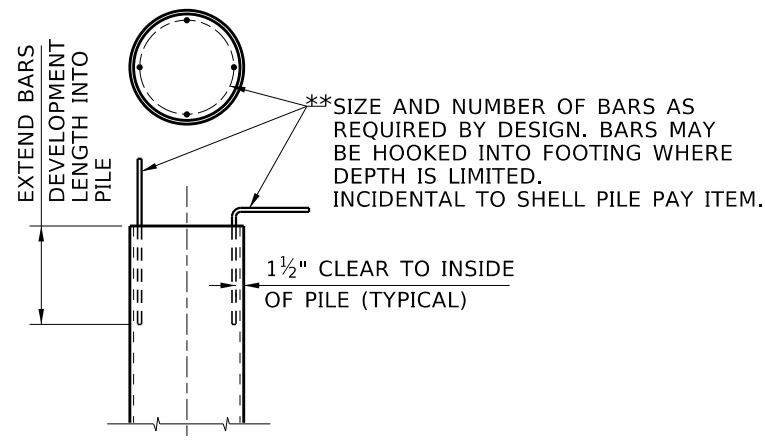


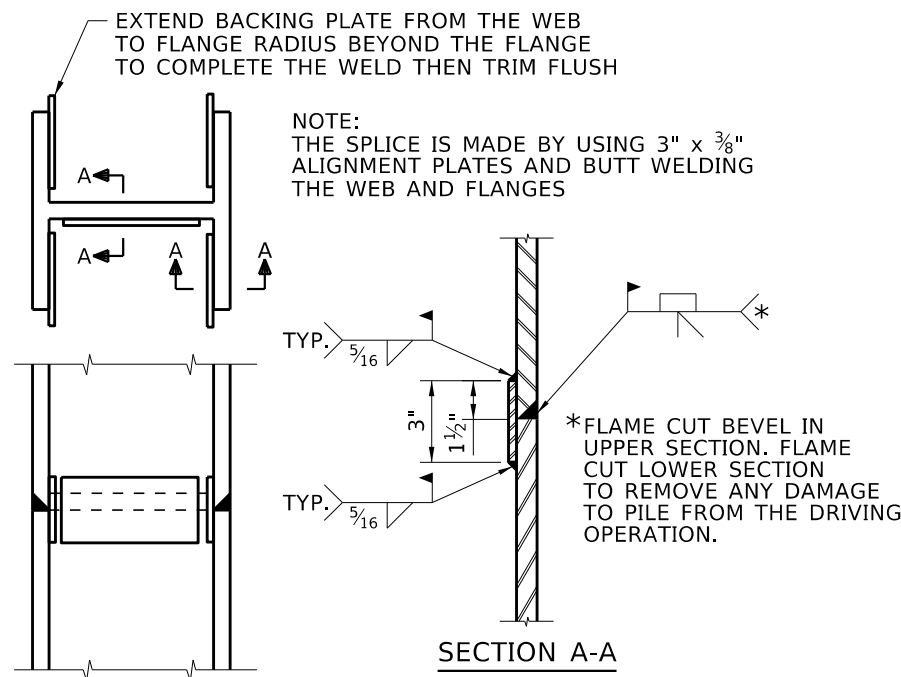
SHELL PILE SPlice DETAIL
NTS



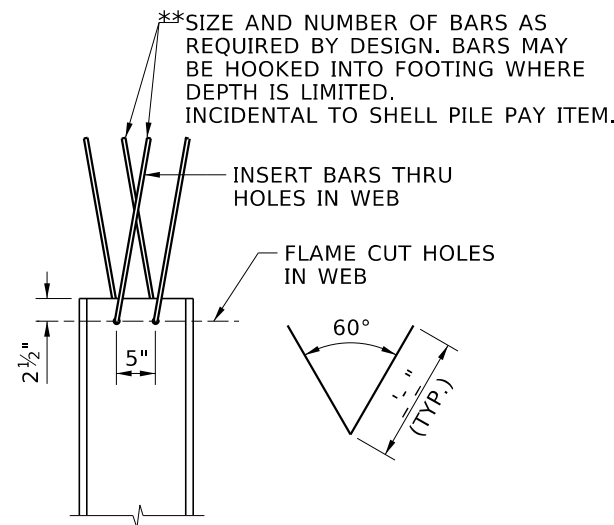
SHELL PILE TENSION CONNECTION
NTS

NOTE TO DESIGNER

**LRFD ARTICLE 5.11.3.2.1 REQUIRES TENSION CONNECTION FOR STRUCTURES IN SEISMIC ZONE 2 OR GREATER. MINIMUM UPLIFT FORCE MUST NOT BE TAKEN LESS THAN 10 PERCENT OF THE FACTORED AXIAL COMPRESSIVE RESISTANCE OF THE PILE.



H-PILE BUTT WELDED SPlice DETAIL
NTS



H-PILE TENSION CONNECTION
NTS

NOTES

MATERIAL SPECIFICATIONS

1. PROVIDE HPOx0 STEEL H-PILES THAT CONFORM TO ASTM A572 GRADE 50.
- 1A. PROVIDE 0" DIAMETER CONCRETE-FILLED STEEL SHELL PILES WITH 0" WALL THICKNESS AND 1 1/2" CLOSURE PLATE THAT CONFORM TO ASTM A-252 GRADE 2 OR GRADE 3 AND OF 708.30. PROVIDE CLASS 30 CONCRETE THAT IS INCIDENTAL TO THE STEEL SHELL PILE PAY ITEM.
2. PROVIDE SPLICE PLATES OF THE SAME MATERIAL AS THE STEEL H-PILES.
- 2A. PROVIDE BACKUP PLATES/BACKING RINGS THAT ARE AT LEAST 3/8" THICK AND CONFORM TO ASTM A-36 OR OF THE SAME MATERIAL AS THE STEEL SHELL PILES.
3. DRIVE PILES WITH HARDENED STEEL DRIVE SHOES ACCORDING TO ITD'S QUALIFIED PRODUCTS LIST FOR CATEGORY 505 PILING AND SUB-CATEGORY ()
4. SPLICE PILE ACCORDING TO THE PILE SPlice DETAIL OR PROVIDE PREFABRICATED SPLICERS ACCORDING TO ITD'S QUALIFIED PRODUCTS LIST FOR CATEGORY 505 PILING AND SUB-CATEGORY "SPlicing FOR STEEL H-PILES" OR "SPlicing FOR STEEL PIPE PILES".

WELDING

5. QUALIFICATION OF WELDERS, MATERIALS, INSPECTION, AND PROCEDURES FOR WELDING SHELL PILES WITH AN O.D. GREATER THAN 18" MUST CONFORM TO THE CURRENT EDITION OF AWS D1.1. ULTRASONIC TEST (UT) 25% OF WELDS IN EACH CONSTRUCTION STAGE.
- 5A. QUALIFICATION OF WELDERS, MATERIALS, INSPECTION, AND PROCEDURES FOR WELDING H-PILE AND SHELL PILES WITH AN O.D. EQUAL TO OR LESS THAN 18" MUST CONFORM TO THE CURRENT EDITION OF AWS D1.1.
6. PROVIDE WELDING QUALIFICATION TESTS TO DEMONSTRATE THE WELDABILITY OF SHELL PILES UNDER FIELD CONDITIONS FOR WELDS TO BE MADE ON THE PILES.
7. ATTACH PILE POINTS AND PREFABRICATED SPLICERS BY WELDING IN ACCORDANCE WITH THE CURRENT EDITION OF AWS D1.1. SUBMIT WELDING DETAILS AND PROCEDURES FOR APPROVAL.

DRIVING DATA

8. SUBMIT THE TYPE AND OPERATION SPECIFICATIONS OF THE HAMMER 15 CALENDAR DAYS BEFORE PILE DRIVING BEGINS.
9. DRIVE PILES TO (REFUSAL) (NOMINAL AXIAL RESISTANCE OF 0 KIPS PER PILE) AS DETERMINED BY A WAVE EQUATION ANALYSIS IN ACCORDANCE WITH 505.03 PART G.
10. THE RATED ENERGY FOR THE HAMMER USED FOR DRIVING PILES IS RECOMMENDED TO BE BETWEEN 0 AND 0 FOOT-POUNDS. THE RATED ENERGY RANGE MAY BE CHANGED IF APPROVED.
11. NOTIFY THE ENGINEER BEFORE FURTHER PILE DRIVING IF THE HIGHEST PILE TIP ELEVATION IS NOT OBTAINED.

TEST PILES

12. DRIVE TEST PILES TO 1 1/2 TIMES THE ESTIMATED PILE PENETRATION LENGTH OR REFUSAL, WHICHEVER COMES FIRST. FOR EACH TEST PILE, PERFORM PILE DYNAMIC TESTING DURING INITIAL PILE DRIVING AND DURING RESTRIKE IF NECESSARY, OR AS DIRECTED.
13. IF THE TEST PILE NOMINAL AXIAL RESISTANCE IS NOT ACHIEVED, RESTRIKE THE TEST PILE TO 4 INCHES OF PENETRATION AFTER A __ HOUR WAITING PERIOD, OR AS DIRECTED. IF THE TEST PILE ACHIEVES THE NOMINAL AXIAL RESISTANCE DURING INITIAL DRIVING, TEST PILE RESTRIKE IS NOT REQUIRED.
14. INCORPORATE TEST PILES THAT MEET PRODUCTION PILE DRIVING CRITERIA INTO THE PERMANENT WORK.
15. PERFORM CAPWAP ANALYSIS AT TWO TEST PILE PENETRATION DEPTHS:
 1. AT THE DEPTH WHERE THE CASE METHOD INDICATES THE ESTIMATED TEST PILE CAPACITY EQUALS THE NOMINAL AXIAL RESISTANCE SHOWN ON THE PLANS (THIS DEPTH MUST BE EQUAL TO OR DEEPER THAN THE HIGHEST PILE TIP ELEVATION SHOWN ON THE PLANS), OR AS DIRECTED.
 2. AT THE END OF INITIAL DRIVING AND ON PILE RESTRIKES.

MISCELLANEOUS

16. PILE TIP ELEVATIONS ARE SHOWN FOR ESTIMATING PURPOSES ONLY.
17. ESTIMATED PILE LENGTHS ARE COMPUTED FROM PILE CUT-OFF AND ESTIMATED PILE TIP ELEVATIONS.

PILE SCHEDULE					
LOCATION	NO.	ELEVATION			ESTIMATED PILE LENGTH (FT)
		PILE CUT-OFF	ESTIMATED PILE TIP	HIGHEST PILE TIP	

REVISIONS			
NO.	DATE	BY	DESCRIPTION

DESIGNED
DESIGN CHECKED
DETAILED
DWG. CHECKED
CORRECTIONS

SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY
CADD FILE NAME
Standards/Bridge Standard Drawings B10_2.DGN
DRAWING DATE: OCT 2023

IDAHO TRANSPORTATION DEPARTMENT

YOUR Safety→YOUR Mobility→YOUR Economic Opportunity

APPROVED BY: BRIDGE ENGINEER **MICHAEL T. JOHNSON** DATE: _____

ENGLISH
PROJECT NO.

FOUNDATION DETAILS

BRIDGE LRFD DESIGN MANUAL, B10.2

BRIDGE PLANS

BRIDGE KEY NO.

COUNTY KEY NO.

BRIDGE DWG. NO. SHEET OF