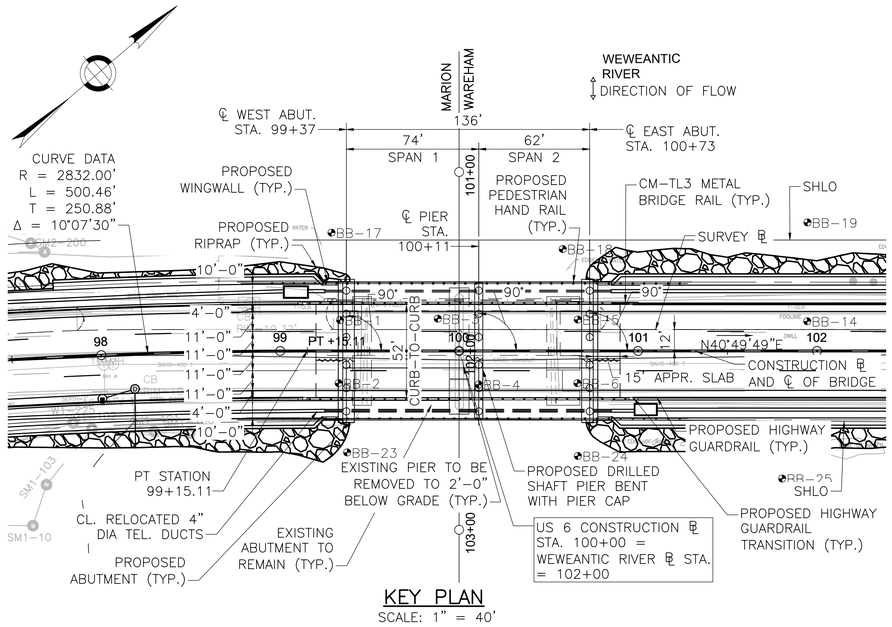
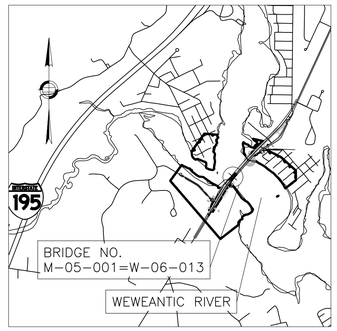


KEY PLAN
SCALE: 1" = 40'



LOCUS
SCALE: 1" = 2000'

DESIGN:
IN ACCORDANCE WITH THE 2020 AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO) LRFD BRIDGE DESIGN SPECIFICATIONS FOR HL-93 LOADING AND MASSDOT LRFD DESIGN MANUAL – LATEST EDITION.

NOTES:

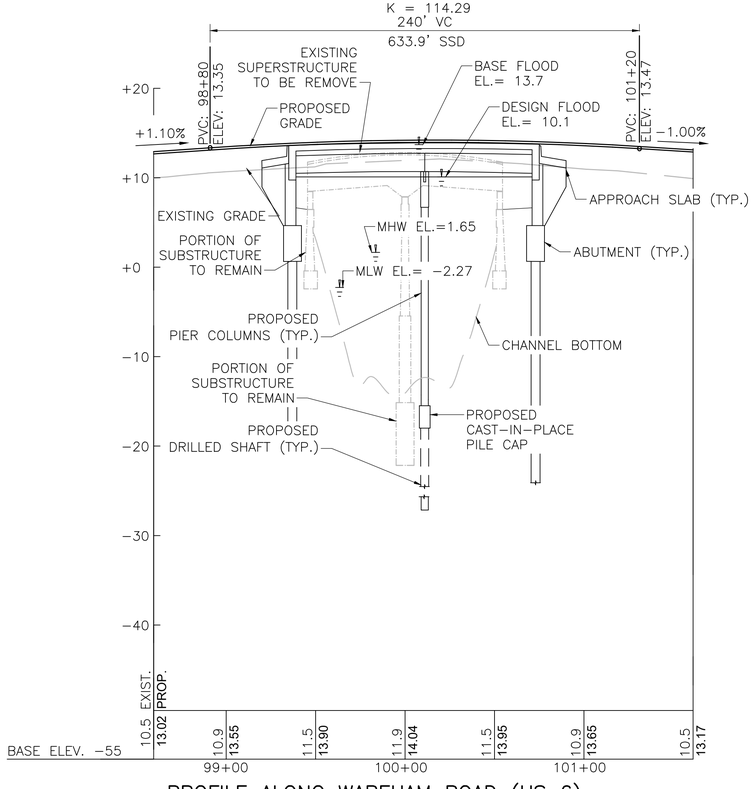
1. SEE GEOTECHNICAL DATA REPORT, DATED SEPTEMBER 2024. SEE RFP FOR FURTHER GEOTECHNICAL INFORMATION AND REQUIREMENTS.
2. SEE HYDRAULIC REPORT, DATED SEPTEMBER XXX
3. NORTH AMERICAN VERTICAL DATUM (NAVD) OF 1988 IS USED THROUGHOUT.
4. MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH MASSDOT ENGINEERING DIRECTIVES AND RFP REQUIREMENTS.

TRAFFIC DATA		
	ROADWAY OVER	ROADWAY UNDER
DESIGN YEAR	2044	N/A
AVERAGE DAILY TRAFFIC – PRESENT	9,559	N/A
AVERAGE DAILY TRAFFIC – DESIGN YEAR	10,302	N/A
DESIGN HOURLY VOLUME	907	N/A
DIRECTIONAL DISTRIBUTION	DIST	N/A
TRUCK PERCENTAGE – AVERAGE DAY	2.3%	N/A
TRUCK PERCENTAGE – PEAK HOUR	2.45%	N/A
DESIGN SPEED	55 MPH	N/A
DIRECTIONAL DESIGN HOURLY VOLUME	439	N/A

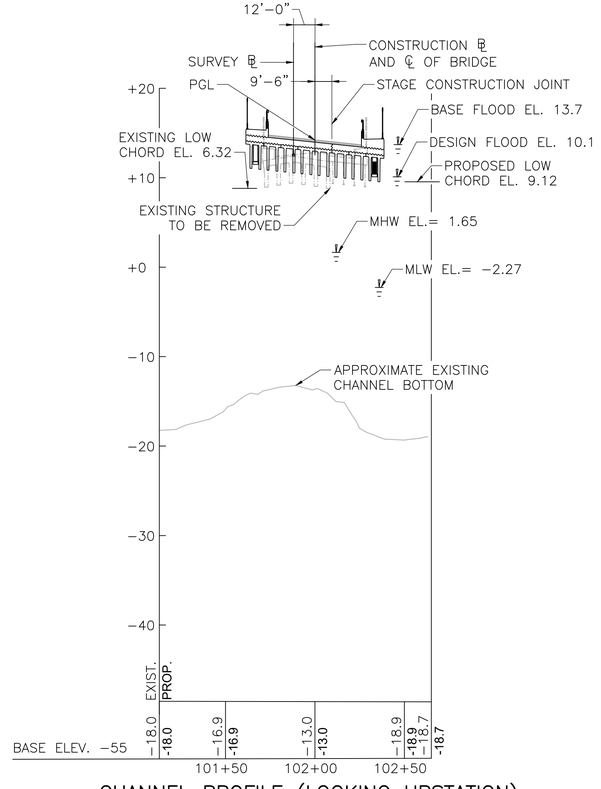
SEISMIC DESIGN CRITERIA	
DESIGN RETURN PERIOD:	1000 YEARS
DESIGN SPECTRA	
As	0.138
SDs	0.29
SD1	0.112
SITE CLASS	E
SEISMIC DESIGN CATEGORY (SDC)	A

HYDRAULIC DESIGN DATA		
DRAINAGE AREA:	N/A	SQ. MILES
DESIGN FLOOD DISCHARGE:	N/A	C.F.S.
DESIGN FLOOD FREQUENCY	25	YEARS
DESIGN FLOOD VELOCITY:	N/A	F.P.S.
DESIGN FLOOD ELEVATION:	10.1	FEET, NAVD
BASE (100-YEAR) FLOOD DATA		
BASE FLOOD DISCHARGE:	N/A	C.F.S.
BASE FLOOD ELEVATION:	13.7	FEET, NAVD
DESIGN AND CHECK SCOUR DATA		
DESIGN SCOUR FLOOD EVENT RETURN FREQUENCY:	50	YEARS
DESIGN FLOOD ABUTMENT SCOUR DEPTH:	7.0	FEET
DESIGN FLOOD PIER SCOUR DEPTH:	27.10	FEET
CHECK SCOUR FLOOD EVENT RETURN FREQUENCY:	100	YEARS
CHECK FLOOD ABUTMENT SCOUR DEPTH:	15.63	FEET
CHECK FLOOD PIER SCOUR DEPTH:	36.80	FEET
FLOOD OF RECORD		
DISCHARGE:	N/A	C.F.S.
FREQUENCY (IF KNOWN):	N/A	YEARS
MAXIMUM ELEVATION:	N/A	FEET, NAVD
DATE:	N/A	MONTH, YEAR
HISTORY OF ICE FLOES:	N/A	N.A.
EVIDENCE OF SCOUR AND EROSION:	N/A	N.A.

NOTE: VALUES IN THE HYDRAULIC TABLE ARE SUBJECT TO CHANGE. FINAL HYDRAULIC REPORT HAS NOT BEEN ISSUED AT TIME OF BTC PLANS. FINAL HYDRAULIC REPORT WILL BE PROVIDED IN ADDENDUM WHEN COMPLETE.



PROFILE ALONG WAREHAM ROAD (US 6)
HORIZONTAL 1" = 40'
VERTICAL 1" = 8'



CHANNEL PROFILE (LOOKING UPSTATION)
HORIZONTAL 1" = 40'
VERTICAL 1" = 8'

PROJECT INFORMATION			
PROJECT FILE NO.: 605311			
PROJECT DESCRIPTION: PROPOSED BRIDGE			
BRIDGE DESIGN LOADING: HL-93			
SURVEY: ELECTRONIC SURVEY BY SURVEY AND MAPPING CONSULTANTS (SMC)			
ELEVATION REFERENCE: NAVD OF 1988			
BENCH MARK:			
BENCHMARK	N 2730951.302	E 862244.338	8.513
BM	N 2731012.918	E 862341.519	9.915
BM	N 2729975.537	E 861297.506	15.758
BM	N 2730619.515	E 861833.717	17.320
POINT 1550	N 2729590.234	E 861126.664	17.719
BENCHMK	N 2730776.727	E 861969.623	11.500

PARSONS
100 HIGH STREET
BOSTON, MA 02110

massDOT Massachusetts Department of Transportation Highway Division

BASE TECHNICAL
CONCEPT PLANS

MARION-WAREHAM

US 6 (WAREHAM ROAD)
OVER WEWEANTIC RIVER

MASSACHUSETTS DEPARTMENT OF TRANSPORTATION
HIGHWAY DIVISION

APPROVED BY DATE

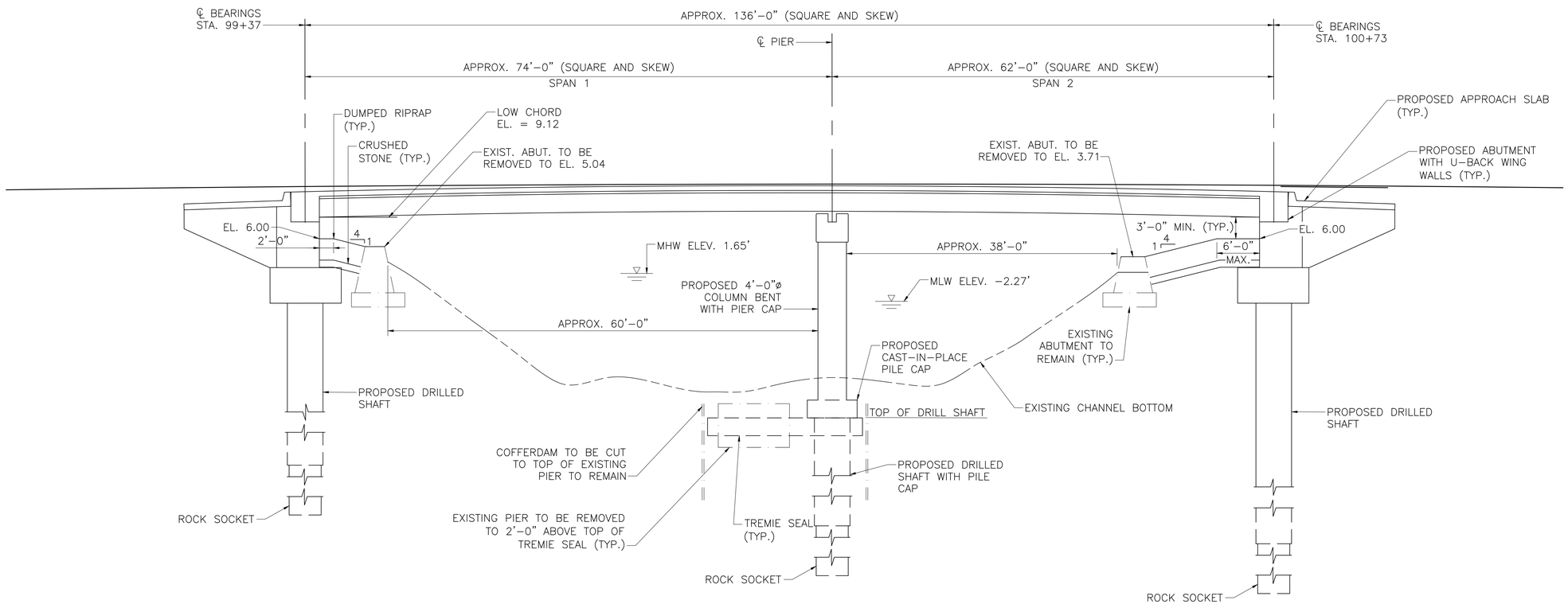
STRUCTURAL ELEMENTS:

TITLE:

HIGHWAY ELEMENTS:

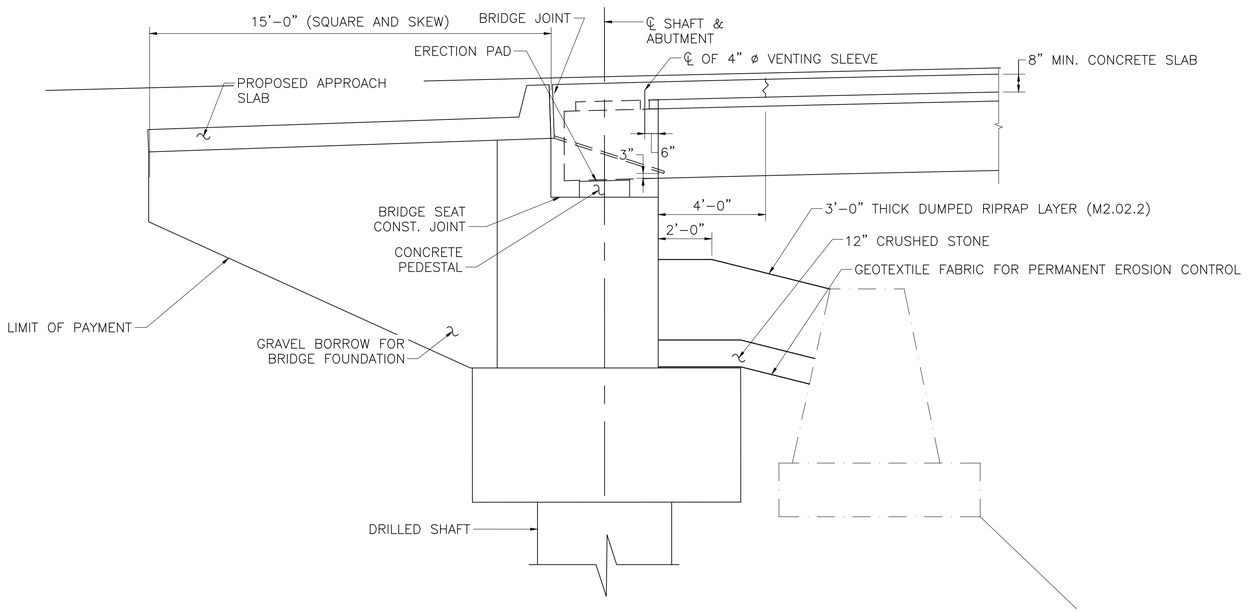
TITLE:

605311_SK01_BRM(M05001-W06013).DWG Plotted on 11-Sep-2024 5:01 PM
605311 Sketch Plan Submittal (SP3) 18-DECEMBER-2023



LONGITUDINAL SECTION

SCALE: $\frac{1}{8}$" = 1'–0"



TYPICAL ABUTMENT SECTION

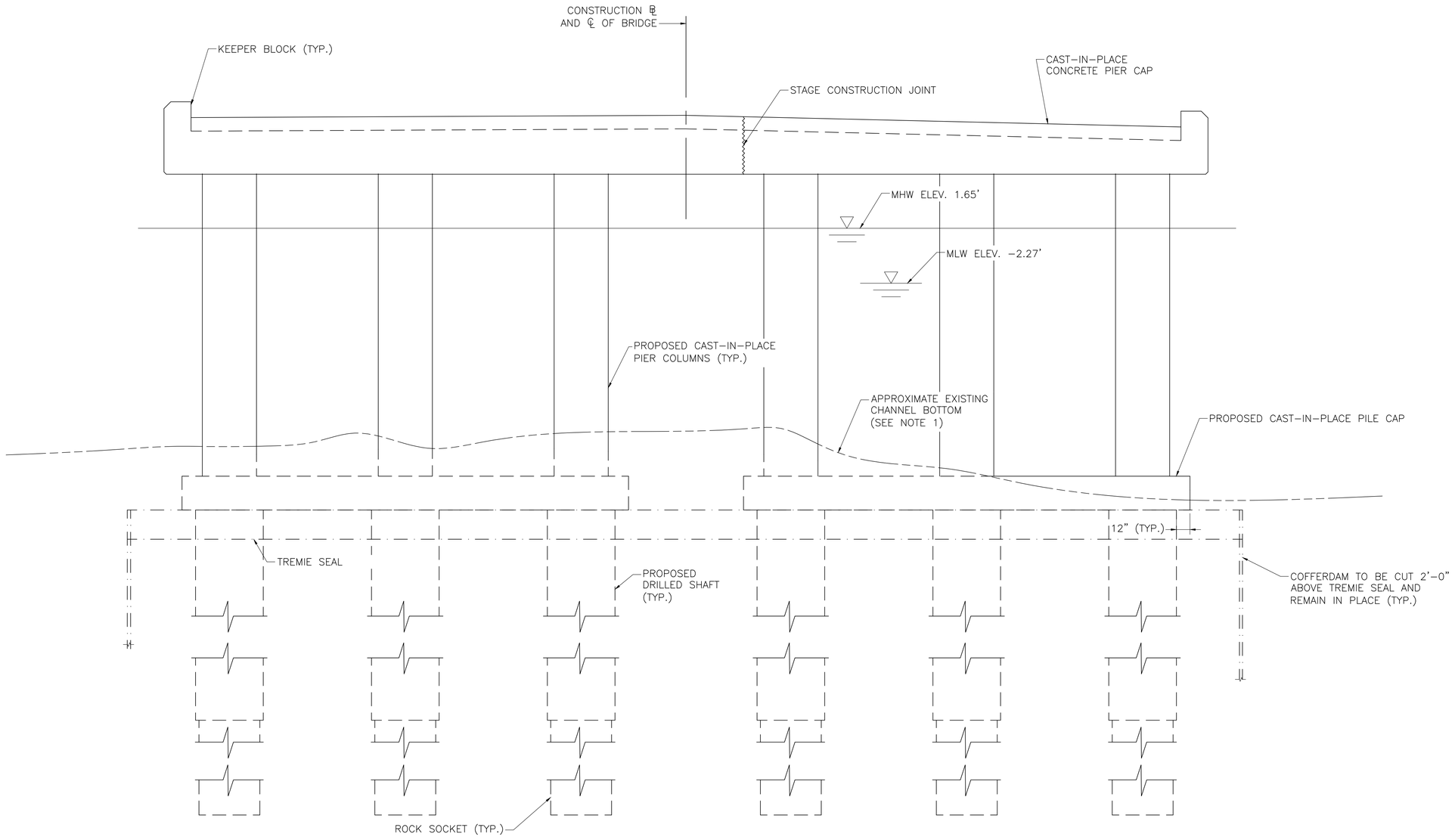
WEST ABUTMENT SHOWN (EAST ABUTMENT SIMILAR)
SCALE $\frac{3}{8}$" = 1'–0"

NOTES:

1. THE DESIGN FACTORED AXIAL COMPRESSIVE LOAD PER PILE IS TBD BY DB ENTITY.
2. BASE TECHNICAL CONCEPT DIMENSIONS SHOWN ARE APPROXIMATE. DESIGN–BUILDER TO ADJUST AS REQUIRED BY FINAL DESIGN WHILE MAINTAINING ALL MINIMUM CONTRACT CLEARANCES.
3. DESIGN–BUILDER TO COORDINATE WITH MASSDOT FOR FUTURE BRIDGE MANUAL INCREASED ALLOWABLE THERMAL MOVEMENT LIMITS FOR USE OF BRIDGE MANUAL STANDARD PAVEMENT SAWCUT DETAILS. DESIGN INTENT IS FOR THE ELIMINATION OF BRIDGE JOINTS.
4. MINIMUM VERTICAL CLEARANCE AT MWH OCCURS AT THE SOUTHERN EXTERIOR GIRDER AT THE WEST END OF THE STRUCTURE. EXISTING VERTICAL CLEARANCE FROM MWH TO THE BOTTOM GIRDER FLANGE IS 4.92', PROPOSED MINIMUM VERTICAL CLEARANCE IS 7.42'.
5. THE DESIGN (25 YEAR) FLOOD ELEVATION IS 10.1'. THE BASE (100–YEAR) FLOOD ELEVATION IS 13.7'.

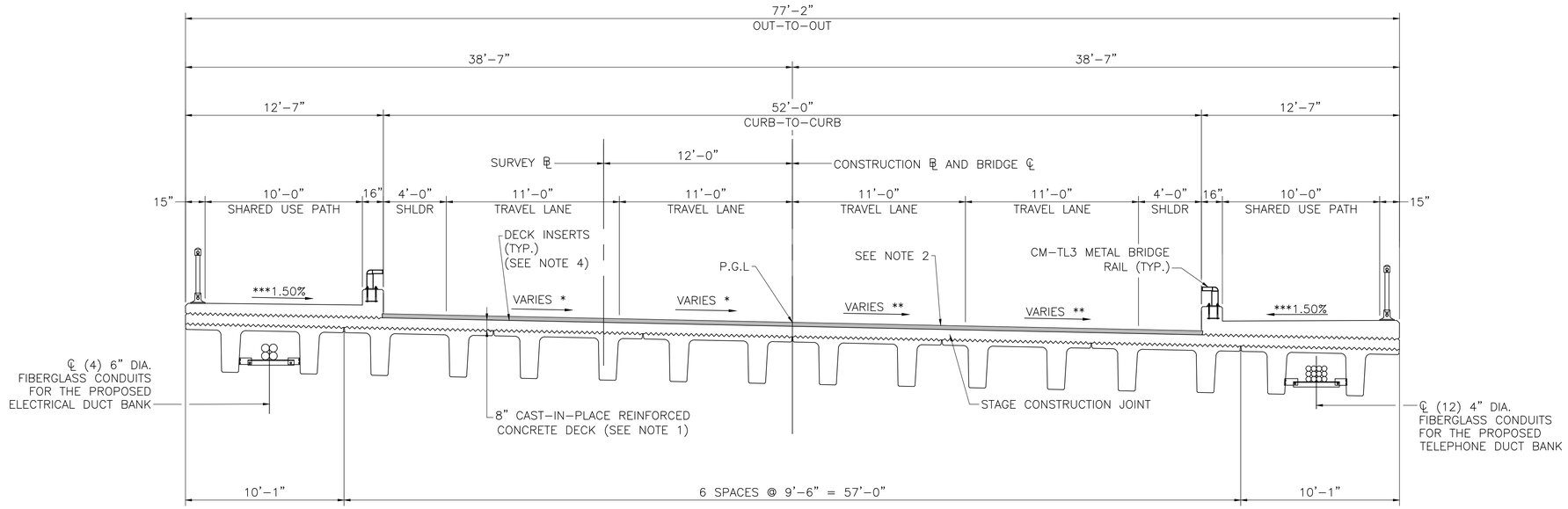
NOTES:

1. CHANNEL BOTTOM MATERIAL FROM WITHIN COFFERDAM EXCAVATION SHALL BE STOCKPILED AND REPLACED TI EXISTING CONDITION UPON COMPLETION OF SUBSTRUCTURE CONSTRUCTION PRIOR TO REMOVAL OF COFFERDAM.



TRANSVERSE SECTION OF PIER

SCALE: $\frac{1}{4}$" = 1'-0"



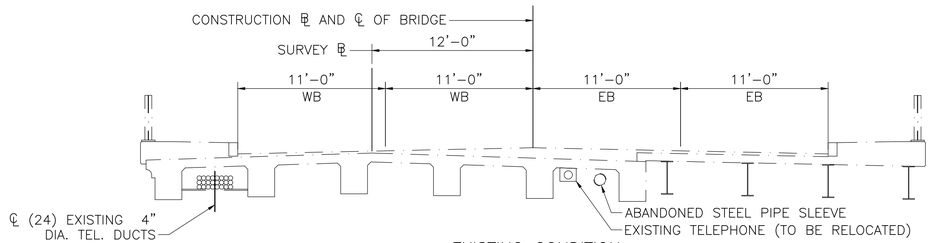
TRANSVERSE SECTION

SCALE: $\frac{1}{4}$" = 1'-0"

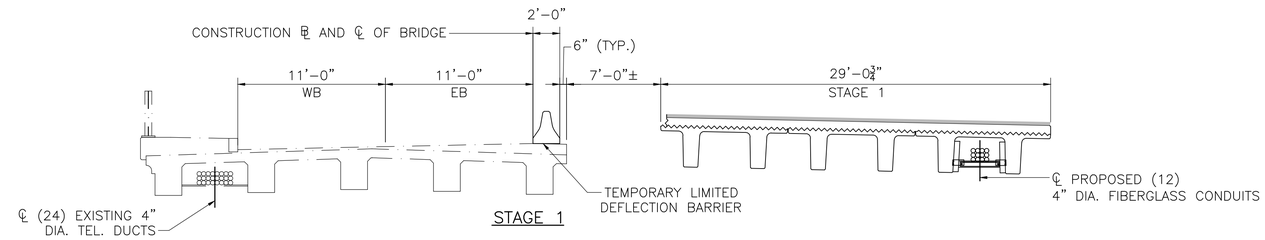
NOTES:

1. DECK THICKNESS VARIES DUE TO SUPPERELEVATION RUNOUT OVER BRIDGE. APPROXIMATE THICKNESS RANGES FROM 8" TO 12".
2. $1\frac{3}{4}$" SUPERPAVE BRIDGE SURFACE COURSE OVER $1\frac{1}{2}$" SUPERPAVE BRIDGE PROTECTIVE COURSE OVER SPRAY APPLIED MEMBRANE WATERPROOFING.
3. * 0.014% AT EAST ABUT.
   0.00% AT PIER
   2.00% AT WEST ABUT.

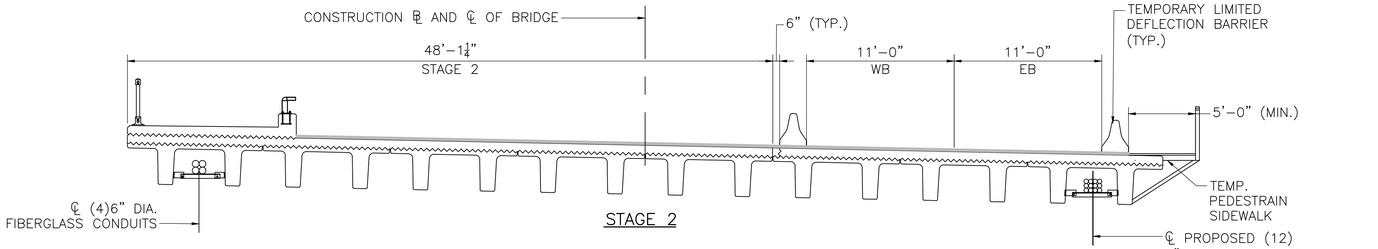
   ** 2.00% AT EAST ABUT.
   2.00% AT PIER
   2.00% AT WEST ABUT.
4. DECK INSERTS PROVIDED FOR POSSIBLE FUTURE ROAD DIET.
5. ***SLOPES TO MATCH HIGHWAY DRAWINGS.
6. BASE TECHNICAL CONCEPT DIMENSIONS SHOWN ARE APPROXIMATE. DESIGN-BUILDER TO ADJUST AS REQUIRED BY FINAL DESIGN WHILE MAINTAINING ALL MINIMUM CONTRACT CLEARANCES.



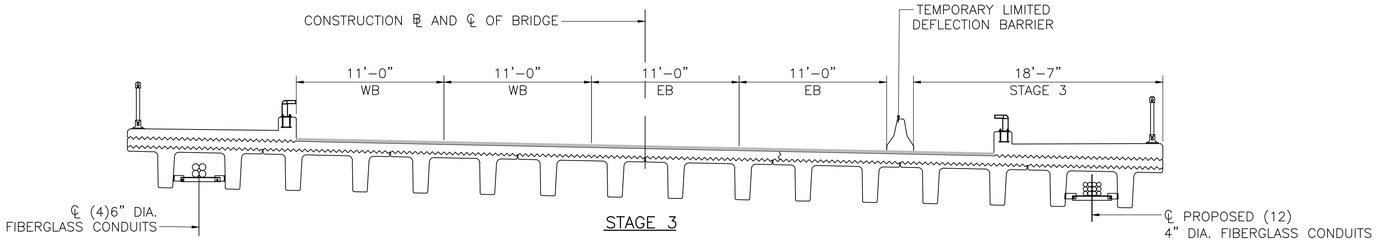
EXISTING CONDITION



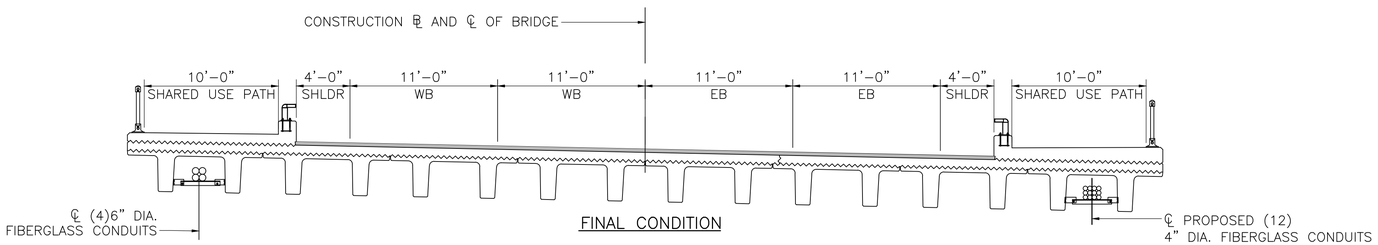
STAGE 1



STAGE 2



STAGE 3



FINAL CONDITION

CONSTRUCTION STAGING

SCALE: $\frac{3}{16}$" = 1'-0"

NOTES:

1. STAGING TEMPORARY UTILITY SUPPORT AND UTILITY RELOCATION PLAN SHOWN IS CONCEPTUAL. DESIGN-BUILDER TO BE RESPONSIBLE FOR PROJECT STAGING AS PART OF FINAL DESIGN. STAGING, TEMPORARY TRAFFIC CONTROL AND SEQUENCING TO BE IN ACCORDANCE WITH RFP REQUIREMENTS.
2. TEMPORARY BARRIER SHALL MEET THE REQUIREMENTS OF AASHTO TEST LEVEL 3.

STAGE 1:

1.1 RELOCATE EXISTING TELEPHONE INTO EXISTING DUCT BANK, SEE BTC HIGHWAY PLANS.

1.2 SHIFT TRAFFIC TO THE NORTH MAINTAINING ONE LANE IN EACH DIRECTION.

1.3 DEMOLISH SOUTHERLY PORTION OF EXISTING STRUCTURE.

1.4 CONSTRUCT PORTION OF NEW STRUCTURE AS SHOWN.

1.5 PLACE SPRAY APPLIED WATERPROOFING MEMBRANE AND 3" PAVEMENT COURSE.

1.6 INSTALL 4" DIAMETER FIBERGLASS CONDUITS.

1.7 RELOCATE ALL EXISTING TELEPHONE FACILITIES INTO PROPOSED DUCT BANK SYSTEM (BY OTHERS)

STAGE 2:

2.1 SHIFT TRAFFIC TO SOUTHERLY PORTION OF NEW STRUCTURE MAINTAINING ONE LANE IN EACH DIRECTION.

2.2 CONSTRUCT REMAINDER OF NEW STRUCTURE AS SHOWN.

2.3 CONSTRUCT NORTHERLY SHARED USE PATH AND BRIDGE RAIL.

2.4 PLACE SPRAY APPLIED WATERPROOFING MEMBRANE AND 3" PAVEMENT COURSE.

2.5 INSTALL 6" DIAMETER ELECTRICAL CONDUITS.

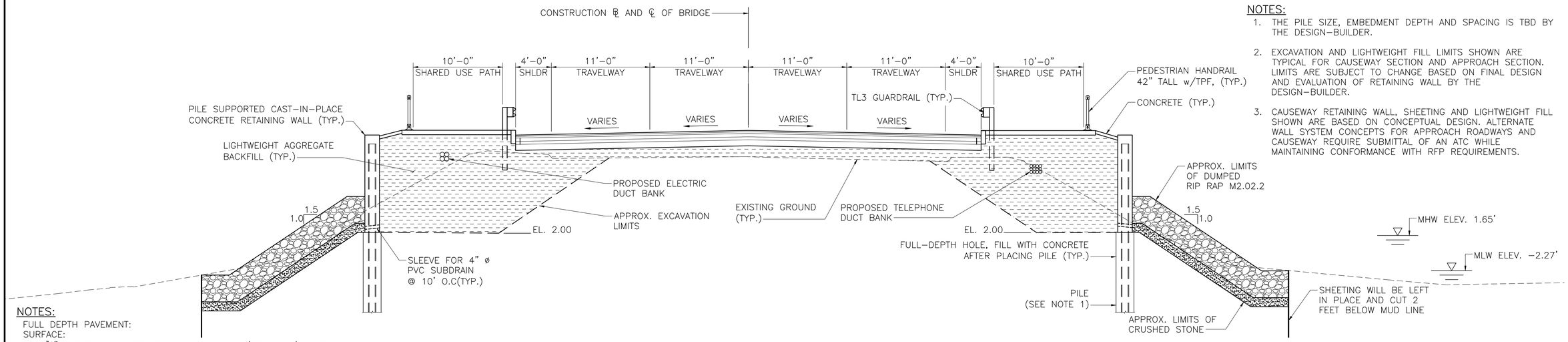
STAGE 3:

3.1 SHIFT TRAFFIC NORTHERLY MAINTAINING FOUR LANES OF TRAFFIC, TWO IN EACH DIRECTION.

3.2 CONSTRUCT SOUTHERLY SHARED USE PATH AND BRIDGE RAIL

FINAL STAGE:

REMOVE BARRIER, MILL FULL BRIDGE WIDTH AND INSTALL FINAL HMA WEARING SURFACE.



NOTES:

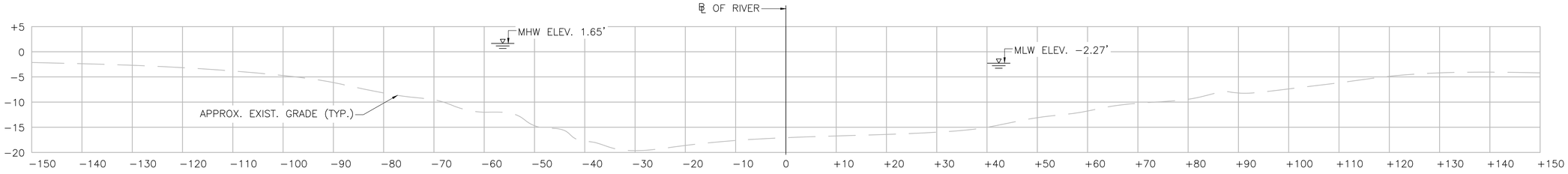
1. THE PILE SIZE, EMBEDMENT DEPTH AND SPACING IS TBD BY THE DESIGN–BUILDER.
2. EXCAVATION AND LIGHTWEIGHT FILL LIMITS SHOWN ARE TYPICAL FOR CAUSEWAY SECTION AND APPROACH SECTION. LIMITS ARE SUBJECT TO CHANGE BASED ON FINAL DESIGN AND EVALUATION OF RETAINING WALL BY THE DESIGN–BUILDER.
3. CAUSEWAY RETAINING WALL, SHEETING AND LIGHTWEIGHT FILL SHOWN ARE BASED ON CONCEPTUAL DESIGN. ALTERNATE WALL SYSTEM CONCEPTS FOR APPROACH ROADWAYS AND CAUSEWAY REQUIRE SUBMITTAL OF AN ATC WHILE MAINTAINING CONFORMANCE WITH RFP REQUIREMENTS.

NOTES:

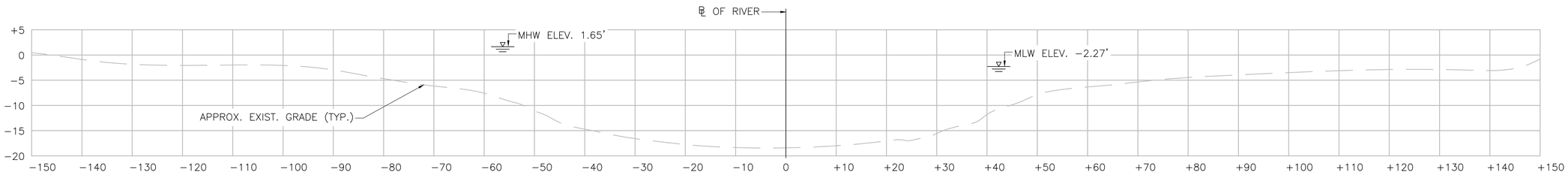
FULL DEPTH PAVEMENT:
SURFACE:
1¾" SUPERPAVE SURFACE COURSE – 12.5 (SSC–12.5) OVER
INTERMEDIATE:
2½" SUPERPAVE INTERMEDIATE COURSE – 19.0 (SIC–19.0) OVER
BASE:
4½" SUPERSAVE BASE COURSE – 37.5 (SBC–37.5) OVER
SUBBASE"
4" DENSE GRADED CRUSHED STONE FOR SUB–BASE OVER
8" GRAVEL BORROW FOR SUB–BASE

TYPICAL APPROACH SECTION

SCALE: $\frac{3}{16}$" = 1'–0"



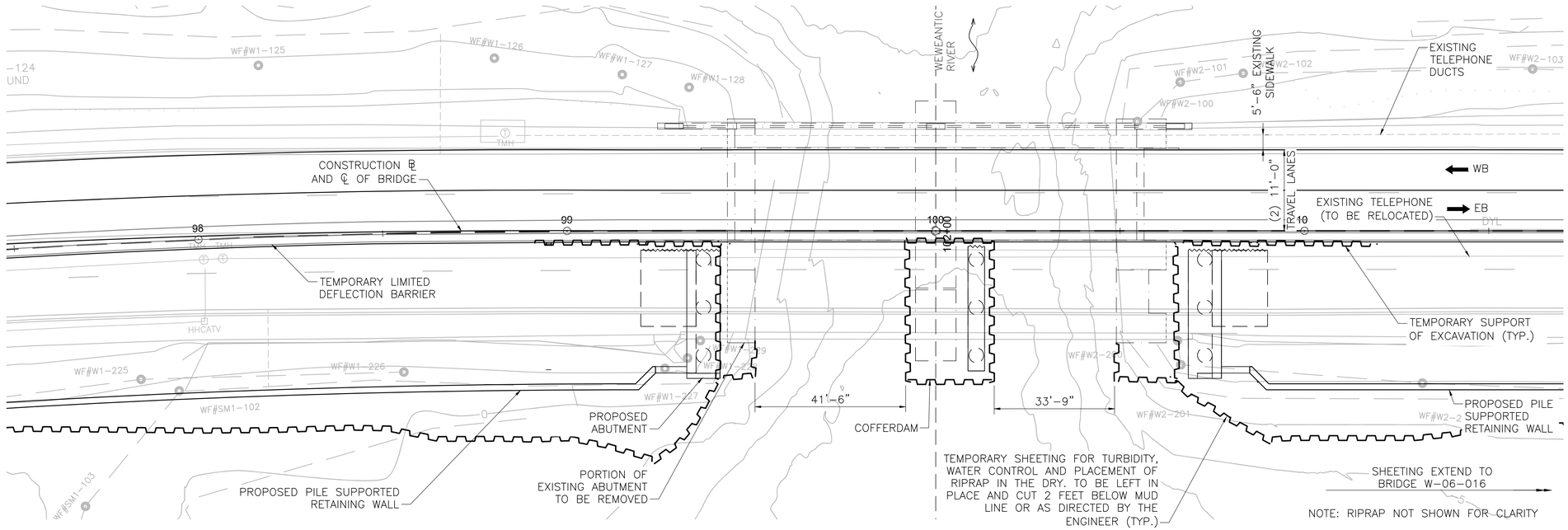
SECTION ACROSS RIVER ℄ AT STA. 101+28



SECTION ACROSS RIVER ℄ AT STA. 102+62

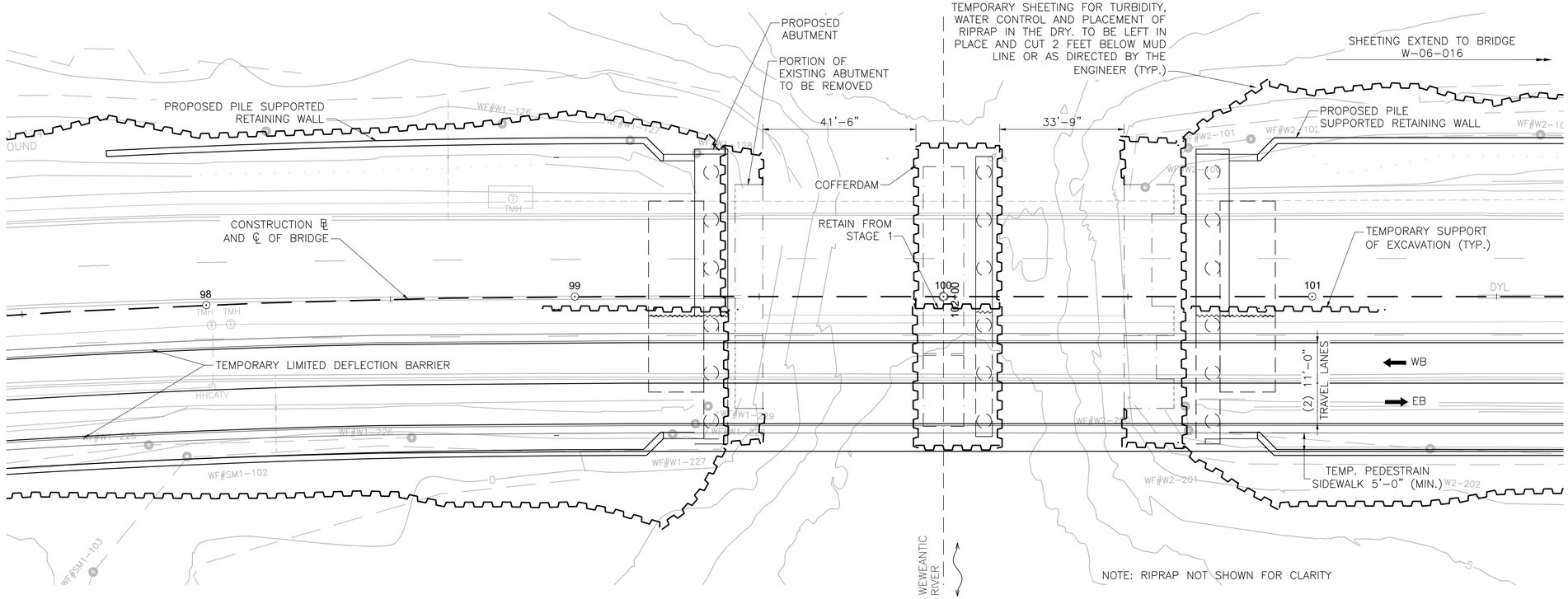
CHANNEL APPROACH SECTIONS (LOOKING NORTHWEST)

SCALE: $\frac{3}{32}$" = 1'–0"



STAGE 1 CONSTRUCTION PLAN

SCALE: $\frac{1}{16}$" = 1'-0"



STAGE 2 CONSTRUCTION PLAN

SCALE: $\frac{1}{16}$" = 1'-0"

NOTES:

1. BASE TECHNICAL CONCEPT DIMENSIONS SHOWN ARE APPROXIMATE. DESIGN-BUILDER TO ADJUST AS REQUIRED BY FINAL DESIGN.
2. COFFERDAM, SHEETING AND SUPPORT OF EXCAVATION SHOWN IS CONCEPTUAL. DESIGN-BUILDER TO BE RESPONSIBLE FOR PROJECT STAGING, CONSTRUCTION SEQUENCING, LAYOUT OF THE COFFERDAMS, SHEETING AND SUPPORT OF EXCAVATION IN ACCORDANCE WITH THE RFP REQUIREMENTS.

SUGGESTED SEQUENCE OF WATER CONTROL

STAGE 1:

1.1 DEMOLISH SOUTHERLY PORTION OF EXISTING STRUCTURE.

1.2 INSTALL STAGE 1 PIER COFFERDAM AND TEMPORARY SHEETING.

1.3 REMOVE SOUTHERLY PORTION OF PIER AND ABUTMENTS TO THE SPECIFIED LIMITS.

1.4 CONSTRUCT NEW SOUTHERLY PORTION OF PIER AND INTEGRAL ABUTMENTS.

1.5 REMOVE STAGE 1 PIER COFFERDAM AND TEMPORARY SHEETING.

STAGE 2:

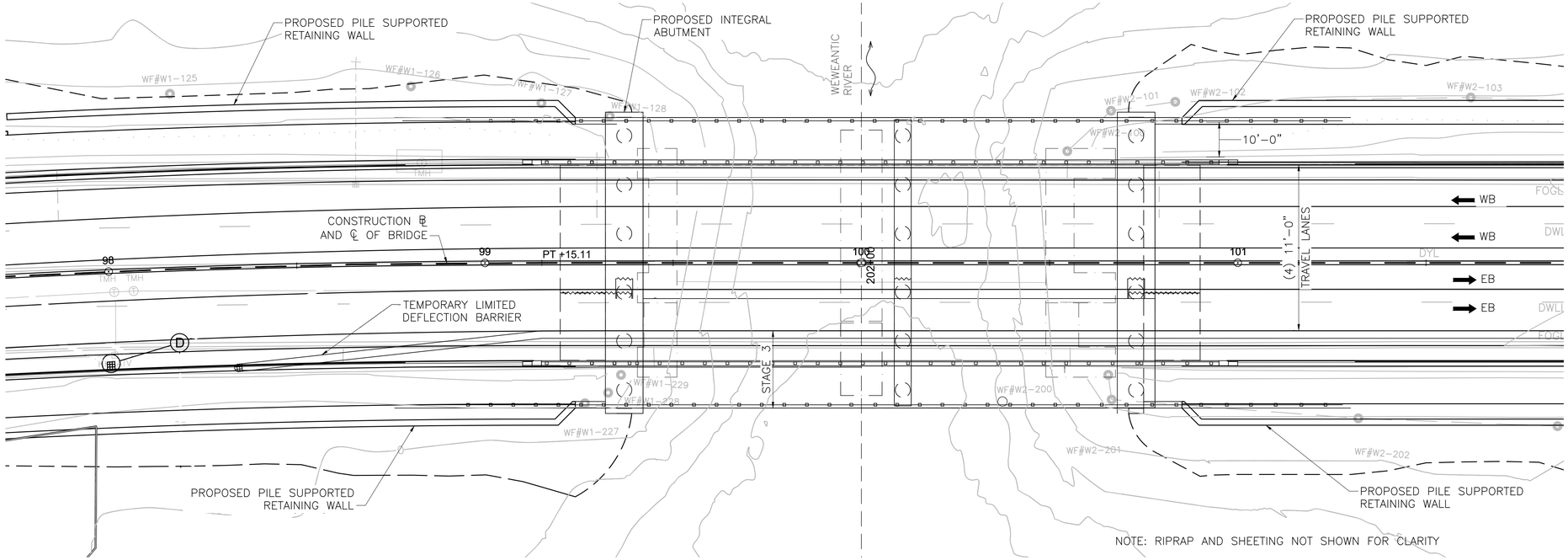
2.1 DEMOLISH NORTHERLY PORTION OF EXISTING SUPERSTRUCTURE.

2.2 INSTALL STAGE 2 PIER COFFERDAM AND TEMPORARY SHEETING.

2.3 REMOVE NORTHERLY PORTIONS OF THE EXISTING PIER AND ABUTMENTS TO SPECIFIED LIMITS.

2.4 CONSTRUCT NEW NORTHERLY PORTION OF PIER AND INTEGRAL ABUTMENTS.

2.5 REMOVE STAGE 2 PIER COFFERDAM AND TEMPORARY SHEETING.



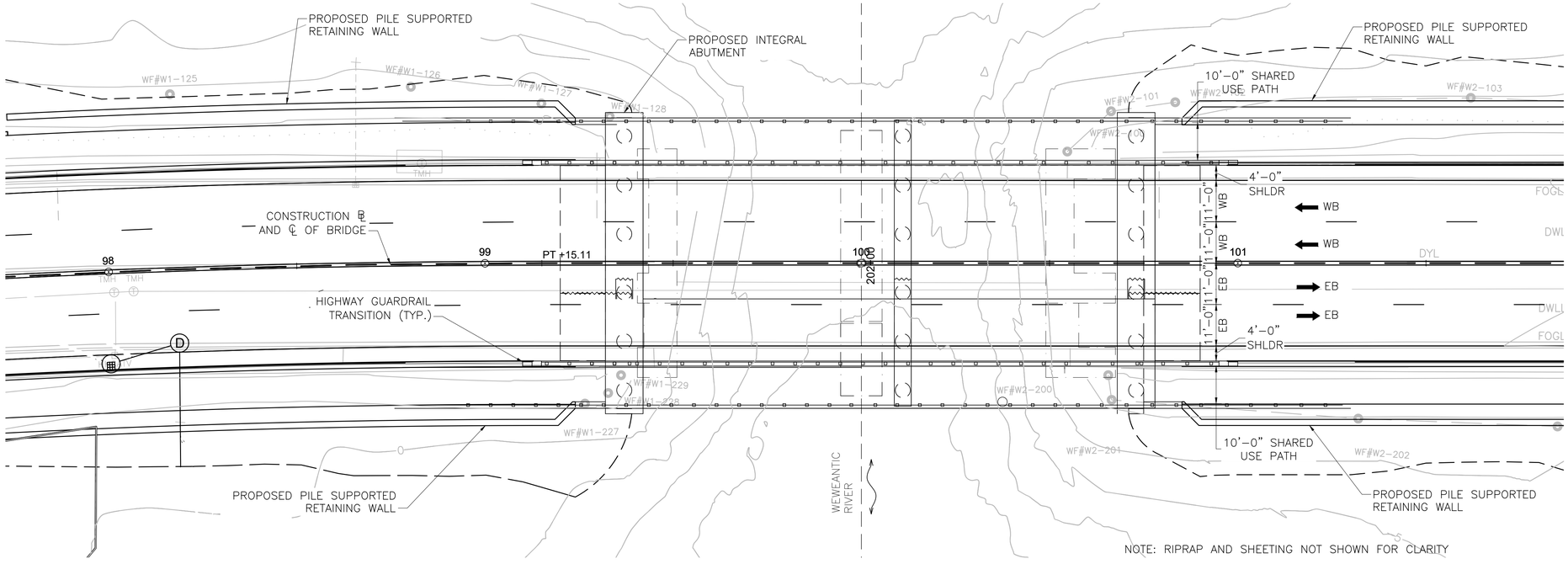
STAGE 3 CONSTRUCTION PLAN

SCALE: $\frac{1}{16}$" = 1'-0"

STAGE 3:

3.1 SHIFT TRAFFIC NORTHERLY MAINTAINING FOUR LANES OF TRAFFIC, TWO IN EACH DIRECTION.

3.2 CONSTRUCT SOUTHERLY SHARED USE PATH AND BRIDGE RAIL.



FINAL CONDITION

SCALE: $\frac{1}{16}$" = 1'-0"

FINAL STAGE:

REMOVE BARRIER AND INSTALL ~~SPRAY~~ APPLIED WATER PROOFING ~~MEMBRANE~~ AND HMA WEARING SURFACE.

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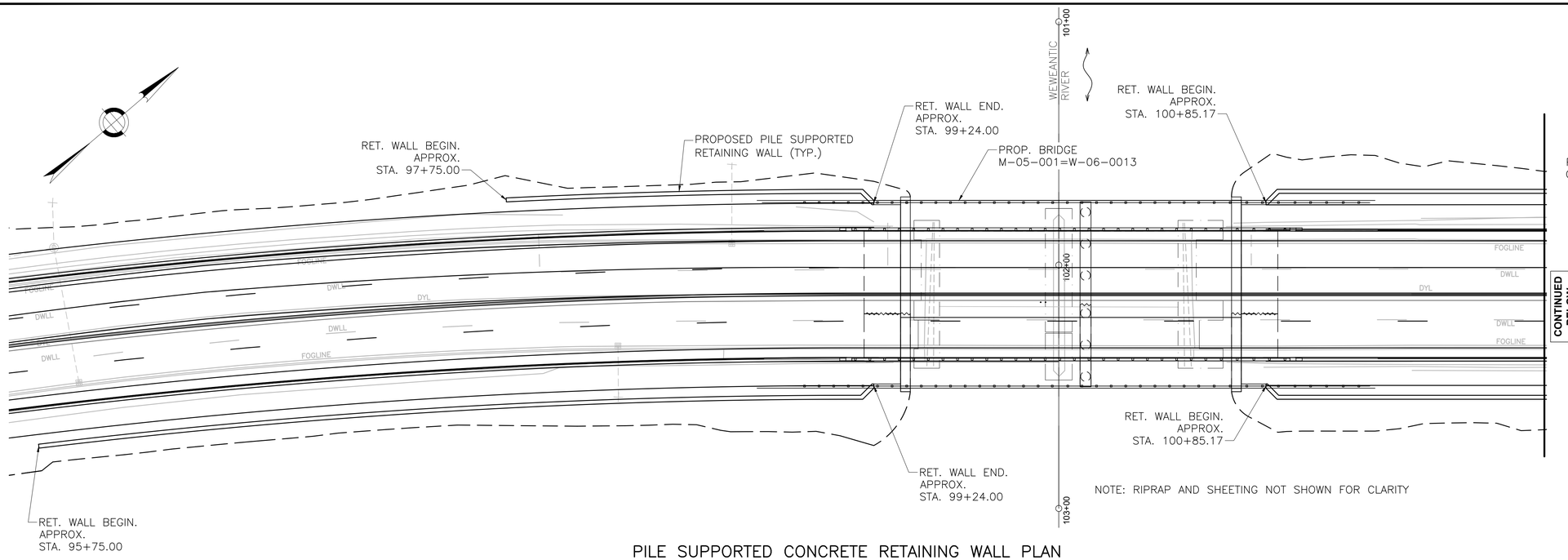
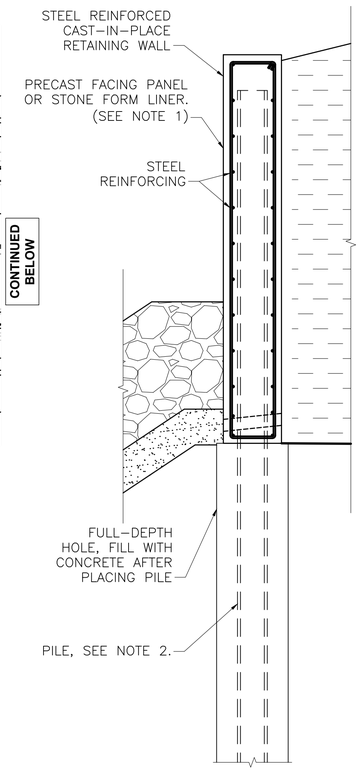
605311 Sketch Plan Submittal (SP3) 18-DECEMBER-2023



NOTE: RIPRAP AND SHEETING NOT SHOWN FOR CLARITY

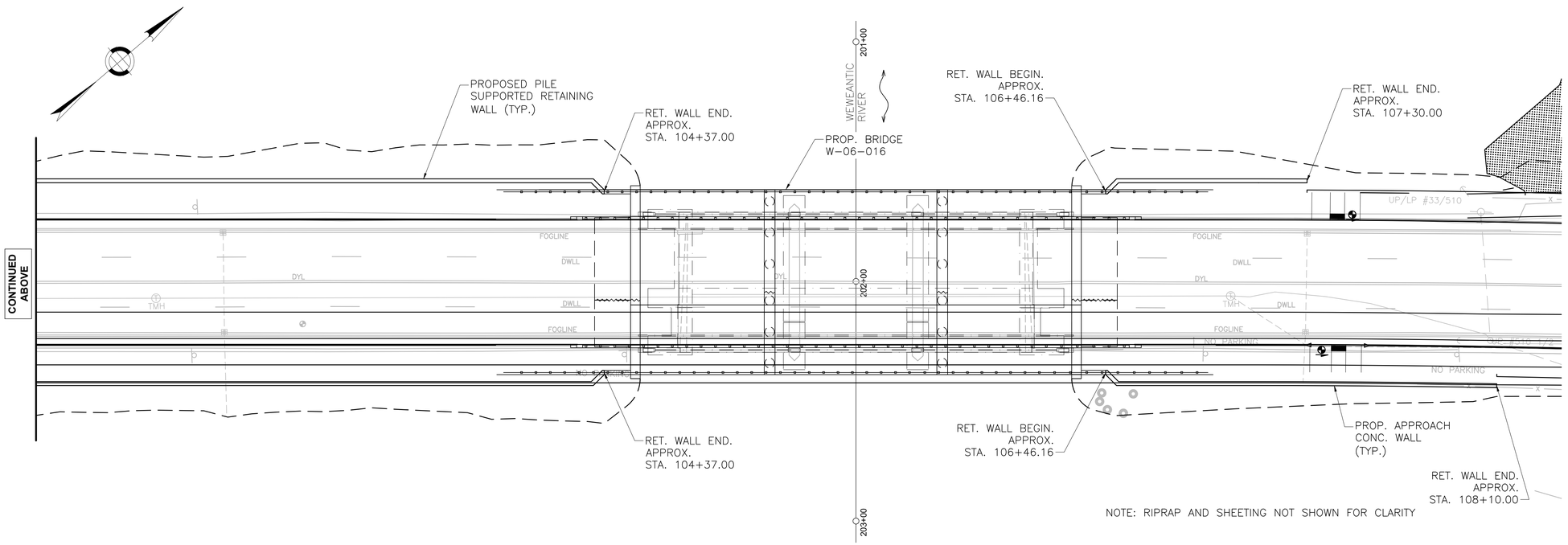
PILE SUPPORTED CONCRETE RETAINING WALL PLAN

NOT TO SCALE



PILE SUPPORTED CONCRETE RETAINING WALL DETAIL

SCALE: $\frac{1}{2}$" = 1'-0"



NOTE: RIPRAP AND SHEETING NOT SHOWN FOR CLARITY

PILE SUPPORTED CONCRETE RETAINING WALL PLAN

NOT TO SCALE

NOTES:

1. PRECAST CONCRETE FACING OR STONE TYPE FORM LINER TO PROVIDE AESTHETIC RETAINING WALL FINISH WILL BE EVALUATED FURTHER DURING FINAL DESIGN.
2. THE PILE SIZE AND SPACING IS TBD BY THE DB ENTITY.
3. BASE TECHNICAL CONCEPT DIMENSIONS SHOWN ARE APPROXIMATE. DESIGN-BUILDER TO ADJUST AS REQUIRED BY FINAL DESIGN.