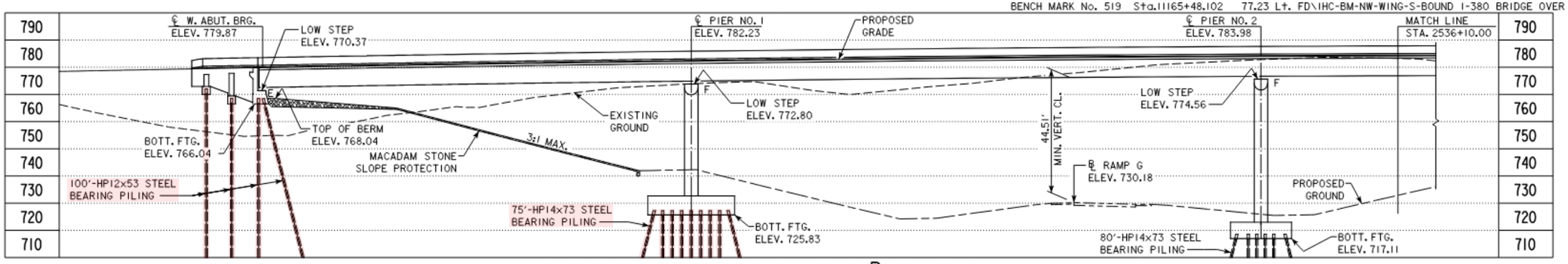
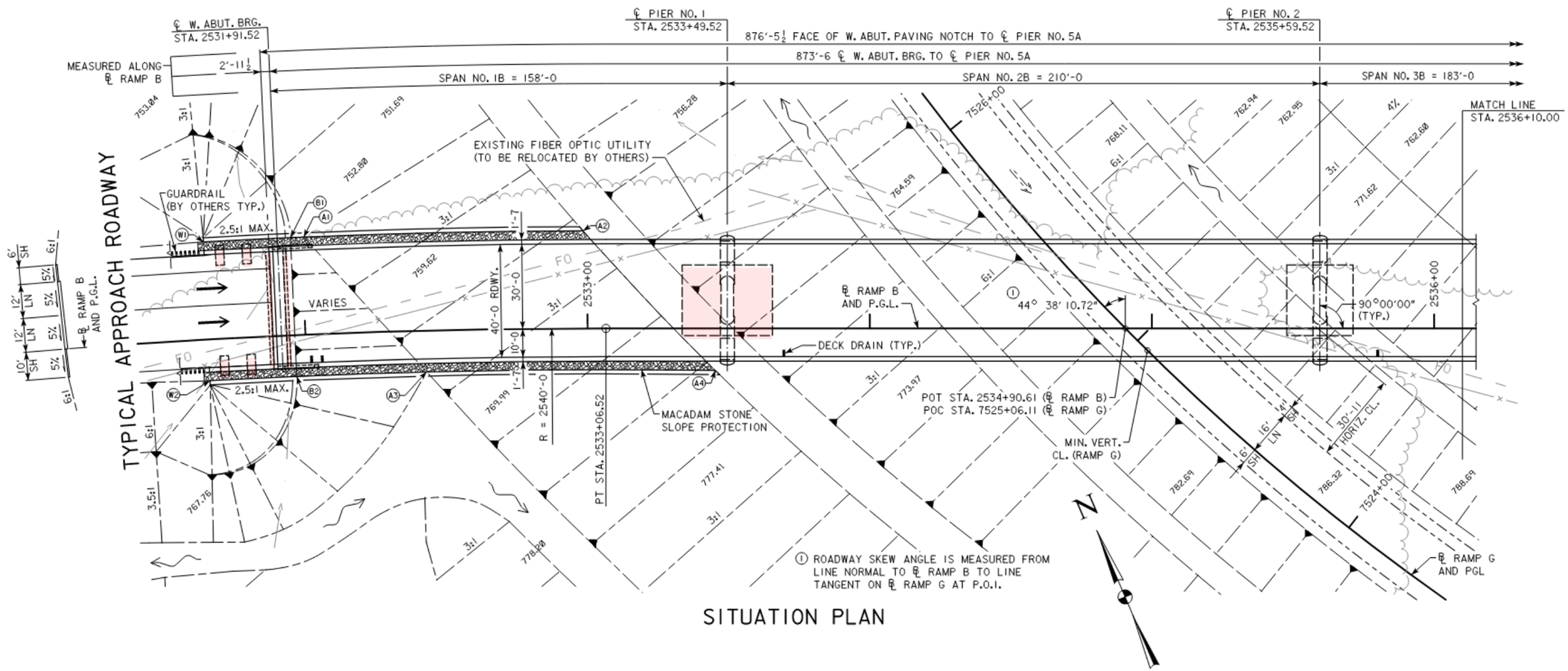
BENCH MARK No. 519 Sta.11165+48.102 77.23 Lt. FD\IHC-BM-NW-WING-S-BOUND I-380 BRIDGE OVER I-80--------- 737.910



LONGITUDINAL SECTION ALONG ℄ RAMP B



SITUATION PLAN

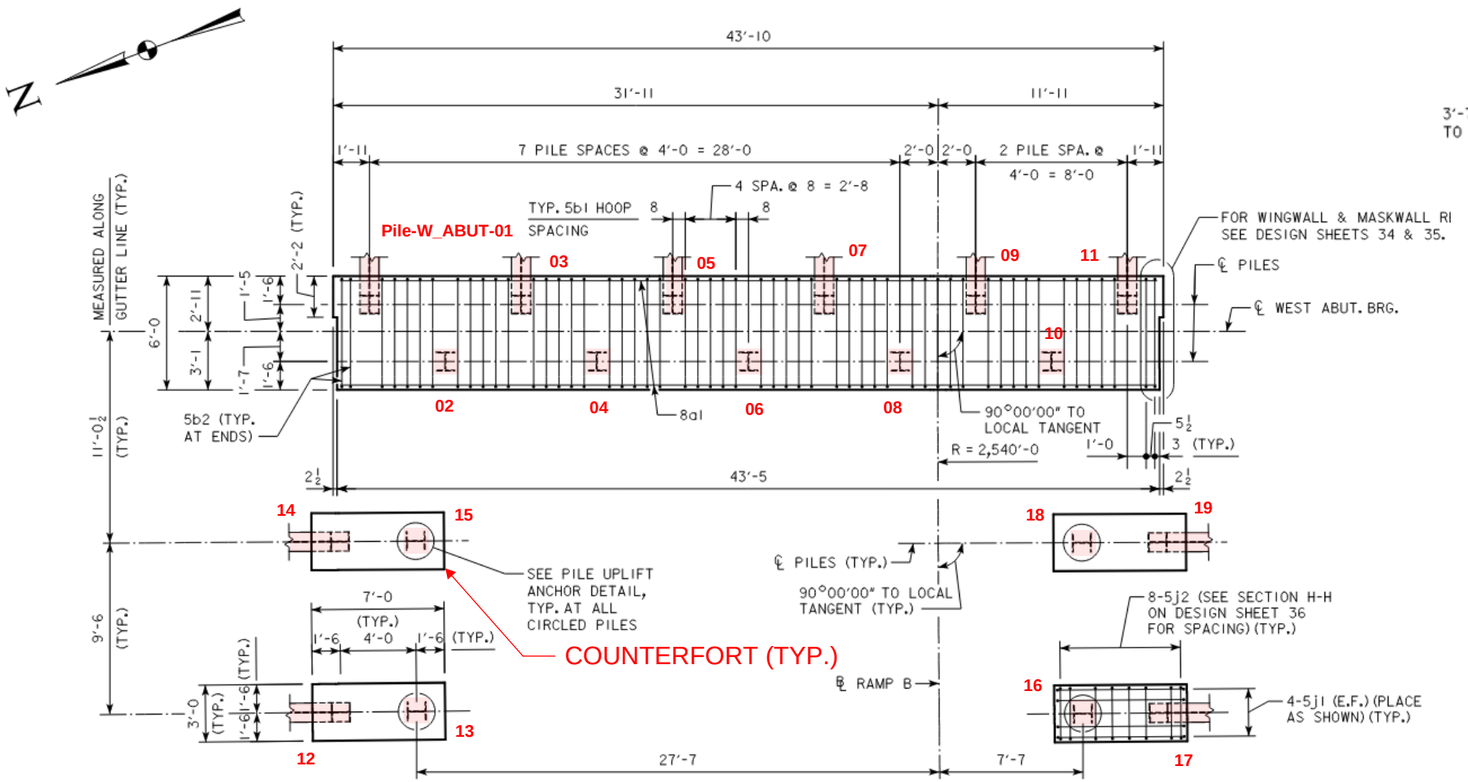
NOTES:

1. For the full plan set and additional structure information, see Br03-Steel and Concrete-Iowa DOT.pdf.

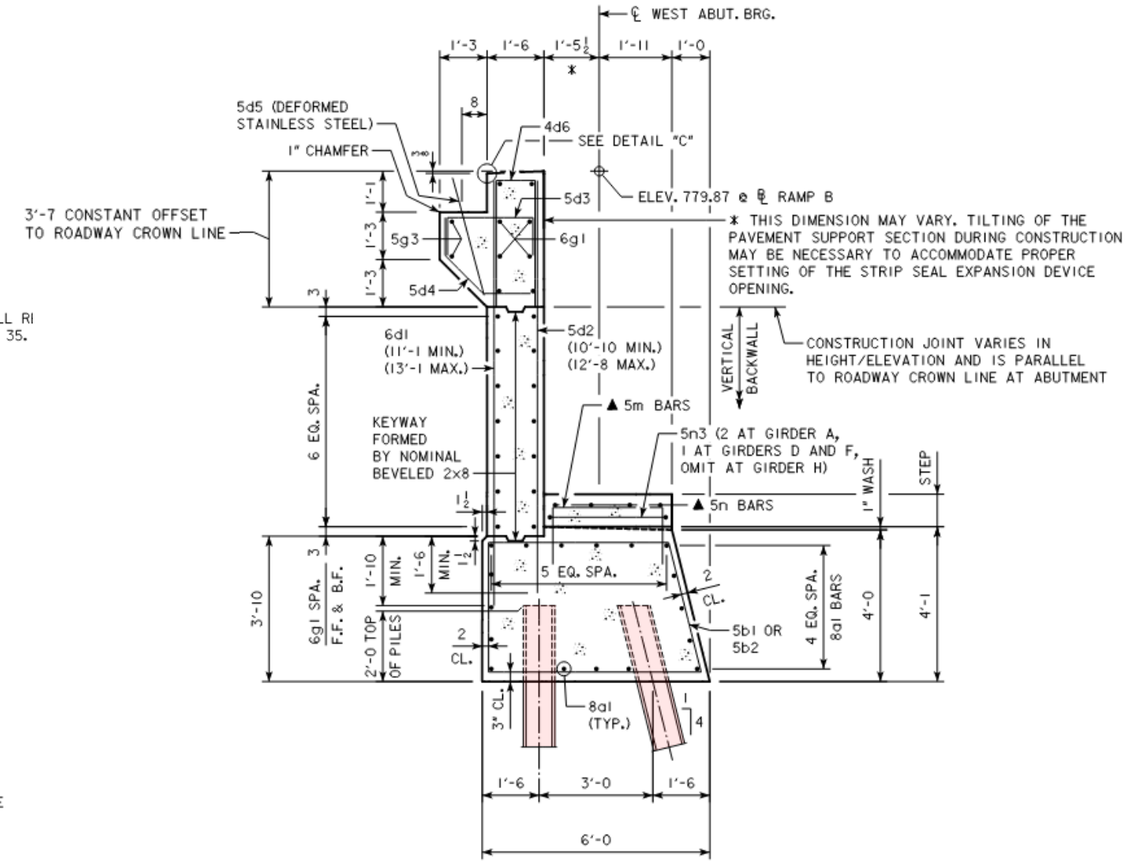
Unit Test Instruction for the Design-to-Construction Data Exchange		
1	12/6/23	
No.	Date	Issue / Revision Notes
Unit Test Description: Level 2 Piles		Unit Test / Sheet No.: L2-Br03-Piles01 / 01
Drawn By: AMN	Reviewed By: JWO	

BIM FOR BRIDGES AND STRUCTURES TPF-5(372)

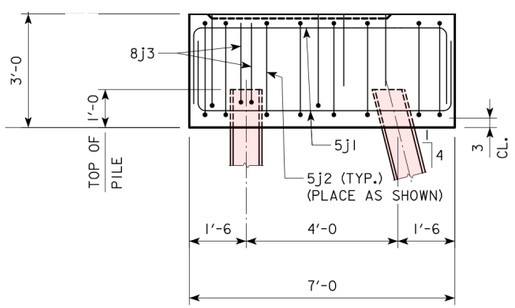
HDR jō consulting



WEST ABUTMENT PILING LAYOUT



SECTION THROUGH ABUTMENT
(EXPANSION DEVICE NOT SHOWN)



PILE CUT-OFF ELEVATION DETAIL
(TYP. ALL COUNTERFORTS)

ABUTMENT PILE NOTES:

THE CONTRACT LENGTH OF 100 FEET FOR THE WEST ABUTMENT PILES IS BASED ON A MIXED SOIL CLASSIFICATION, A TOTAL FACTORED AXIAL LOAD PER PILE (PU) OF 202 KIPS AND A GEOTECHNICAL RESISTANCE FACTOR (PHI) OF 0.65. ABUTMENT PILES ALSO WERE DESIGNED FOR A FACTORED TENSION FORCE OF 47 KIPS.

THE NOMINAL AXIAL BEARING RESISTANCE FOR CONSTRUCTION CONTROL WAS DETERMINED FROM A MIXED SOIL CLASSIFICATION AND A GEOTECHNICAL RESISTANCE FACTOR (PHI) OF 0.65. PILES ARE ASSUMED TO BE DRIVEN FROM A START ELEVATION AT THE BOTTOM OF FOOTING.

THE REQUIRED NOMINAL AXIAL BEARING RESISTANCE FOR THE WEST ABUTMENT PILES IS 156 TONS AT END OF DRIVE. THE PILE CONTRACT LENGTH SHALL BE DRIVEN AS PER PLAN UNLESS PILES REACH REFUSAL. IN NO CASE SHALL A PILE BE EMBEDDED LESS THAN 40 FEET. CONSTRUCTION CONTROL REQUIRES A WEAP ANALYSIS WITH BEARING GRAPH.

DIMENSIONS SHOWN ON PILING LAYOUT ARE AT BOTTOM OF FOOTING. BATTER PILES 1:4 IN DIRECTION SHOWN.

19-HP12x53 STEEL BEARING PILING REQUIRED.

NOTES:

1. For the full plan set and additional structure information, see Br03-Steel and Concrete-Iowa DOT.pdf.

Unit Test Instruction for the Design-to-Construction Data Exchange

BIM FOR BRIDGES AND STRUCTURES TPF-5(372)

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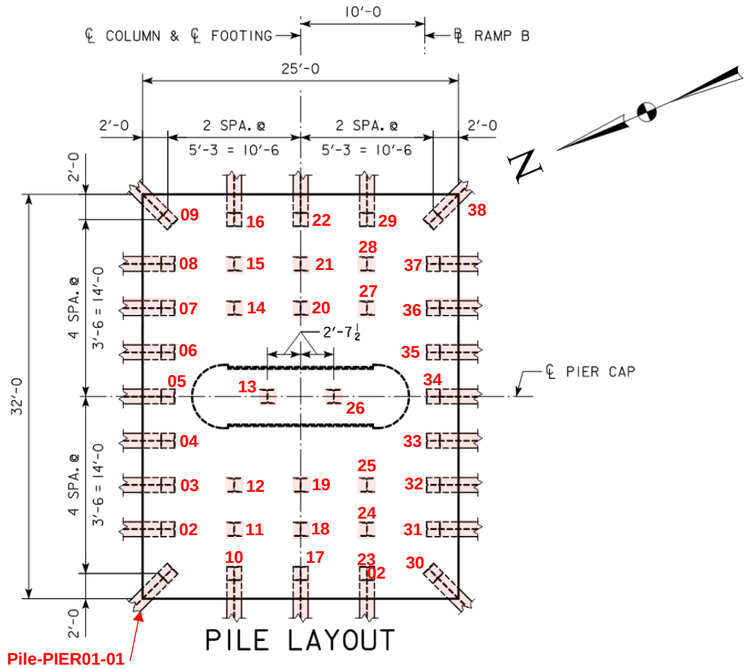
No.	Date	Issue / Revision Notes
1	12/6/23	

Unit Test Description: Level 2 Piles

Unit Test / Sheet No.: L2-Br03-Piles01 / 02

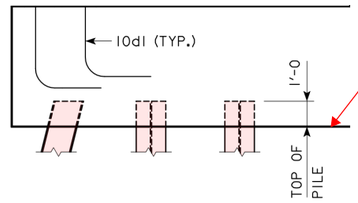
Drawn By: AMN

Reviewed By: JWO



PILE LAYOUT

PIER NO. 1



PILE CUT-OFF ELEVATION DETAIL
(TYP. ALL PILES AND WINGWALLS)

PIER PILE NOTES:

THE CONTRACT LENGTH OF 75 FEET FOR THE PIER NO. 1 PILES IS BASED ON A COHESIVE SOIL CLASSIFICATION, A TOTAL FACTORED AXIAL LOAD PER PILE (PU) OF 275 KIPS, AND A GEOTECHNICAL RESISTANCE FACTOR (PHI) OF 0.65. PIER PILES ALSO WERE DESIGNED FOR A FACTORED TENSION FORCE OF 27 KIPS.

THE NOMINAL AXIAL BEARING RESISTANCE FOR CONSTRUCTION CONTROL WAS DETERMINED FROM A COHESIVE SOIL CLASSIFICATION AND A GEOTECHNICAL RESISTANCE FACTOR (PHI) OF 0.76. PILES ARE ASSUMED TO BE DRIVEN FROM A START ELEVATION AT THE BOTTOM OF FOOTING.

THE REQUIRED NOMINAL AXIAL BEARING RESISTANCE FOR PIER NO. 1 PILES IS 181 TONS AT END OF DRIVE. IF RETAPS ARE NECESSARY TO ACHIEVE BEARING, THE REQUIRED NOMINAL AXIAL BEARING RESISTANCE IS 212 TONS AT ONE-DAY OR LATER RETAPS. THE PILE CONTRACT LENGTH SHALL BE DRIVEN AS PER PLAN UNLESS PILES REACH REFUSAL. IN NO CASE SHALL A PILE BE EMBEDDED LESS THAN 10 FEET. CONSTRUCTION CONTROL REQUIRES A WEAP ANALYSIS WITH BEARING GRAPH.

PILE DIMENSIONS ARE AT BOTTOM OF FOOTING. BATTER PILES 1:4 IN DIRECTION SHOWN.

38 - HP14x73 STEEL BEARING PILING ARE REQUIRED.

NOTES:

1. For the full plan set and additional structure information, see Br03-Steel and Concrete-Iowa DOT.pdf.

Unit Test Instruction for the Design-to-Construction Data Exchange

BIM FOR BRIDGES AND STRUCTURES TPF-5(372)

No.	Date	Issue / Revision Notes
1	12/6/23	

HDR jō consulting

Unit Test Description: Level 2 Piles

Unit Test / Sheet No.: L2-Br03-Piles01 / 03

Drawn By: AMN

Reviewed By: JWO