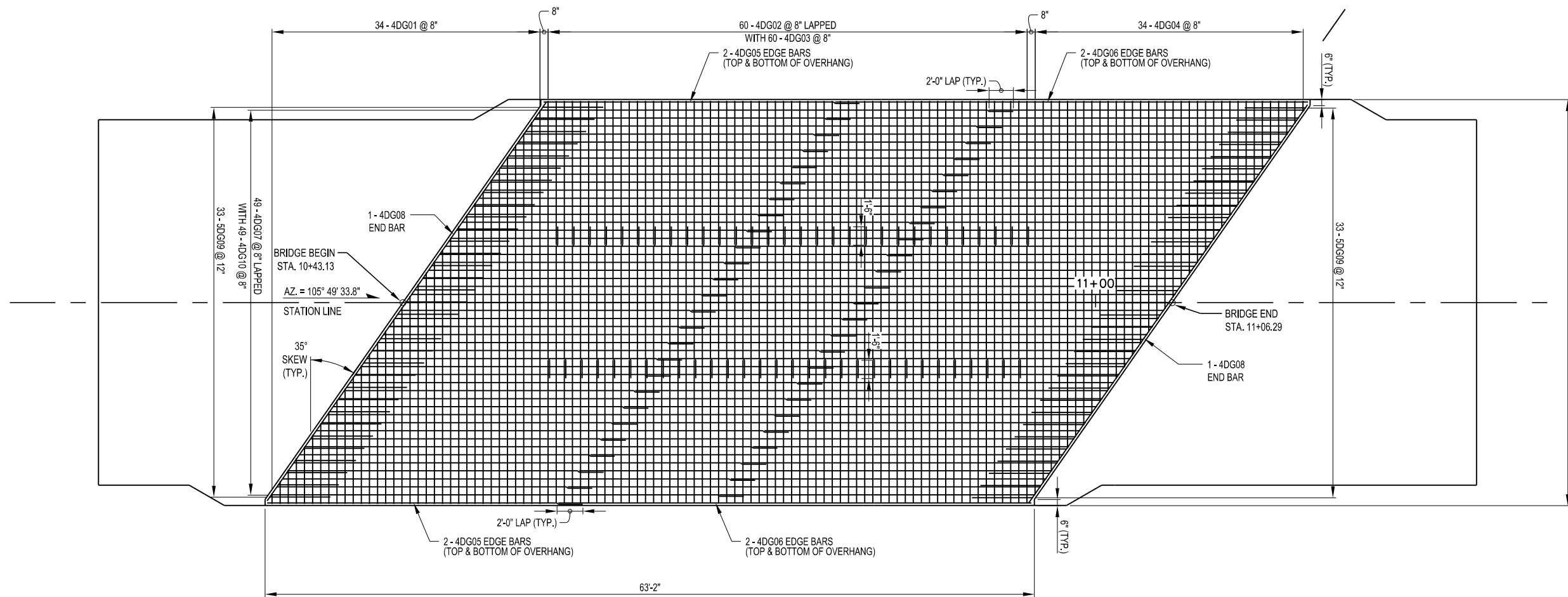


ALL DIMENSIONS ARE OUT-TO-OUT DIMENSIONS
 COST OF BAR REINFORCEMENT TO BE INCLUDED IN PRESTRESSED BEAM ITEM



SECTION - END BLOCK REINFORCEMENT





- NOTES:**
- SEE DWG. NO. BR-16 FOR BRIDGE RAIL SUPPORT POST LOCATIONS.
 - SEE DWG. NO. BR-22 FOR APPROACH SLAB PLAN AND DETAILS.
 - SEE DWG. NO. BR-06 FOR ADDITIONAL DECK PLACEMENT NOTES.

project:
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drawing history

number	date	description

sheet title

**DECK
 PLAN**

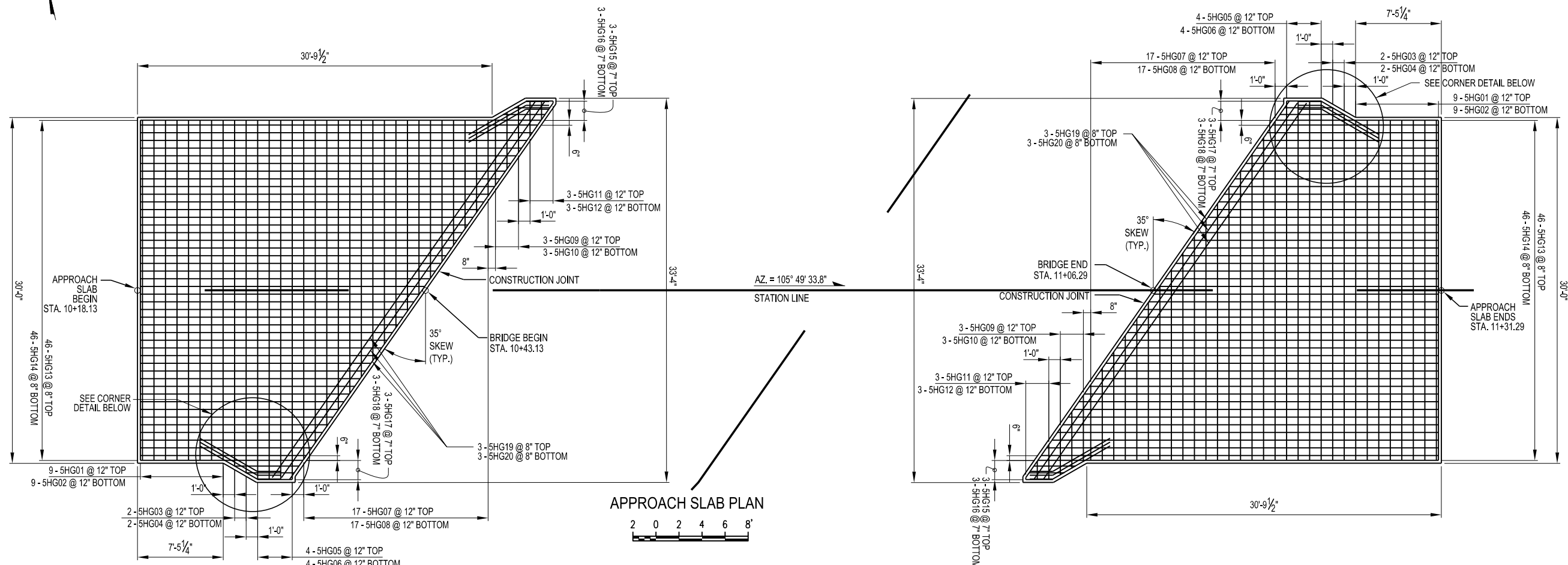
project number: 19106
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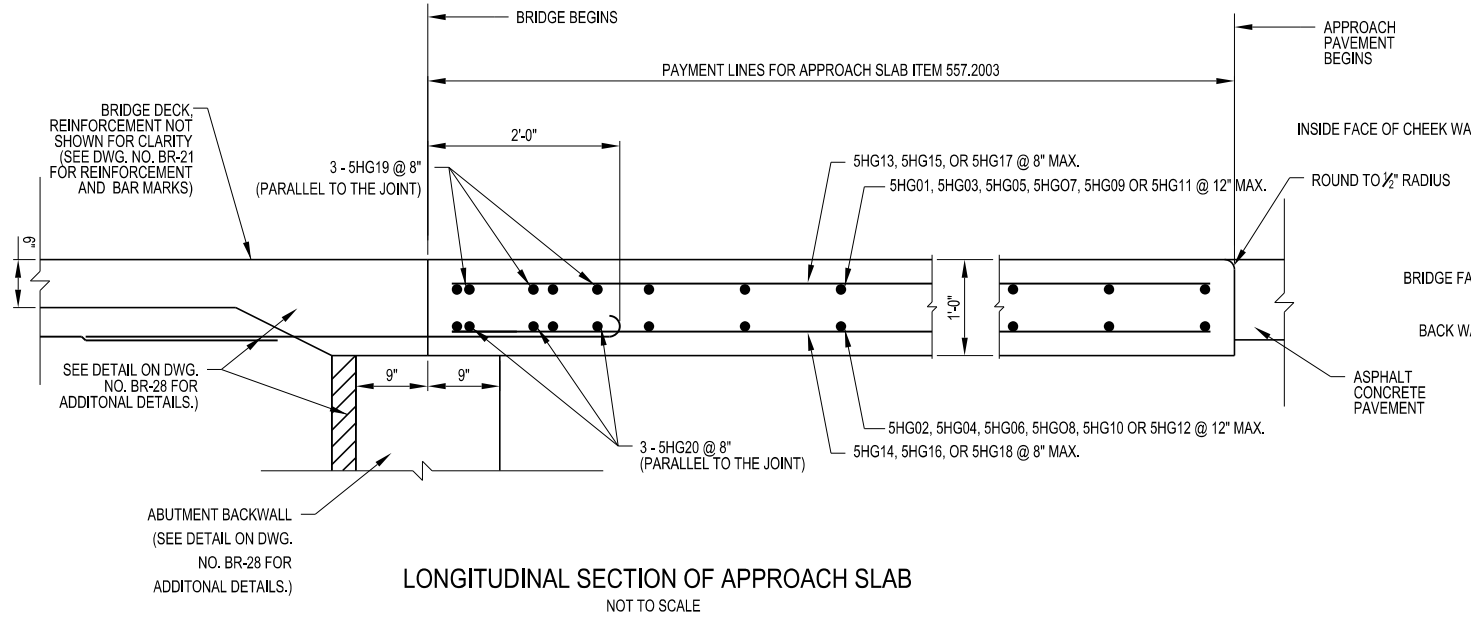
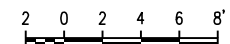
BR-21



APPROACH SLAB TABLE			
LOCATION	CONCRETE ITEM 557.2003 (SY)	LONGITUDINAL SAWCUT GROOVING ITEM 558.02 (SY)	PROTECTIVE SEALER ITEM 559.18960118 (SF)
BEGIN APPROACH SLAB	85	72	765
END APPROACH SLAB	85	72	765

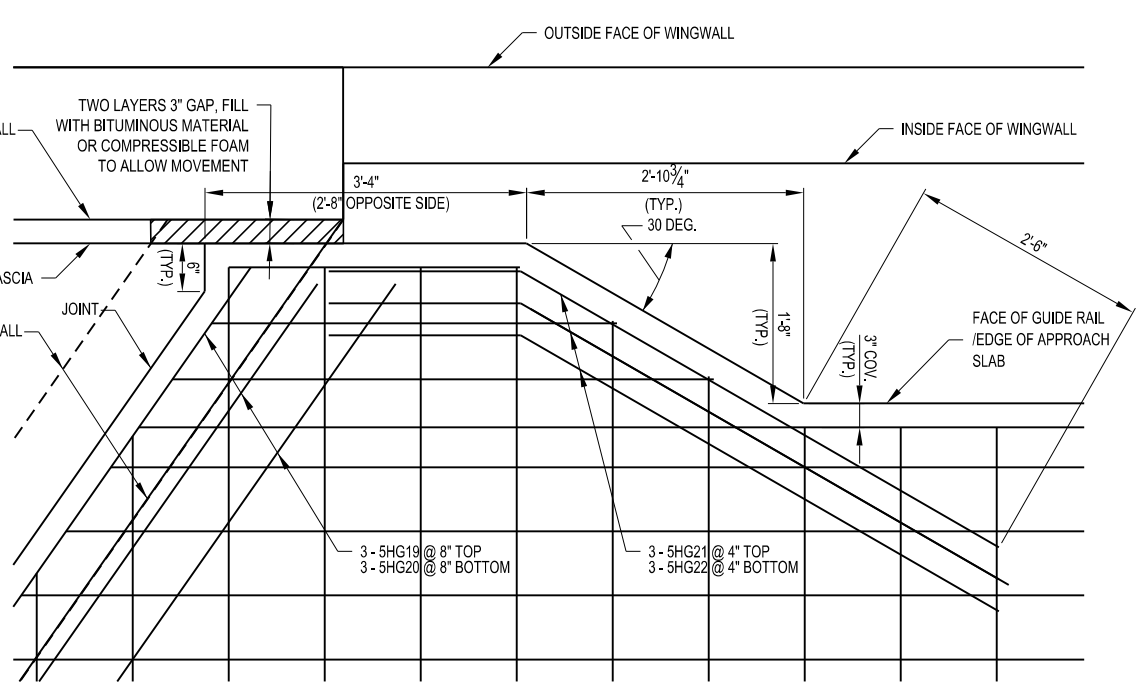


APPROACH SLAB PLAN



LONGITUDINAL SECTION OF APPROACH SLAB
NOT TO SCALE

- NOTES:
1. ALL REINFORCEMENT SHALL HAVE 3 IN. COVER UNLESS OTHERWISE NOTED.
 2. (G) DENOTES GALVANIZED STEEL BARS
 3. DETAILS ON THE DRAWINGS LABELED "NOT TO SCALE" ARE INTENTIONALLY DRAWN NOT TO SCALE FOR VISUAL CLARITY. ALL OTHER DETAILS, FOR WHICH NO SCALE IS SHOWN, ARE DRAWN PROPORTIONAL AND ARE FULLY DIMENSIONED.
 4. SEE DWG. NO. BR-04 AND BR-05 FOR LIMITS OF ITEM 558.02 AND ITEM 559.18960118.



CORNER DETAIL (OPPOSITE CORNER SIMILAR)
NOT TO SCALE

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number	date	description

sheet title
**APPROACH
 SLAB PLAN
 & DETAILS**

project number: 19106
 drawn by: TEM
 checked by: JCK
 date: JUNE 2020
 scale: AS SHOWN

sheet number
BR-22

project:
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drawing history

number	date	description

sheet title
**RAILING
 LAYOUT
 PLAN**

project number: 19106

drawn by: TEM

checked by: JCK

date: JUNE 2020

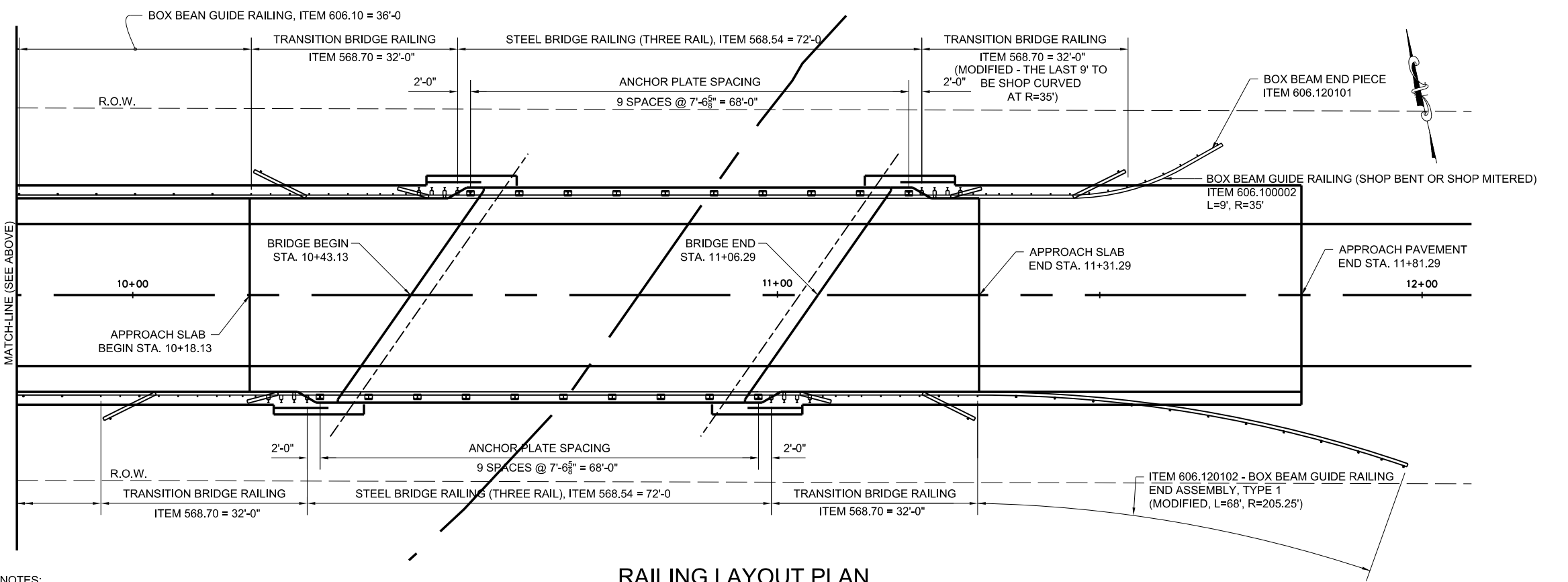
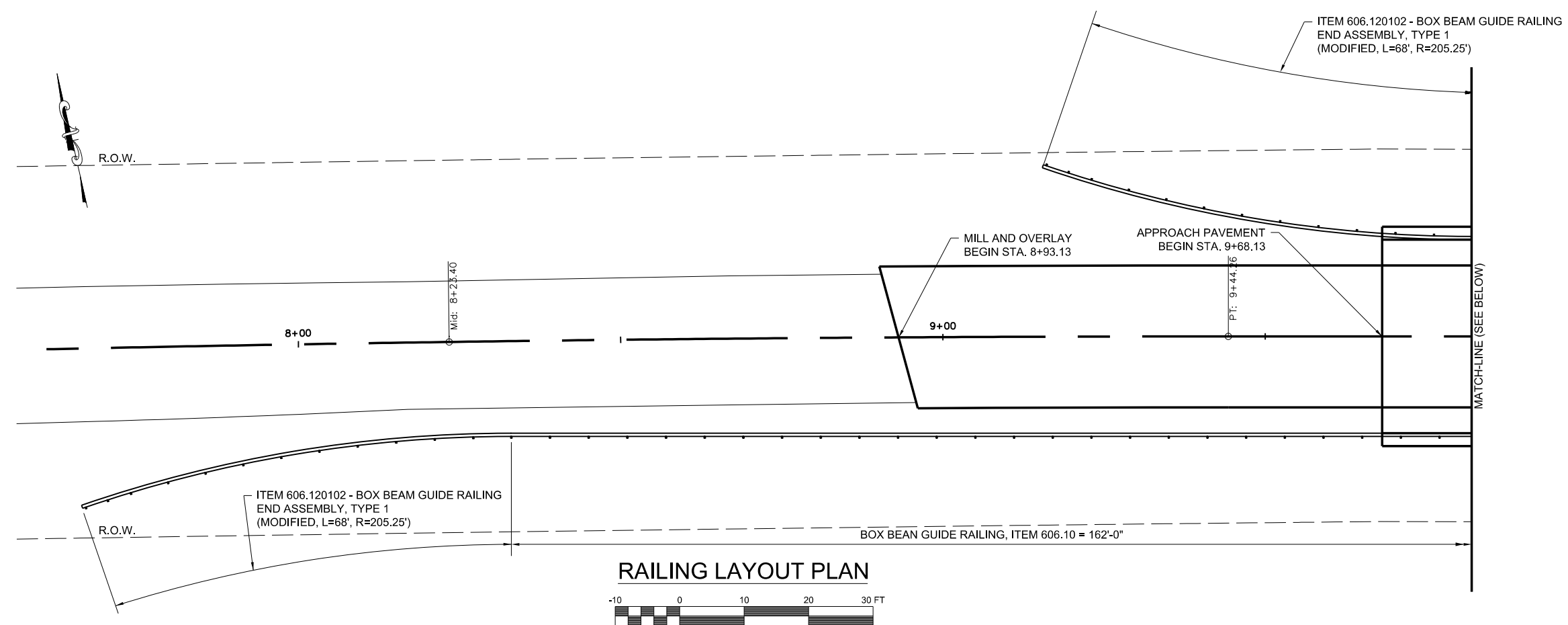
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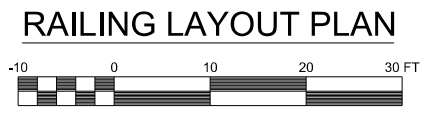
BR-23

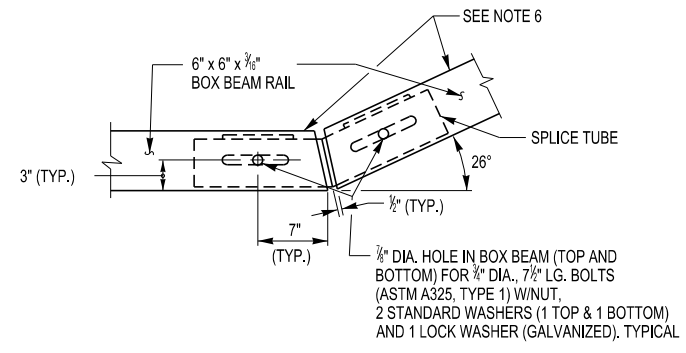
32 of 40

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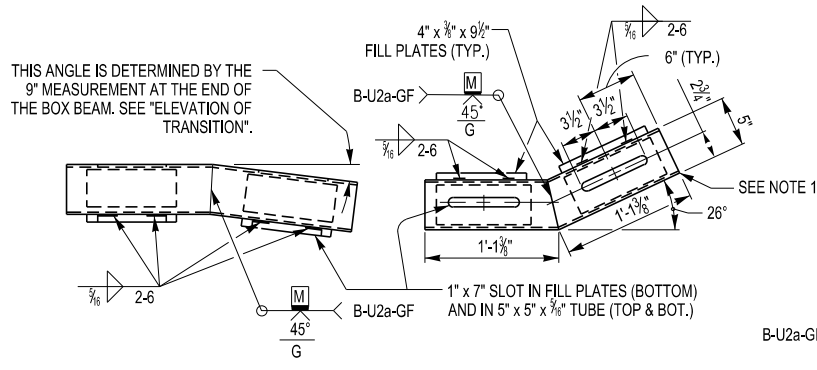


- NOTES:
1. THE TRANSITION RAIL IN THE NORTHEAST QUADRANT (ITEM 568.70) HAS BEEN MODIFIED FROM THE DETAILS SHOWN ON DWG. NO. BR-24. (THE LAST 9 FEET SHALL BE SHOP CURVED - RADIUS = 35 FEET).

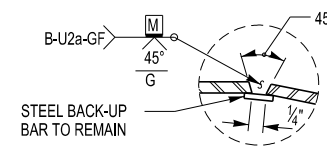




SPlice detail at turn back in lower transition guide rail

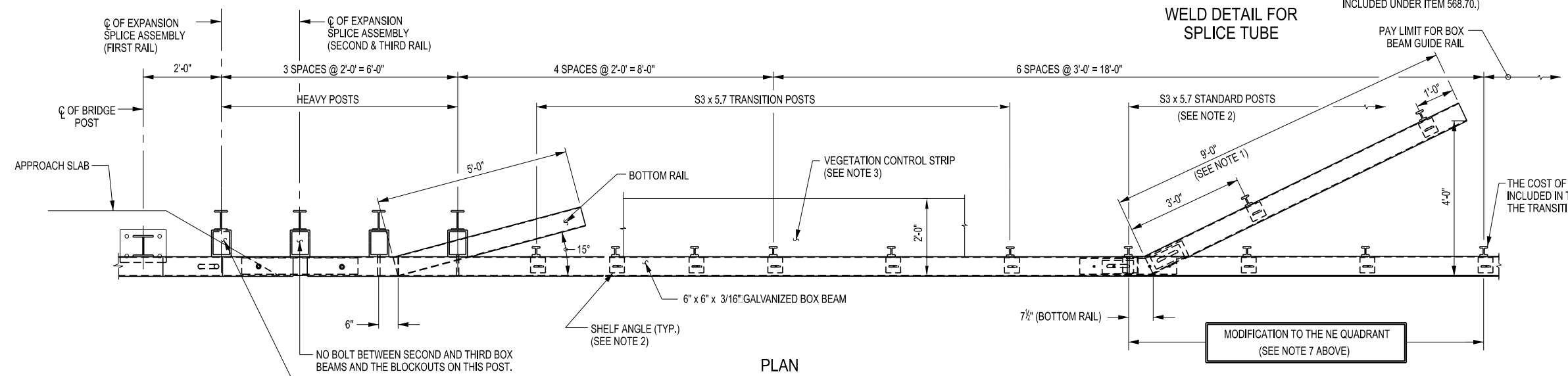


SPlice tube detail for turn back

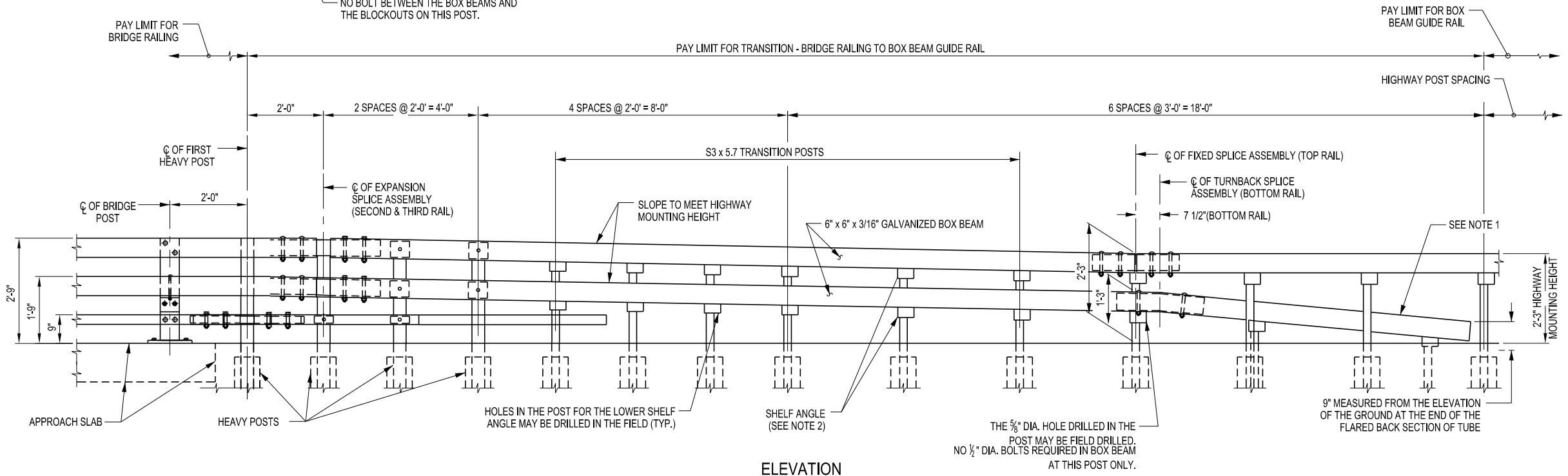


Weld detail for splice tube

- NOTES:
1. THE COST OF THE POSTS, SPLICE TUBE AND RAIL FOR THE LOWER TUBE FLARE SECTION IS INCLUDED IN THE PRICE BID FOR THE TRANSITION ITEM.
 2. SEE TYPICAL RAIL TO POST CONNECTION DETAIL ON CURRENT HIGHWAY STANDARD SHEET TITLED "BOX BEAM GUIDE RAIL".
 3. SEE DWG. NO. BR-05 FOR VEGETATION CONTROL STRIP.
 4. SEE DWG. NO. BR-27 FOR SPLICE DETAILS.
 5. SEE DWG. NO. BR-26 FOR POST DETAILS.
 6. PROTRUSION CAUSED BY WELDING OR GALVANIZING ARE NOT PERMITTED ON THE ADJOINING SURFACES OF THE BOX BEAM RAILS, SPLICE TUBES AND FILL PLATES.
 7. THE TRANSITION RAIL IN THE NORTHEAST QUADRANT HAS BEEN MODIFIED FROM THE DETAILS SHOWN BELOW. THE LAST 9 FEET SHALL BE SHOP CURVED WITH THE RADIUS = 35 FEET. (COST INCLUDED UNDER ITEM 568.70.)



PLAN



ELEVATION

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drawing history

number	date	description

sheet title
**RAILING
 DETAILS**

project number: 19106
 drawn by: TEM
 checked by: JCK
 date: JUNE 2020
 scale: AS SHOWN

sheet number
BR-24

project:
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number	date	description

sheet title

**RAILING
 DETAILS**

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drawn by: TEM

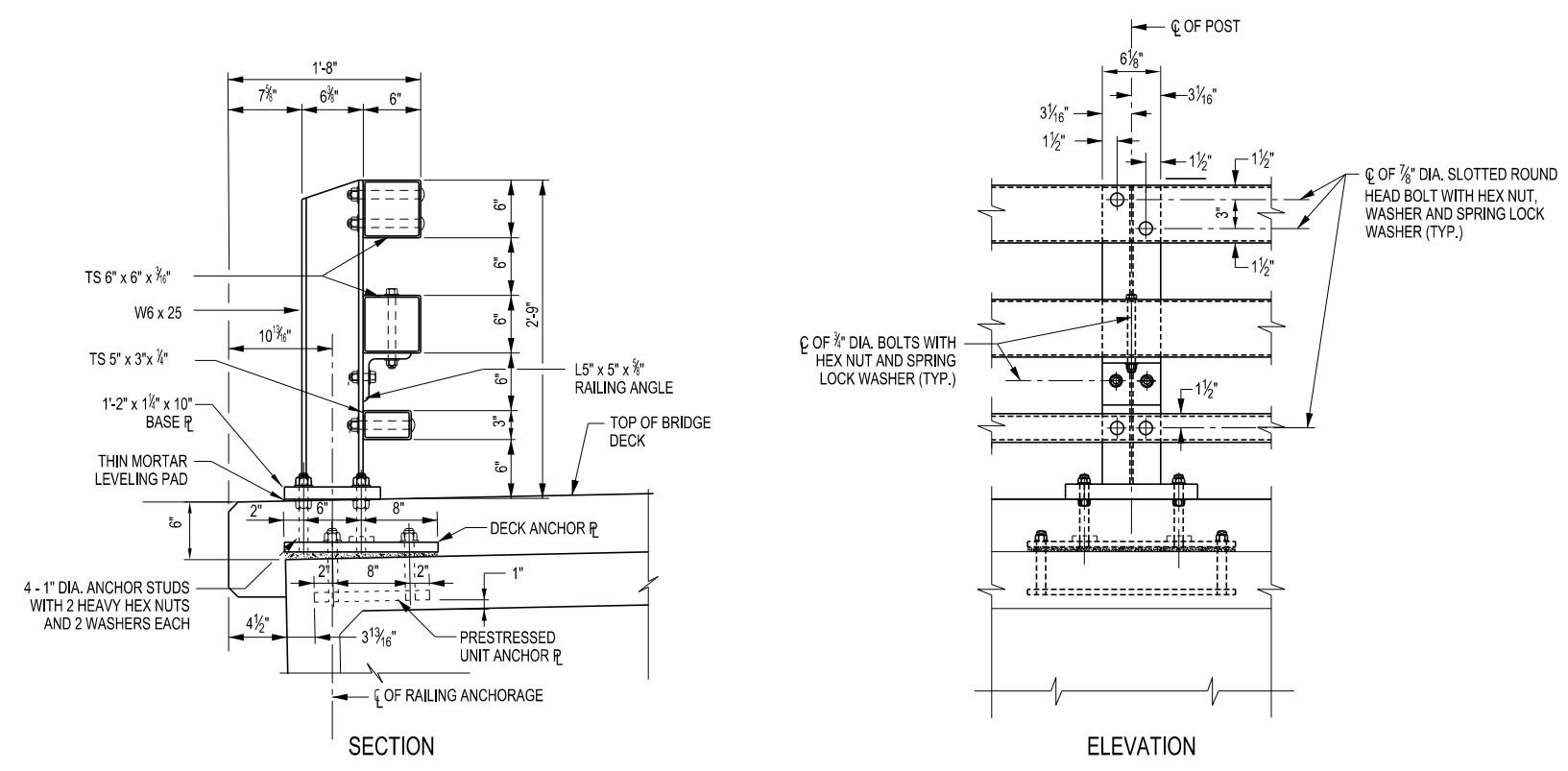
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date: JUNE 2020

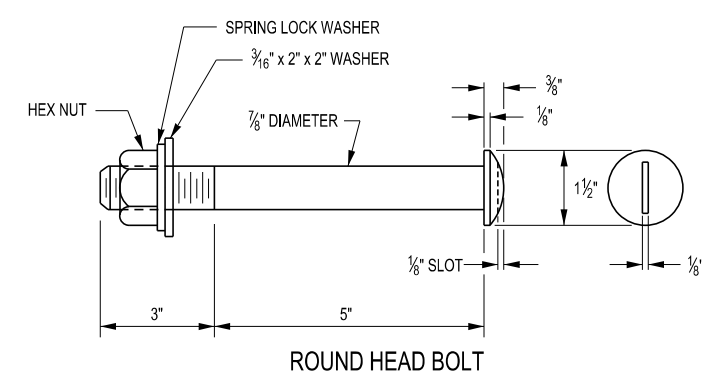
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sheet number

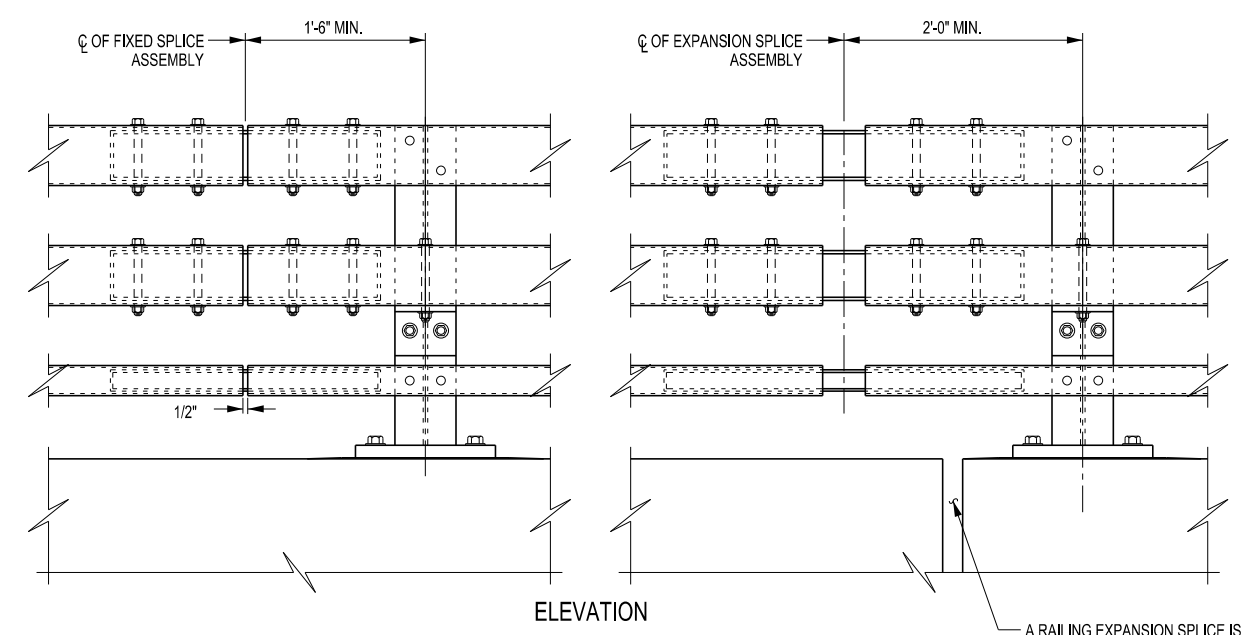
BR-25



STEEL BRIDGE RAILING

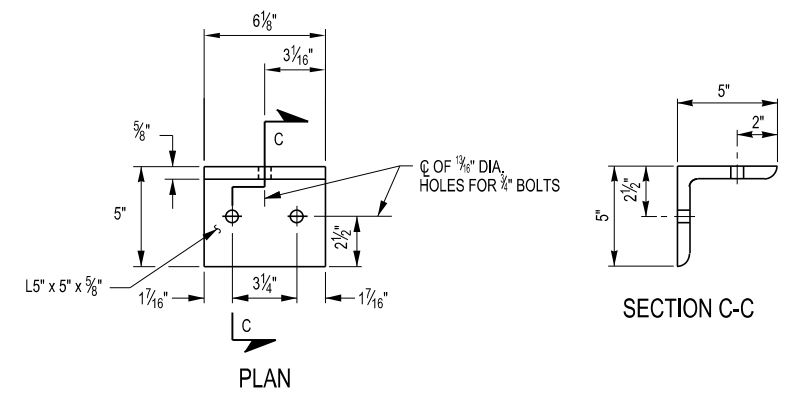


ROUND HEAD BOLT



STEEL BRIDGE RAILING SPLICE DETAILS

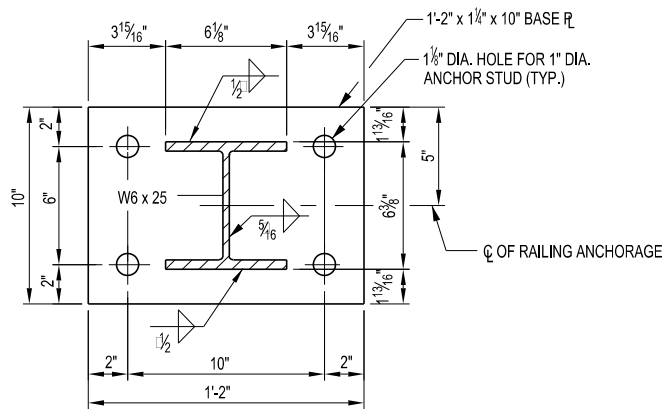
A RAILING EXPANSION SPLICE IS
 REQUIRED IN ANY POST SPACING THAT
 CONTAINS A SUPERSTRUCTURE
 EXPANSION JOINT



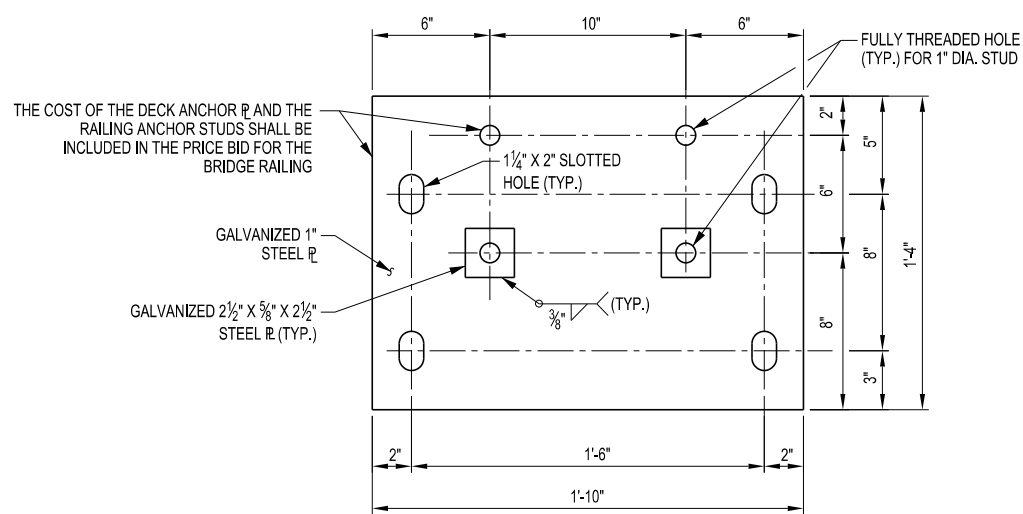
RAILING ANGLE DETAILS

NOTES:

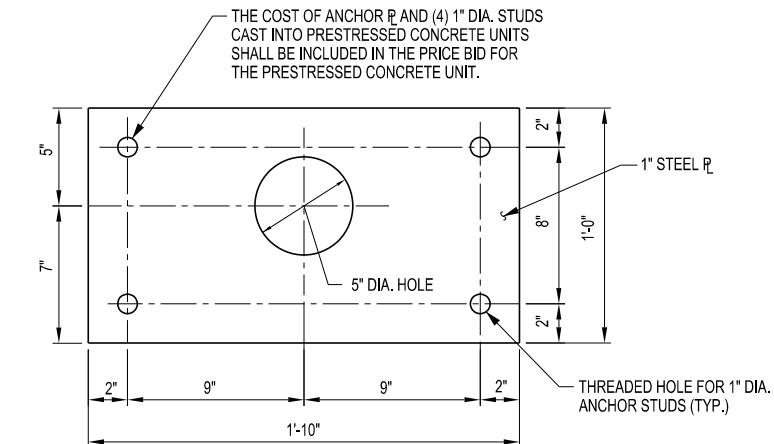
1. ALL RAILING IS TO BE FABRICATED AND ERECTED ACCORDING TO SECTION 568 OF THE NYS DOT STANDARD SPECIFICATIONS.
2. PRIOR TO GALVANIZING THE ASSEMBLED POST, GRIND ALL EDGES TO A MINIMUM RADIUS OF 1/8".
3. BOLTS SHALL BE TORQUED SNUG TIGHT (APPROXIMATELY 100 FT-LB.).



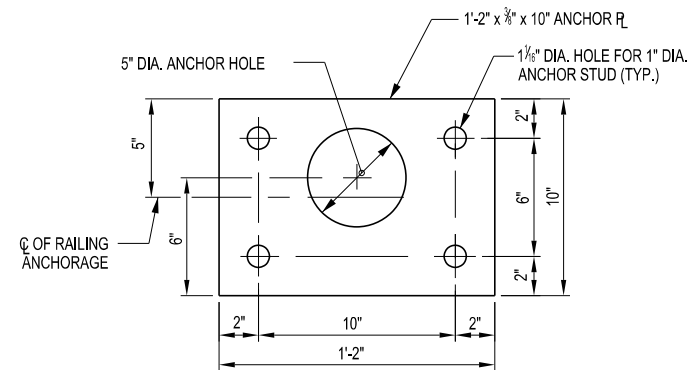
BASE PLATE



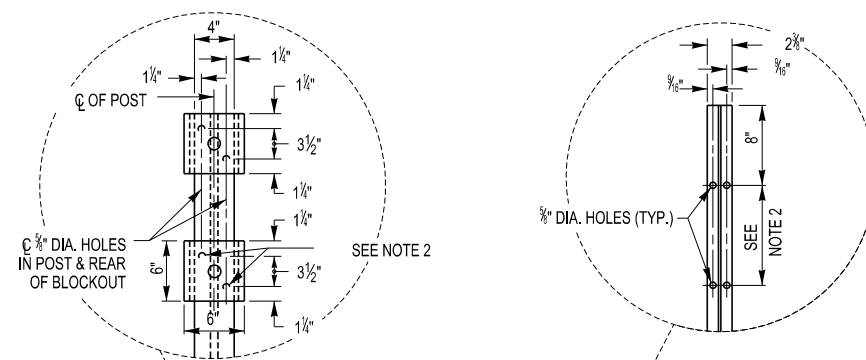
DECK ANCHOR PLATE



PRESTRESSED UNIT ANCHOR PLATE

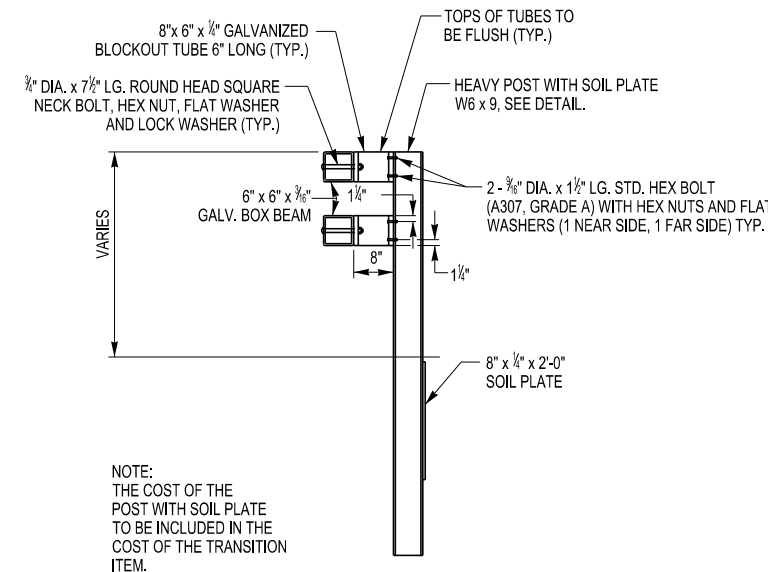


ANCHOR PLATE



HEAVY POST DETAIL

TRANSITION POST DETAIL



HEAVY POST ELEVATION

- NOTES:
1. PROTRUSIONS CAUSED BY WELDING OR GALVANIZING ARE NOT PERMITTED ON THE ADJOINING SURFACES OF THE BOX BEAM RAILS, SPLICE TUBES AND FILL PLATES.
 2. HOLES IN THE POST FOR THE LOWER RAIL MAYBE LOCATED AND DRILLED IN THE FIELD. IF SO, THE GALVANIZING SHALL BE REPAIRED IN ACCORDANCE WITH SUBSECTION 716-01.
 3. SEE DWG. NO. BR-24 FOR RAILING TRANSITIONS.

PERMISSABLE TO CUT ALONG THIS LINE FOR DRIVING (TYPICAL ON ALL GUIDE RAIL POSTS)

project:
**Leon-New Albion
 Road over
 Mud Creek**
 PIN 5762.94
 BIN 3322120
 Town of Leon
 Cattaraugus County



WATTS
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drawing history

number	date	description

sheet title

**RAILING
 DETAILS**

project number: 19106
 drawn by: TEM
 checked by: JCK
 date: JUNE 2020
 scale: AS SHOWN

sheet number
BR-26

project:

**Leon-New Albion
Road over
Mud Creek**
PIN 5762.94
BIN 3322120
Town of Leon
Cattaraugus County



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drawing history

number	date	description

sheet title

RAILING DETAILS

project number: 19106

drawn by: TEM

checked by: JCK

date: JUNE 2020

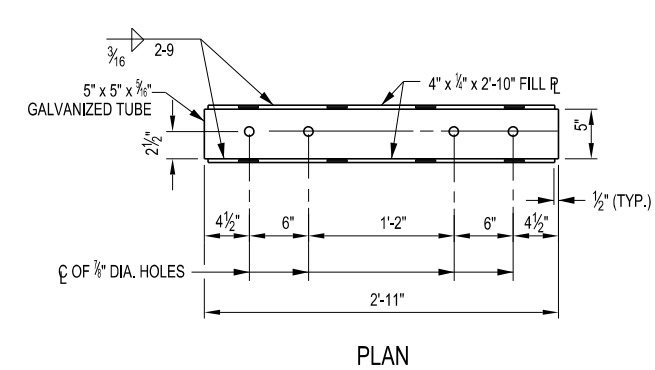
scale: AS SHOWN

sheet number

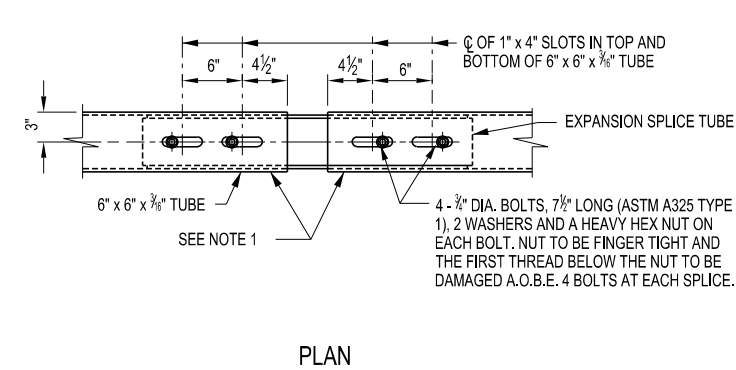
BR-27

36 of 40

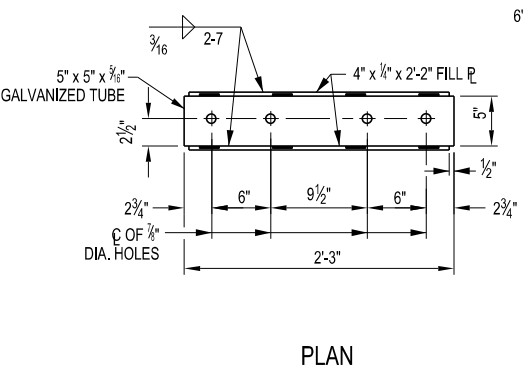
COPYRIGHT © 2020



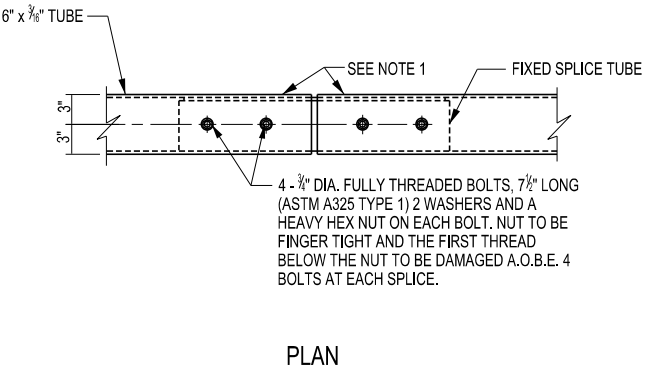
PLAN



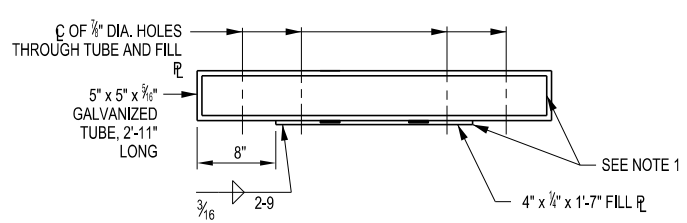
PLAN



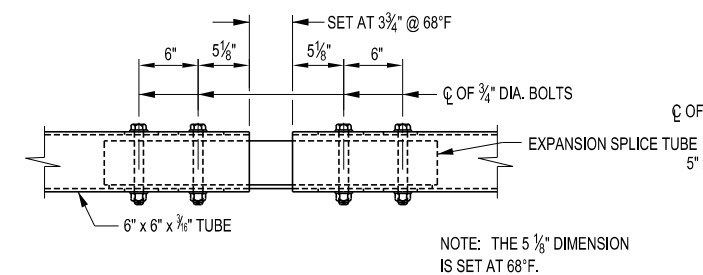
PLAN



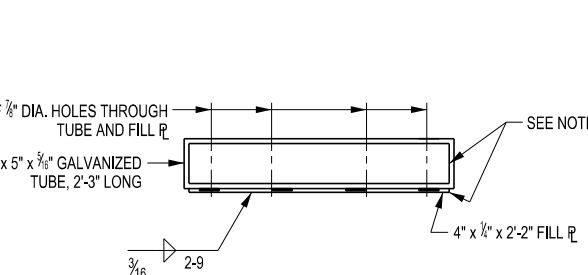
PLAN



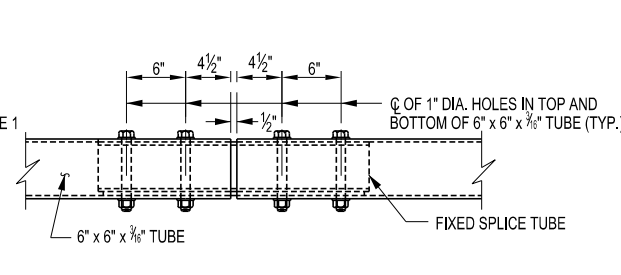
ELEVATION
EXPANSION SPLICE TUBE



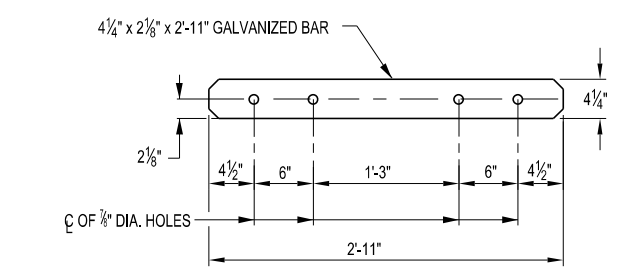
ELEVATION
EXPANSION SPLICE ASSEMBLY



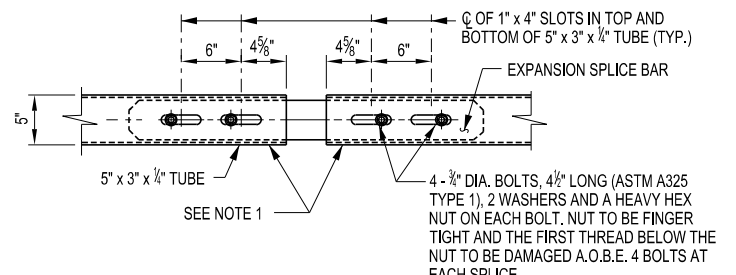
ELEVATION
FIXED SPLICE TUBE



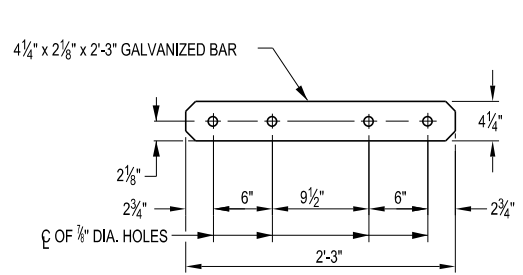
ELEVATION
FIXED SPLICE ASSEMBLY



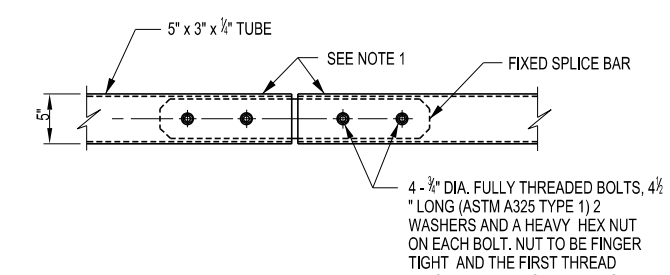
PLAN



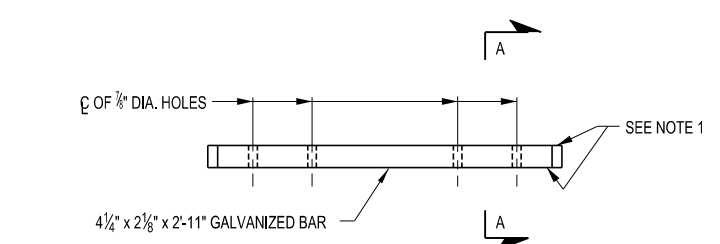
PLAN



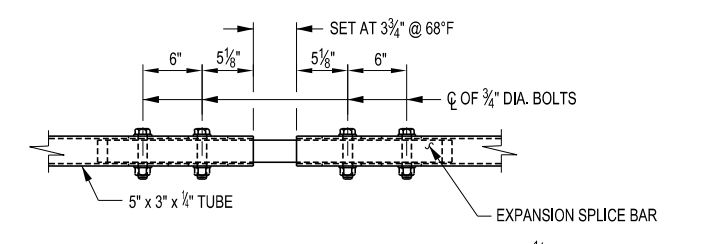
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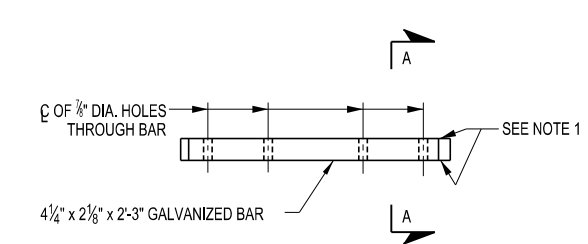
PLAN



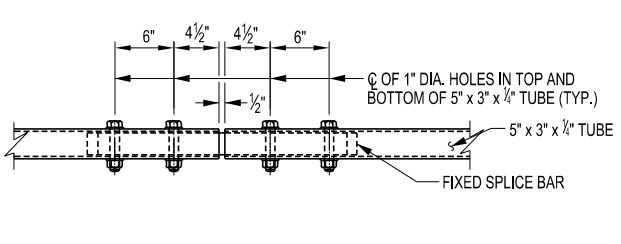
ELEVATION
EXPANSION SPLICE BAR



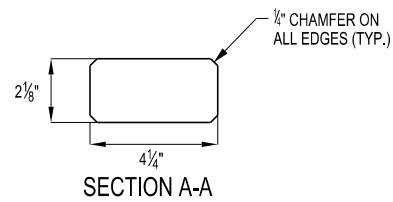
ELEVATION
EXPANSION SPLICE ASSEMBLY



ELEVATION
FIXED SPLICE BAR



ELEVATION
FIXED SPLICE ASSEMBLY



SECTION A-A

NOTES:

1. PROTRUSIONS CAUSED BY WELDING OR GALVANIZING ARE NOT PERMITTED ON THE ADJOINING SURFACES OF THE BOX BEAM RAILS, SPLICE TUBES AND FILL PLATES.

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drawing history

number	date	description

sheet title

BEARING DETAILS

project number: 19106
 drawn by: TEM
 checked by: JCK
 date: JUNE 2020
 scale: AS SHOWN

sheet number

BR-28

NOTES:

- THE BEARINGS SHALL MEET THE REQUIREMENTS OF N.Y.S. STANDARD SPECIFICATION SECTION 565 UNLESS OTHERWISE NOTED.
- ELASTOMER SHALL BE 50 DUROMETER HARDNESS ON THE SHORE A SCALE.
- INSTALLATION ALIGNMENT: THE MAXIMUM VARIATION FROM PERFECT ALIGNMENT UNDER FULL DEAD LOAD SHALL NOT EXCEED 1/16 in. THIS VARIATION SHALL BE MEASURED AS THE HORIZONTAL DISTANCE BETWEEN THE CENTERLINE OF THE HIGHEST ELASTOMER SURFACE AND THE CENTERLINE OF THE LOWEST ELASTOMER SURFACE.
- CONCRETE SURFACES UNDER THE BEARINGS SHALL CONFORM TO SUBSECTION 565-3.02 "CONCRETE BEARING SURFACE PREPARATION" OF THE N.Y.S. STANDARD SPECIFICATIONS, CONSTRUCTION AND MATERIALS.
- ALL EXTERNAL ELASTOMER LAYERS ARE ONE-HALF THE THICKNESS OF THE INTERNAL ELASTOMER LAYERS.
- PREMOULDED RESILIENT JOINT FILLER SHALL MEET THE REQUIREMENTS OF 705-07 AND BE PAID FOR UNDER THE BEARING ITEM.
- THE ENDS OF BEAM AND ANCHOR DOWEL HOLES SHALL BE MADE VERTICAL: 1/2", UNDER D.L. AND GRADE. ANCHOR DOWELS TO BE PAID FOR UNDER BEARING ITEM. DOWEL HOLE FILL MATERIAL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE ELASTOMERIC BEARING ITEM AND SHALL MEET MATERIAL REQUIREMENTS AS FOLLOWS:

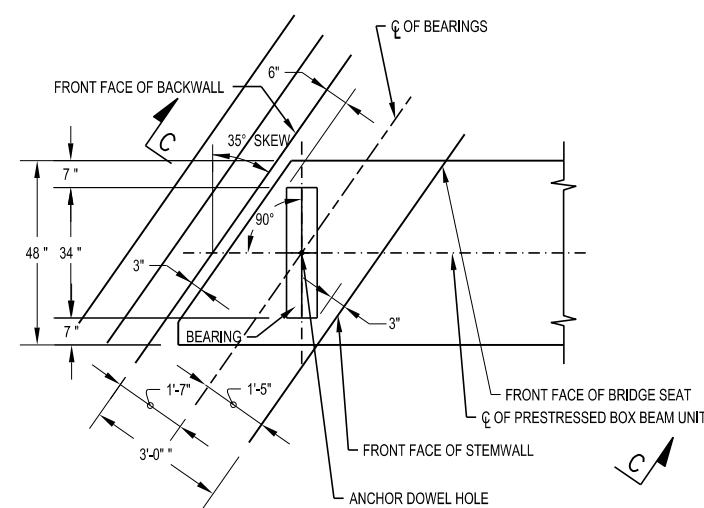
 EXPANSION END MATERIAL OPTION:
 N.Y.S. MAT. SPEC. 702-0700 - ASPHALT FILLER
 FED. MAT. SPEC. SS-S-200E - ELASTOMERIC POLYMER TYPE, TWO COMPONENT JET FUEL RESISTANT, COLD APPLIED

 FIXED END MATERIAL OPTION:
 **N.Y.S. MAT. SPEC. 721-03 - EPOXY POLYSULFIDE GROUT WITH SAND
 **N.Y.S. MAT. SPEC. 721-01 - EPOXY RESIN SYSTEM WITH SAND
 N.Y.S. MAT. SPEC. 701-05 - CONCRETE GROUTING MATERIAL
 N.Y.S. MAT. SPEC. 701-06 - CEMENT BASED GROUT MATERIALS FOR SHEAR KEYS

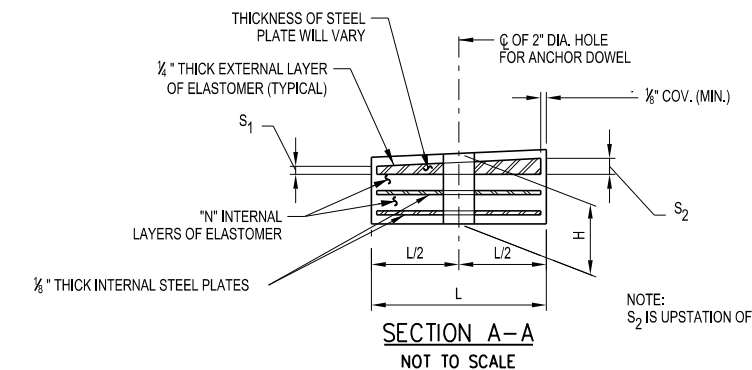
 ** - MOISTURE FREE, SANDBLAST SAND SHALL BE ADDED IN THE RATIO OF (1) PART EPOXY AND (2) PARTS SAND
- ITEM 559.16960118 SHALL BE APPLIED TO THE BRIDGE SEAT, FRONT FACE OF THE BACK WALL AND THE PRECAST BOX ENDS. (ONLY THE COATING TYPE PROTECTIVE SEALER (717-04) WILL BE ALLOWED AT THESE LOCATIONS.) (THE SEALER WILL NOT BE APPLIED TO THE FACE OF THE BACKWALL IF THE BACKWALL IS POURED AFTER THE BOX BEAMS ARE PLACED.)
- TOP OF BACK WALL SHALL BE TROWEL FINISHED. SHEET GASKET (TREATED BOTH SIDES) MATERIAL SPECIFICATION 728-06, SHALL BE PLACED ON THE TOP OF BACKWALLS. TWO #16" THICK SHEETS SHALL BE USED, AND PAYMENT SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE APPROACH SLAB ITEM.

SEQUENCE OF CONSTRUCTION - ADJACENT BOX BEAMS:

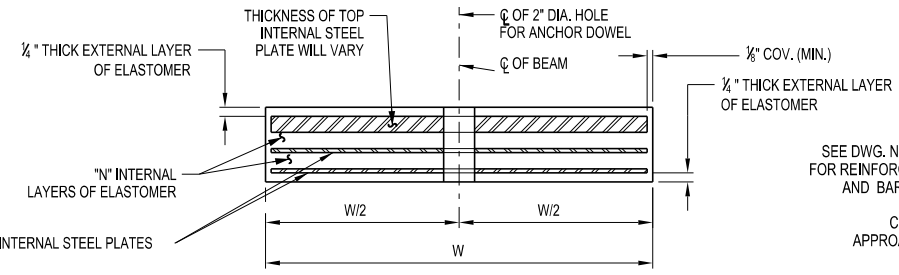
- PLACE BEARINGS AS SHOWN ON THE CONTRACT PLANS
- PLACE THE BOX BEAMS ON THE BEARINGS
- DRILL AND CLEAN DOWEL HOLES IN THE BRIDGE SEAT
- INSTALL ANCHOR DOWELS
- WASH SHEAR KEYS THOROUGHLY TO REMOVE ANY FOREIGN MATERIAL. INSTALL BACKER RODS IN THE SHEAR KEYS
- GROUT AND CURE THE SHEAR KEYS WITH AN APPROVED GROUT MATERIAL FOLLOWING THE MANUFACTURER'S INSTRUCTIONS. ALL SHEAR KEYS SHALL BE COMPLETELY FILLED
- TENSION THE TRANSVERSE TENDONS TO 28 KIP/STRAND NO SOONER THAN 24 HOURS AFTER BUT WITHIN 21 DAYS AFTER PLACEMENT OF GROUT IN THE LAST SHEAR KEY
- CLEAN AND PRE-WET THE TOP SURFACES OF THE BEAMS PRIOR TO PLACING CONCRETE FOR DECK POUR. CURE THE SLAB USING APPROPRIATE APPROVED METHODS.



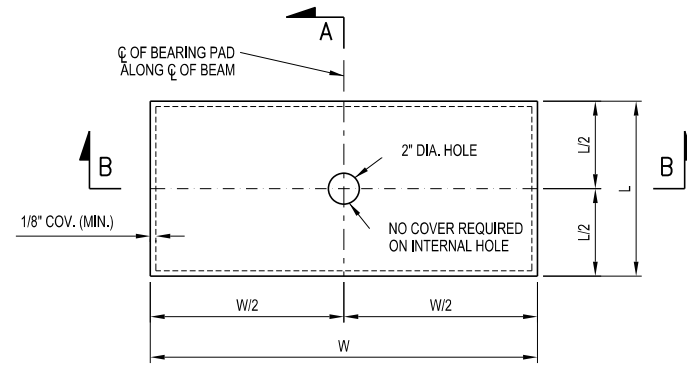
PARTIAL PLAN - BEARING/BACK WALL/BRIDGE SEAT
 NOT TO SCALE



SECTION A-A
 NOT TO SCALE

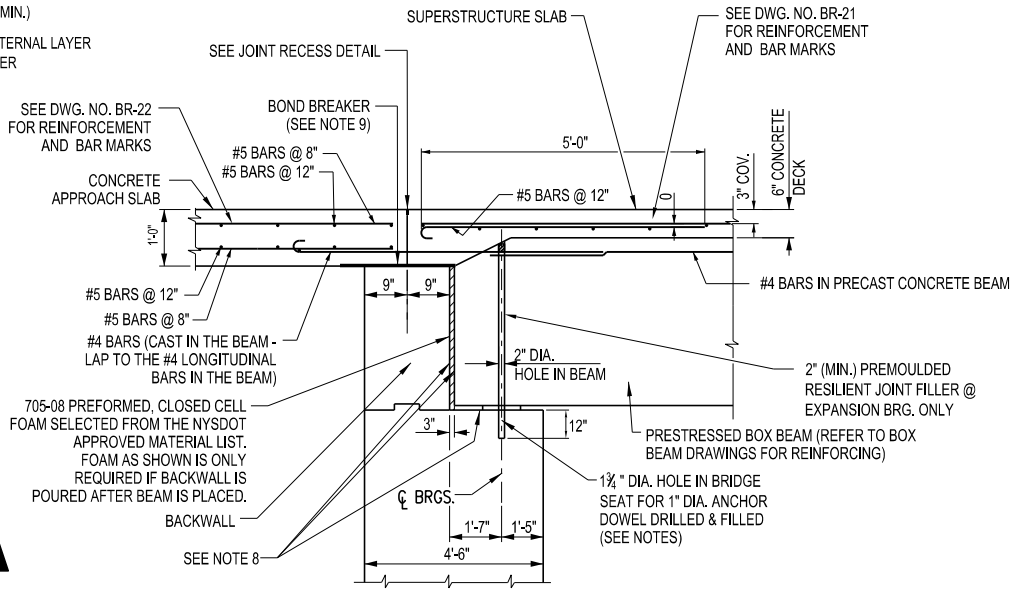


SECTION B-B
 NOT TO SCALE

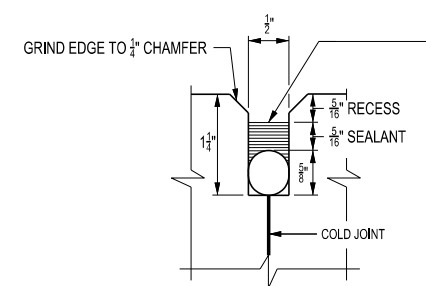


PLAN
 NOT TO SCALE

STEEL LAMINATED ELASTOMERIC BEARING (TYPE E.L.)



SECTION C-C
 NOT TO SCALE



JOINT RECESS DETAIL
 NOT TO SCALE

FILL THE RECESS WITH A STRUCTURAL JOINT MATERIAL, SILICONE SEALANT, FROM THE DEPARTMENT'S APPROVED LIST FOR ITEM 567.51-16. IF THE RECESS IS SAW CUT, WATER BLAST IMMEDIATELY FOLLOWING CUTTING TO REMOVE ANY RESIDUAL SLURRY BEFORE IT DRIES. CLEAN THE VERTICAL FACES OF THE RECESS BY ABRASIVE BLAST, AND AIR BLOW THE RESIDUE FROM THE RECESS. PRIME THE VERTICAL FACES WITH THE MANUFACTURER'S RECOMMENDED PRIMER, AND ALLOW TO DRY. PLACE A 1\"/>

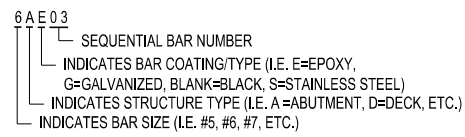
STEEL LAMINATED ELASTOMERIC BEARING (TYPE E.L.) TABLE																		
LOCATION	FIX/EXP.	ITEM NO.	QUANTITY REQUIRED	D.L. + S.D.L. (kips)	L.L. WITHOUT IMPACT (kips)	TOTAL DESIGN REACTION (kips)	SHAPE FACTOR	ELASTOMER LAYER				hrt	COMP. AREA (SQ. In.)	SHEAR AREA (SQ. In.)	BEVELED LAYER		BRG. H	ANCHOR DOWEL DIAMETER
								THK/LAYER	NO. LAYERS	L	W				S ₁	S ₂		
E. ABUT	EXP	565.1922	8	50.8	57.3	108.1	5.96	1/2	2	8	34	1 1/2	258.42	268.86	3/16	5/16	2	1
W. ABUT	FIX	565.1922	8	50.8	57.3	108.1	5.96	1/2	2	8	34	1 1/2	258.42	268.86	3/16	5/16	2	1

TABLE DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.
 S₂ IS UPSTATION OF S₁
 H IS TAKEN AT THE CENTERLINE OF THE BEARING.

NOTES:

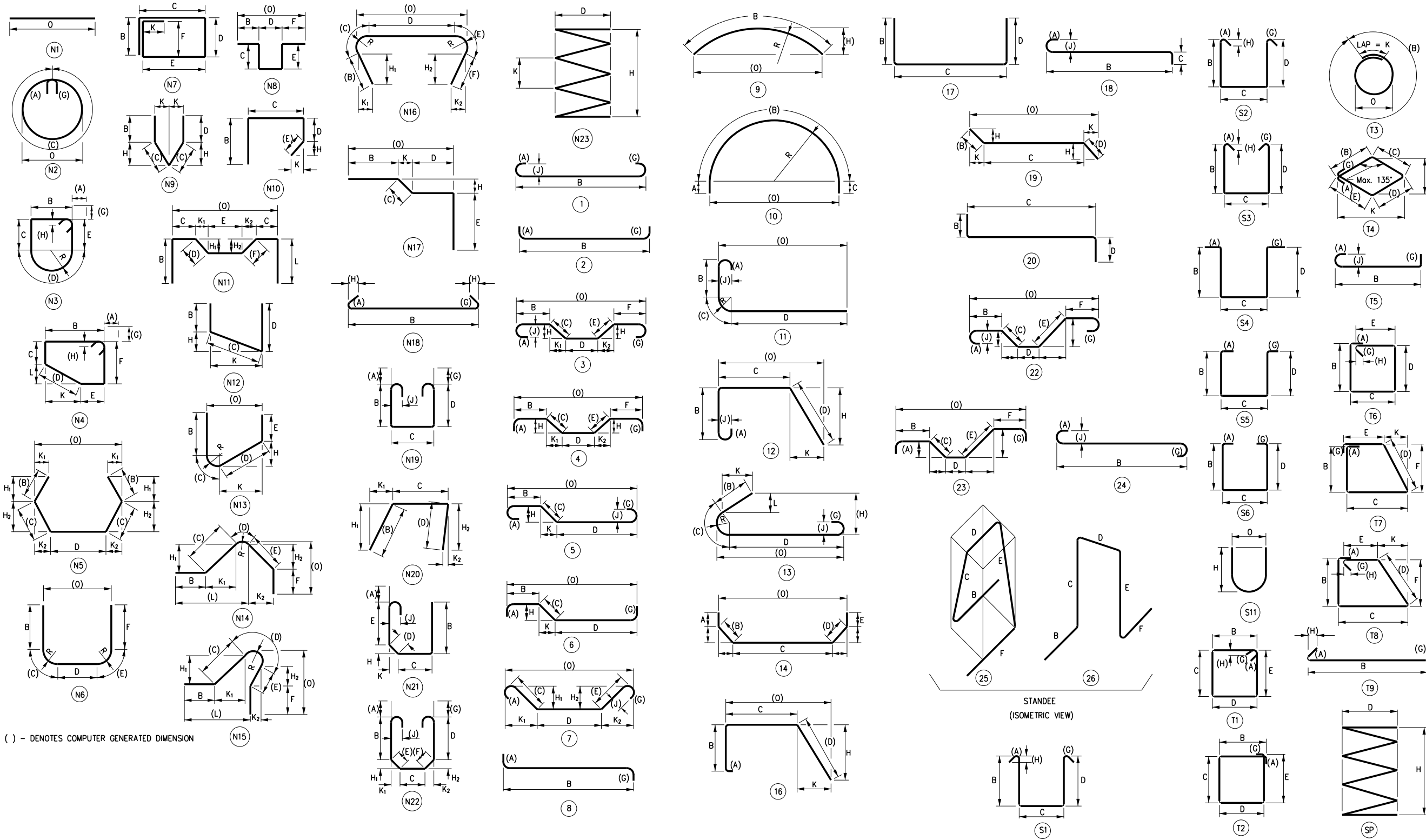
- UNLESS OTHERWISE DESIGNATED, ALL BAR REINFORCEMENT FOR CONCRETE IN SIZES UP TO AND INCLUDING No. 16 SHALL CONFORM TO THE REQUIREMENTS OF THE "SPECIFICATIONS FOR DEFORMED BILLET-STEEL BARS FOR CONCRETE REINFORCEMENT," AASHTO M31 (ASTM A615-S1). ALL BARS SHALL BE GRADE 60, UNLESS OTHERWISE DESIGNATED.
- FOR TYPICAL BENDING DETAILS, RECOMMENDED P.I.N. DIAMETER "D" OF BENDS HOOK AND OTHER STANDARD PRACTICES, SEE CURRENT CONCRETE REINFORCING STEEL INSTITUTE (C.R.S.I.) "MANUAL OF STANDARD PRACTICES" (M.S.P.).
- ALL DIMENSIONS ARE OUT-TO-OUT OF BAR, EXCEPT "A" AND "G" ON STANDARD 180° AND 135° HOOKS.
- DIMENSIONS "A", "G" AND "J" ARE STANDARD BENDING DIMENSIONS PER SIZE OF BAR. REFER TO C.R.S.I. - M.S.P. FOR DETAILS.

BAR MARK DESIGNATION IS AS FOLLOWS:



STRUCTURAL UNIT

- A - ABUTMENT
- B - BOXBEAM
- D - DECK
- H - HIGHWAY APPROACH SLAB



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drawing history

number	date	description

sheet title
**BAR
 BENDING
 DIAGRAMS**

project number: 19106
 drawn by: TEM
 checked by: JCK
 date: JUNE 2020
 scale: AS SHOWN
 sheet number

BR-29

project:

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drawing history

number	date	description

sheet title

BAR LIST

project number: 19106

drawn by: TEM

checked by: JCK

date: JUNE 2020

scale: AS SHOWN

sheet number

BR-31

MARK	NO.	LENGTH	TYPE	WEIGHT	A	B	C	D	E	F	G	H H1	H2	J	K K1	K2	L	O	R
DECK REINFORCEMENT																			
POUR 1																			
4DG01	34	17-0	17	387		0-0	16-7	0-5			C = 10" MIN, 32-3" MAX, 16-7" AVE								
4DG02	60	12-4	17	495		0-0	11-9	0-5											
4DG03	60	23-4	17	936		0-0	22-9	0-5											
4DG04	68	17-0	17	773		0-0	16-7	0-5			C = 10" MIN, 32-3" MAX, 16-7" AVE								
4DG05	4	25-11	N1	70															25-11
4DG06	4	38-10	N1	104															38-10
4DG07	49	38-10	N1	1271															38-10
4DG08	2	39-11	N1	54															39-11
5DG09	66	5-7	1	385	0-7	5-0													
4DG10	49	25-11	N1	849															25-11
SUBTOTAL GALVANIZED BARS				5324	LB THIS POUR INCLUDED UNDER ITEM 557.0503)														
APPROACH SLAB REINFORCEMENT																			
POUR 1 - WEST APPROACH SLAB																			
5HG01	9	29-6	N1	277															29-6
5HG02	9	29-6	N1	277															29-6
5HG03	2	30-4	N1	64							O = 30'-0" MIN, 30'-7" MAX, 30'-4" AVE								30-4
5HG04	2	30-4	N1	64							O = 30'-0" MIN, 30'-7" MAX, 30'-4" AVE								30-4
5HG05	4	31-2	N1	130															31-2
5HG06	4	31-2	N1	130															31-2
5HG07	17	13-5	N1	238							O = 6'-6" MIN, 20'-5" MAX, 13'-5" AVE								13-5
5HG08	17	13-5	N1	238							O = 6'-6" MIN, 20'-5" MAX, 13'-5" AVE								13-5
5HG09	3	4-10	N1	16							O = 4'-0" MIN, 5'-9" MAX, 4'-10" AVE								4-10
5HG10	3	4-10	N1	16							O = 4'-0" MIN, 5'-9" MAX, 4'-10" AVE								4-10
5HG11	3	1-8	N1	6							O = 0'-3" MIN, 3'-0" MAX, 1'-8" AVE								1-8
5HG12	3	1-8	N1	6							O = 0'-3" MIN, 3'-0" MAX, 1'-8" AVE								1-8
5HG13	46	24-5	N1	1172							O = 14'-2" MIN, 34'-9" MAX, 24'-5" AVE								24-5
5HG14	46	24-5	N1	1172							O = 14'-2" MIN, 34'-9" MAX, 24'-5" AVE								24-5
5HG15	3	3-0	N1	10							O = 2'-4" MIN, 3'-8" MAX, 3'-0" AVE								3-0
5HG16	3	3-0	N1	10							O = 2'-4" MIN, 3'-8" MAX, 3'-0" AVE								3-0
5HG17	3	4-4	N1	14							O = 3'-0" MIN, 5'-8" MAX, 4'-4" AVE								4-4
5HG18	3	4-4	N1	14							O = 3'-0" MIN, 5'-8" MAX, 4'-4" AVE								4-4
5HG19	3	39-10	N1	125															39-10
5HG20	3	39-10	N1	125															39-10
5HG21	12	7-9	N12	97		0-0	5-9	2-0				5-0							2-10
5HG22	12	7-9	N12	97		0-0	5-9	2-0				5-0							2-10
SUBTOTAL GALVANIZED BARS				4298	LB THIS POUR INCLUDED UNDER ITEM 557.2003)														
POUR 2 - EAST APPROACH SLAB																			
5HG01	9	29-6	N1	277															29-6
5HG02	9	29-6	N1	277															29-6
5HG03	2	30-4	N1	64							O = 30'-0" MIN, 30'-7" MAX, 30'-4" AVE								30-4
5HG04	2	30-4	N1	64							O = 30'-0" MIN, 30'-7" MAX, 30'-4" AVE								30-4
5HG05	4	31-2	N1	130															31-2
5HG06	4	31-2	N1	130															31-2
5HG07	17	13-5	N1	238							O = 6'-6" MIN, 20'-5" MAX, 13'-5" AVE								13-5
5HG08	17	13-5	N1	238							O = 6'-6" MIN, 20'-5" MAX, 13'-5" AVE								13-5
5HG09	3	4-10	N1	16							O = 4'-0" MIN, 5'-9" MAX, 4'-10" AVE								4-10
5HG10	3	4-10	N1	16							O = 4'-0" MIN, 5'-9" MAX, 4'-10" AVE								4-10
5HG11	3	1-8	N1	6							O = 0'-3" MIN, 3'-0" MAX, 1'-8" AVE								1-8
5HG12	3	1-8	N1	6							O = 0'-3" MIN, 3'-0" MAX, 1'-8" AVE								1-8
5HG13	46	24-5	N1	1172							O = 14'-2" MIN, 34'-9" MAX, 24'-5" AVE								24-5
5HG14	46	24-5	N1	1172							O = 14'-2" MIN, 34'-9" MAX, 24'-5" AVE								24-5
5HG15	3	3-0	N1	10							O = 2'-4" MIN, 3'-8" MAX, 3'-0" AVE								3-0
5HG16	3	3-0	N1	10							O = 2'-4" MIN, 3'-8" MAX, 3'-0" AVE								3-0
5HG17	3	4-4	N1	14							O = 3'-0" MIN, 5'-8" MAX, 4'-4" AVE								4-4
5HG18	3	4-4	N1	14							O = 3'-0" MIN, 5'-8" MAX, 4'-4" AVE								4-4
5HG19	3	39-10	N1	125															39-10
5HG20	3	39-10	N1	125															39-10
5HG21	12	7-9	N12	97		0-0	5-9	2-0				5-0							2-10
5HG22	12	7-9	N12	97		0-0	5-9	2-0				5-0							2-10
SUBTOTAL GALVANIZED BARS				4298	LB THIS POUR INCLUDED UNDER ITEM 557.2003)														