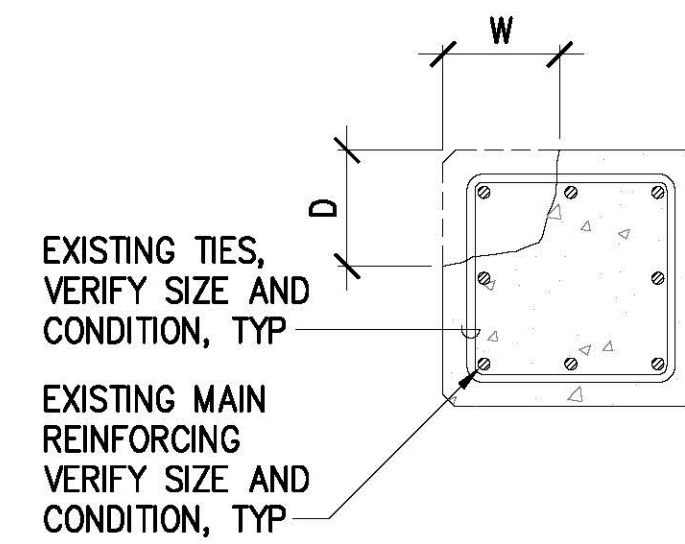
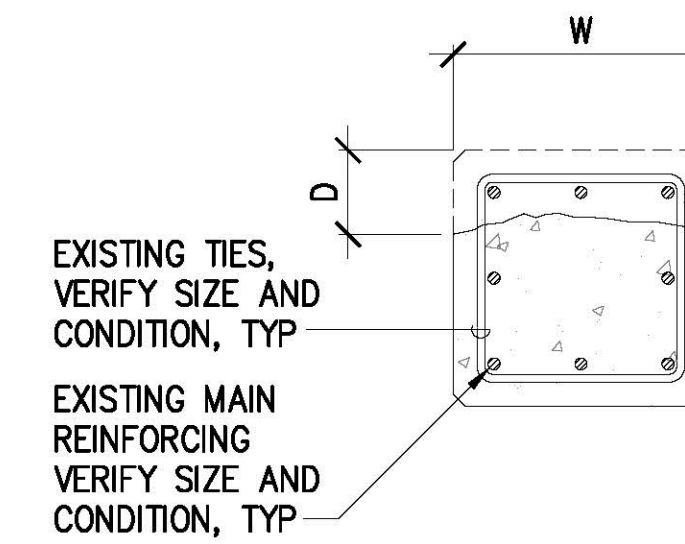


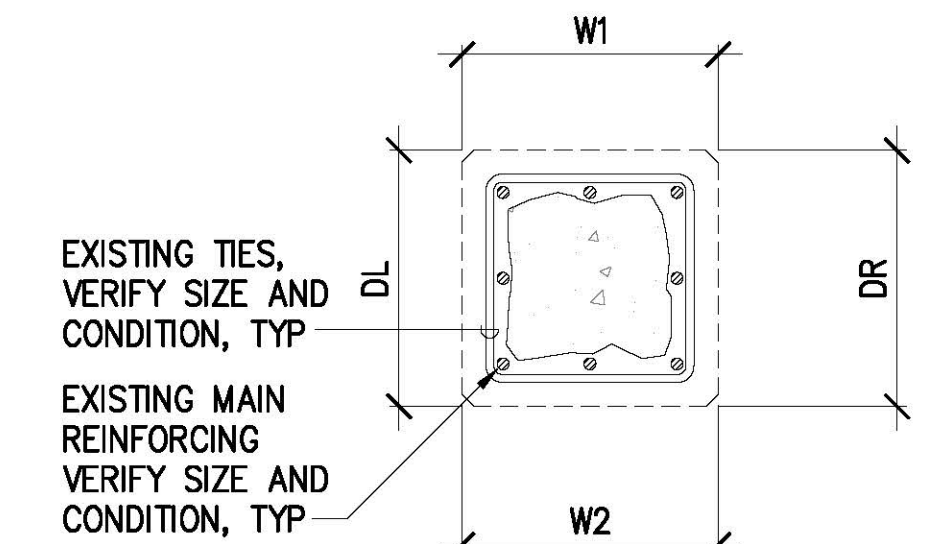
EXISTING CONDITION



EXISTING SPALL AREA = $(W + D)H$
PILE SECTION (CORNER SPALL)

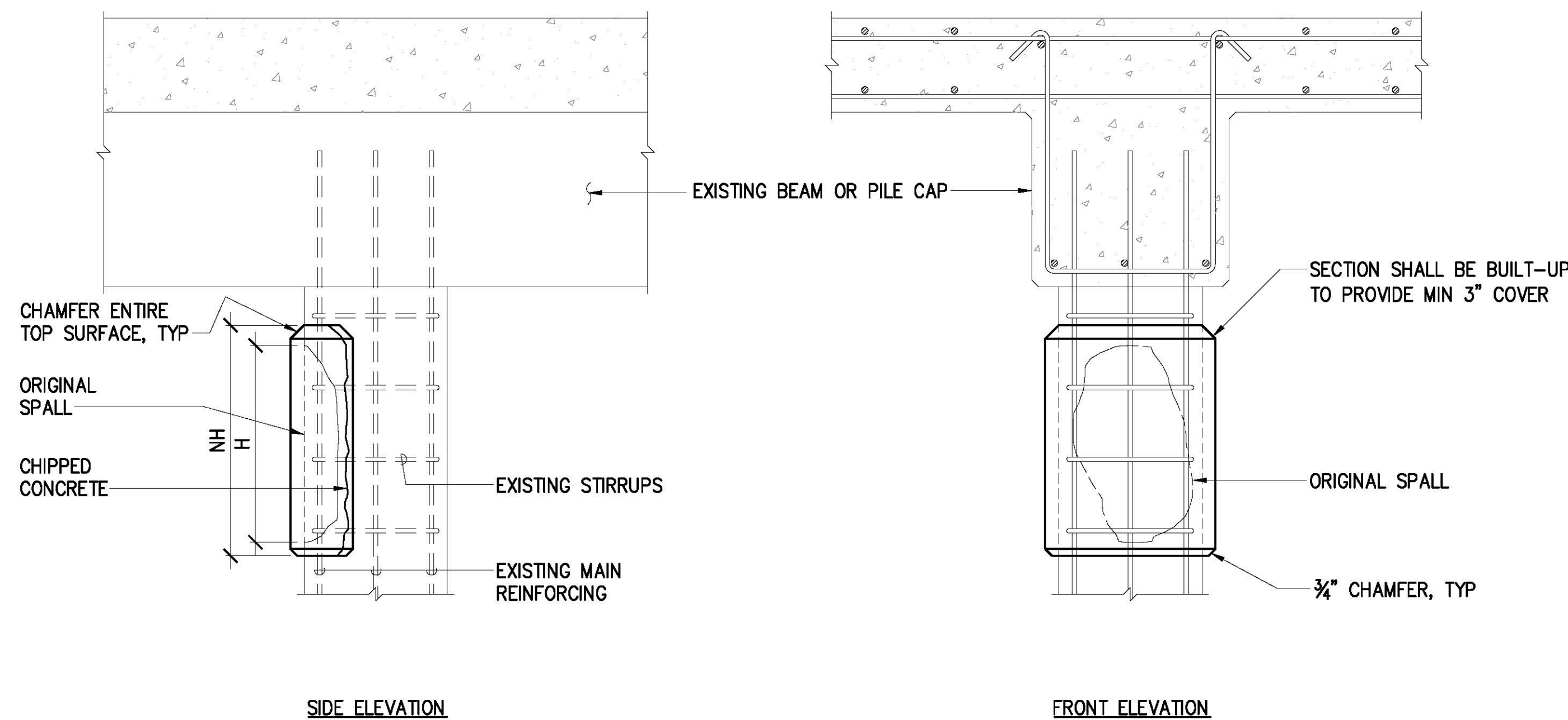


EXISTING SPALL AREA = $(W + 2D)H$
PILE SECTION (FACE SPALL)

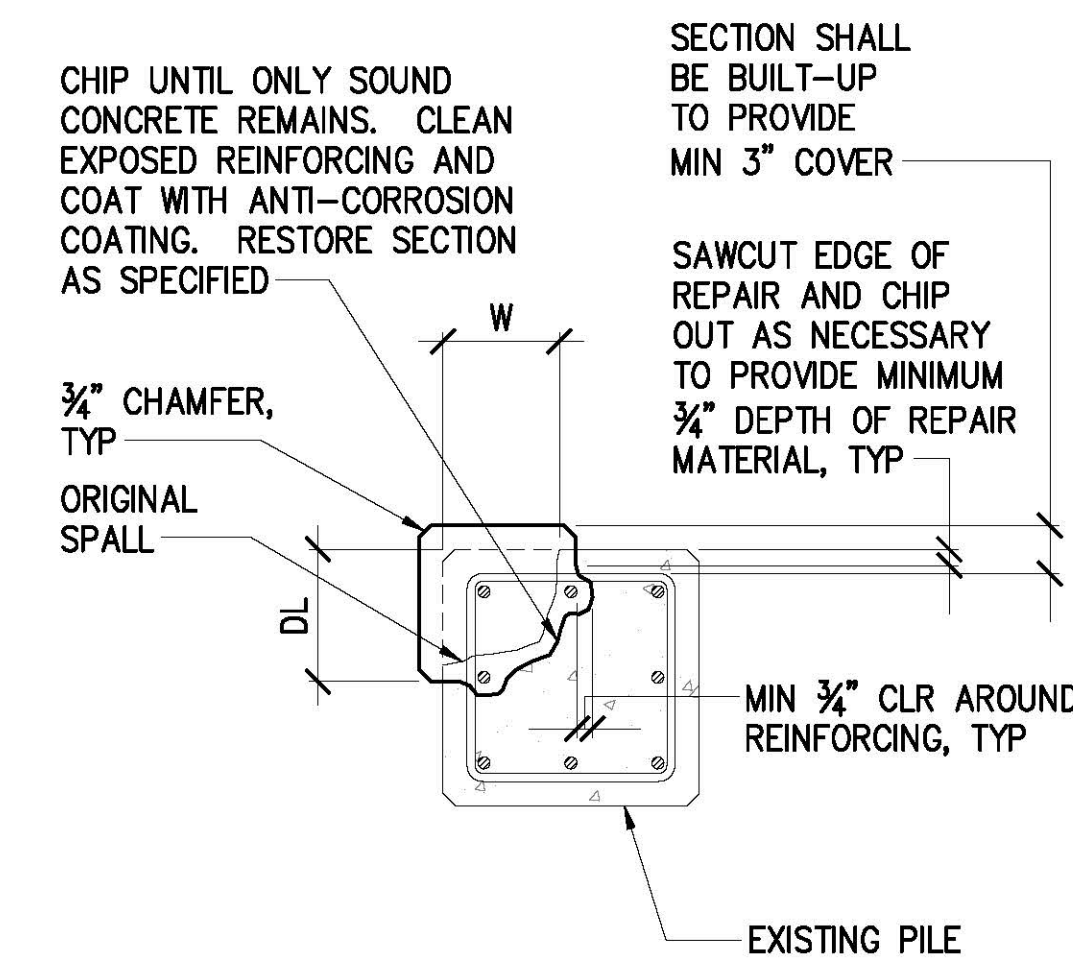


EXISTING SPALL AREA = $(W1+W2+DL+DR)H$
PILE SECTION (ALL SPALL)

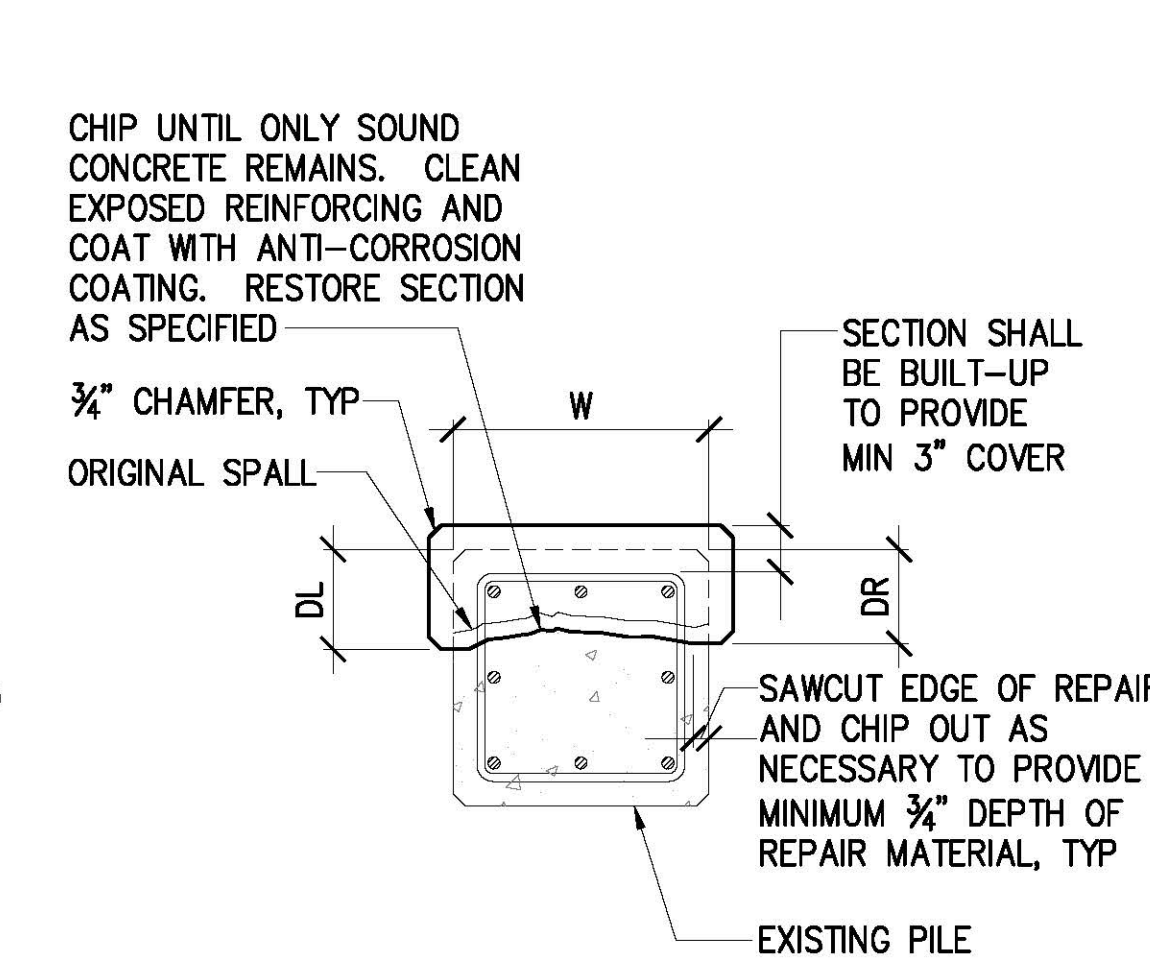
EXISTING CONDITION



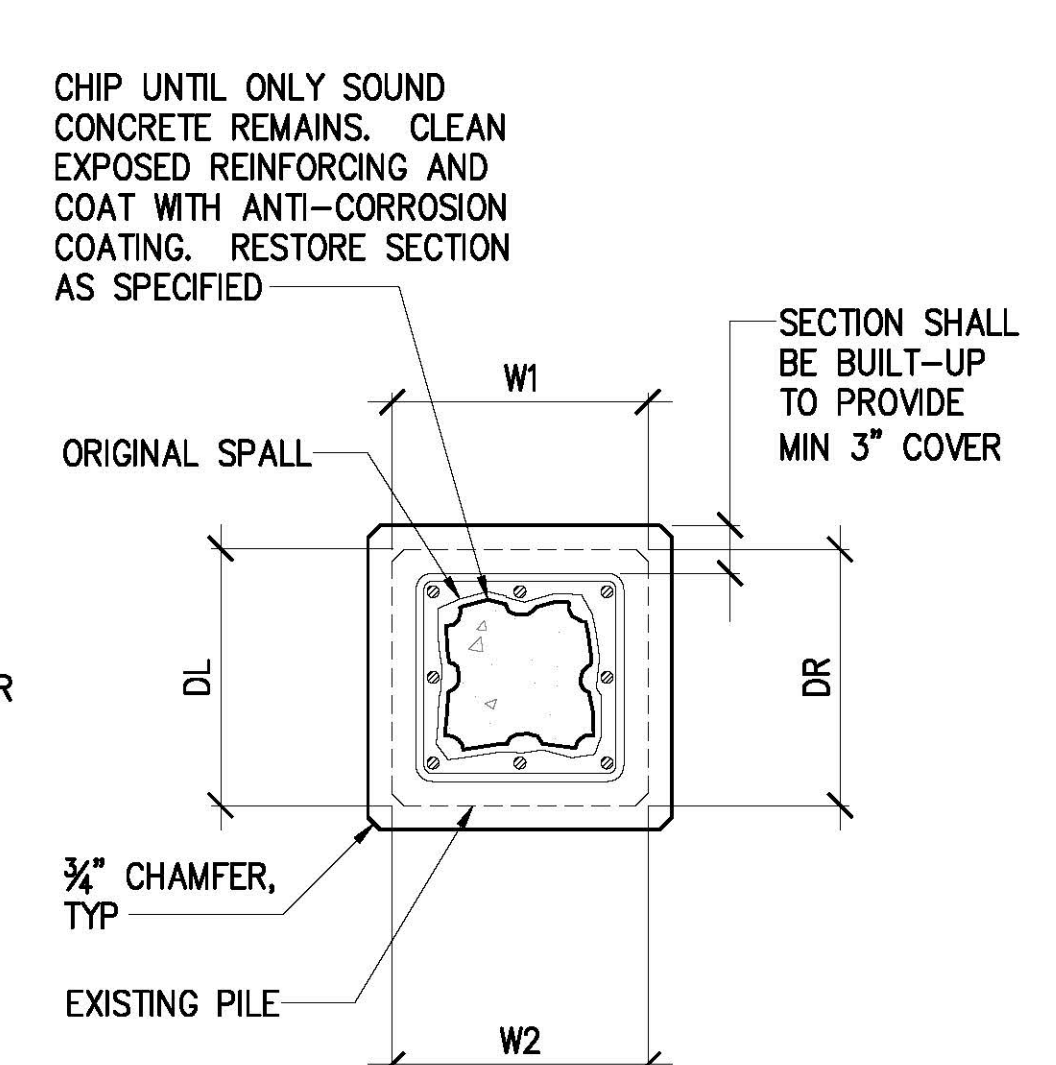
REPAIRED CONDITION



PILE SECTION (CORNER SPALL)



PILE SECTION (FACE SPALL)



PILE SECTION (ALL SPALL)

REPAIRED CONDITION

PILE REPAIR NOTES:

- "PILES" REFER TO PILES OR PILE CAP AT TOP OF PILE AND SHALL BE REPAIRED SIMILARLY.
- PILE REPAIR TYPICALLY OCCURS ABOVE MLLW, HOWEVER PORTIONS OF REPAIRS MAY EXTEND UNDERWATER
- FOR PILE OR PILE CAP REPAIRS WITH REINFORCING STEEL REPLACEMENT, SEE DETAIL 1/S-8.

CALCULATION OF PAY AREA:

DL = DEPTH OF REPAIR (LEFT SIDE)
DR = DEPTH OF REPAIR (RIGHT SIDE)
D = ORIGINAL DEPTH OF PILE SPALL
W = ORIGINAL WIDTH OF PILE SPALL
H = EXISTING HEIGHT OF SPALL
NH = HEIGHT OF REPAIR

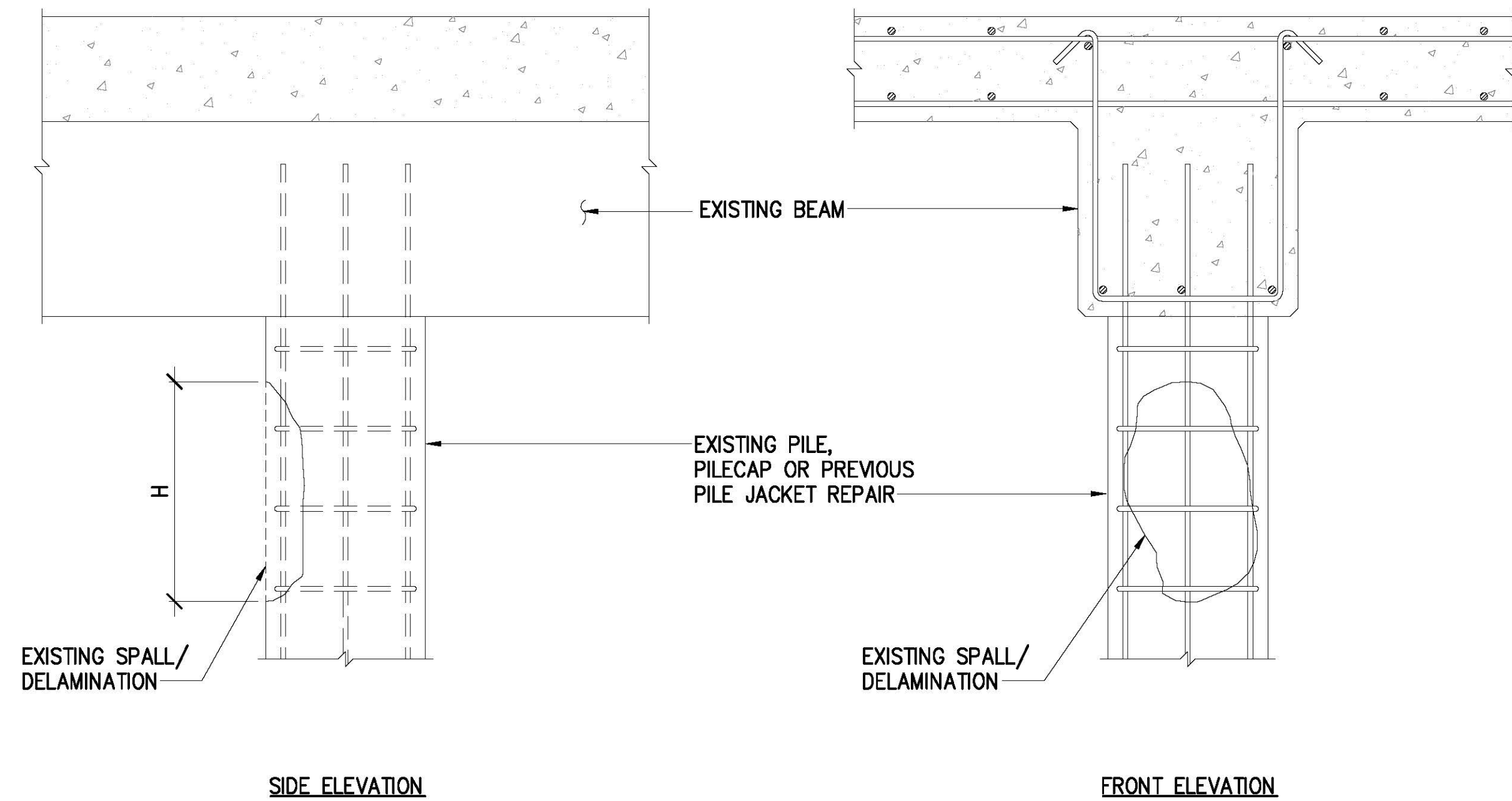
PAY AREA = $(DL+DR+W)NH$ FOR CORNER AND FACE SPALL PILE REPAIRS, SEE PAY AREA NOTE 3.

PAY AREA = $(DL+DR+W1+W2)NH$ FOR ALL SPALL PILE REPAIRS

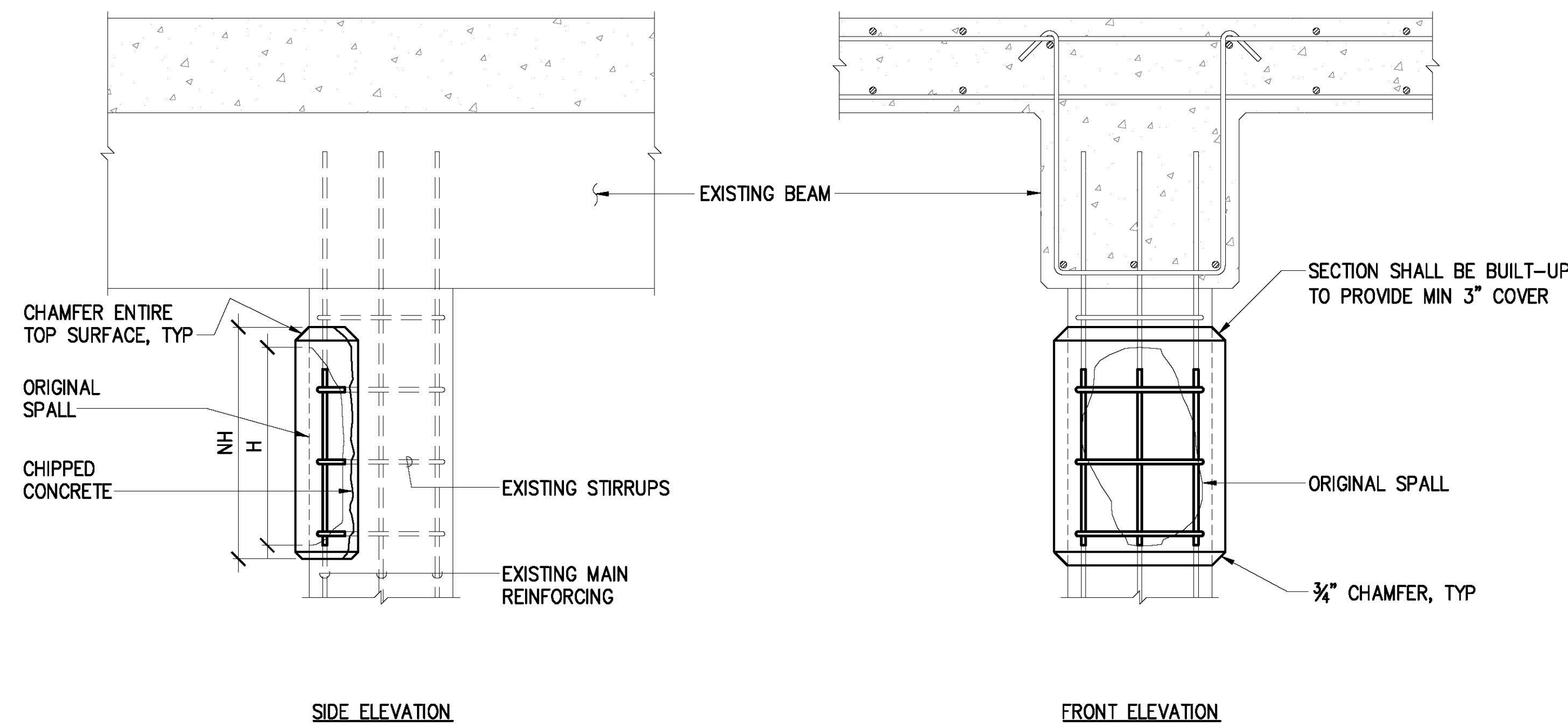
PAY AREA NOTES:

- PAY AREA SHALL BE THE TOTAL REPAIRED AREA ON ALL PILE OR PILE CAP FACES. IF DL, DR OR W VARY ALONG THE LENGTH OF REPAIR, PAY AREA SHALL BE CALCULATED INDIVIDUALLY FOR EACH PILE FACE.
- FOR PILE CAP REPAIRS EXTENDING DOWN TO PILE CAP SOFFIT, PAY AREA SHALL ALSO INCLUDE THE SOFFIT REPAIR AREA.
- FOR PILE CAP FACE SPALLS NOT EXTENDING TO THE PILE CAP CORNER(S), PAY AREA SHALL NOT INCLUDED DL OR DR.

		REVISION		DATE	DESCRIPTION	BY	APPROVED
		STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HARBORS DIVISION					
JOB TITLE SUBSTRUCTURE AND FENDER REPAIRS AT PIERS 13-14 HONOLULU HARBOR, OAHU, HAWAII		SHEET TITLE PILE SPALL REPAIR DETAILS					
DESIGNED BY: GO DRAWN BY: DL CHECKED BY: BK DATE: 04/2023 SCALE: AS SHOWN		JOB NUMBER H.C. 10826		SHEET S-7 9 of 12 SHTS.			



EXISTING CONDITION



REPAIRED CONDITION

PILE REPAIR NOTES:

- "PILES" REFER TO PILES OR PILE CAP AT TOP OF PILE AND SHALL BE REPAIRED SIMILARLY.
- PILE REPAIR TYPICALLY OCCURS ABOVE MLLW, HOWEVER PORTIONS OF REPAIRS MAY EXTEND UNDERWATER

CALCULATION OF PAY AREA:

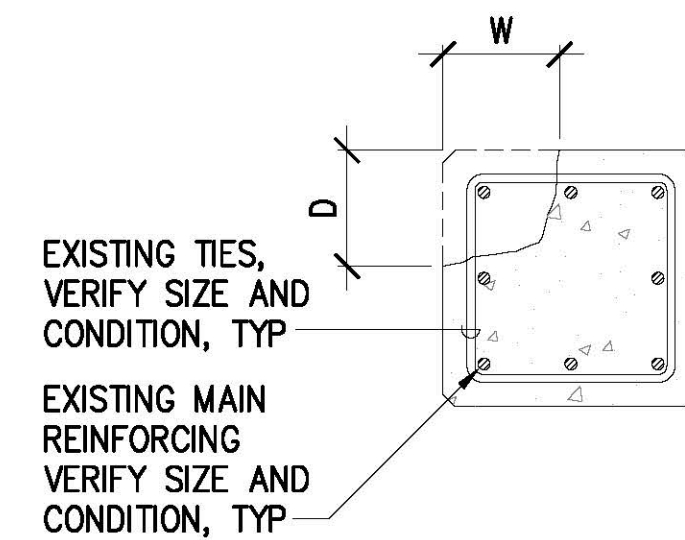
DL = DEPTH OF REPAIR (LEFT SIDE)
DR = DEPTH OF REPAIR (RIGHT SIDE)
D = ORIGINAL DEPTH OF PILE SPALL
W = ORIGINAL WIDTH OF PILE SPALL
H = EXISTING HEIGHT OF SPALL
NH = HEIGHT OF REPAIR

PAY AREA = (DL+DR+W)NH FOR CORNER AND FACE SPALL PILE REPAIRS, SEE PAY AREA NOTE 3.

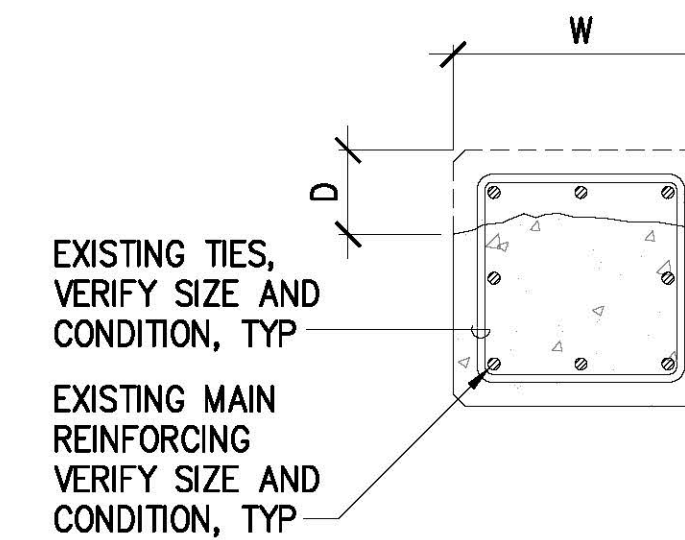
PAY AREA = (DL+DR+W1+W2)NH FOR ALL SPALL PILE REPAIRS

PAY AREA NOTES:

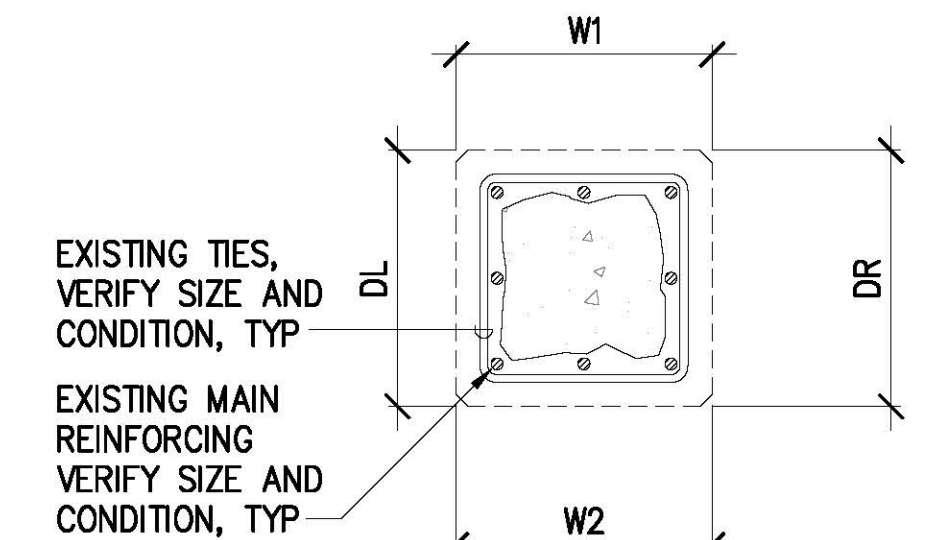
- PAY AREA SHALL BE THE TOTAL REPAIRED AREA ON ALL PILE OR PILE CAP FACES. IF DL, DR OR W VARY ALONG THE LENGTH OF REPAIR, PAY AREA SHALL BE CALCULATED INDIVIDUALLY FOR EACH PILE FACE.
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- FOR PILE CAP FACE SPALLS NOT EXTENDING TO THE PILE CAP CORNER(S), PAY AREA SHALL NOT INCLUDED DL OR DR.



EXISTING SPALL AREA = (W + D)H
PILE SECTION (CORNER SPALL)

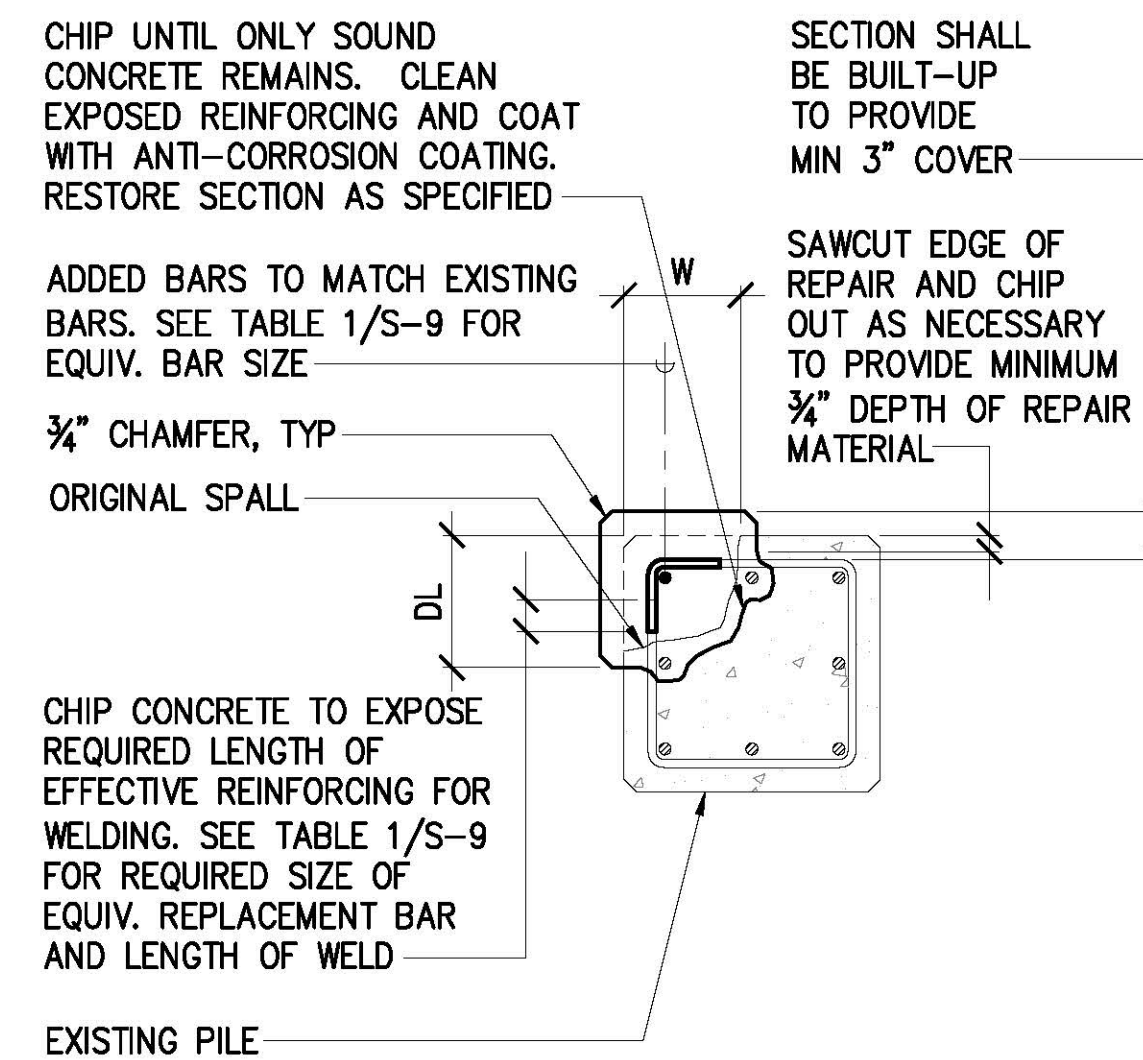


EXISTING SPALL AREA = (W + 2D)H
PILE SECTION (FACE SPALL)

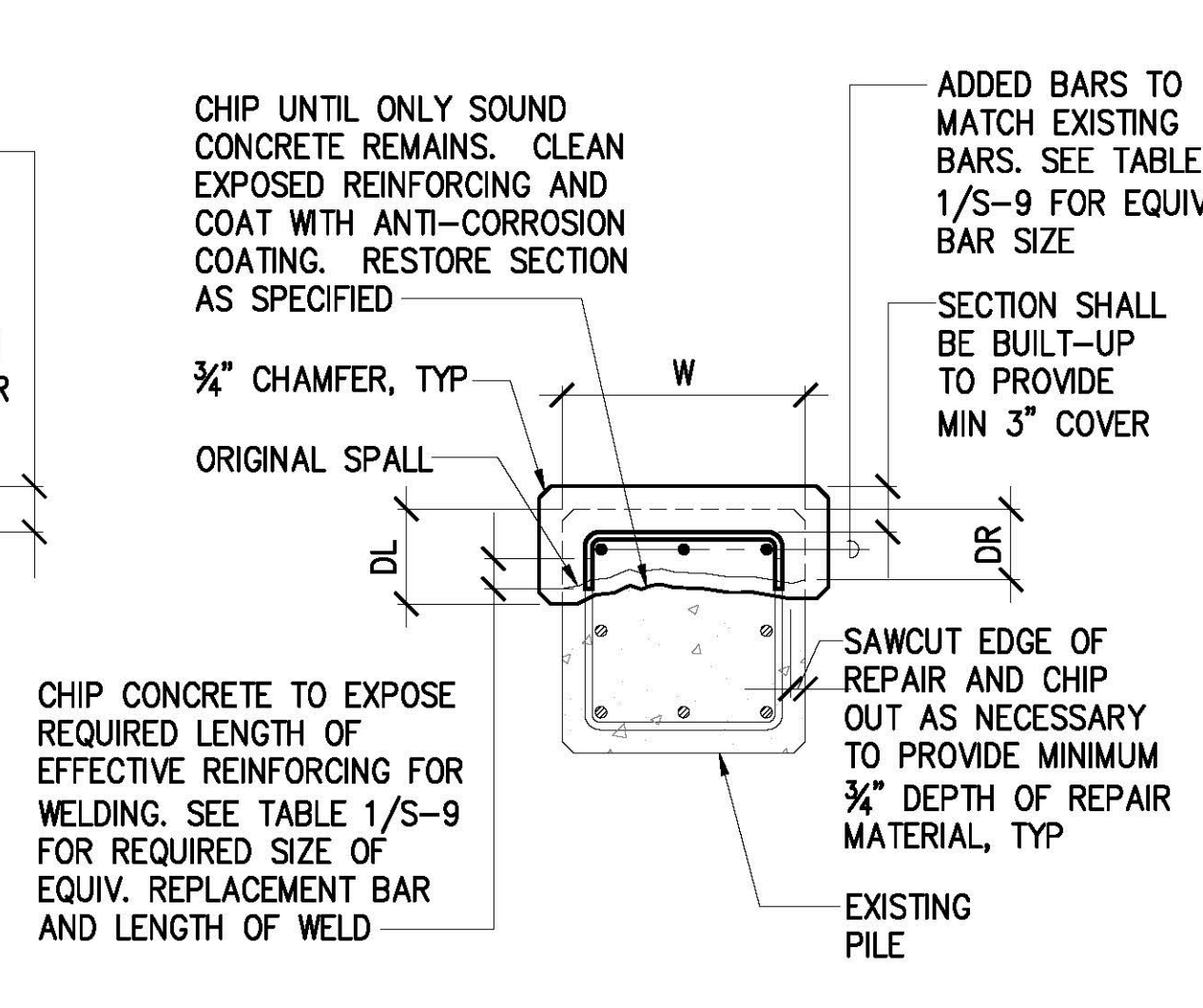


EXISTING SPALL AREA = (W1+W2+D1+D2)H
PILE SECTION (ALL SPALL)

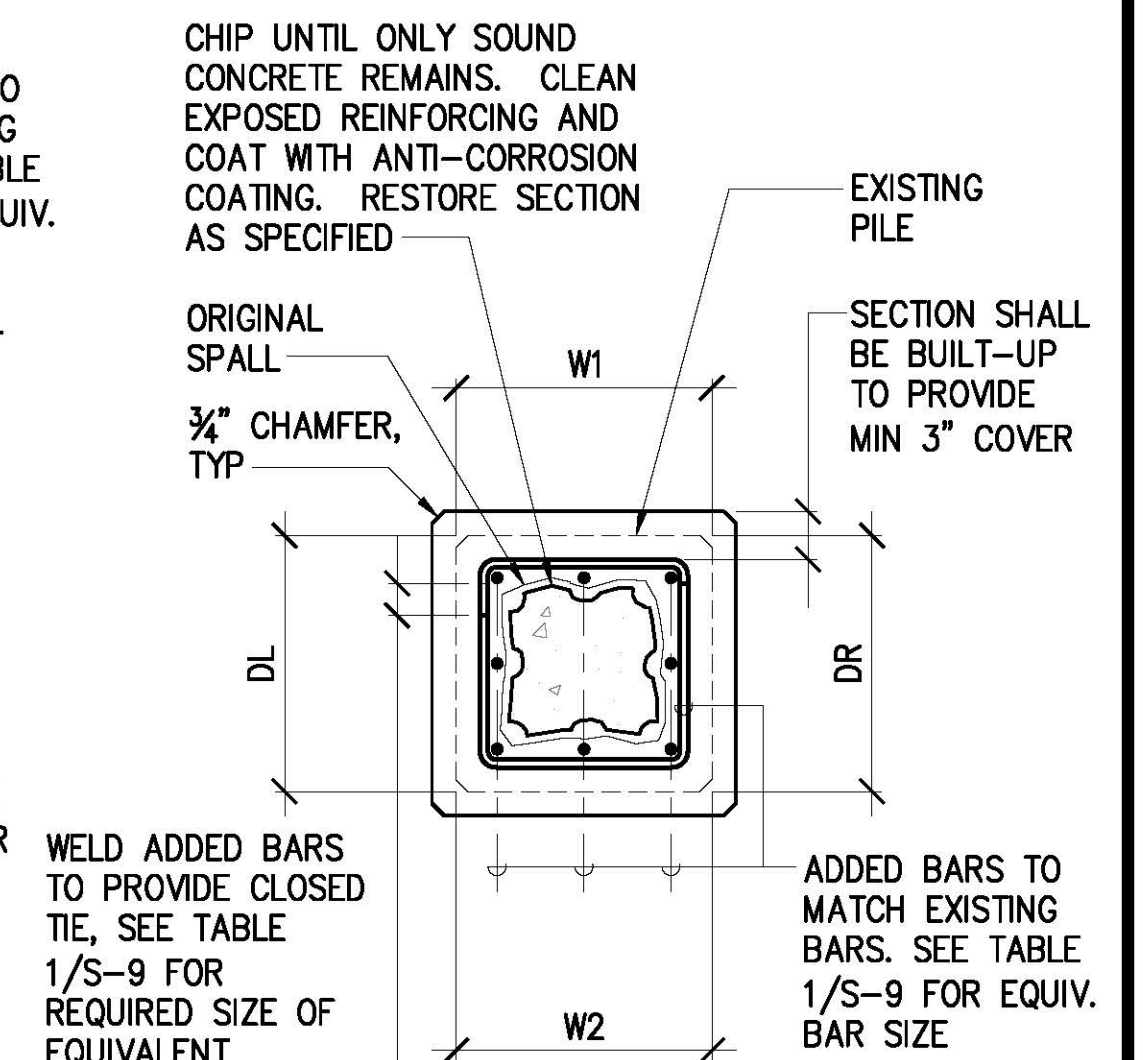
EXISTING CONDITION



PILE SECTION (CORNER SPALL)



PILE SECTION (FACE SPALL)



PILE SECTION (ALL SPALL)

REPAIRED CONDITION

		REVISION DATE DESCRIPTION BY APPROVED	
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION EXP. 4-30-24 MKE ASSOCIATES LLC		STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HARBORS DIVISION JOB TITLE SUBSTRUCTURE AND FENDER REPAIRS AT PIERS 13-14 HONOLULU HARBOR, OAHU, HAWAII SHEET TITLE PILE SPALL REPAIR DETAILS DESIGNED BY: GO DRAWN BY: DL CHECKED BY: BK DATE: 04/2023 SCALE: AS SHOWN JOB NUMBER H.C. 10826	
SHEET S-8 10 OF 12 SHTS.		SHEET S-8	