

MASSACHUSETTS DEPARTMENT OF TRANSPORTATION HIGHWAY DIVISION

CHESHIRE
SAND MILL ROAD OVER DRY BROOK

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	STP(BR-OFF)-003S(725)X	1	32
PROJECT FILE NO.		608857	

TITLE SHEET & INDEX

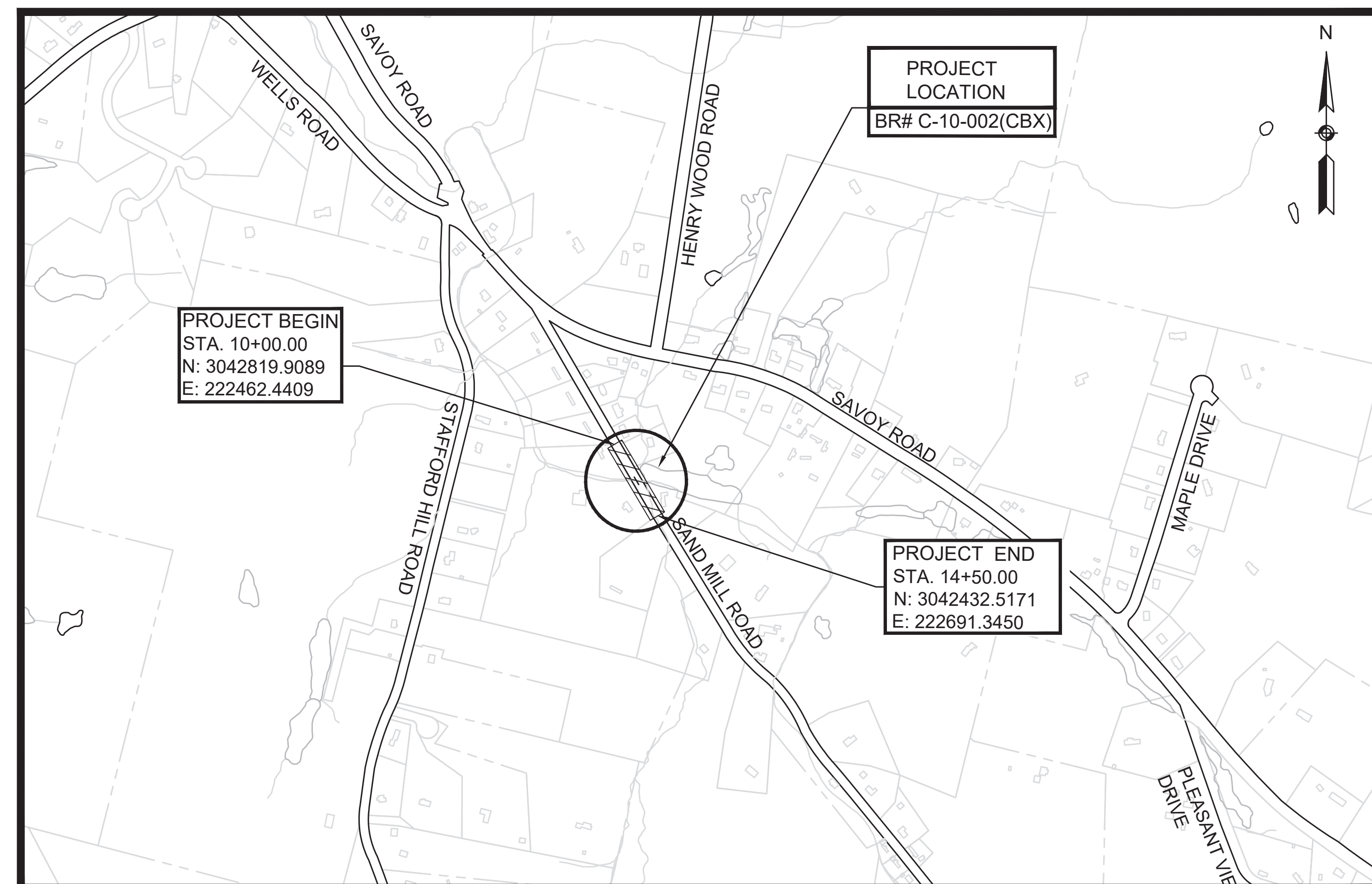
PLAN AND PROFILE OF
SAND MILL ROAD OVER DRY BROOK
(BRIDGE NO. C-10-002)

IN THE TOWN OF
CHESHIRE
BERKSHIRE COUNTY

FEDERAL AID PROJECT NO. STP(BR-OFF)-003S(725)X

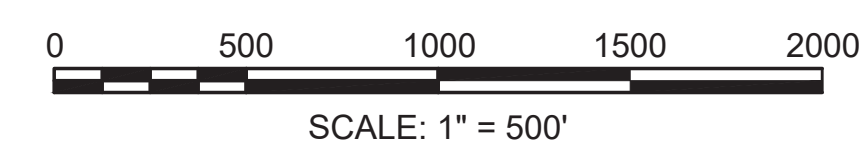
THESE PLANS ARE SUPPLEMENTED BY THE OCTOBER 2017 CONSTRUCTION STANDARD DETAILS, THE 2015 OVERHEAD SIGNAL STRUCTURE AND FOUNDATION STANDARD DRAWINGS, MASSDOT TRAFFIC MANAGEMENT PLANS AND DETAIL DRAWINGS, THE 1990 STANDARD DRAWINGS FOR SIGNS AND SUPPORTS, THE 1968 STANDARD DRAWINGS FOR TRAFFIC SIGNALS AND HIGHWAY LIGHTING, AND THE LATEST EDITION OF THE AMERICAN STANDARD FOR NURSERY STOCK.

SHEET NO.	DESCRIPTION
1	TITLE SHEET & INDEX
2	LEGEND, ABBREVIATIONS & GENERAL NOTES
3	TYPICAL SECTIONS & PAVEMENT NOTES
4-5	CONSTRUCTION PLAN
6	PROFILE
7	CURB TIE AND GRADING PLAN
8-9	CONSTRUCTION DETAILS
10	TEMPORARY TRAFFIC CONTROL PLAN - DETOUR
11	TEMPORARY TRAFFIC CONTROL PLAN - BRIDGE CLOSURE
12	UTILITY PLAN
13-28	BRIDGE PLANS
29-32	CROSS SECTIONS

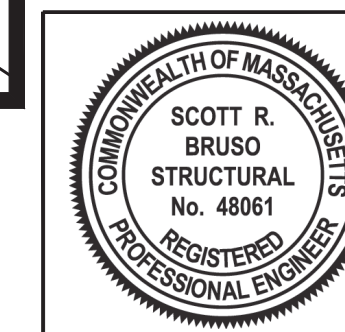


DESIGN DESIGNATION (SAND MILL ROAD)

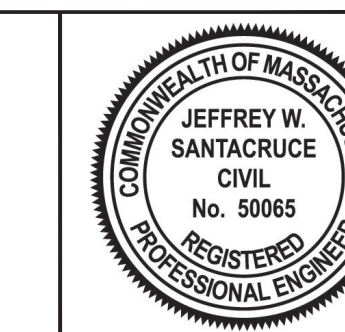
DESIGN SPEED	35 MPH
ADT (2018)	259
ADT (2038)	385
K	-
D	-
T (PEAK HOUR)	6%
T (AVERAGE DAY)	6%
DHV	-
DDHV	-
FUNCTIONAL CLASSIFICATION	RURAL LOCAL



LENGTH OF PROJECT = 450.00 FEET = 0.085 MILES



Scott Bruso
Digitally signed by Scott Bruso
Date: 2024.02.29 09:35:30
+0000



Jeffrey W. Santacrucce
Digitally signed by Jeffrey W. Santacrucce
Date: 2024.03.01 09:05:38 -0500

DATE	DESCRIPTION	REV #



Weston & Sampson

Weston & Sampson Engineers, Inc.
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APPROVED
Carrie Lavallee, P.E.
Digitally signed by Carrie Lavallee, P.E.
Date: 2024.03.01 09:05:38 -0500
03/01/2024
CHIEF ENGINEER DATE

GENERAL NOTES:

- THE EXISTING CONDITIONS SHOWN ON THE BASE MAP IS BASED UPON A ON-THE-GROUND INSTRUMENT SURVEY PERFORMED BY GCG ASSOCIATES BETWEEN FEBRUARY 26, 2018 AND MARCH 26, 2018.
- NORTH IS BASED UPON THE NORTH AMERICAN DATUM OF 1983 (NAD-83)(2011) EPOCH 2010.00, MASSACHUSETTS STATE PLANE COORDINATE SYSTEM, MAINLAND ZONE. COORDINATES ARE BASED ON CONTROL AS PROVIDED BY MASSDOT SURVEY SECTION FOR STATION 2063 AND STATION 2064.
- VERTICAL CONTROL IS BASED UPON THE NORTH AMERICAN VERTICAL DATUM OF 1988 AS PROVIDED BY MASSDOT SURVEY SECTION FOR STATION 2063 AND STATION 2064.
- THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES. THE CONTRACTOR SHALL DIG TEST PITS WITH THE LOCATIONS BEING APPROVED BY THE ENGINEER PRIOR TO COMMENCEMENT OF WORK TO EXACTLY LOCATE EXISTING UTILITIES.
- SAND MILL ROAD IS AN UNMONUMENTED APRIL 1859 COUNTY LAYOUT, RECORDED AT THE NORTHERN BERKSHIRE COUNTY REGISTRY OF DEEDS IN PLAN BOOK 8, PAGE 56. THE SIDELINES OF SAND MILL ROAD WERE ESTABLISHED FOR THIS SURVEY, BY USING THE CENTERLINE OF THE EXISTING TRAVELED WAY. THE CENTERLINE WAS OFFSET ONE AND ONE HALF RODS (24.75') IN AN EASTERLY AND WESTERLY DIRECTION, CREATING A WIDTH OF THREE RODS (49.5') FOR SAND MILL ROAD, AS CALLED FOR FROM THE 1859 COUNTY LAYOUT.
- THE CONTRACTOR IS RESPONSIBLE FOR REPLACING ANY HIGHWAY BOUND OR PRIVATE PROPERTY PIN THAT MAY BE DAMAGED OR DESTROYED DURING CONSTRUCTION, TO ITS ORIGINAL LOCATION JUST PRIOR TO CONSTRUCTION.
- WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, THE LOCATION, ELEVATION AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR AND THE INFORMATION FURNISHED TO THE ENGINEER FOR RESOLUTION OF THE CONFLICT.
- THE CONTRACTOR SHALL MAKE ALL ARRANGEMENTS FOR THE ALTERATION AND ADJUSTMENT OF GAS, ELECTRIC, TELEPHONE AND ANY OTHER PRIVATE UTILITIES BY THE UTILITY OWNER. ANY ALTERATIONS SHALL BE INCIDENTAL TO THE PROJECT. THE CONTRACTOR IS RESPONSIBLE FOR THE TEMPORARY SUPPORT OF ALL UTILITIES TO REMAIN IN PLACE AND SHALL DESCRIBE IN WRITING, TO THE SATISFACTION OF THE ENGINEER, HIS METHOD OF TEMPORARY SUPPORT.
- AREAS OUTSIDE THE LIMITS OF PROPOSED WORK DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED BY THE CONTRACTOR TO THEIR ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE.
- THE TERM "PROPOSED (PROP)" INDICATES WORK TO BE CONSTRUCTED USING NEW MATERIALS OR, WHERE APPLICABLE, RE-USING EXISTING MATERIALS IDENTIFIED AS "REMOVE AND RESET (R&R)".
- ALL EXISTING STATE, COUNTY AND TOWN LOCATION LINES AND PRIVATE PROPERTY LINES HAVE BEEN ESTABLISHED FROM AVAILABLE INFORMATION AND THEIR EXACT LOCATION ARE NOT GUARANTEED.
- ALL EXCESS MATERIAL FROM ROADWAY RECONSTRUCTION OR THE EXCAVATION PROCESS SHALL BE REUSED ON SITE OR REMOVED FROM THE SITE AND DISPOSED OF IN A LEGAL AND PROPER MANNER.
- THE CONTRACTOR SHALL CALL DIGSAFE AT 1-888-344-7233 AT LEAST 72 HOURS, SATURDAYS, AND HOLIDAYS EXCLUDED, PRIOR TO EXCAVATING AT ANY LOCATION. A COPY OF THE DIGSAFE PROJECT REFERENCE NUMBER(S) SHALL BE GIVEN TO THE TOWN PRIOR TO EXCAVATION.
- THE CONTRACTOR SHALL VERIFY BY TEST PIT, THE LOCATION OF EXISTING UTILITIES WHICH MAY CONFLICT WITH THE PROPOSED DRAINAGE DESIGN. ANY FIELD ADJUSTMENTS REQUIRED WILL BE MADE AS APPROVED OR DIRECTED BY THE ENGINEER. ONLY AFTER THE CONTRACTOR VERIFIES ELEVATIONS FOR THE CONSTRUCTABILITY OF THE DRAINAGE SYSTEM, THE STRUCTURES SHALL BE ORDERED.
- JOINTS BETWEEN HOT MIX ASPHALT TRENCH PAVEMENT AND SAWCUT EXISTING PAVEMENT SHALL BE SEALED WITH BITUMEN AND BACKSANDED.
- IF DEEMED NECESSARY DUE TO THE WORK, THE CONTRACTOR SHALL COORDINATE WITH THE TOWN OF CHESHIRE HIGHWAY DEPARTMENT, THE CHESHIRE FIRE DEPARTMENT, AND THE ENGINEER FOR APPROVAL OF SHUTTING DOWN ANY EXISTING WATER MAINS AND SHALL ALSO OBTAIN APPROVAL FOR DISRUPTING ANY EXISTING SEWER FLOWS.
- THE CONTRACTOR SHALL BE AWARE THAT ONLY TOWN PERSONNEL ARE ALLOWED TO OPERATE WATER GATES AND HYDRANTS. ANY REQUESTS TO OPERATE THE GATES SHALL BE COORDINATED THROUGH THE ENGINEER.
- THE CONTRACTOR SHALL COORDINATE ANY WORK FOR THE PROJECT WITH ALL ADJACENT/CONCURRENT PROJECTS AND CONTRACTORS.
- THE CONTRACTOR SHALL INSTALL PRIOR TO COMMENCEMENT OF WORK, MAINTAIN, AND REMOVE AT THE END OF THE PROJECT INLET SEDIMENT CONTROL BAGS IN ALL CATCH BASINS, WITHIN OR ADJACENT TO THE PROJECT LIMITS. THE CONTRACTOR SHALL ALSO MAINTAIN SILT FENCE AND COMPOST FILTER TUBES AS SHOWN ON THE PLANS THROUGHOUT THE DURATION OF THE PROJECT AND REMOVE AT THE END.
- ANY GRASS AREAS DISTURBED BY THE WORK SHALL BE RESTORED WITH LOAM AND SEED.
- ANY LANDSCAPED AREAS DISTURBED BY THE WORK SHALL BE RESTORED TO EXISTING CONDITIONS WITH EXISTING OR NEW GROUND COVER MATERIALS AS DIRECTED BY THE ENGINEER. ANY PLANTS, SHRUBS, OR FLOWERS DISTURBED BY THE WORK SHALL BE RESET TO EXISTING CONDITIONS OR REPLACED WITH NEW PLANTS, SHRUBS, OR FLOWERS AS DIRECTED BY THE ENGINEER. ALL WORK TO RESTORE LANDSCAPE AREAS, NEW GROUND COVER MATERIALS, NEW PLANTS, NEW SHRUBS, OR NEW FLOWERS REQUIRED BY THE ENGINEER SHALL BE INCIDENTAL TO THE PROJECT.
- CONTRACTOR TO COORDINATE WITH UTILITY POLE OWNERS IN AREAS WHERE UNDERGROUND UTILITY WORK IS WITHIN CLOSE PROXIMITY AND POSSIBLE UTILITY POLE SHORING IS REQUIRED WHILE INSTALLING PROPOSED UTILITIES.
- RAISE AND ADJUST FRAMES AND GRATES, FRAMES AND COVERS AND GATE BOXES PRIOR TO PAVEMENT OVERLAY, IF REQUIRED.

GENERAL SYMBOLS

EXISTING	PROPOSED	DESCRIPTION
		JERSEY BARRIER
		CATCH BASIN
		CATCH BASIN CURB INLET
		FLAG POLE
		GAS PUMP
		MAIL BOX
		POST SQUARE
		POST CIRCULAR
		WELL
		ELECTRIC HANDHOLE
		FENCE GATE POST
		GAS GATE
		BORING HOLE
		MONITORING WELL
		TEST PIT
		HYDRANT
		LIGHT POLE
		COUNTY BOUND
		GPS POINT
		CABLE MANHOLE
		DRAINAGE MANHOLE
		ELECTRIC MANHOLE
		GAS MANHOLE
		MISC MANHOLE
		SEWER MANHOLE
		TELEPHONE MANHOLE
		WATER MANHOLE
		MASSACHUSETTS HIGHWAY BOUND
		MONUMENT
		STONE BOUND
		TOWN OR CITY BOUND
		TROLLEY POLE OR GUY POLE
		TRANSMISSION POLE
		UTILITY POLE W/ FIREBOX
		UTILITY POLE WITH DOUBLE LIGHT
		UTILITY POLE W / 1 LIGHT
		UTILITY POLE
		BUSH
		TREE
		STUMP
		SWAMP / MARSH
		WATER GATE
		PARKING METER
		OVERHEAD CABLE/WIRE
		CURBING
		CONTOURS (ON-THE-GROUND SURVEY DATA)
		CONTOURS (PHOTOGRAMMETRIC DATA)
		UNDERGROUND DRAIN PIPE (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND ELECTRIC DUCT (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND GAS MAIN (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND SEWER MAIN (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND TELEPHONE DUCT (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND WATER MAIN (DOUBLE LINE 24 INCH AND OVER)
		BALANCED STONE WALL
		GUARD RAIL - STEEL POSTS
		GUARD RAIL - WOOD POSTS
		GUARD RAIL - DOUBLE FACE - STEEL POSTS
		GUARD RAIL - DOUBLE FACE - WOOD POSTS
		CHAIN LINK OR METAL FENCE
		WOOD FENCE
		SEDIMENT CONTROL BARRIER
		TREE LINE
		SAWCUT LINE
		TOP OR BOTTOM OF SLOPE
		LIMIT OF EDGE OF PAVEMENT OR COLD PLANE AND OVERLAY
		BANK OF RIVER OR STREAM
		BORDER OF WETLAND
		100 FT WETLAND BUFFER
		200 FT RIVERFRONT BUFFER
		STATE HIGHWAY LAYOUT
		TOWN OR CITY LAYOUT
		COUNTY LAYOUT
		RAILROAD SIDELINE
		TOWN OR CITY BOUNDARY LINE
		PROPERTY LINE OR APPROXIMATE PROPERTY LINE
		EASEMENT

ABBREVIATIONS

GENERAL	DESCRIPTION
AADT	ANNUAL AVERAGE DAILY TRAFFIC
ABAN	ABANDON
ADJ	ADJUST
APPROX.	APPROXIMATE
A.C.	ASPHALT CONCRETE
ACCM PIPE	ASPHALT COATED CORRUGATED METAL PIPE
BIT.	BITUMINOUS
BC	BOTTOM OF CURB
BD.	BOUND
BL	BASELINE
BLDG	BUILDING
BM	BENCHMARK
BO	BY OTHERS
BOS	BOTTOM OF SLOPE
BR.	BRIDGE
CB	CATCH BASIN
CBCL	CATCH BASIN WITH CURB INLET
CC	CEMENT CONCRETE
CCM	CEMENT CONCRETE MASONRY
CEM	CEMENT
CI	CURB INLET
CIP	CAST IRON PIPE
CLF	CHAIN LINK FENCE
CL	CENTERLINE
CMP	CORRUGATED METAL PIPE
CSP	CORRUGATED STEEL PIPE
CO.	COUNTY
CONC	CONCRETE
CONT	CONTINUOUS
CONST	CONSTRUCTION
CR GR	CROWN GRADE
DHV	DESIGN HOURLY VOLUME
DI	DROP INLET
DIA	DIAMETER
DIP	DUCTILE IRON PIPE
DW	STEADY DON'T WALK - PORTLAND ORANGE
DWY	DRIVEWAY
ELEV (or EL.)	ELEVATION
EMB	EMBANKMENT
EOP	EDGE OF PAVEMENT
EXIST (or EX)	EXISTING
EXC	EXCAVATION
F&C	FRAME AND COVER
F&G	FRAME AND GRATE
FDN.	FOUNDATION
FLDSTN	FIELDSTONE
GAR	GARAGE
GD	GROUND
GG	GAS GATE
GI	GUTTER INLET
GIP	GALVANIZED IRON PIPE
GRAN	GRANITE
GRAV	GRAVEL
GRD	GUARD
HDW	HEADWALL
HMA	HOT MIX ASPHALT
HOR	HORIZONTAL
HYD	HYDRANT
INV	INVERT
JCT	JUNCTION
L	LENGTH OF CURVE
LB	LEACH BASIN
LP	LIGHT POLE
LT	LEFT
MAX	MAXIMUM
MB	MAILBOX
MH	MANHOLE
MHB	MASSACHUSETTS HIGHWAY BOUND
MIN	MINIMUM
NIC	NOT IN CONTRACT
NO.	NUMBER
PC	POINT OF CURVATURE
PCC	POINT OF COMPOUND CURVATURE
P.G.L.	PROFILE GRADE LINE
PI	POINT OF INTERSECTION
POC	POINT ON CURVE
POT	POINT ON TANGENT
PRC	POINT OF REVERSE CURVATURE
PROJ	PROJECT
PROP	PROPOSED
PSB	PLANTABLE SOIL BORROW
PT	POINT OF TANGENCY
PVC	POINT OF VERTICAL CURVATURE
PVI	POINT OF VERTICAL INTERSECTION
PVT	POINT OF VERTICAL TANGENCY
PVMT	PAVEMENT
PWW	PAVED WATER WAY

CHESHIRE SAND MILL ROAD OVER DRY BROOK

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	STP(BR-OFF)-003S(725)X	2	32
PROJECT FILE NO.		608857	

LEGEND, ABBREVIATIONS & GENERAL NOTES

ABBREVIATIONS (cont.)

GENERAL	DESCRIPTION
R	RADIUS OF CURVATURE
R&D	REMOVE AND DISPOSE
RCP	REINFORCED CONCRETE PIPE
RD	ROAD
RDWY	ROADWAY
REM	REMOVE
RET	RETAIN
RET WALL	RETAINING WALL
ROW	RIGHT OF WAY
RR	RAILROAD
R&R	REMOVE AND RESET
R&S	REMOVE AND STACK
RT	RIGHT
SB	STONE BOUND
SHLD	SHOULDER
SMH	SEWER MANHOLE
ST	STREET
STA	STATION
SSD	STOPPING SIGHT DISTANCE
SHLO	STATE HIGHWAY LAYOUT LINE
SW	SIDEWALK
T	TANGENT DISTANCE OF CURVE/TRUCK %
TAN	TANGENT
TEMP	TEMPORARY
TC	TOP OF CURB
TOS	TOP OF SLOPE
TYP	TYPICAL
UP	UTILITY POLE
VAR	VARIES
VERT	VERTICAL
VC	VERTICAL CURVE
WCR	WHEEL CHAIR RAMP
WG	WATER GATE
WIP	WROUGHT IRON PIPE
WM	WATER METER/WATER MAIN
X-SECT	CROSS SECTION

PAVEMENT MARKINGS SYMBOLS

EXISTING	PROPOSED	DESCRIPTION
		SOLID WHITE LINE
		SOLID YELLOW LINE
		BROKEN WHITE LINE
		BROKEN YELLOW LINE
		DOUBLE YELLOW LINE
		STOP LINE

**CHESHIRE
SAND MILL ROAD OVER DRY BROOK**

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	STP(BR-OFF)-003S(725)X	3	32
PROJECT FILE NO.		608857	

TYPICAL SECTIONS & PAVEMENT NOTES

PAVEMENT NOTES

PROPOSED PAVEMENT MILLING AND OVERLAY:

- 1 1/2" SUPERPAVE BRIDGE SURFACE COURSE - 9.5 (SSC-B-9.5) OVER
- 1 1/2" PAVEMENT FINE MILLING AND VARIABLE DEPTH OVERLAY

PROPOSED FULL DEPTH ROADWAY CONSTRUCTION:

- 1 1/2" SUPERPAVE BRIDGE SURFACE COURSE - 9.5 (SSC-B-9.5) OVER ASPHALT EMULSION FOR TACK COAT OVERLAY
- 2 1/2" SUPERPAVE INTERMEDIATE COURSE - 12.5 (SIC-12.5) OVER ASPHALT EMULSION FOR TACK COAT OVERLAY
- 4" SUPERPAVE BASE COURSE - 37.5 (SBC-37.5)
- 4" DENSE GRADED CRUSHED STONE
- 8" GRAVEL BORROW, TYPE B

PROPOSED BRIDGE PAVEMENT:

- 1 1/2" SUPERPAVE BRIDGE SURFACE COURSE - 9.5 (SSC-B-9.5) OVER ASPHALT EMULSION FOR TACK COAT OVERLAY
- 1 1/2" SUPERPAVE BRIDGE PROTECTIVE COURSE (SSC-B-9.5) OVER MEMBRANE WATERPROOFING OVER
- 5" (MIN.) CONCRETE SLAB

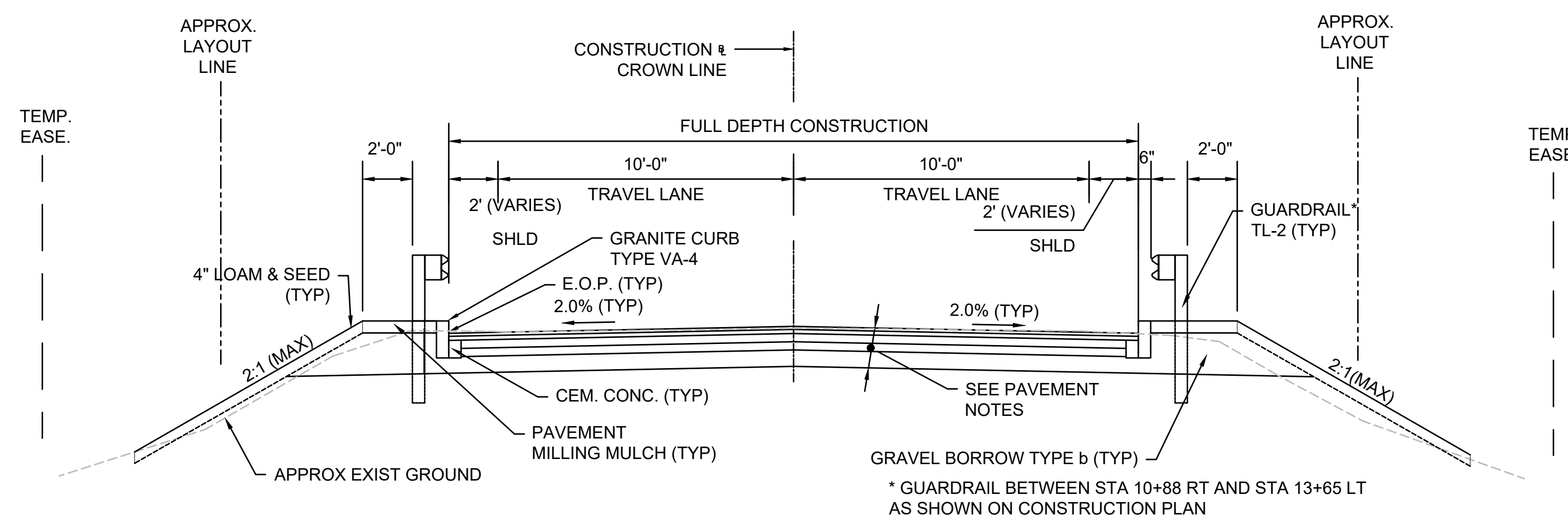
HOT MIX ASPHALT DRIVEWAY:

- 1 1/2" HMA SURFACE COURSE OVER
- 2 1/2" HMA INTERMEDIATE COURSE OVER
- 8" GRAVEL BORROW, TYPE B

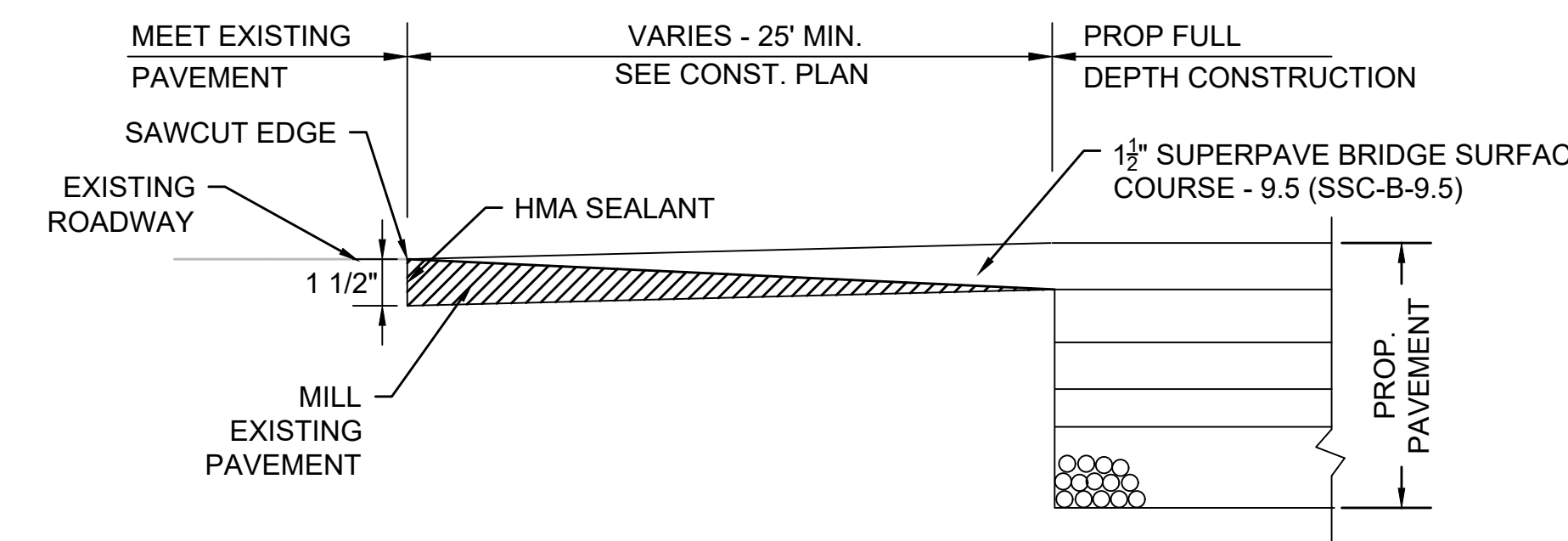
CEMENT CONCRETE DRIVEWAY:

- 6" CEMENT CONCRETE (4000 PSI, 3/4", 610) OVER
- 8" GRAVEL BORROW, TYPE B

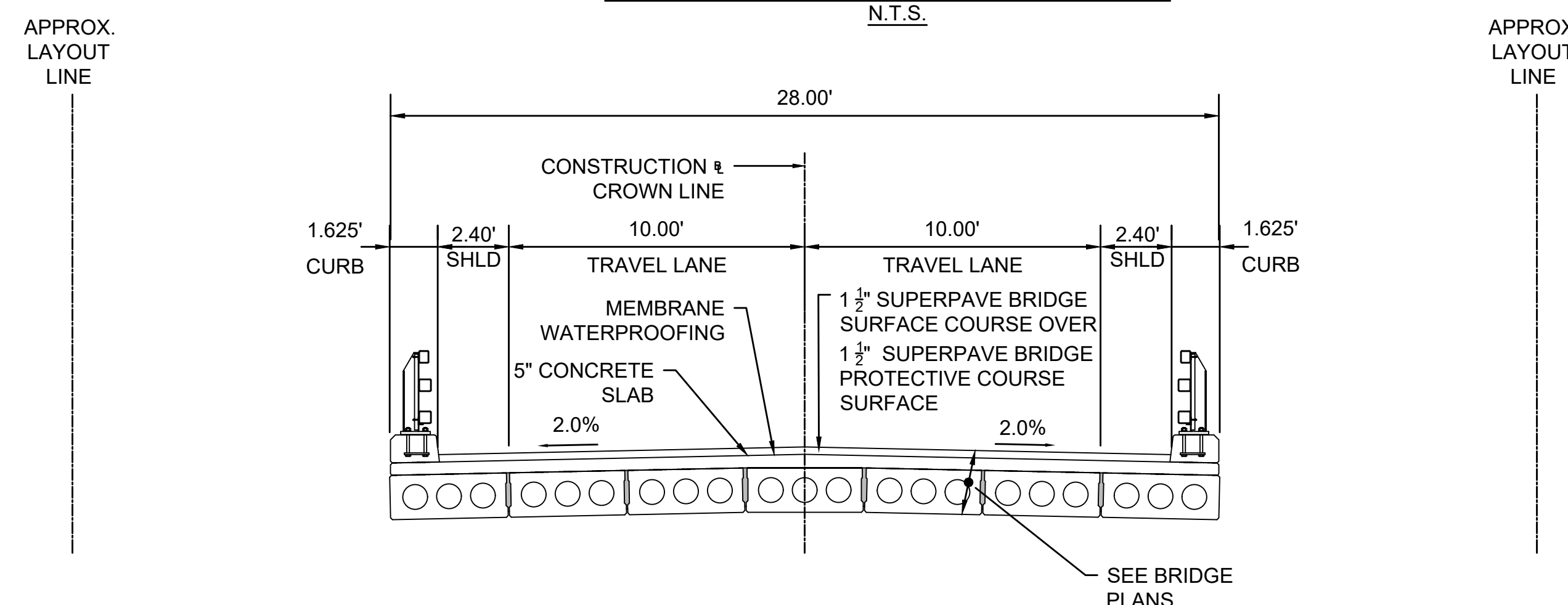
TACK COAT SHALL BE APPLIED AT RATE OF 0.07-0.09 GALLON PER SQUARE YARD OVER MILLED SURFACES AND 0.06-0.08 GALLON PER SQUARE YARD OVER SMOOTH PAVED SURFACES.



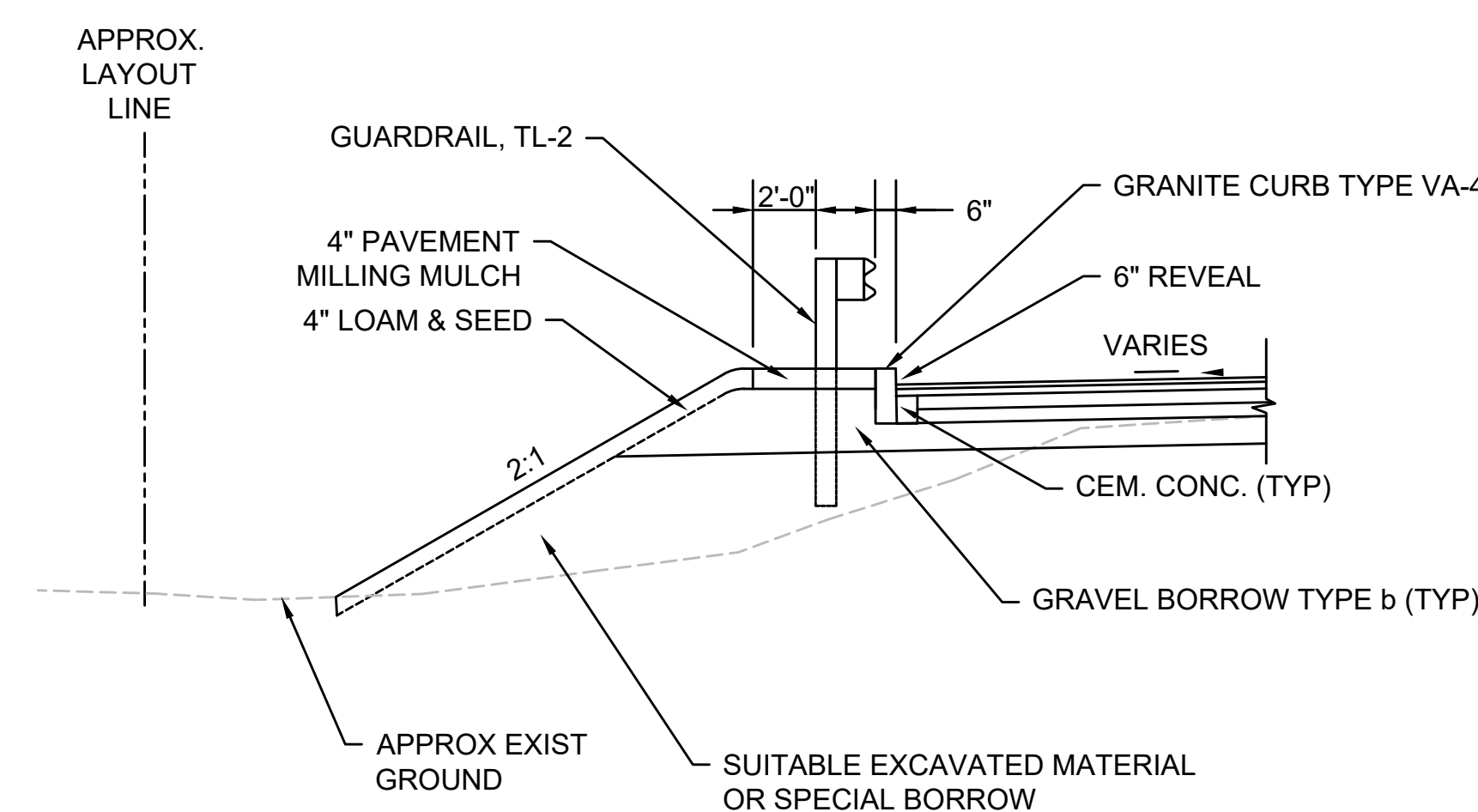
**TYPICAL SECTION - SAND MILL ROAD
AT BRIDGE APPROACH WITH GUARDRAIL
(STA 10+88 TO STA 11+99 AND STA 12+45 TO STA 13+65)
N.T.S.**



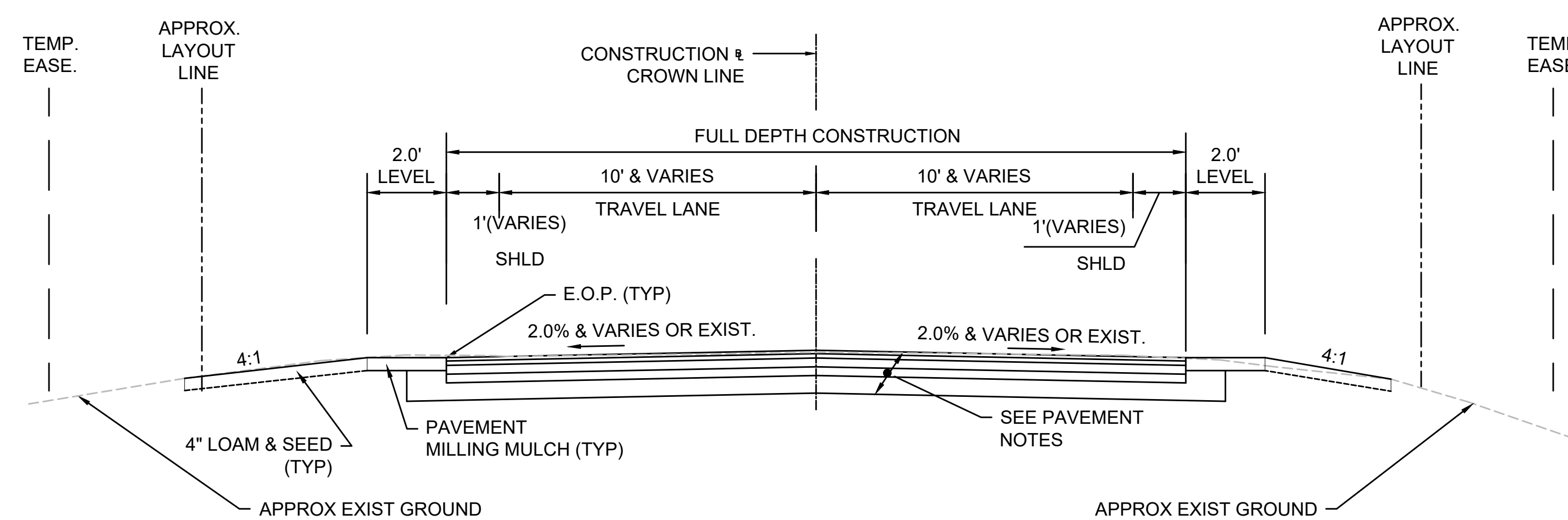
**PROPOSED PAVEMENT TRANSITION
(LONGITUDINAL SECTION)
N.T.S.**



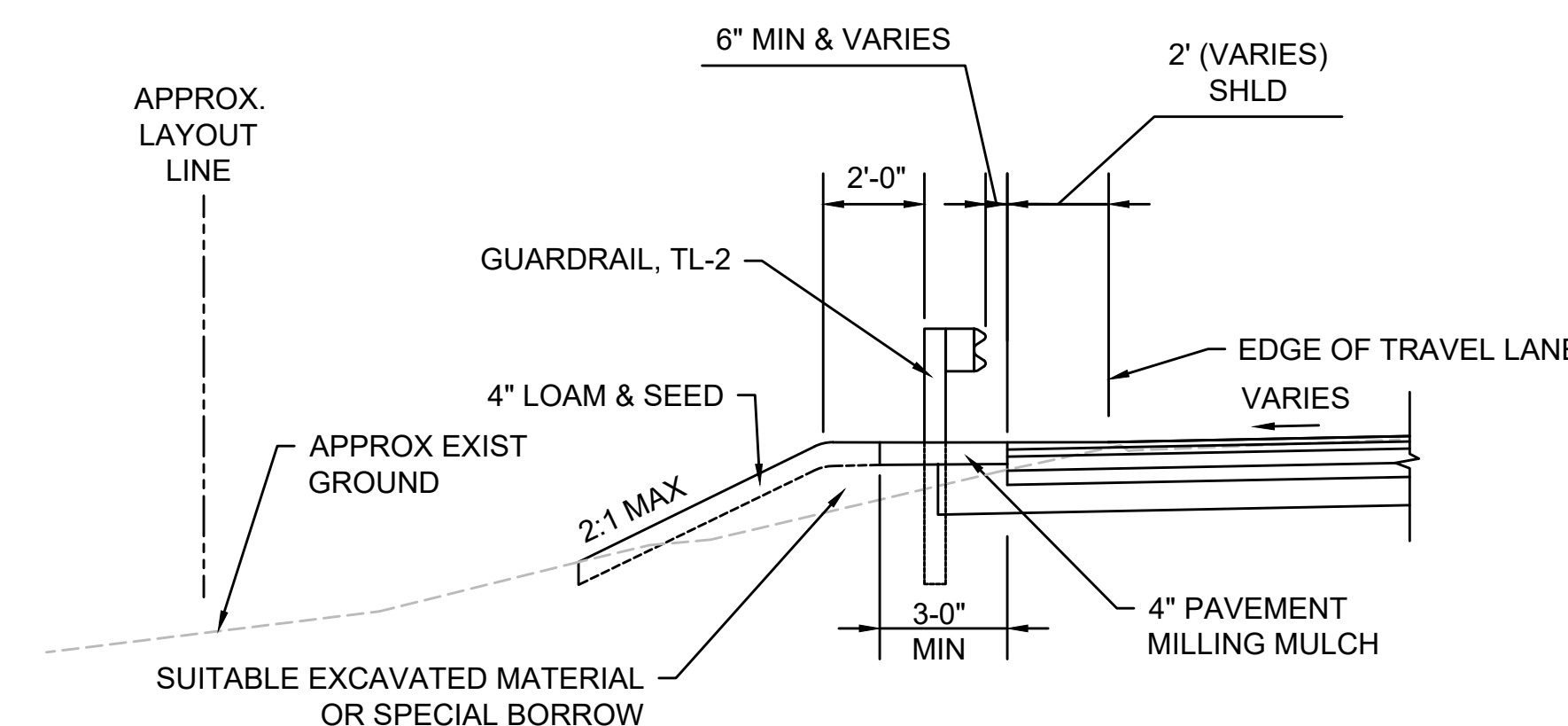
**TYPICAL SECTION - SAND MILL ROAD
AT BRIDGE
(STA 11+99 TO STA 12+45)
N.T.S.**



**TYPICAL HIGHWAY GUARD INSTALLATION WITH CURB
N.T.S.**



**TYPICAL SECTION - SAND MILL ROAD
AT APPROACH WITHOUT GUARDRAIL
(STA 10+40 TO STA 10+88 AND STA 13+65 TO STA 14+25)
N.T.S.**



**HIGHWAY GUARD INSTALLATION FLUSH WITH ROADWAY
N.T.S.**

* TOLERANCE FOR CONSTRUCTION ±0.5%

HIGHWAY GUARD DETAILS

TANGENT END STA 10+67.5 TO 10+80 RT
 GUARDRAIL TL-2, STA 10+80 TO 11+54 RT
 TRANSITION TO BRIDGE STA 11+54 TO 11+88 RT
 TRAILING ANCHORAGE STA 11+25 TO 11+35 LT
 GUARDRAIL TL-2, STA 11+35 TO STA 11+69 LT
 TRANSITION TO BRIDGE STA 11+69 LT TO 12+03 LT

TRANSITION TO BRIDGE STA 12+42 TO 12+76 RT
 TRAILING ANCHORAGE STA 12+76 TO 12+85 RT
 TRANSITION TO BRIDGE STA 12+57 TO 12+91 LT
 GUARDRAIL TL-2, STA 12+91 TO STA 13+53 LT
 TANGENT END STA 13+53 TO 13+65.5 LT

TRAFFIC SIGNAL CONDUIT

NONE

WATER SUPPLY ALTERATIONS

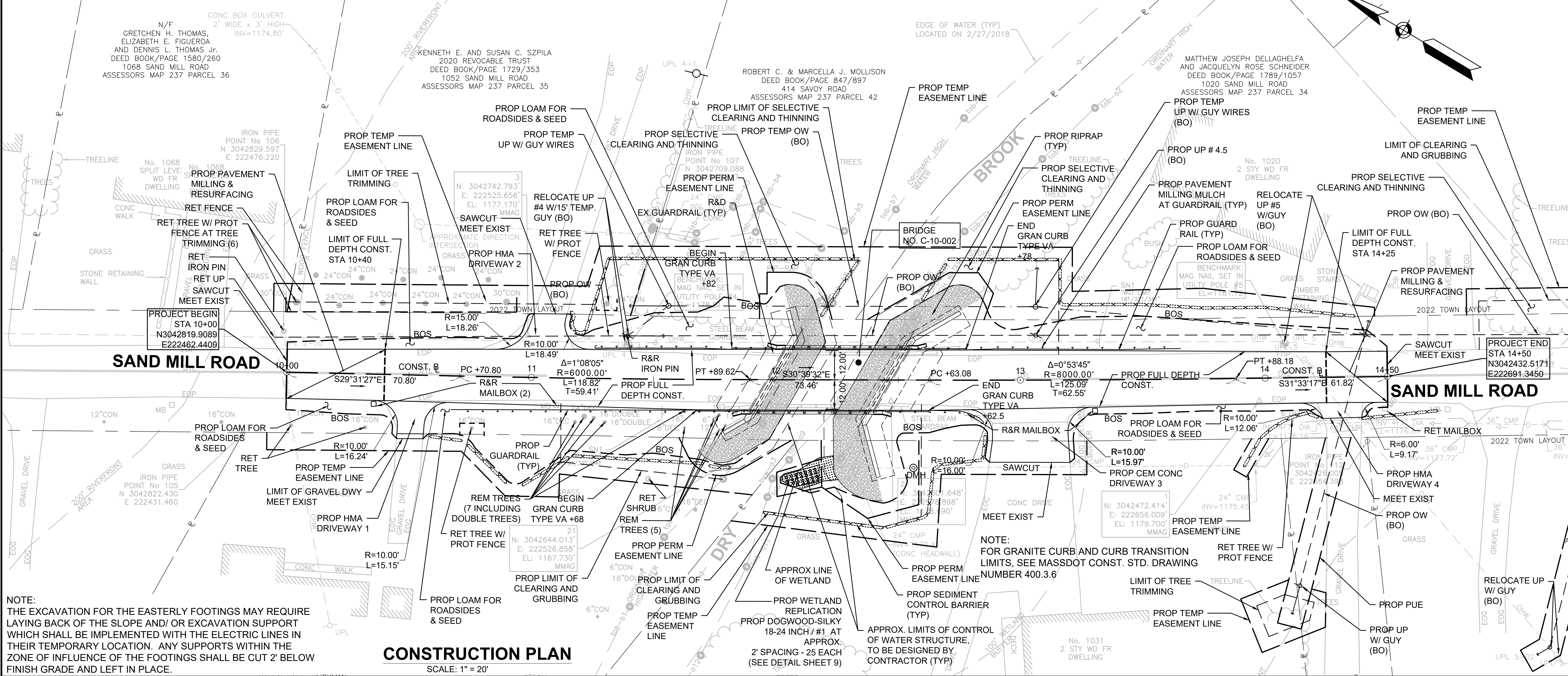
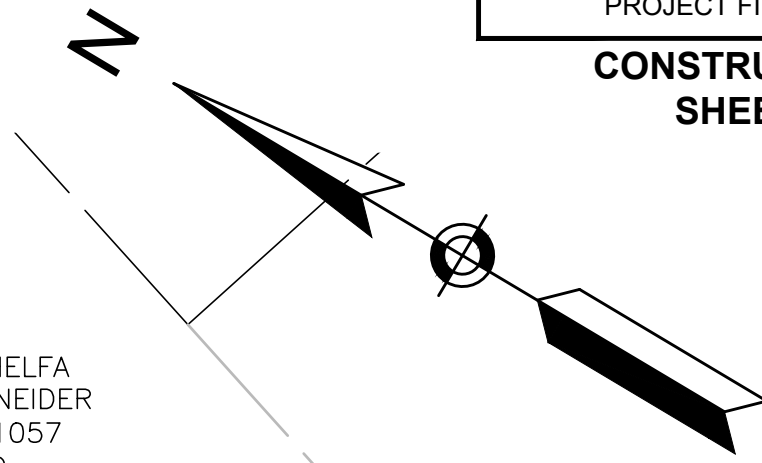
DRAINAGE DETAILS

SEE SHEET 12

CHESHIRE SAND MILL ROAD OVER DRY BROOK

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	STP(BR-OFF)003S(725)X	4	32
PROJECT FILE NO. 608857			

CONSTRUCTION PLAN SHEET 1 OF 2

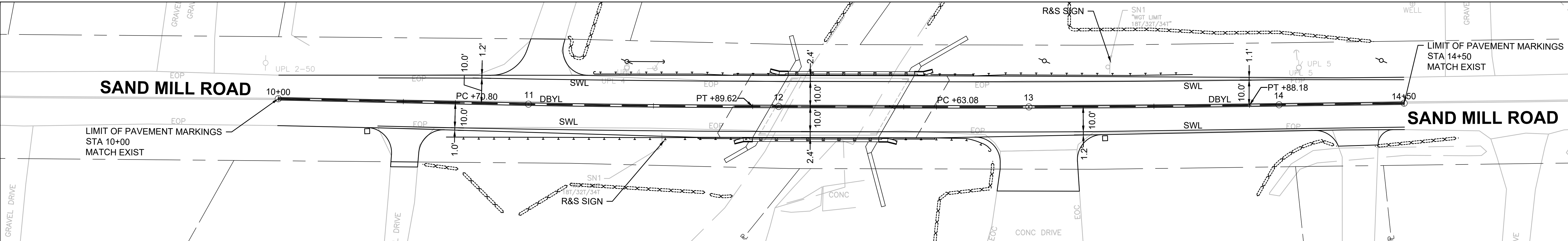


CONTINUED ON SHEET NO. 5

SAND MILL ROAD

SAND MILL ROAD

SIGNS AND PAVEMENT MARKINGS



HIGHWAY GUARD DETAILS

TANGENT END STA 10+67.5 TO 10+80 RT
 GUARDRAIL TL-2, STA 10+80 TO 11+54 RT
 TRANSITION TO BRIDGE STA 11+54 TO 11+88 RT
 TRAILING ANCHORAGE STA 11+25 TO 11+35 LT
 GUARDRAIL TL-2, STA 11+35 TO STA 11+69 LT
 TRANSITION TO BRIDGE STA 11+69 LT TO 12+03 LT

TRANSITION TO BRIDGE STA 12+42 TO 12+76 RT
 TRAILING ANCHORAGE STA 12+76 TO 12+85 RT
 TRANSITION TO BRIDGE STA 12+57 TO 12+91 LT
 GUARDRAIL TL-2, STA 12+91 TO STA 13+53 LT
 TANGENT END STA 13+53 TO 13+65.5 LT

TRAFFIC SIGNAL CONDUIT

NONE

WATER SUPPLY ALTERATIONS

NONE

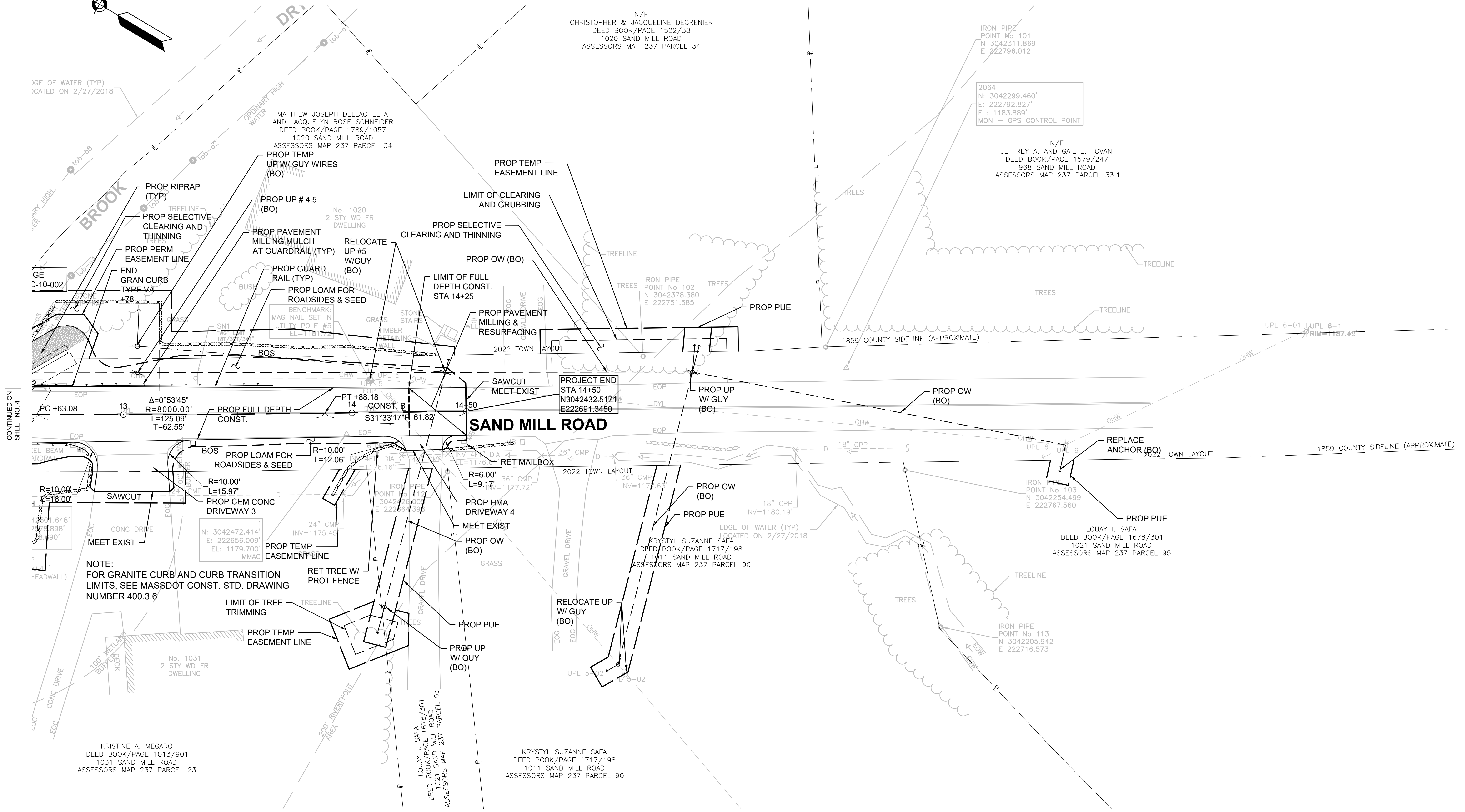
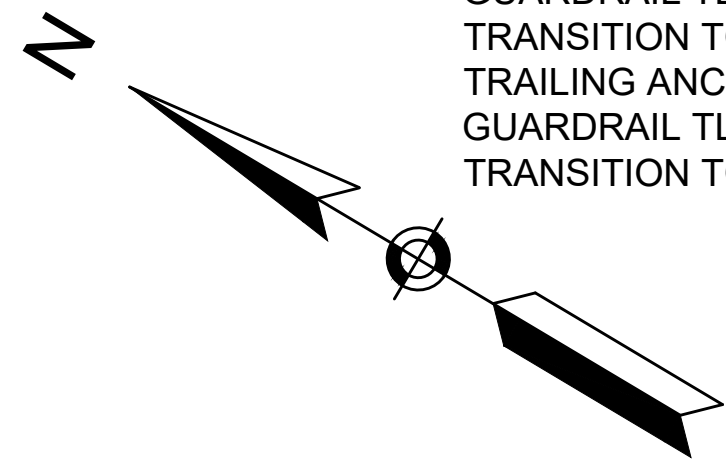
DRAINAGE DETAILS

SEE SHEET 12

CHESHIRE
 SAND MILL ROAD OVER DRY BROOK

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	STP(BR-OFF)-003S(725)X	5	32
PROJECT FILE NO. 608857			

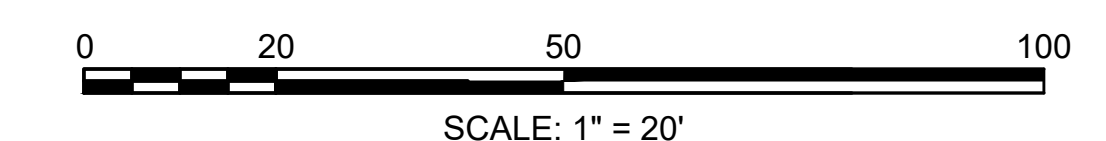
CONSTRUCTION PLAN
 SHEET 2 OF 2



CONTINUED ON SHEET NO. 4

NOTE:
 FOR GRANITE CURB AND CURB TRANSITION LIMITS, SEE MASSDOT CONST. STD. DRAWING NUMBER 400.3.6

FOR PROFILE SEE SHEET 6

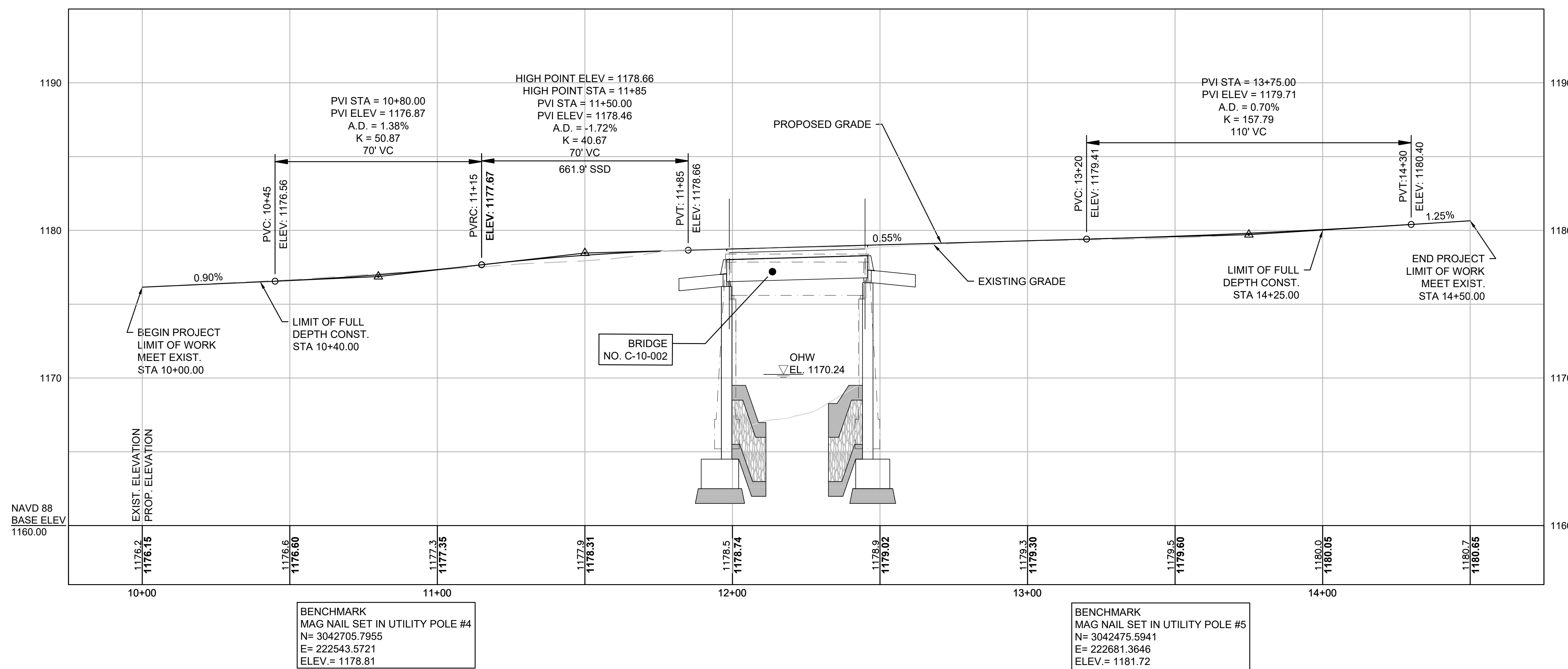


608857_HDR(CONSTR PLAN).DWG Plotted on 20-Feb-2024 12:05 PM

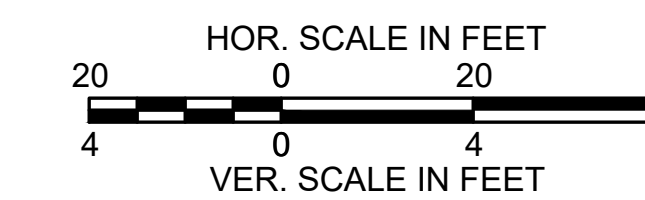
**CHESHIRE
SAND MILL ROAD OVER DRY BROOK**

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	STP(BR-OFF)-003S(725)X	6	32
PROJECT FILE NO. 608857			

PROFILE



FOR CONSTRUCTION PLAN SEE SHEET 4-5



SURVEY POINTS				
Point #	Northing	Easting	Elevation	Raw Description
1	3042472.414	222656.009	1179.700	MTRV MMAG
2	3042601.648	222578.898	1178.690	MTRV MMAG
3	3042742.793	222525.656	1177.170	MTRV MMAG
4	3043002.717	222340.412	1174.140	MTRV MREB
21	3042644.013	222526.858	1167.730	MTRV MMAG
31	3042693.228	222252.763	1168.409	MTRV MMAG
32	3042632.066	222791.535	1174.035	MTRV MMAG
33	3042558.616	222959.731	1175.996	MTRV MMAG
100	3041883.707	223068.088	1190.460	MIPE
101	3042311.869	222796.012	1183.564	MIPE
102	3042378.380	222751.585	1182.784	MIPE
103	3042254.499	222767.560	1184.155	MIPE

SURVEY POINTS				
Point #	Northing	Easting	Elevation	Raw Description
105	3042822.430	222431.460	1174.986	MIPE
106	3042829.597	222476.220	1175.385	MIPE
107	3042709.088	222546.717	1177.012	MIPE
108	3042996.346	222332.459	1172.929	MIPE
109	3043170.124	222233.458	1170.789	MIPE
110	3043247.159	222235.960	1173.812	MIPE
111	3043038.157	222353.016	1174.205	MIPE
112	3042426.005	222664.398	1180.090	MIPE
113	3042205.942	222716.573	1184.255	MIPE
114	3042813.306	222073.113	1165.956	MIPE
2063	3041866.823	223061.337	1191.796	MGPS MREB
2064	3042299.460	222792.827	1183.889	MGPS MREB

SAND MILL ROAD CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L1	10+00.00	3042819.909	222462.441		S29°31'27"E 70.80'	10+70.80	3042758.305	222497.329
C1	10+70.80	3042758.305	222497.329	R=6000.00' Δ=1°08'05" L=118.82' T=59.41'		11+89.62	3042655.497	222556.905
L2	11+89.62	3042655.497	222556.905		S30°39'32"E 73.46'	12+63.08	3042592.303	222594.365
C2	12+63.08	3042592.303	222594.365	R=8000.00' Δ=0°53'45" L=125.09' T=62.55'		13+88.18	3042485.201	222658.991
L3	13+88.18	3042485.201	222658.991		S31°33'17"E 61.82'	14+50.00	3042432.517	222691.345

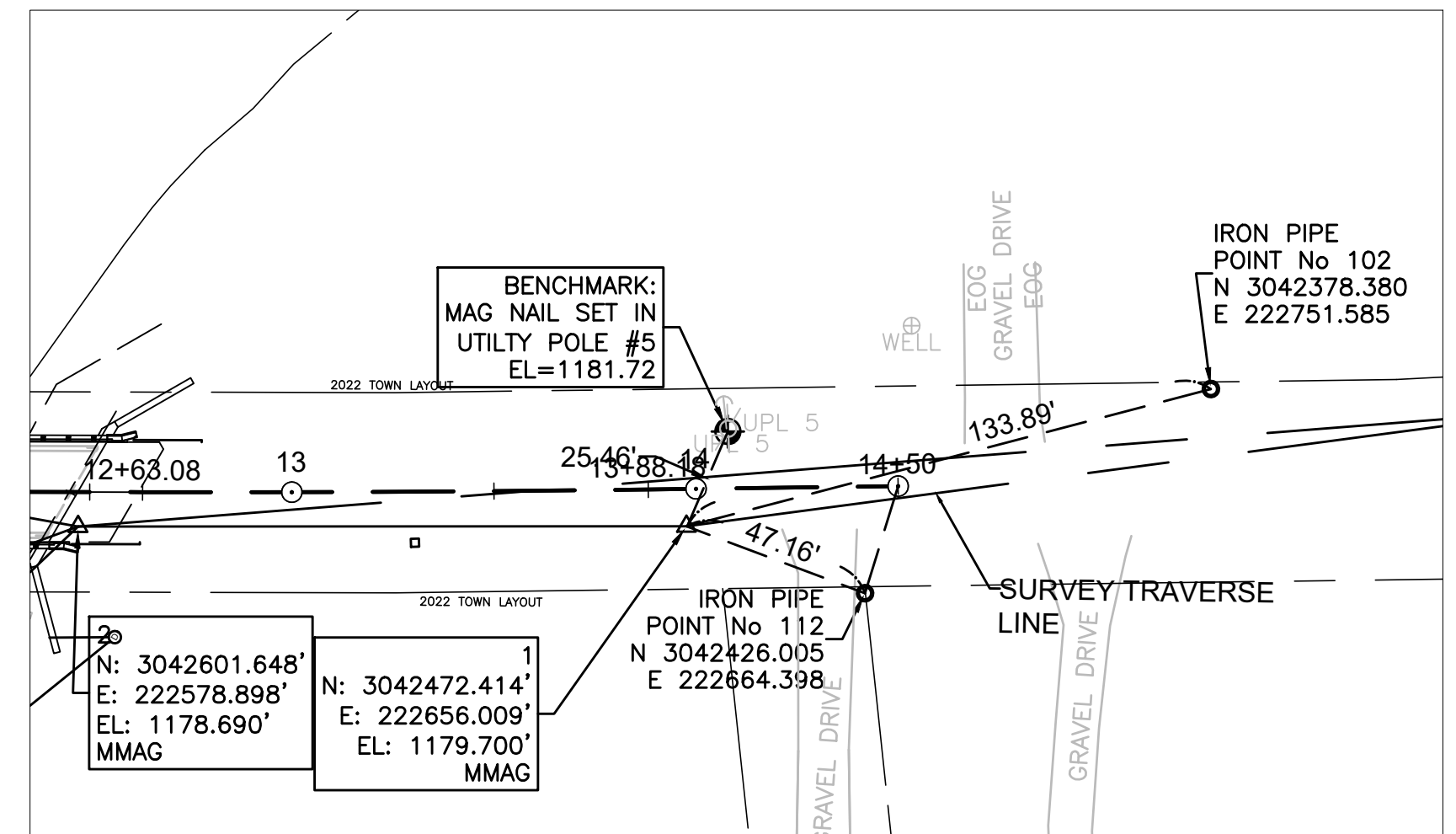
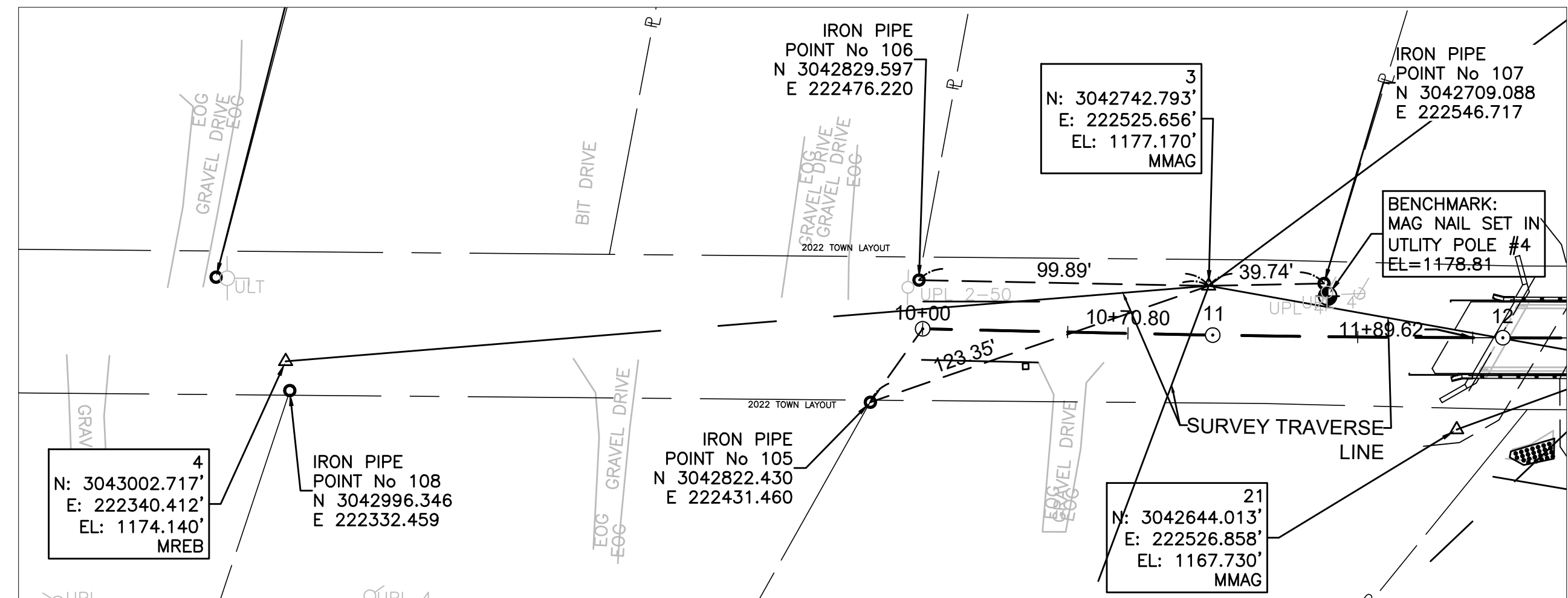
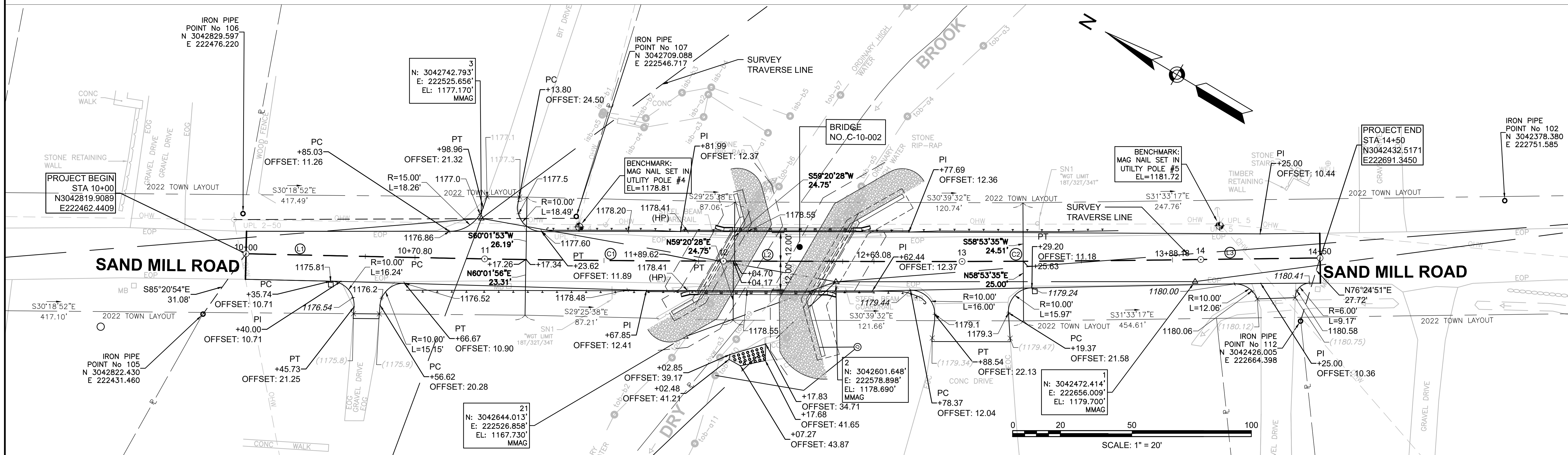
CHESHIRE
SAND MILL ROAD OVER DRY BROOK

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	STP(BR-OFF)003S(725)X	7	32
PROJECT FILE NO. 608857			

CURB TIE AND GRADING PLAN

BENCHMARKS				
ID	NORTHING	EASTING	ELEVATION	DESCRIPTION
BENCHMARK	3042705.795	222543.573	1178.81	MAG NAIL SET IN UTILITY POLE #4
BENCHMARK	3042475.609	222681.371	1181.72	MAG NAIL SET IN UTILITY POLE #5

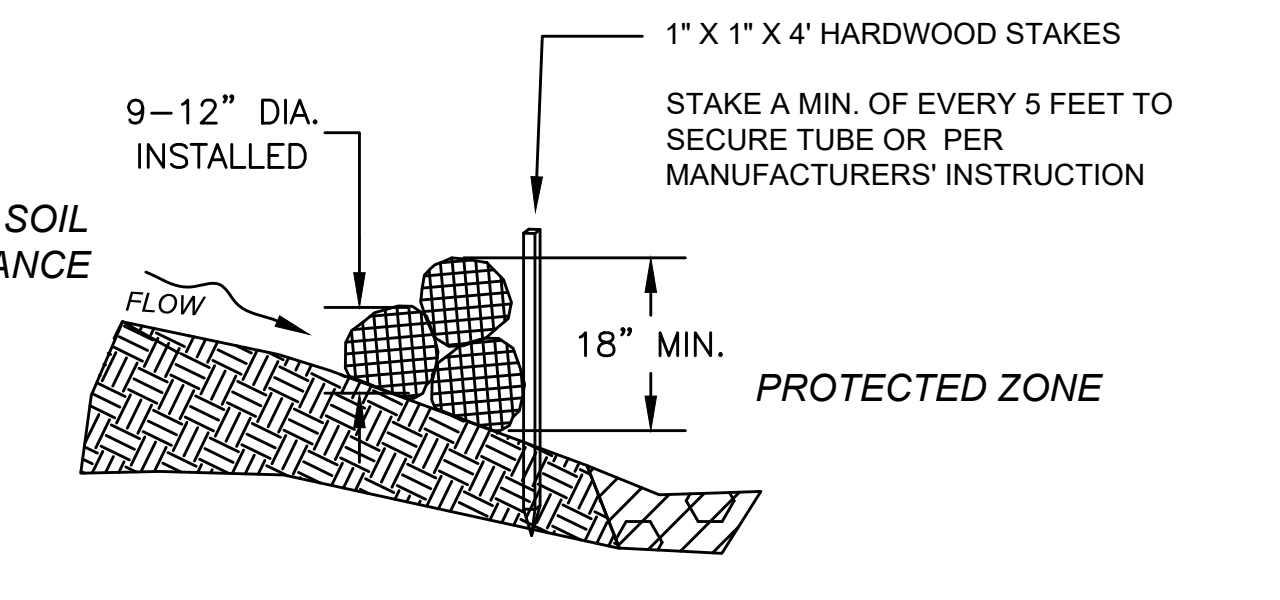
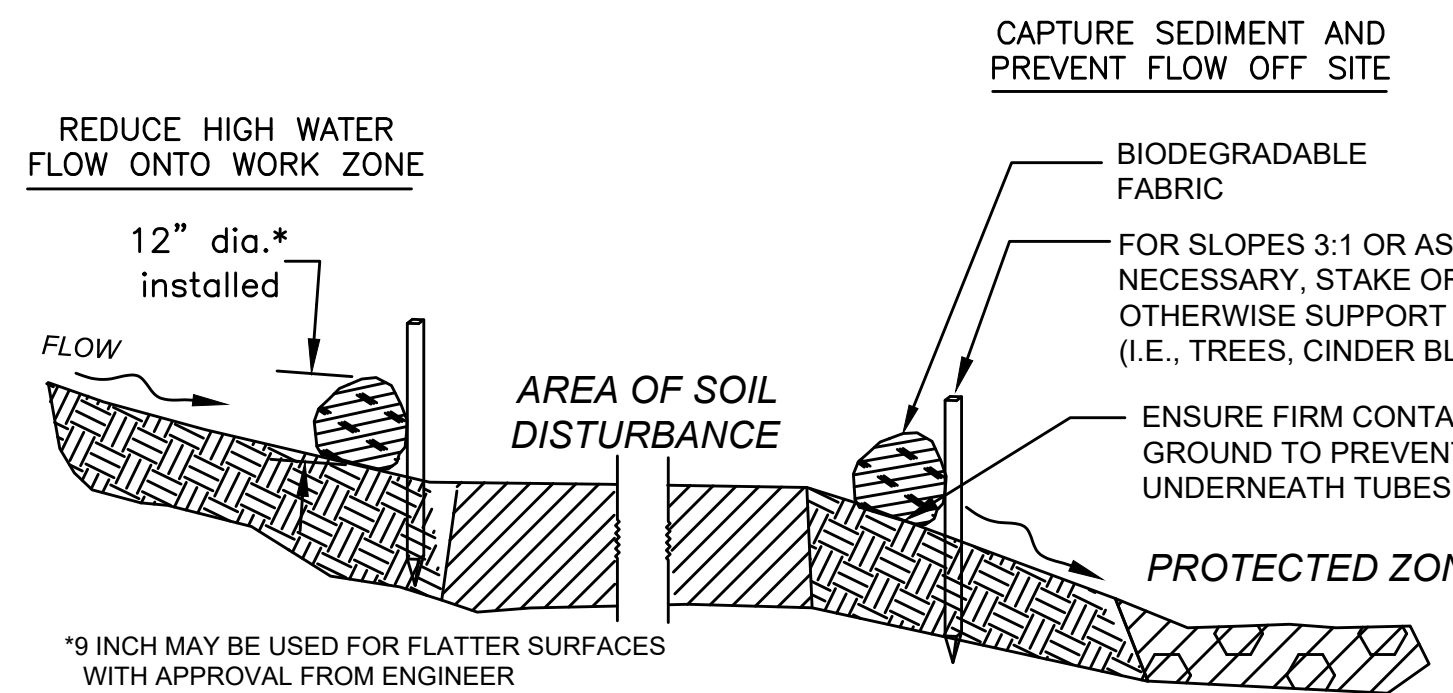
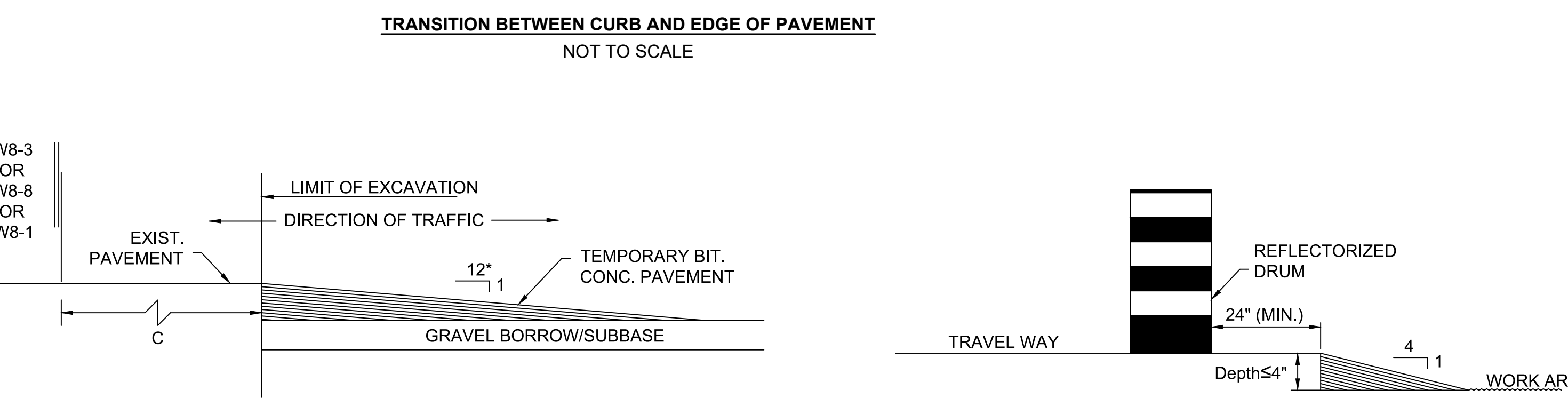
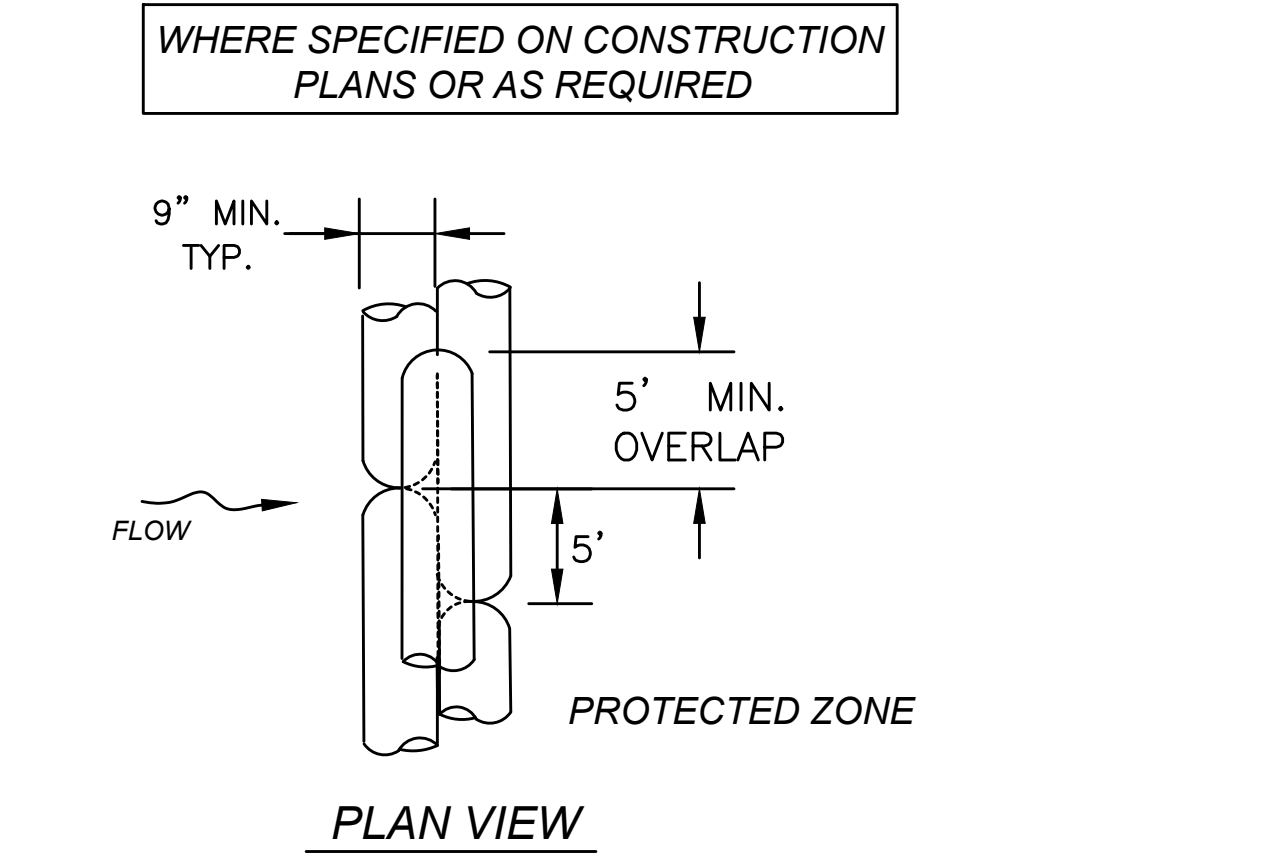
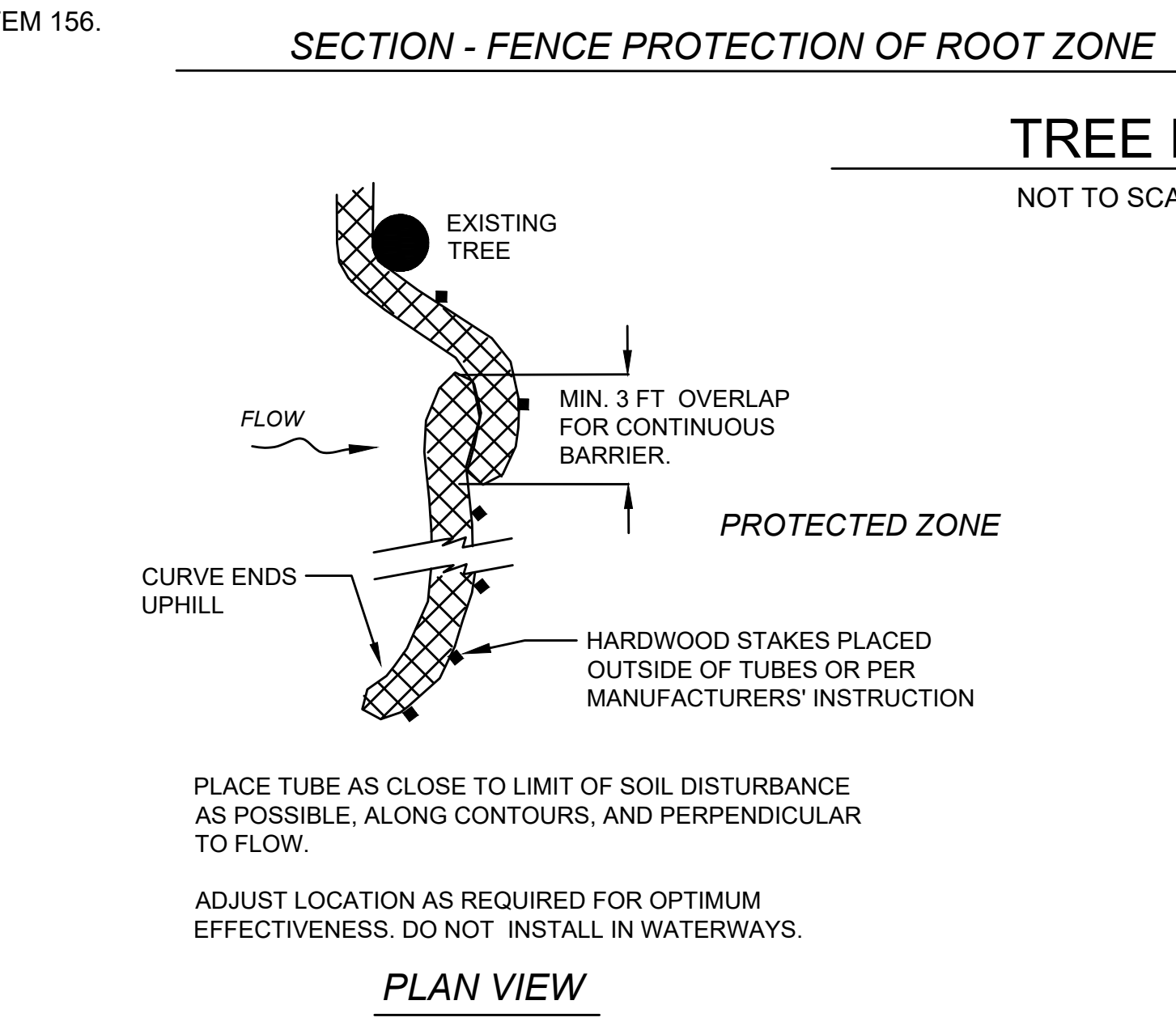
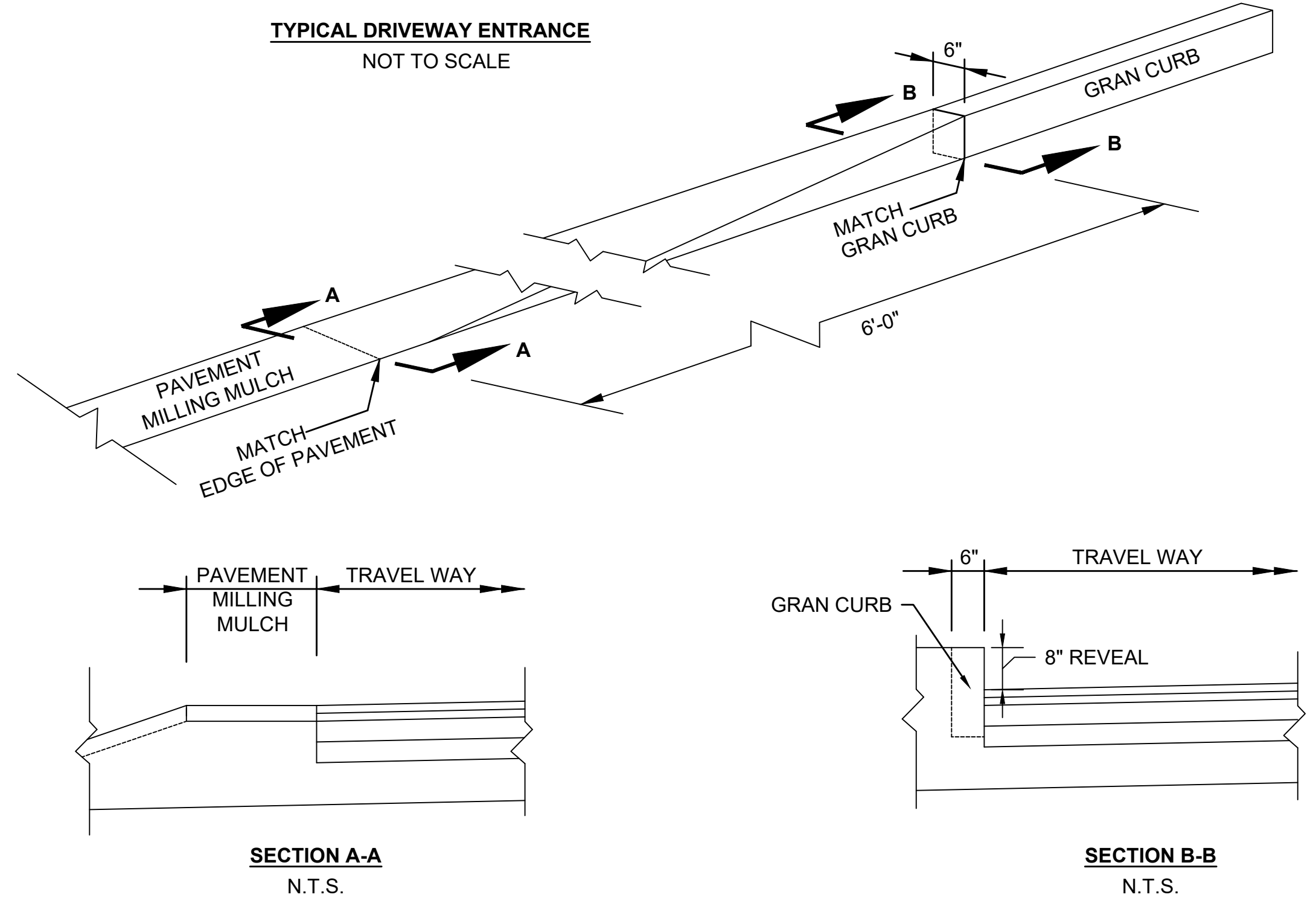
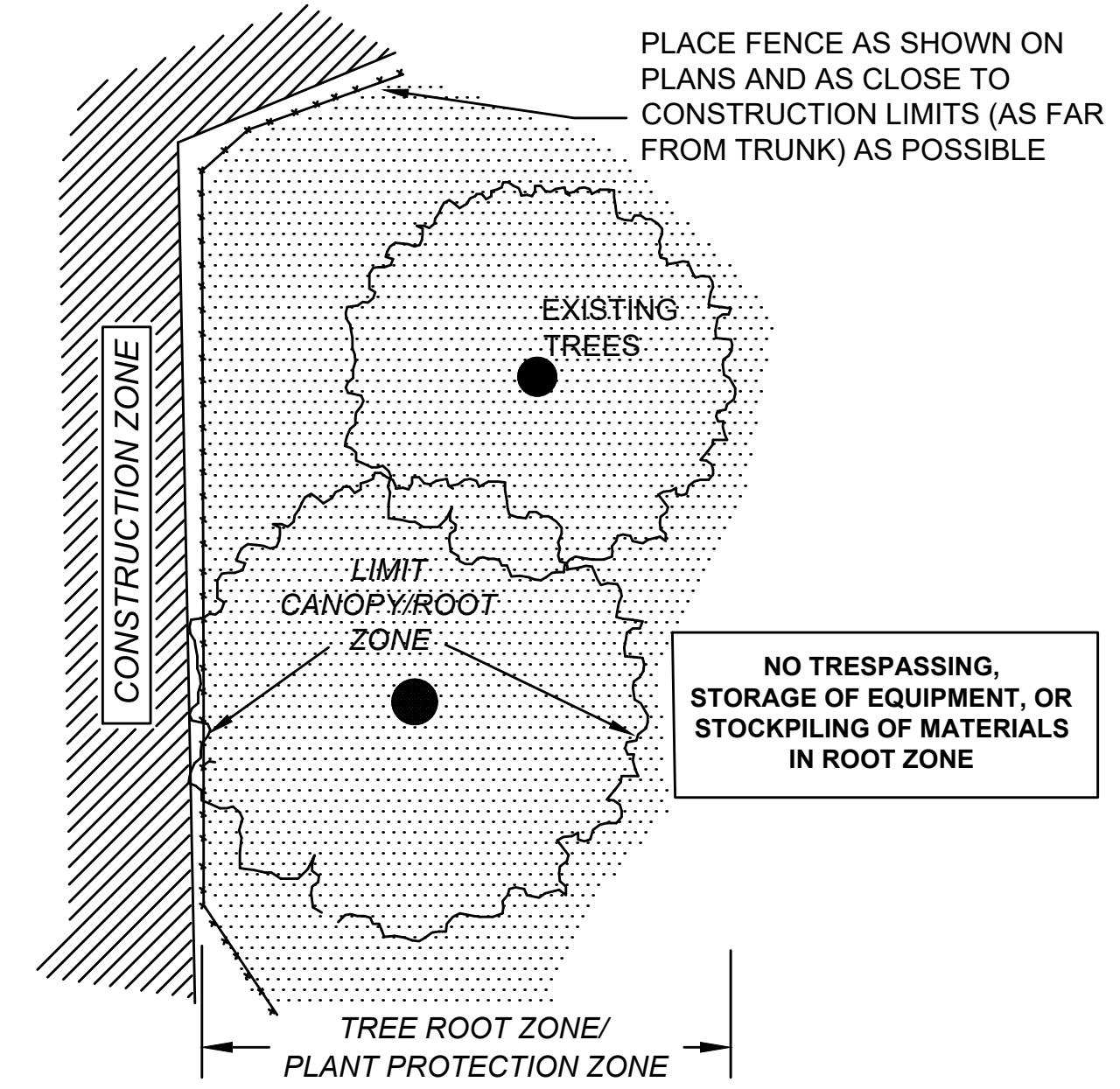
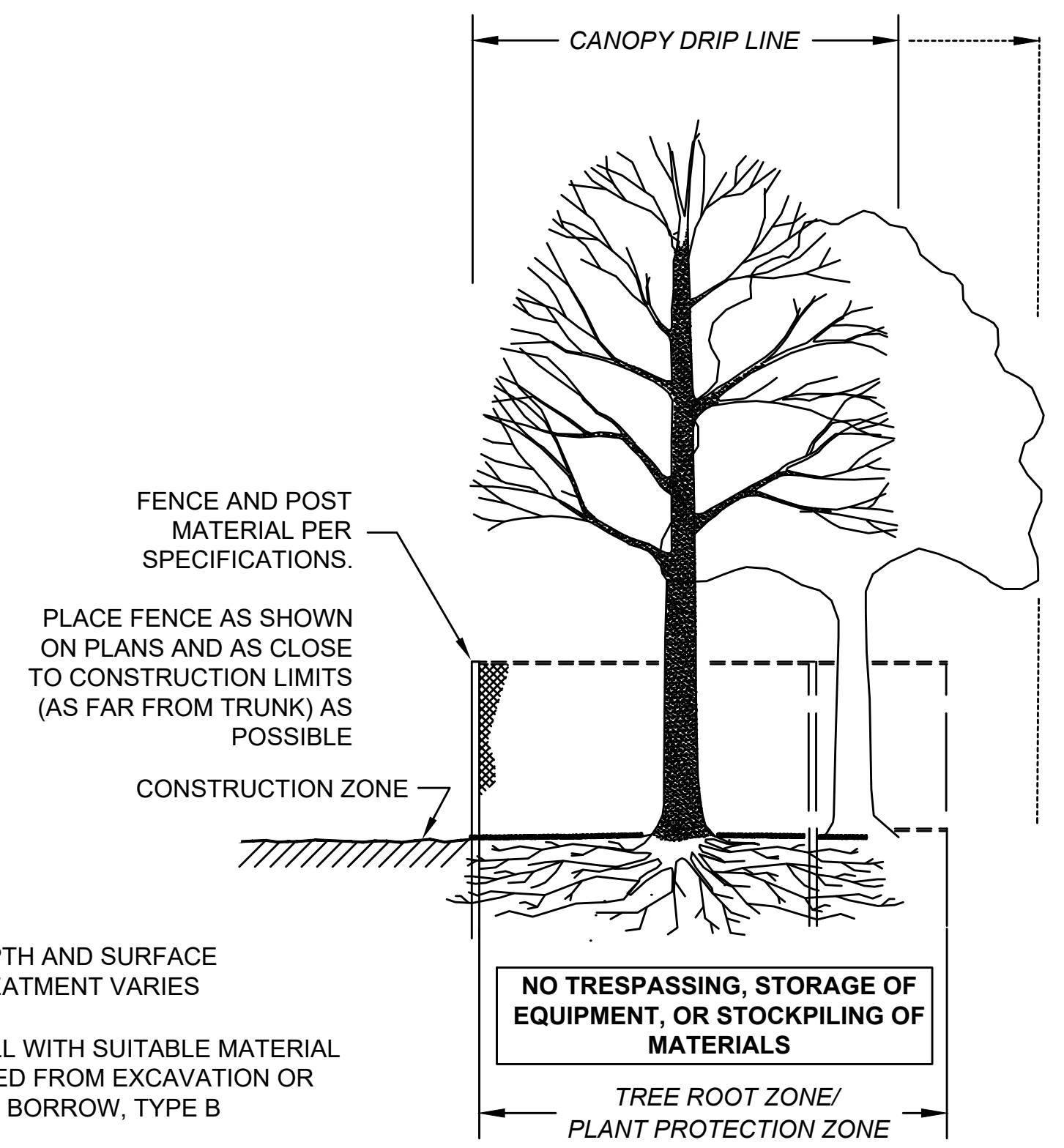
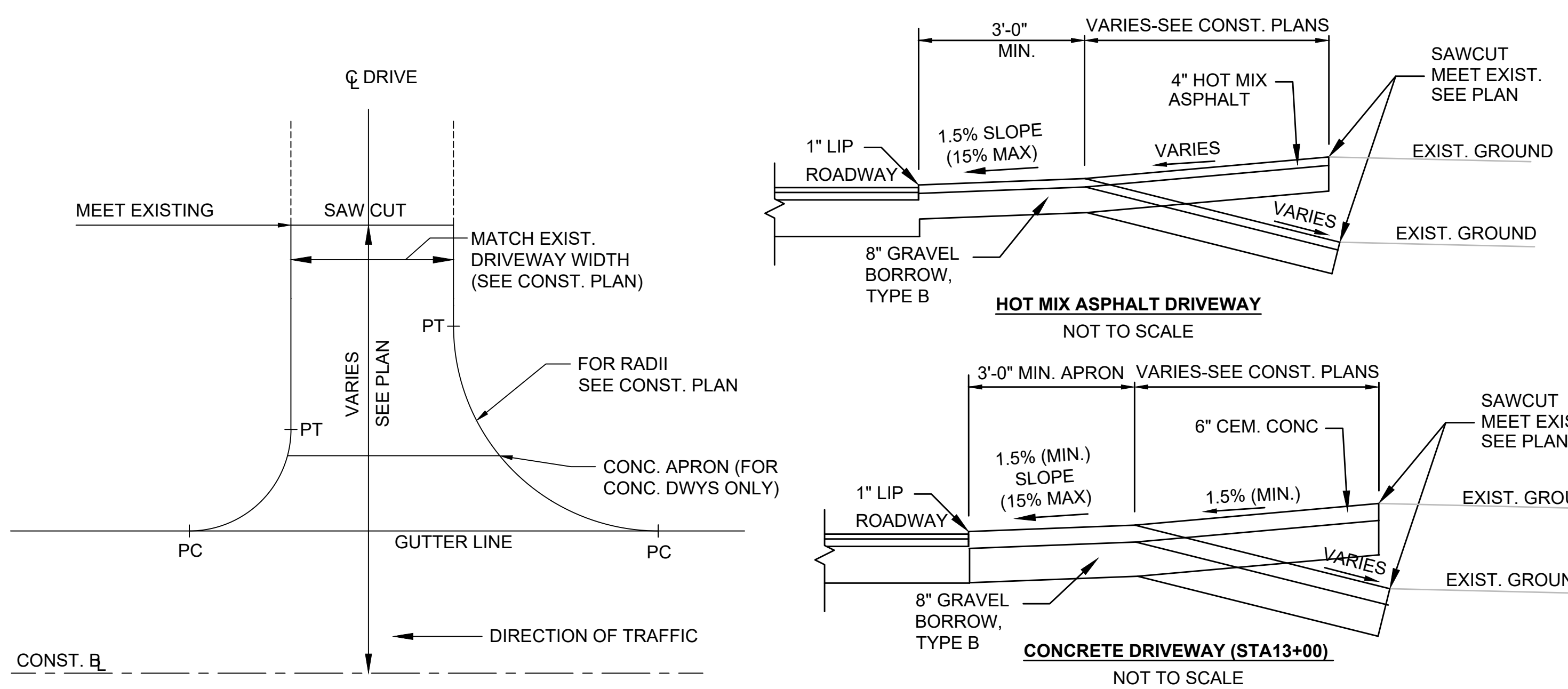
LEGEND:
 XX.XX: PROPOSED GRADE
 : EXISTING GRADE
 XX.XX(B): PROP BOTTOM OF CURB
 XX.XX(T): PROP TOP OF CURB
 HP: HIGH POINT
 LP: LOW POINT



**CHESHIRE
SAND MILL ROAD OVER DRY BROOK**

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	STP(BR-OFF)-003S(725)X	8	32
PROJECT FILE NO.		608857	

CONSTRUCTION DETAILS



LATERAL AND LONGITUDINAL DROP-OFF DETAILS
NOT TO SCALE

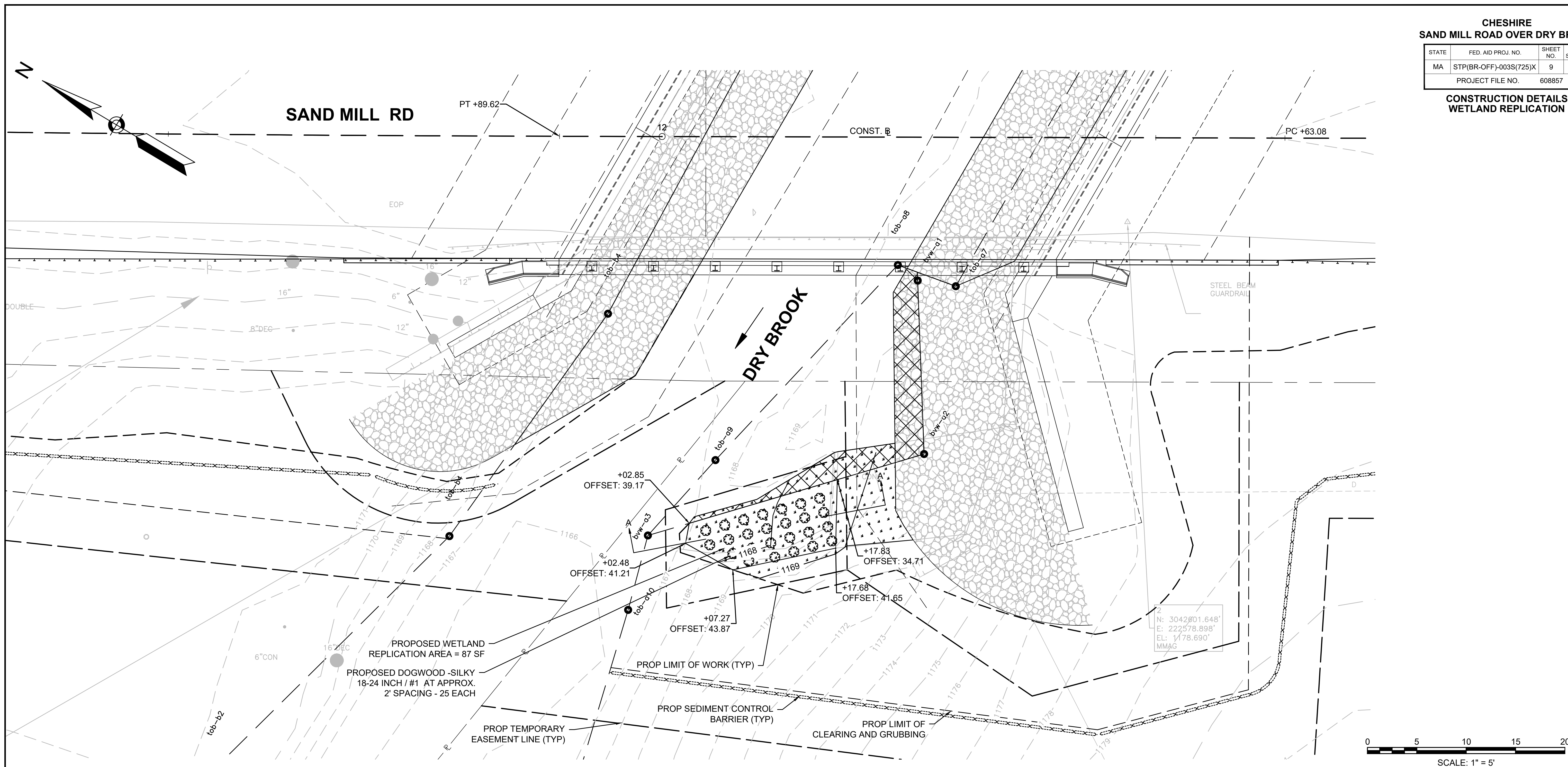
SEDIMENT BARRIER - COMPOST FILTER TUBE
NOT TO SCALE

COMPOST FILTER TUBES STACKED
NOT TO SCALE

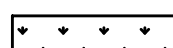


**CHESHIRE
SAND MILL ROAD OVER DRY BROOK**

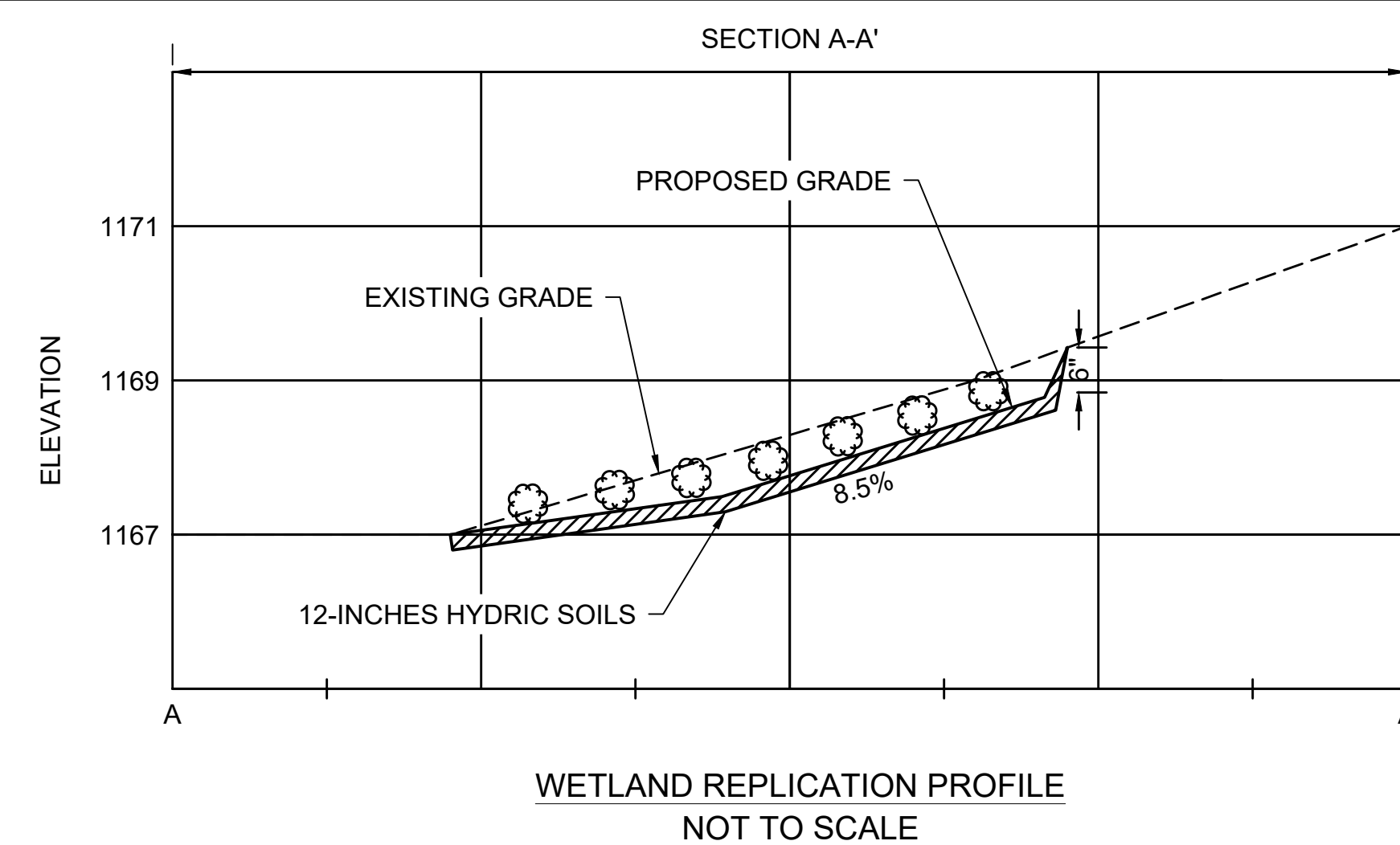
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	STP(BR-OFF)-003S(725)X	9	32
PROJECT FILE NO.		608857	

**CONSTRUCTION DETAILS
WETLAND REPLICATION**



LEGEND:

-  WETLAND SEED MIX
-  DOGWOOD - SILKY 18-24 INCH / #1 - 25 EA AT APPROX. 2' SPACING
-  BORDERING VEGETATED WETLAND IMPACT - PERMANENT = 80 SF

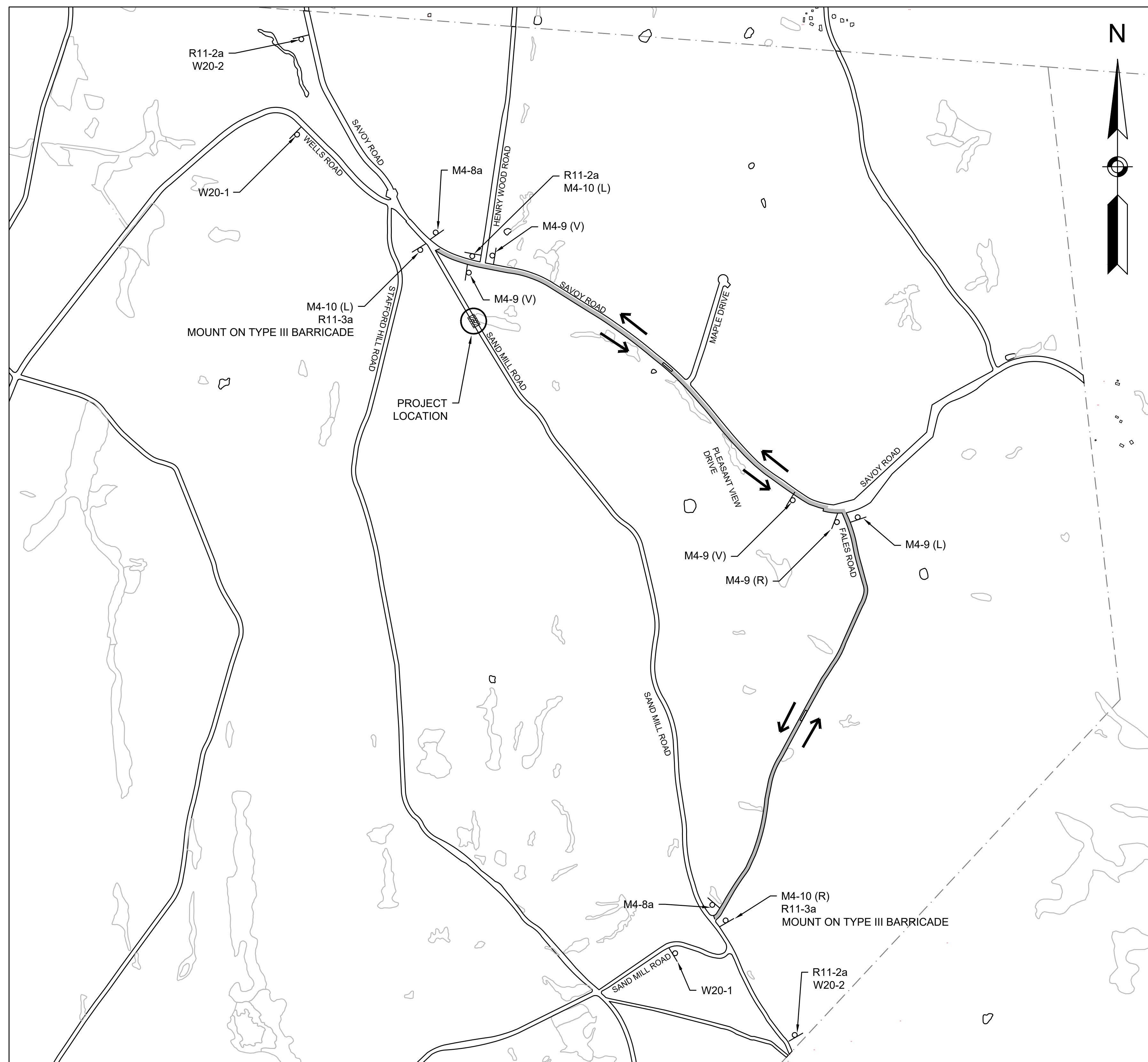


**CHESHIRE
SAND MILL ROAD OVER DRY BROOK**

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	STP(BR-OFF)-003S(725)X	10	32
PROJECT FILE NO.		608857	

**TEMPORARY TRAFFIC CONTROL PLAN
DETOUR**

TRAFFIC DETOUR PLAN



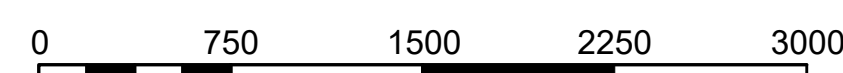
IDENTIFICATION NUMBER	SIZE OF SIGN		TEXT	NUMBER OF SIGNS REQUIRED	COLOR			TOTAL AREA (SF)
	WIDTH	HEIGHT			BACK-GROUND	LEGEND	BORDER	
M4-8a	24"	18"	END DETOUR	2	FLUOR-ESCENT ORANGE	BLACK	BLACK	6
M4-9L	48"	30"	DETOUR ←	1	FLUOR-ESCENT ORANGE	BLACK	BLACK	10
M4-9 (R)	48"	30"	DETOUR →	1	FLUOR-ESCENT ORANGE	BLACK	BLACK	10
M4-9V	48"	30"	DETOUR ↑	2	FLUOR-ESCENT ORANGE	BLACK	BLACK	20
M4-10R	48"	18"	DETOUR →	1	FLUOR-ESCENT ORANGE BLACK	BLACK	BLACK	6
M4-10L	48"	18"	← DETOUR	2	FLUOR-ESCENT ORANGE BLACK	BLACK	BLACK	12
W20-1	36"	36"	ROAD WORK AHEAD	2	FLUOR-ESCENT ORANGE	BLACK	BLACK	18
W20-2	36"	36"	DETOUR AHEAD	2	FLUOR-ESCENT ORANGE	BLACK	BLACK	18
R11-2a	60"	30"	SANDMILL ROAD BRIDGE CLOSED	3	WHITE	BLACK	BLACK	37.5
R11-3a	60"	30"	SANDMILL ROAD BRIDGE CLOSED LOCAL TRAFFIC ONLY	2	WHITE	BLACK	BLACK	25
R11-2	48"	30"	ROAD CLOSED	2	WHITE	BLACK	BLACK	20

LEGEND:

- WORK ZONE
- DETOUR ROUTE
- SIGN
- DETOUR ROUTE

NOTES:

ALL TEMPORARY TRAFFIC CONTROL SIGNS AND DEVICES ALONG THE DETOUR ROUTE SHALL BE INSTALLED WITHIN THE EXISTING PUBLIC RIGHT OF WAY.

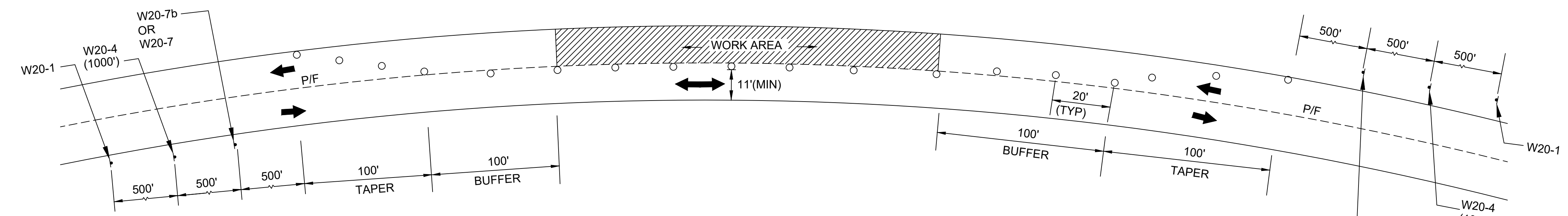


SCALE: 1" = 750'

**CHESHIRE
SAND MILL ROAD OVER DRY BROOK**

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	STP(BR-OFF)-003S(725)X	11	32
PROJECT FILE NO.		608857	

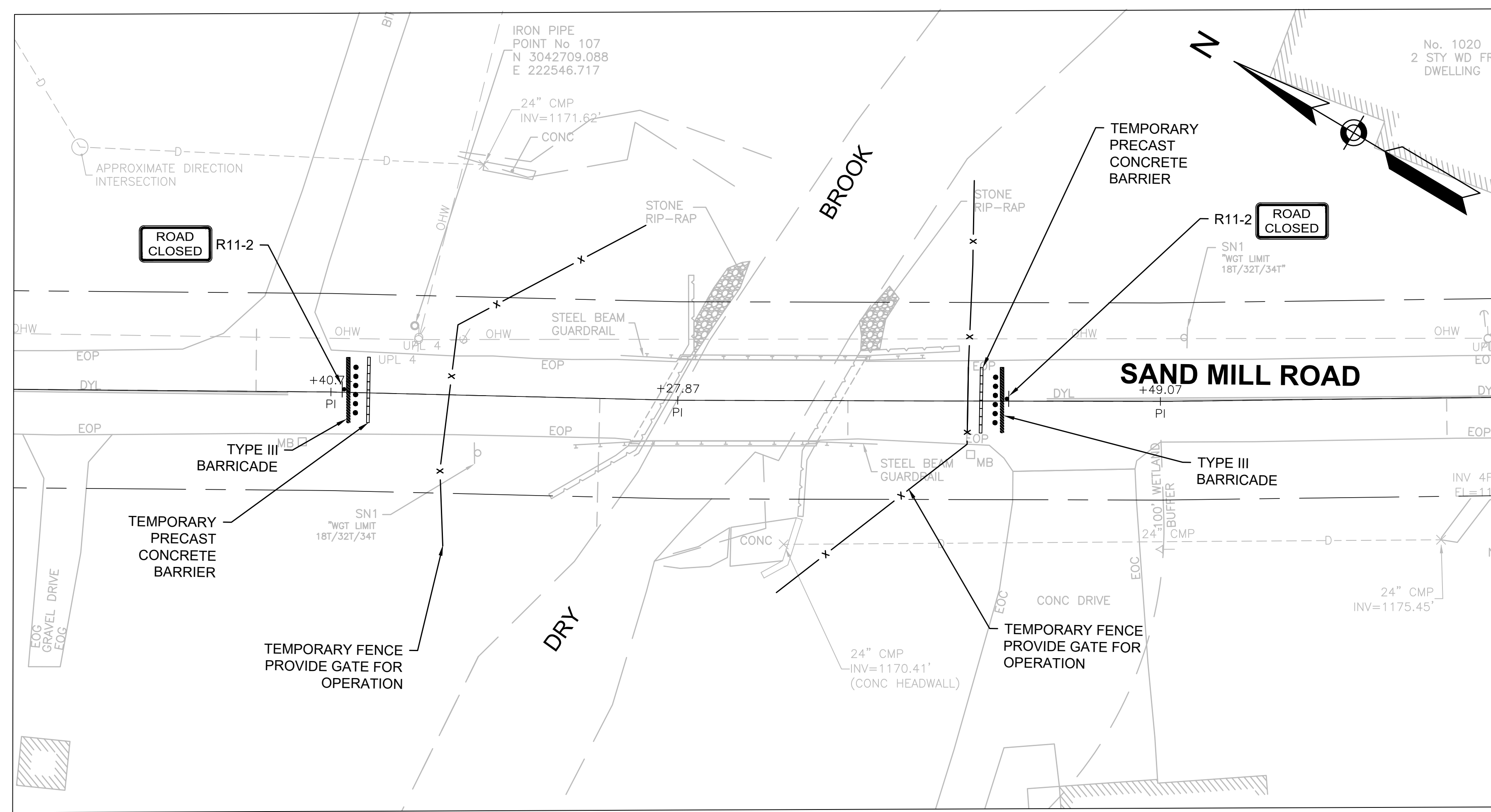
**TEMPORARY TRAFFIC CONTROL PLAN
BRIDGE CLOSURE**



**TYPICAL TEMPORARY DAYTIME LANE CLOSURE - THROUGH ROADWAY
(ONE LANE - BI-DIRECTIONAL)
NOT TO SCALE**

NOTES:

- ALL TEMPORARY TRAFFIC CONTROL WORK SHALL CONFORM TO THE LATEST EDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD) AND ALL REVISIONS, UNLESS SUPERCEDED BY THESE PLANS.
- ALL SIGN LEGENDS, BORDERS, AND MOUNTING SHALL BE IN ACCORDANCE WITH THE MUTCD.
- TEMPORARY CONSTRUCTION SIGNING AND ALL OTHER TRAFFIC CONTROL DEVICES SHALL BE IN PLACE PRIOR TO THE START OF ANY WORK.
- TEMPORARY CONSTRUCTION SIGNING, BARRICADES, AND ALL OTHER NECESSARY WORK ZONE TRAFFIC CONTROL DEVICES SHALL BE REMOVED FROM THE HIGHWAY OR COVERED WHEN THEY ARE NOT REQUIRED FOR CONTROL OF TRAFFIC.
- SIGNS AND SIGN SUPPORTS LOCATED ON OR NEAR THE TRAVELED WAY, CHANNELIZING DEVICES, BARRIERS, AND CRASH ATTENUATORS MUST PASS THE CRITERIA SET FORTH IN NCHRP REPORT 350, "RECOMMENDED PROCEDURES FOR THE SAFETY PERFORMANCE EVALUATION OF HIGHWAY FEATURES" AND/OR "MANUAL FOR ASSESSING SAFETY HARDWARE" (MASH).
- CONTRACTORS SHALL NOTIFY EACH ABUTTER AT LEAST 24 HOURS IN ADVANCE OF THE START OF ANY WORK THAT WILL REQUIRE THE TEMPORARY CLOSURE OF ACCESS, SUCH AS CONDUIT INSTALLATION, EXISTING PAVEMENT EXCAVATION, TEMPORARY DRIVEWAY PAVEMENT PLACEMENT, AND SIMILAR OPERATIONS.
- THE FIRST TEN PLASTIC DRUMS OF A TAPER SHALL BE MOUNTED WITH SEQUENTIAL FLASHING LIGHTS.
- THE ADVISORY SPEED LIMIT, IF REQUIRED, SHALL BE DETERMINED BY THE ENGINEER.
- DISTANCES ARE A GUIDE AND MAY BE ADJUSTED IN THE FIELD BY THE ENGINEER.
- MAXIMUM SPACING OF TRAFFIC DEVICES IN A TAPER (DRUMS OR CONES) IS EQUAL IN FEET TO THE SPEED LIMIT IN MPH.
- MINIMUM LANE WIDTH IS TO BE 11 FEET UNLESS OTHERWISE SHOWN. MINIMUM LANE WIDTH TO BE MEASURED FROM THE EDGE OF DRUMS OR MEDIAN BARRIER.
- NO DIFFERENCE IN ROADWAY LANE ELEVATION WILL BE ALLOWED AT THE END OF THE WORK DAY.
- DASHED LINES SHOW LANE DESIGNATIONS TO BE USED DURING CONSTRUCTION.
- THE CONTRACTOR SHALL SUBMIT ANY REVISIONS TO THE CONSTRUCTION ZONE SAFETY PLAN TO THE ENGINEER APPROVAL.
- THIS CONSTRUCTION ZONE SAFETY PLAN SHALL NOT RELIEVE THE CONTRACTOR OF HIS SOLE RESPONSIBILITY FOR CONSTRUCTION SITE SAFETY.



**TEMPORARY BRIDGE CLOSURE PLAN
SCALE: 1" = 20'**

LEGEND:

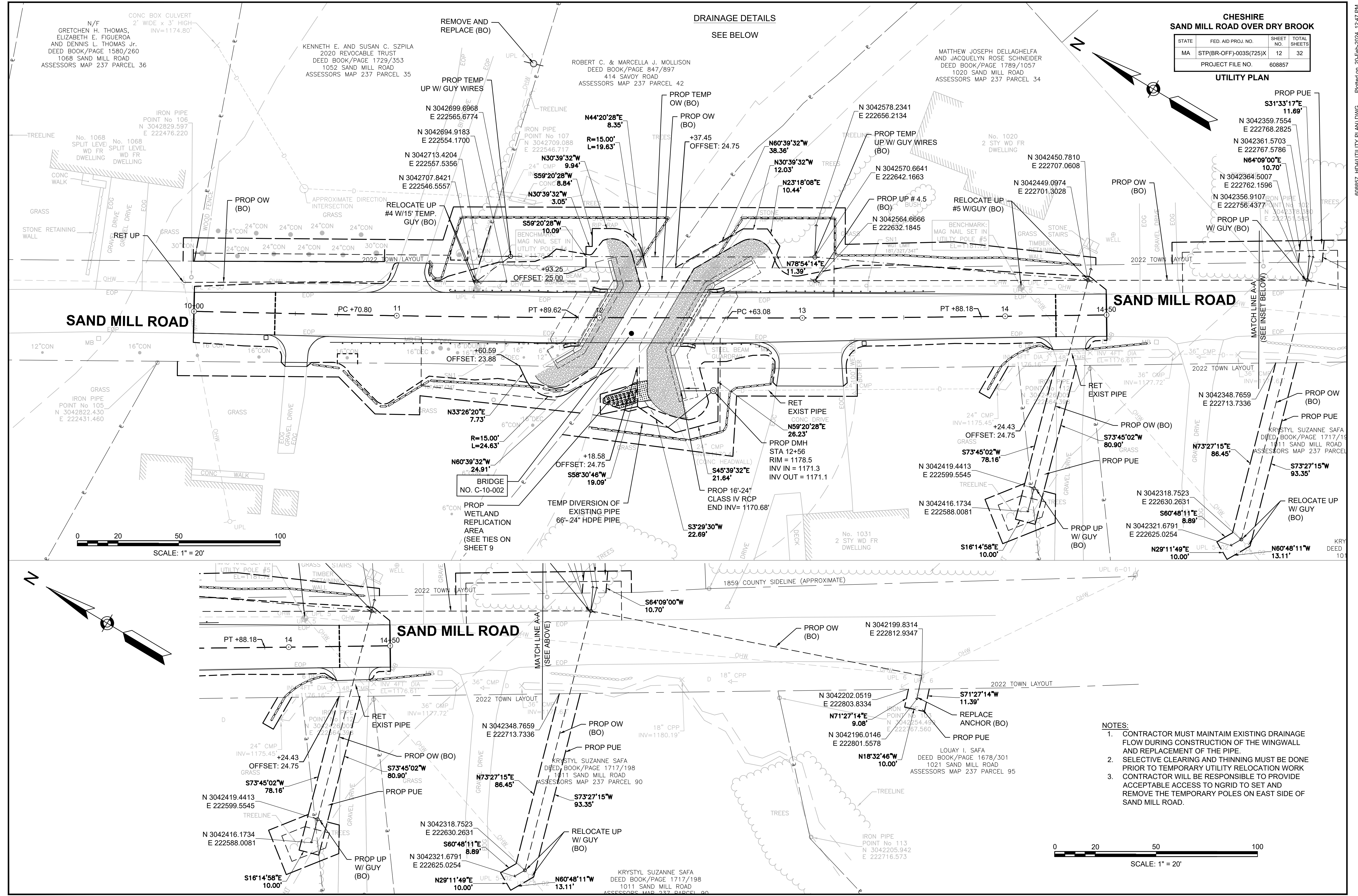
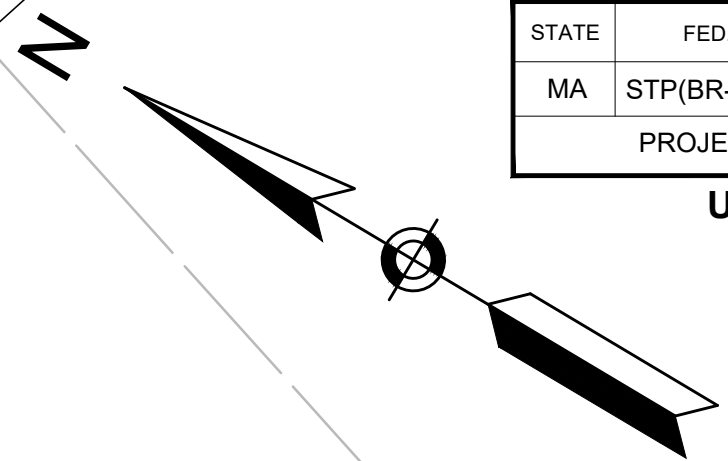
- | | | |
|--|--------------------------------------|--------------------------------|
| ○ REFLECTORIZED PLASTIC DRUM OR 36" CONE | ▨ WORK ZONE | ☐ WORK VEHICLE |
| P/F POLICE/FLAGGER DETAIL | ➔ DIRECTION OF TRAFFIC | ☐ TRUCK MOUNTED ATTENUATOR |
| ▨ TYPE III BARRICADE | ▨ IMPACT ATTENUATOR | ➔ TRAFFIC OR PEDESTRIAN SIGNAL |
| ☐ CHANGEABLE MESSAGE SIGN | ▨ MEDIAN BARRIER | ● SIGN |
| ➔ ARROW BOARD | ▨ MEDIAN BARRIER WITH WARNING LIGHTS | |

DRAINAGE DETAILS
SEE BELOW

CHESHIRE
SAND MILL ROAD OVER DRY BROOK

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	STP(BR-OFF)003S(725)X	12	32
PROJECT FILE NO.		608857	

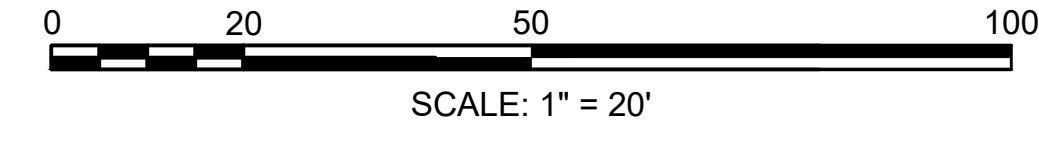
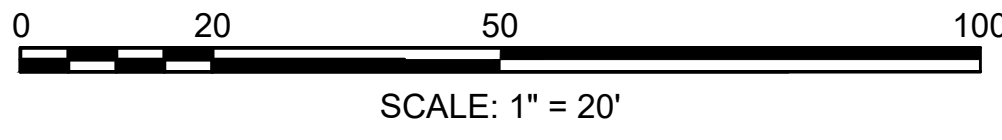
UTILITY PLAN



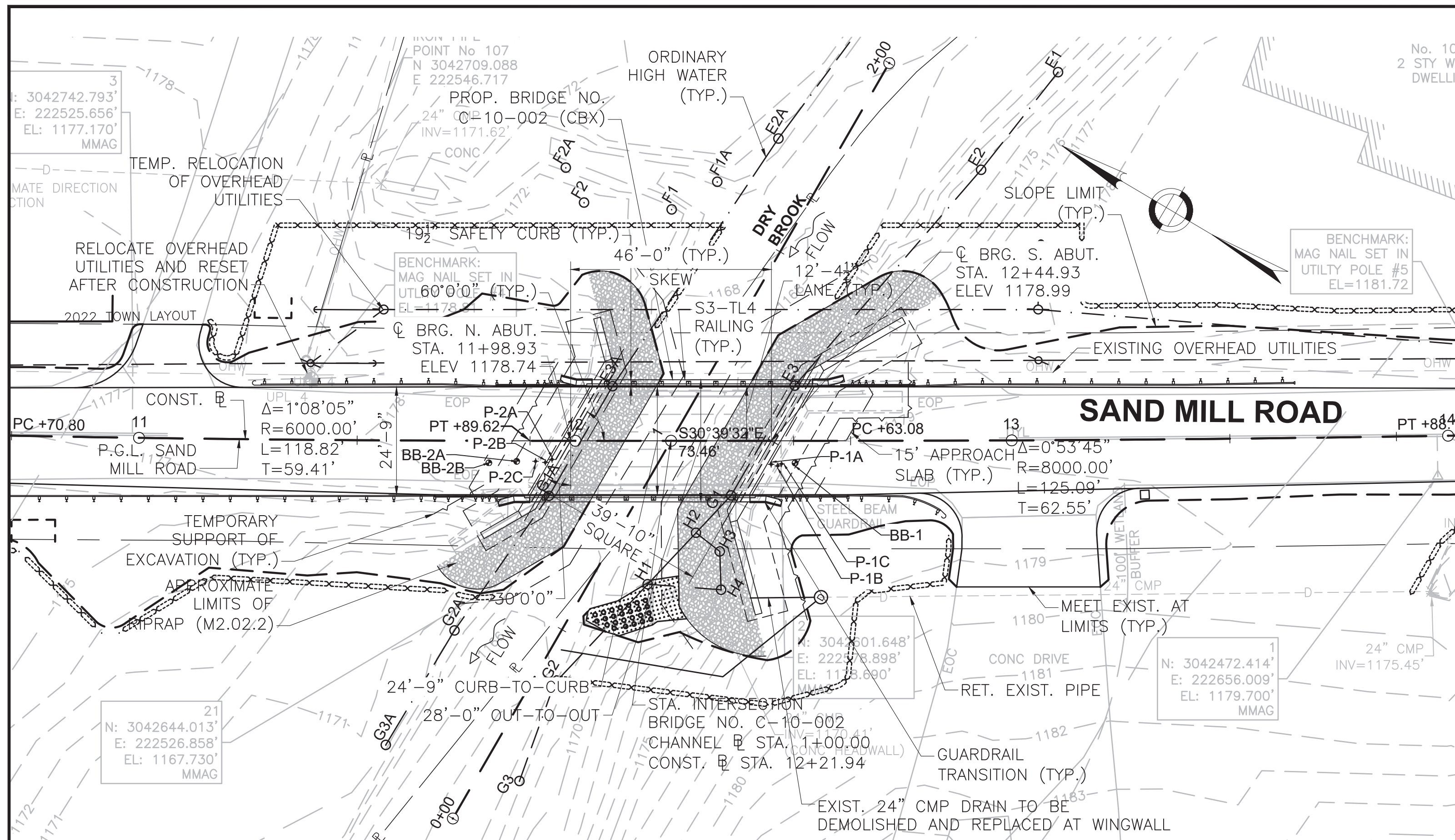
SAND MILL ROAD

SAND MILL ROAD

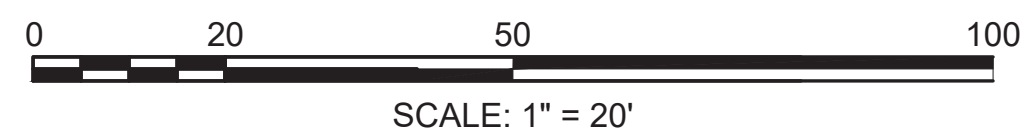
SAND MILL ROAD



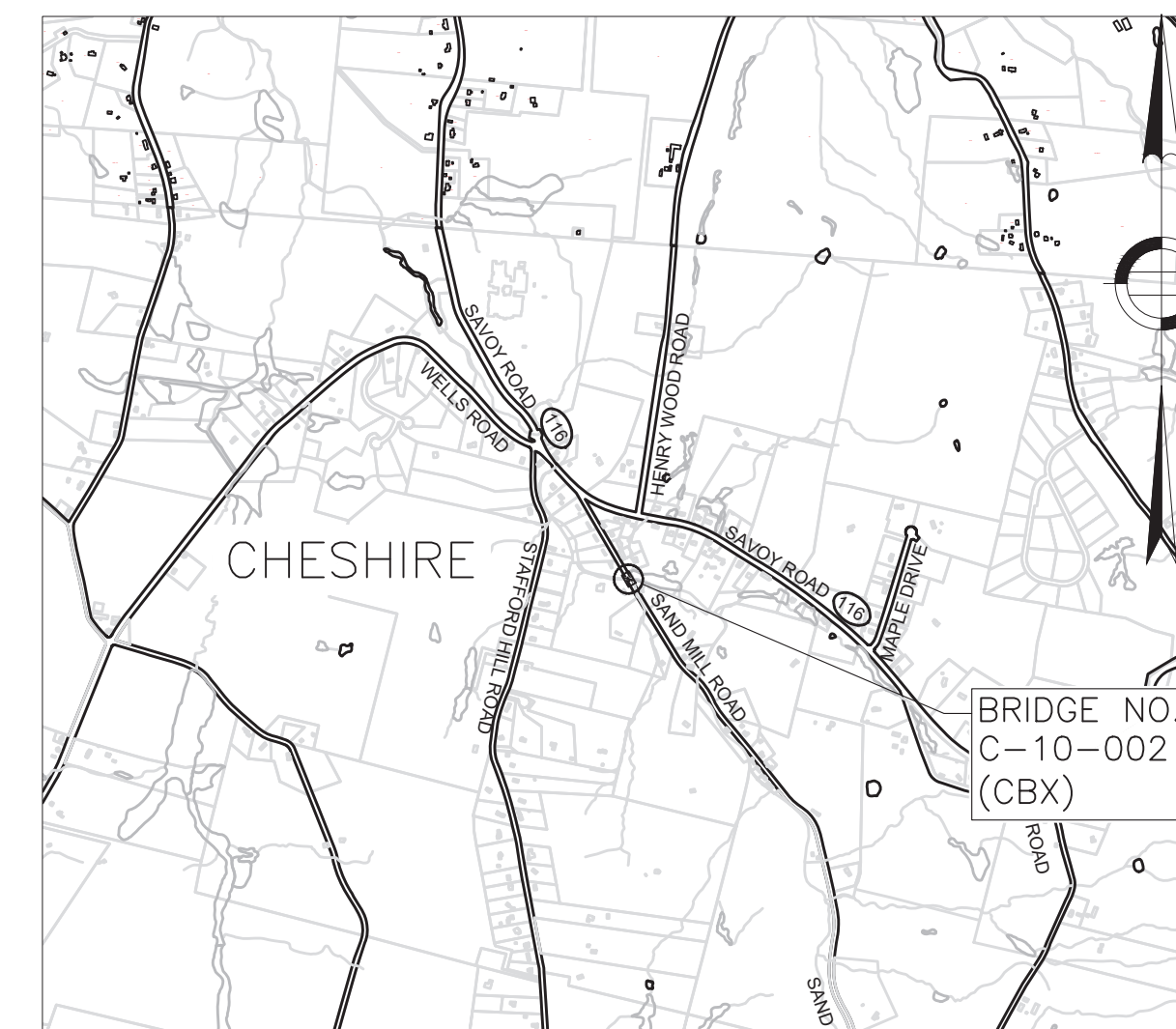
- NOTES:**
- CONTRACTOR MUST MAINTAIN EXISTING DRAINAGE FLOW DURING CONSTRUCTION OF THE WINGWALL AND REPLACEMENT OF THE PIPE.
 - SELECTIVE CLEARING AND THINNING MUST BE DONE PRIOR TO TEMPORARY UTILITY RELOCATION WORK. CONTRACTOR WILL BE RESPONSIBLE TO PROVIDE ACCEPTABLE ACCESS TO NGRID TO SET AND REMOVE THE TEMPORARY POLES ON EAST SIDE OF SAND MILL ROAD.



KEY PLAN



NOTE:
FEMA ZONE A FLOOD HAZARD AREA
NOT SHOWN ON THE PLANS DUE TO
LACK OF AVAILABLE GIS DATA.



LOCUS

SCALE: 1" = 2000'

CHESHIRE SAND MILL ROAD			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	STP(BR-OFF)-003S(725)X	13	32
PROJECT FILE NO. 608857			

KEY PLAN & PROFILES

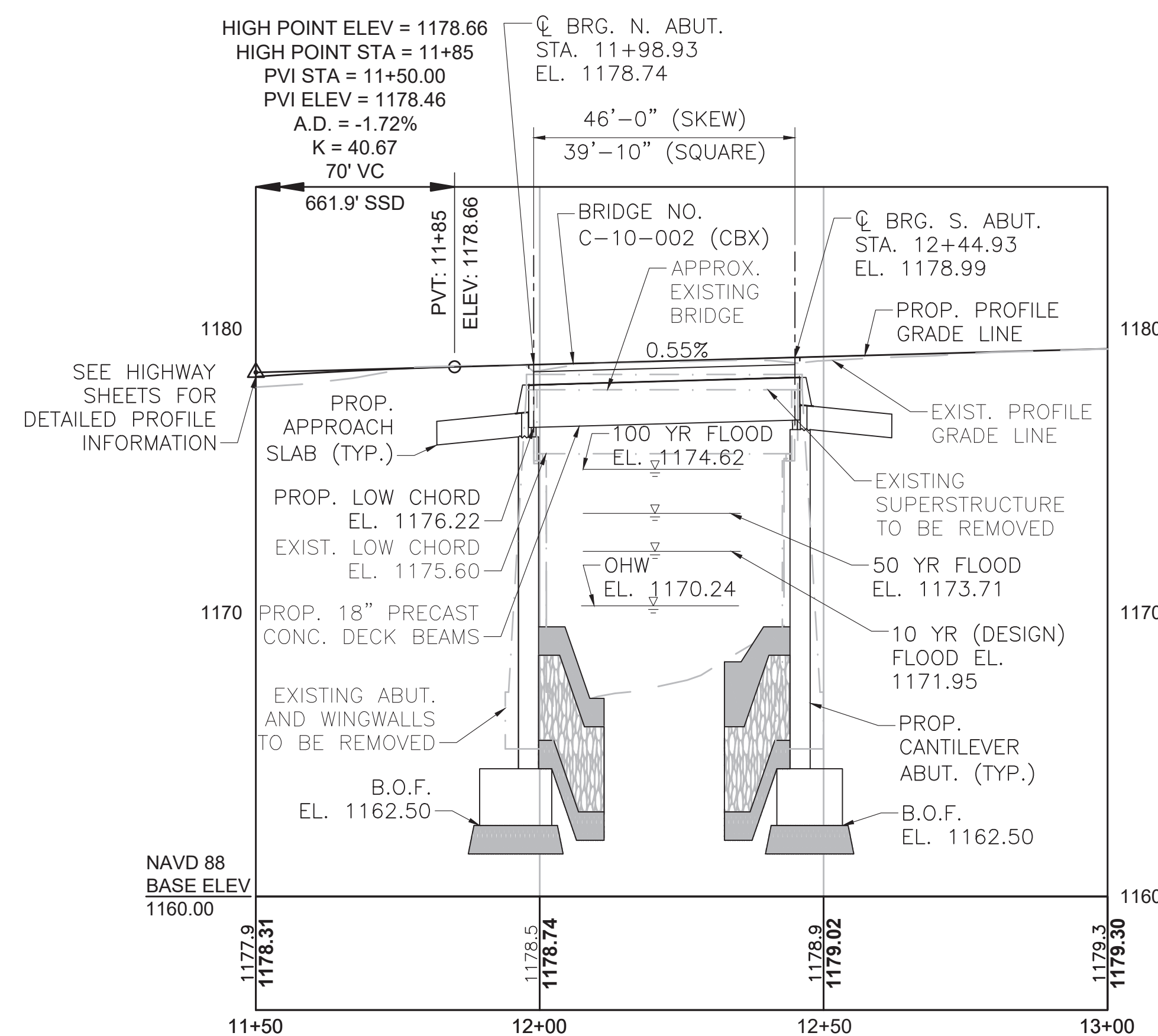
ITEM	ESTIMATED QUANTITIES (NOT GUARANTEED)	QUANTITY
DEMOLITION OF SUPERSTRUCTURE OF BRIDGE NO. C-10-002 (03G).....	1	LS
MUCK EXCAVATION.....	70	CY
REINFORCED CONCRETE EXCAVATION.....	250	CY
BRIDGE EXCAVATION.....	1370	CY
CHANNEL EXCAVATION FOR STREAMBED RESTORATION.....	230	CY
CLASS B ROCK EXCAVATION.....	725	CY
GRAVEL BORROW FOR BACKFILLING STRUCTURES AND PIPES.....	105	TON
CRUSHED STONE FOR BRIDGE FOUNDATIONS.....	120	TON
CRUSHED STONE FOR SLOPE TREATMENT.....	12	TON
SUPERPAVE BRIDGE SURFACE COURSE - 9.5 (SSC-B-9.5).....	17	TON
SUPERPAVE BRIDGE PROTECTIVE COURSE - 9.5 (SPC-B-9.5).....	12	TON
SAWING & SEALING JOINTS IN ASPHALT PAVEMENT AT BRIDGES.....	1	LS
GEOTEXTILE FABRIC FOR PERMANENT EROSION CONTROL.....	870	SY
TEMPORARY SUPPORT OF EXCAVATION.....	1	LS
DUMPED RIPRAP.....	445	TON
STREAMBED RESTORATION.....	1	LS
CONTROL OF WATER STRUCTURE NO. C-10-002 (CBX).....	1	LS
TEMPORARY PROTECTIVE SHIELDING.....	1130	SF
BRIDGE STRUCTURE, BRIDGE NO. C-10-002 (CBX).....	1	LS

NOTES:

- FOR GENERAL NOTES SEE SHEET 2.

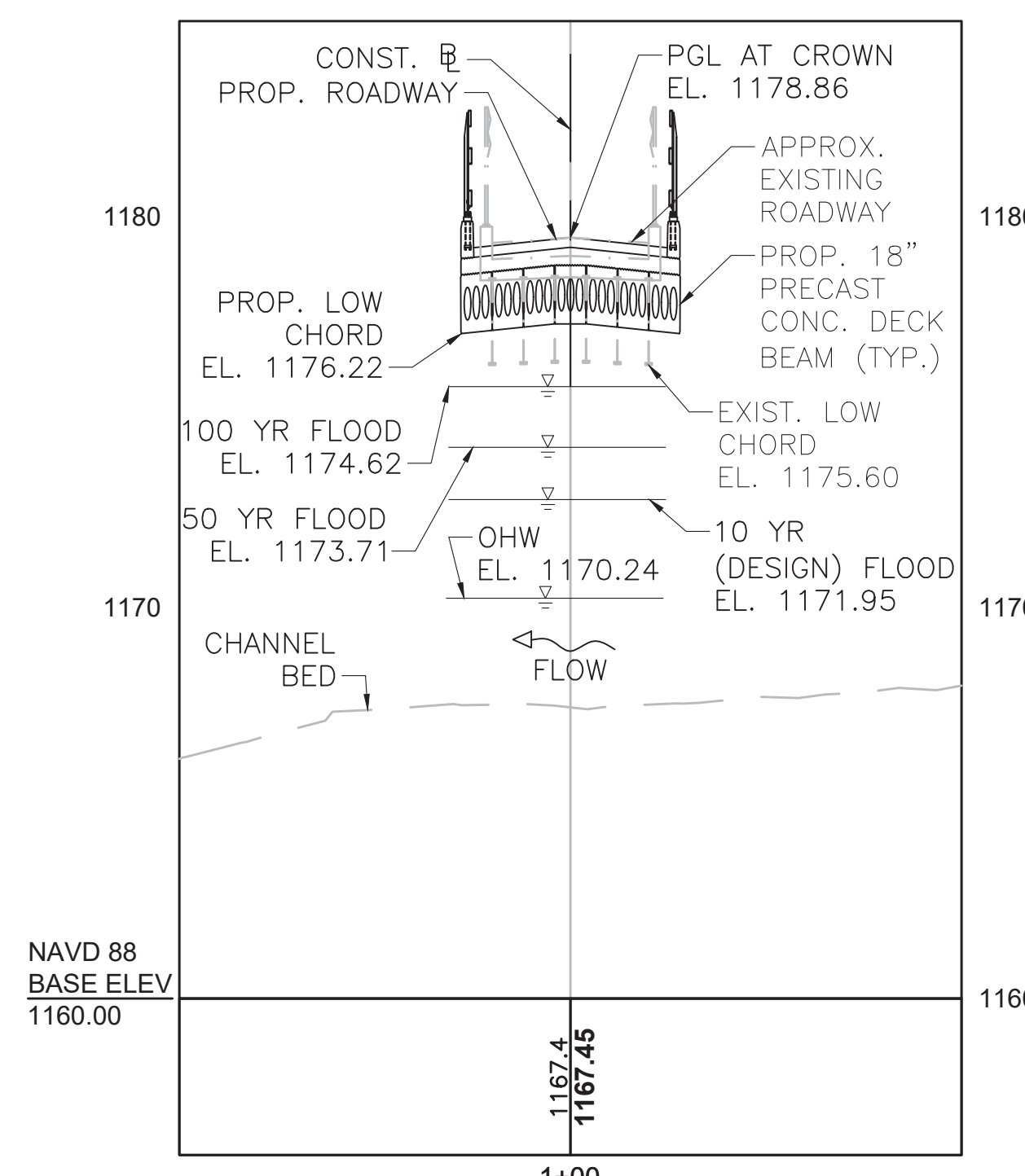
INDEX OF BRIDGE SHEETS:

- KEY PLAN & PROFILES
- GENERAL NOTES
- BORING LOGS (SHEET 1 OF 2)
- BORING LOGS (SHEET 2 OF 2)
- GENERAL PLAN AND ELEVATION
- NORTH ABUTMENT PLAN AND ELEVATION
- SOUTH ABUTMENT PLAN AND ELEVATION
- ABUTMENT DETAILS
- CURTAIN WALL AND WINGWALL DETAILS
- MISCELLANEOUS SUBSTRUCTURE DETAILS
- FRAMING PLAN & BEAM DETAILS
- TRANSVERSE SECTION & DECK DETAILS
- APPROACH SLAB DETAILS
- TRANSITION BASE DETAILS
- TRANSITION DETAILS
- RAILING DETAILS



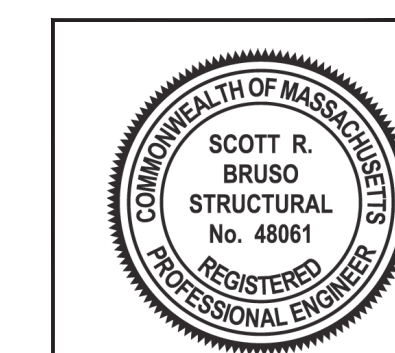
PROFILE - SAND MILL ROAD

HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 4'



PROFILE - DRY BROOK

HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 4'



Scott Brusco



Weston & Sampson Engineers, Inc.
100 Foxborough Boulevard, Foxborough, MA 02035
508.698.3034 800.SAMPSON
www.westonandsampson.com

MAR. 16, 2024 ISSUED FOR CONSTRUCTION



PROPOSED BRIDGE
CHESHIRE
SAND MILL ROAD
OVER DRY BROOK

MASSACHUSETTS DEPARTMENT OF TRANSPORTATION
HIGHWAY DIVISION
10 PARK PLAZA BOSTON, MASS

Alexander K. Bardow, P.E. State Bridge Engineer
Carrie Lavallee, P.E. Chief Engineer

GENERAL NOTES

DESIGN:

IN ACCORDANCE WITH THE 2020 AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS LRFD BRIDGE DESIGN SPECIFICATIONS WITH CURRENT INTERIM SPECIFICATIONS THROUGH 2022 FOR HL-93 LOADING.

EXISTING BRIDGE PLANS:

IF REQUIRED, THE CONTRACTOR CAN REQUEST PLANS ELECTRONICALLY FOR EXISTING BRIDGE NO. C-10-002 (03G) DATED NOVEMBER 1938 FROM MASSDOT PLANS AND RECORDS.

EXISTING CONDITIONS:

ALL DIMENSIONS AND DETAILS SHOWN FOR THE EXISTING STRUCTURE ARE BASED UPON THE ORIGINAL BRIDGE PLANS AND ARE NOT GUARANTEED. THE CONTRACTOR SHALL DETERMINE AND ESTABLISH ALL DIMENSIONS AND DETAILS NECESSARY FOR COMPLETION OF ALL WORK BY FIELD MEASUREMENT AND SURVEY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ADEQUACY AND ACCURACY THEREOF AND NOT ORDER ANY MATERIAL OR COMMENCE ANY FABRICATION UNTIL THEY HAVE MADE THE REQUIRED MEASUREMENTS ON THE ACTUAL STRUCTURE AND THE EXTENT OF THE PROPOSED WORK HAS BEEN APPROVED BY THE ENGINEER.

THE OBSERVED WATER ELEVATION SHOWN ON THE PLANS WAS MEASURED ON THE DATES OF THE SURVEY AND DOES NOT NECESSARILY REPRESENT THE WATER LEVEL AT THE TIME OF CONSTRUCTION. IT IS THE CONTRACTORS RESPONSIBILITY TO VERIFY THE WATER LEVELS. PARTICULAR ATTENTION SHOULD BE GIVEN TO UPSTREAM OR DOWNSTREAM FACILITIES AND CONTROL STRUCTURES WHICH MAY ADVERSELY AFFECT THE WATER LEVELS WITHIN THE WATER BODY WHICH MASSDOT HAS NO CONTROL OVER. THERE WILL BE NO ADDITIONAL COMPENSATION FOR WORK INVOLVING VARYING WATER LEVELS OR THOSE THAT DIFFER FROM THE INFORMATION RECORDED ON THE PLANS.

MASSDOT BENCHMARK:

MAG NAIL SET UP IN UTILITY POLE #4, ELEVATION = 1178.81

ELEVATIONS ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM (NAVD) OF 1988, UNLESS NOTED OTHERWISE.

DATE:

TO BE PLACED ON THE INSIDE FACE OF THE NORTHWEST AND SOUTHEAST HIGHWAY GUARDRAIL TRANSITIONS. A SHEET SHOWING SIZE AND CHARACTER OF NUMERALS WILL BE FURNISHED. THE DATE USED SHALL BE THE LATEST YEAR OF CONTRACT COMPLETION AS OF THE DATE THE FIRST HIGHWAY GUARDRAIL TRANSITION IS CONSTRUCTED. BOTH HIGHWAY GUARDRAIL TRANSITIONS SHALL FEATURE THE SAME DATE.

MASSDOT SURVEY NOTEBOOKS:

ELECTRONIC SURVEY BY GCG ASSOCIATES, INC. WETLAND FLAGGING WAS PERFORMED BY WESTON & SAMPSON ON SEPTEMBER 2021. COPIES OF SURVEY FILES MAY OBTAINED FROM MASSDOT.

SCALES:

SCALES NOTED ON THE PLANS ARE NOT APPLICABLE TO REDUCED SIZE PRINTS. DIVIDE SCALES BY 2 FOR HALF-SIZE PRINTS (A3).

FOUNDATIONS:

FOUNDATIONS MAY BE ALTERED, IF NECESSARY, TO SUIT CONDITIONS ENCOUNTERED DURING CONSTRUCTION, WITH APPROVAL OF THE ENGINEER.

UNSUITABLE MATERIALS:

ALL UNSUITABLE MATERIAL SHALL BE REMOVED WITHIN THE LIMITS OF THE FOUNDATIONS OF THE STRUCTURE, AS DIRECTED BY THE ENGINEER.

CONCRETE MIX:

ALL CONCRETE SHALL BE 5000 HP CONCRETE EXCEPT AS NOTED BELOW:

THE CEMENT CONCRETE SPECIFIED BELOW SHALL BE USED ON THE FOLLOWING BRIDGE COMPONENTS:

4000 PSI, 1½", 565 CEMENT CONCRETE.....APPROACH SLABS, ABUTMENT STEMS, ABUTMENT FOOTINGS, WINGWALL STEMS, WINGWALL FOOTINGS, CURTAIN WALLS

4000 PSI, ¾", 610 CEMENT CONCRETE.....ABUTMENT BACKWALLS

5000 PSI, ¾", 685 HP CEMENT CONCRETE.....DECK SLAB, SAFETY CURBS, PRECAST HIGHWAY GUARDRAIL TRANSITIONS

REINFORCEMENT:

REINFORCING STEEL SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M31 GRADE 60. UNLESS OTHERWISE NOTED ON THE CONSTRUCTION DRAWINGS, ALL BARS SHALL BE LAPPED AS FOLLOWS:

MODIFICATION CONDITION	#4 BARS	#5 BARS	#6 BARS	#7 BARS
1. NONE	16"	19"	23"	27"
2. 12" OF CONCRETE BELOW BAR	20"	25"	30"	35"
3. COATED BARS, COVER < 3d _b , OR CLEAR SPACING < 6d _b	23"	29"	34"	40"
4. COATED BARS, ALL OTHER CASES	18"	23"	27"	32"
5. CONDITION 2. AND 3.	26"	32"	39"	52"
6. CONDITION 2. AND 4.	24"	30"	36"	44"

ALL OTHER BARS SHALL BE LAPPED AS SHOWN ON THE CONSTRUCTION DRAWINGS.

EPOXY COATED BARS:

REINFORCING PROTECTION PER ELEMENT SHALL BE AS FOLLOWS:

EPOXY COATED BARS: DECK SLAB, BACKWALL, SELECT BARS IN THE ABUTMENT STEM PER THE DETAIL ON SHEET 8, CURTAIN WALL, CURBS.

UNCOATED BARS: ABUTMENT STEMS, ABUTMENT FOOTINGS, WINGWALL STEMS, WINGWALL FOOTINGS, APPROACH SLAB.

PRESTRESS NOTES:

SEE SHEET 11 FOR PRESTRESSED CONCRETE NOTES.

MEMBRANE WATERPROOFING:

ALL MEMBRANE WATERPROOFING USED ON BRIDGE DECKS SHALL BE MEMBRANE WATERPROOFING FOR BRIDGE DECKS - SPRAY APPLIED.

UTILITIES:

LOCATIONS OF EXISTING UTILITIES SHOWN ARE APPROXIMATE. THE CONTRACTOR SHALL LOCATE AND PROTECT FROM DAMAGE ALL EXISTING UTILITIES. THE CONTRACTOR SHALL COORDINATE AND COOPERATE WITH THE RESPECTIVE UTILITY OWNERS FOR ALL UTILITIES THAT ARE TO BE TEMPORARILY OR PERMANENTLY RELOCATED FOR BRIDGE REPLACEMENT WORK.

TRAFFIC:

THE BRIDGE WILL BE CLOSED TO ALL TRAFFIC DURING ALL PHASES OF DEMOLITION AND RECONSTRUCTION. TRAFFIC WILL BE CONTROLLED AS SHOWN IN THE TRAFFIC MANAGEMENT PLANS.

SUGGESTED CONSTRUCTION SEQUENCE:

- INSTALL EROSION CONTROLS.
- INSTALL THE DETOUR SIGNAGE AND CLOSE THE ROAD AND BRIDGE.
- CLEAR AND GRUB, REMOVE TREES, AND INSTALL TREE PROTECTION AS INDICATED.
- TEMPORARILY RELOCATE OVERHEAD UTILITIES TO THE EAST SIDE (UPSTREAM) OF THE EXISTING BRIDGE.
- INSTALL TEMPORARY PROTECTIVE SHIELDING.
- DEMOLISH AND REMOVE THE EXISTING BRIDGE SUPERSTRUCTURE AND GUARDRAIL.
- INSTALL CONTROL OF WATER STRUCTURE AND SUPPORT OF EXCAVATION ON THE NORTH SIDE OF THE BRIDGE. SEE DETAIL ON SHEET 10.
- EXCAVATE ALL AROUND EXISTING NORTH ABUTMENT AND WINGWALLS.
- DEMOLISH AND REMOVE THE EXISTING CONCRETE NORTH ABUTMENT AND WINGWALLS.
- PREPARE SUBGRADE AND CONSTRUCT THE CAST-IN-PLACE CONCRETE ABUTMENT AND WINGWALL FOOTINGS, ABUTMENT STEM AND WINGWALLS ON THE NORTH SIDE OF BRIDGE.
- BACKFILL BEHIND THE ABUTMENT AND WINGWALLS ON THE NORTH SIDE OF BRIDGE TO BOTTOM OF APPROACH SLAB ELEVATION.
- INSTALL RIPRAP AND NATURAL RESTORATION MATERIAL (STREAMBED RESTORATION) IN FRONT OF PROPOSED NORTH ABUTMENT AND WINGWALLS TO FINISH GRADES.
- REMOVE CONTROL OF WATER STRUCTURE AND SUPPORT OF EXCAVATION ON NORTH SIDE OF THE BRIDGE.
- MOBILIZE TO THE SOUTH SIDE OF THE BRIDGE AND REPEAT STEPS 7 THRU 13 ON THE SOUTH SIDE OF THE BRIDGE.
NOTE: CONTRACTOR MAY DEMOLISH AND CONSTRUCT BOTH SUBSTRUCTURES AT THE SAME TIME. HOWEVER, THE TEMPORARY WATER CONTROL WIDTH IS REDUCED TO APPROXIMATELY 10 FEET. THE RECOMMENDED ELEVATION FOR THE COFFERDAM IS 1174.91 IF THE TEMPORARY CONSTRUCTION IS LESS THAN ONE YEAR. SEE DETAIL ON SHEET 10.
- INSTALL PRESTRESSED CONCRETE DECK BEAMS, GROUT SHEAR KEYS AND POST TENSION DECK BEAMS.
- INSTALL REINFORCING AND CONSTRUCT CAST-IN-PLACE CONCRETE DECK AND SAFETY CURBS.
- INSTALL PRECAST GUARDRAIL TRANSITIONS AND S3-TL4 BRIDGE RAILING.
- INSTALL CAST-IN-PLACE CONCRETE APPROACH SLABS.
- INSTALL SPRAY-APPLIED MEMBRANE WATERPROOFING AND PAVE PROTECTIVE COURSE ON BRIDGE DECK.
- PERFORM FULL DEPTH ROADWAY RECONSTRUCTION, GRADING AND ESTABLISH VEGETATION ON NORTH AND SOUTH SIDES OF THE BRIDGE.
- PLACE HMA BASE COURSE, INSTALL GUARDRAIL, PAVE WEARING COURSE AND COMPLETE LINE STRIPING. (COORDINATE REMOVAL AND INSTALLATION OF TEMPORARY AND PERMANENT UTILITY POLES, RESPECTIVELY BASED ON GUARDRAIL INSTALLATION AND ACCESS).
- INSTALL PERMANENT UTILITY POLES AND TRANSFER OVERHEAD UTILITIES TO PERMANENT POLE LOCATIONS.
- REMOVE TEMPORARY UTILITY POLES.
- REMOVE EROSION CONTROLS AND DETOUR SIGNAGE AND OPEN ROADWAY AND BRIDGE TO TRAFFIC.

CHESHIRE SAND MILL ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	STP(BR-OFF)-003S(725)X	14	32
PROJECT FILE NO.		608857	

GENERAL NOTES

TRAFFIC DATA

	ROADWAY OVER	ROADWAY UNDER
DESIGN YEAR	2038	
AVERAGE DAILY TRAFFIC - PRESENT	259	
AVERAGE DAILY TRAFFIC - DESIGN YEAR	385	
DESIGN HOURLY VOLUME	-	
DIRECTIONAL DISTRIBUTION	-	
TRUCK PERCENTAGE - AVERAGE DAY	6%	
TRUCK PERCENTAGE - PEAK HOUR	6%	
DESIGN SPEED	35 MPH	
DIRECTIONAL DESIGN HOURLY VOLUME	-	

SEISMIC DESIGN CRITERIA

DESIGN RETURN PERIOD:	1000 YR.
DESIGN SPECTRA	
As	0.092g
SDs	0.208g
SD1	0.096g
SITE CLASS	D
SEISMIC DESIGN CATEGORY (SDC)	A

HYDRAULIC DESIGN DATA

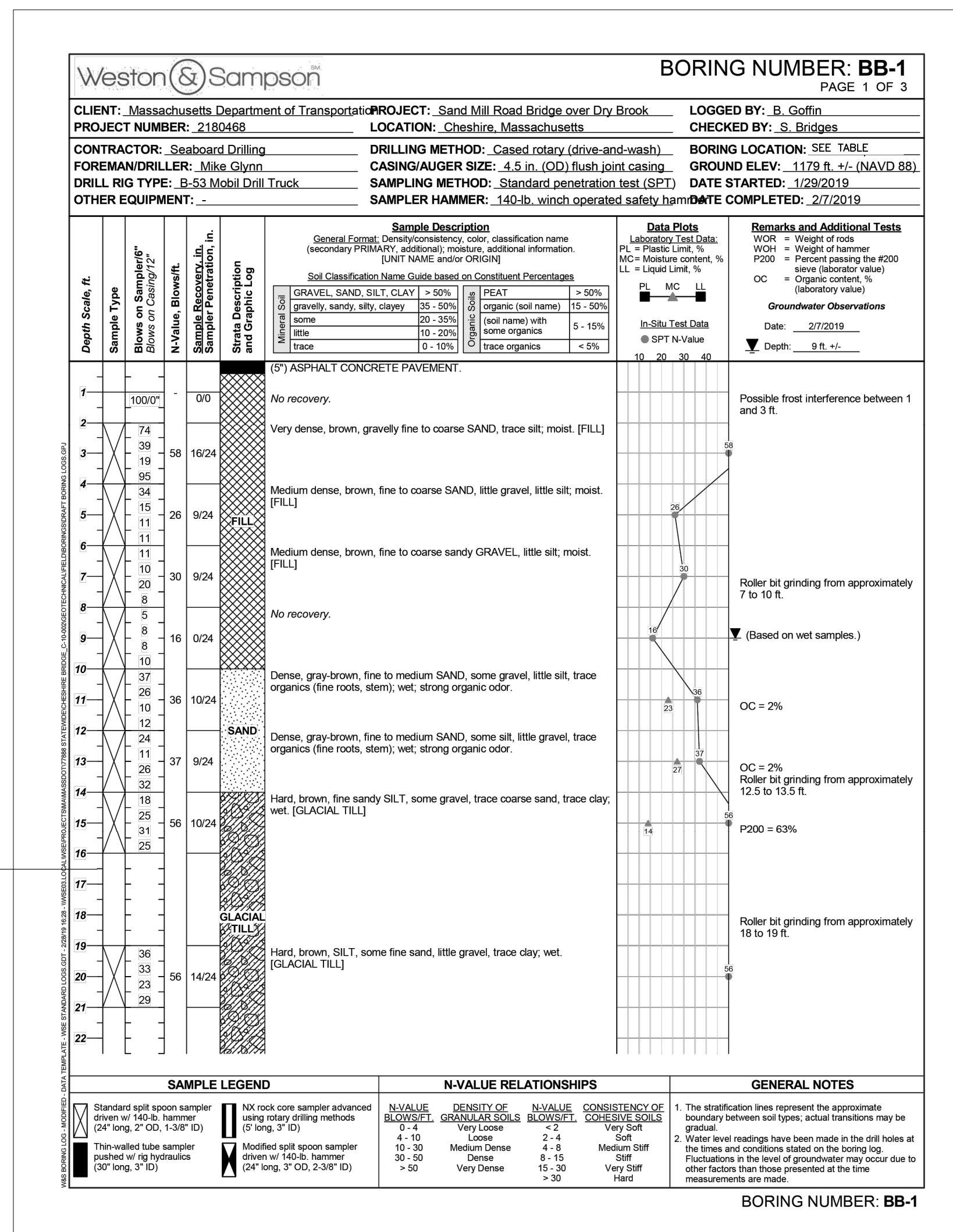
DRAINAGE AREA (SQ. MILES)	7.26
DESIGN FLOOD DISCHARGE (C.F.S.)	961
DESIGN FLOOD FREQUENCY (YEARS)	10
DESIGN FLOOD VELOCITY (F.P.S.)	6.23
DESIGN FLOOD ELEVATION (FEET, NAVD)	1171.95
BASE (100-YEAR) FLOOD DATA	
BASE FLOOD DISCHARGE (C.F.S.)	2070
BASE FLOOD ELEVATION (FEET, NAVD)	1174.62
DESIGN AND CHECK SCOUR DATA	
DESIGN SCOUR FLOOD EVENT RETURN FREQUENCY (YEARS)	25
DESIGN FLOOD ABUTMENT SCOUR DEPTH (FEET)	2.6
DESIGN FLOOD PIER SCOUR DEPTH (FEET)	N/A
CHECK SCOUR FLOOD EVENT RETURN FREQUENCY (YEARS)	50
CHECK FLOOD ABUTMENT SCOUR DEPTH (FEET)	3.2
CHECK FLOOD PIER SCOUR DEPTH (FEET)	N/A
FLOOD OF RECORD	
DISCHARGE (C.F.S.)	UNKNOWN
FREQUENCY (IF KNOWN, YEARS)	UNKNOWN
MAXIMUM ELEVATION (FEET, NAVD)	UNKNOWN
DATE (MM/YYYY)	UNKNOWN
HISTORY OF ICE FLOES	NONE
EVIDENCE OF SCOUR AND EROSION	NONE

TEMPORARY WATER CONTROL DESIGN DATA

DESIGN FLOOD DISCHARGE (C.F.S.)	407
DESIGN FLOOD FREQUENCY (YEARS)	2
DESIGN FLOOD VELOCITY (F.P.S.)	10.89
DESIGN FLOOD ELEVATION (FEET, NAVD)	1173.91

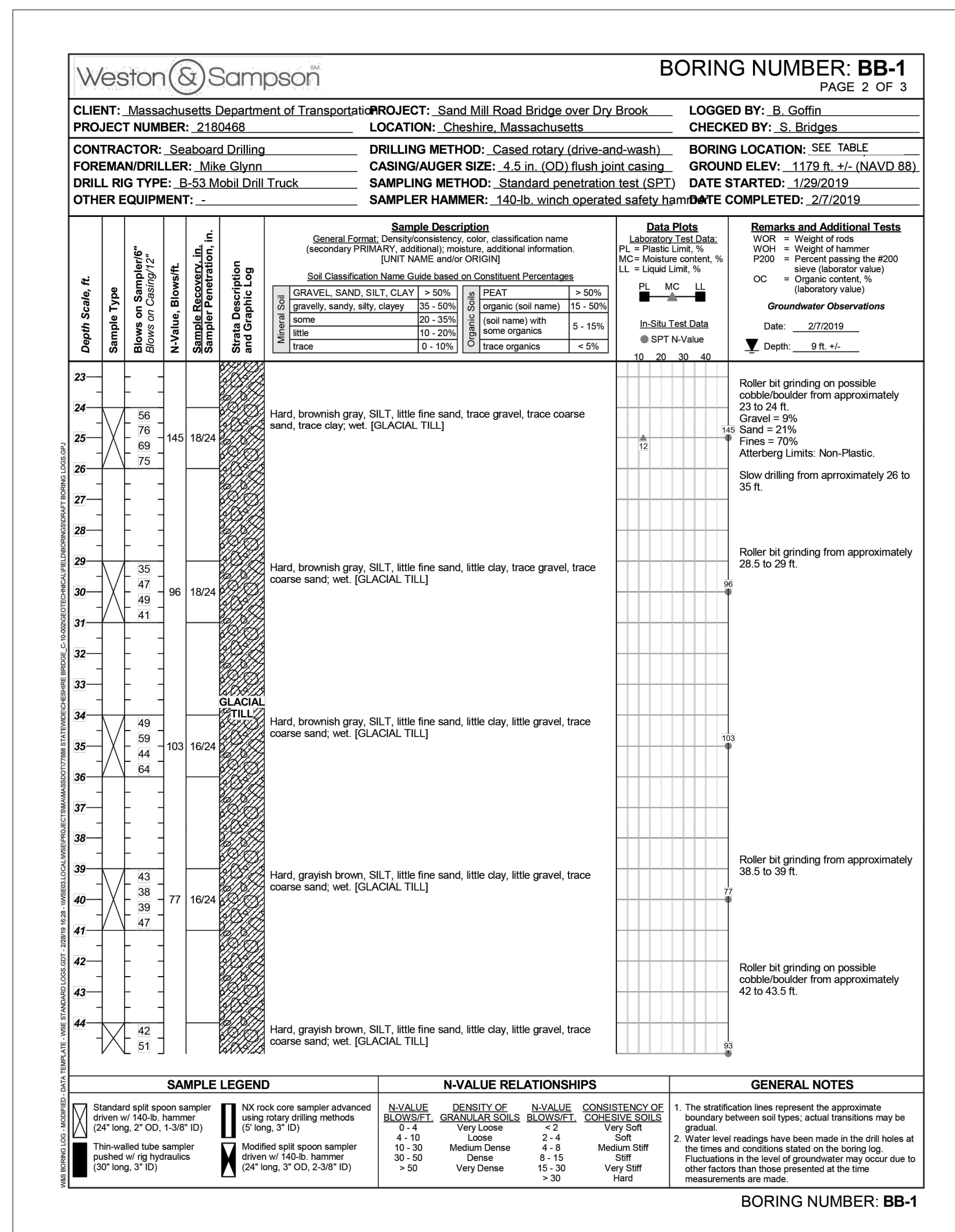
NOTE: THE TEMPORARY WATER CONTROL DESIGN DATA IS BASED ON AN APPROXIMATE 10 FOOT OPENING.

DATE	ISSUED FOR CONSTRUCTION DESCRIPTION
MAR. 16, 2024	ISSUED FOR CONSTRUCTION
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT	
AUTHORIZED SIGNATORY:	STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE	



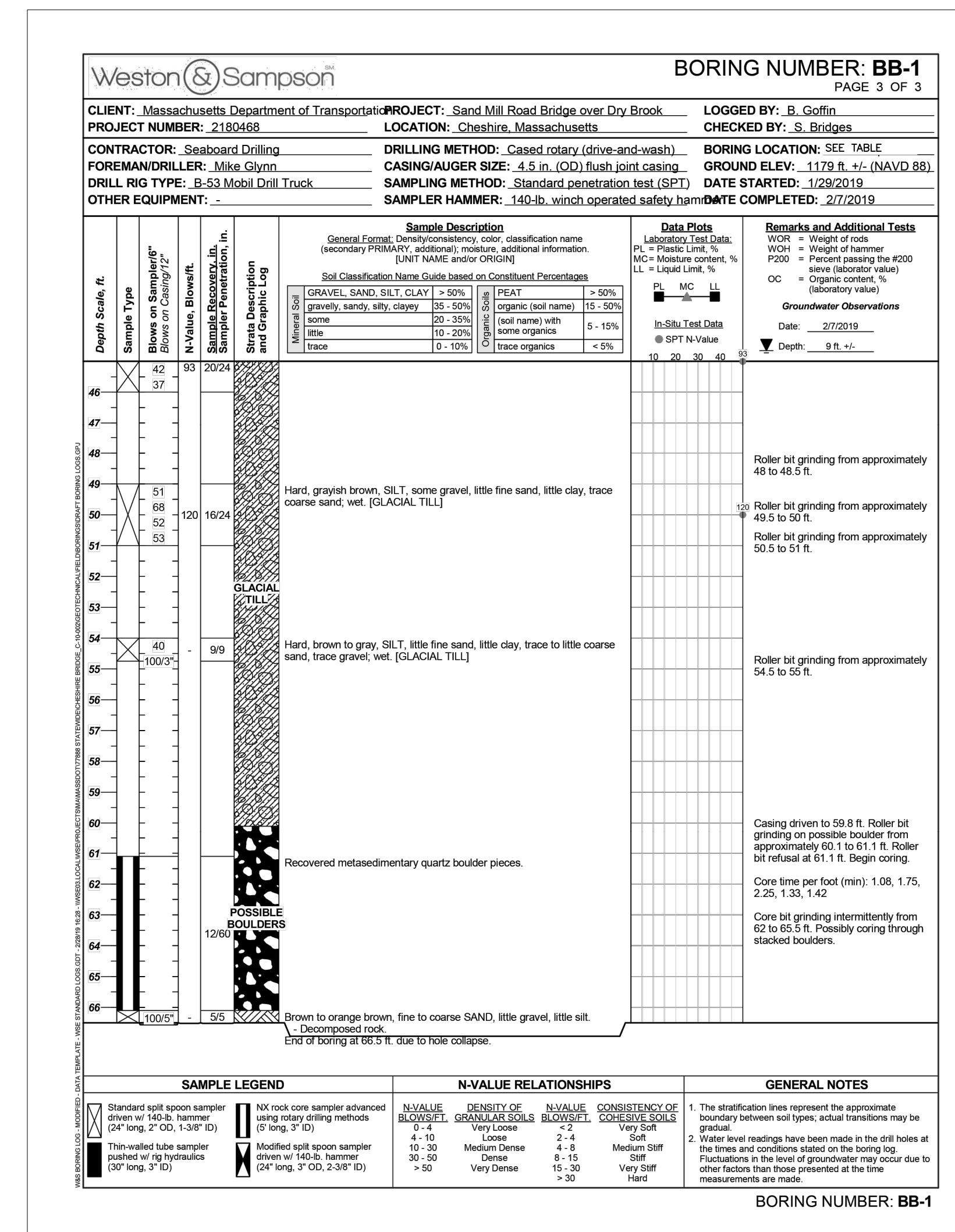
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B.O.F
EL. 1162.5



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BORING/PROBE NOTES:

- LOCATION OF BORINGS SHOWN ON THE PLAN THUS: ●
- LOCATION OF PROBES SHOWN ON THE PLAN THUS: +
- BORINGS ARE TAKEN FOR PURPOSE OF DESIGN AND SHOW CONDITIONS AT BORING POINTS ONLY, BUT DO NOT NECESSARILY SHOW THE NATURE OF THE MATERIAL TO BE ENCOUNTERED DURING CONSTRUCTION.
- WATER LEVELS SHOWN ON THE BORING LOGS WERE OBSERVED AT THE TIME OF TAKING BORINGS AND DO NOT NECESSARILY SHOW THE TRUE GROUND WATER LEVEL.
- FIGURES IN COLUMNS INDICATE NUMBER OF BLOWS REQUIRED TO DRIVE A 1 1/8" I.D. SPLIT SPOON SAMPLER 6" USING A 140 POUND WEIGHT FALLING 30".
- BORING SAMPLES ARE STORED AT A STORAGE FACILITY LOCATED ON ROUTE 114 (219 WINTHROP AVE.) IN LAWRENCE, MA. THE CONTRACTOR MAY EXAMINE THE SOIL AND ROCK SAMPLES BY CONTACTING THE MASSDOT GEOTECHNICAL SECTION AT 10 PARK PLAZA, BOSTON, MA.
- BORINGS WERE MADE BY SEABOARD DRILLING INC. 649 MEADOW ST, CHICOPEE, MA 01013, AND OBSERVED BY WESTON AND SAMPSON BETWEEN JANUARY 29 AND FEBRUARY 8, 2019.
- ABUTMENT PROBES WERE COMPLETED BY SEABOARD DRILLING INC. OF CHICOPEE, MA 01013 USING A B-53 MOBILE DRILL TRUCK WITH A 8 1/2" (OD) HOLLOW-STEM AUGER, AND OBSERVED BY WESTON AND SAMPSON BETWEEN JANUARY 29 AND FEBRUARY 8, 2019.
- ABUTMENT PROBES WERE GENERALLY PERFORMED WITHIN THE APPROXIMATE FOOTPRINTS OF THE BRIDGE ABUTMENTS BASED ON INFORMATION PRESENTED ON THE 1938 PLANS. DISTANCES AS REPORTED ABOVE WERE MEASURED FROM THE ABUTMENT FACE AND PERPENDICULAR TO ABUTMENT FACE.
- THE NORTH AMERICAN VERTICAL DATUM (NAVD) OF 1988 IS USED THROUGHOUT.

BORING LOCATION TABLE

BORING	NORTHING	EASTING
BB-1	3042600.6580	222583.4838
BB-2A	3042655.7327	222551.2818
BB-2B	3042661.0351	222547.7167
P-1A	3042605.2012	222580.4420
P-1B	3042603.7352	222580.9041
P-1C	3042603.2126	222581.7370
P-2A	3042648.9677	222555.7869
P-2B	3042649.9571	222554.4250
P-2C	3042651.9999	222553.5023

ABUTMENT PROBE SUMMARY TABLE

PROBE #	LOCATION	DIST. FROM ABUT. FACE	ASPHALT CONC. PAVEMENT THICKNESS	DEPTH TO REFUSAL	COMMENTS
P-1A	SOUTH ABUTMENT	4.3 ft	5 in	3.1 ft	Auger grinding from 2.6 to 3.1 ft on cobbles/boulders
P-1B		5.8 ft	5 in	3.0 ft	Auger grinding from 2.7 to 3.0 ft on cobbles/boulders
P-1C		6.3 ft	5 in	7.0 ft	Auger grinding intermittently from 2.8 to 7 ft on possible cobbles/boulders
P-2A	NORTH ABUTMENT	3.4 ft	3 in	1.9 ft	Auger grinding from 1.5 to 1.9 ft on cobbles/boulders
P-2B		4.6 ft	3 in	1.9 ft	Auger grinding from 0.8 to 1.9 ft on cobbles/boulders
P-2C		6.5 ft	4 in	2.8 ft	Auger grinding from 2.0 to 2.8 ft on cobbles/boulders

MAR. 16, 2024	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
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USE ONLY PRINTS OF LATEST DATE	

16-MARCH-2024 1:19 PM 60857_BRS-4BORINGS.DWG FINAL STRUCTURAL SUBMITTAL (SF)

**CHESHIRE
SAND MILL ROAD**

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	STP(BR-OFF)-003S(725)X	16	32
PROJECT FILE NO.		608857	

BORING LOGS (SHEET 2 OF 2)

BORING NUMBER: BB-2A
PAGE 1 OF 1

CLIENT: Massachusetts Department of Transportation PROJECT: Sand Mill Road Bridge over Dry Brook LOGGED BY: B. Goffin
 PROJECT NUMBER: 2180468 LOCATION: Cheshire, Massachusetts CHECKED BY: S. Bridges
 CONTRACTOR: Seaboard Drilling DRILLING METHOD: Hollow-Stem Auger (HSA) BORING LOCATION: SEE TABLE
 FOREMAN/DRILLER: Mike Glynn CASING/AUGER SIZE: 4-1/4 in. (ID) HSA GROUND ELEV.: 1179 ft. +/- (NAVD 88)
 DRILL RIG TYPE: B-53 Mobil Drill Truck SAMPLING METHOD: Standard penetration test (SPT) DATE STARTED: 2/7/2019
 OTHER EQUIPMENT: SAMPLER HAMMER: 140-lb. winch operated safety hammer DATE COMPLETED: 2/7/2019

Depth Scale, ft.	Sample Type	Blows on Sampler/Blows on Casings	N-Value, Blows/ft.	Standard Penetration, in.	Strata Description and Graphic Log	Sample Description		Data Plots		Remarks and Additional Tests
						General Format: Descriptive, color, classification name (secondary PRIMARY, additional, moisture, additional information) [UNIT NAME and/or ORIGIN]	Laboratory Test Data: WCH = Weight of hole, PL = Plastic Limit, % MC = Moisture content, % LL = Liquid Limit, % OC = Organic content, %	In-Situ Test Data: @ SPT N-Value	MC	



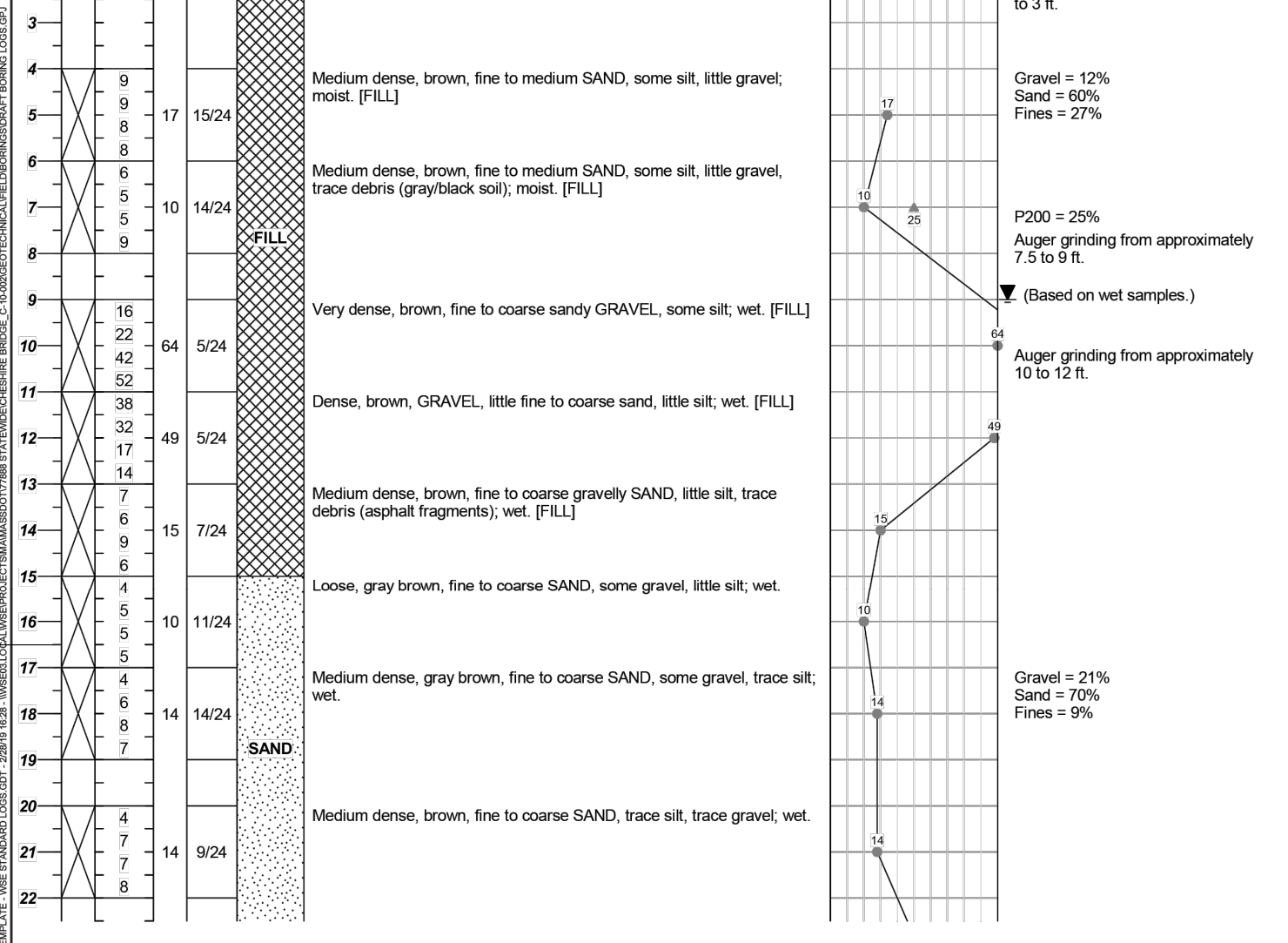
SAMPLE LEGEND		N-VALUE RELATIONSHIPS		GENERAL NOTES	
Standard split spoon sampler driven w/ 140-lb. hammer (24" long, 2" OD, 1-3/8" ID)	NK rock core sampler advanced using rotary drilling methods (5" long, 3" ID)	N-VALUE	DENSITY OF GRANULAR SOILS	CONSISTENCY OF SOILS	1. The stratification lines represent the approximate boundary between soil types; actual transitions may be gradual.
Thin-walled tube sampler pushed w/ 10-hydraulic (30" long, 3" ID)	Modified split spoon sampler driven w/ 140-lb. hammer (24" long, 3" OD, 2-3/8" ID)	0-4	Very Loose	< 2	2. Water level readings have been made in the drill holes at the times and conditions stated on the boring log. Fluctuations in the level of groundwater may occur due to other factors than those presented at the time measurements are made.
		4-10	Loose	2-4	
		10-30	Medium Dense	4-8	
		30-50	Dense	8-15	
		> 50	Very Dense	15-30	
				> 30	

BORING NUMBER: BB-2A

BORING NUMBER: BB-2B
PAGE 1 OF 2

CLIENT: Massachusetts Department of Transportation PROJECT: Sand Mill Road Bridge over Dry Brook LOGGED BY: B. Goffin
 PROJECT NUMBER: 2180468 LOCATION: Cheshire, Massachusetts CHECKED BY: S. Bridges
 CONTRACTOR: Seaboard Drilling DRILLING METHOD: Hollow-Stem Auger (HSA) BORING LOCATION: SEE TABLE
 FOREMAN/DRILLER: Mike Glynn CASING/AUGER SIZE: 4-1/4 in. (ID) HSA GROUND ELEV.: 1179 ft. +/- (NAVD 88)
 DRILL RIG TYPE: B-53 Mobil Drill Truck SAMPLING METHOD: Standard penetration test (SPT) DATE STARTED: 2/9/2019
 OTHER EQUIPMENT: SAMPLER HAMMER: 140-lb. winch operated safety hammer DATE COMPLETED: 2/8/2019

Depth Scale, ft.	Sample Type	Blows on Sampler/Blows on Casings	N-Value, Blows/ft.	Standard Penetration, in.	Strata Description and Graphic Log	Sample Description		Data Plots		Remarks and Additional Tests
						General Format: Descriptive, color, classification name (secondary PRIMARY, additional, moisture, additional information) [UNIT NAME and/or ORIGIN]	Laboratory Test Data: WCH = Weight of hole, PL = Plastic Limit, % MC = Moisture content, % LL = Liquid Limit, % OC = Organic content, %	In-Situ Test Data: @ SPT N-Value	MC	



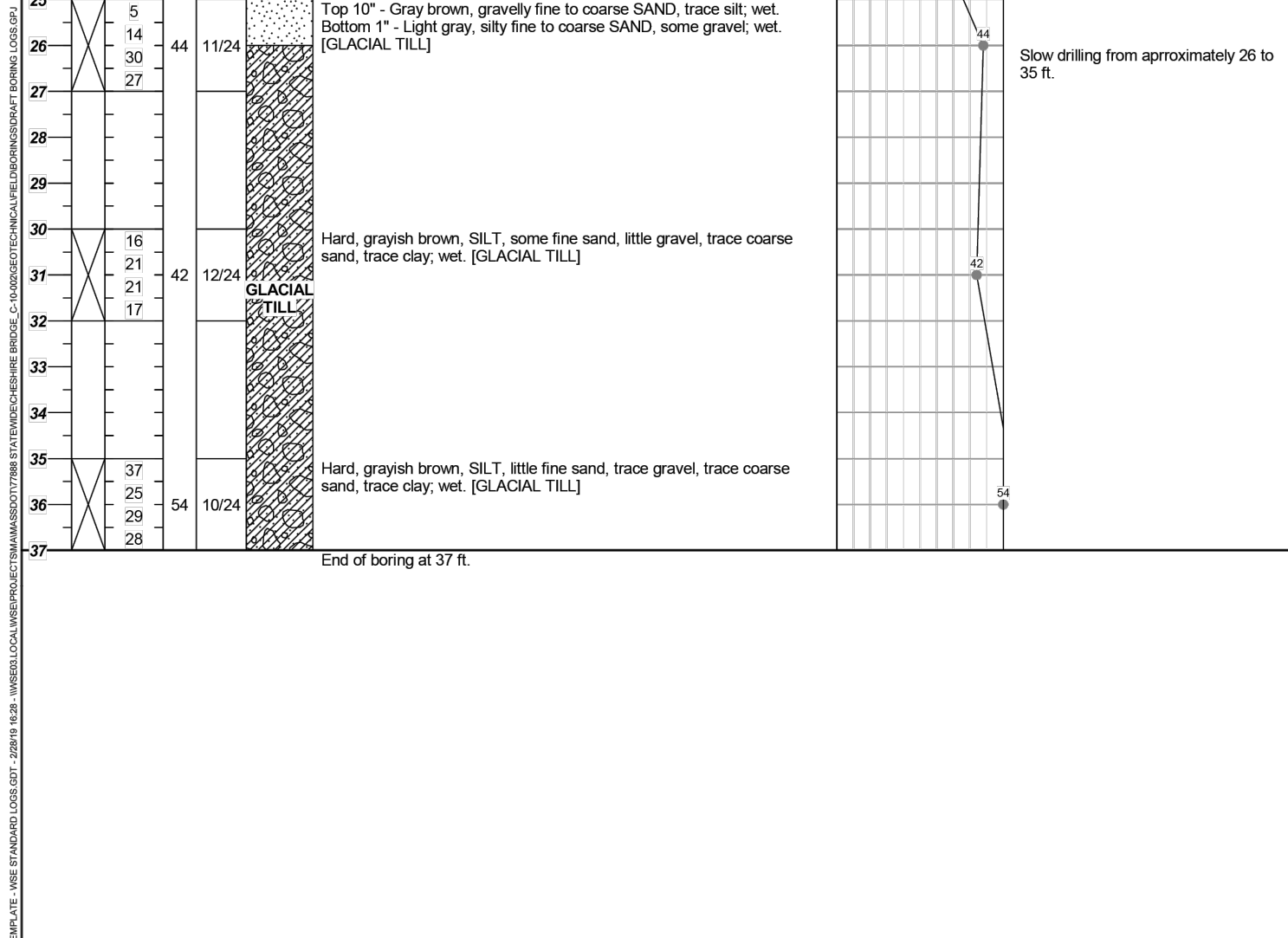
SAMPLE LEGEND		N-VALUE RELATIONSHIPS		GENERAL NOTES	
Standard split spoon sampler driven w/ 140-lb. hammer (24" long, 2" OD, 1-3/8" ID)	NK rock core sampler advanced using rotary drilling methods (5" long, 3" ID)	N-VALUE	DENSITY OF GRANULAR SOILS	CONSISTENCY OF SOILS	1. The stratification lines represent the approximate boundary between soil types; actual transitions may be gradual.
Thin-walled tube sampler pushed w/ 10-hydraulic (30" long, 3" ID)	Modified split spoon sampler driven w/ 140-lb. hammer (24" long, 3" OD, 2-3/8" ID)	0-4	Very Loose	< 2	2. Water level readings have been made in the drill holes at the times and conditions stated on the boring log. Fluctuations in the level of groundwater may occur due to other factors than those presented at the time measurements are made.
		4-10	Loose	2-4	
		10-30	Medium Dense	4-8	
		30-50	Dense	8-15	
		> 50	Very Dense	15-30	
				> 30	

BORING NUMBER: BB-2B

BORING NUMBER: BB-2B
PAGE 2 OF 2

CLIENT: Massachusetts Department of Transportation PROJECT: Sand Mill Road Bridge over Dry Brook LOGGED BY: B. Goffin
 PROJECT NUMBER: 2180468 LOCATION: Cheshire, Massachusetts CHECKED BY: S. Bridges
 CONTRACTOR: Seaboard Drilling DRILLING METHOD: Hollow-Stem Auger (HSA) BORING LOCATION: SEE TABLE
 FOREMAN/DRILLER: Mike Glynn CASING/AUGER SIZE: 4-1/4 in. (ID) HSA GROUND ELEV.: 1179 ft. +/- (NAVD 88)
 DRILL RIG TYPE: B-53 Mobil Drill Truck SAMPLING METHOD: Standard penetration test (SPT) DATE STARTED: 2/8/2019
 OTHER EQUIPMENT: SAMPLER HAMMER: 140-lb. winch operated safety hammer DATE COMPLETED: 2/8/2019

Depth Scale, ft.	Sample Type	Blows on Sampler/Blows on Casings	N-Value, Blows/ft.	Standard Penetration, in.	Strata Description and Graphic Log	Sample Description		Data Plots		Remarks and Additional Tests
						General Format: Descriptive, color, classification name (secondary PRIMARY, additional, moisture, additional information) [UNIT NAME and/or ORIGIN]	Laboratory Test Data: WCH = Weight of hole, PL = Plastic Limit, % MC = Moisture content, % LL = Liquid Limit, % OC = Organic content, %	In-Situ Test Data: @ SPT N-Value	MC	



SAMPLE LEGEND		N-VALUE RELATIONSHIPS		GENERAL NOTES	
Standard split spoon sampler driven w/ 140-lb. hammer (24" long, 2" OD, 1-3/8" ID)	NK rock core sampler advanced using rotary drilling methods (5" long, 3" ID)	N-VALUE	DENSITY OF GRANULAR SOILS	CONSISTENCY OF SOILS	1. The stratification lines represent the approximate boundary between soil types; actual transitions may be gradual.
Thin-walled tube sampler pushed w/ 10-hydraulic (30" long, 3" ID)	Modified split spoon sampler driven w/ 140-lb. hammer (24" long, 3" OD, 2-3/8" ID)	0-4	Very Loose	< 2	2. Water level readings have been made in the drill holes at the times and conditions stated on the boring log. Fluctuations in the level of groundwater may occur due to other factors than those presented at the time measurements are made.
		4-10	Loose	2-4	
		10-30	Medium Dense	4-8	
		30-50	Dense	8-15	
		> 50	Very Dense	15-30	
				> 30	

BORING NUMBER: BB-2B

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BORING/PROBE NOTES:

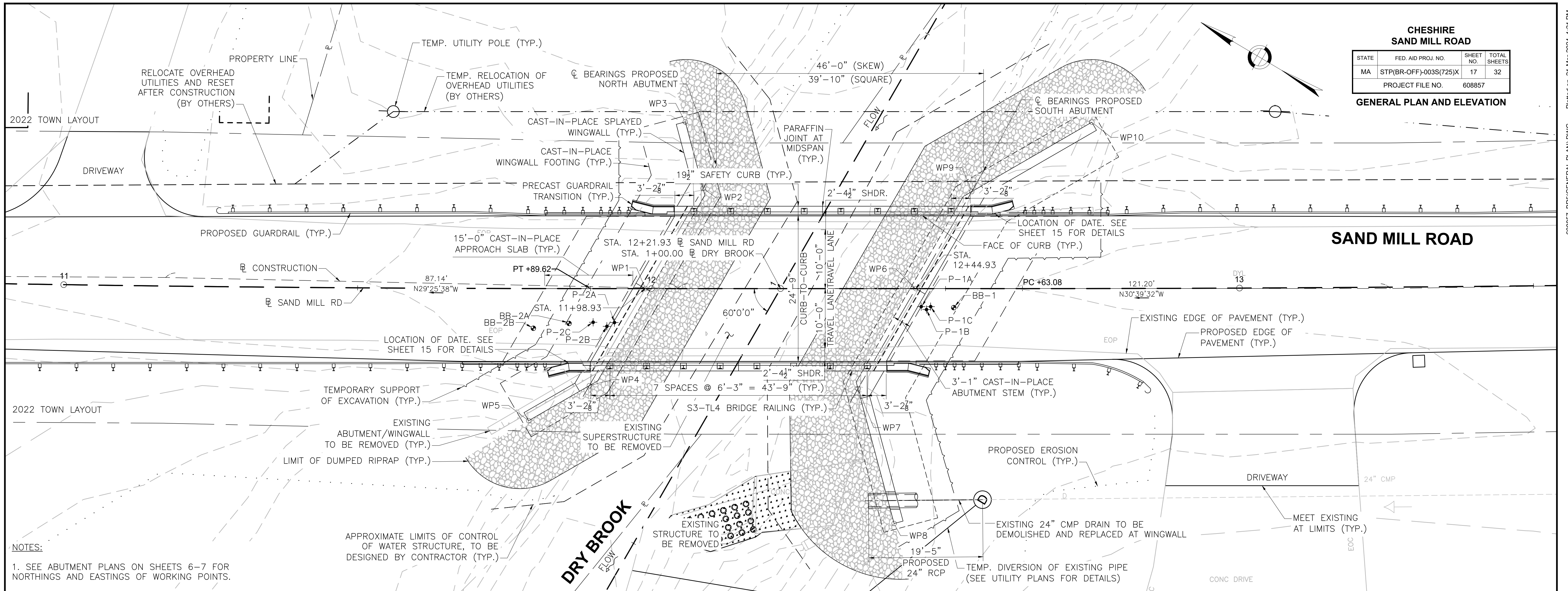
FOR BORING/PROBE NOTES, BORING LOCATION TABLE, AND ABUTMENT PROBE SUMMARY TABLE, SEE SHEET 3.

MAR. 16, 2024	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT	
AUTHORIZED SIGNATORY:	STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE	

**CHESHIRE
SAND MILL ROAD**

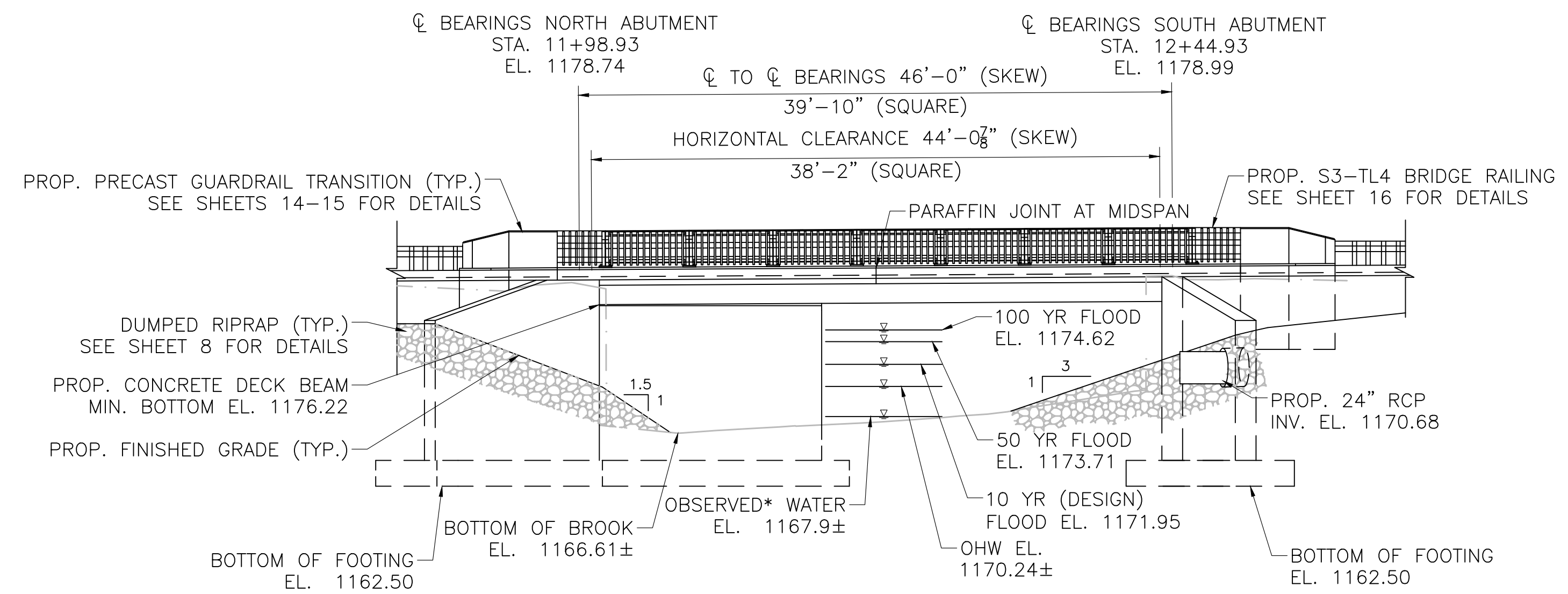
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	STP(BR-OFF)-003S(725)X	17	32
PROJECT FILE NO.		608857	

GENERAL PLAN AND ELEVATION



NOTES:
1. SEE ABUTMENT PLANS ON SHEETS 6-7 FOR NORTHINGS AND EASTINGS OF WORKING POINTS.

GENERAL PLAN
SCALE: 1/8" = 1'-0"



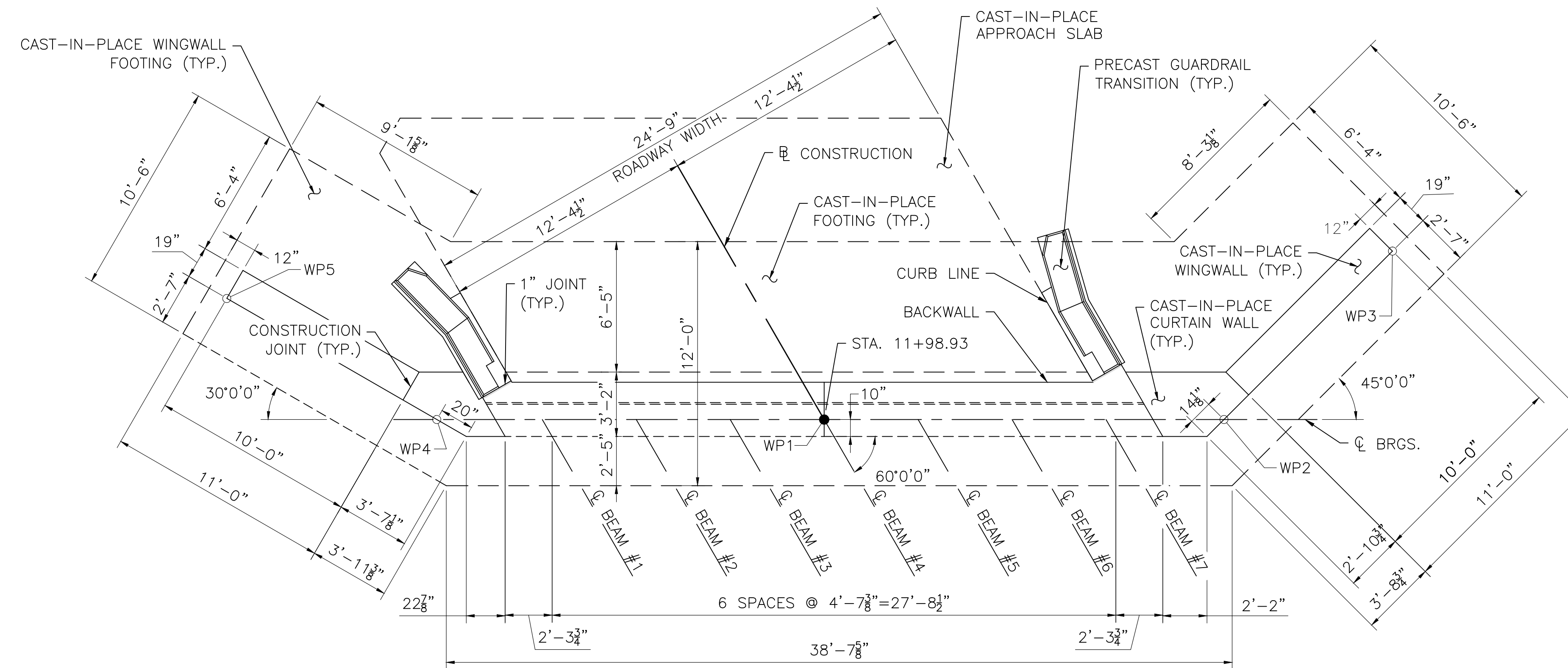
SOUTH ELEVATION
SCALE: 1/8" = 1'-0"

DATE	DESCRIPTION
MAR. 16, 2024	ISSUED FOR CONSTRUCTION
	THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
	AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
	USE ONLY PRINTS OF LATEST DATE

CHESHIRE
SAND MILL ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	STP(BR-OFF)-003S(725)X	18	32
PROJECT FILE NO.		608857	

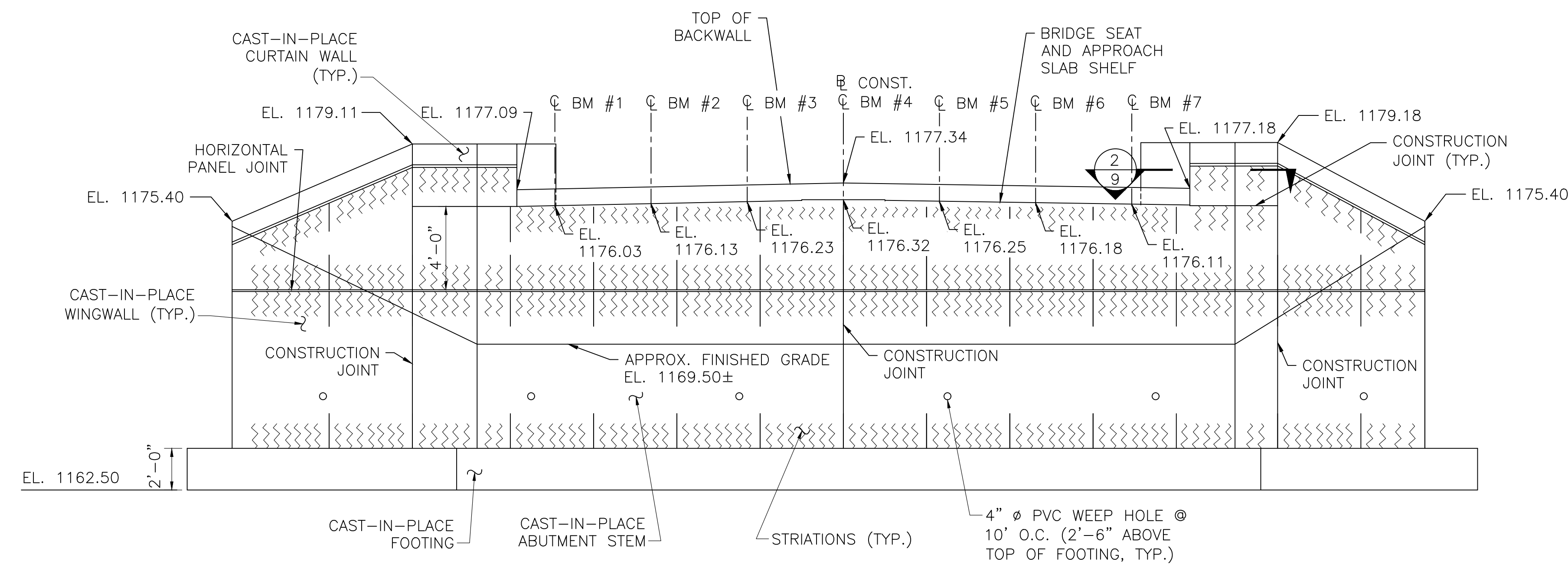
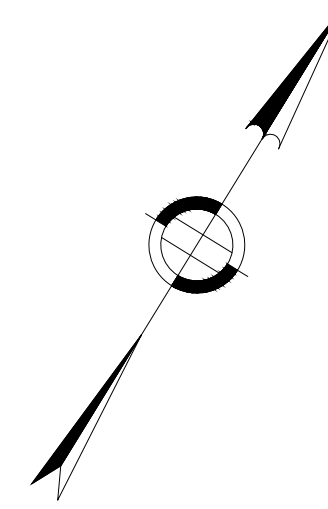
NORTH ABUTMENT PLAN AND ELEVATION



NOTE:
WINGWALL COPING 1" OVERHANG
NOT SHOWN FOR CLARITY. SEE
SHEET 9 FOR DETAILS.

NORTH ABUTMENT PLAN

SCALE: 1/4" = 1'-0"



NORTH ABUTMENT ELEVATION

SCALE: 1/4" = 1'-0"

NOTE:
BEAM ELEVATIONS SHOWN ARE
AT BEARINGS.

WORKING POINT COORDINATES		
POINT	NORTHING	EASTING
WP1	3042647.4853	222561.6539
WP2	3042647.7113	222581.3037
WP3	3042656.0909	222589.4927
WP4	3042647.2662	222542.6092
WP5	3042653.1093	222532.2219

NOTES:

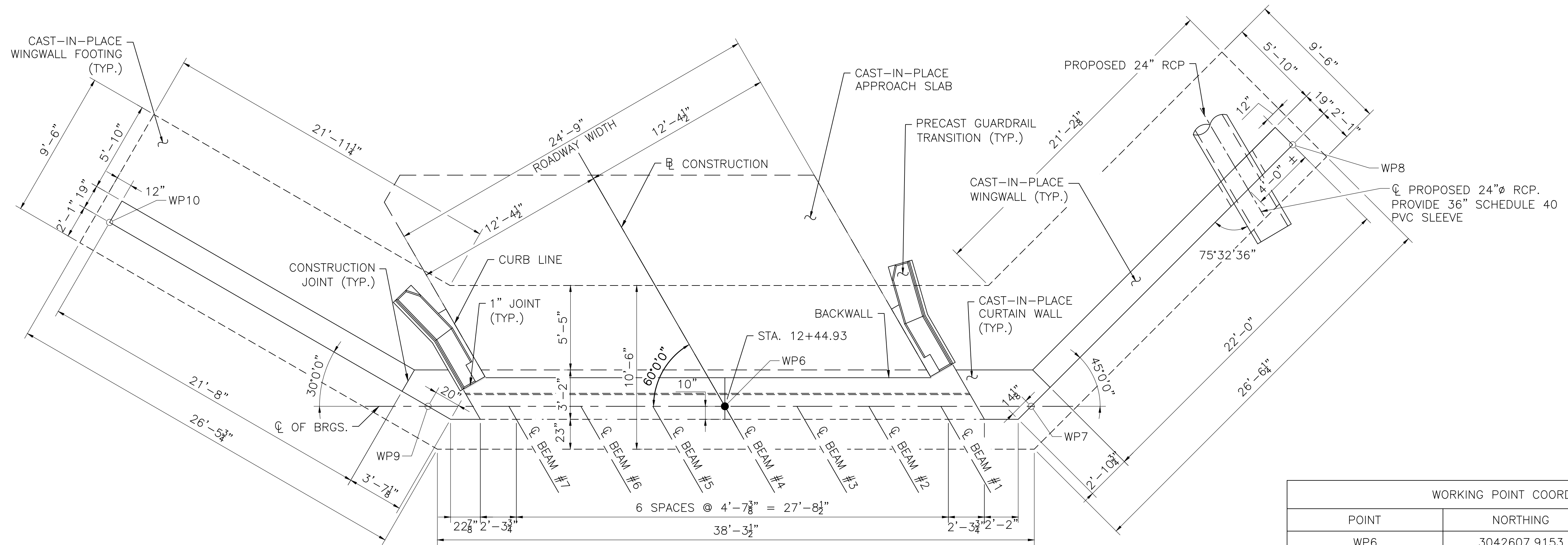
- SEE SHEET 8 FOR ABUTMENT SECTIONS AND NOTES.
- SEE SHEET 8 FOR CONSTRUCTION JOINT DETAILS.
- SEE SHEET 10 FOR STRIATION DETAILS.

MAR. 16, 2024	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT	
AUTHORIZED SIGNATORY:	STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE	

CHESHIRE
SAND MILL ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	STP(BR-OFF)-003S(725)X	19	32
PROJECT FILE NO.		608857	

SOUTH ABUTMENT PLAN AND ELEVATION



SOUTH ABUTMENT PLAN

SCALE: 1/4" = 1'-0"

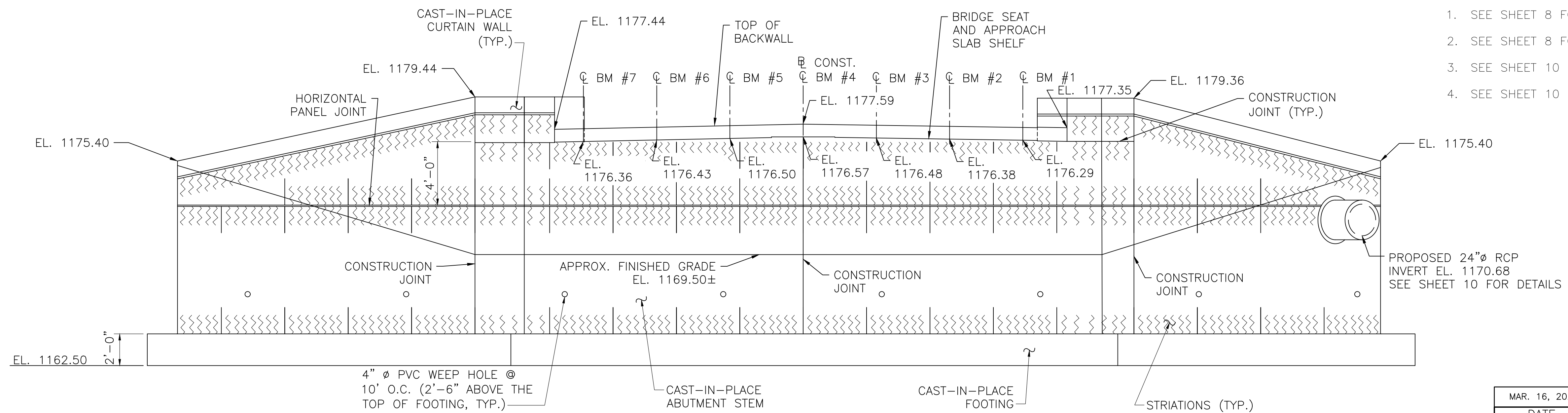
NOTE:
WINGWALL COPING 1" OVERHANG
NOT SHOWN FOR CLARITY. SEE
SHEET 9 FOR DETAILS.

WORKING POINT COORDINATES

POINT	NORTHING	EASTING
WP6	3042607.9153	222585.1106
WP7	3042607.6893	222565.4608
WP8	3042590.7274	222548.8846
WP9	3042608.1342	222604.1480
WP10	3042596.5745	222624.7127

NOTES:

- SEE SHEET 8 FOR SECTIONS AND NOTES.
- SEE SHEET 8 FOR CONSTRUCTION JOINT DETAILS.
- SEE SHEET 10 FOR STRIATION DETAILS.
- SEE SHEET 10 FOR UTILITY PENETRATION DETAILS.



SOUTH ABUTMENT ELEVATION

SCALE: 1/4" = 1'-0"

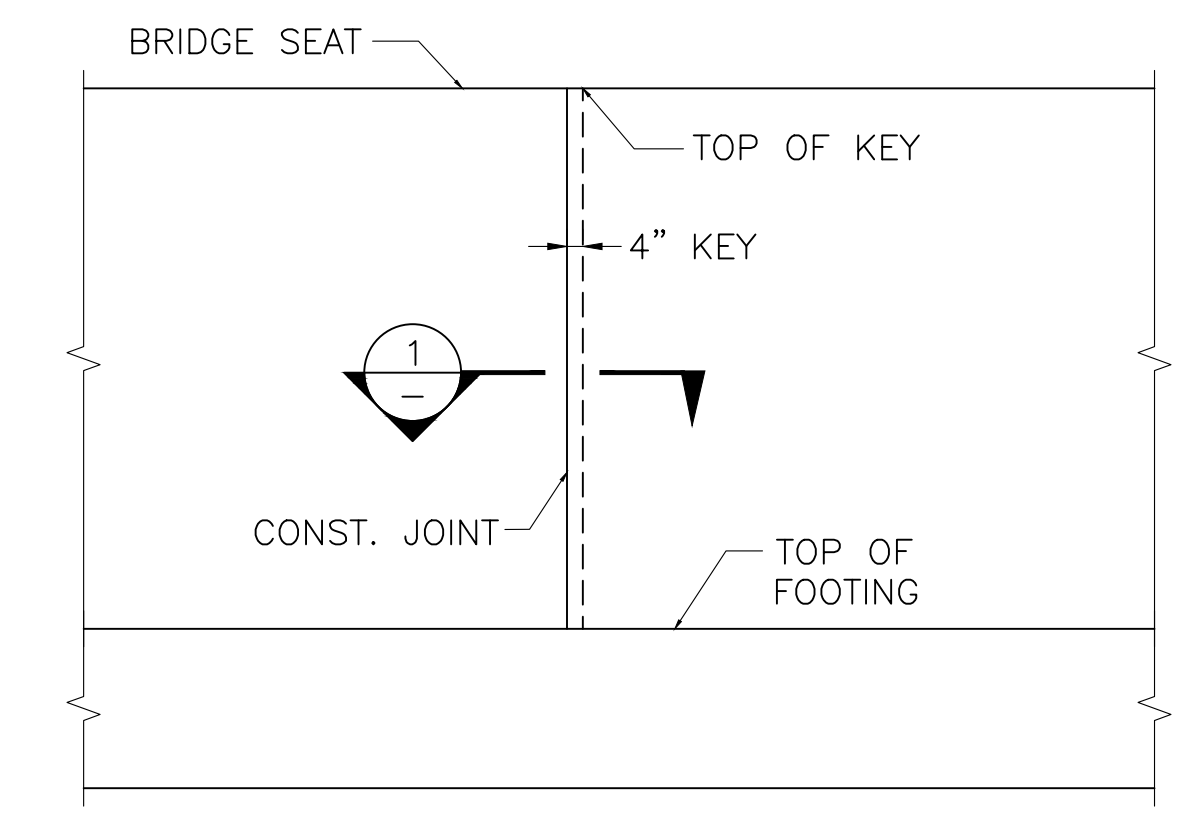
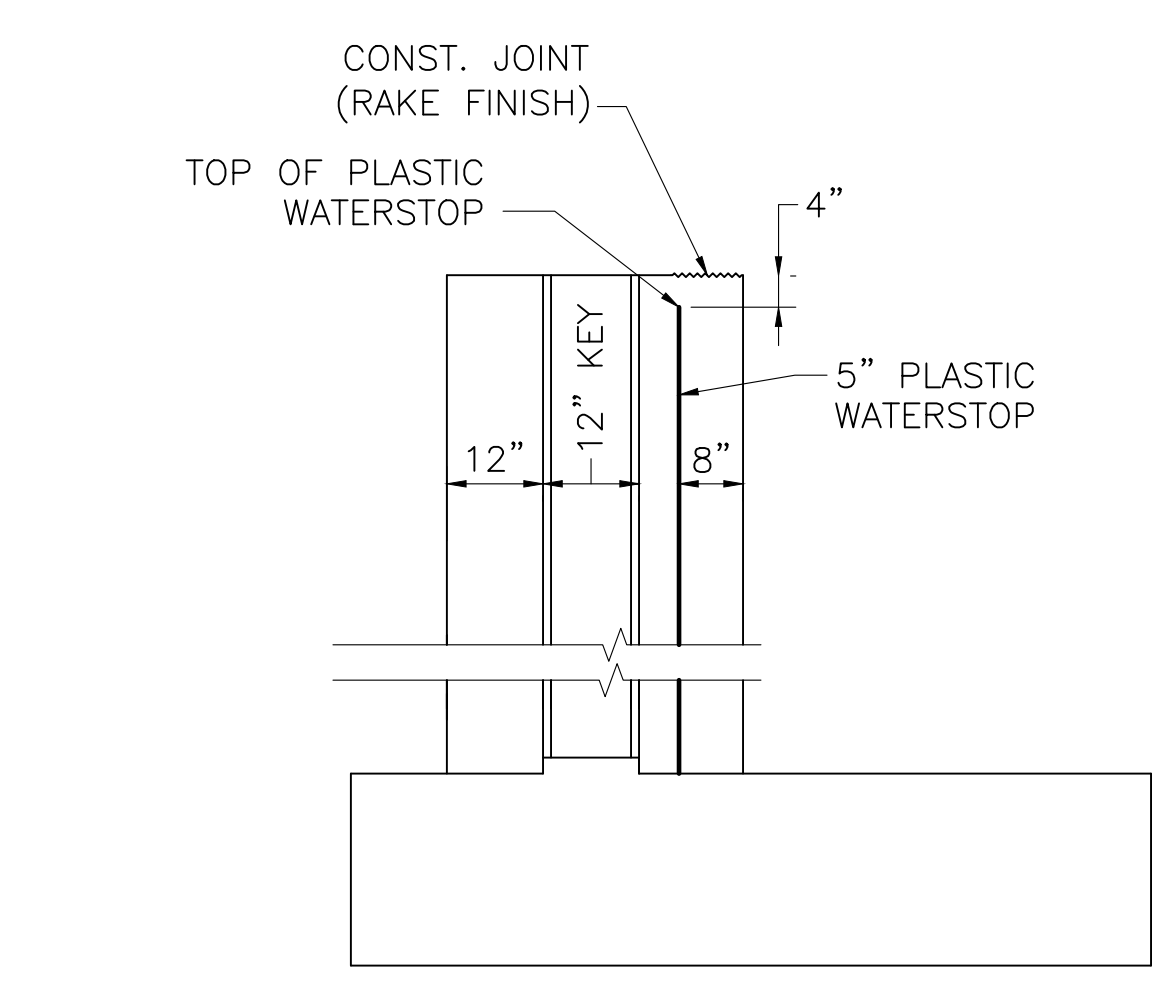
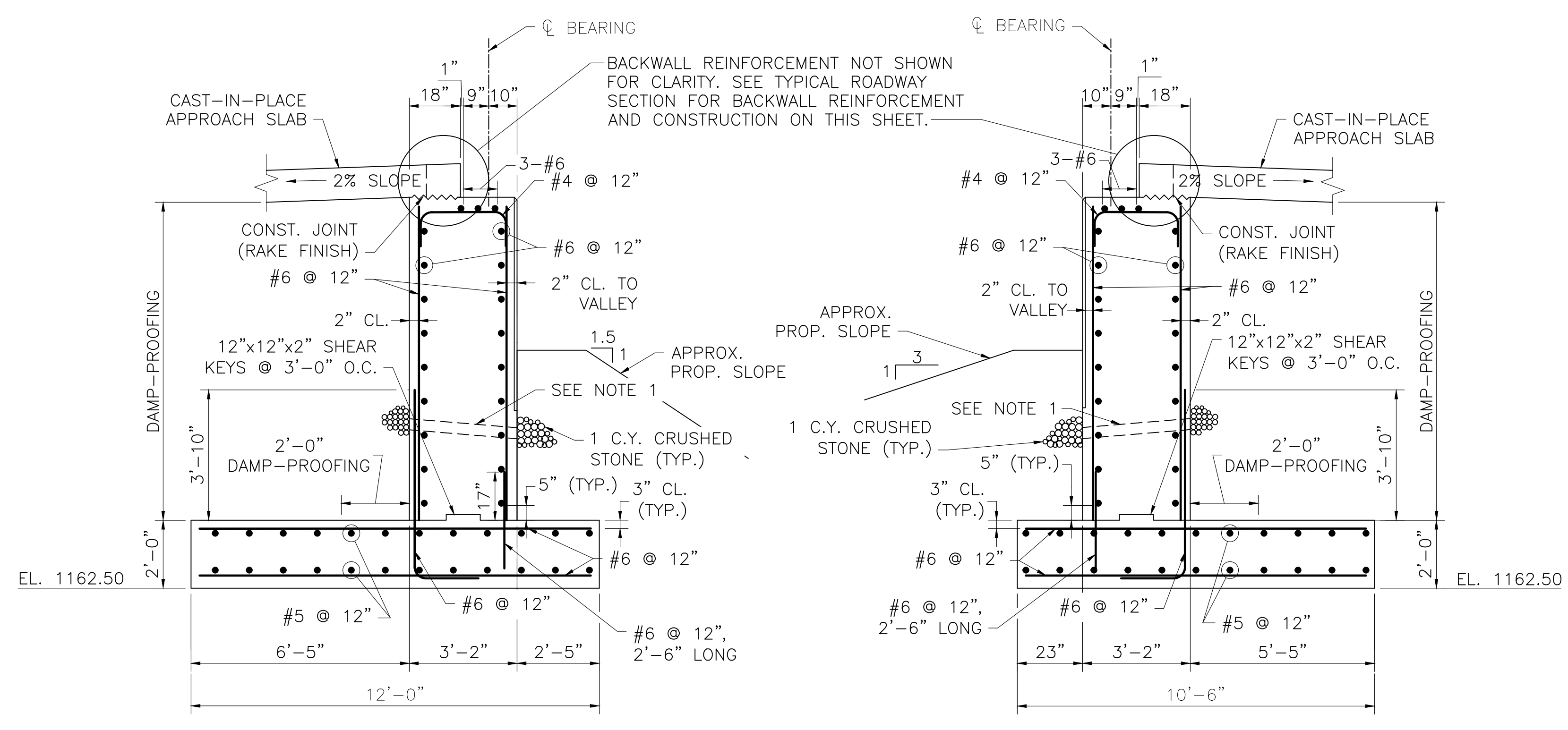
NOTE:
◊ BEAM ELEVATIONS SHOWN ARE
AT ◊ BEARINGS.

MAR. 16, 2024	ISSUED FOR CONSTRUCTION
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**CHESHIRE
SAND MILL ROAD**

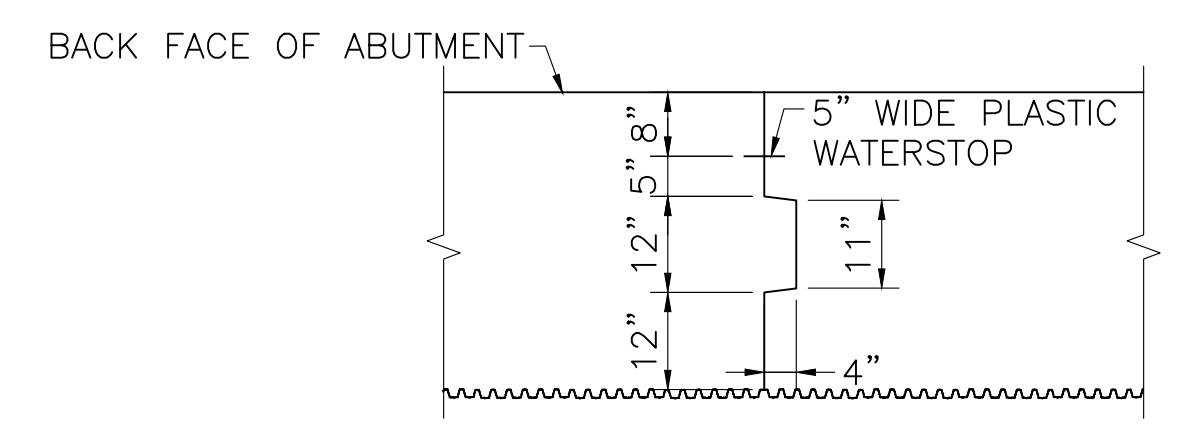
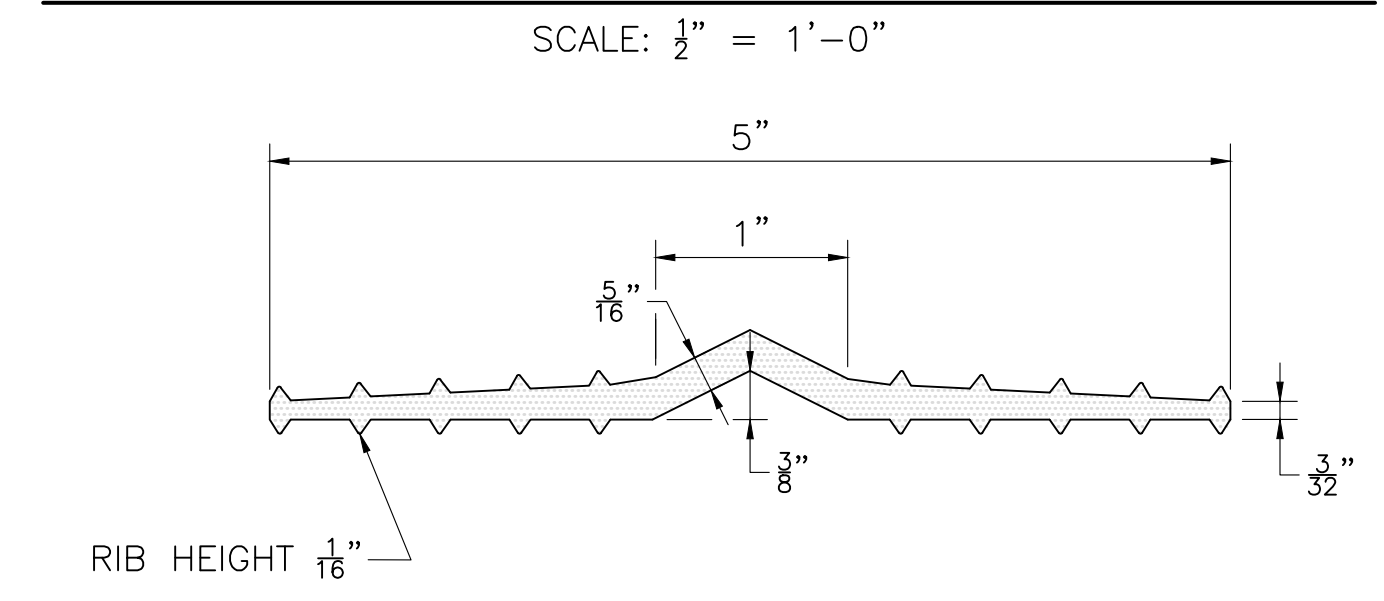
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	STP(BR-OFF)-003S(725)X	20	32
PROJECT FILE NO.			608857

ABUTMENT DETAILS



NOTE:
REINFORCEMENT SHALL BE CONTINUOUS THRU CONSTRUCTION JOINTS.

5" WATERSTOP
NOT TO SCALE

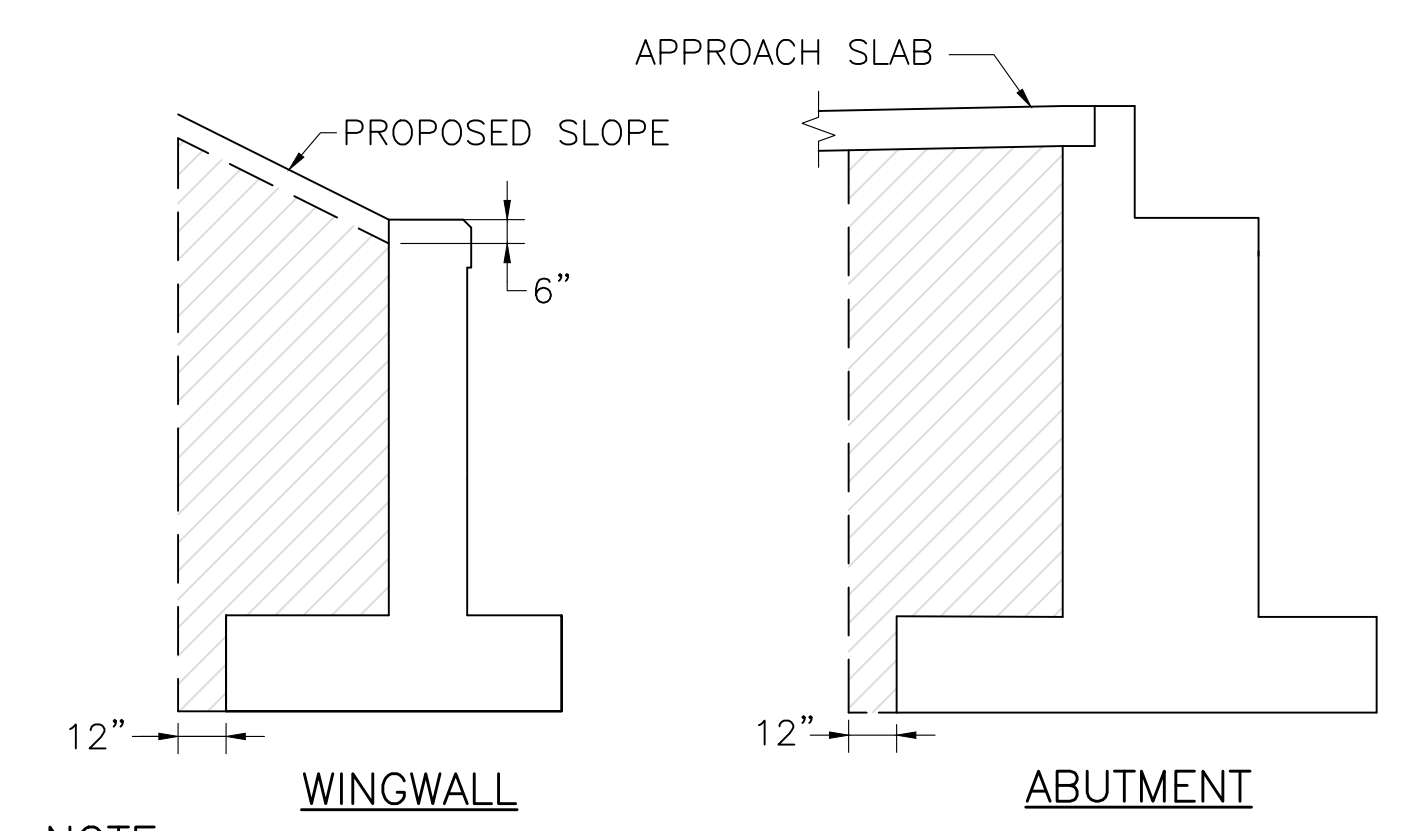
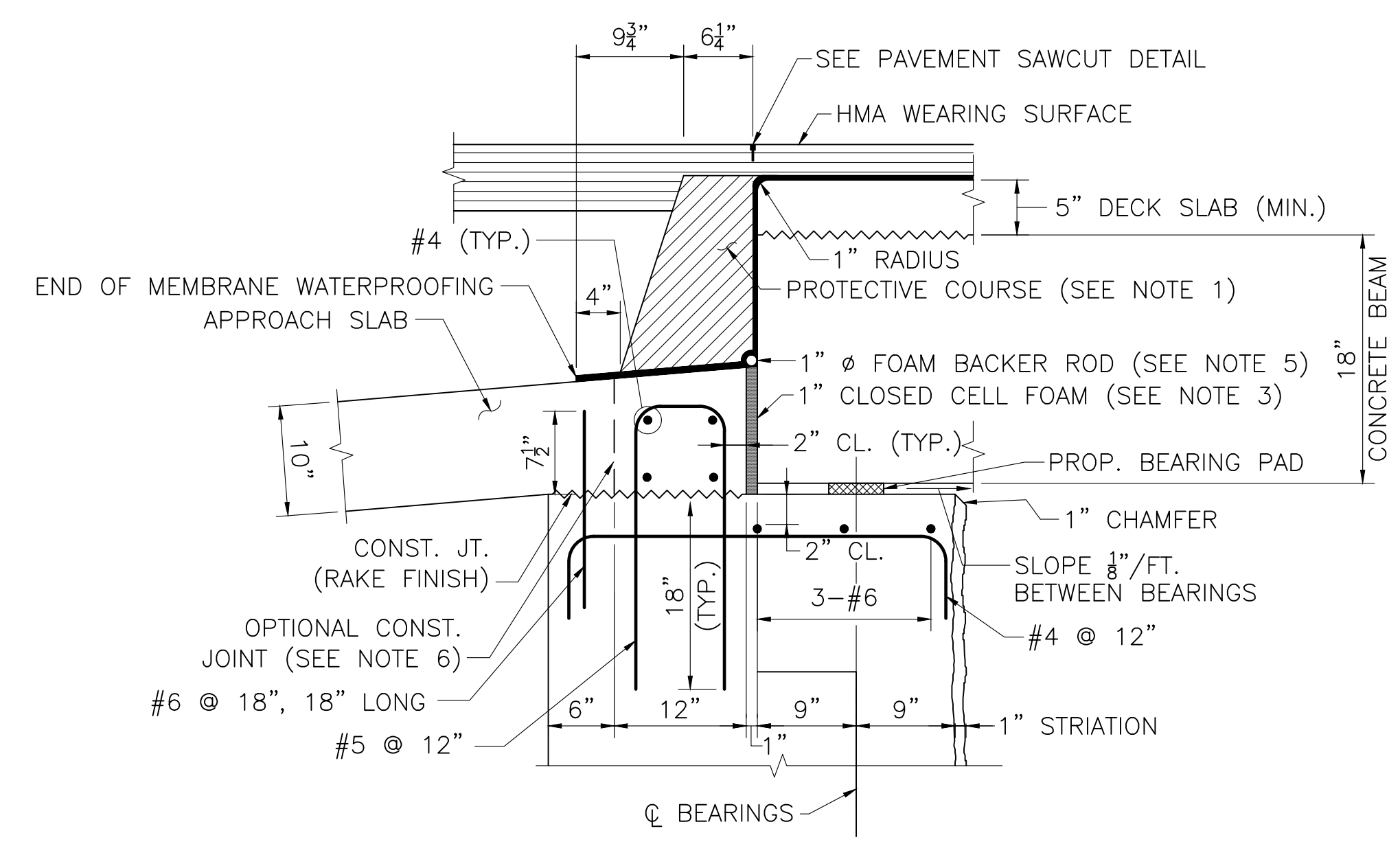


NOTES:

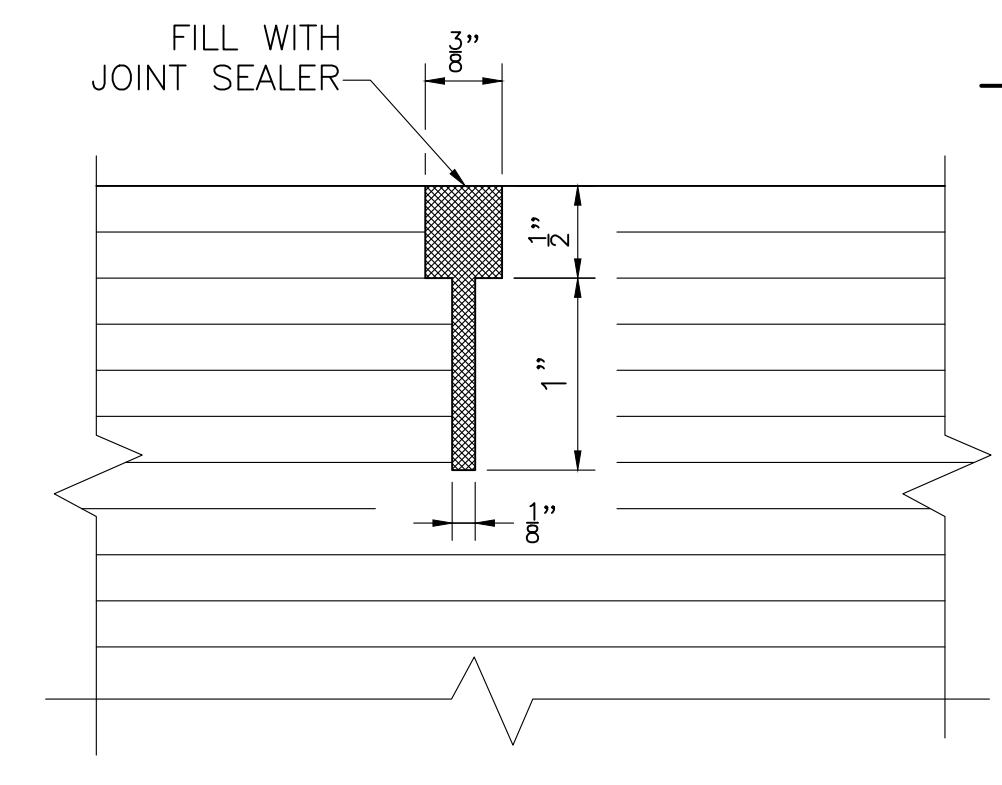
- 4" WEEP HOLES 10'-0" O.C. PROVIDE 1 CUBIC YARD OF CRUSHED STONE AT EACH END OF WEEP HOLE.
- ALL CONCRETE SHALL BE 4000 PSI CONCRETE, 1 1/2 IN, 565 CEMENT CONCRETE EXCEPT THE BACKWALL, WHICH SHALL BE 4000 PSI, 3/4 IN, 610 CEMENT CONCRETE.
- THE NORTH ABUTMENT FACTORED BEARING PRESSURE = 4.61 KSF AS PER AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS STRENGTH I LOAD COMBINATION. FACTORED BEARING RESISTANCE = 5.49 KSF. FACTORED BEARING RESISTANCE IS THE PRODUCT OF THE NOMINAL BEARING RESISTANCE AND A RESISTANCE FACTOR OF 0.45.
- THE SOUTH ABUTMENT FACTORED BEARING PRESSURE = 5.68 KSF AS PER AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS STRENGTH I LOAD COMBINATION. FACTORED BEARING RESISTANCE = 7.62 KSF. FACTORED BEARING RESISTANCE IS THE PRODUCT OF THE NOMINAL BEARING RESISTANCE AND A RESISTANCE FACTOR OF 0.45.

NOTES:

- PROTECTIVE COURSE TO BE CLASS I DENSE BINDER COURSE FOR BRIDGES, PLACED IN 2" LAYERS AND COMPACTED WITH A MECHANICAL HAND-GUIDED TAMPER WITHIN 12 HOURS AFTER PLACING MEMBRANE WATERPROOFING.
- ALL REINFORCING SHOWN IN THIS DETAIL SHALL BE COATED BARS, EXCEPT FOR APPROACH SLAB REINFORCEMENT.
- ATTACH CLOSED CELL FOAM TO BACK OF PRECAST BEAM WITH ADHESIVE.
- ALL BACKWALL CONCRETE SHALL BE 4000 PSI, 3/4 IN, 610 CEMENT CONCRETE AND SHALL BE PLACED AFTER ALL BEAMS HAVE BEEN ERECTED.
- DRAPe MEMBRANE WATERPROOFING OVER CLOSED CELL FOAM BACKER ROD.
- IF THE APPROACH SLAB IS POURED MONOLITHICALLY WITH THE BACKWALLS, MAKE A 2" DEEP BY 3/8" WIDE SAWCUT IN THE TOP OF THE SLAB AT THE OPTIONAL CONSTRUCTION JOINT LOCATION. FILL SAWCUT WITH CONCRETE JOINT SEALER. SEE "PAVEMENT SAWCUT DETAIL" ON THIS SHEET.



NOTE:
HATCHED AREA INDICATES LIMITS OF GRAVEL BORROW FOR BACKFILLING STRUCTURES AND PIPES.

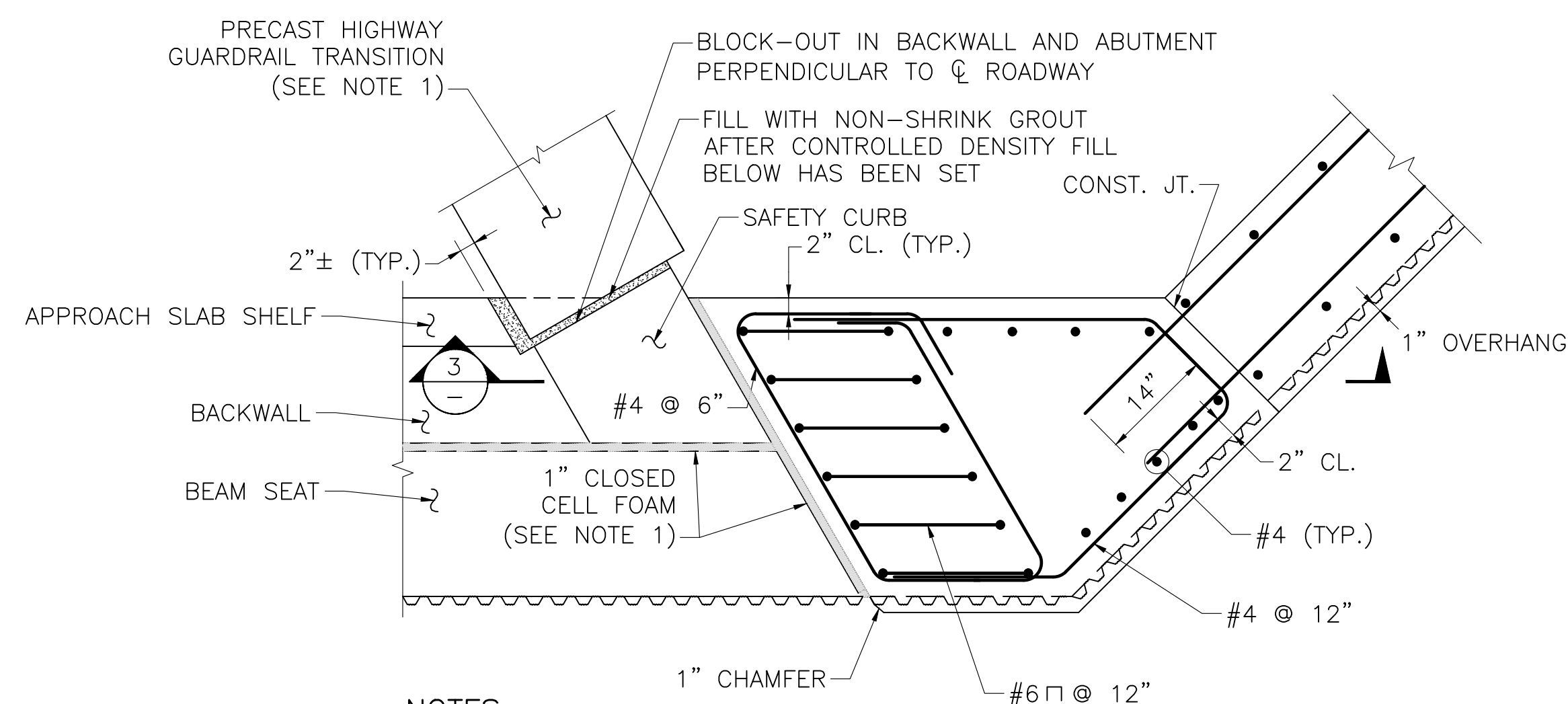


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CHESHIRE
SAND MILL ROAD

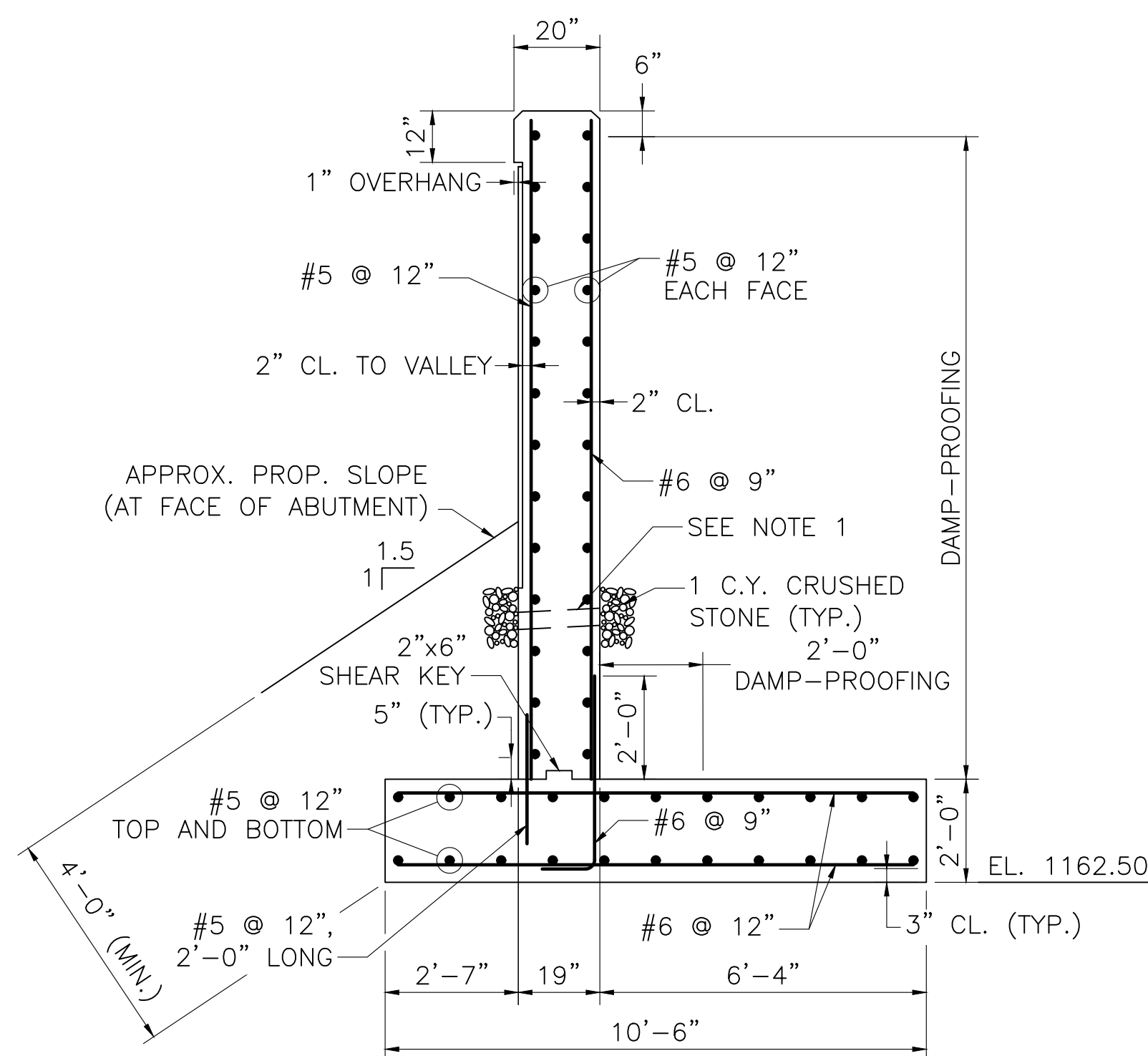
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	STP(BR-OFF)-003S(725)X	21	32
PROJECT FILE NO.		608857	

CURTAIN WALL AND WINGWALL DETAILS

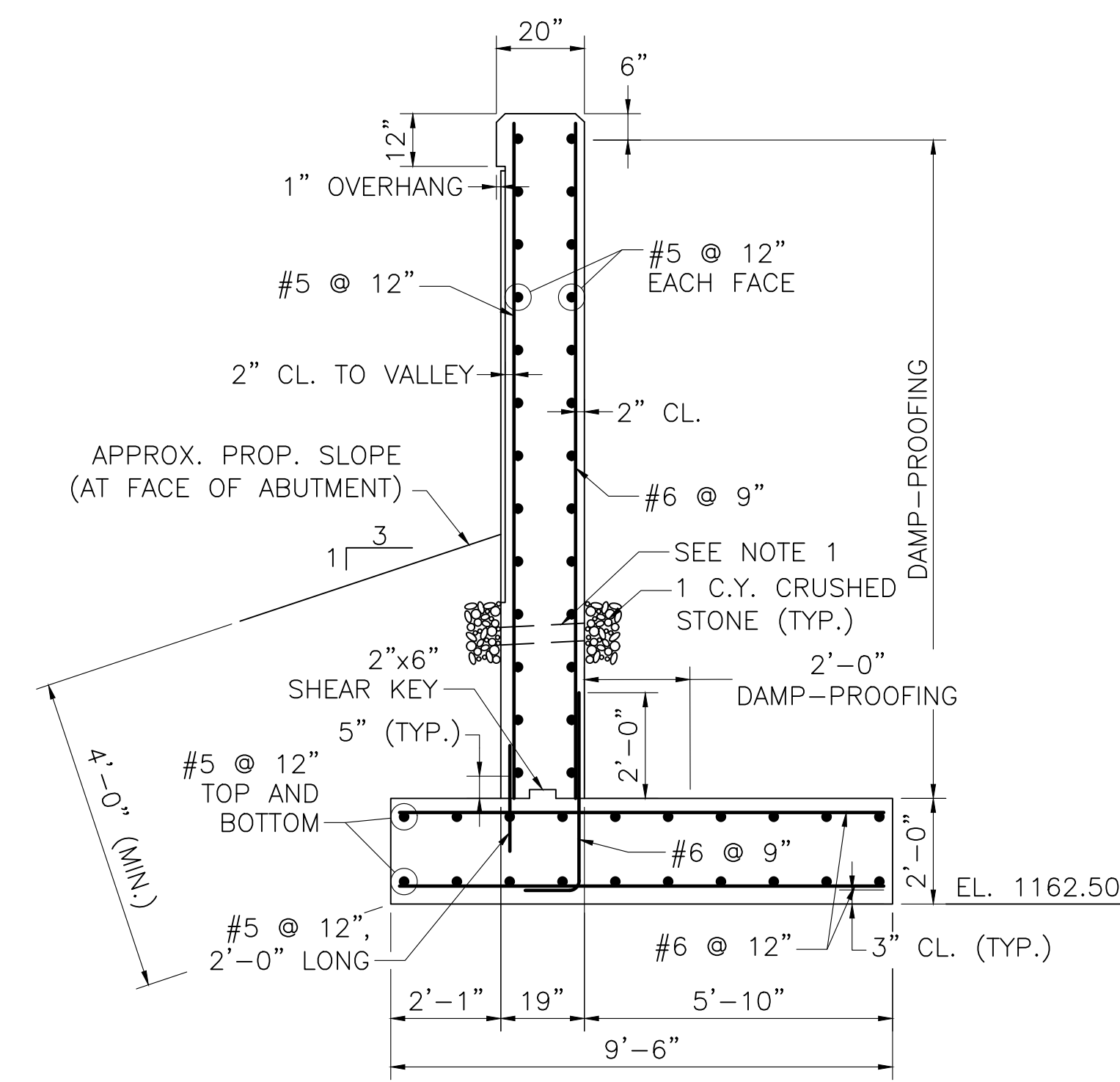


- NOTES:**
- ATTACH CLOSED CELL FOAM TO THE BACK AND SIDE OF THE EXTERIOR PRECAST BEAM PRIOR TO PLACING THE CONCRETE FOR THE BACKWALL AND CURTAIN WALL.
 - NORTH EAST WINGWALL SHOWN, SOUTH WEST WINGWALL SIMILAR. NORTH WEST AND SOUTH EAST WINGWALLS VARY DUE TO SKEW.

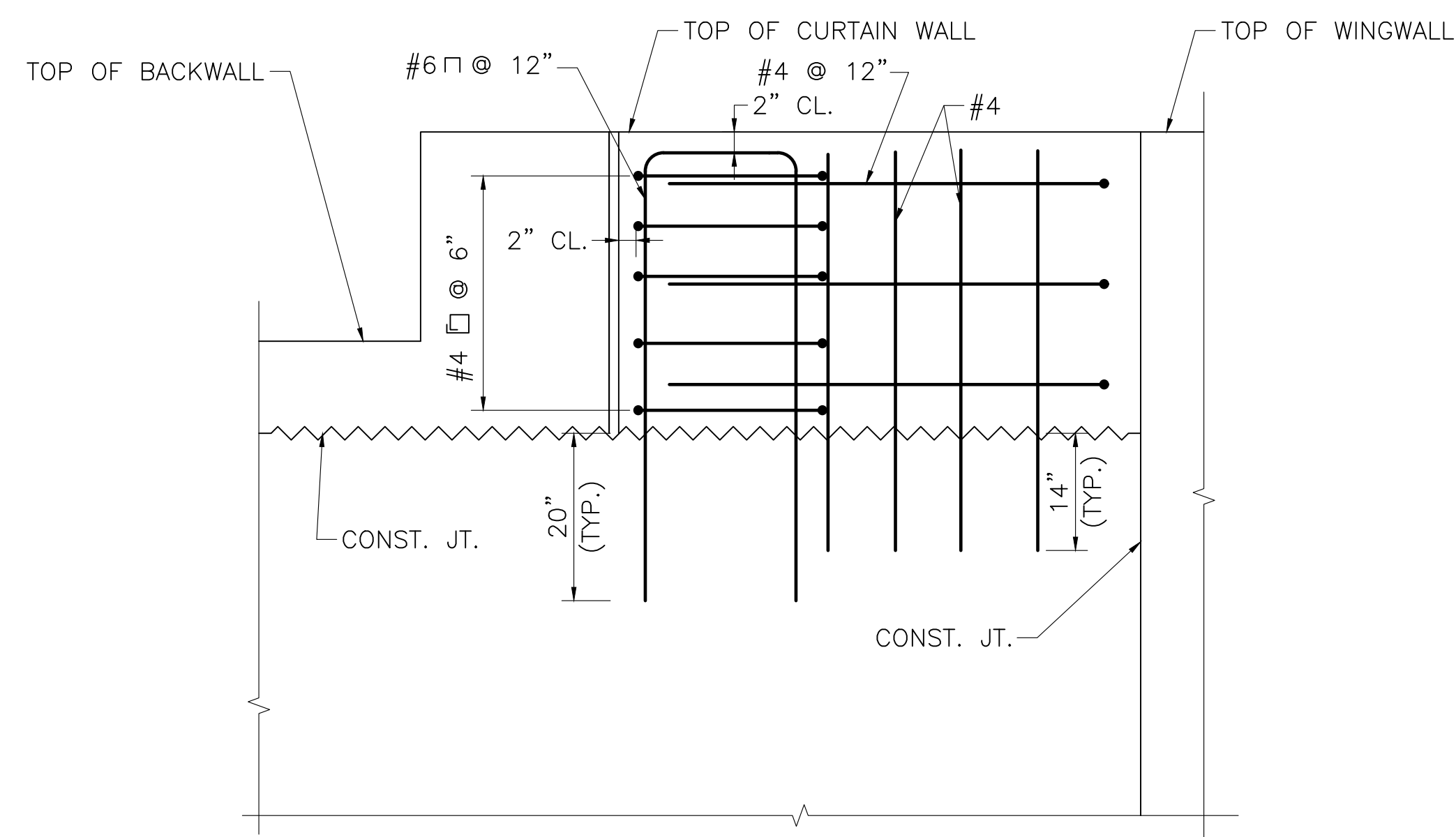
SECTION 2
SCALE: 3/8" = 1'-0"



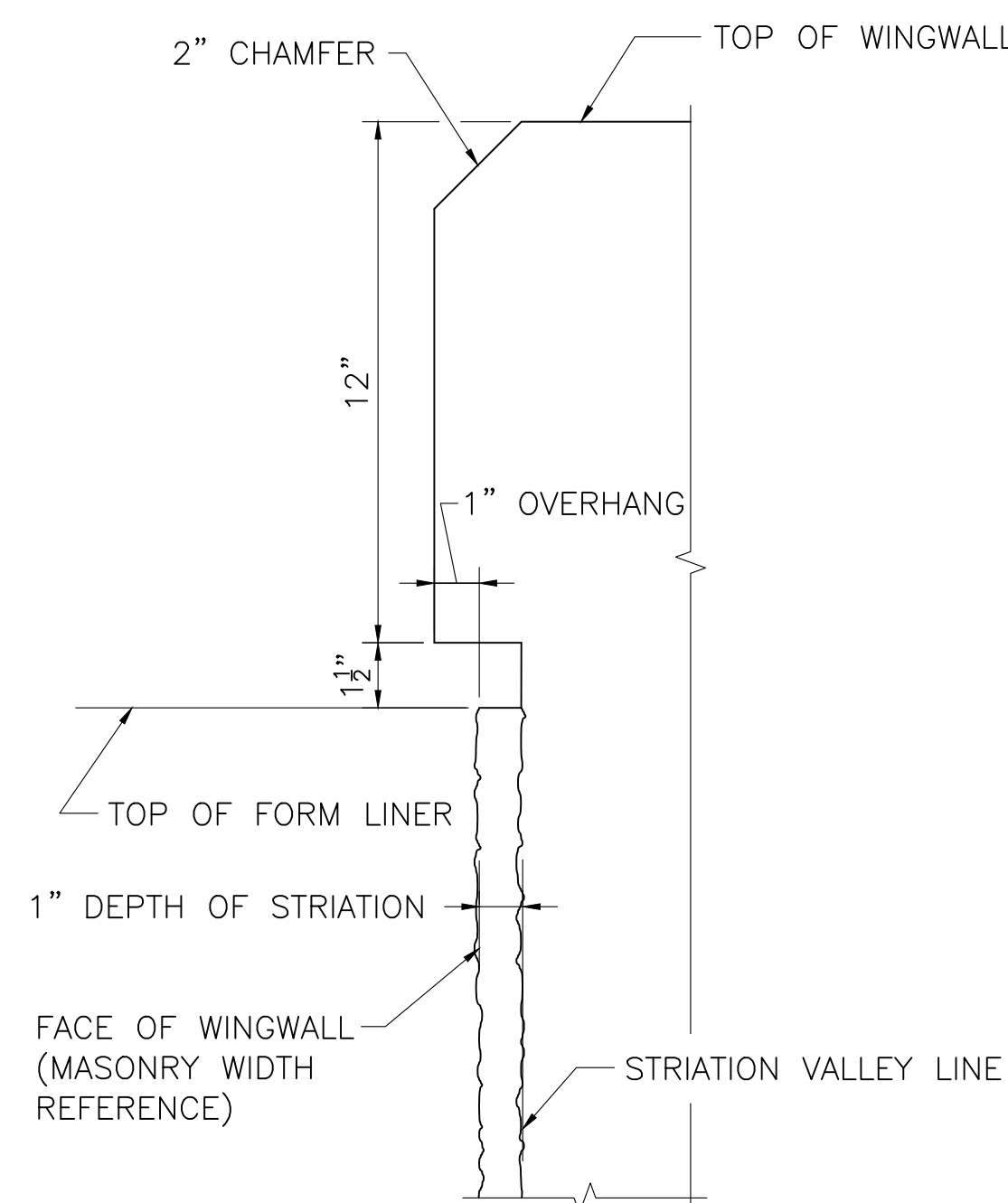
NORTH WINGWALL TYPICAL SECTION
SCALE: 3/8" = 1'-0"



SOUTH WINGWALL TYPICAL SECTION
SCALE: 3/8" = 1'-0"



SECTION 3
SCALE: 3/8" = 1'-0"



WINGWALL COPING DETAIL
SCALE: 3/8" = 1'-0"

WINGWALL NOTES:

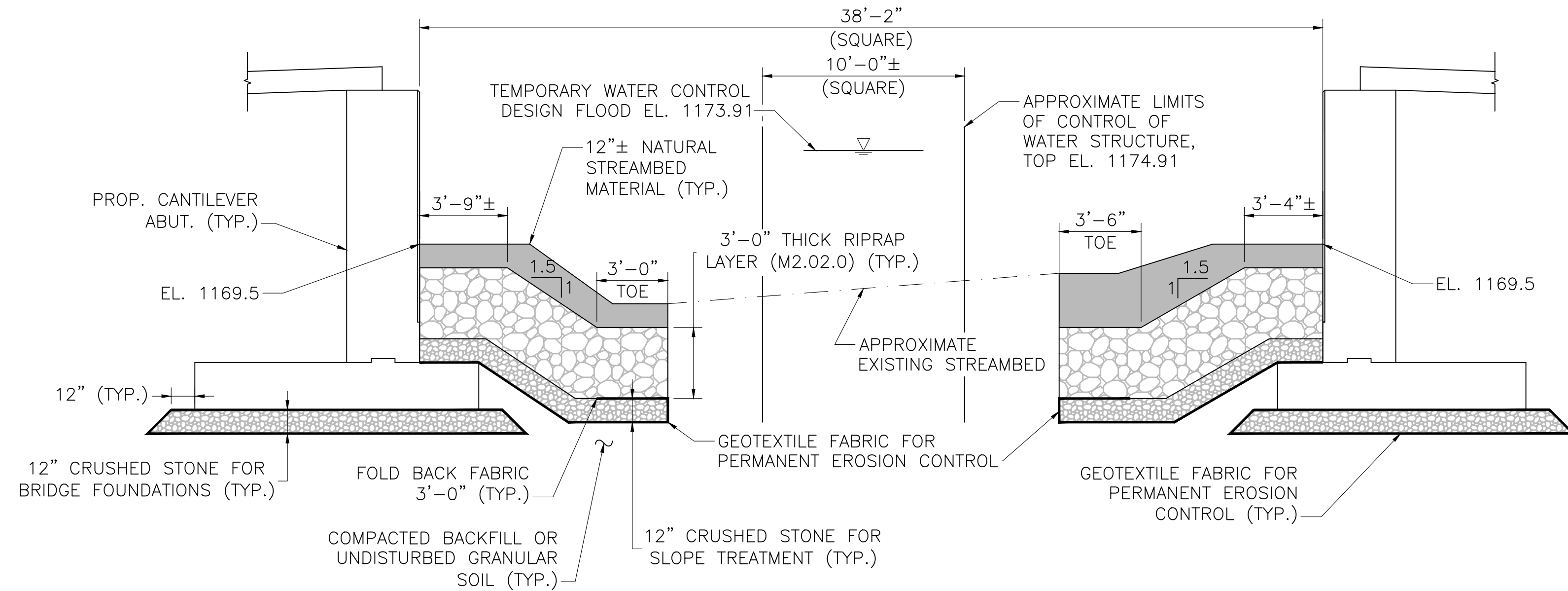
- 4" Ø WEEP HOLES 10'-0" O.C. PROVIDE 1 CUBIC YARD OF CRUSHED STONE AT EACH END OF WEEP HOLE.
- ALL CONCRETE SHALL 4000 PSI, 1 1/2 IN, 565 CEMENT CONCRETE.
- THE NORTH WINGWALLS FACTORED BEARING PRESSURE = 2.66 KSF AS PER AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS STRENGTH I LOAD COMBINATION.
FACTORED BEARING RESISTANCE = 6.96 KSF. FACTORED BEARING RESISTANCE IS THE PRODUCT OF THE NOMINAL BEARING RESISTANCE AND A RESISTANCE FACTOR OF 0.55.
- THE SOUTH WINGWALLS FACTORED BEARING PRESSURE = 3.17 KSF AS PER AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS STRENGTH I LOAD COMBINATION.
FACTORED BEARING RESISTANCE = 7.97 KSF. FACTORED BEARING RESISTANCE IS THE PRODUCT OF THE NOMINAL BEARING RESISTANCE AND A RESISTANCE FACTOR OF 0.55.

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**CHESHIRE
SAND MILL ROAD**

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	STP(BR-OFF)-003S(725)X	22	32
PROJECT FILE NO. 608857			

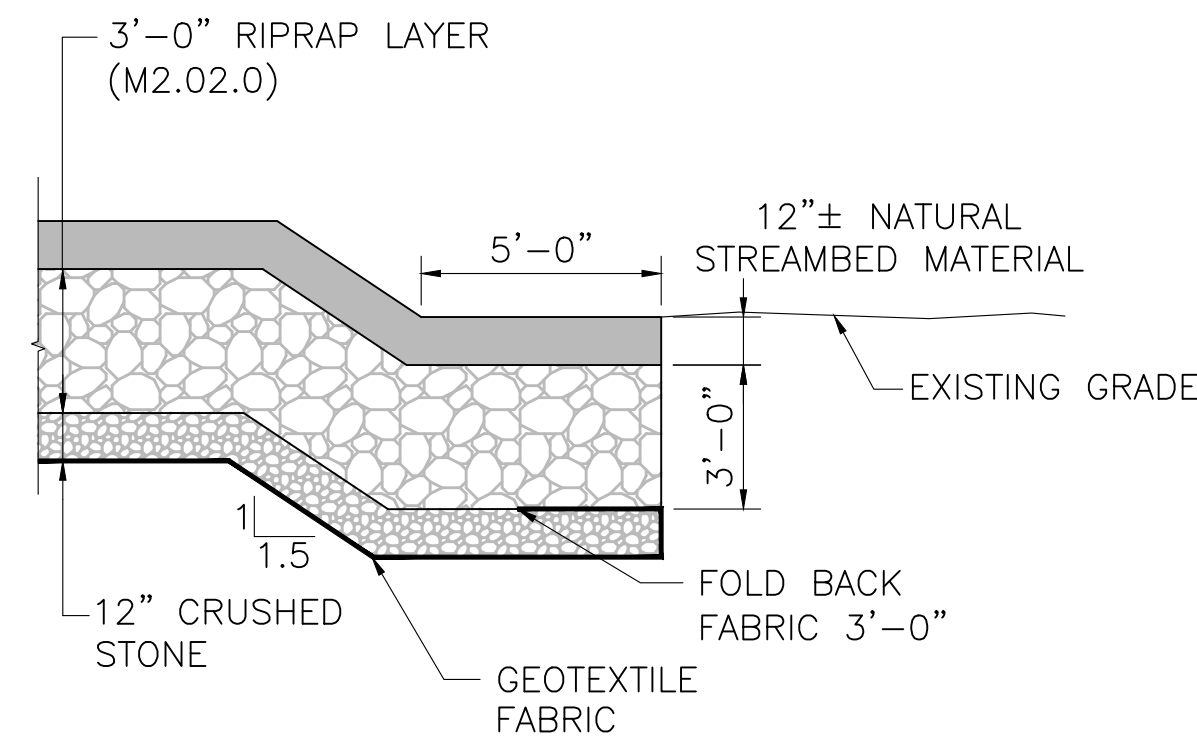
MISCELLANEOUS SUBSTRUCTURE DETAILS



NOTE: THE LIMITS OF THE TEMPORARY WATER CONTROL DESIGN DATA IS BASED ON PARALLEL CONSTRUCTION OF BOTH THE NORTH AND SOUTH ABUTMENTS.

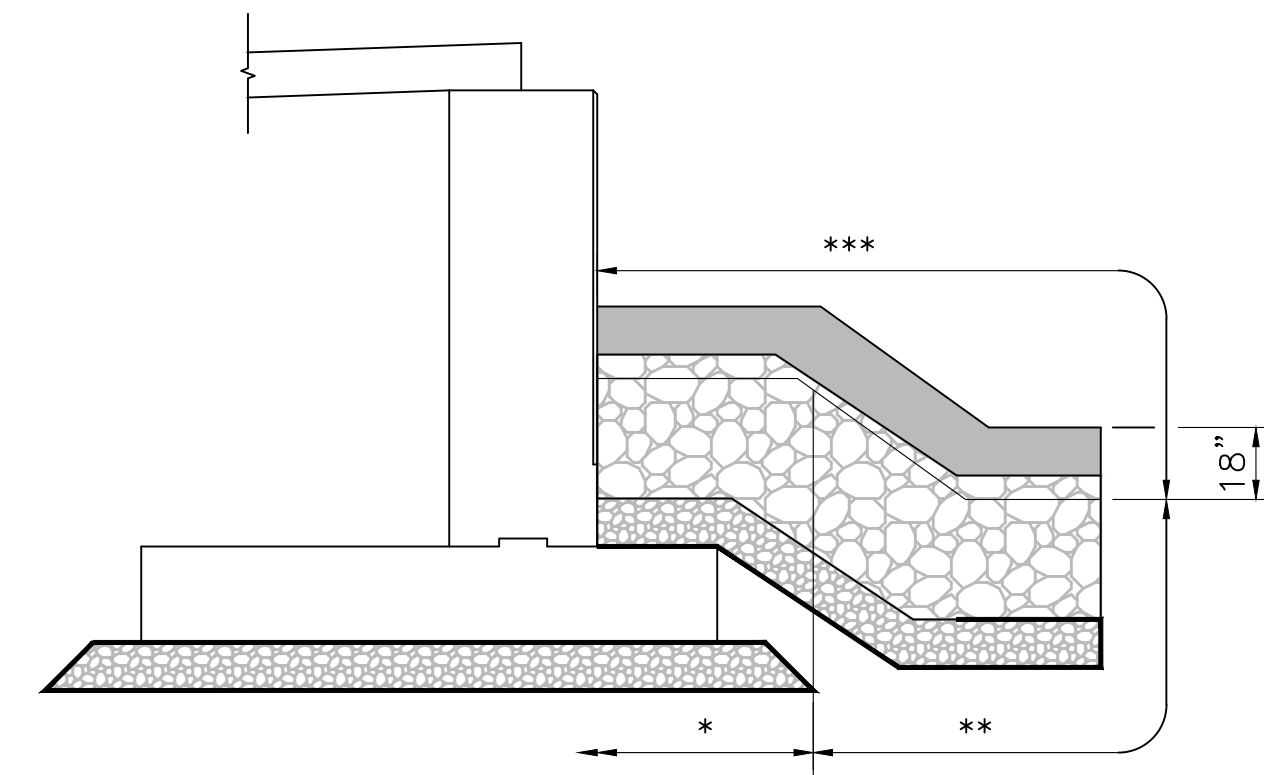
RIPRAP DETAILS/CHANNEL SECTION

SCALE: 1/4" = 1'-0"



**DETAIL AT UPSTREAM/DOWNSTREAM
EDGE OF EMBANKMENT**

SCALE: 1/4" = 1'-0"

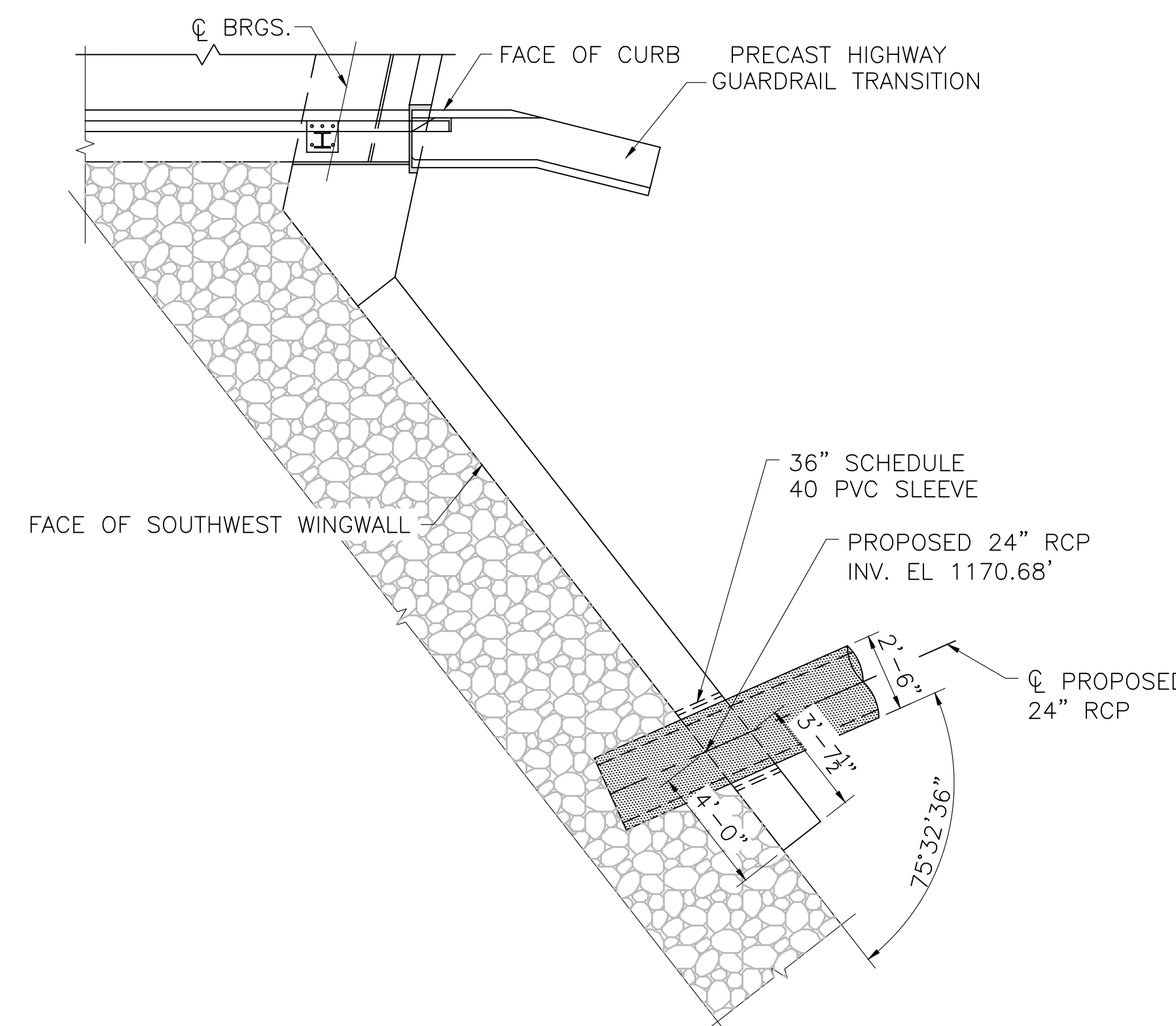


LIMITS OF EXCAVATION DETAIL

SCALE: 1/4" = 1'-0"

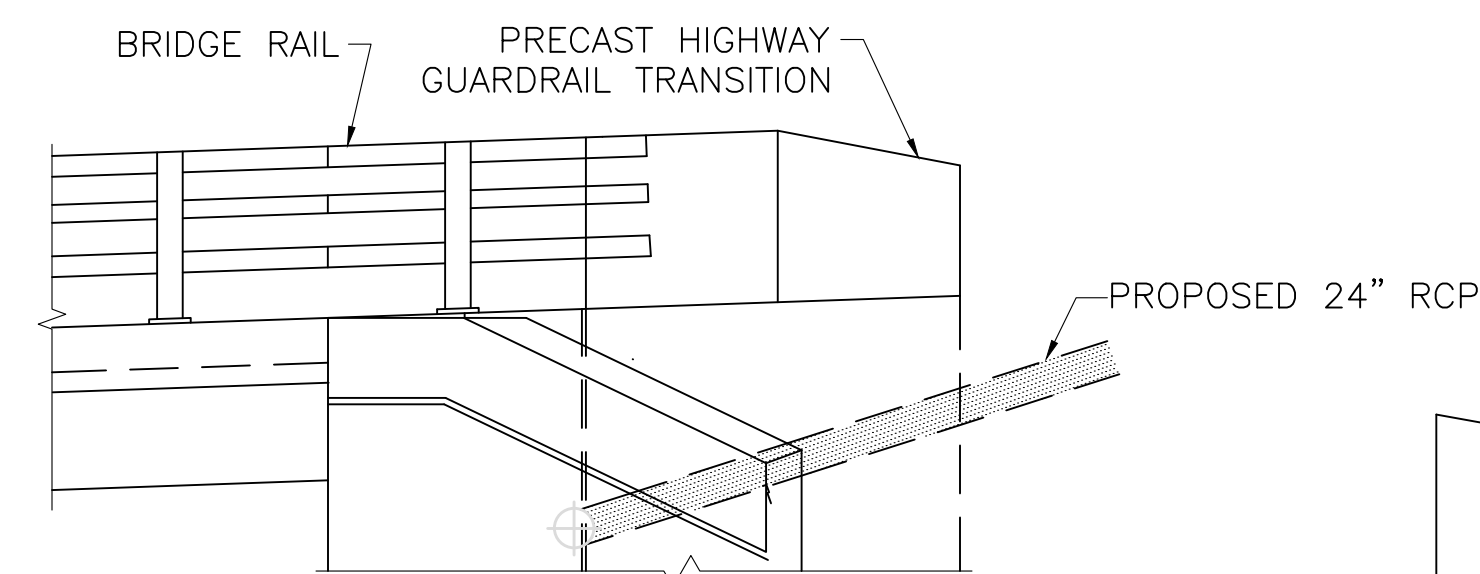
- * PAID FOR UNDER ITEM 140 - BRIDGE EXCAVATION
- ** PAID FOR UNDER ITEM 143.1 - CHANNEL EXCAVATION FOR STREAMBED RESTORATION
- *** PAID FOR UNDER ITEM 983.522 - STREAMBED RESTORATION

NOTE: NORTH ABUTMENT SHOWN, SOUTH ABUTMENT AND ALL WINGWALLS SIMILAR.



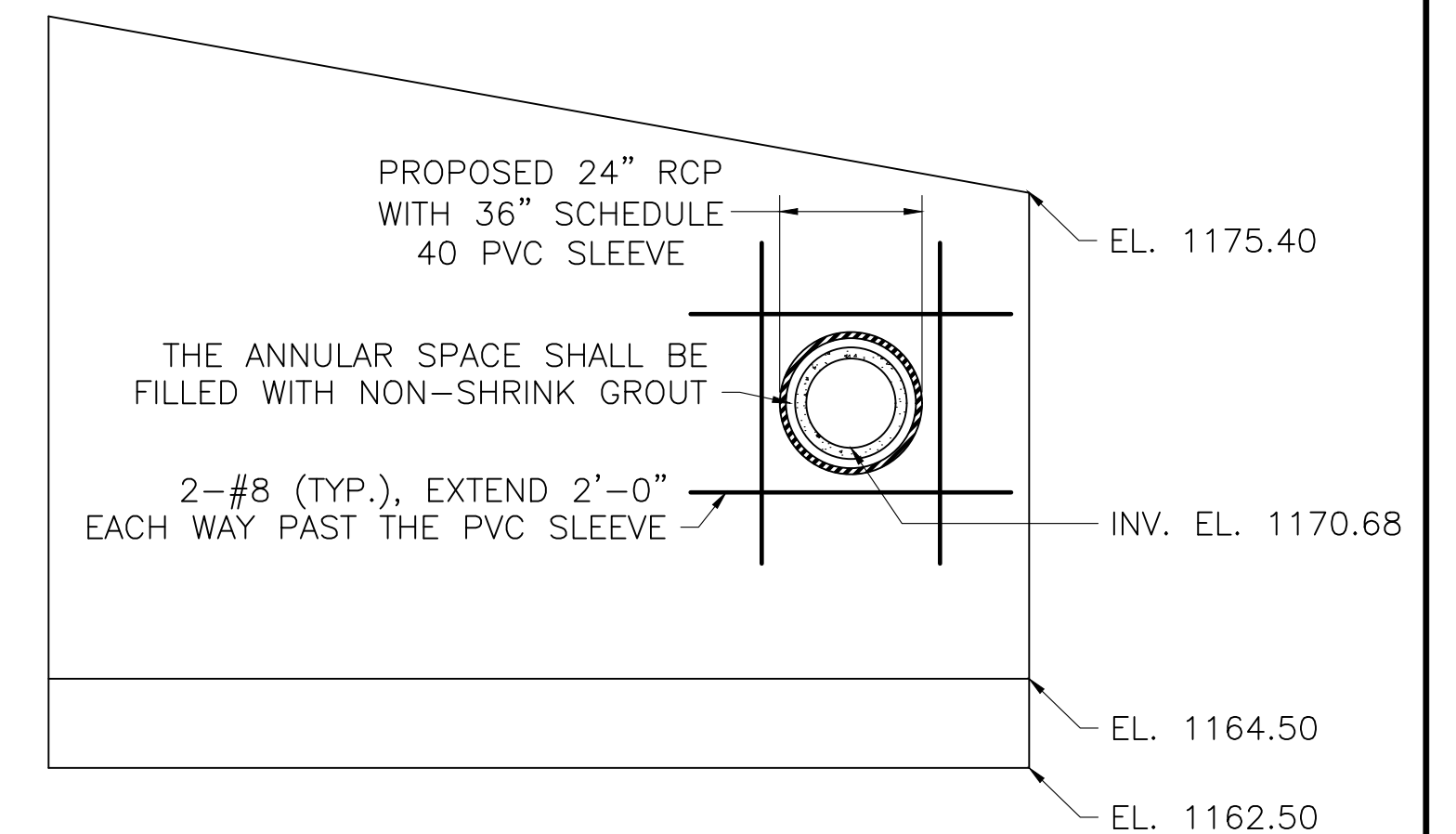
UTILITY PENETRATION PLAN

SCALE: 1/4" = 1'-0"



UTILITY PENETRATION ELEVATION

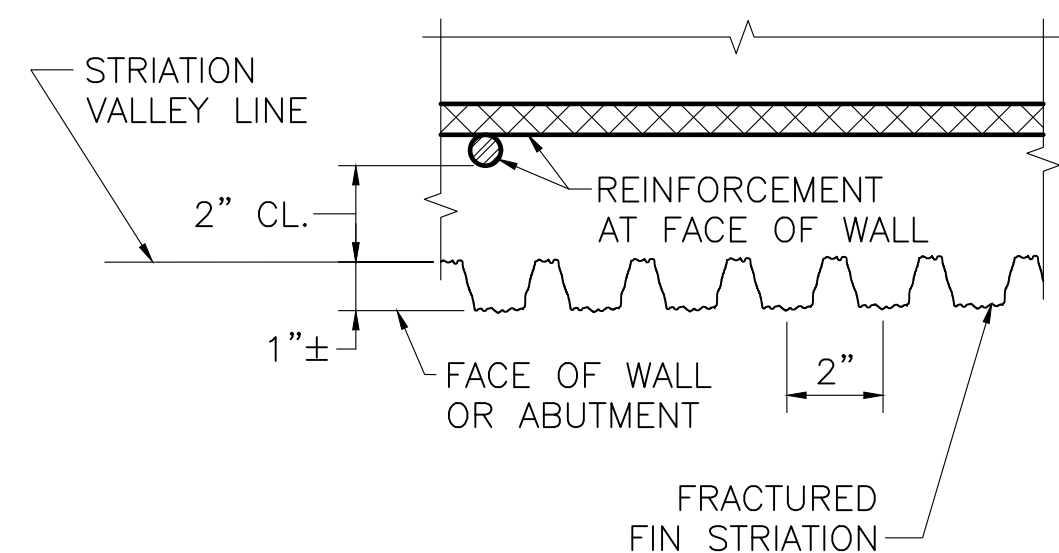
SCALE: 1/4" = 1'-0"



UTILITY PENETRATION SECTION

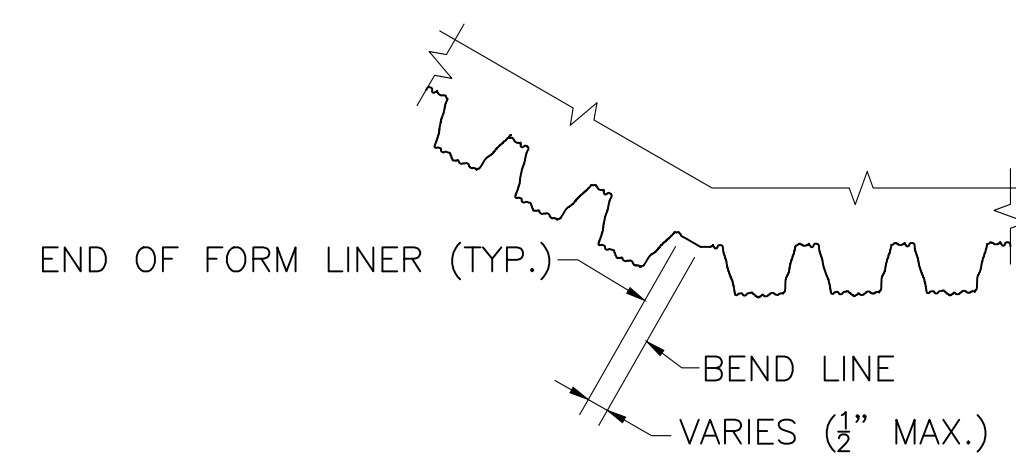
SCALE: 1/4" = 1'-0"

NOTE: WINGWALL REBAR TO BE ADJUSTED AROUND UTILITY BLOCKOUT.



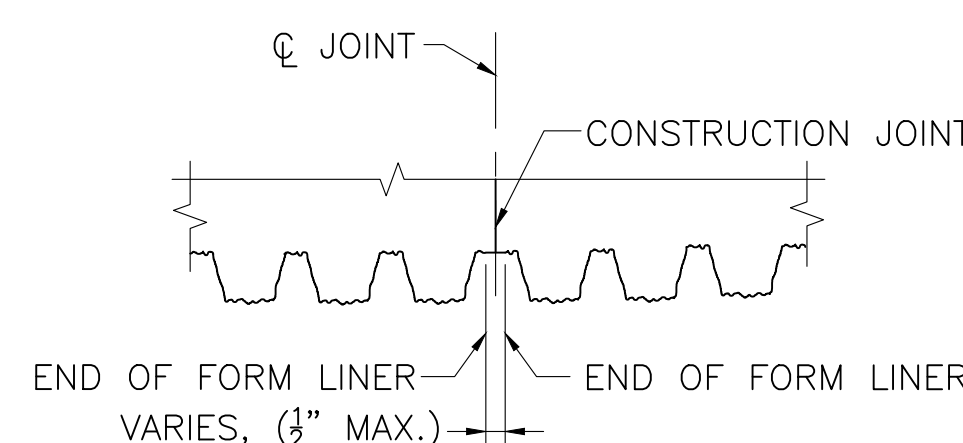
TYPICAL STRIATION DETAIL

SCALE: 3" = 1'-0"



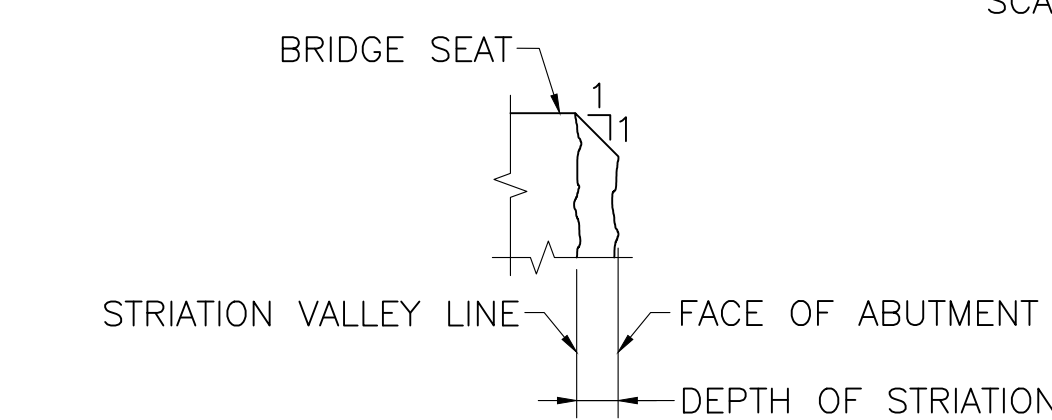
DETAIL AT WALL CORNER

SCALE: 3" = 1'-0"



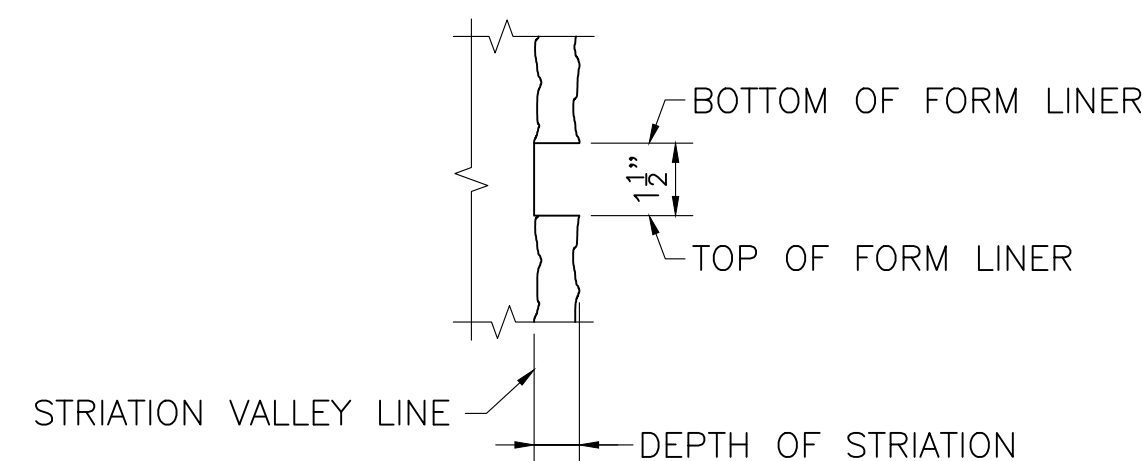
CONSTRUCTION JOINT

SCALE: 3" = 1'-0"



DETAIL AT BRIDGE SEAT

SCALE: 3" = 1'-0"



HORIZONTAL PANEL JOINT

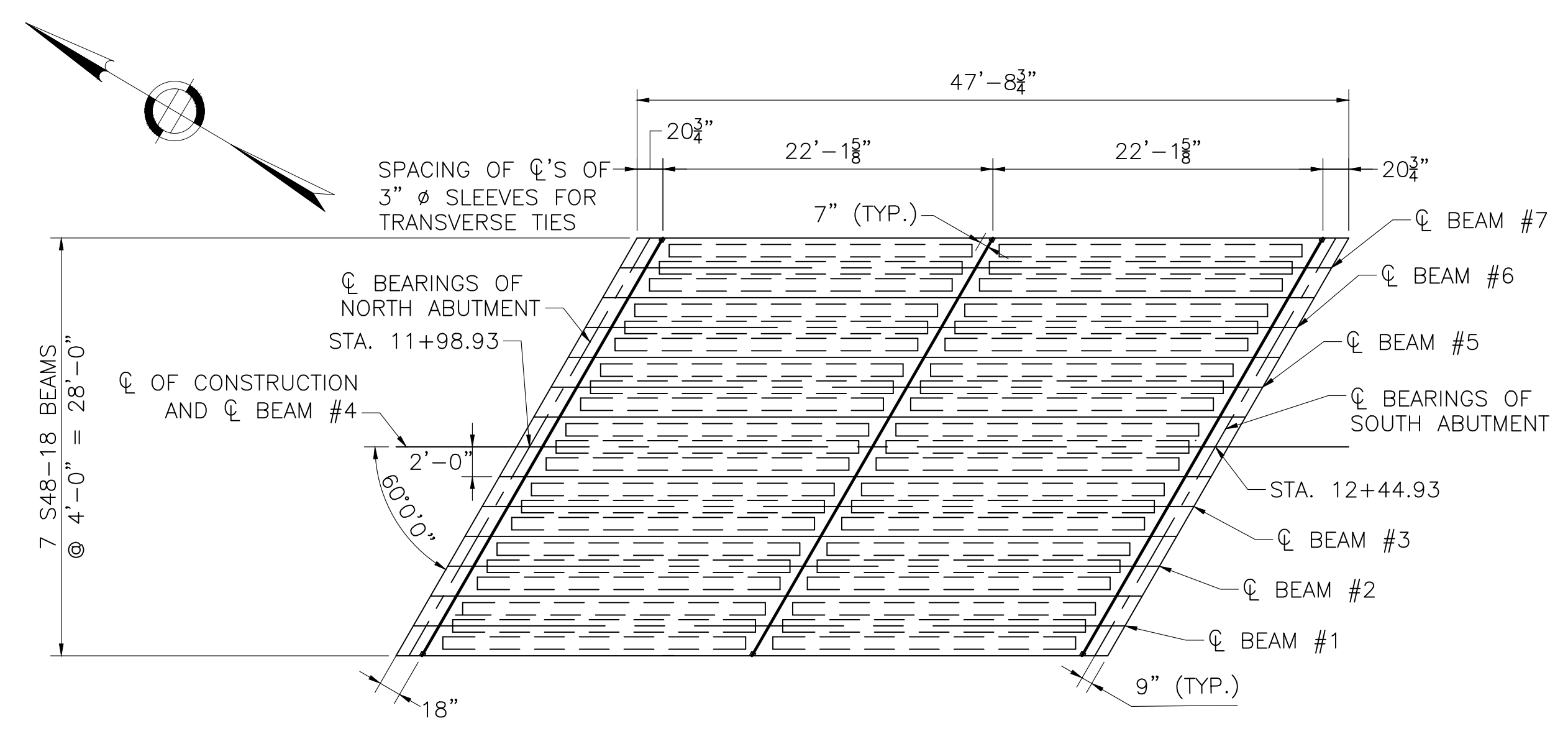
SCALE: 3" = 1'-0"

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CHESHIRE SAND MILL ROAD

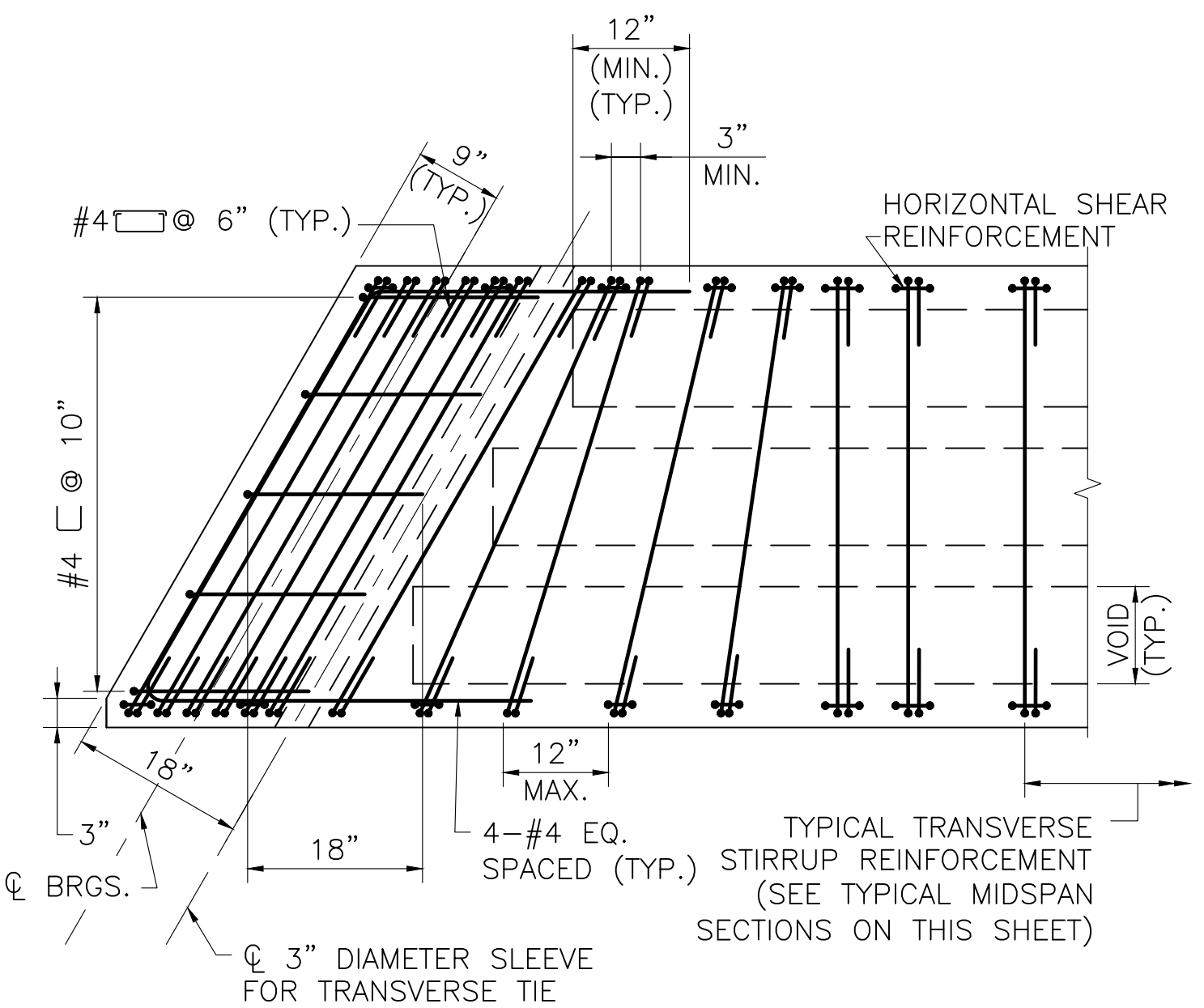
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	STP(BR-OFF)-003S(725)X	23	32
PROJECT FILE NO.			608857

FRAMING PLAN & BEAM DETAILS



FRAMING PLAN
SCALE: 1/8" = 1'-0"

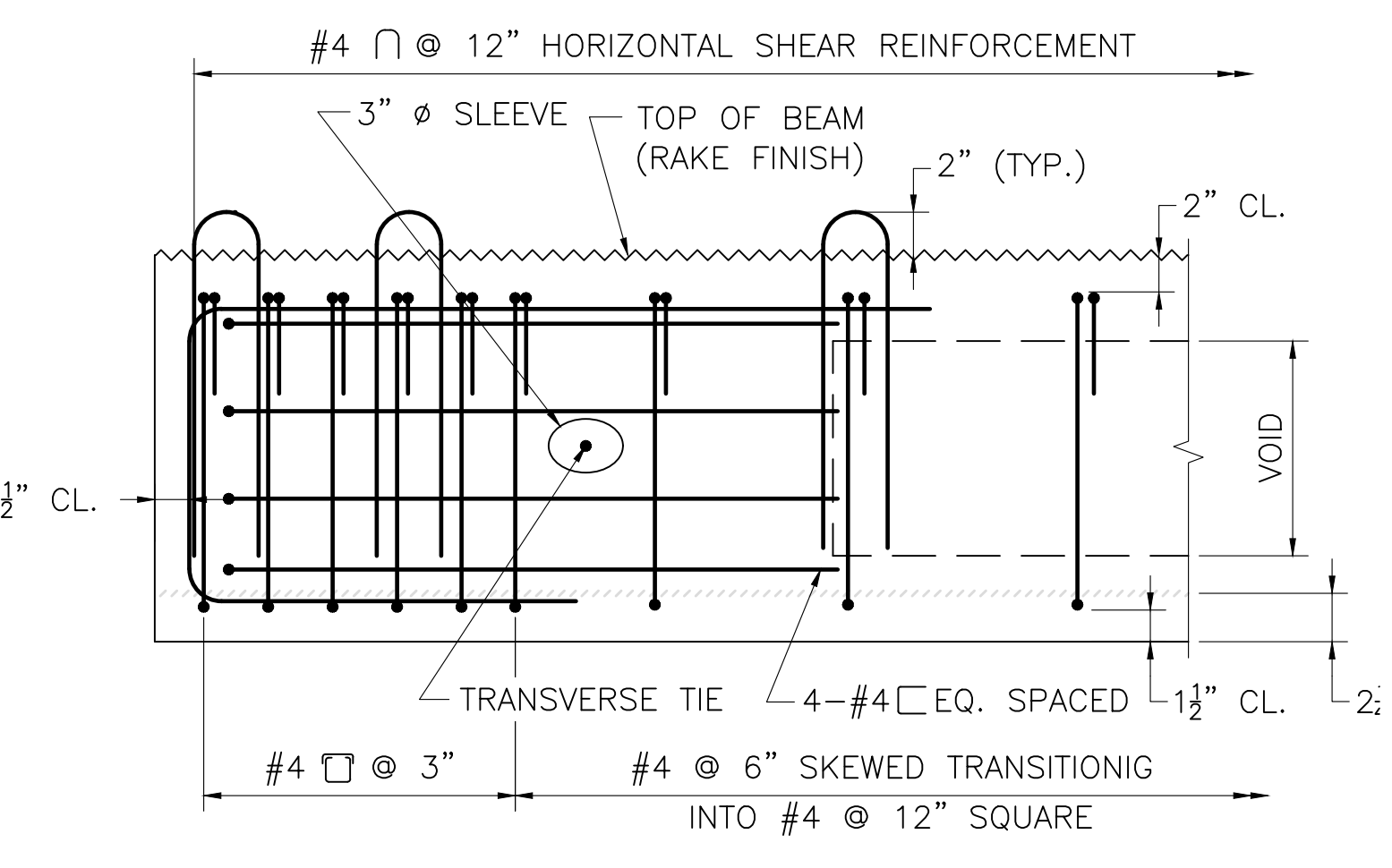
NOTE:
SEE STANDARD SPECIFICATIONS FOR BEAM ERECTION AND LAYOUT.



END OF BEAM PLAN
SCALE: 3/4" = 1'-0"

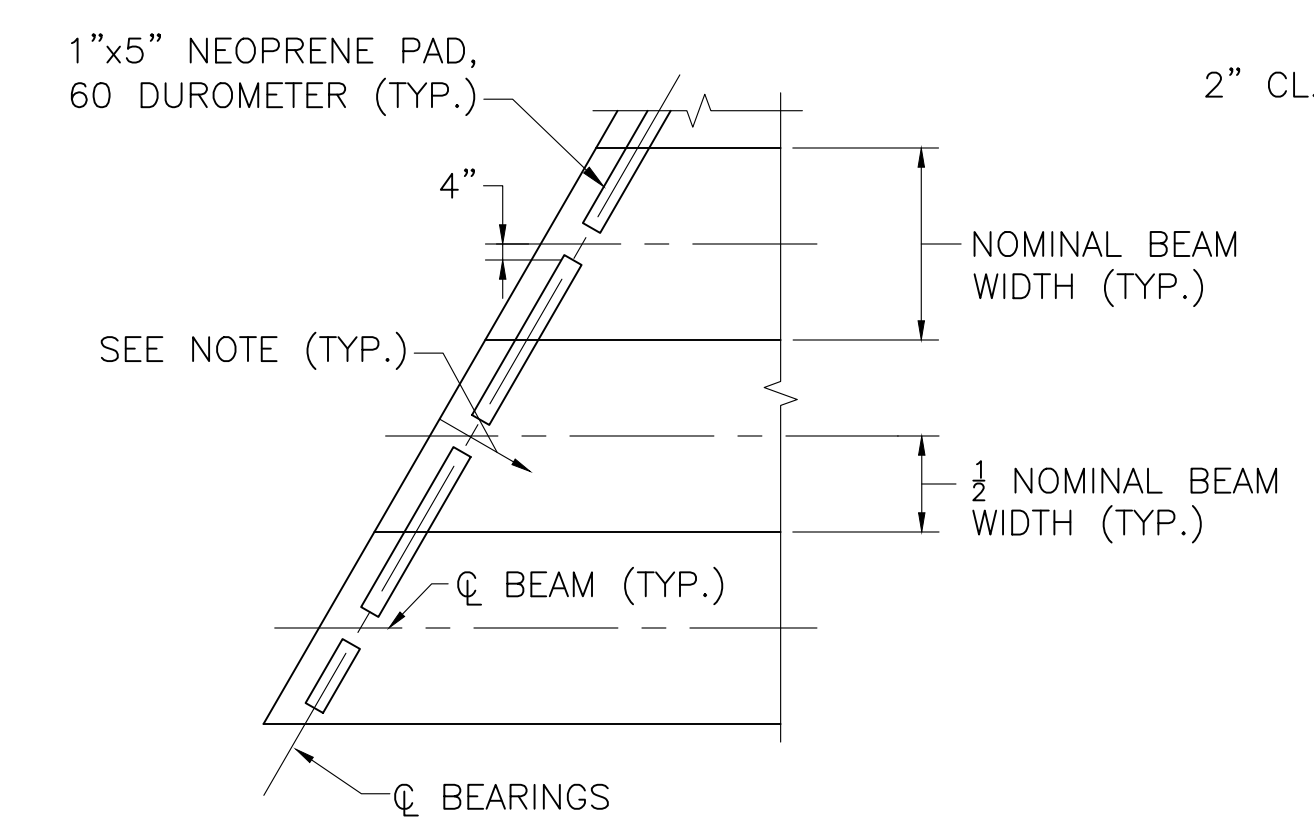
PRESTRESS NOTES:

1. ALL PRETENSIONING ELEMENTS SHALL BE 0.6" Ø, UNCOATED, SEVEN-WIRE, LOW RELAXATION STEEL STRANDS AND SHALL CONFORM TO AASHTO M 203.
2. THE NOMINAL TENSILE STRENGTH OF THE PRETENSIONING STRANDS SHALL BE 270 KSI.
3. THE INITIAL TENSION PER 0.6" Ø STRAND SHALL BE 44 KIPS.
4. THE MINIMUM 28 DAY COMPRESSIVE STRENGTH SHALL BE 6500 PSI.
5. NO PRESTRESS SHALL BE TRANSFERRED TO THE CONCRETE UNTIL IT HAS ATTAINED A COMPRESSIVE STRENGTH, AS SHOWN BY A CYLINDER TEST, OF AT LEAST 4500 PSI.
6. THE TOP OF ALL BEAMS SHALL BE GIVEN A RAKE FINISH (1/4" AMPLITUDE) ACROSS THE WIDTH (PERPENDICULAR TO THE BEAM'S AXIS).
7. THE FABRICATOR IS FULLY RESPONSIBLE FOR THE DESIGN OF THE LIFTING DEVICES WHICH SHALL BE ADEQUATE FOR THE SAFETY FACTORS REQUIRED BY THE ERECTION PROCEDURE.



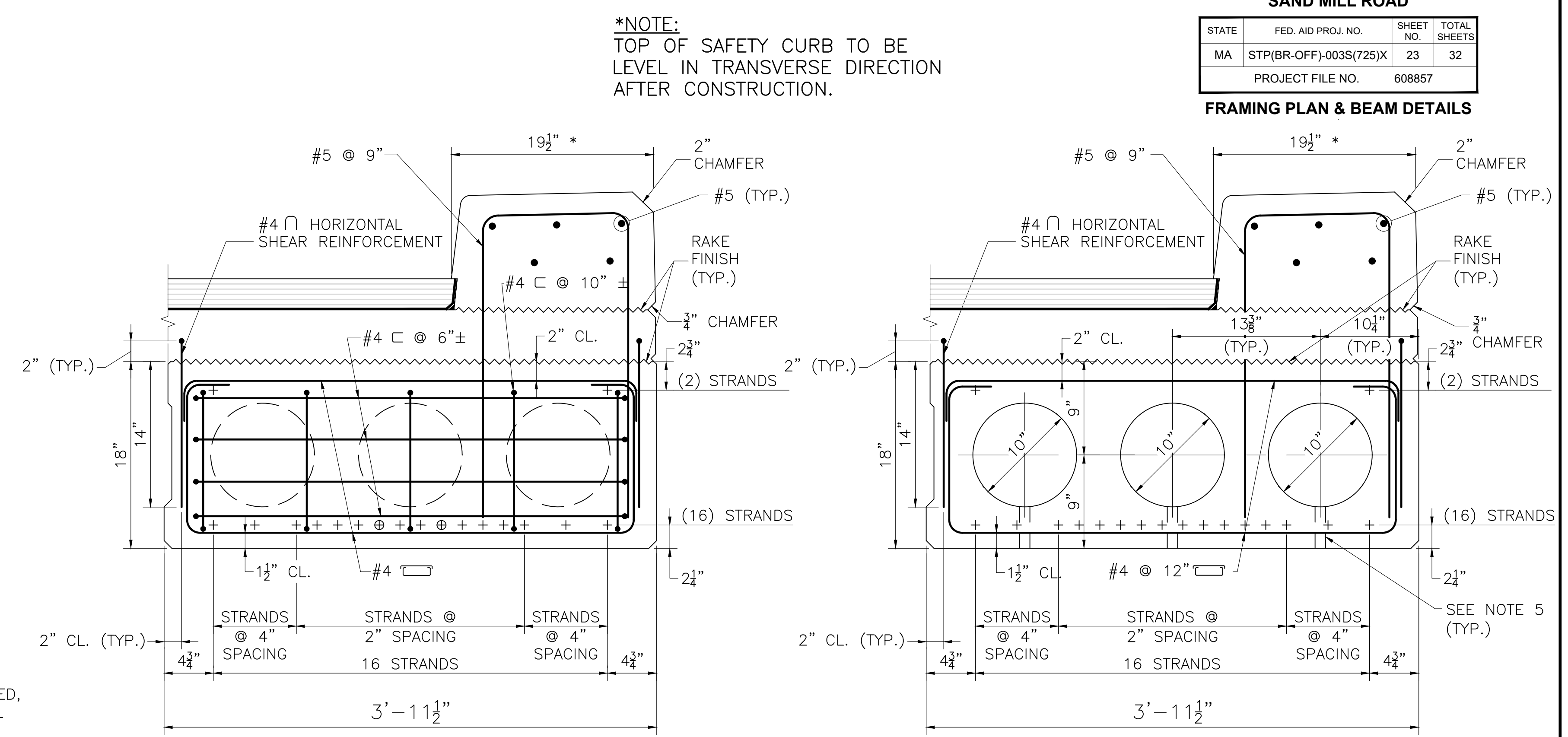
LONGITUDINAL SECTION
SCALE: 1 1/2" = 1'-0"

NOTE:
THE REMAINDER OF THE STRANDS IS NOT SHOWN FOR CLARITY.

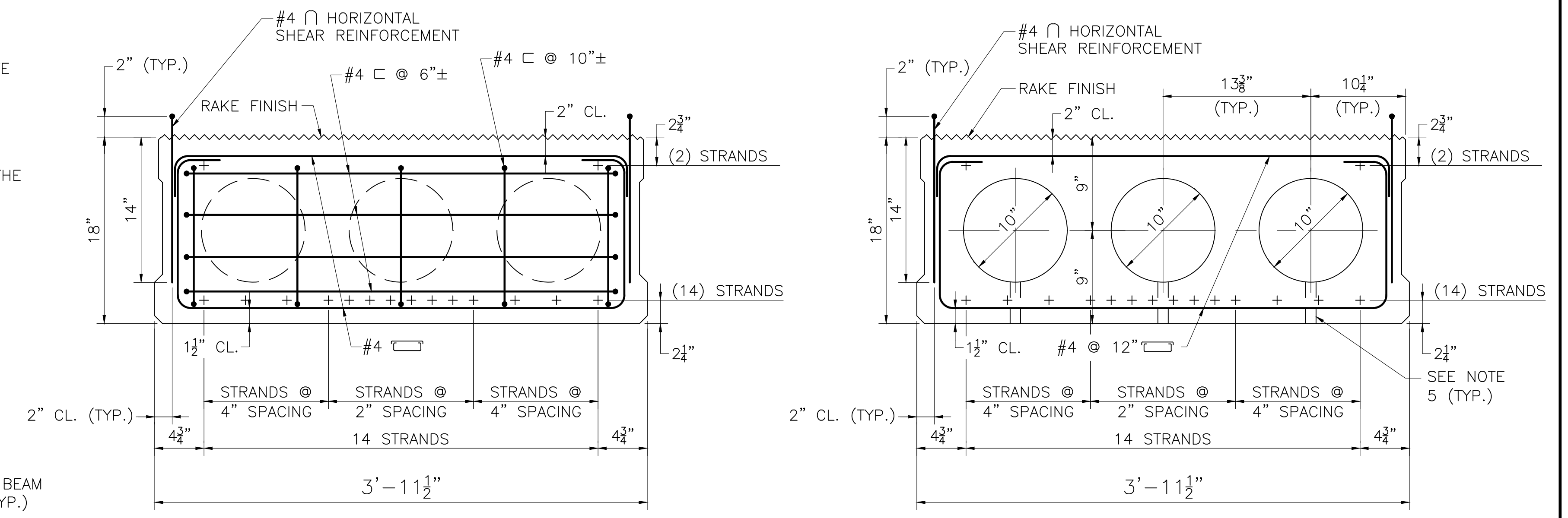


LAYOUT OF BEARINGS
SCALE: 3/4" = 1'-0"

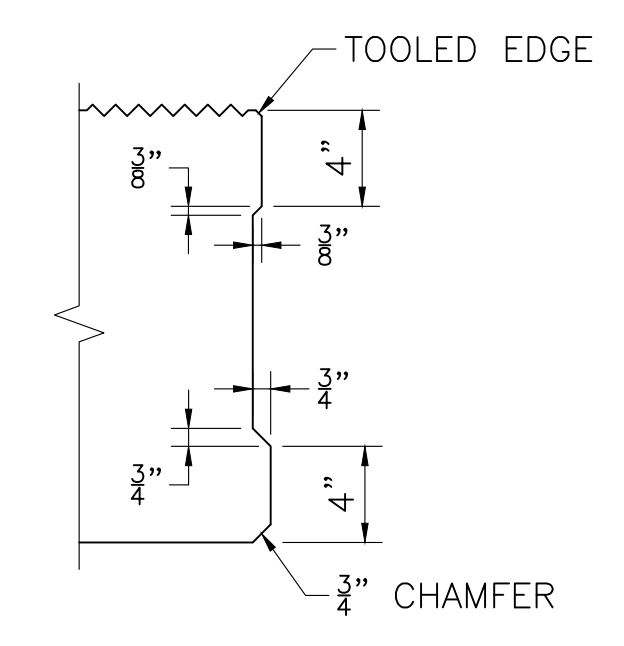
NOTE:
PROVIDE 1/8" / FT. SLOPE BETWEEN BEARINGS.



END OF BEAM SECTION TYPE A SECTION - BEAMS 1 & 7
SCALE: 1 1/2" = 1'-0"



END OF BEAM SECTION TYPE B SECTION - BEAMS 2 - 6
SCALE: 1 1/2" = 1'-0"

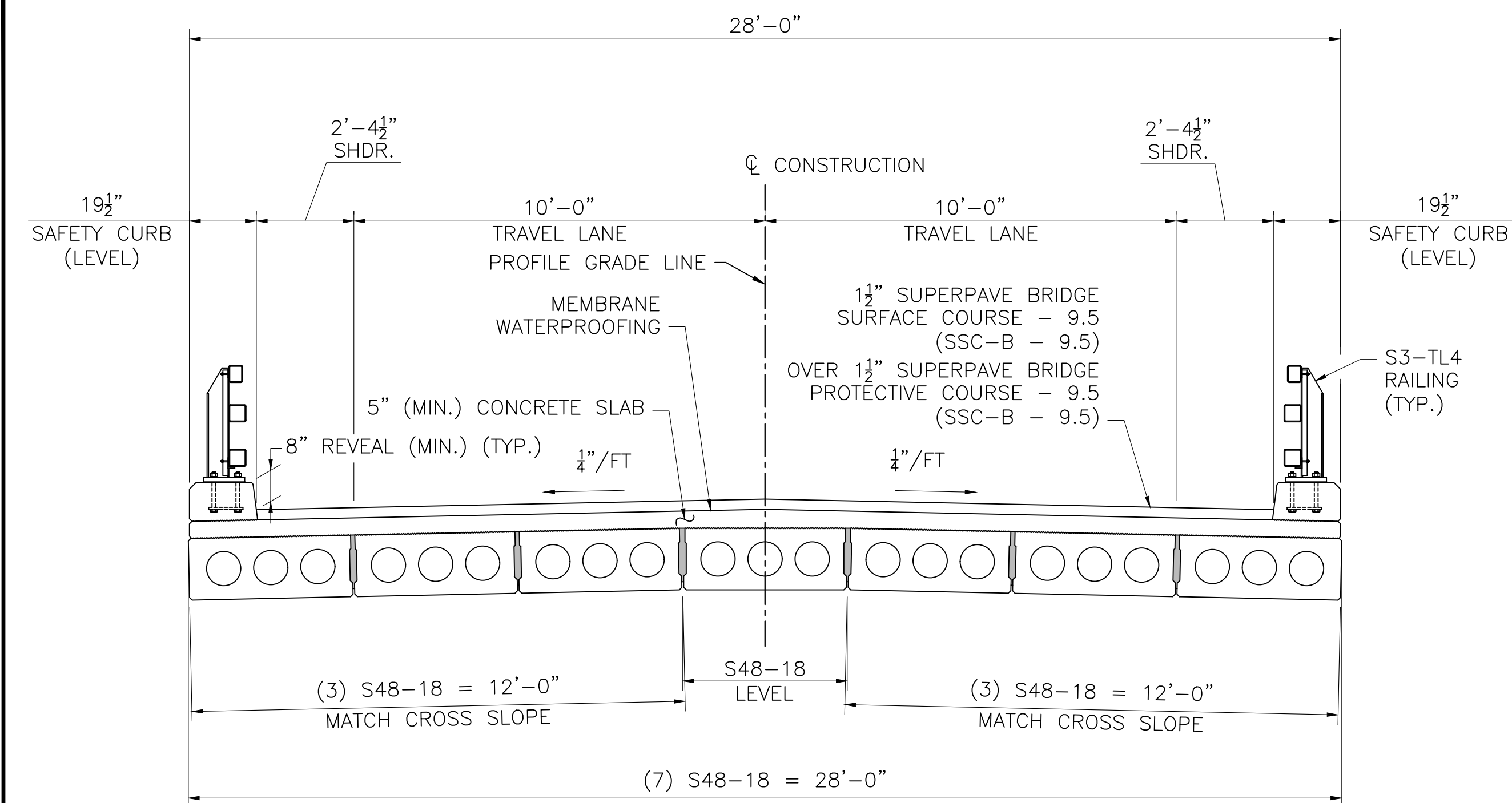


SHEAR KEY DETAIL
SCALE: 1 1/2" = 1'-0"

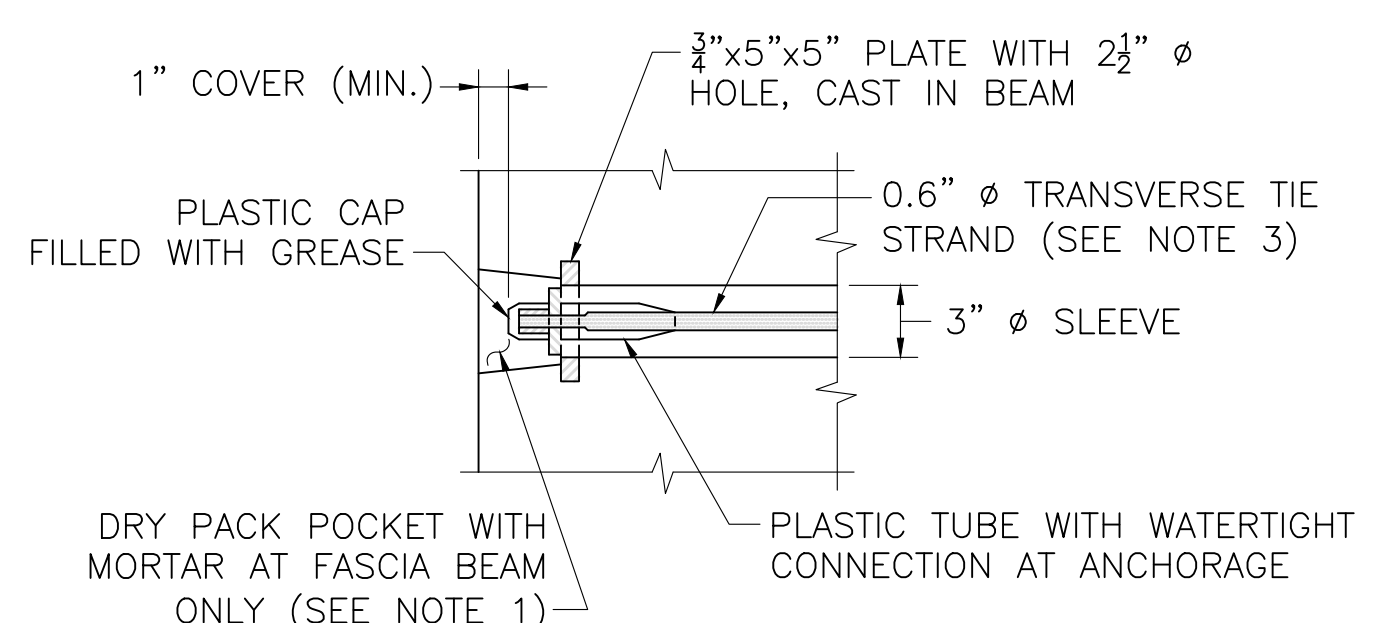
- NOTES:**
1. + DENOTES STRAIGHT STRANDS.
 2. ⊕ DENOTES 6'-0" DEBONDED STRAND LENGTH.
 3. SEE SHEAR KEY DETAIL (THIS SHEET).
 4. SEE END OF BEAM PLAN FOR STIRRUP SPACING.
 5. 1" Ø DRAIN, PLACED AT BOTH ENDS OF EACH VOID.

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16-MARCH-2024 1:22 PM 608857_BRT1(FRAMING PLAN & BEAM DETAILS)DWG FINAL STRUCTURAL SUBMITTAL (SF)

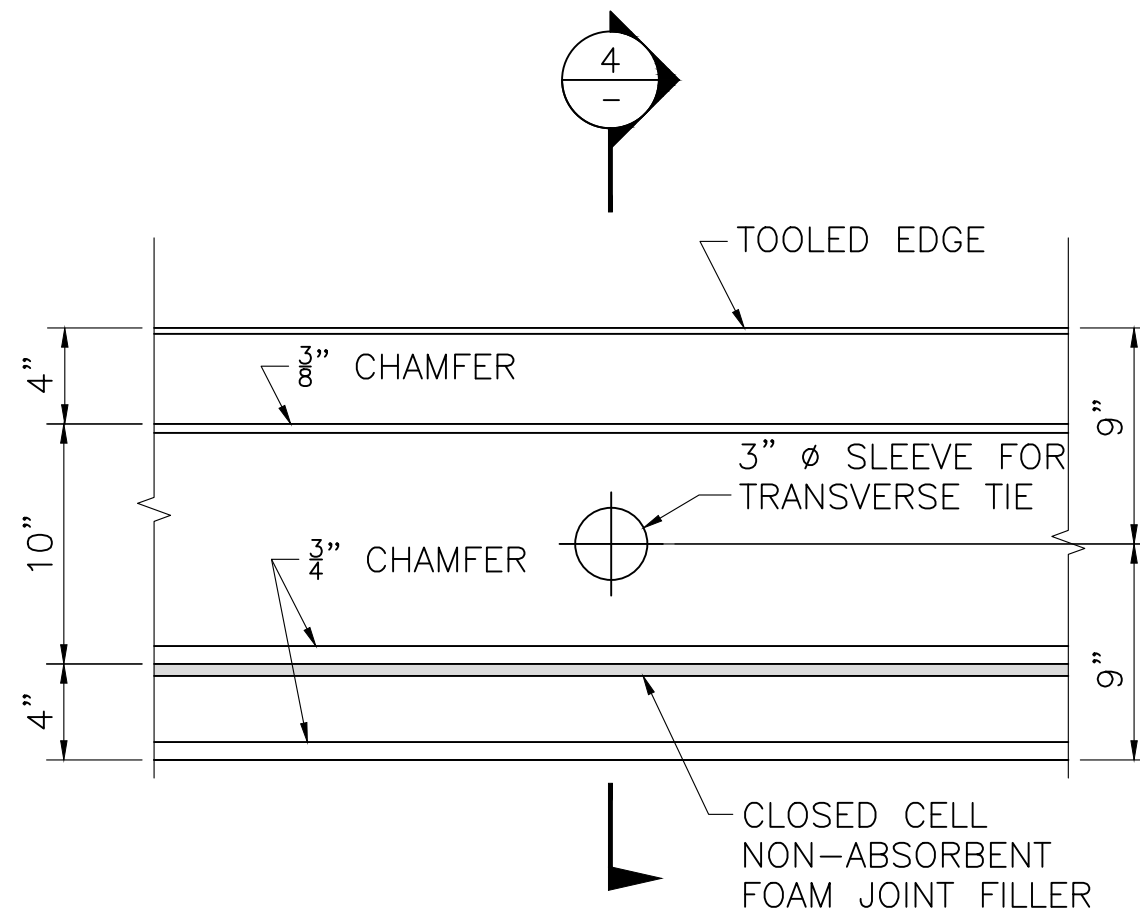


TRANSVERSE SECTION
SCALE: 3/8" = 1'-0"

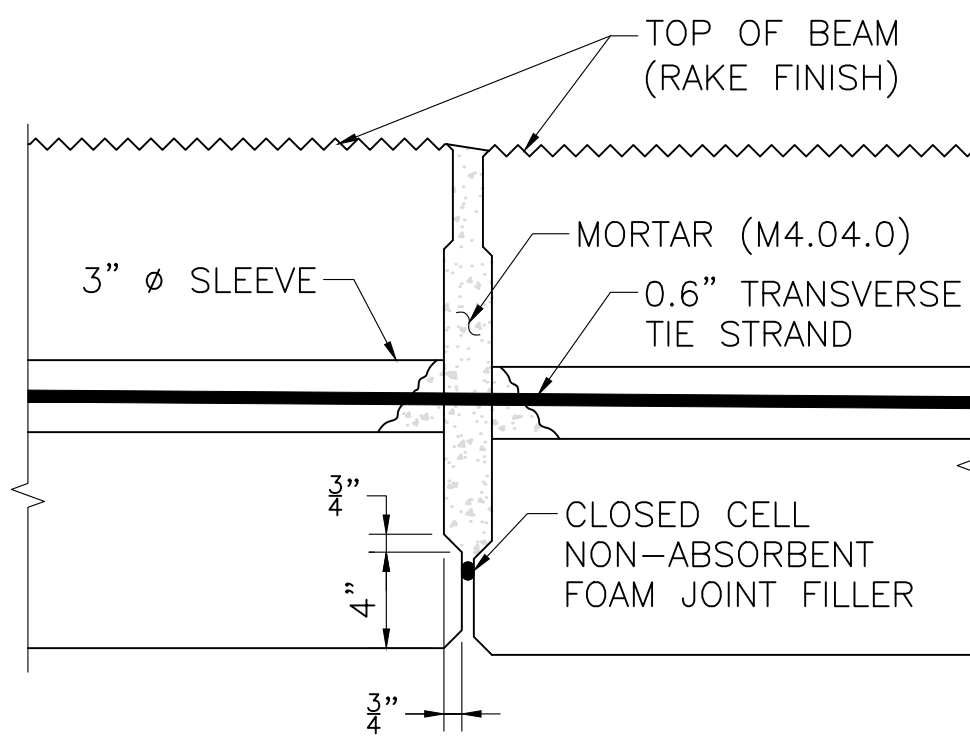


- NOTES:**
- MORTAR FOR EXTERIOR POCKETS SHALL CONFORM TO M4.02.15 AND SHALL BE THE SAME COLOR AND TEXTURE AS THE BEAM CONCRETE.
 - OTHER ANCHORAGE SYSTEMS MAY BE SUBSTITUTED WITH THE APPROVAL OF THE ENGINEER. ALTERNATE ANCHORAGE SYSTEMS SHALL BE WATERTIGHT AND CORROSION PROOF.
 - TRANSVERSE TIES SHALL BE COVERED BY A SEAMLESS POLYPROPYLENE SHEATH (WITH CORROSION INHIBITING GREASE BETWEEN THE STRAND AND SHEATH) FOR THE FULL LENGTH OF THE STRAND, EXCEPT AT THE ANCHORAGE LOCATION.

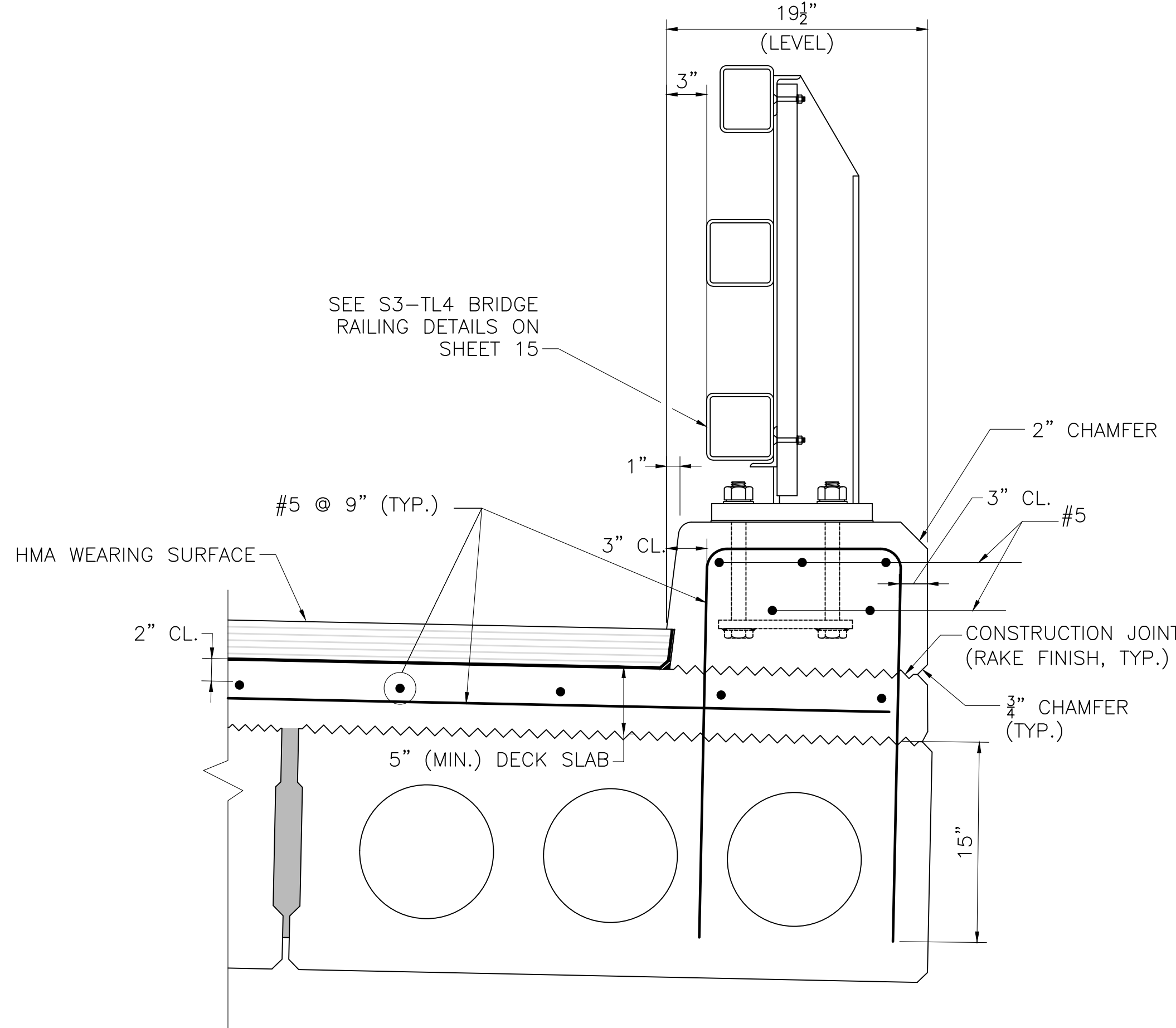
TRANSVERSE TIE ANCHORAGE
SCALE: 1 1/2" = 1'-0"



TYPICAL BEAM ELEVATION AT TRANSVERSE TIE LOCATIONS
SCALE: 1 1/2" = 1'-0"



SECTION 4
SCALE: 1 1/2" = 1'-0"



- NOTE:**
- DECK SLAB AND SAFETY CURB SHALL BE 5000 PSI, 3/4 IN, 685 HP CEMENT CONCRETE.

SAFETY CURB SECTION
SCALE: 1 1/2" = 1'-0"

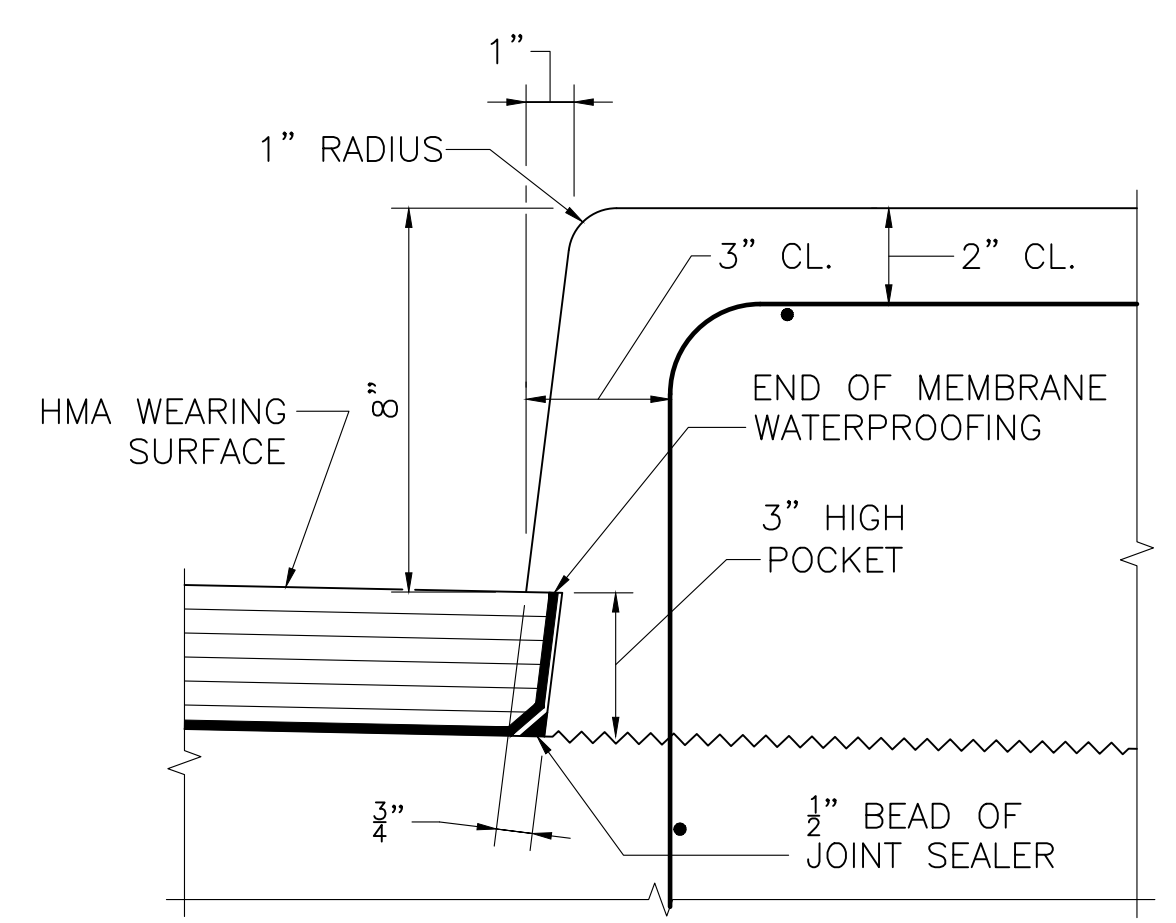
CONSTRUCTION SEQUENCE NOTES:

- AFTER ALL BEAMS HAVE BEEN ERECTED, TENSION EACH TRANSVERSE TIE TO 5 KIPS.
- FILL ALL KEYWAYS WITH MORTAR (M4.04.0). IF THE KEYWAYS ARE NOT FILLED WITHIN FIVE (5) DAYS AFTER THE BEAMS ARE ERECTED, THE CONTRACTOR SHALL COVER AND PROTECT THE KEYWAYS FROM WEATHER AND DEBRIS UNTIL THEY ARE FILLED.
- AFTER THE MORTAR HAS CURED (24 HOURS MINIMUM), TENSION EACH TRANSVERSE TIE TO 44 KIPS.
- CONCRETE FOR DECK SLAB SHALL BE 4000 PSI, 3/4 IN, 585 HP CEMENT CONCRETE AND SHALL BE PLACED AFTER THE TRANSVERSE TIES HAVE BEEN FULLY TENSIONED.
- NO TRAFFIC OR HEAVY EQUIPMENT WILL BE PERMITTED ON THE BRIDGE UNTIL ALL TRANSVERSE TIES HAVE BEEN PROPERLY TENSIONED AND THE DECK HAS BEEN CAST AND CURED PER THE STANDARD SPECIFICATIONS.

CHESHIRE SAND MILL ROAD

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MA	STP(BR-OFF)-003S(725)X	24	32
PROJECT FILE NO.			608857

TRANSVERSE SECTION & DECK DETAILS



- NOTES:**
- TURN MEMBRANE UP INTO 3" HIGH POCKET.
 - DIMENSIONS AT THE FACE OF CURB ARE THE SAME FOR THE SAFETY CURB.

FACE OF SIDEWALK CURB DETAILS
SCALE: 3" = 1'-0"

LOCATION	LEFT EDGE OF DECK SLAB	PROFILE GRADE LINE	CROWN LINE	RIGHT EDGE OF DECK SLAB
Q BRGS. @ N. ABUT.	6.06"	6.36"	6.36"	6.06"
MIDSPAN	5.00"	5.50"	5.50"	5.00"
Q BRGS. @ S. ABUT.	6.06"	6.36"	6.36"	6.06"

- NOTES:**
- THIS TABLE INDICATES THE THEORETICAL THICKNESS OF THE DECK SLAB IN INCHES BASED UPON ASSUMED BEAM CAMBERS AT ERECTION.
 - TABLE IS PROVIDED TO ASSIST IN ESTIMATING THE REQUIRED CONCRETE VOLUME.
 - THE ACTUAL DECK THICKNESSES WILL BE AS REQUIRED TO MEET THE PROFILE GRADES.

THEORETICAL DECK SLAB THICKNESS TABLE

LOCATION	TOP OF WEARING SURFACE/CURB ELEVATION AT Q BEARINGS		
	TOP OF DECK	TOP OF W.S.	TOP OF CURB
N. ABUT. WEST CURB	1178.18	1178.44	1179.11
N. ABUT. EAST CURB	1178.26	1178.52	1179.18
N. ABUT. PGL	1178.48	1178.74	N/A
S. ABUT. WEST CURB	1178.43	1178.69	1179.36
S. ABUT. EAST CURB	1178.51	1178.77	1179.44
S. ABUT. PGL	1178.73	1178.99	N/A

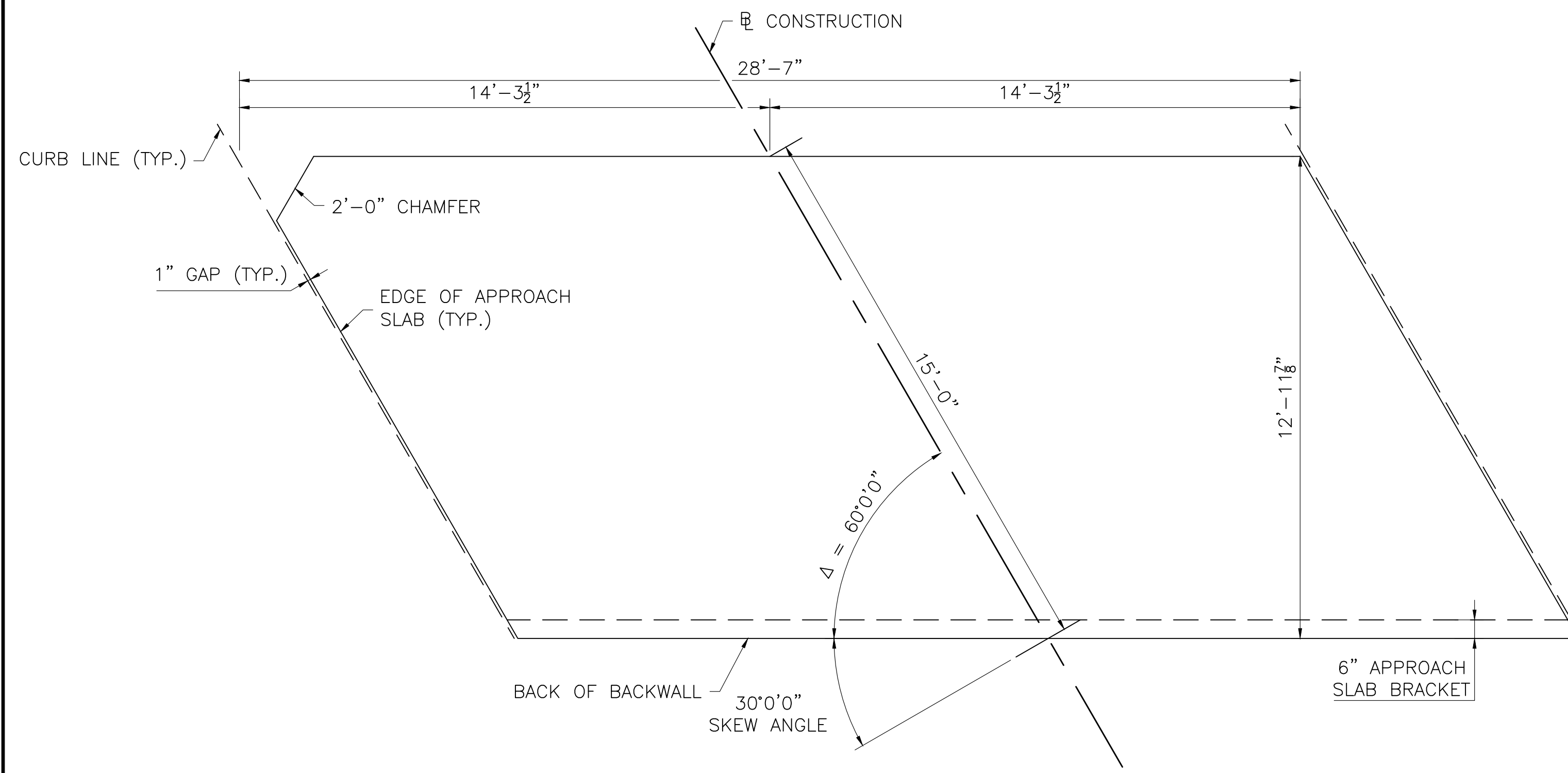
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USE ONLY PRINTS OF LATEST DATE	

608857_BR12(TRANSVERSE SECTION & DECK DETAILS).DWG Plotted on: 21-Mar-2024 1:22 PM FINAL STRUCTURAL SUBMITTAL (SF) 16-MARCH-2024

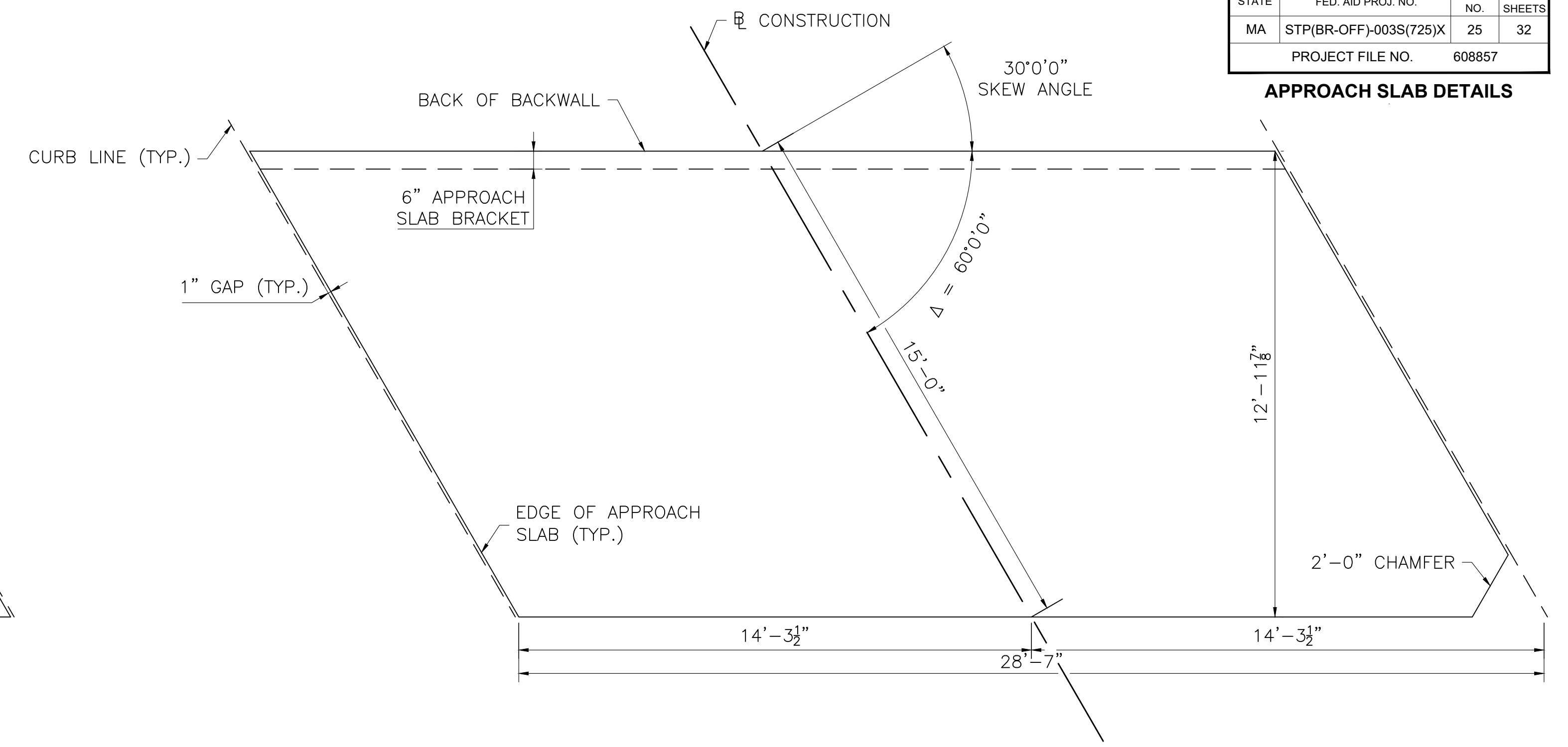
CHESHIRE
SAND MILL ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	STP(BR-OFF)-003S(725)X	25	32
PROJECT FILE NO.		608857	

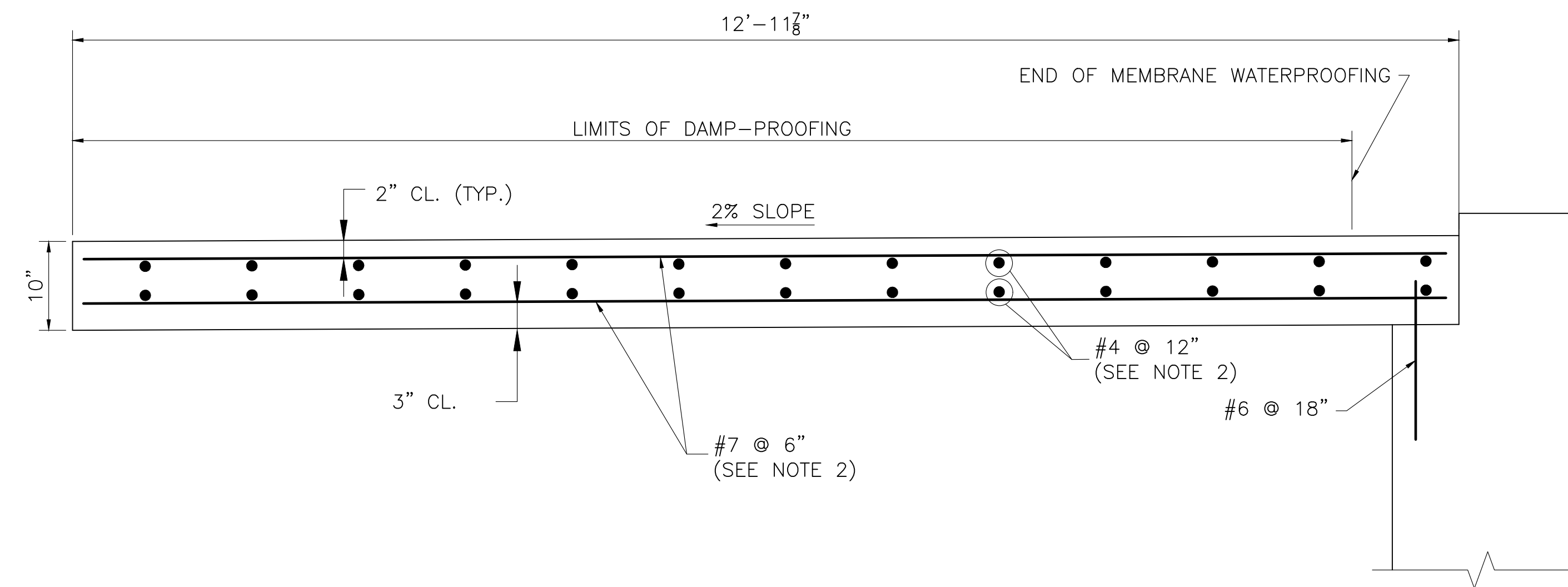
APPROACH SLAB DETAILS



NORTH APPROACH SLAB PLAN
SCALE: 3/8" = 1'-0"



SOUTH APPROACH SLAB PLAN
SCALE: 3/8" = 1'-0"



NOTES:

1. APPROACH SLAB TO BE 4000 PSI, 1 1/2 IN, 565 CEMENT CONCRETE
2. PLACE LONGITUDINAL REINFORCEMENT PARALLEL TO BASELINE OF CONSTRUCTION.
PLACE TRANSVERSE REINFORCEMENT PARALLEL TO ABUTMENT.

APPROACH SLAB DETAILS

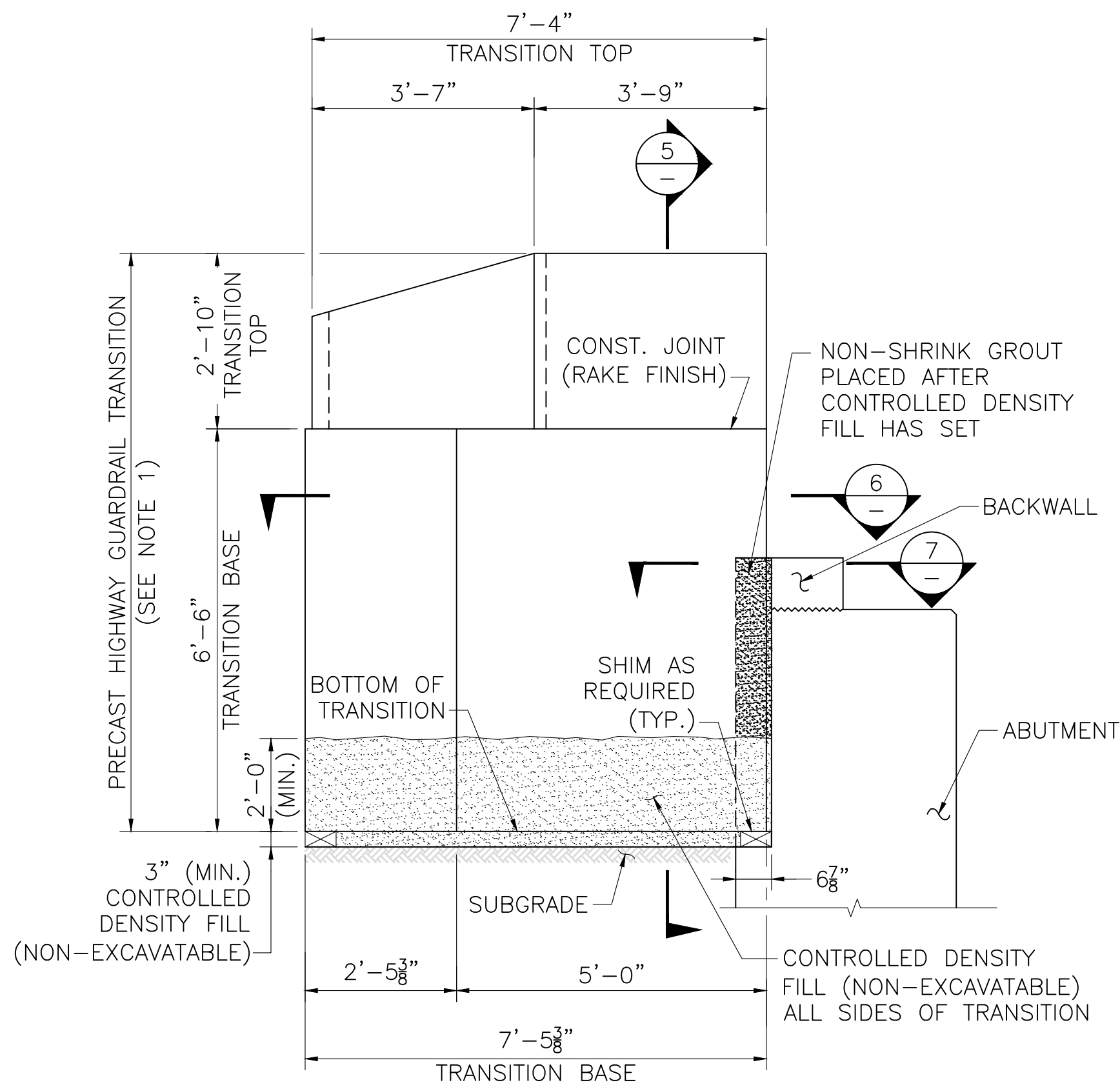
SCALE: 1" = 1'-0"

MAR. 16, 2024	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT	
AUTHORIZED SIGNATORY:	STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE	

CHESHIRE
SAND MILL ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	STP(BR-OFF)-003S(725)X	26	32
PROJECT FILE NO.		608857	

TRANSITION BASE DETAILS

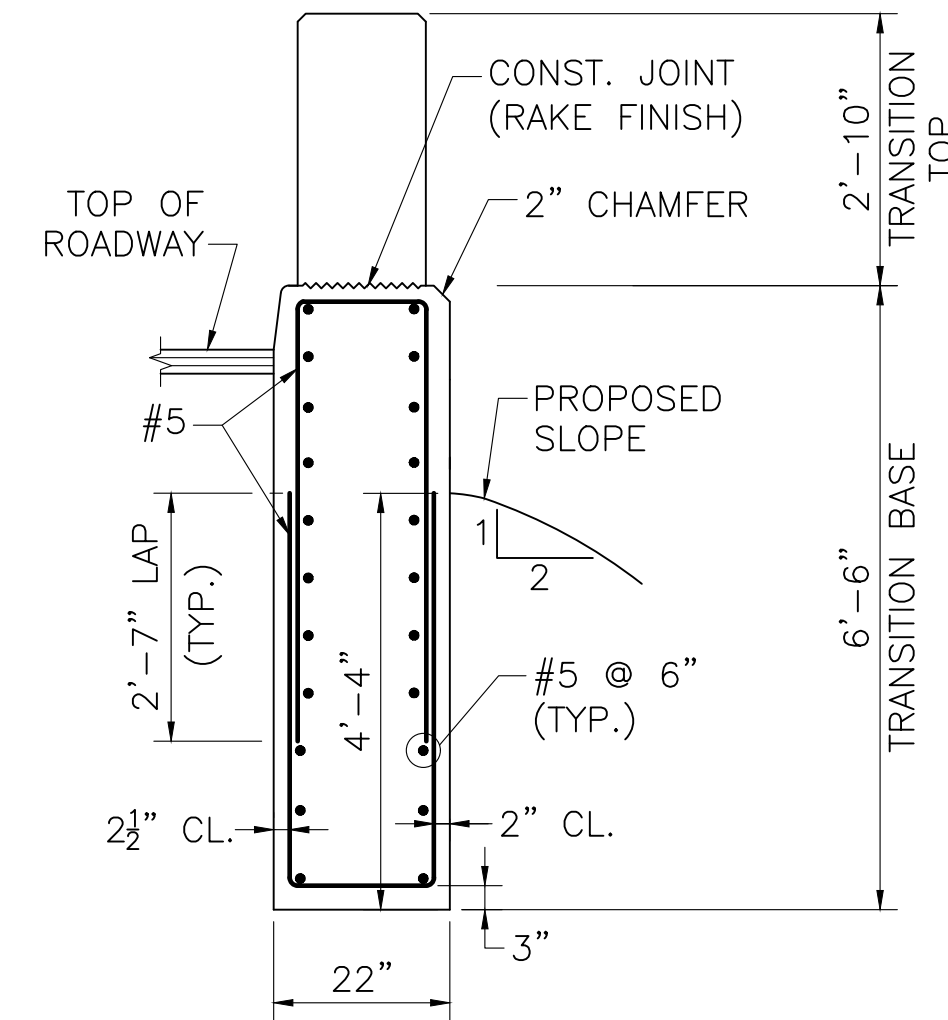


PRECAST GUARDRAIL TRANSITION
ELEVATION AT SPLAYED WINGWALL

SCALE: 1/2" = 1'-0"

NOTES:

1. PRECAST GUARDRAIL TRANSITION SHALL BE 5000 PSI, 3/4 IN, 685 HP CEMENT CONCRETE.
2. GRAVEL BORROW SHALL BE PLACED AND THOROUGHLY COMPACTED TO THE GRADE OF 3" (MIN.) BELOW THE INTENDED BOTTOM OF THE PRECAST GUARDRAIL TRANSITION BASE AND TO A HEIGHT OF 2'-0" (MIN.) ON ALL SIDES OF THE TRANSITION BASE TO FORM A TRENCH IN WHICH TO SET THE TRANSITION. WHERE NO GRAVEL BORROW IS REQUIRED BELOW THE BASE, IT SHALL BE PLACED ON UNDISTURBED SOIL.
3. CONTRACTOR SHALL SET THE PRECAST GUARDRAIL TRANSITION TO THE REQUIRED ELEVATION AND ALIGNMENT, AND BACKFILL PRECAST GUARDRAIL TRANSITION WITH CONTROLLED DENSITY FILL (NON-EXCAVATABLE) TO THE ELEVATION SHOWN.
4. FOR SPLAYED WINGWALLS, AFTER CONTROLLED DENSITY FILL (NON-EXCAVATABLE) HAS SET FILL THE GAPS BETWEEN GUARDRAIL TRANSITION AND BLOCK-OUT IN BACKWALL AND ABUTMENT WITH NON-SHRINK GROUT UP TO THE TOP OF BACKWALL.

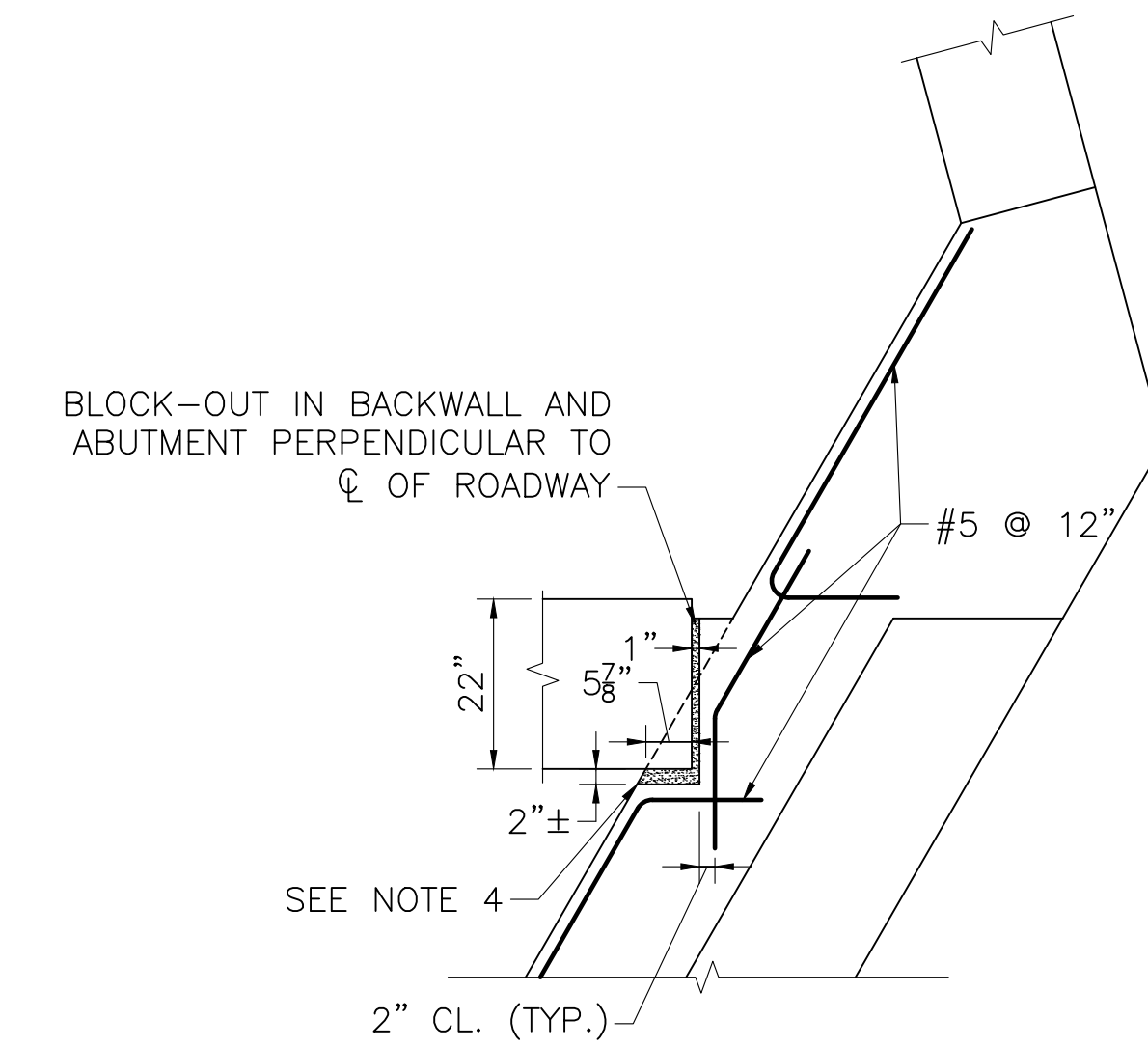


NOTE:

REINFORCEMENT OF THE TRANSITION TOP IS NOT SHOWN FOR CLARITY.

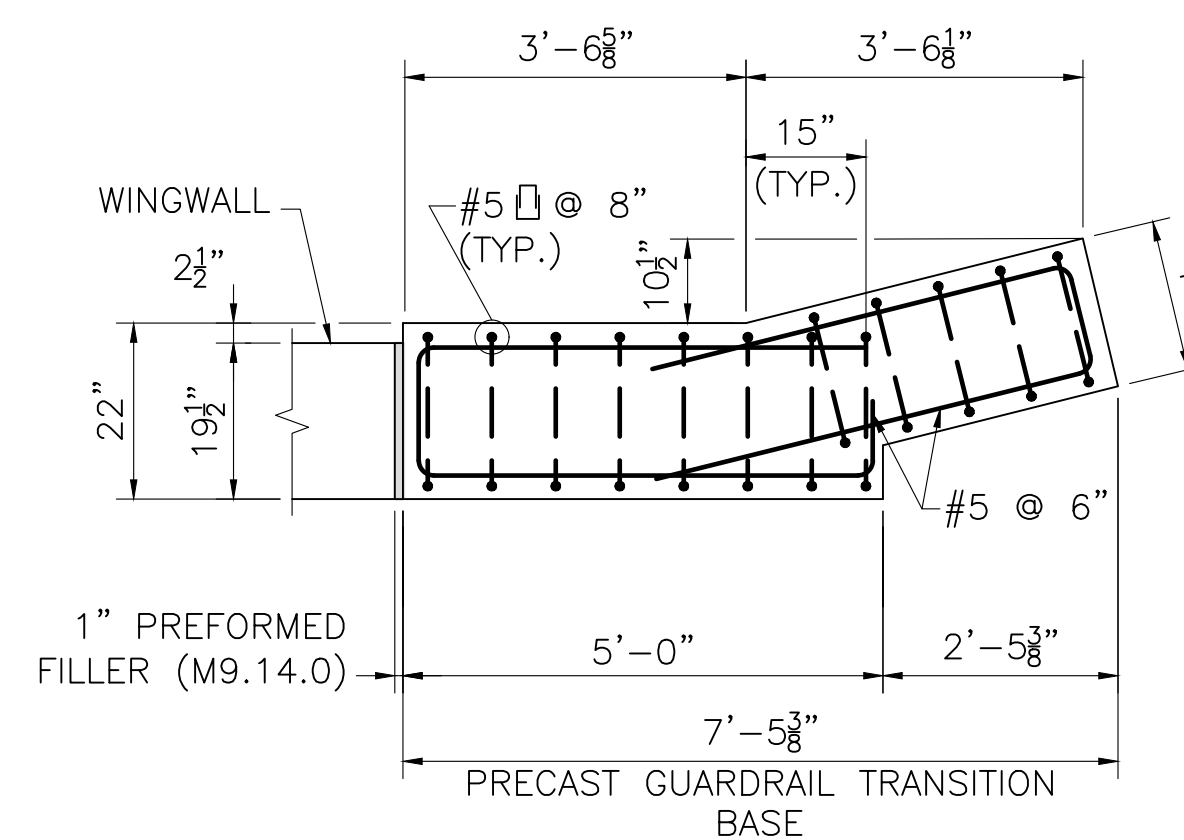
SECTION 5

SCALE: 1/2" = 1'-0"



SECTION 6

SCALE: 1/2" = 1'-0"

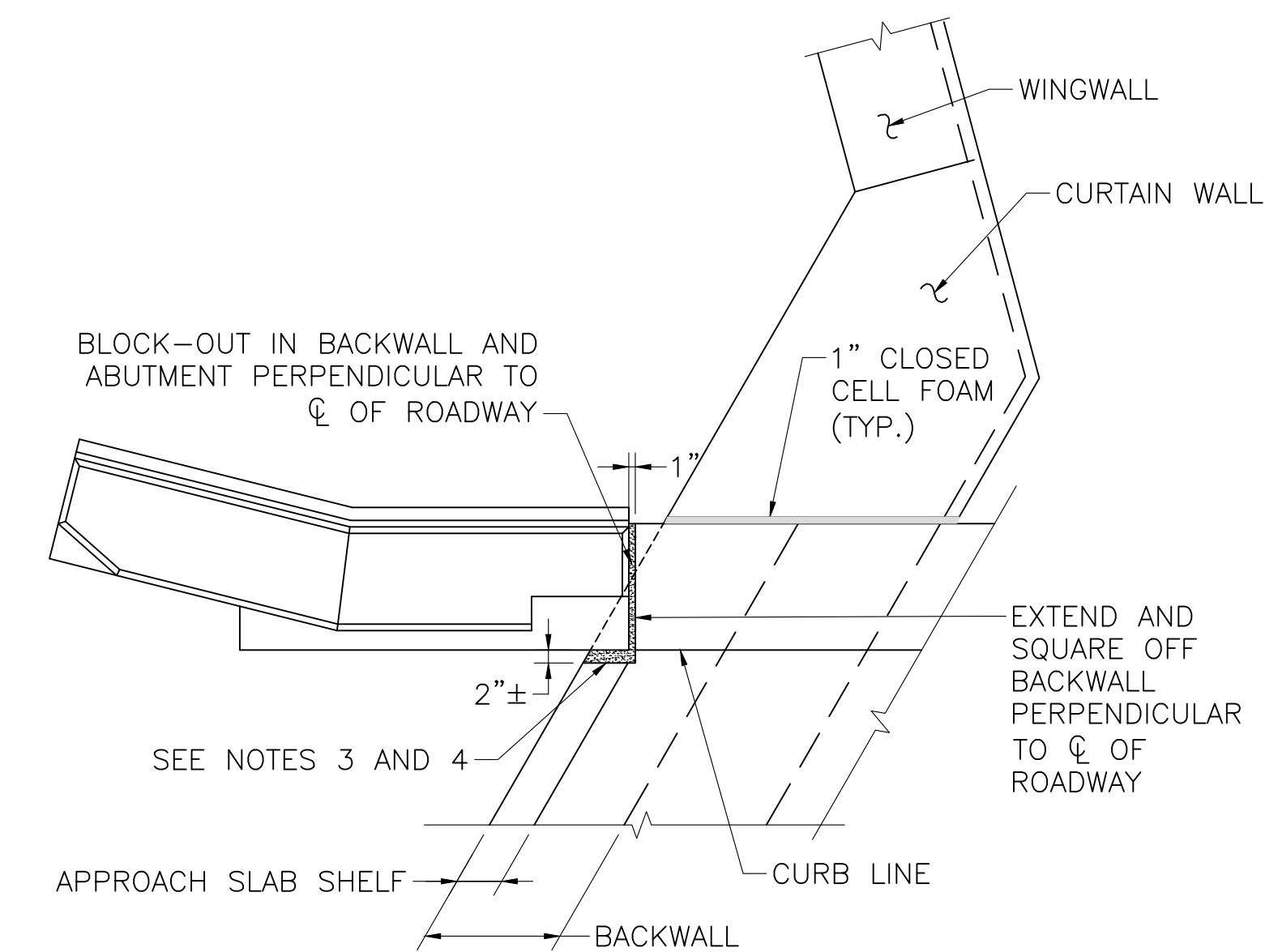


NOTE:

WINGWALL REINFORCEMENT AND STRIATIONS NOT SHOWN FOR CLARITY.

SECTION 7

SCALE: 1/2" = 1'-0"



PRECAST GUARDRAIL TRANSITION
PLAN AT SPLAYED WINGWALL

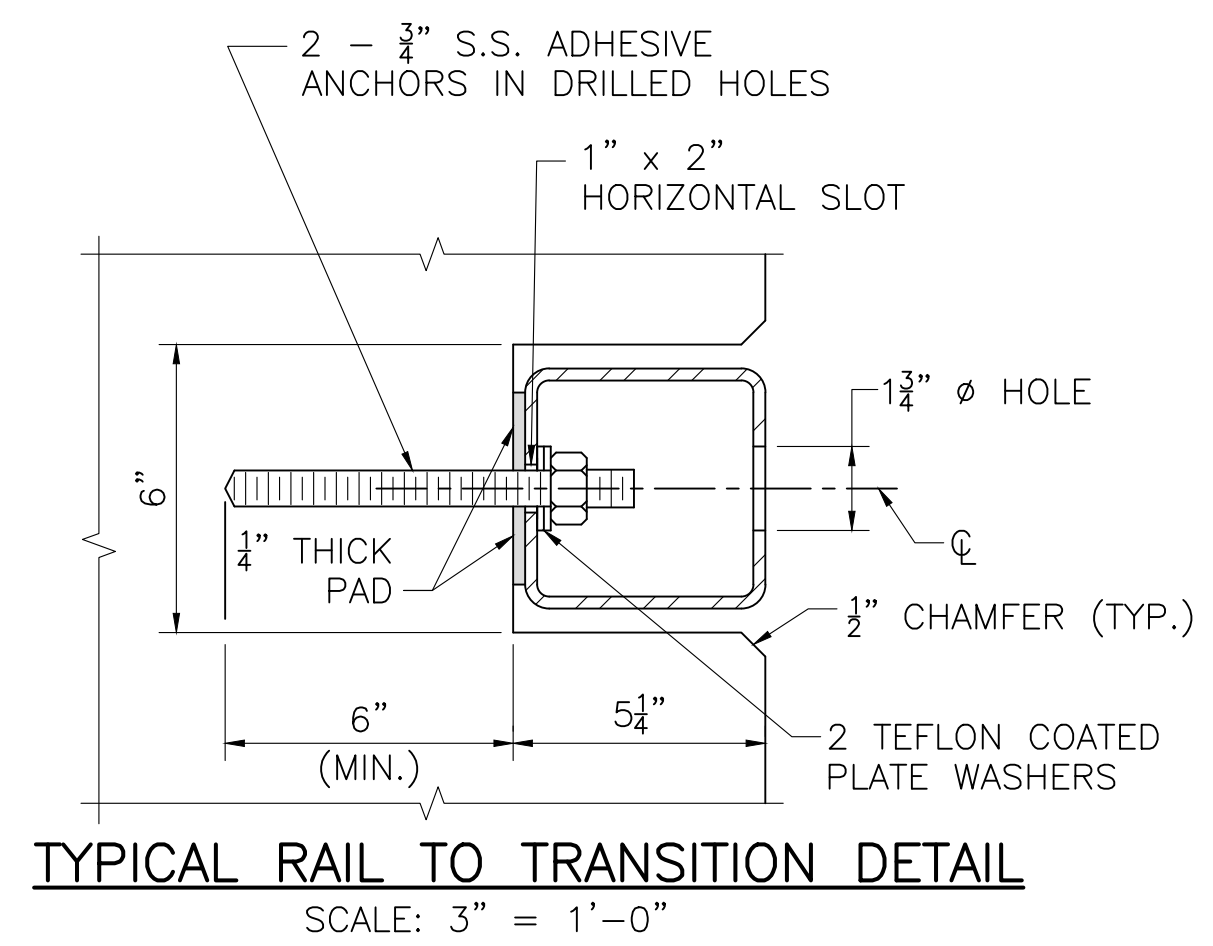
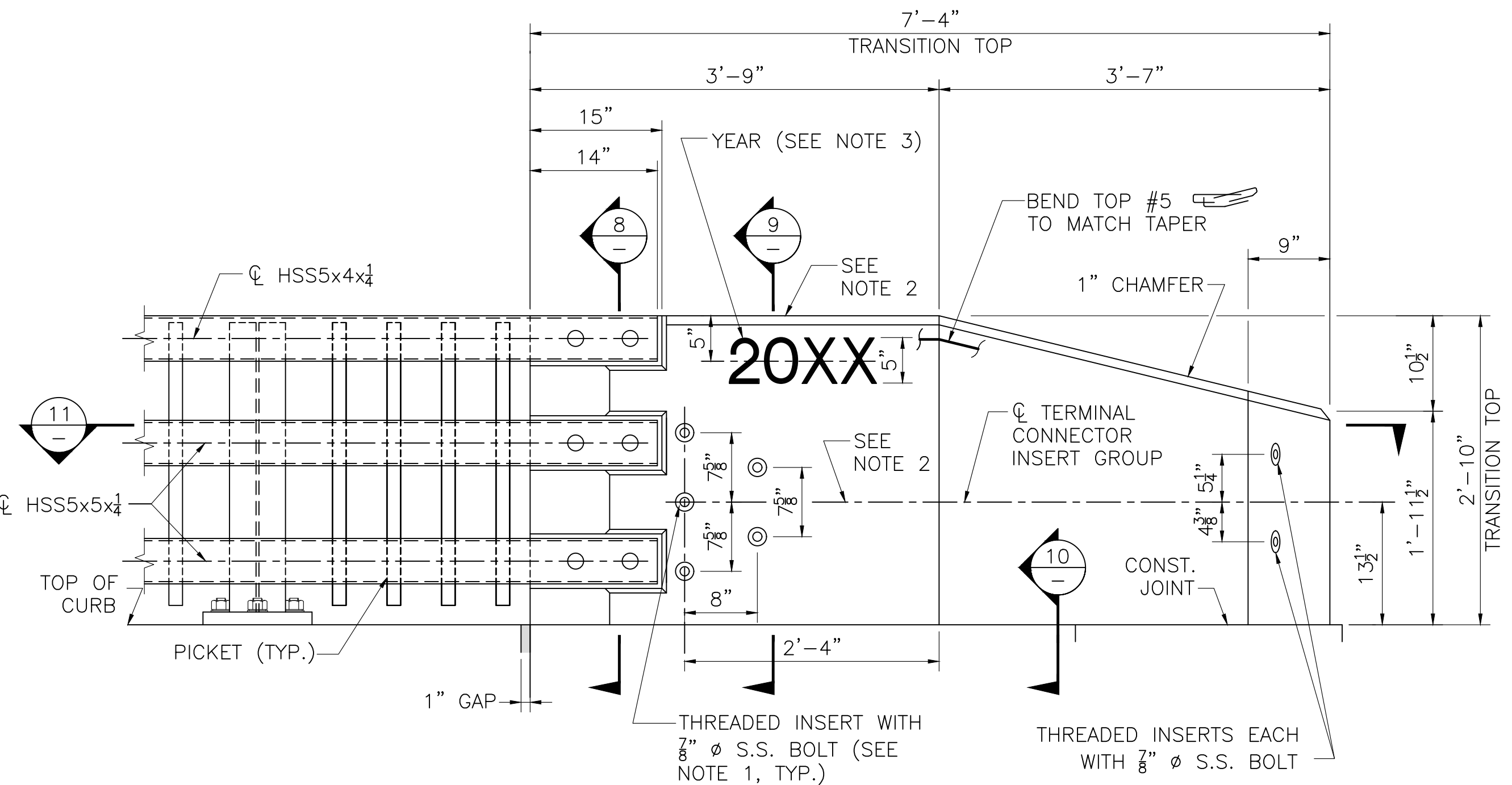
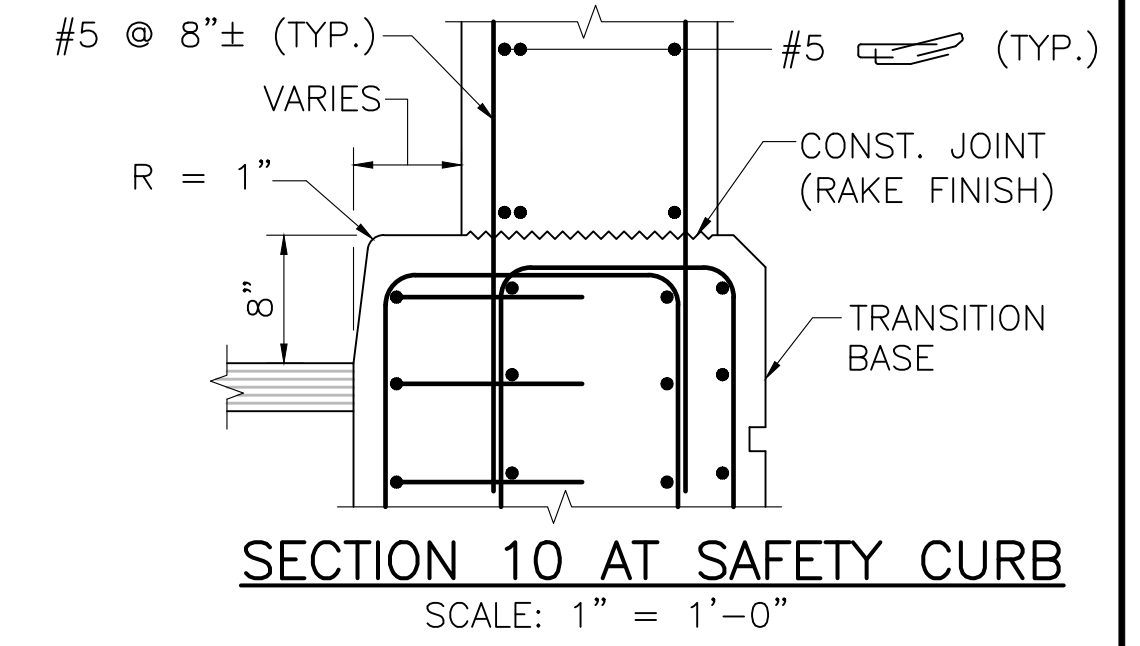
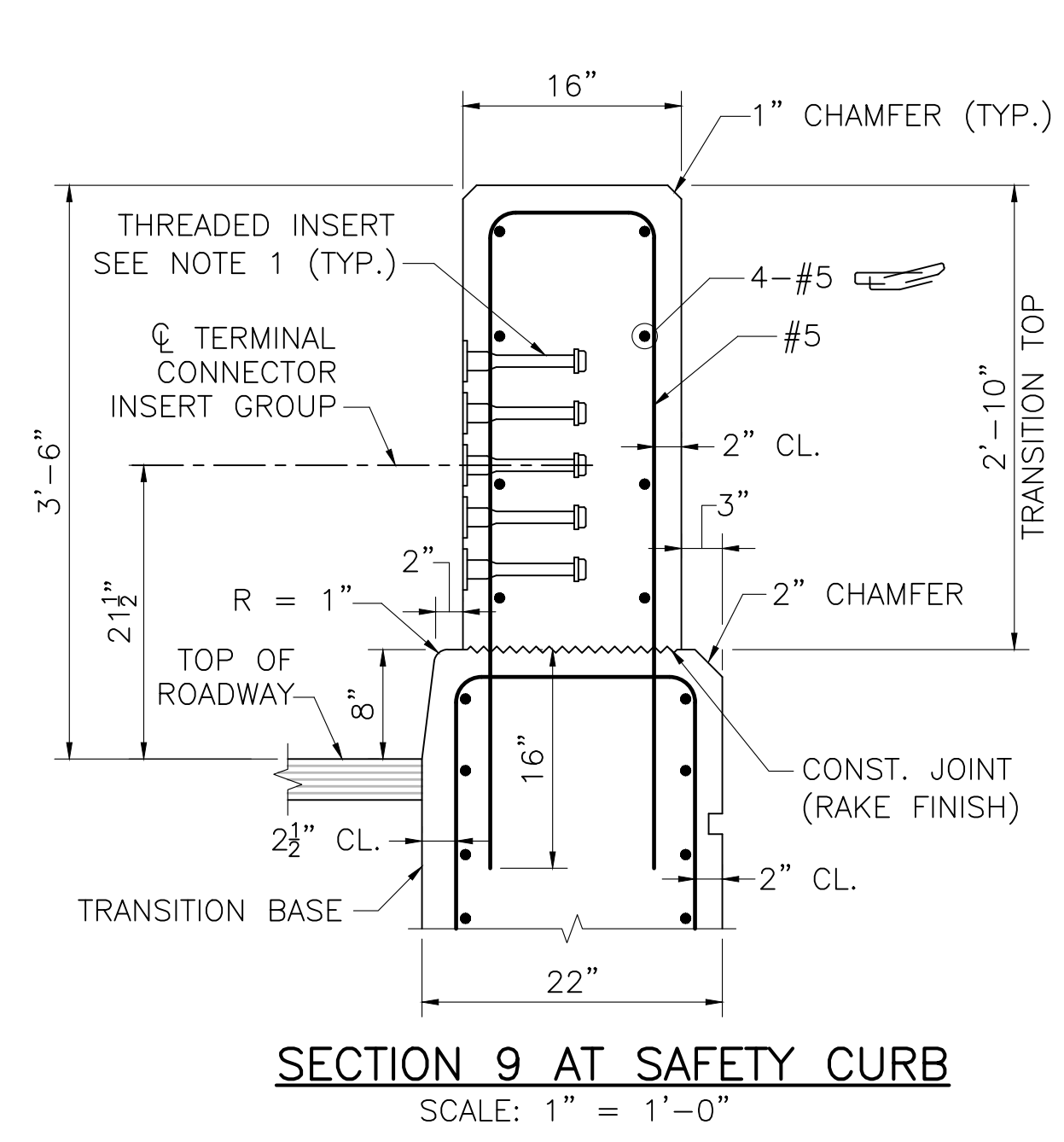
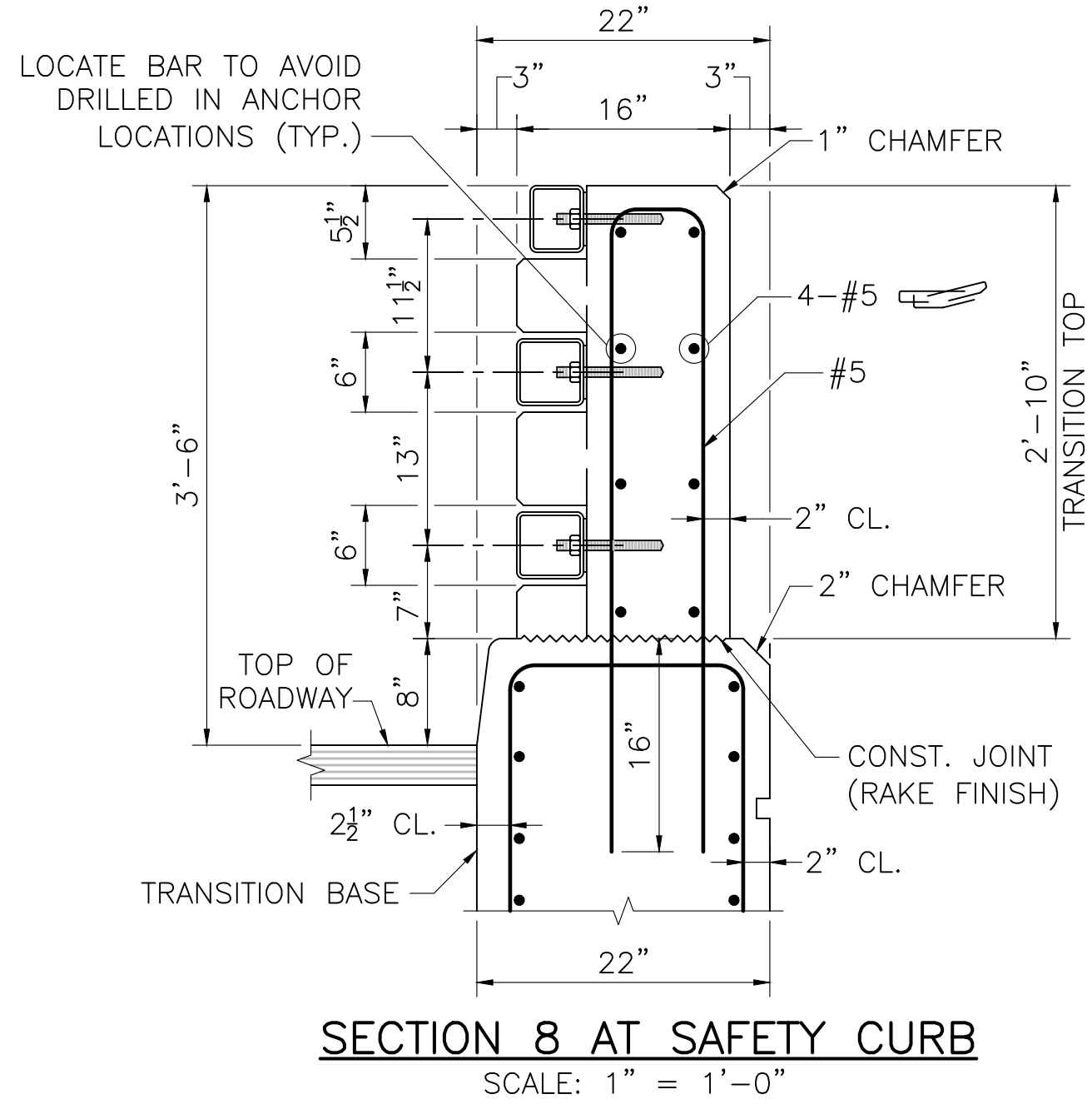
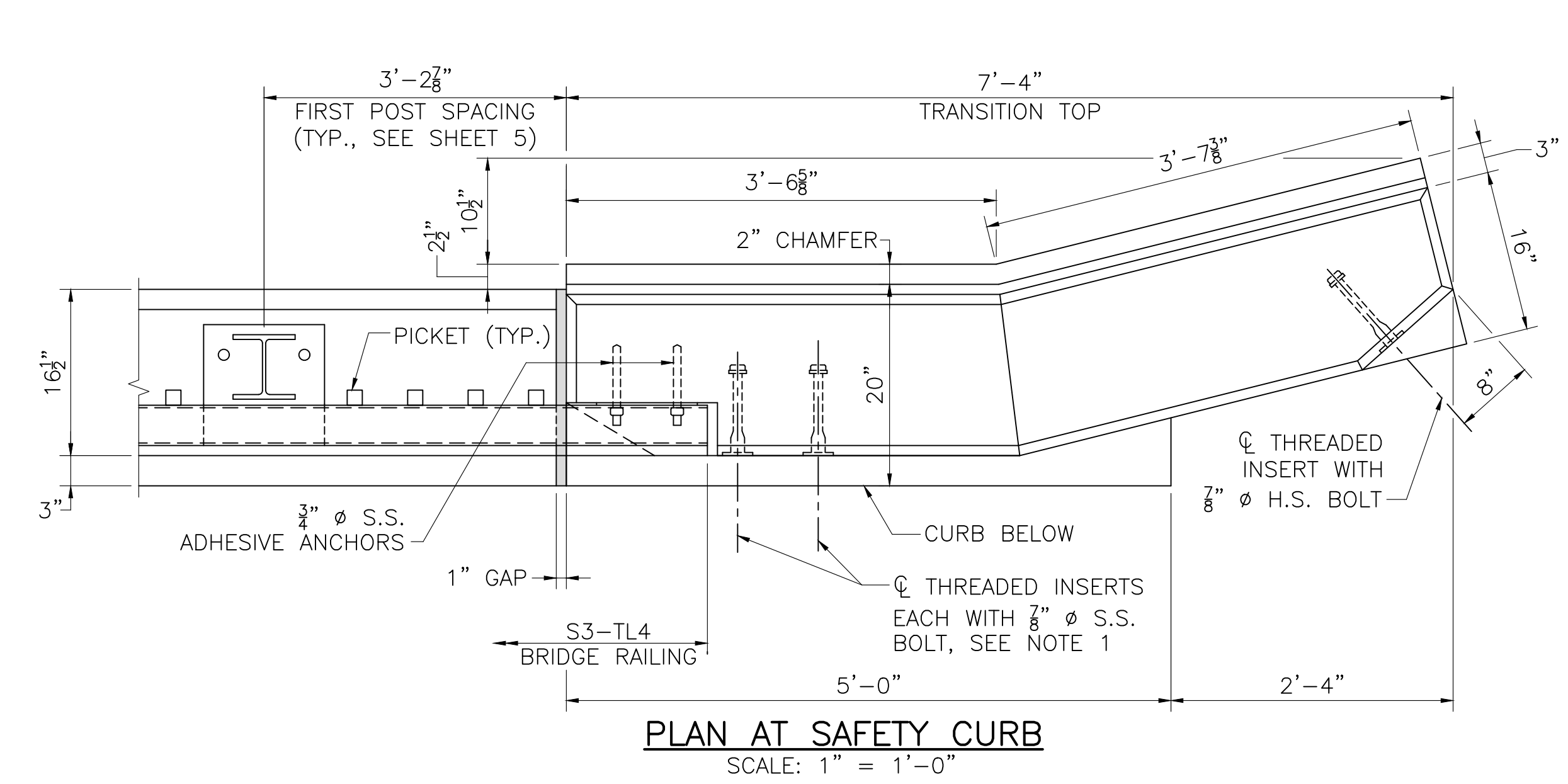
SCALE: 1/2" = 1'-0"

MAR. 16, 2024	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT	
AUTHORIZED SIGNATORY:	STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE	

CHESHIRE SAND MILL ROAD

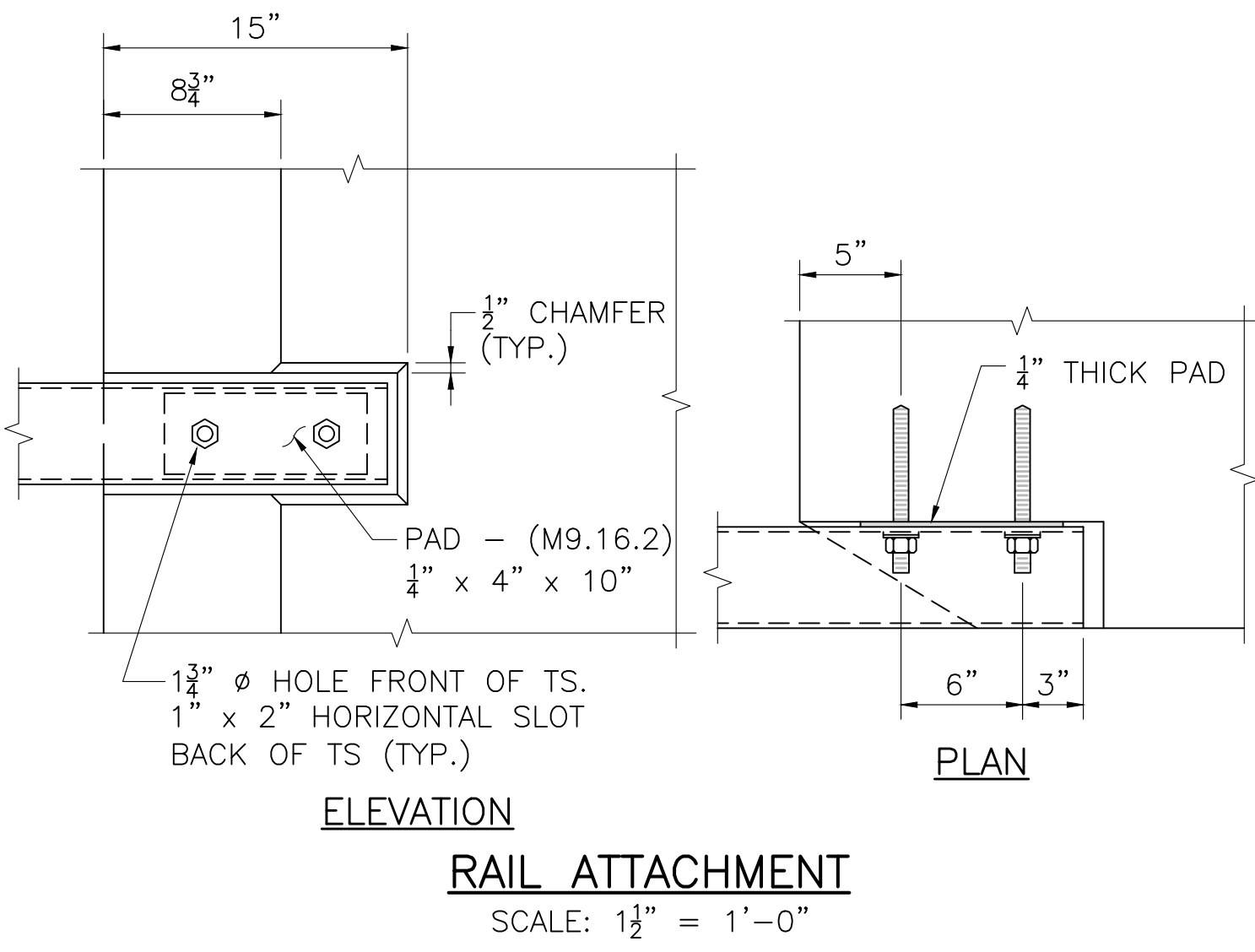
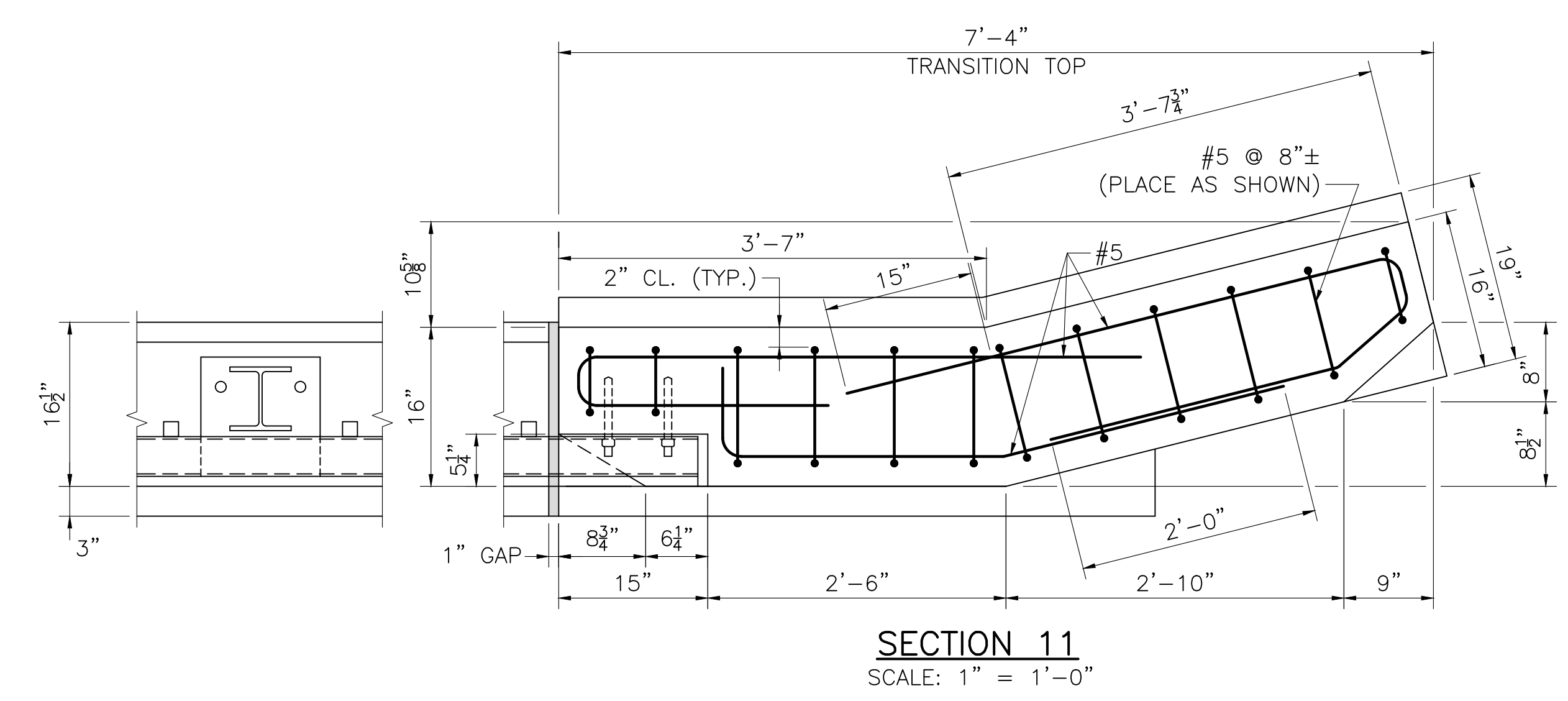
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	STP(BR-OFF)-003S(725)X	27	32
PROJECT FILE NO.			608857

TRANSITION DETAILS



NOTES:

1. THREADED INSERTS SHALL BE PREQUALIFIED BY THE MANUFACTURER AS BEING CAPABLE OF DEVELOPING A NOMINAL SHEAR RESISTANCE OF 20 KIPS PER 7/8" Ø S.S. BOLT. S.S. BOLTS SHALL BE 7/8" Ø x 1 1/2" LONG FULLY THREADED AISI TYPE 304N STAINLESS STEEL. INSERTS FOR 7/8" S.S. BOLTS SHALL BE GALVANIZED AND CAST INTO THE TRANSITION.
2. THE TRANSITION TOP AND THE TOP OF CURB SHALL FOLLOW THE APPROACH GRADE. THE HEIGHT OF THE TRANSITION TOP SHALL VARY PROVIDED THAT THE MINIMUM DIMENSIONS SHOWN ON THE CONSTRUCTION DRAWINGS ARE MET. THE BOTTOM OF THE TRANSITION BASE SHALL BE SET LEVEL WITH THE MINIMUM EMBEDMENT DEPTH SHOWN. THE TERMINAL CONNECTOR INSERT GROUP SHALL BE SLOPED TO FOLLOW THE APPROACH GRADE.
3. USE LATEST CONTRACT COMPLETION YEAR IN EFFECT WHEN THE FIRST GUARDRAIL TRANSITION IS CAST. USE THIS YEAR FOR ALL GUARDRAIL TRANSITIONS.
4. ALL CONCRETE FOR THE PRECAST HIGHWAY GUARDRAIL TRANSITION SHALL BE 5000 PSI, 3/4", 685 HP CEMENT CONCRETE.
5. LIFTING DEVICES (NOT SHOWN), INCLUDING THEIR NUMBER AND LOCATION, SHALL BE DESIGNED AND DETAILED BY THE PRECASTER. THEY SHALL BE GALVANIZED AND SHALL BE PLACED AND RECESSED IN POCKETS TO PROVIDE 1 1/2" CLEAR COVER TO THE FACE OF THE TRANSITION CONCRETE. THESE DEVICES SHALL BE CLEARLY SHOWN ON THE SHOP DRAWINGS ALONG WITH ALL SUPPORTING CALCULATIONS AND/OR CATALOG CUTS. ONCE THE PRECAST TRANSITION IS SET IN PLACE, THE LIFTING DEVICE POCKETS SHALL BE FILLED WITH A NON-SHRINK GROUT THAT MATCHES THE COLOR OF THE TRANSITION CONCRETE WHEN CURED AND THE FILLED POCKETS SHALL BE RUBBED WITH A CORUNDUM STONE TO BLEND OUT THE JOINTS.



TOP OF PRECAST HIGHWAY GUARDRAIL TRANSITION FOR S3-TL4 RAILING

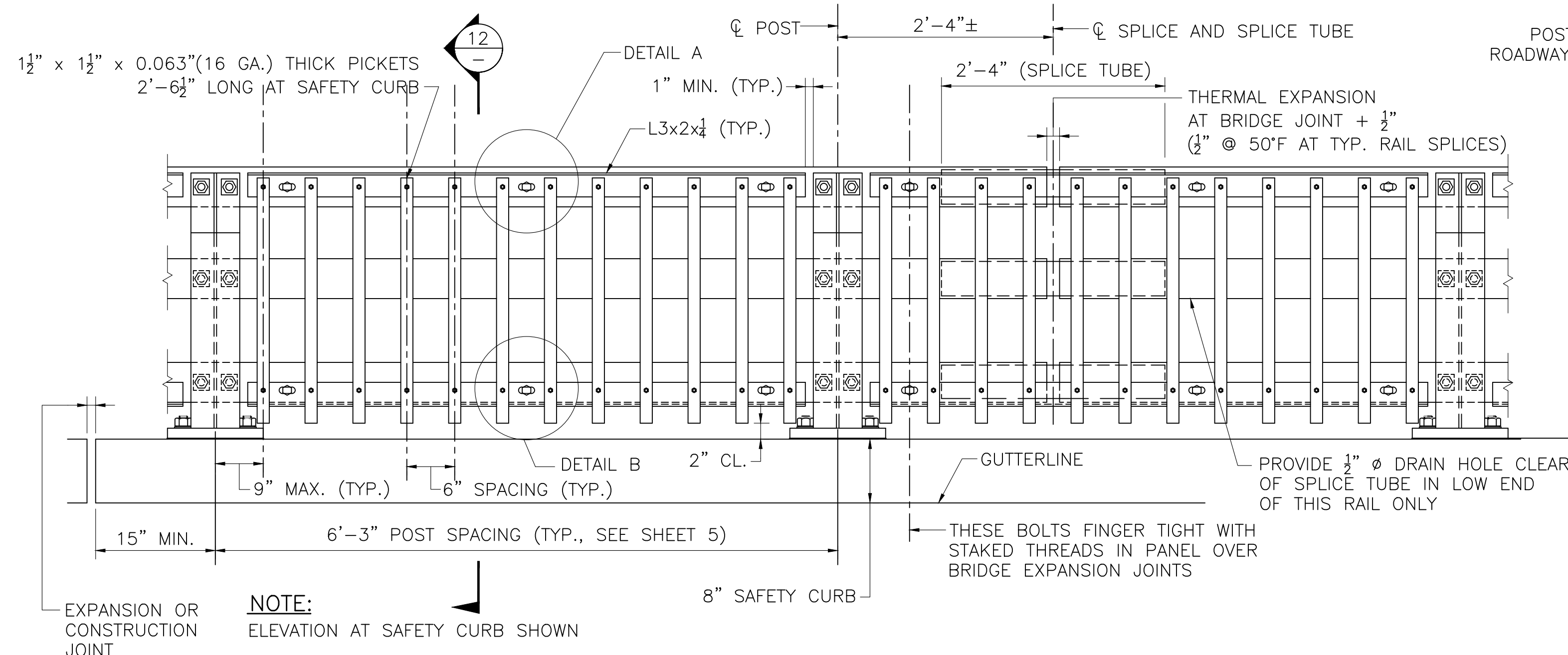
MAR. 16, 2024	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT	
AUTHORIZED SIGNATORY:	STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE	

608857_BR15(TRANSITION DETAILS).DWG 16-MARCH-2024 1:23 PM FINAL STRUCTURAL SUBMITTAL (SF)

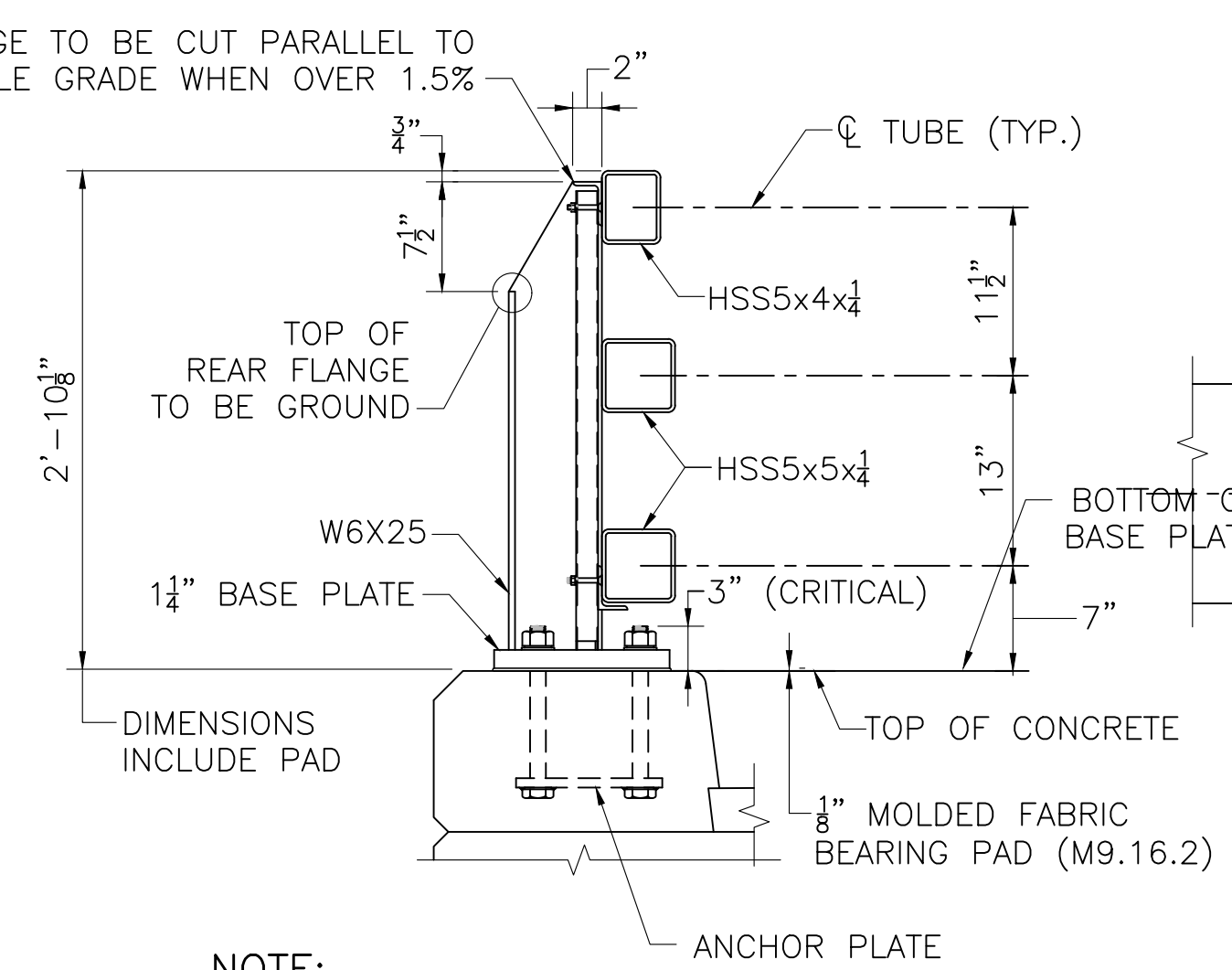
CHESHIRE SAND MILL ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	STP(BR-OFF)-003S(725)X	28	32
PROJECT FILE NO.			608857

RAILING DETAILS

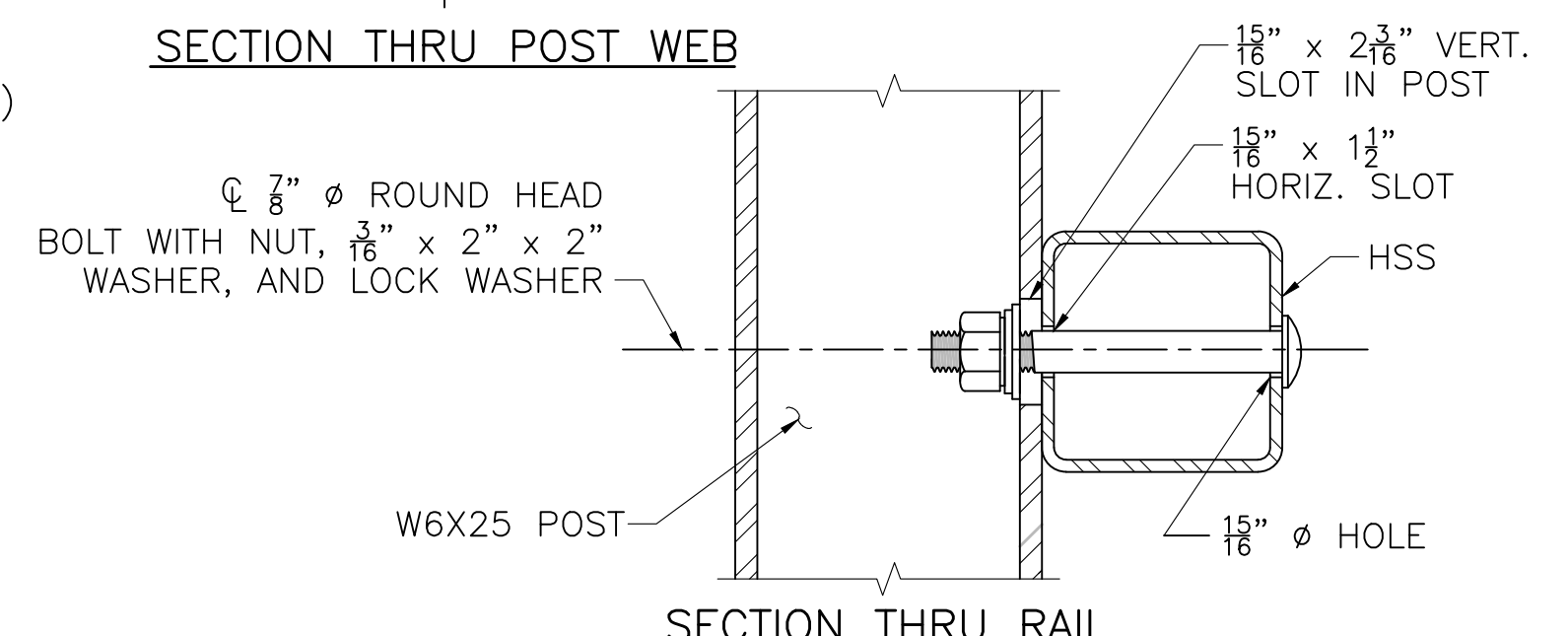


BRIDGE RAILING ELEVATION
SCALE: 1" = 1'-0"



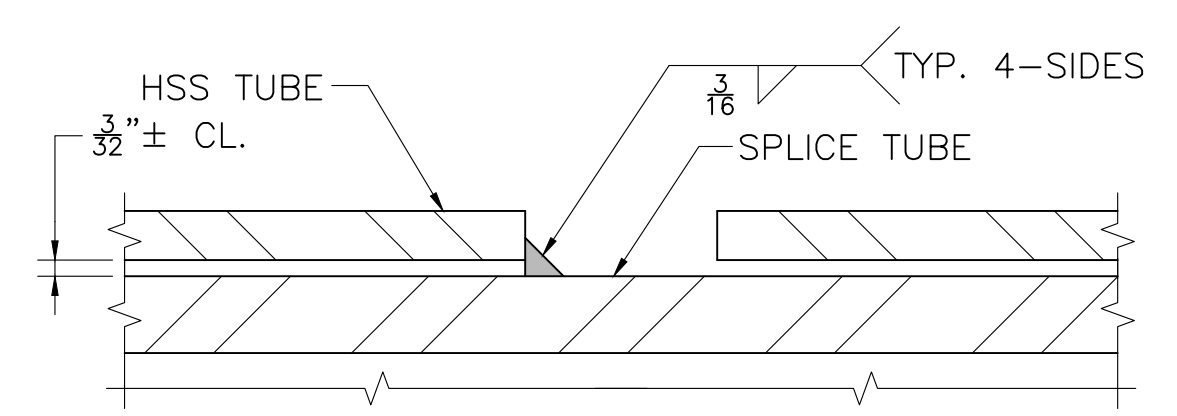
NOTE: SECTION AT SAFETY CURB SHOWN.

SECTION 12
SCALE: 1" = 1'-0"

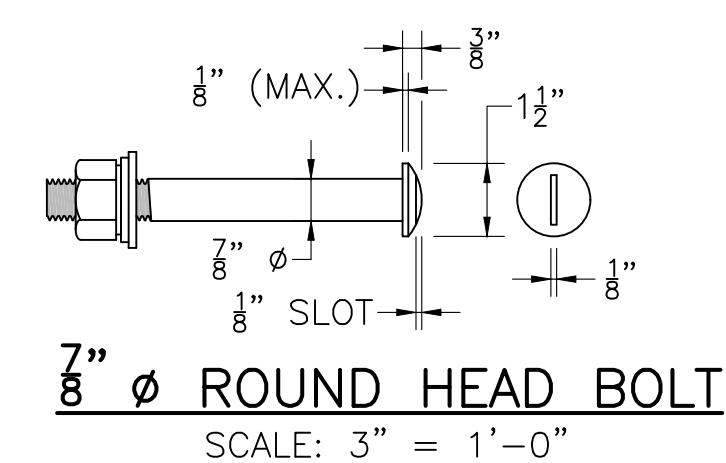


NOTE: CONNECTIONS AT LOWER RAILS SHOWN. CONNECTIONS AT TOP RAIL SIMILAR.

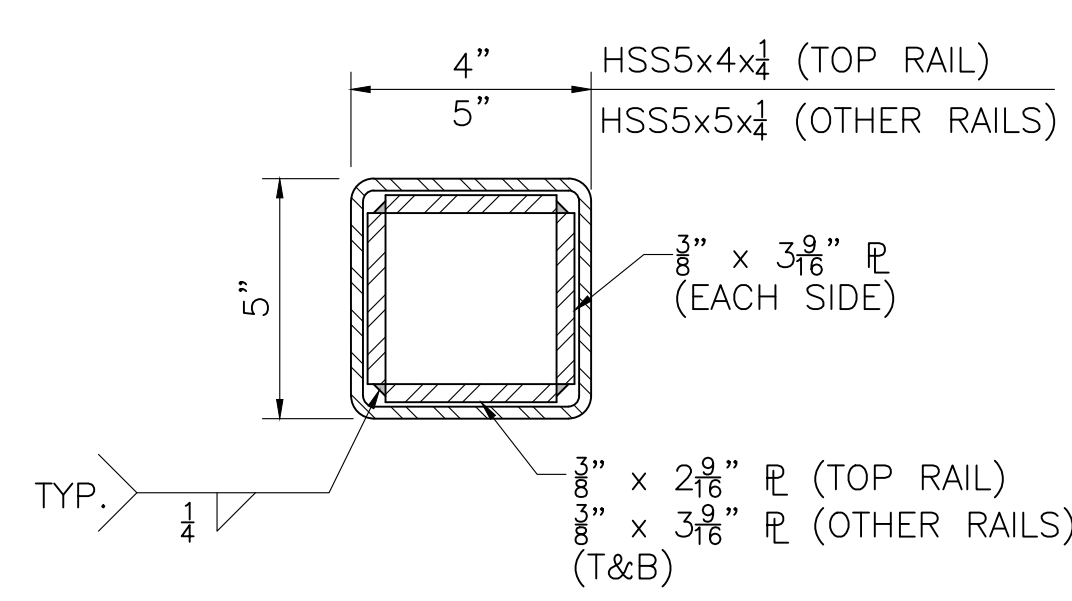
TYPICAL RAIL TO POST CONNECTIONS
SCALE: 1" = 1'-0"



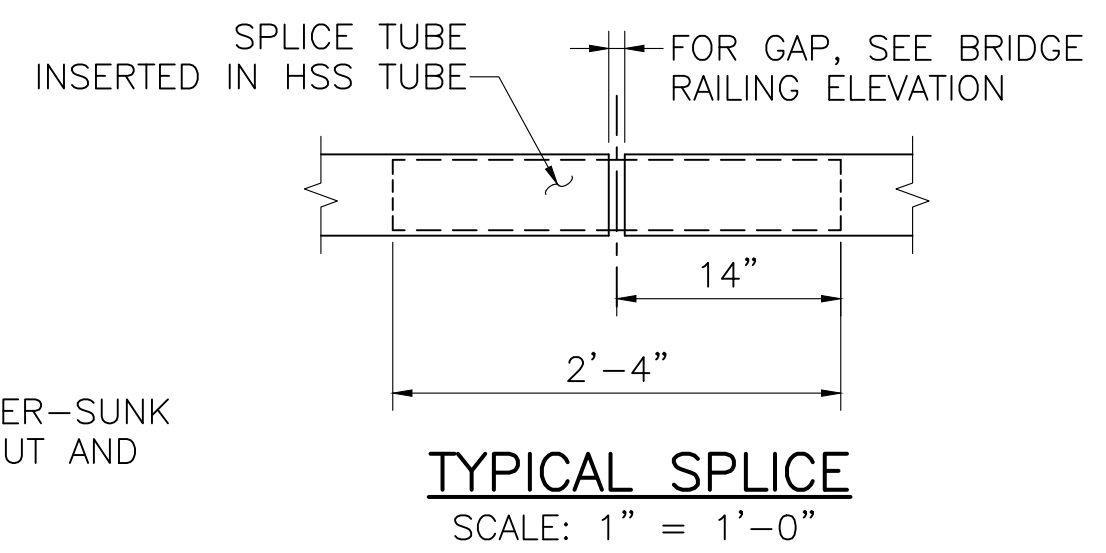
SPLICE DETAIL
FULL SIZE



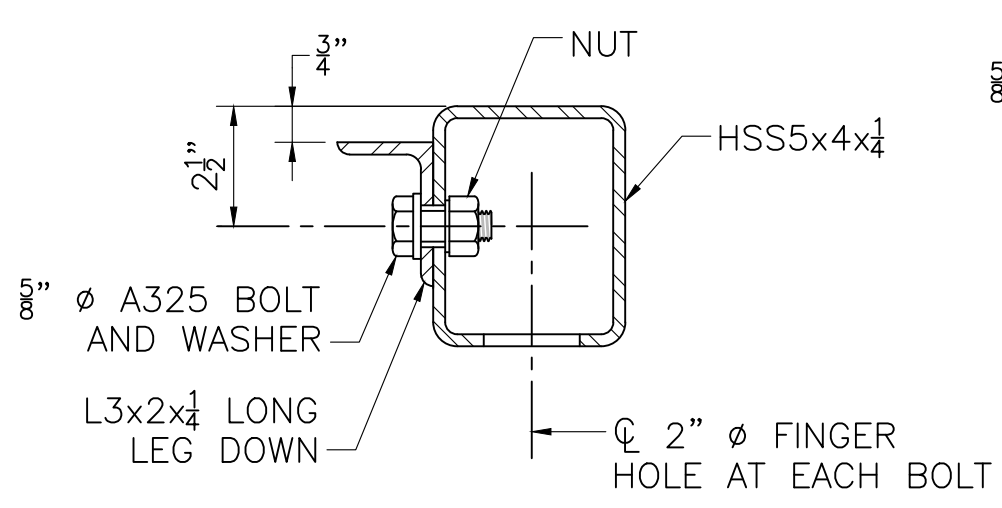
7/8" Ø ROUND HEAD BOLT
SCALE: 3" = 1'-0"



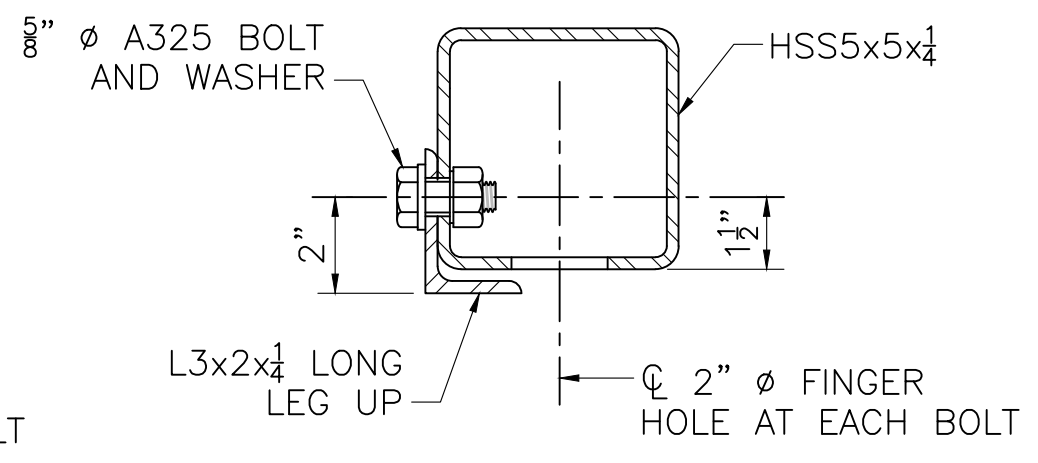
SPLICE TUBE DETAILS
SCALE: 3" = 1'-0"



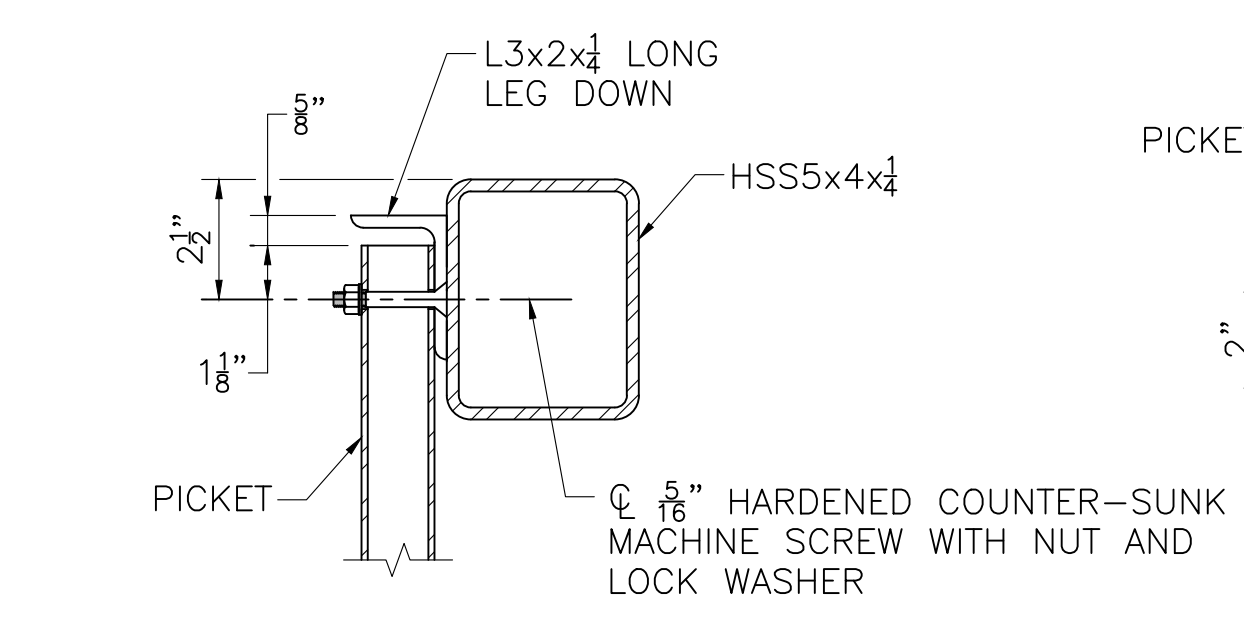
TYPICAL SPLICE
SCALE: 1" = 1'-0"



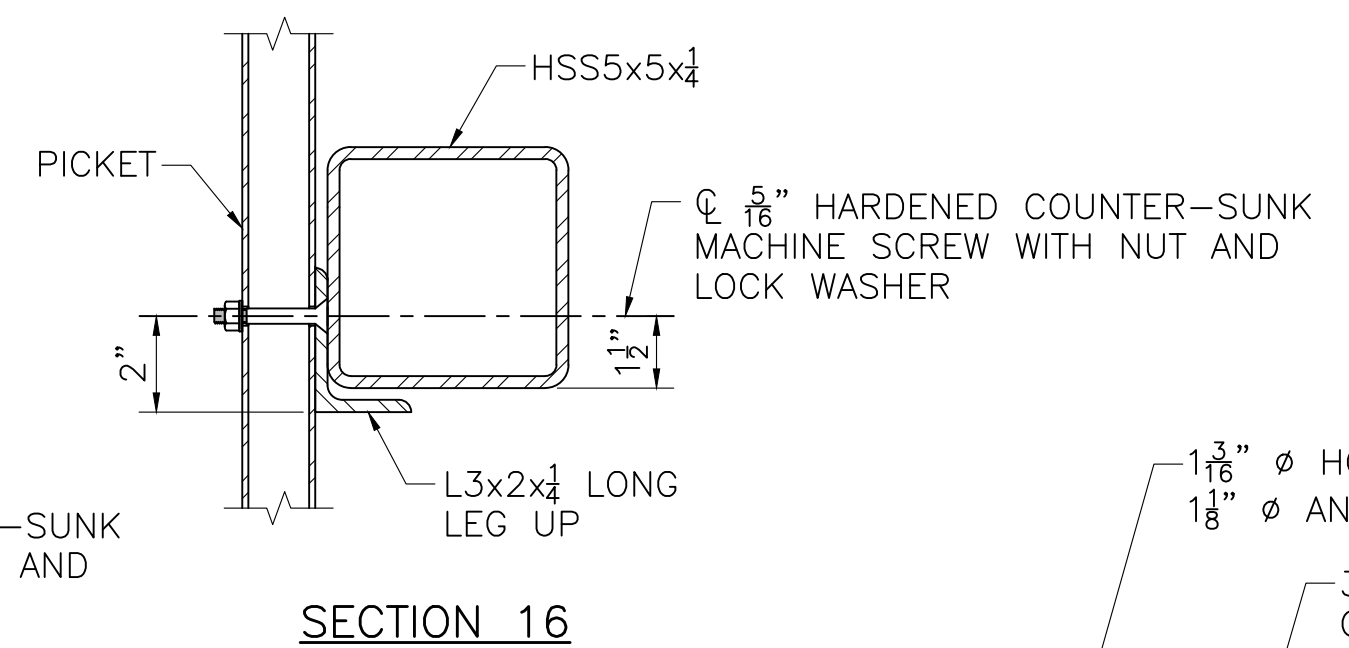
SECTION 13



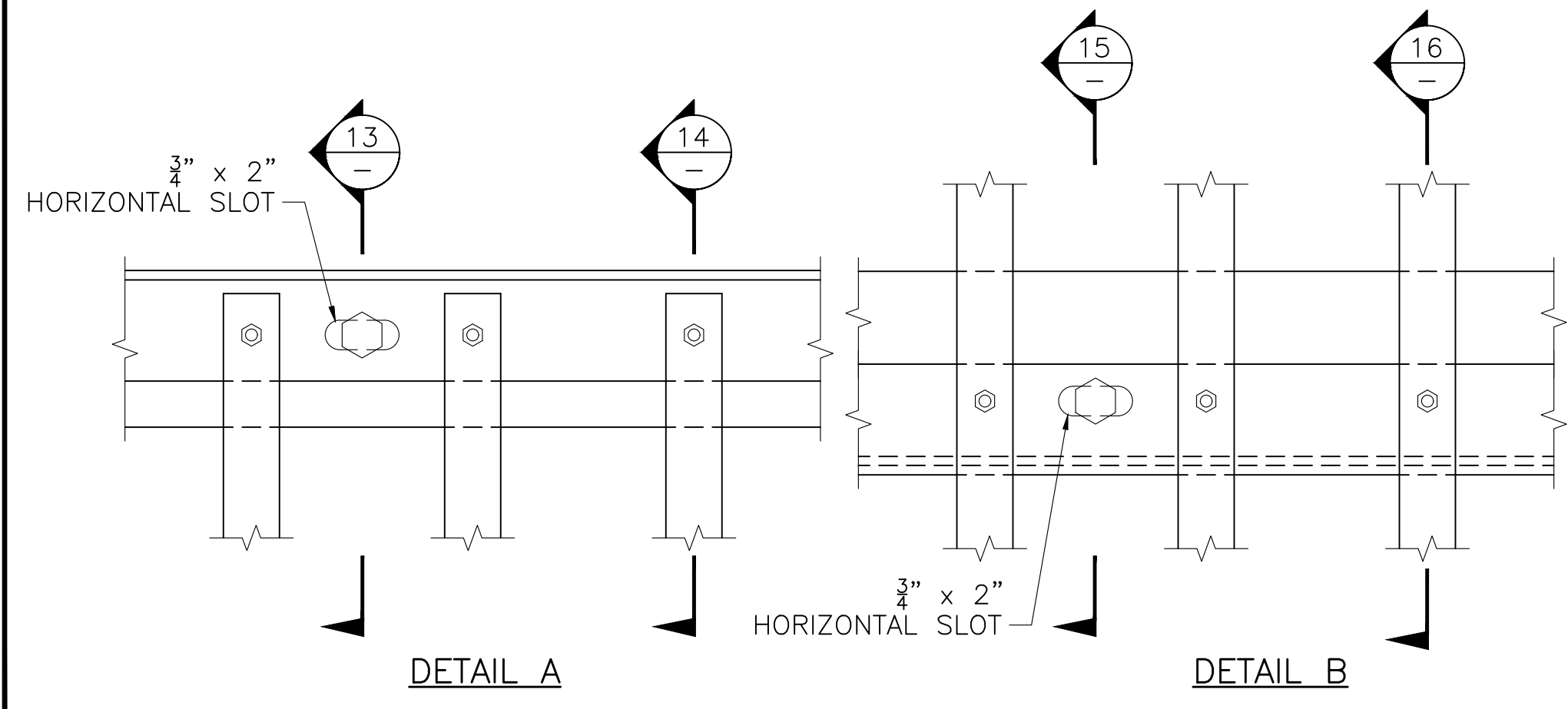
SECTION 15



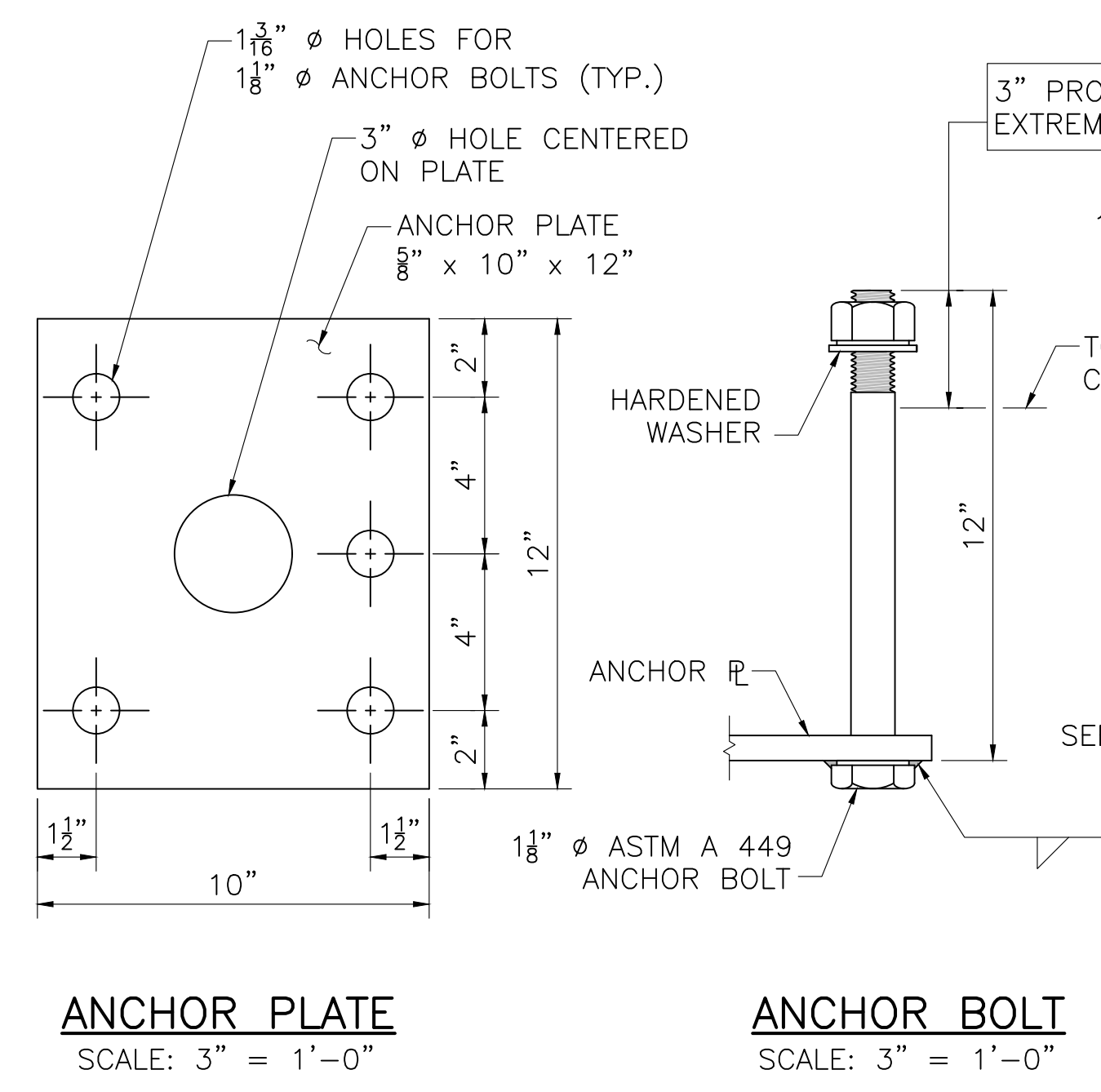
SECTION 14



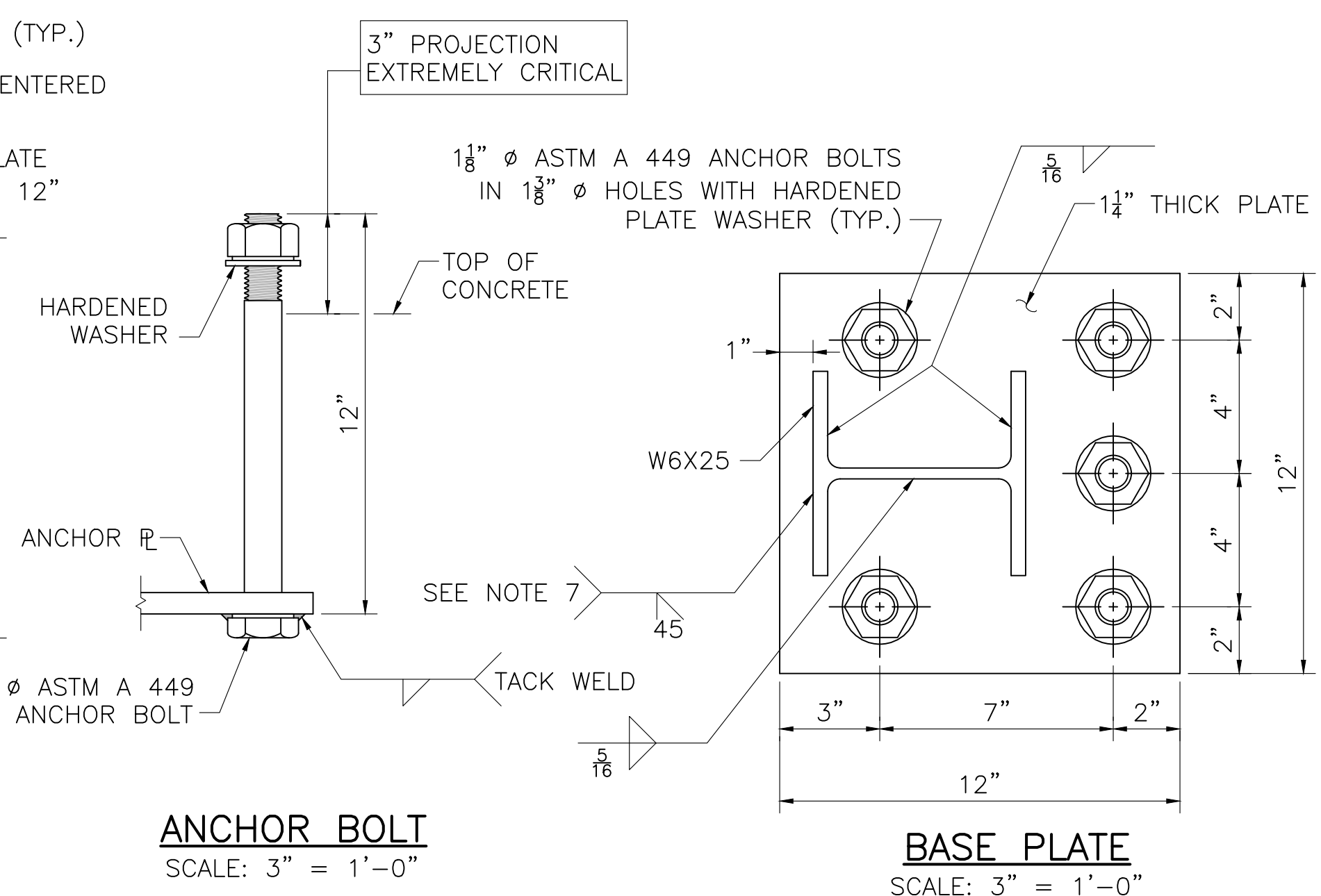
SECTION 16



TYPICAL PICKET TO RAIL DETAILS
SCALE: 3" = 1'-0"



ANCHOR PLATE
SCALE: 3" = 1'-0"



ANCHOR BOLT
SCALE: 3" = 1'-0"

BASE PLATE
SCALE: 3" = 1'-0"

RAILING NOTES:

- RAIL POST AND BASE PLATES SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M 270 GRADE 50. HOLLOW RAILING STRUCTURAL TUBING (HSS) SHALL CONFORM TO THE REQUIREMENTS OF ASTM A 500 WITH A CERTIFIED Fy = 50 KSI MINIMUM. THE MINIMUM HORIZONTAL BENDING RADII OF THE HSS TUBING SHALL BE 8 FEET. PICKET CARRIER ANGLES, ANCHOR PLATES, AND SPLICE TUBE PLATES SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M 270 GRADE 36. PICKET TUBING SHALL CONFORM TO ASTM A 513 WITH Fy = 36 KSI MIN. OR A 500 GRADE B.
- ALL STEEL (EXCEPT THE 3/8" ANCHOR PLATE AND FASTENERS) SHALL BE GALVANIZED AND PAINTED DARK BRONZE (FEDERAL STD. 595B COLOR NO. 10045). ANCHOR PLATE SHALL BE GALVANIZED ONLY. HEADS OF 7/8" Ø ROUND HEAD BOLTS SHALL BE PAINTED TO MATCH RAIL.
- ANCHOR BOLTS SHALL BE SET WITH TEMPLATES. THE NUT SECURING THE POST BASE PLATE TO THE CONCRETE SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL 1/8 TURN AFTER STEEL IS IN PLACE.
- RAILS SHALL BE CONTINUOUS OVER A MINIMUM OF FOUR (4) POSTS WITHOUT SPLICES WHERE POSSIBLE. RAILS SHALL BE SPLICED IN THE PANELS OVER EXPANSION JOINT.
- ENDS OF TUBE SECTIONS SHALL BE SAWED. GRIND SMOOTH EXPOSED EDGES. ALL CUT ENDS SHALL BE TRUE AND SMOOTH.
- ALL POSTS TO BE PLUMB WHEN PROFILE GRADE EXCEEDS 1.5%. FOR PROFILE GRADES LESS THAN 1.5%, POSTS SHALL BE SET PERPENDICULAR TO GRADE.
- POST FLANGE WELD DOES NOT REQUIRE MAGNETIC PARTICLE TESTING. WELD SHALL BE BACK-GOUGED ON BACK SIDE EXCEPT AT WEB. WELD IS THE SAME ON BOTH FLANGES.
- 7/8" Ø ROUND HEAD BOLTS SHALL CONFORM TO THE CHEMICAL AND PHYSICAL REQUIREMENTS OF AASHTO M 164.

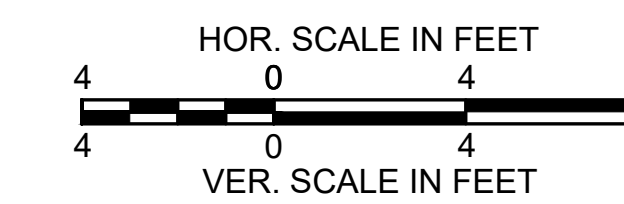
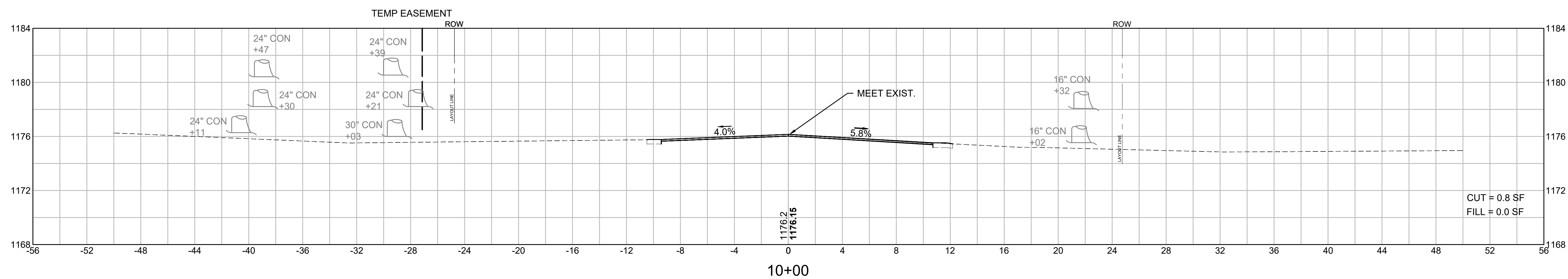
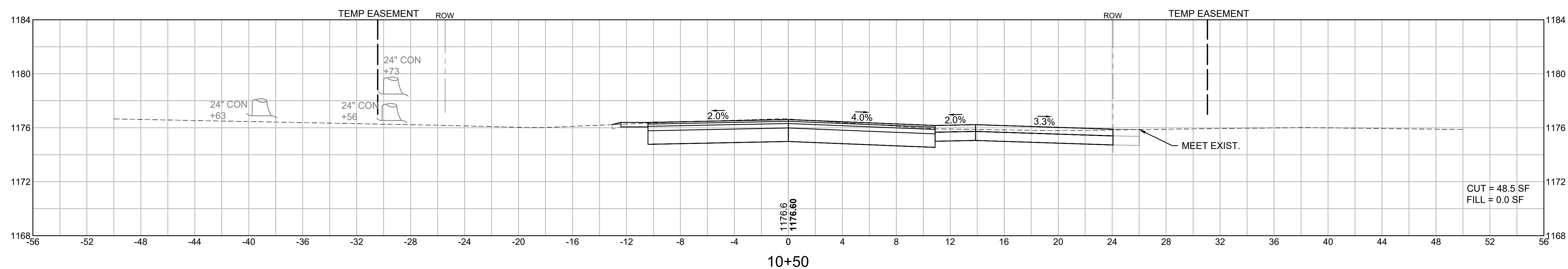
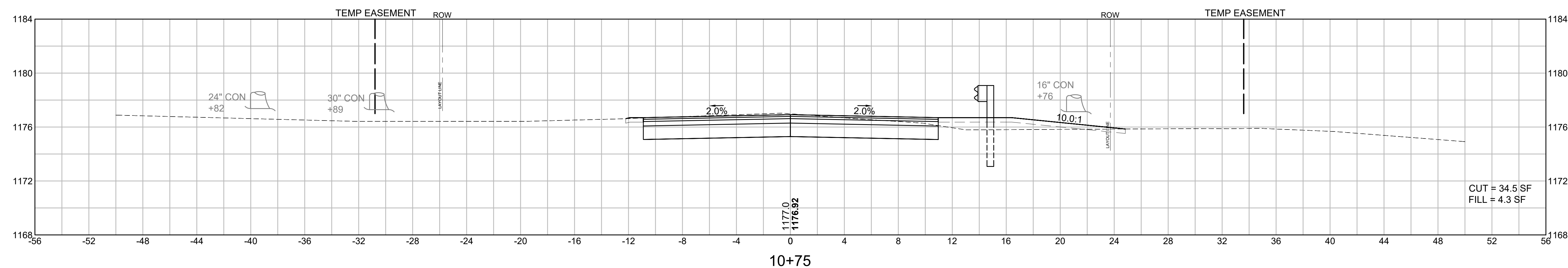
MAR. 16, 2024	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT	
AUTHORIZED SIGNATORY:	STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE	

608857_BR16(RAILING DETAILS).DWG Plotted on 21-Mar-2024 1:23 PM 16-MARCH-2024 FINAL STRUCTURAL SUBMITTAL (SF)

CHESHIRE
SAND MILL ROAD OVER DRY BROOK

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	STP(BR-OFF)-003S(725)X	29	32
PROJECT FILE NO.		608857	

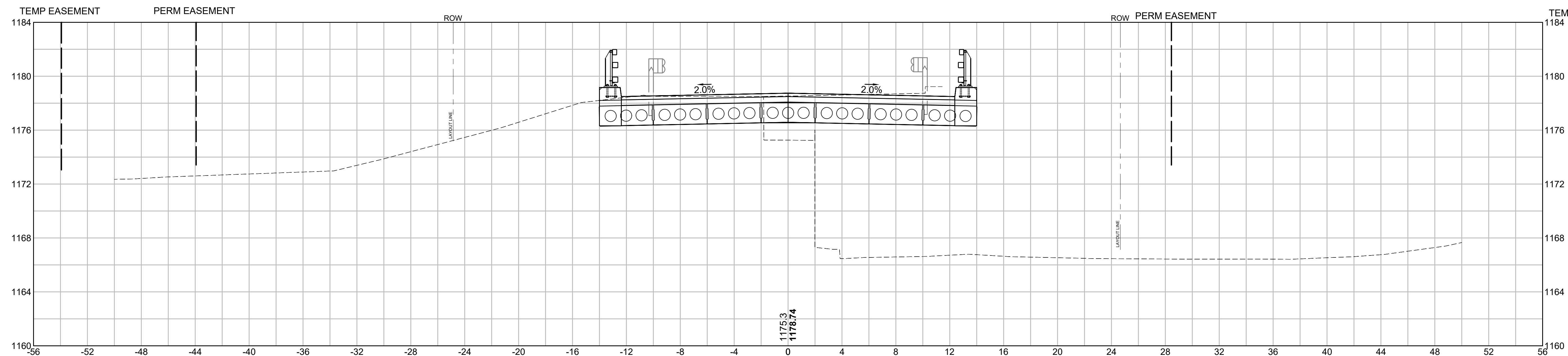
CROSS SECTIONS
SHEET 1 OF 4



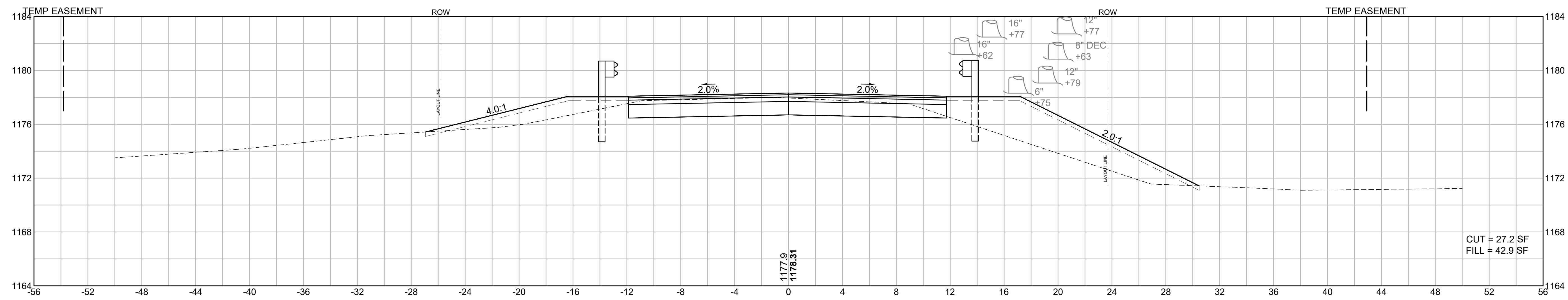
CHESHIRE
SAND MILL ROAD OVER DRY BROOK

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	STP(BR-OFF)-003S(725)X	30	32
PROJECT FILE NO.		608857	

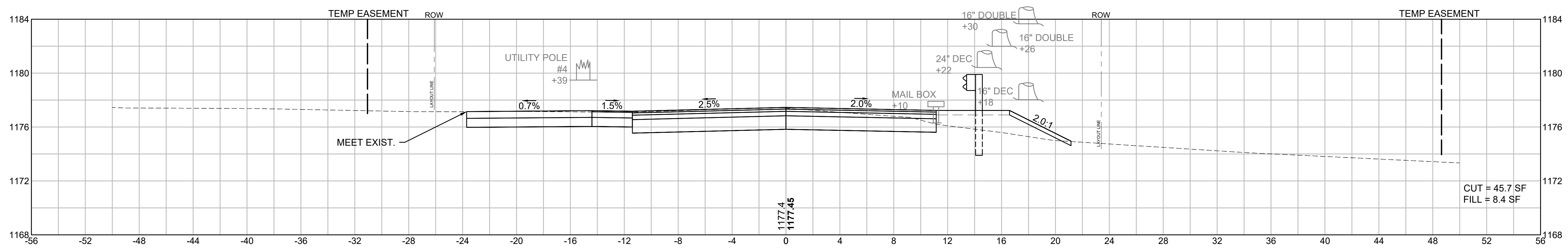
CROSS SECTIONS
SHEET 2 OF 4



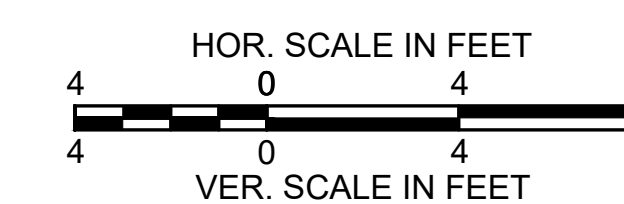
12+00



11+50



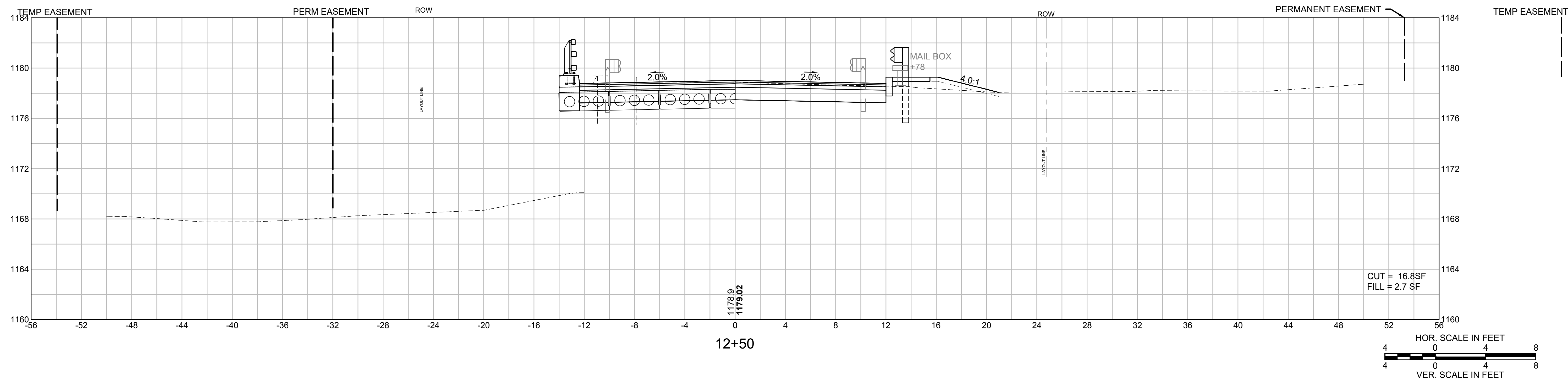
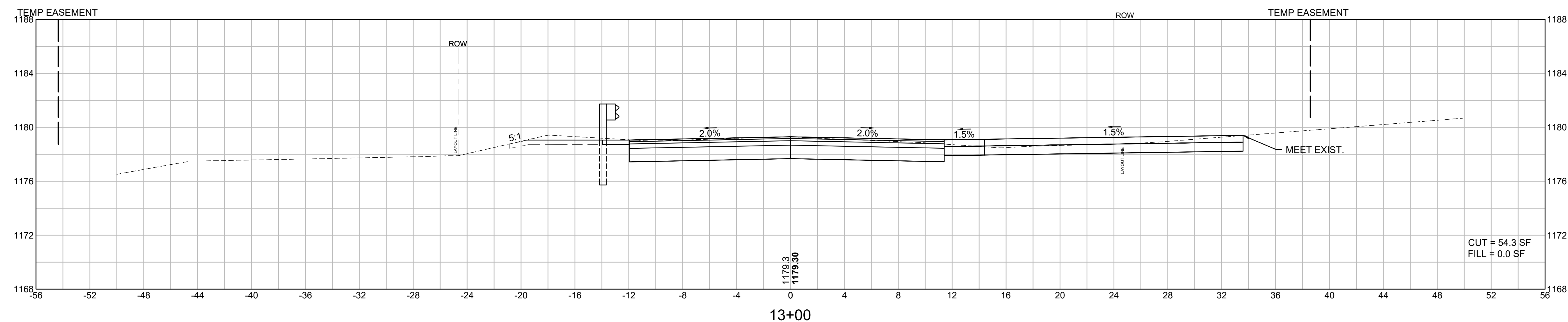
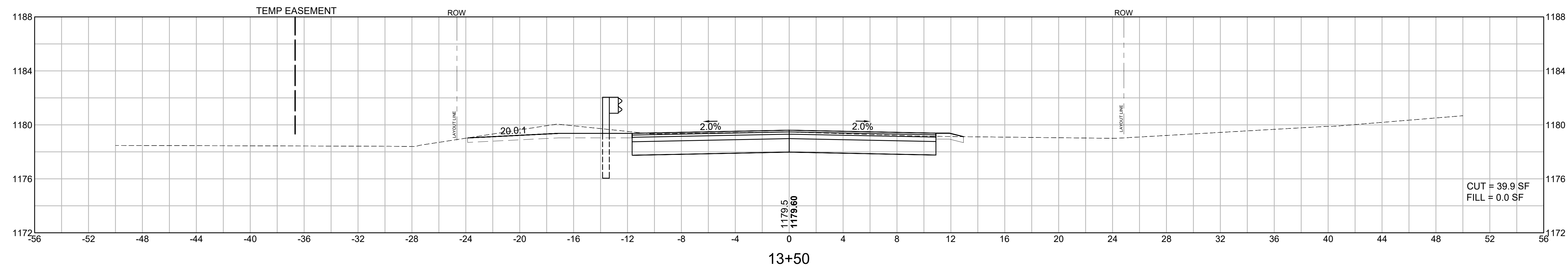
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**CHESHIRE
SAND MILL ROAD OVER DRY BROOK**

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	STP(BR-OFF)-003S(725)X	31	32
PROJECT FILE NO.		608857	

**CROSS SECTIONS
SHEET 3 OF 4**



**CHESHIRE
SAND MILL ROAD OVER DRY BROOK**

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	STP(BR-OFF)-003S(725)X	32	32
PROJECT FILE NO.		608857	

**CROSS SECTIONS
SHEET 4 OF 4**

