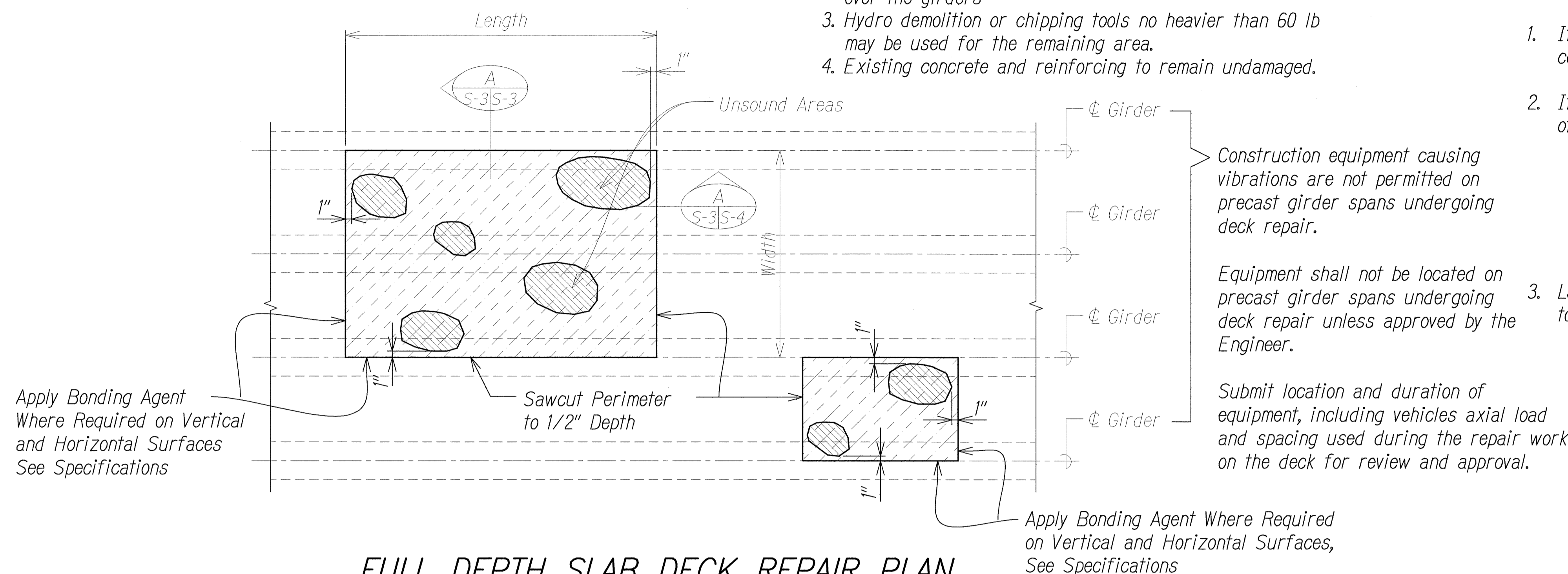


Full Depth Slab Demolition Procedure:

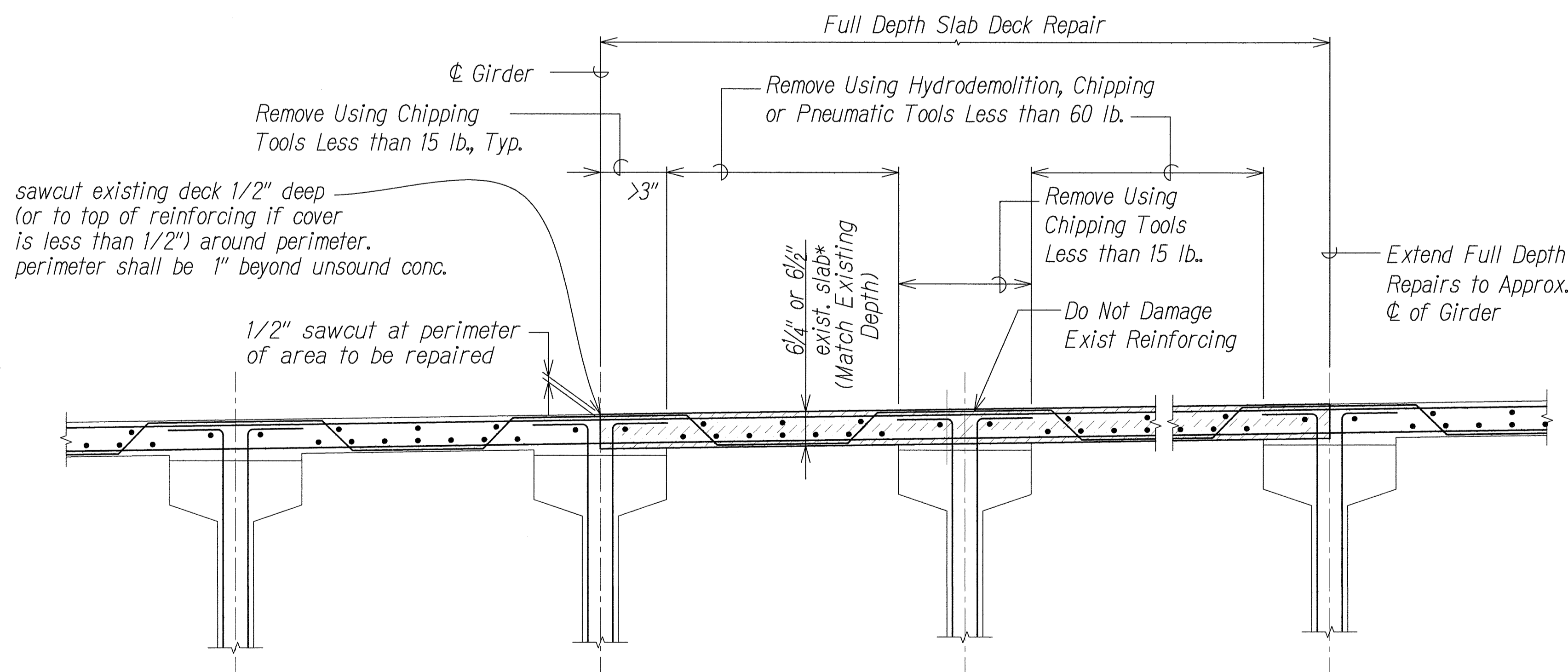
1. Sawcut perimeter to a depth of 1/2" or to top of transverse reinforcing (if concrete cover is less than 1/2"). Do not damage existing reinforcing steel.
2. Use chipping hammers less than 15 lb. to remove concrete within 3 horizontal inches of the repair perimeter, and over the girders
3. Hydro demolition or chipping tools no heavier than 60 lb may be used for the remaining area.
4. Existing concrete and reinforcing to remain undamaged.



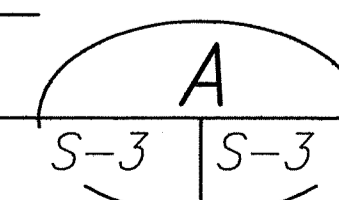
**FULL DEPTH SLAB DECK REPAIR PLAN**  
Scale: NONE

QC/QA REVIEW	100%	DATE: AUGUST 8, 2012
BY		
BY		
BY		
BY		

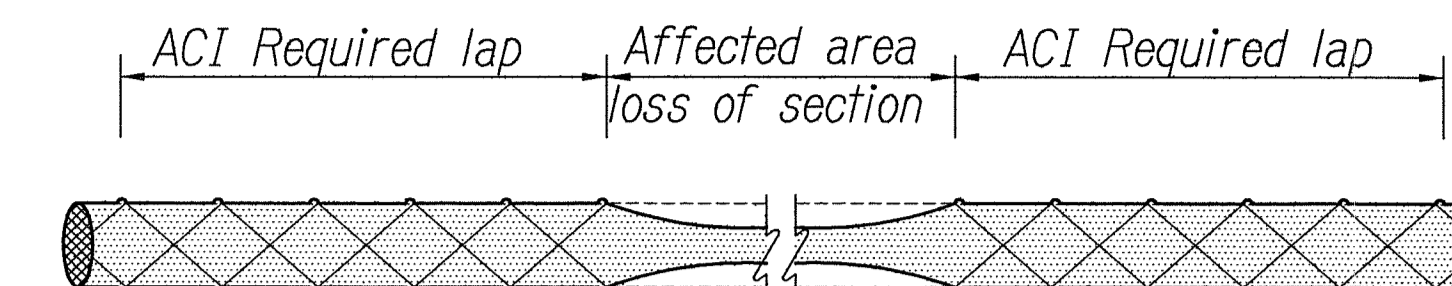
SURVEY PLOTTED BY	DATE
DRAWN BY	
DESIGNED BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
No.	



**FULL DEPTH SLAB REPAIR SECTION  
PERPENDICULAR TO TRAFFIC LANES**  
Scale: 3/4" = 1'-0"



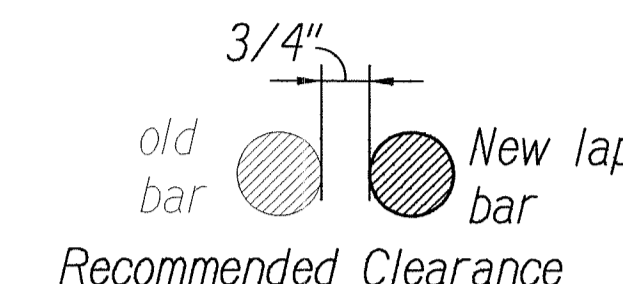
\* As shown in original contract construction drawings, See Structural Note i.c. on sheet No. S-0.



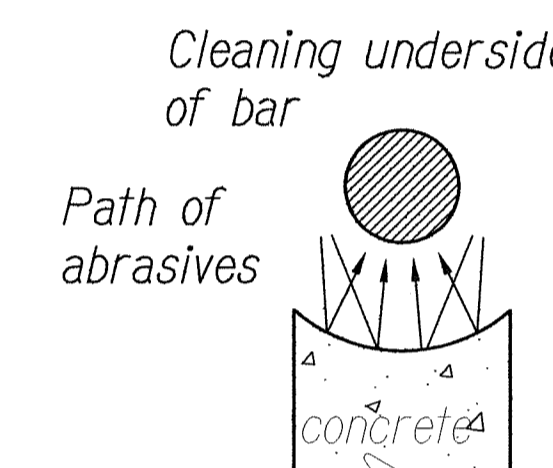
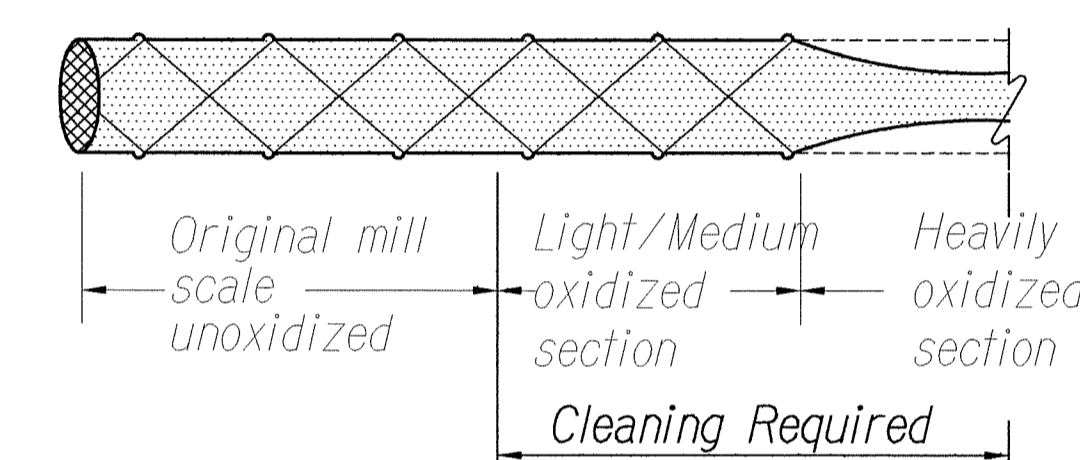
1. If rebar has lost more than 25% of its cross section, consult the Engineer.

2. If repairs are required to reinforcing steel use one of following repair methods:

- A. Complete bar replacement, or
- B. Addition of supplemental bar over affected section, new bar shall be welded to old bar or placed parallel to and approximately 3/4" from existing bar, see S-4 for welding details.

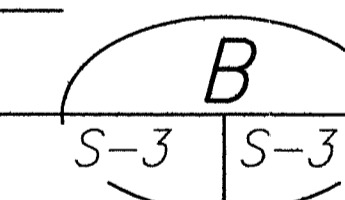


3. Lap length shall be determined in accordance with ACI 318, also refer to CRSI manual.



1. Remove heavy oxides and scale from bar to promote maximum bond of replacement material. oil free abrasive blast is preferred method. A tightly bonded light oxide built-up on surface may result from high-pressure water blasting, with or without abrasive. this is usually not detrimental to bond, unless a protective coating is being applied to bar surface, in which case follow coating manufacturer's recommendations for surface preparation.

**TYPICAL REPAIR AND CLEANING  
OF REINFORCING STEEL**  
Scale: NONE

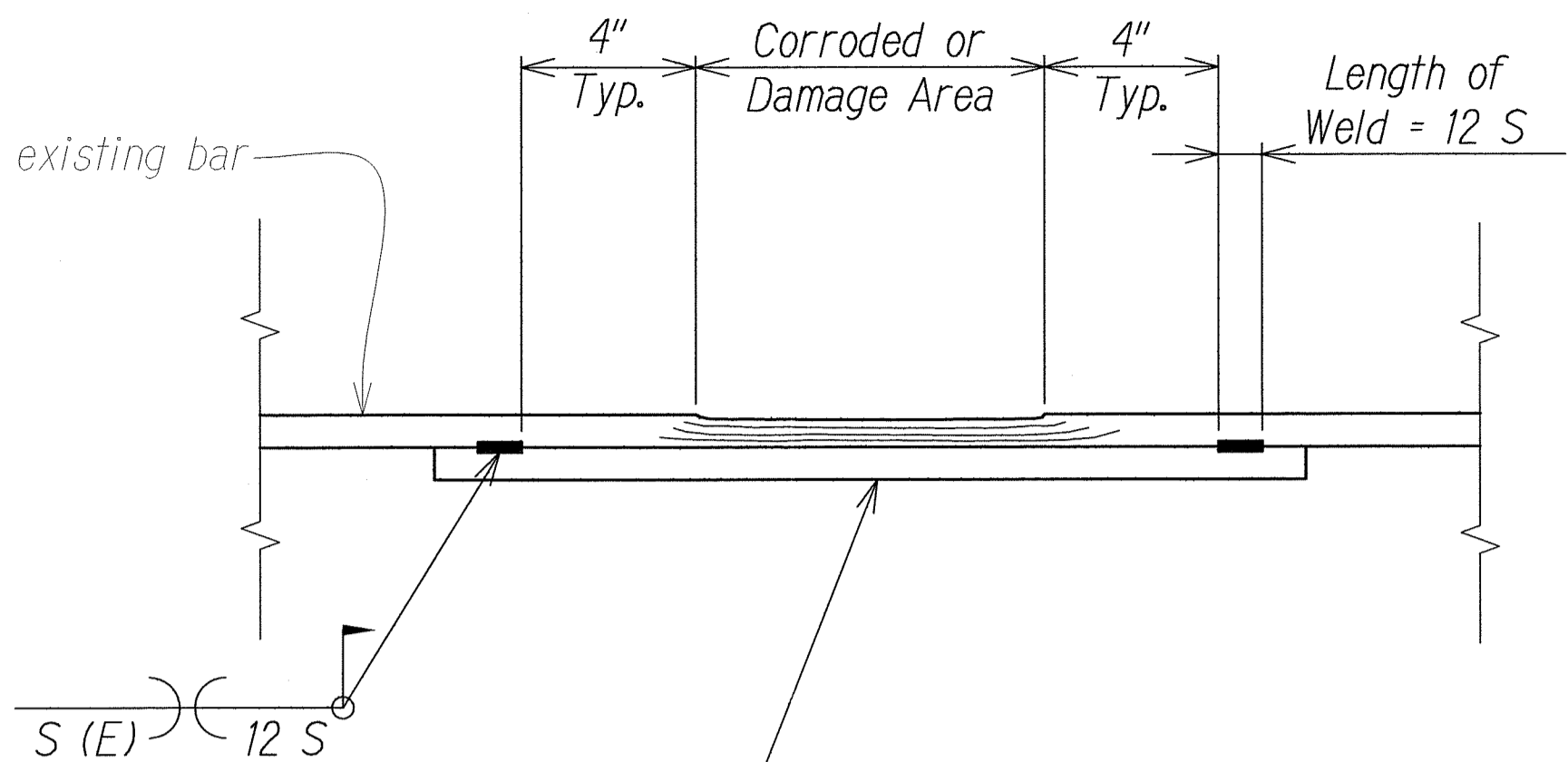


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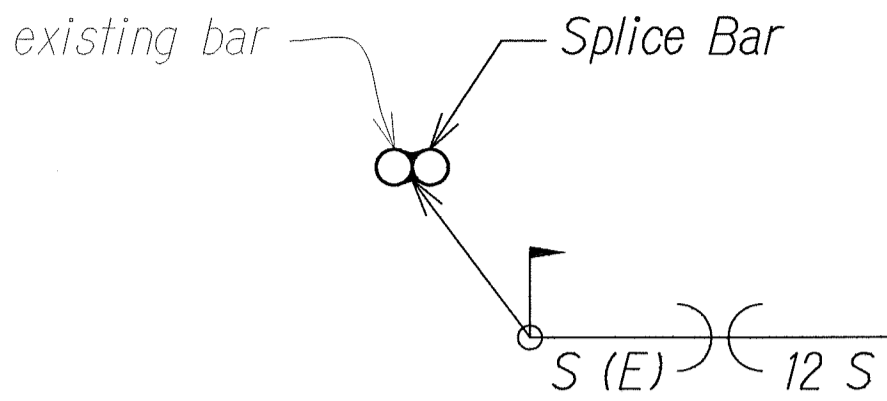
SIGNATURE: *Scott H. Kidani* 4/30/14  
EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
<u>TYPICAL DETAILS</u>	
INTERSTATE ROUTE H-1 FEDERAL AID PROJECT NO. BR-HI-1 (263)	
Scale: As Noted	Date: July 2012
SHEET No. S-3 OF 18 SHEETS	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BR-HI-1 (263)	2012	42	55



Splice Bar Identical to Existing Bar and Same Horiz. Plane as Existing Rebar



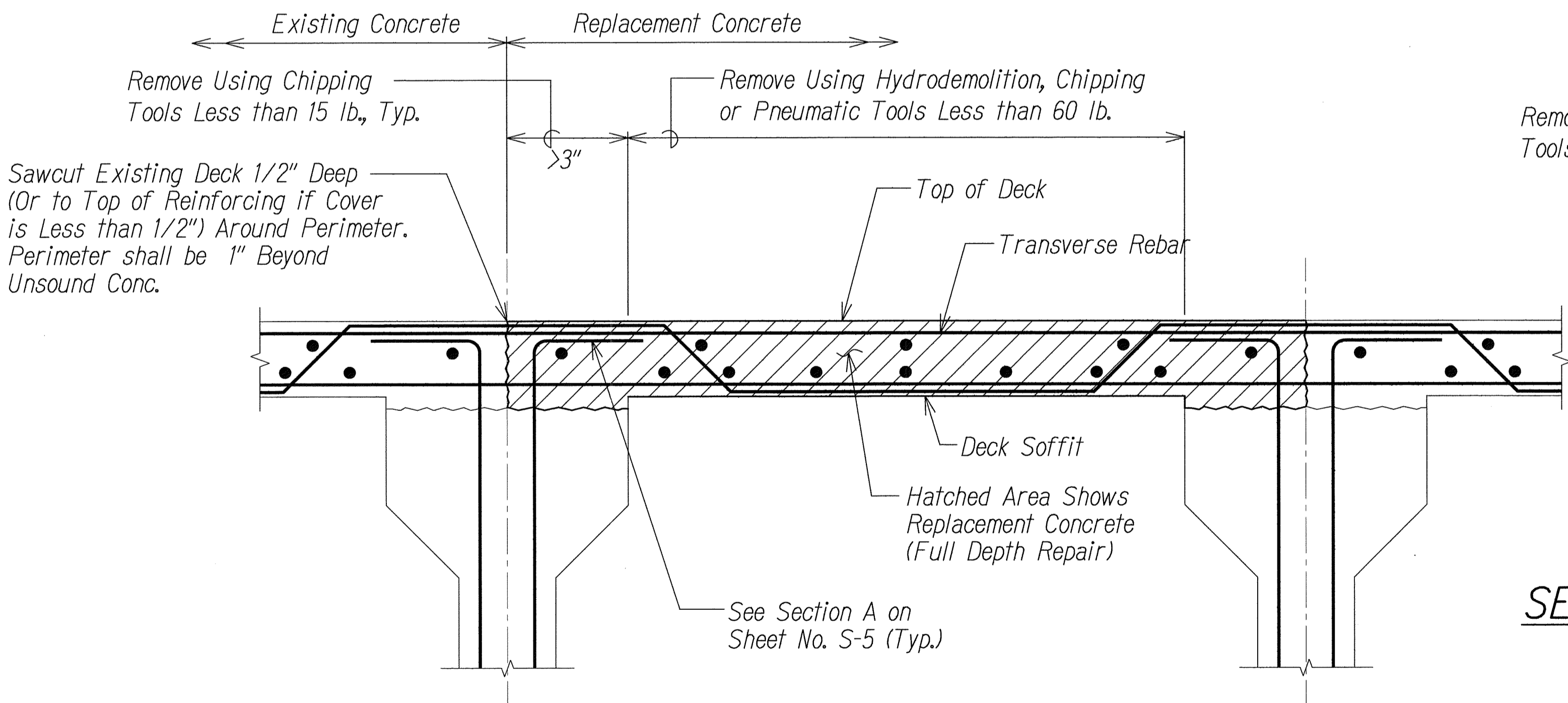
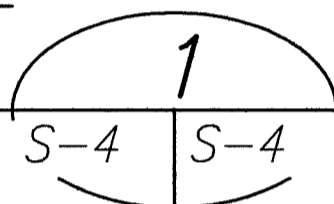
### SPLICE BAR

#### Notes:

- Splice bars shall be direct lap joint bars in contact with double-flare-V-groove welds. Where  $S$  = radius of reinforcing bar and  $E$  = Effective weld size =  $0.65S$ .
- New reinforcing steel shall be ASTM A 706. All welded reinforcing steel shall be ASTM A 706 where welded connections are required.
- All welding shall be done in accordance with the reinf. Steel Welding Code AWS D1.4 and Specification Section 602.
- Repair material and procedures shall be accepted by the Engineer before use.

### PLAN VIEW REINFORCING BAR LAP WELDS SPLICE DETAIL

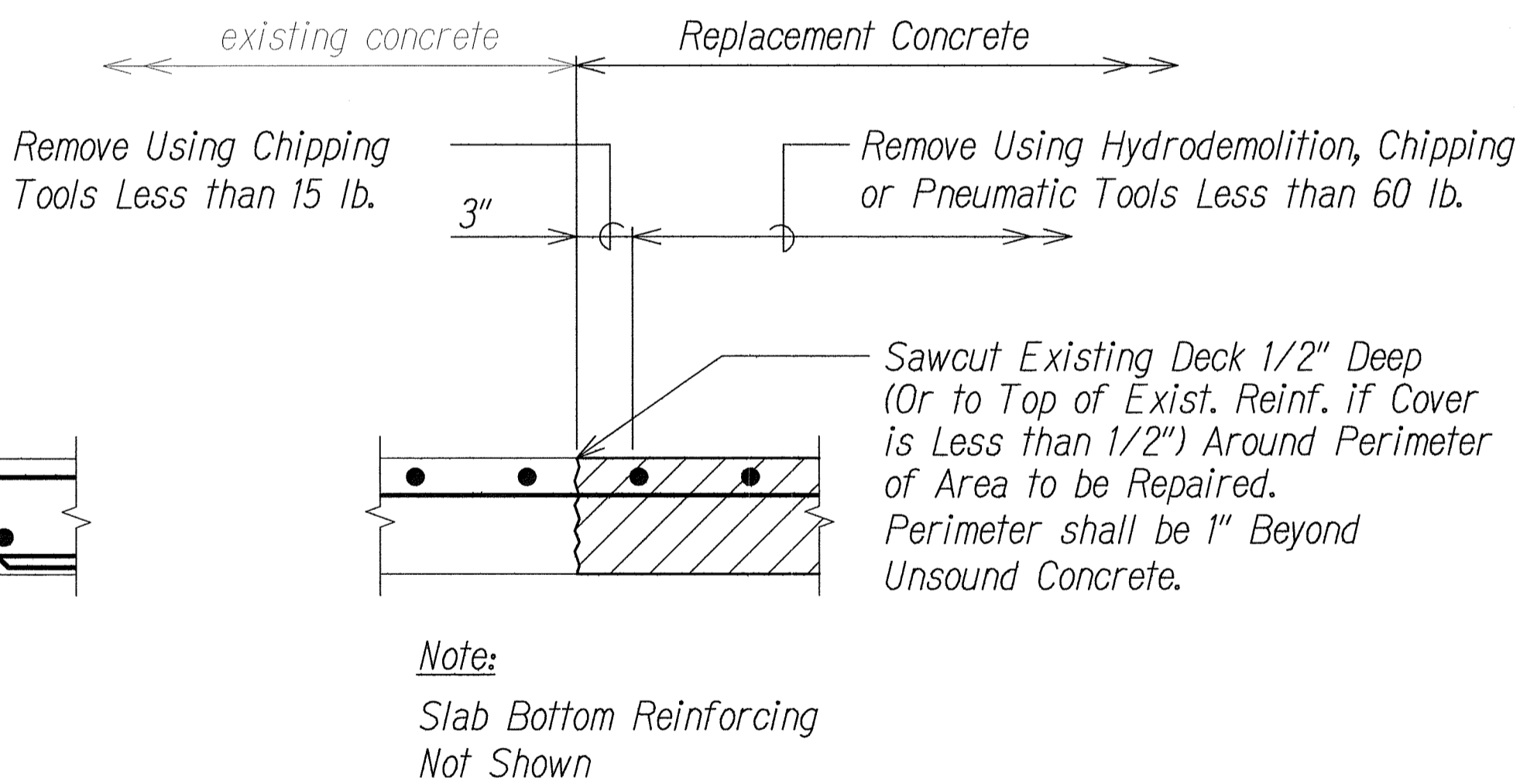
APPLIES TO FULL AND PARTIAL DEPTH REPAIR



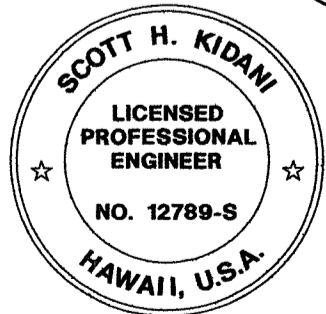
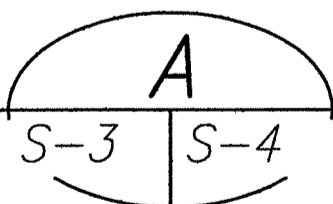
### SECTION PERPENDICULAR TO TRAFFIC LANES

### FULL DEPTH REPAIR DETAILS

Scale: Not to Scale



### SECTION PARALLEL TO TRAFFIC LANES



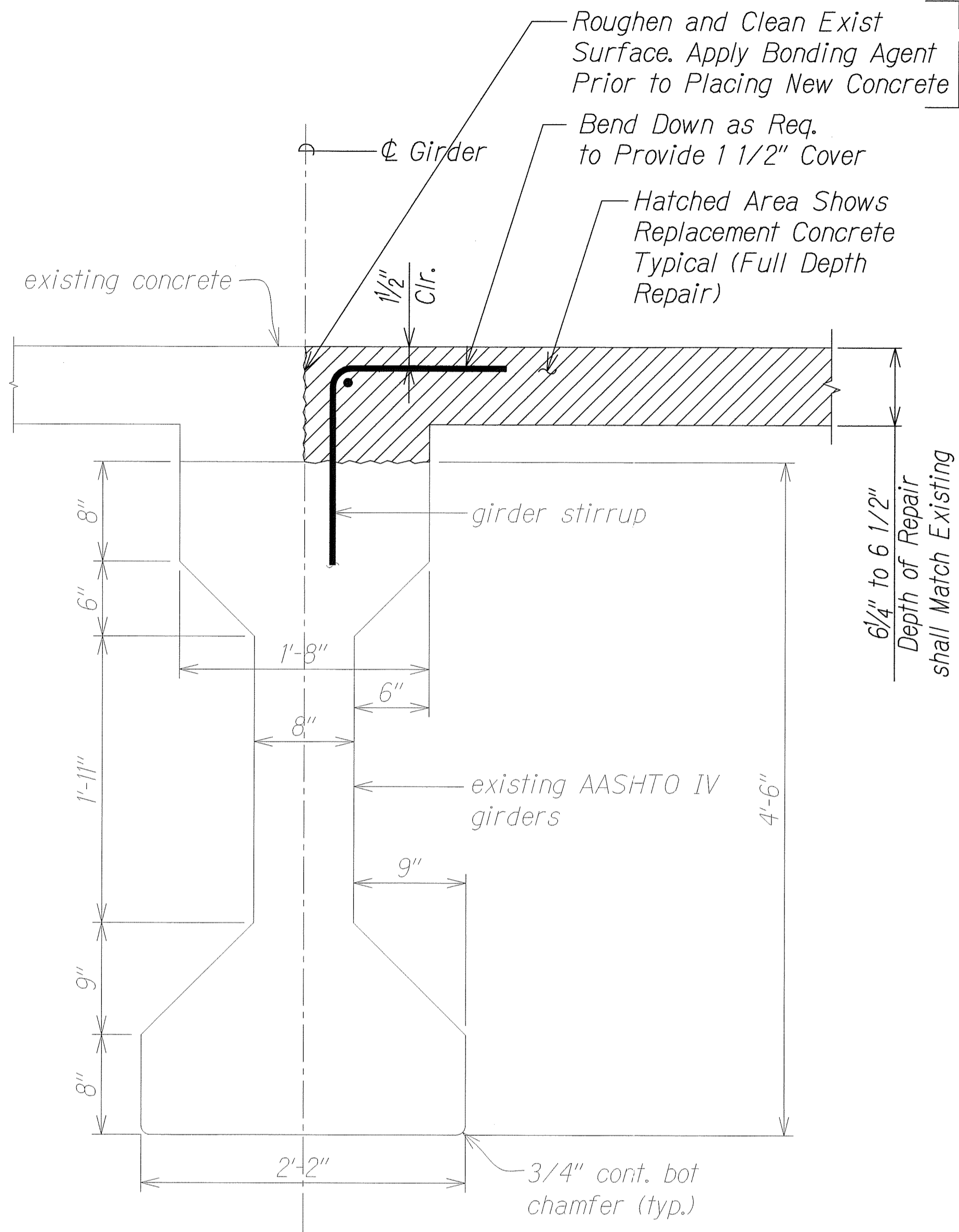
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Signature: *Scott H. Kidani* 4/30/14  
EXPIRATION DATE OF THE LICENSE

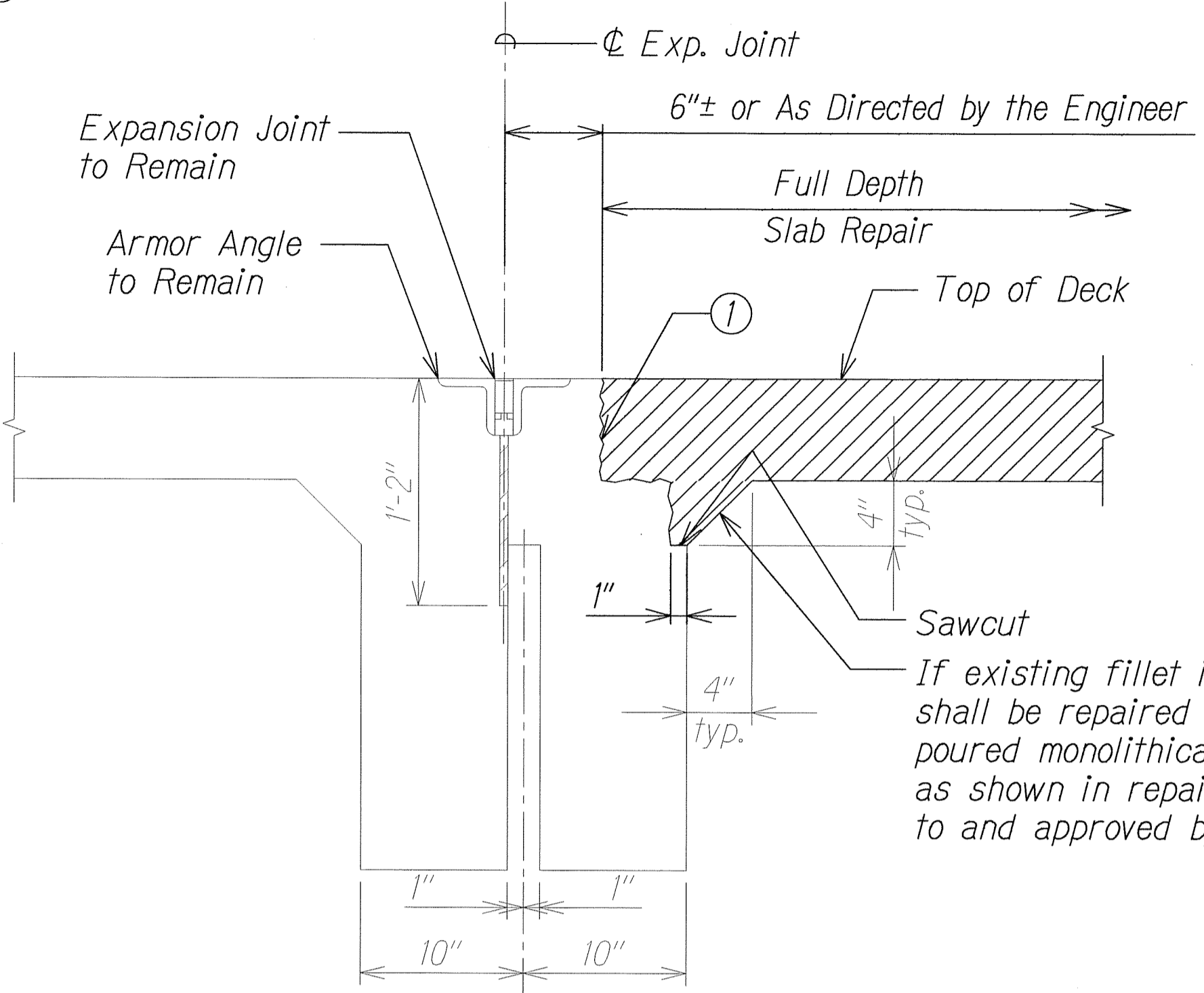
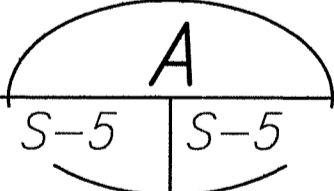
STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
  
TYPICAL DETAILS  
  
INTERSTATE ROUTE H-1  
FEDERAL AID PROJECT NO. BR-HI-1 (263)  
  
Scale: As Noted  
Date: July 2012  
  
SHEET No. S-4 OF 18 SHEETS

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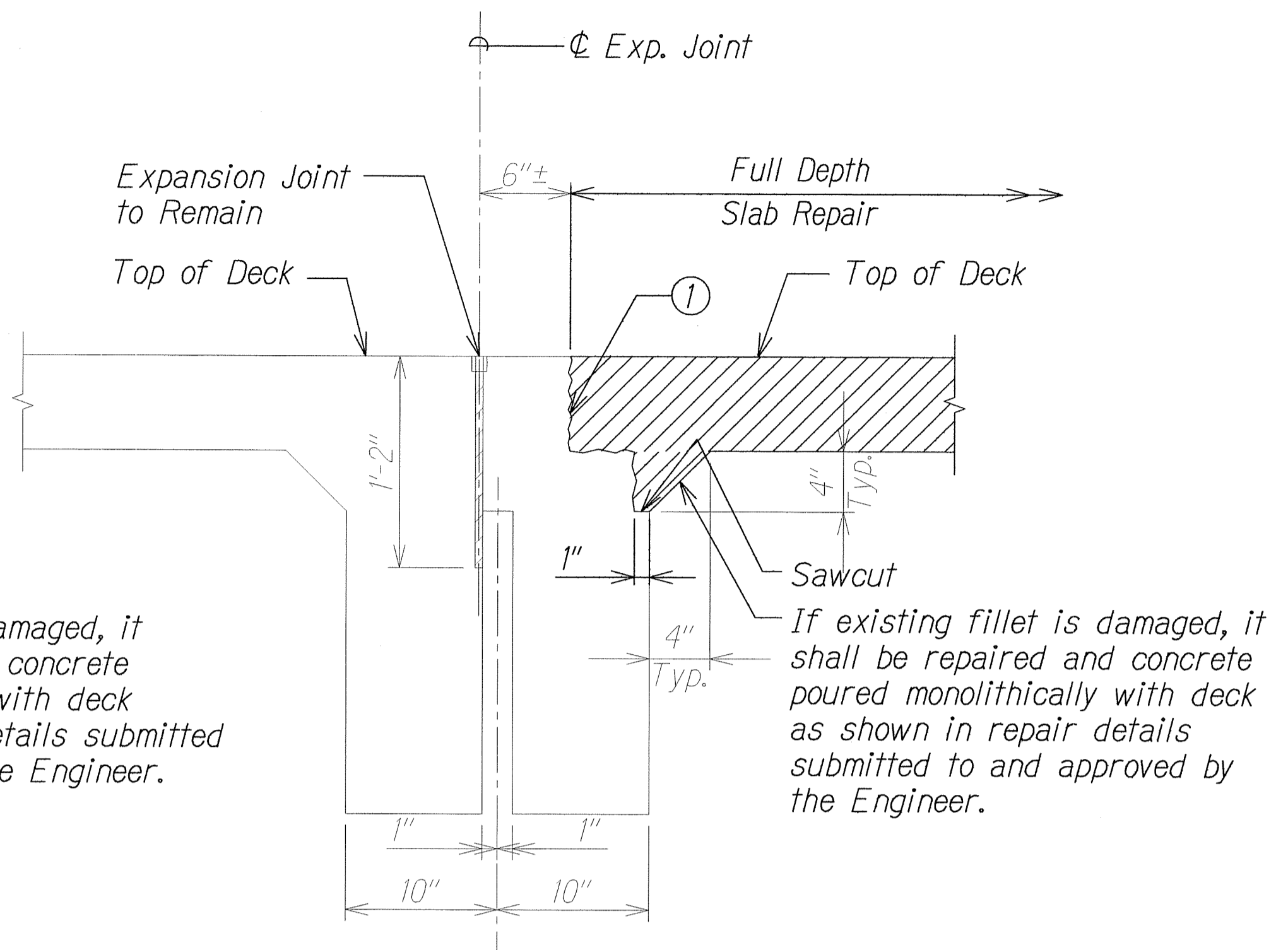
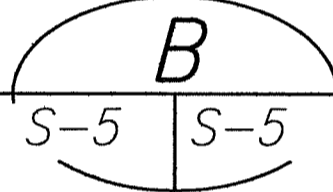
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BR-HI-1 (263)	2012	43	55



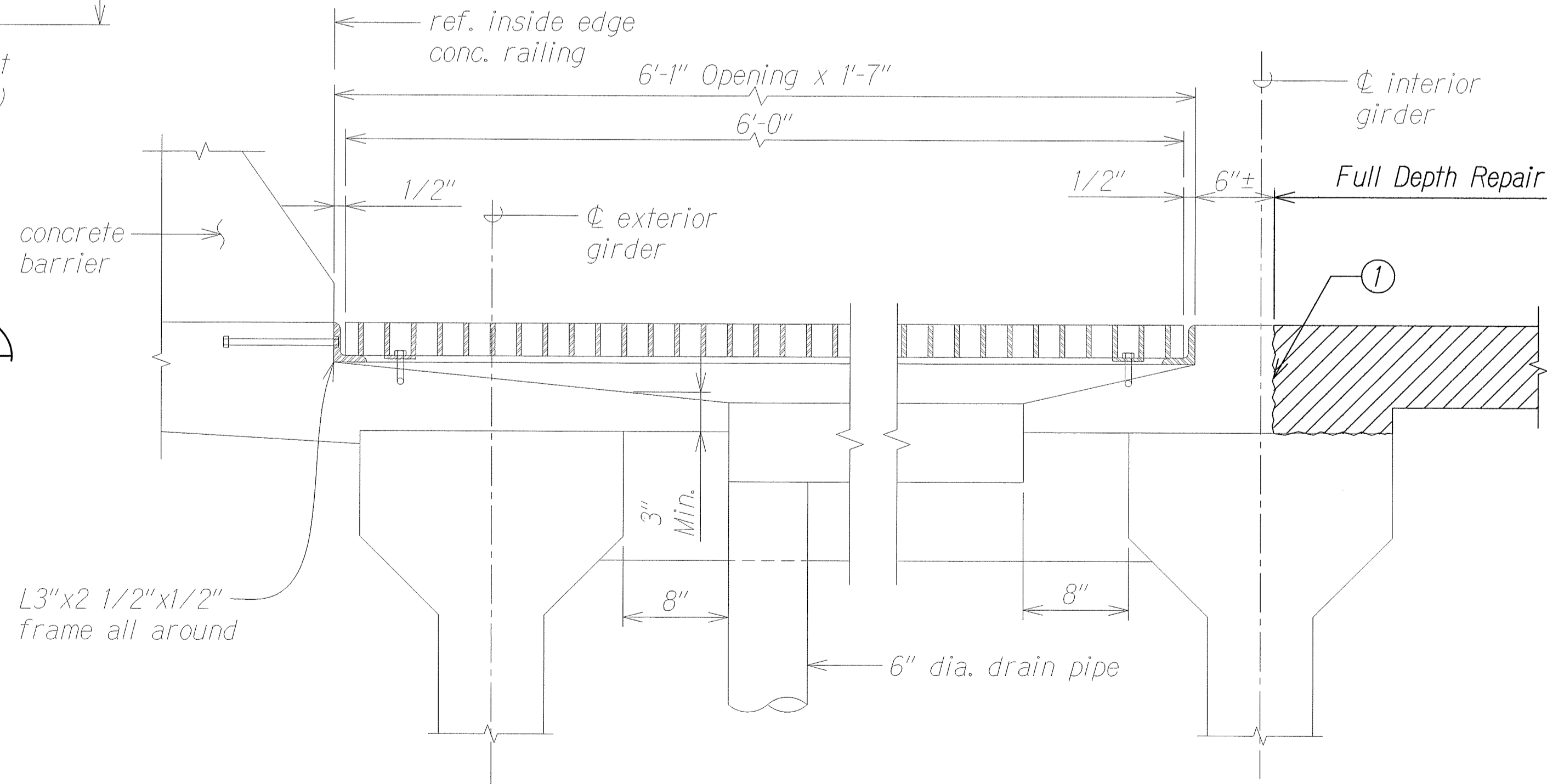
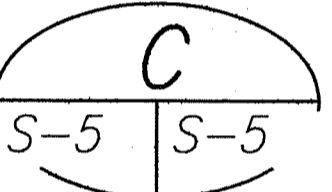
TYPICAL AASHTO IV GIRDER SECTION  
Scale: 1-1/2" = 1'-0"



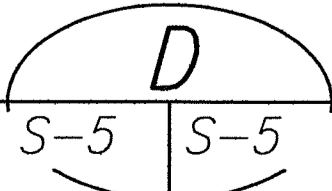
SECTION AT EXPANSION JOINTS WITH ARMOR ANGLE  
Scale: 1-1/2" = 1'-0"



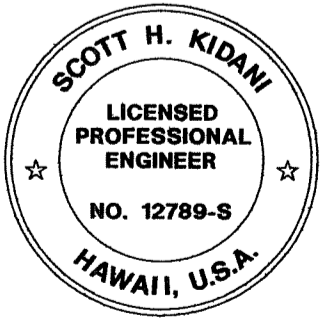
SECTION AT EXPANSION JOINTS WITHOUT ARMOR ANGLE  
Scale: 1-1/2" = 1'-0"



SECTION AT EXISTING\* DRAIN INLETS  
Scale: 1-1/2" = 1'-0"



Notes:  
Existing grates and frames to remain.  
\* As shown in original contract construction drawings, see Structural Note 1.c. on sheet no. S-0.  
Existing Reinforce to Remain.  
Do Not Damage Reinf.

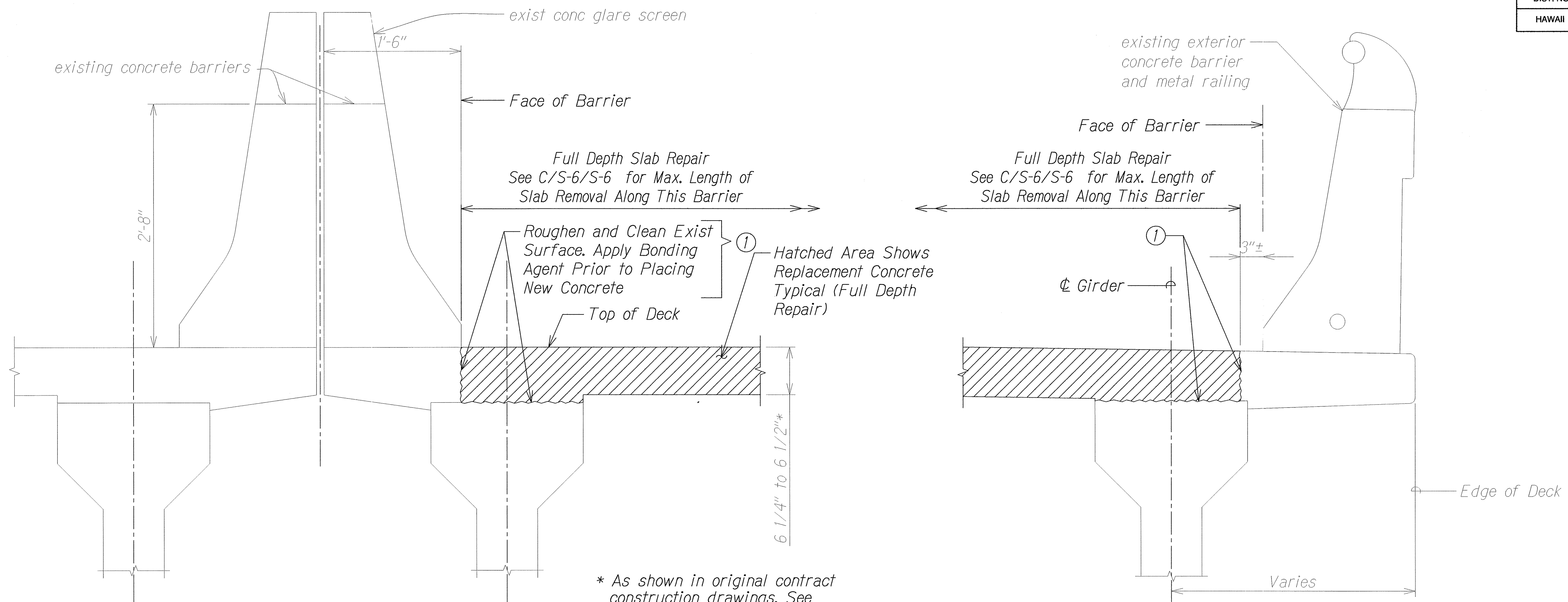


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STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
  
DETAILS  
  
INTERSTATE ROUTE H-1  
FEDERAL AID PROJECT NO. BR-HI-1 (263)  
Scale: As Noted Date: July 2012  
SHEET No. S-5 OF 18 SHEETS

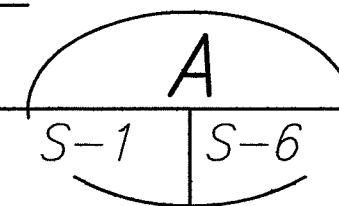
43

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BR-HI-1 (263)	2012	44	55



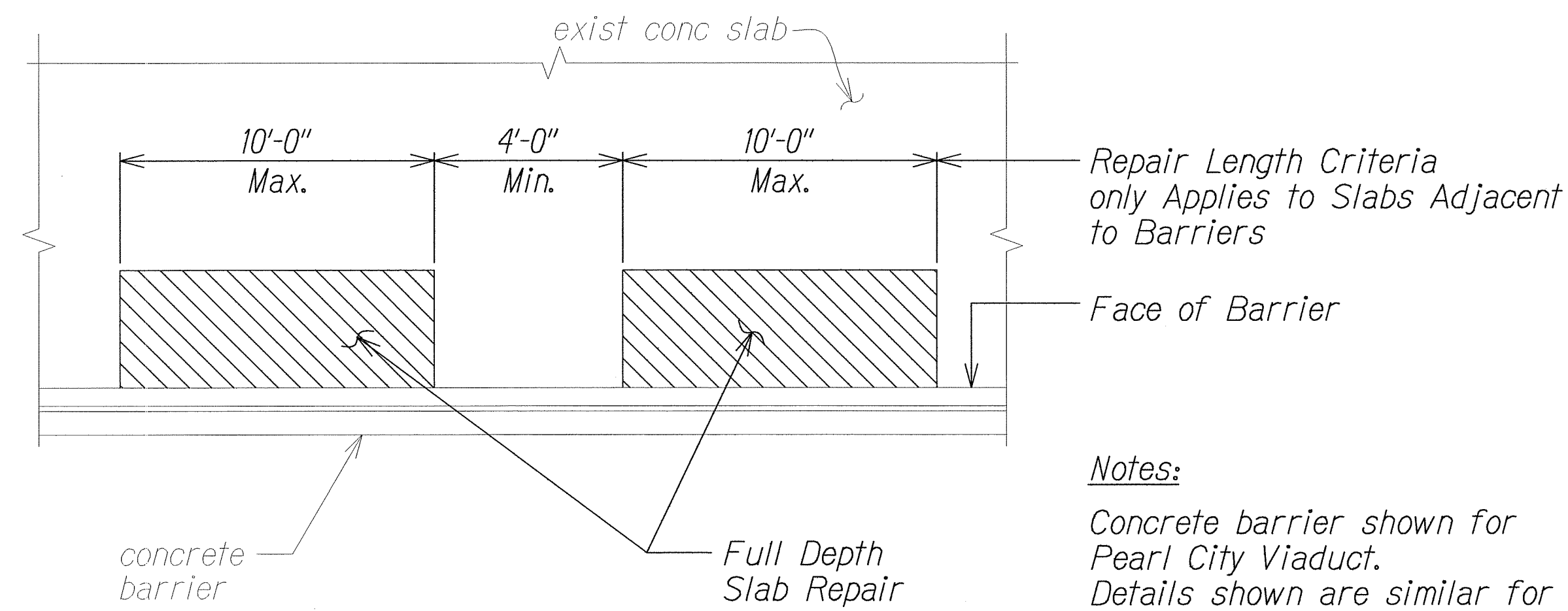
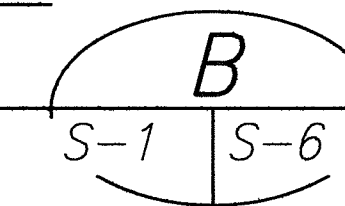
**TYPICAL SECTION**  
**CONCRETE BARRIER CURB**

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



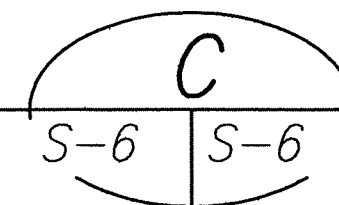
**TYPICAL SECTION**  
**EXTERIOR BARRIER**

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



**PLAN**

Scale: Not to Scale



**Notes:**

Concrete barrier shown for Pearl City Viaduct. Details shown are similar for Waimalu Viaduct.

Exist Reinf. to Remain. do Not Damage Reinf. See S-3 & S-4 for Repair Details.



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STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

TYPICAL DETAILS  
  
INTERSTATE ROUTE H-1  
FEDERAL AID PROJECT NO. BR-HI-1 (263)

Scale: As Noted  
Date: July 2012  
SHEET No. S-6 OF 18 SHEETS

QC/QA REVIEW 100% DATE AUGUST 8, 2012

BY: *[Signature]*  
BY: *[Signature]*  
BY: *[Signature]*  
BY: *[Signature]*

DATE: \_\_\_\_\_

SURVEY PLOTTED BY: \_\_\_\_\_

DRAWN BY: \_\_\_\_\_

DESIGNED BY: \_\_\_\_\_

CHECKED BY: \_\_\_\_\_

ORIGINAL PLAN NOTE BOOK No. \_\_\_\_\_