

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-BW-0300(6)	2019	118	171



THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION.

 4-30-20
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

INDEX TO BRIDGE DRAWINGS

LEEWARD BIKEWAY
Philippine Sea Rd. to Waipahu Depot Street
Fed. Aid Proj. No. STP-BW-0300(8)

Scale: None Date: Sept. 1, 2019

SHEET No. *S0.1* OF 3 SHEETS

ORIGINAL PLAN	SURVEY PLOTTED BY _____ DATE _____
	DRAWN BY _____ TRACED BY _____ DESIGNED BY _____ QUANTITIES BY _____ CHECKED BY _____
No. _____	

DRAWING NAME: Z:\00 ONGOING\60032-LEEWARD BWY WAIPAHI HRS-WAIPIO-RMTC\01 CAD\10-02-19 BID VELLUMS\LBW-S001.DWG PLOT TIME: 10-02-19, 5:17 PM)

BRIDGE GENERAL NOTES

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-BW-0300(8)	2019	119	171

1. General Specifications: Hawaii Standard Specifications for Road and Bridge Construction, 2005, together with Special Provisions prepared for this contract.

2. Design Specifications:

- (A) AASHTO 2014 LRFD Bridge Design Specifications (Seventh Edition) and its subsequent interim specifications with interim supplements and modifications by the Highways Division, Department of Transportation, State of Hawaii.
- (B) HDOT Document dated August 8, 2014 with subject title "Design Criteria for Bridges and Structures".
- (C) Temporary shoring and falsework shall follow the current AASHTO Guide Design Specifications for Bridge Temporary Works.
- (D) The current version of the AASHTO LRFD Guide Specifications for Design of Pedestrian Bridges.

3. Loads:

- (A) Live Load: 85 PSF
Maintenance Truck = Front Axle 12,000 lbs
Rear Axle 23,000 lbs
Distance Between Front and Rear Axle = 17'-0"
Distance Between Outer Rear Wheels of the Same Axle = 7'-2"
- (B) Seismic Loads: Acceleration coefficient - 0.19

4. Materials:

(A) All concrete strengths shall be as noted below:

Item No.	Structural Parts	Classes of Concrete	Compressive Strength f'c (28 Days)
(1)	Prestressed Girders	-	7500 PSI
(2)	Slab, Diaphragms, and End Beams	-	5000 PSI
(3)	Abutments	-	5000 PSI
(4)	Except as noted otherwise, all others	-	4000 PSI

All concrete shall have a maximum W/C Ratio of 0.45.

- (B) For 16 1/2" Prestressed Octagonal Piles See Standard Plans B-12, B12A, B12B, and B-13.
- (C) All reinforcing steel shall be ASTM A 615 Grade 60 unless otherwise noted.
- (D) Reinforcing steel shall be ASTM A 706 where welded connections are required.
- (E) Prestressing steel shall be uncoated seven wire low-relaxation strand conforming to ASTM A 416, Grade 270.
- (F) Fiberglass reinforced plastic (FRP) shall conform to Special Provisions Section 720.
- (G) A migrating corrosion inhibitor amine carboxylate water-based admixture shall be added to the concrete mix for concrete material 4(A) item nos. 1, 2, 3, and 4(B) The minimum dosage shall be 1.5 pints per cubic yard of concrete. The admixture shall not affect the set time of the concrete.

4. Materials (Cont.):

- (H) A migrating corrosion inhibitor amine carboxylate water-based admixture shall be added to the dry pack mortar, grout and non-shrink grout. The minimum dosage shall be 10 grams per 0.4 to 0.5 cubic feet of dry pack mortar, grout, or non-shrink grout.

5. Reinforcement:

- (A) The covering measured from the surface of the concrete to the face of any reinforcing bars shall be as follows, except as otherwise shown:
- (1) Deck slabs
a. Top bars = 2" with a tolerance of - 0 inch and +3/8 inch
b. Bottom bars = 1 1/4" except as otherwise noted
- (2) Prestressed girders = 1" to stirrups
- (3) Wing walls = 2"
- (4) Pile cap and beams = 2" to stirrups
- (5) Concrete cast against and permanently exposed to earth = 3"
- (6) All others unless otherwise noted = 2".
- (B) Reinforcing bars shall be detailed in accordance with the latest edition of the AASHTO LRFD Bridge Design Specifications unless otherwise noted.
- (C) Minimum clear spacing between parallel bars shall be 1 1/2 times the diameter of bars (for non bundled bars). In no case shall the clear distance between the bars be less than 1 1/2 times the maximum size of the coarse aggregate or 1 1/2".
- (D) All dimensions relating to reinforcing bars are to centers of bars unless otherwise noted.
- (E) Reinforcing bars shall be securely tied at all intersections and lap splices except where the spacing of intersections is less than one foot in each direction, in which case alternate intersections shall be tied.
- (F) All rebar inserts shall develop the full ultimate tensile strength of the rebar.

6. Girder Bearings, Hinge Blocks and Creep Blocks:

- (A) Top of girder concrete seat receiving elastomeric pads shall be finished with a trowel to a smooth level surface to the elevation shown on the plans. Grind down high spots as needed to provide on even bearing surface to 1/16"± tolerance.
- (B) Elastomeric pads: To prevent displacement, the bottom of bridge elastomeric bearing pads shall be secured to the concrete seats with adhesive approved with by the Engineer. Elastomeric pads shall conform to AASHTO M251 Specifications.

7. Construction Notes:

- (A) The Contractor shall temporarily shore all existing utility lines that is to remain. Shoring calculations and details shall be approved by the utility companies and the State.
- (B) The Contractor shall verify all dimensions and site conditions and shall report any discrepancies in writing to the Engineer before commencing work or ordering materials.
- (C) The Contractor shall verify all site conditions and not rely upon these plans for existing bridge elevations and azimuths, stream channel location, roads, roadway gutters, curbs and sidewalks, etc.. Conditions may differ from those shown.

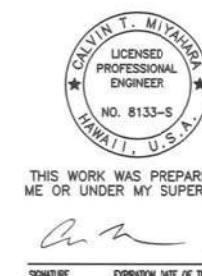
7. Construction Notes - Cont.:

- (D) The Contractor shall be solely responsible for the protection of adjacent properties, utilities and existing and new structures from damage due to construction. Repairing any damage shall be at the Contractor's own expense, to the satisfaction of the Engineer.
- (E) The Contractor shall verify the location of all utility lines and notify the respective owners before commencing with excavation, and any temporary piling or sheeting.
- (F) The Contractor shall submit working drawings and calculations for the proposed bracing/falsework details needed to protect the existing structures from increases in the existing load due to equipment, cranes, vehicles and fresh concrete, etc. The drawings and calculations shall be stamped by a licensed Structural Engineer and a licensed Civil Engineer specializing in geotechnical engineering in the State of Hawaii. The above work, including working drawings and calculations, shall be incidental to various Contract items. The drawings and calculations shall be found acceptable by the Engineer before any construction work is to proceed.
- (G) Except as otherwise noted, all vertical dimensions are measured plumb.
- (H) Construction joints may be relocated or additional ones added subject to the acceptance of the Engineer.
- (J) Unless otherwise noted, all exposed concrete edges shall be chamfered 3/4" x 3/4".
- (K) Where specified that the concrete surface is to be roughened and cleaned the concrete shall be roughened to a full amplitude of 1/4 of an inch.
- (L) The Contractor shall layout reinforcing to avoid conflicts between bars. Special attention shall be given to dowels and reinforcing extending from precast members.
8. General:
- (A) All items noted incidental will not be paid for separately.
- (B) Standard Plans refer to all structures in general, except for modifications as may be required for special conditions. For such modifications refer to the corresponding detailed drawings.

9. Foundation:

- For boring logs and other geotechnical information, see foundation report by Geolabs, Inc. dated September 20, 2018.
- (A) Vertical Pile Load Capacity
- (1) Extreme event limit state = 400 kips
- (2) Strength limit state = 177 kips

ORIGINAL PLAN	DATE
NO. 1	
NO. 2	
NO. 3	
NO. 4	
NO. 5	
NO. 6	
NO. 7	
NO. 8	
NO. 9	
NO. 10	



STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
BRIDGE GENERAL NOTES	
LEEWARD BIKEWAY	
Philippine Sea Rd. to Waipahu Depot Street Fed. Aid Proj. No. STP-BW-0300(8)	
Scale: None	Date: Sept. 1, 2019
SHEET No. 50.2 OF 3 SHEETS	

SYMBOLS AND ABBREVIATIONS

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-BW-0300(8)	2019	120	171

¢	And	Dim.	Dimension	Grd.	Ground	PL	Plate	Struct.	Structure
@	At	Dist.	Distance	GRP	Grouted Rubble Pavement	PCC	Portland Cement Concrete	SE	Super Elevation
?	Diameter	DO	Ditto			PC	Point of Curvature	Symm.	Symmetrical
≥	Greater Than or Equal to	Dwls.	Dowels	Ht.	Height	PCF	Pounds per Cubic Foot		
≤	Less Than or Equal to	Dn.	Down	(H)	Hinge	P(e)	Effective Prestress Force		
#	Number	DbI.	Double	Horiz., H	Horizontal		After All Losses	Tan.	Tangent
		DI	Drain Inlet, Ductile Iron	HDOT	State of Hawaii Department of Transportation	PPM	Parts Per Million	TC	Continuity Tendons
Abut.	Abutment	Dwg., Dwgs.	Drawing, Drawings			PSF	Pounds per Square Foot	Temp.	Temporary
Abbr.	Abbreviation	DS	Drilled Shaft	HDPE	High Density Polyethylene	PSI, psi	Pounds per Square Inch	TD	Deck Tendon
Add.	Additional			HS	High strength	PLF	Pounds per Linear Foot	Thk.	Thick
Alt.	Alternate	E	East	HECO	Hawaiian Electric Company	PI	Point of Intersection	T	Top
AB	Anchor Bolt	e	Existing				of Tangents	T&B	Top and Bottom
AC	Asphaltic Concrete	EA, Ea., ea.	Each	IB	Inbound	PIVC	Point of Intersection of Vertical Curve	TCE	Top of Column (and Bent Cap Soffit) Elevation
Approx.	Approximate	EF	Each Face	In.	Inch				
Az.	Azimuth	EFH	Each Face Horizontal	ID	Inside Diameter	PT	Point of Tangency	TOD	Top of Deck
		EFV	Each Face Vertical	IF	Inside Face	Pt., Pts.	Point, Points	TOP	Top of Pier
Bk.	Back	EW	Each Way	Int.	Interior	PRC	Point of Reverse Curvature	TFE	Top of Footing Elevation
Bal.	Balance	EPE	Existing Edge of Pavement	Inv.	Invert	PVC	Polyvinyl Chloride	Tot.	Total
B	Baseline	EPS	Expanded Polystyrene			Prest.	Prestressed	Transv.	Transverse
Bm.	Beam	ES	Edge of Shoulder	Jt.	Joint	P/S	Prestressed Strands	TS	Structural Tubing
Brg., Brgs.	Bearing, Bearings	Elec.	Electrical			PB	Pull Box	TSS	Tendon For Girder in Simply Supported Condition
BVC	Beginning of Vertical Curve	EMH	Electrical Manhole	K	Kips			Typ.	Typical
Bet.	Between	El., Elev.	Elevation	KF	Kip Foot	Rad., R	Radius		
BF	Both Faces	Emb.	Embankment	KSF	Kips Per Square Foot	RF	Rear Face		
BW	Both Ways	EVC	End of Vertical Curve	KSI	Kips Per Square Inch	Rebar	Reinforcing Bar	Undergrd.	Underground
BFE	Bottom of Footing Elevation	Eq.	Equal	KLF	Kips Per Linear Foot	Ref.	Reference		
Bot., Bott., B	Bottom	Est.	Estimated			Reinf.	Reinforced, Reinforcing, Reinforcement	Var.	Varies
BOF	Bottom of Footing	Exc.	Excavation	L	Length			Vert., V	Vertical
Br.	Bridge	Excl.	Excluding	lb., lbs., LBS.	Pound, Pounds	Req'd.	Required	VC	Vertical Curve
Blt.	Bolt	Exist., Ex.	Existing	Ltg. Std.	Lighting Standard	Ret.	Retaining		
		Exp., (E)	Expansion	LF, Lin. Ft.	Linear Feet/Foot	ROW	Right of Way	W/C	Water/Cement
Cant.	Cantilever	EJ	Expansion Joint	LS	Lump Sum	Rdwy.	Roadway	w/	With
CIP	Cast Iron Pipe	Ext.	Exterior	Longit.	Longitudinal			W	West
℄	Center line					Sect.	Section	WWF	Welded Wire Fabric
CG	Center of Gravity	(F)	Fixed	M	Modified	SRW	Segmental Retaining Wall	WW	Wingwall
cc	Center to Center	FA	Force account	MH	Manhole	Sht.	Sheet	WP	Work Point, Working Point
Cl.	Class	FB	Flat Bar	Max.	Maximum	Sim.	Similar	WS	Water Surface
Clr.	Clearance	FC	Compression Stresses	Mech.	Mechanical	Sl.	Slope		
CO	Clean Out	f'c	Specified Compressive Strength of Concrete at 28 days	Min.	Minimum	S	South	Yr.	Year
Col.	Column			Misc.	Miscellaneous	Sp., Spg.	Spaces, Spacing		
Conc.	Concrete	f'ci	Specified Compressive Strength of Concrete at Time of Initial	MPH	Miles Per Hour	Sprd.	Spread		
CBW	Concrete Barrier Wall					Spec.	Specification		
CMU	Concrete Masonry Unit	FF	Prestress Far Face, Front Face	NF	Near Face	SF	Square Feet		
Conn.	Connection	Fig.	Figure	N	North	SY	Square Yard		
Const.	Construction	Fin. Gr.	Finish Grade	NIC	Not in Contract	SS	Stainless Steel		
CJ	Construction Joint	FRP	Fiberglass Reinforced Plastic	No.	Number	Std.	Standard		
Cntl. Jt.	Control Joint	FT	Tensile Stresses	NTS	Not to Scale	Sta.	Station		
CLSM	Controlled Low Strength Material	Ftg.	Footing			Stiff.	Stiffener		
		Ft.	Feet, Foot	O/S	Offset	Stirr.	Stirrup		
Cont.	Continuous			oc	On Center	Stl.	Steel		
CSL	Cross Hole Sonic Loggin	Ga.	Gage, Gauge	Opn'g	Opening	Str.	Straight		
CF	Cubic Feet	Galv.	Galvanized	OB	Outbound				
CY, Cu. Yd.	Cubic Yard	G, Gir.	Girder	OD	Outside Diameter				
		GDI	Grated Drain Inlet	OG	Outside Girder, Outbound Girder				
Det.	Detail	GFRP	Glass Fiber Reinforced						
Dia.	Diameter		Polymer Rebar	Perf.	Perforated				
Diaph.	Diaphragm	Gr.	Grade						

ORIGINAL PLAN	DATE
DRAWN BY	
DESIGNED BY	
CHECKED BY	
NO.	

DRAWING NAME: Z:\00 ONGOING\60032-LEEWARD BRY WAPAHU HRS-WAPO-IMP\01 CAD\10-02-19 BID VELLUMS\LEW-5003.DWG PLOT TIME: 10-02-19, 5:19 PM



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE: [Signature] EXPIRATION DATE OF THE LICENSE: 4-30-20

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

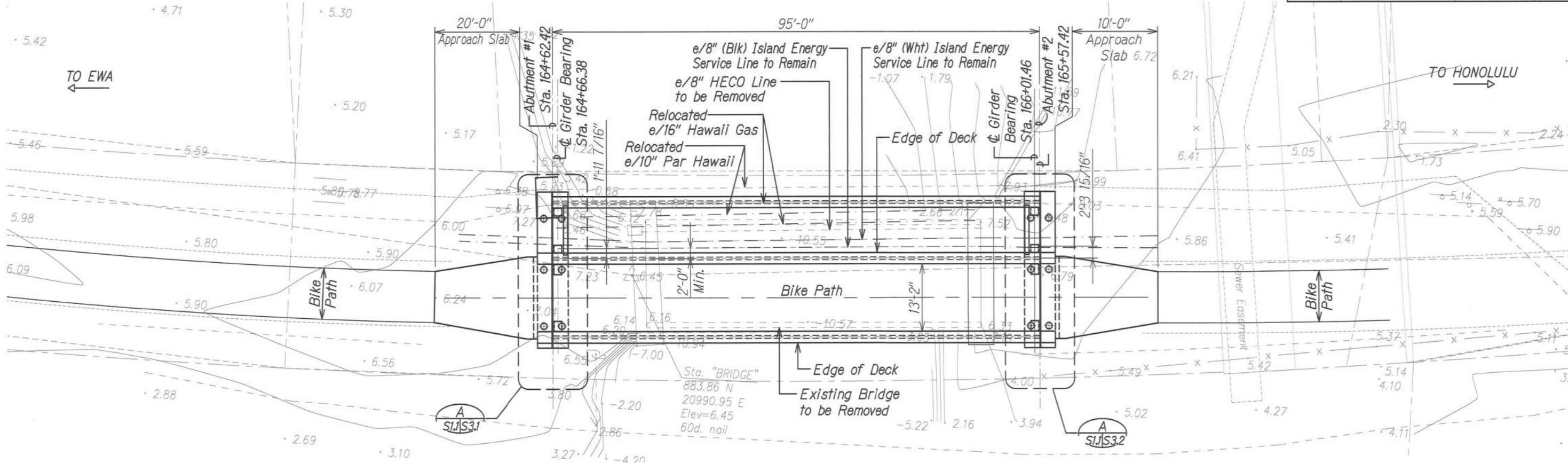
SYMBOLS AND ABBREVIATIONS

LEEWARD BIKEWAY
Philippine Sea Rd. to Waipahu Depot Street
Fed. Aid Proj. No. STP-BW-0300(8)

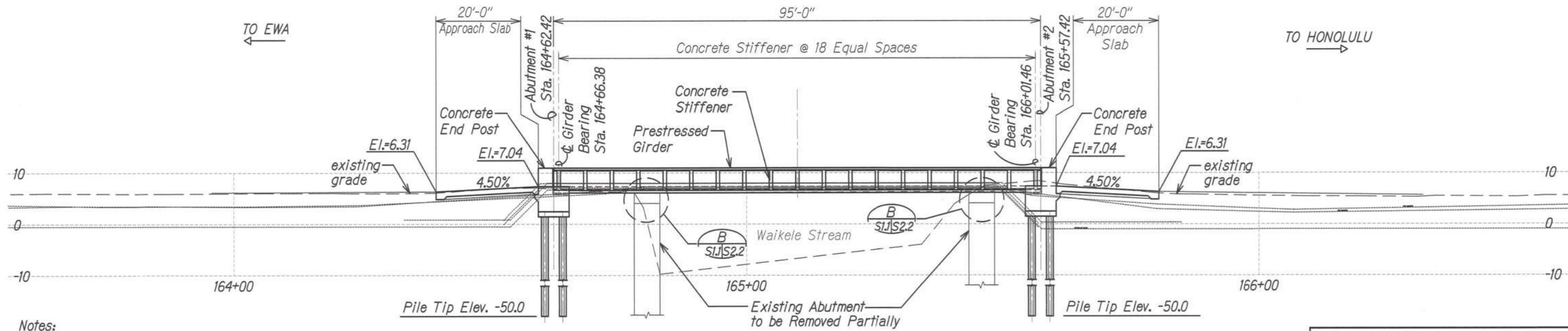
Scale: As Noted Date: Sept. 1, 2019

SHEET No. 50.3 OF 3 SHEETS

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-BW-0300(8)	2019	121	171



LAYOUT PLAN
Scale: 1" = 10'-0"



SECTION ALONG CENTERLINE BIKE PATH
Scale: 1" = 10'-0"

Notes:

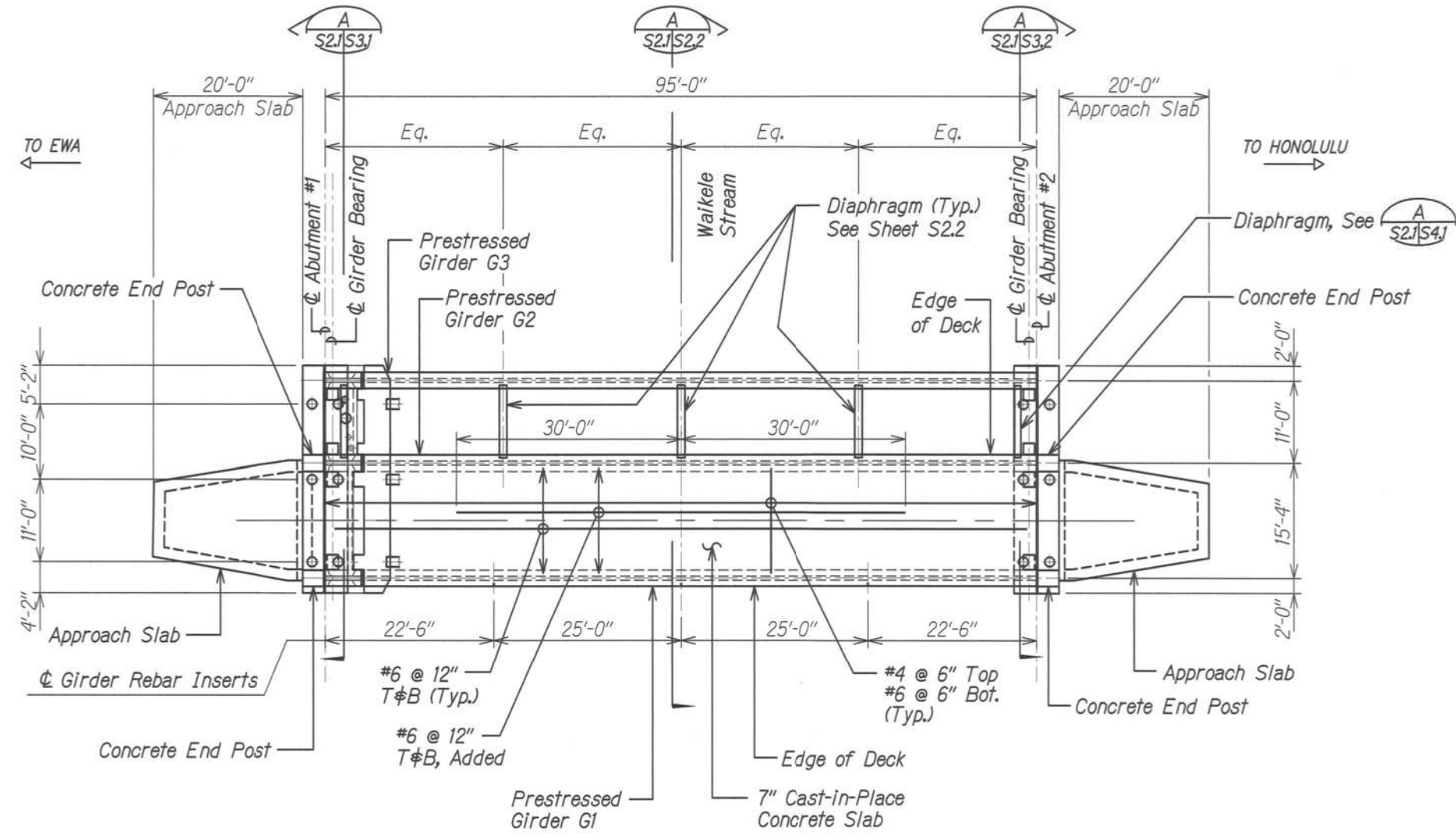
1. The contractor shall locate underground utility lines both vertically and horizontally before driving piles. See civil plans for approximate location. This work shall be considered incidental to the various contract items.
2. Notify the Engineer if there is a conflict between the piles and the utility lines.
3. The contractor shall pre-drill a minimum of 20-feet for each pile.



THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION.
SIGNATURE: *[Signature]*
EXPIRATION DATE OF THE LICENSE: 4-30-20

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
WAIKALE STREAM BRIDGE
LAYOUT PLAN AND SECTION
LEEWARD BIKEWAY
Philippine Sea Rd. to Waipahu Depot Street
Fed. Aid Proj. No. STP-BW-0300(8)
Scale: As Noted Date: Sept. 1, 2019
SHEET No. *SIJ* OF 1 SHEETS

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-BW-0300(8)	2019	122	171



DECK FRAMING PLAN
Scale: 1" = 10'-0"

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

DRAWING NAME: Z:\GO ONCONC\60032-LEEWARD BIKWAY\HRS-WAIPAHU\HRS-WAIPAHU-01.CAD, 10-02-19, 5:20 PM PLOT TIME: 10-02-19, 5:20 PM



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE: *[Signature]* 4-30-20
EXPIRATION DATE OF THE LICENSE

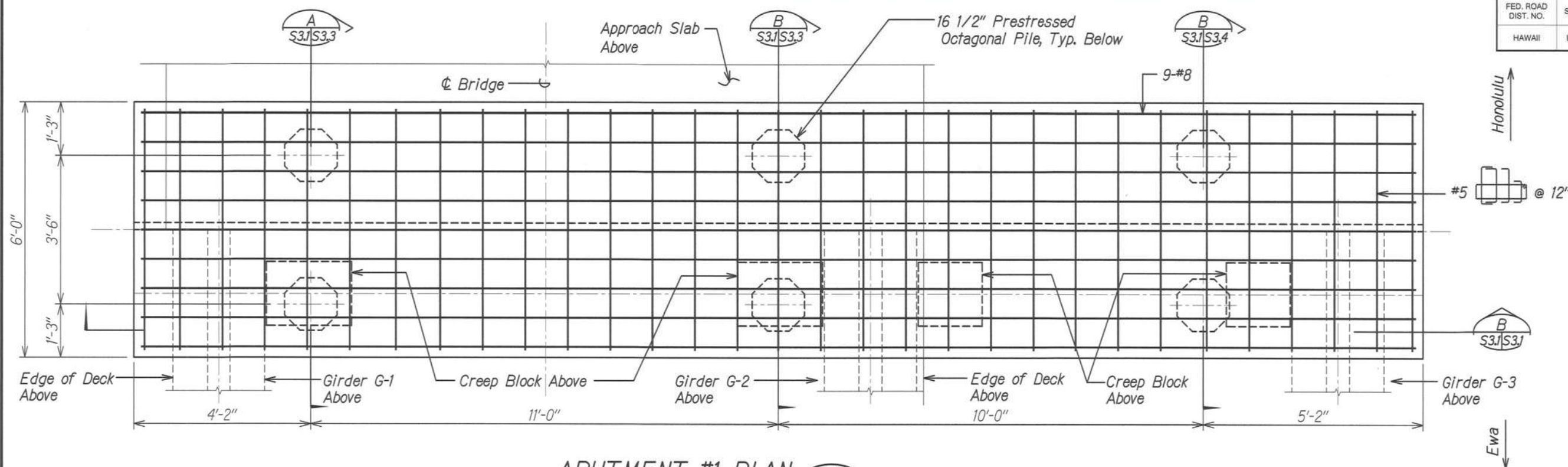
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

WAIKELE STREAM BRIDGE
DECK FRAMING PLAN

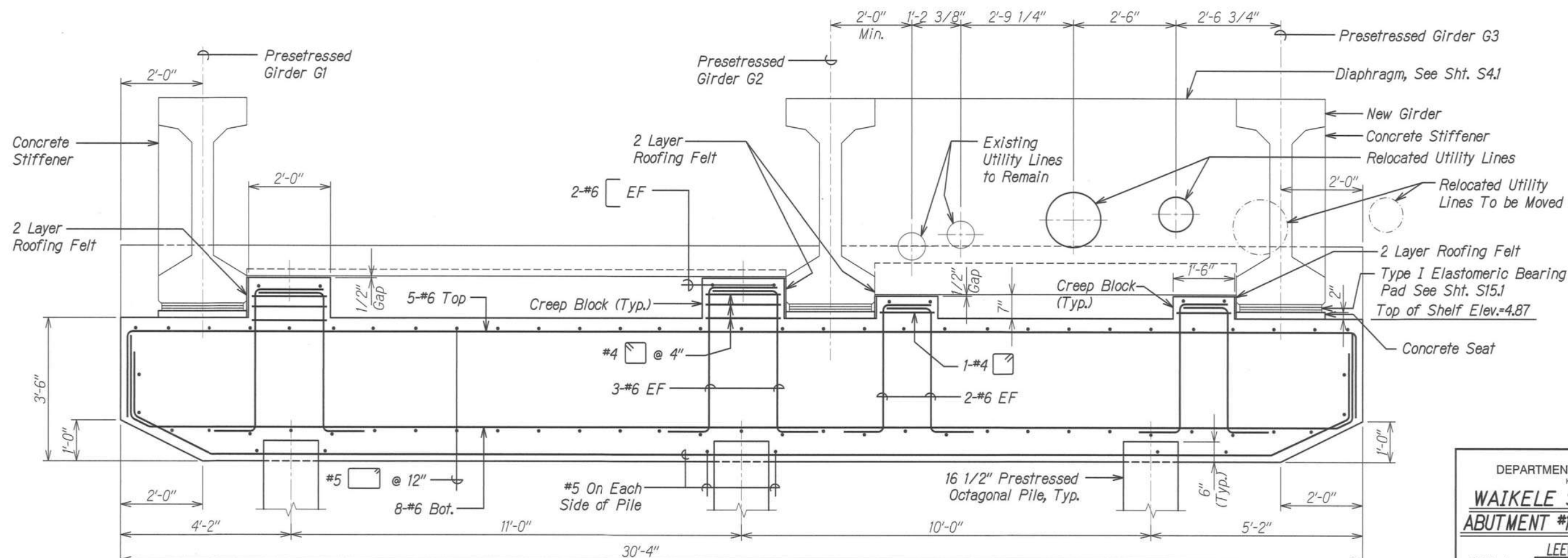
LEEWARD BIKEWAY
Philippine Sea Rd. to Waipahu Depot Street
Fed. Aid Proj. No. STP-BW-0300(8)

Scale: As Noted Date: Sept. 1, 2019
SHEET No. S2.1 OF 2 SHEETS

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-BW-0300(8)	2019	124	171



ABUTMENT #1 PLAN
Scale: 3/4" = 1'-0"
A
S3/S3.1



SECTION
Scale: 3/4" = 1'-0"
B
S3/S3.1



THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION.

SIGNATURE: *Calvin T. Miyahara*
EXPIRATION DATE OF THE LICENSE: 4-30-20

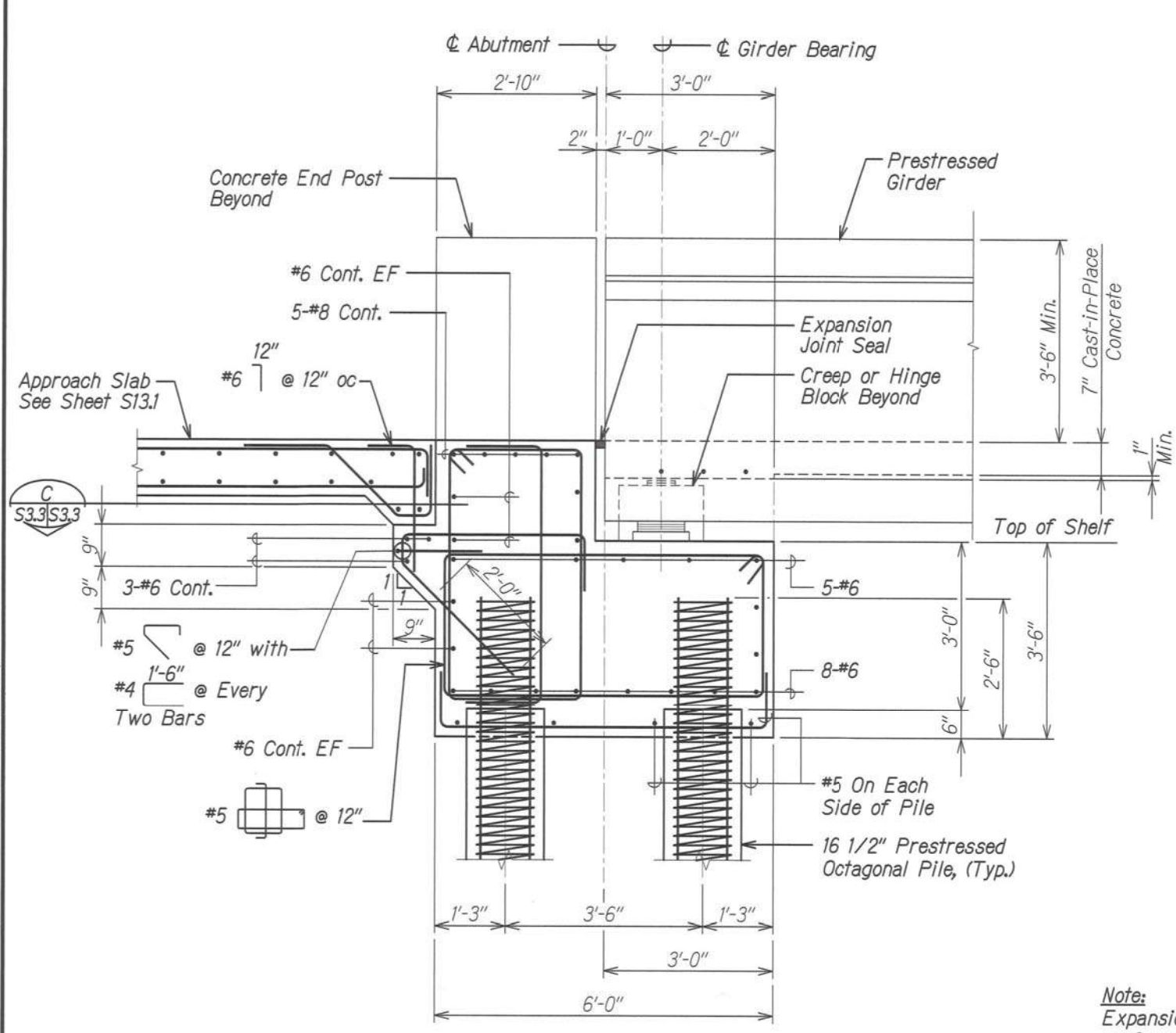
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

WAIKELE STREAM BRIDGE
ABUTMENT #1 PLAN AND SECTION

LEEWARD BIKEWAY
Philippine Sea Rd. to Waipahu Depot Street
Fed. Aid Proj. No. STP-BW-0300(8)

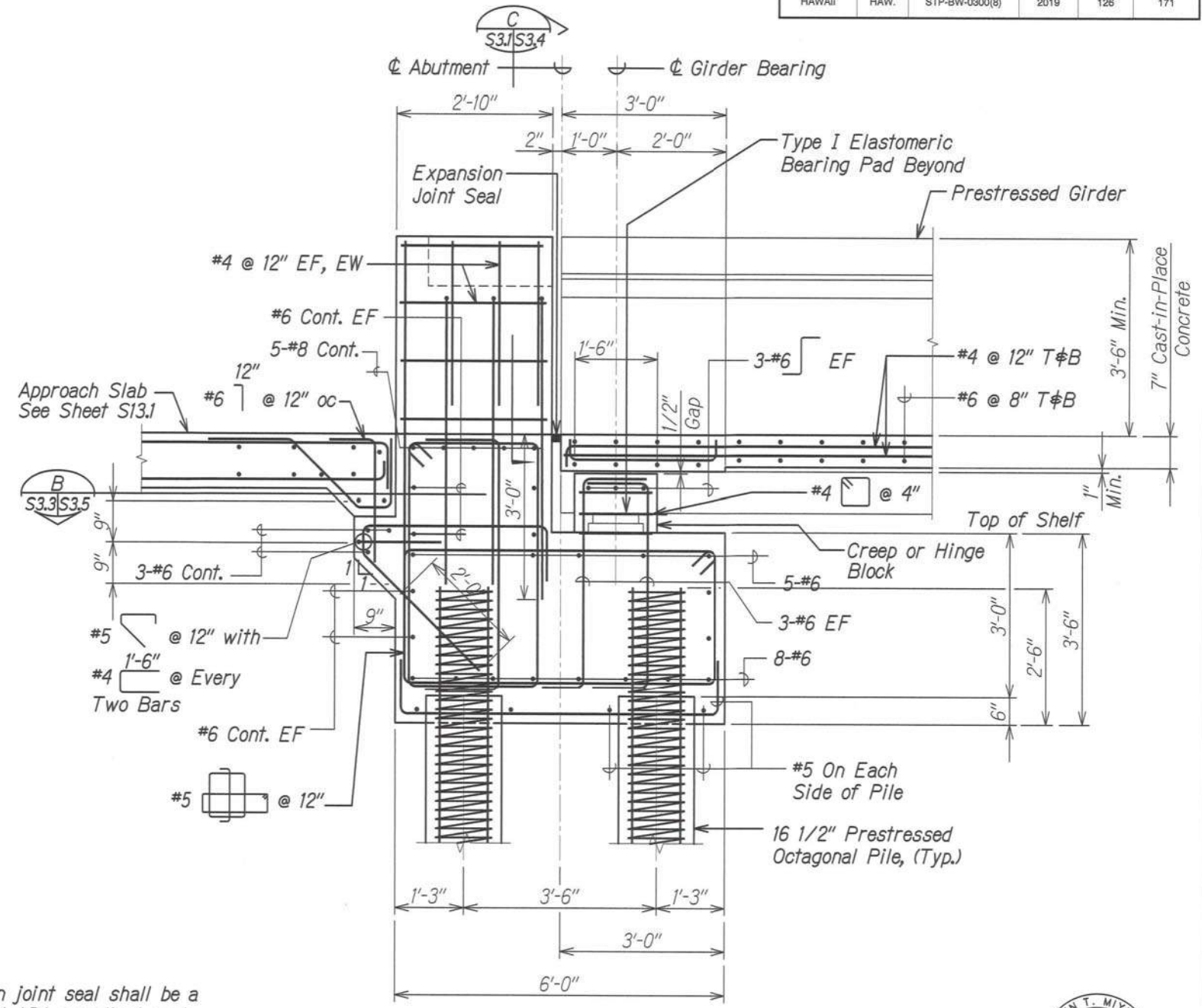
Scale: As Noted Date: Sept. 1, 2019
SHEET No. S3.1 OF 5 SHEETS

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-BW-0300(8)	2019	126	171



ABUTMENTS #1 AND #2 SECTION
 Scale: 3/4" = 1'-0"
 S3.2

Note:
 Expansion joint seal shall be a preformed ADA compliant seal and shall be submitted to the Engineer for approval.



ABUTMENT #1 SECTION
 Scale: 3/4" = 1'-0"
 S3.1 S3.3



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE: *[Signature]* EXPIRATION DATE OF THE LICENSE: 4-30-20

STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION

HIGHWAYS DIVISION

WAIKELE STREAM BRIDGE

SECTIONS

LEEWARD BIKEWAY

Philippine Sea Rd. to Waipahu Depot Street

Fed. Aid Proj. No. STP-BW-0300(8)

Scale: As Noted

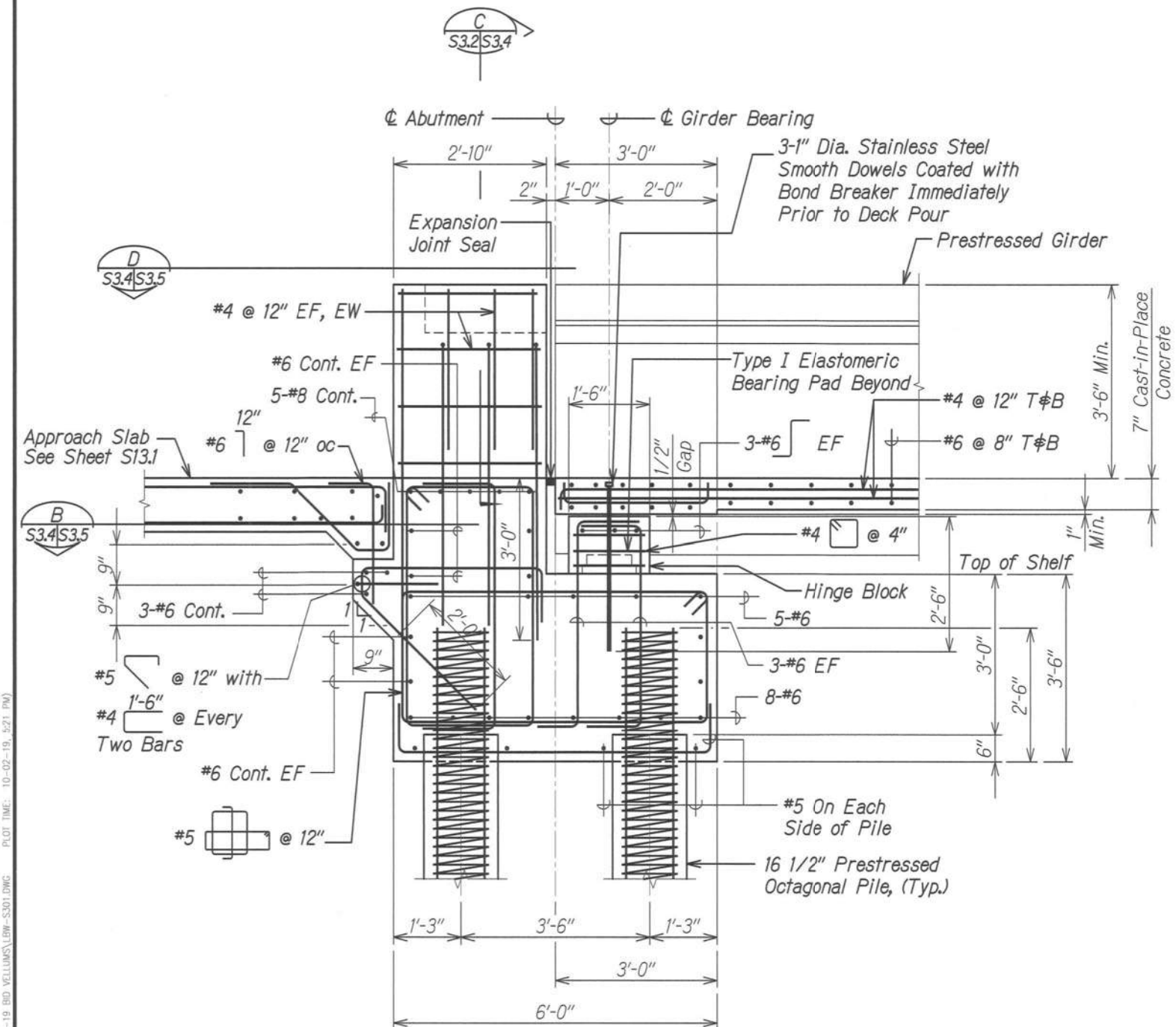
Date: Sept. 1, 2019

SHEET No. S3.3 OF 5 SHEETS

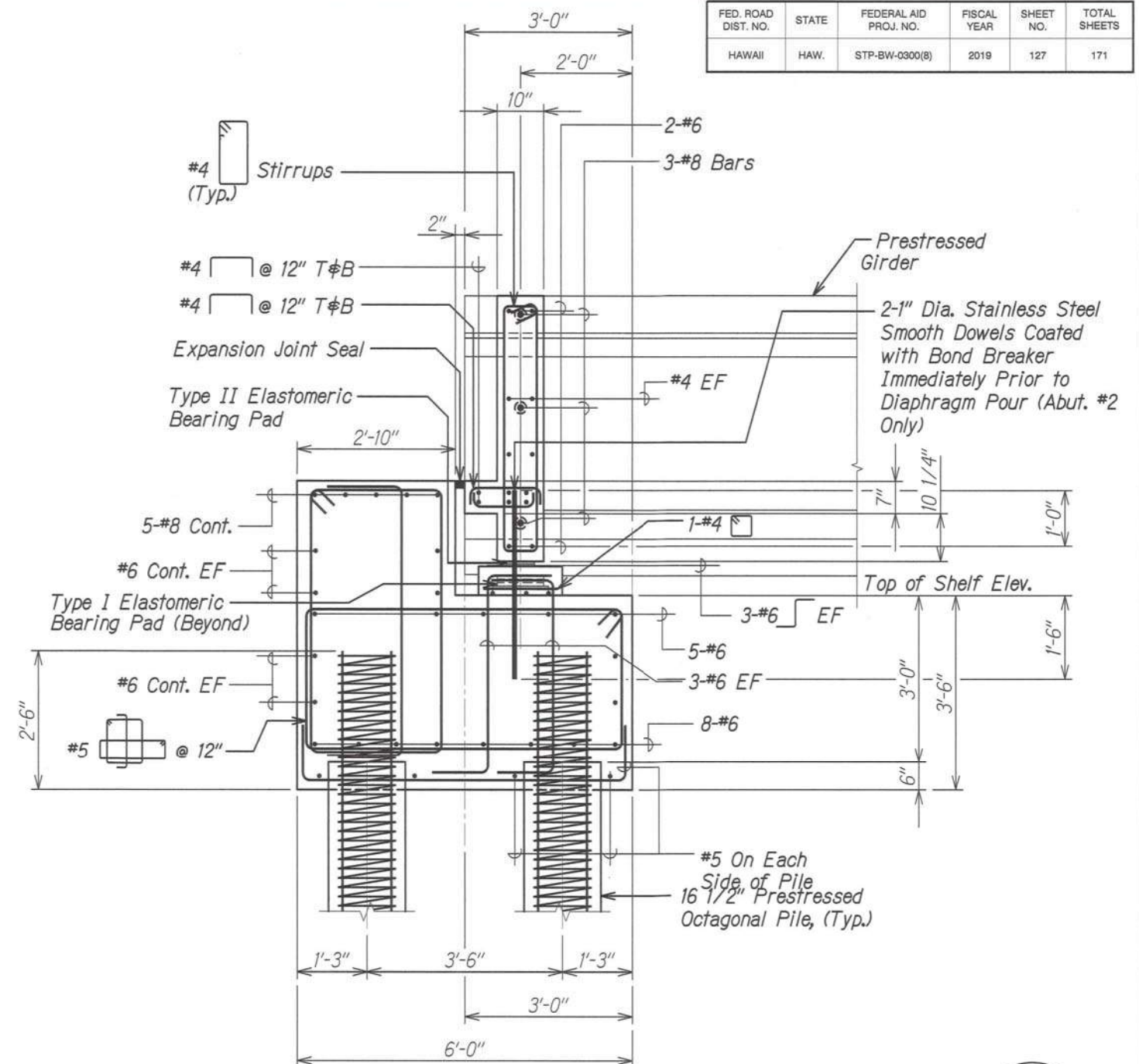
DATE	
SURVEY PLOTTED BY	
DRAWN BY	
CHECKED BY	
NOTED BY	
QUANTITIES BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
No.	

DRAWING NAME: 2A.00 ONCONC03.0032-LEEWARD BRY WAIKALEU HRS-WAIPU-RMTCV01 CAD:10-02-19 BID VELLUMS\LEW-S3.01.DWG PLOT TIME: 10-02-19, 5:20 PM

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-BW-0300(8)	2019	127	171



ABUTMENT #2 SECTION A
Scale: 3/4" = 1'-0"



ABUTMENT #1 AND #2 SECTION B
Scale: 3/4" = 1'-0"



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE: *[Signature]* EXPIRATION DATE OF THE LICENSE: 4-30-20

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

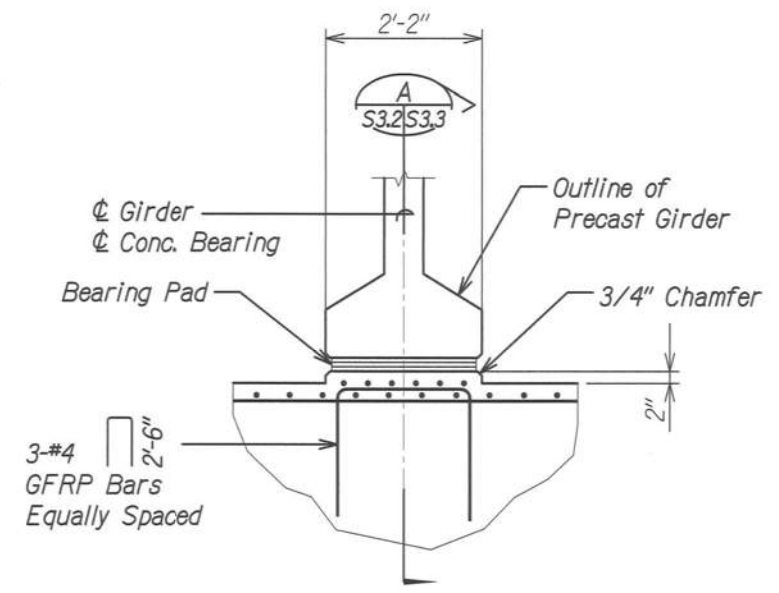
WAIKELE STREAM BRIDGE
SECTIONS
LEEWARD BIKEWAY
Philippine Sea Rd. to Waipahu Depot Street
Fed. Aid Proj. No. STP-BW-0300(8)

Scale: As Noted Date: Sept. 1, 2019
SHEET No. S3.4 OF 5 SHEETS

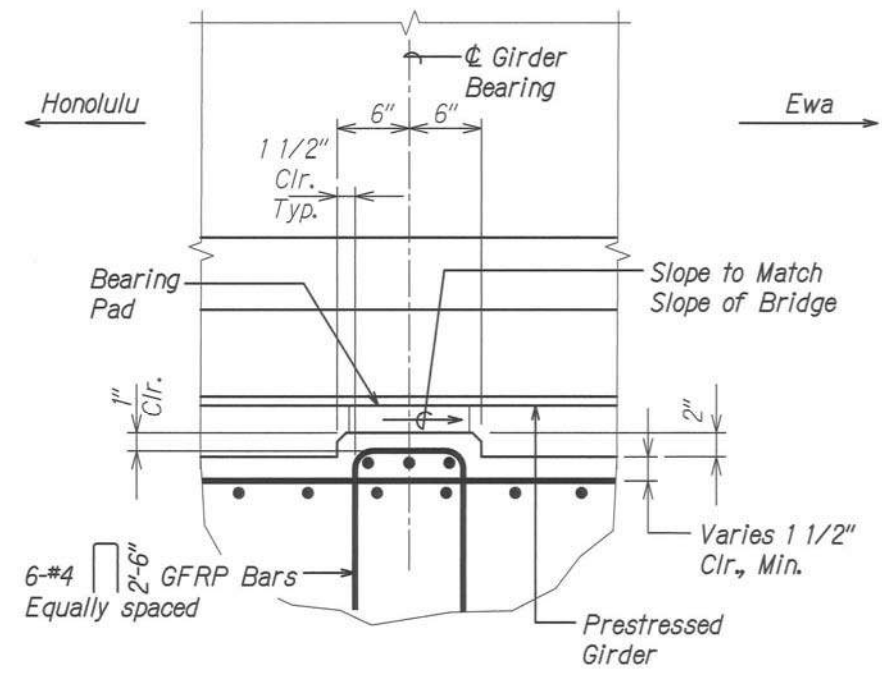
ORIGINAL PLAN	DATE
NO.	
DRAWN BY	
CHECKED BY	
NOTED BY	
QUANTITIES BY	
CHECKED BY	

DRAWING NAME: Z:\00 ONZONG\60032-LEEWARD BRY WAIKALE HRS-WAIPU-BW-0300(8) CAD\10-02-19 BID VELLUMS\LEW-S301.DWG PLOT TIME: 10-02-19 3:21 PM

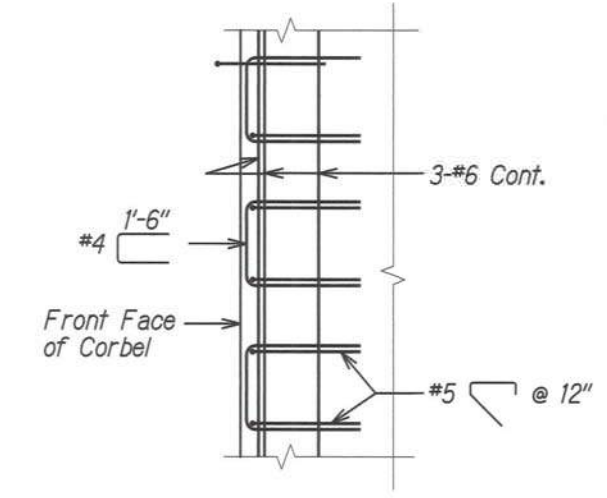
FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-BW-0300(8)	2019	128	171



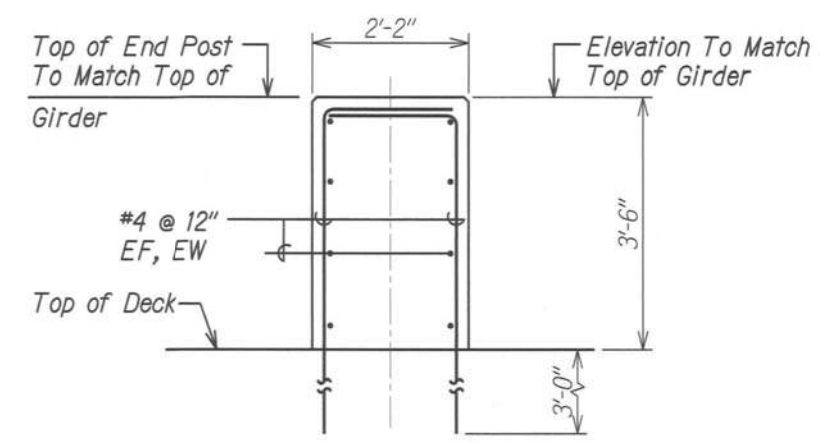
CONCRETE BEARING DETAIL 1
 Scale: 3/4" = 1'-0" S3.5 S3.5



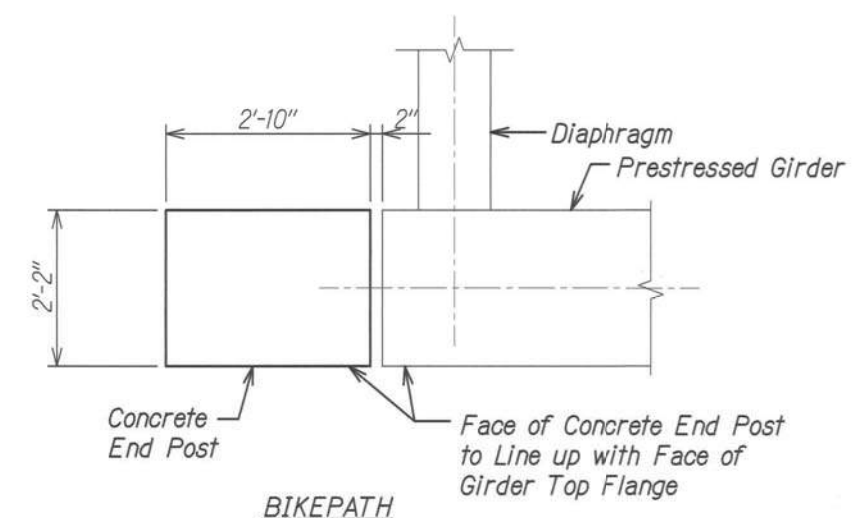
SECTION - CONC. BEARING AT ABUTMENTS A
 Scale: 1 1/2" = 1'-0" S3.5 S3.5



SECTION B
 Scale: 3/4" = 1'-0" S3.3 S3.5
 S3.4, S8.3



END POST SECTION C
 Scale: 3/4" = 1'-0" S3.1 S3.5
 S3.2



END POST PLAN D
 Scale: 3/4" = 1'-0" S3.4 S3.5
 S8.3



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

Calvin T. Miyahara
 SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION

HIGHWAYS DIVISION

WAIKELE STREAM BRIDGE

ABUTMENT DETAILS

LEEWARD BIKEWAY

Philippine Sea Rd. to Waipahu Depot Street

Fed. Aid Proj. No. STP-BW-0300(8)

Scale: As Noted

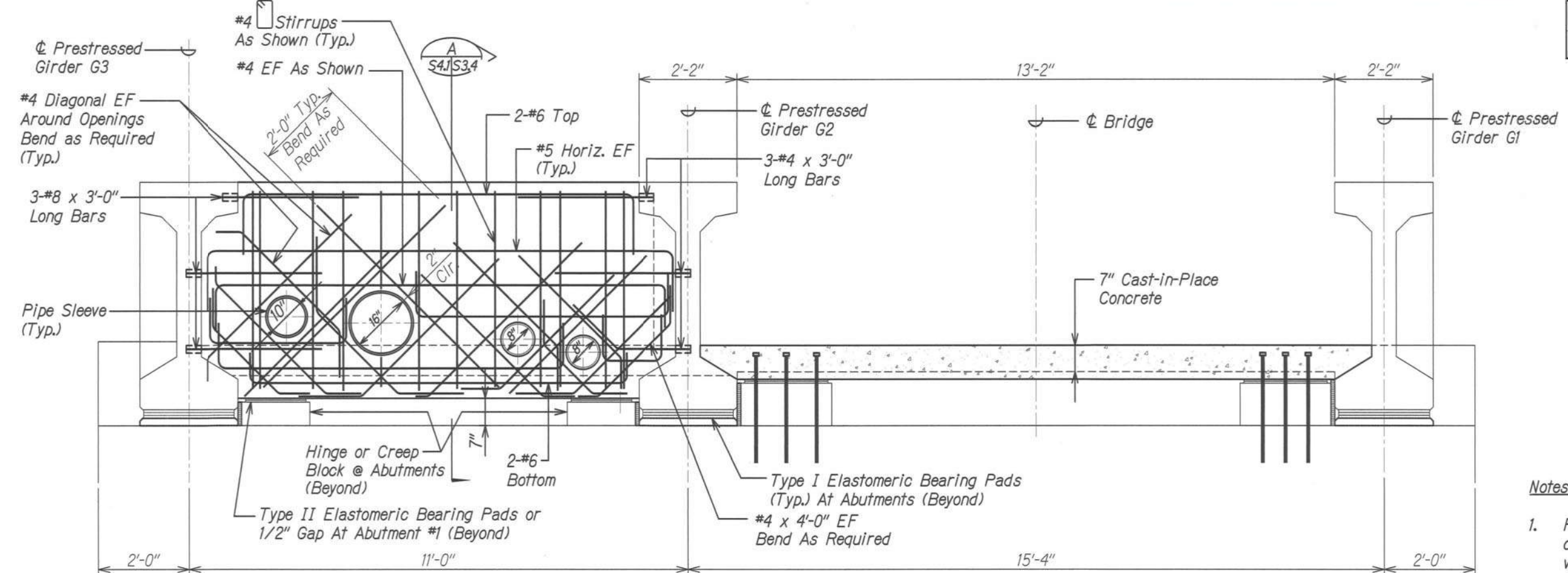
Date: Sept. 1, 2019

SHEET No. S3.5 OF 5 SHEETS

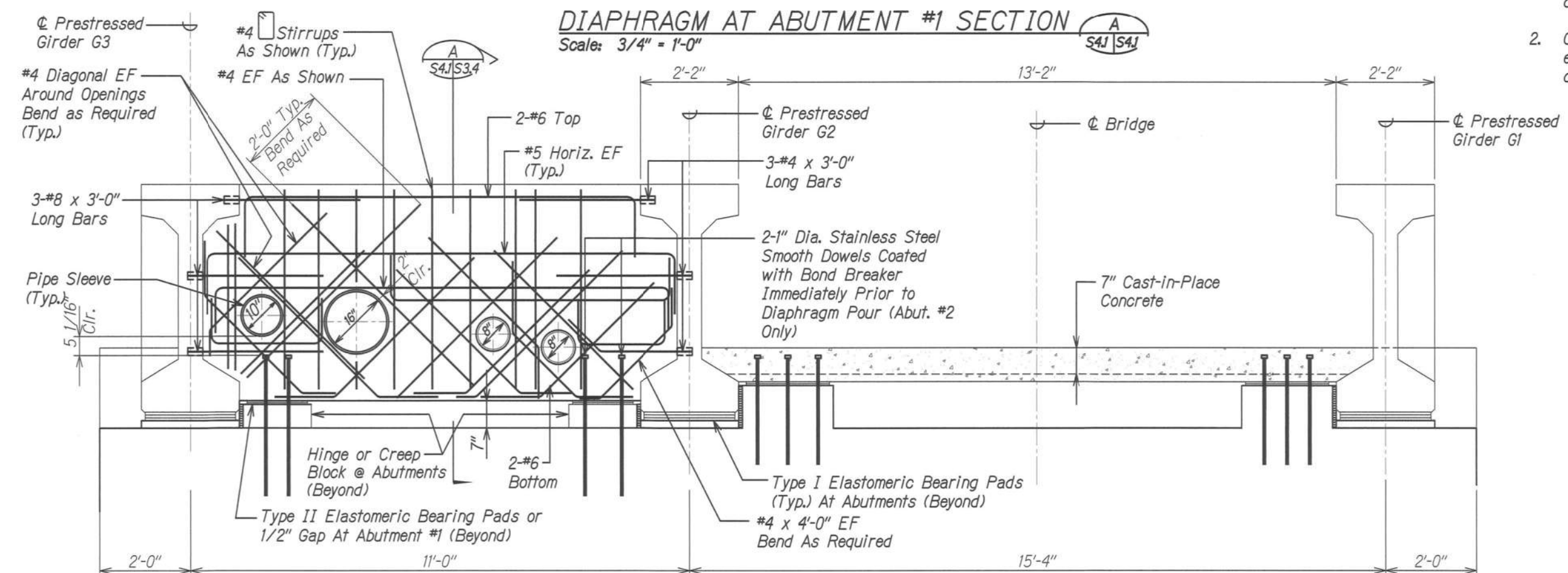
ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	
	DESIGNED BY	
	QUANTITIES BY	
	CHECKED BY	

DRAWING NAME: Z:\00 UNCONC\0022-LEEWARD BIKEWAY\HRS-WAIPU-0300(8) CAD\10-09-19 BID VELLUMS\LEW-S301.DWG PLOT TIME: 10-02-19, 6:09 PM

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-BW-0300(8)	2019	129	171



- Notes:**
1. Pipe sleeve shall be supplied by the utility companies. The contractor shall coordinate work with the utility companies including the size of the opening in the concrete diaphragm.
 2. Contractor to coordinate pipe locations and elevations with dowels and rebars to avoid conflicts.



DIAPHRAGM AT ABUTMENT #1 SECTION
Scale: 3/4" = 1'-0"

DIAPHRAGM AT ABUTMENT #2 SECTION
Scale: 3/4" = 1'-0"

CALVIN T. MIYAKAWA
LICENSED PROFESSIONAL ENGINEER
NO. 8133-S
HAWAII, U.S.A.
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
Signature: [Signature]
EXPIRATION DATE OF THE LICENSE: 4-30-20

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
WAIKELE STREAM BRIDGE
DIAPHRAGM AT ABUTMENTS SECTION
LEEWARD BIKEWAY
Philippine Sea Rd. to Waipahu Depot Street
Fed. Aid Proj. No. STP-BW-0300(8)
Scale: As Noted Date: Sept. 1, 2019
SHEET No. S4J OF 1 SHEETS

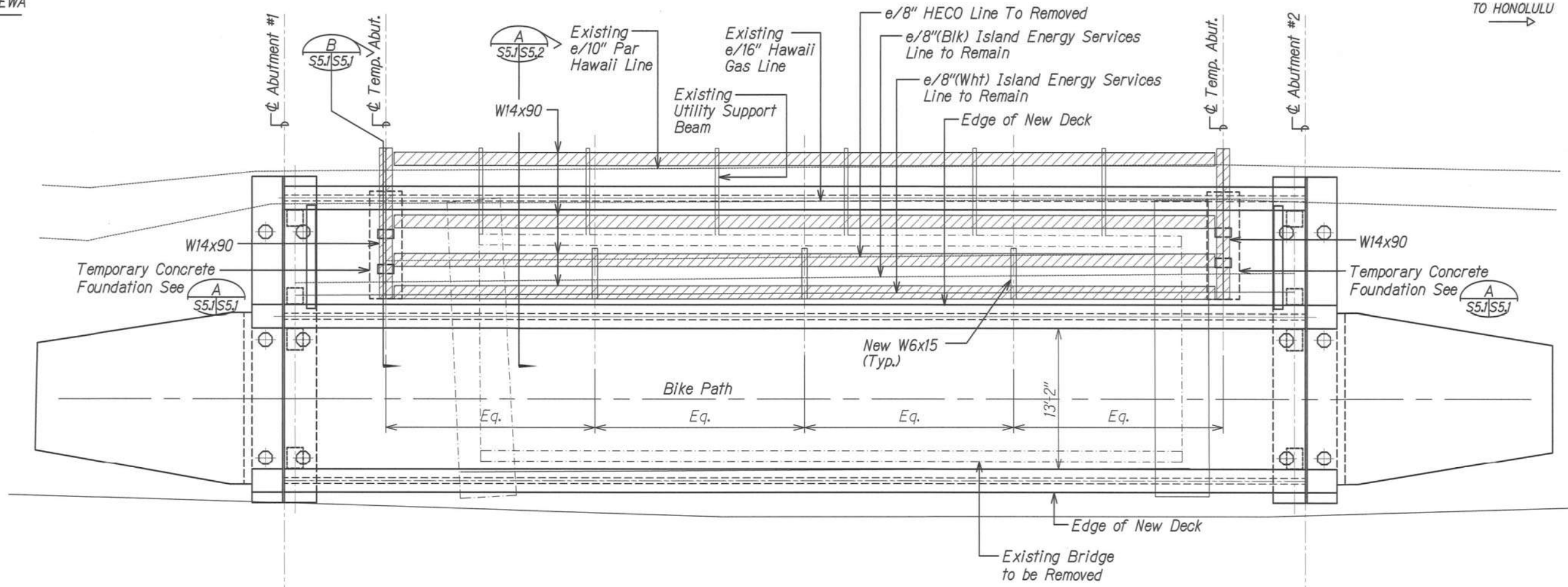
DATE	____
SURVEY PLOTTED BY	____
DRAWN BY	____
DESIGNED BY	____
CHECKED BY	____
ORIGINAL PLAN	____
NOTE BOOK	____
No.	____

DRAWING NAME: Z:\00 CONDOING\60032-LEEWARD BRY WAIKAWA HRS-WAPIO-BMTC\01 CAD\10-02-19 BID VELLUMS\LEW-S401.DWG PLOT TIME: 10-02-19, 5:21 PM

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-BW-0300(8)	2019	130	171

TO EWA
←

TO HONOLULU
→



TEMPORARY UTILITY SUPPORT FRAMING PLAN - STAGE 1
Scale: 3/16" = 1'-0"

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

DRAWING NAME: Z:\GO ONGOING\60032-LEEWARD BRY WAIKALE HRS-WAPIO-BMTC\01 CAD\10-02-19-BD VELLUMS\LEW-5501 503 505.DWG PLOT TIME: 10-02-19, 5:21 PM



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE: *Calvin T. Miyahara* 4-30-20
EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

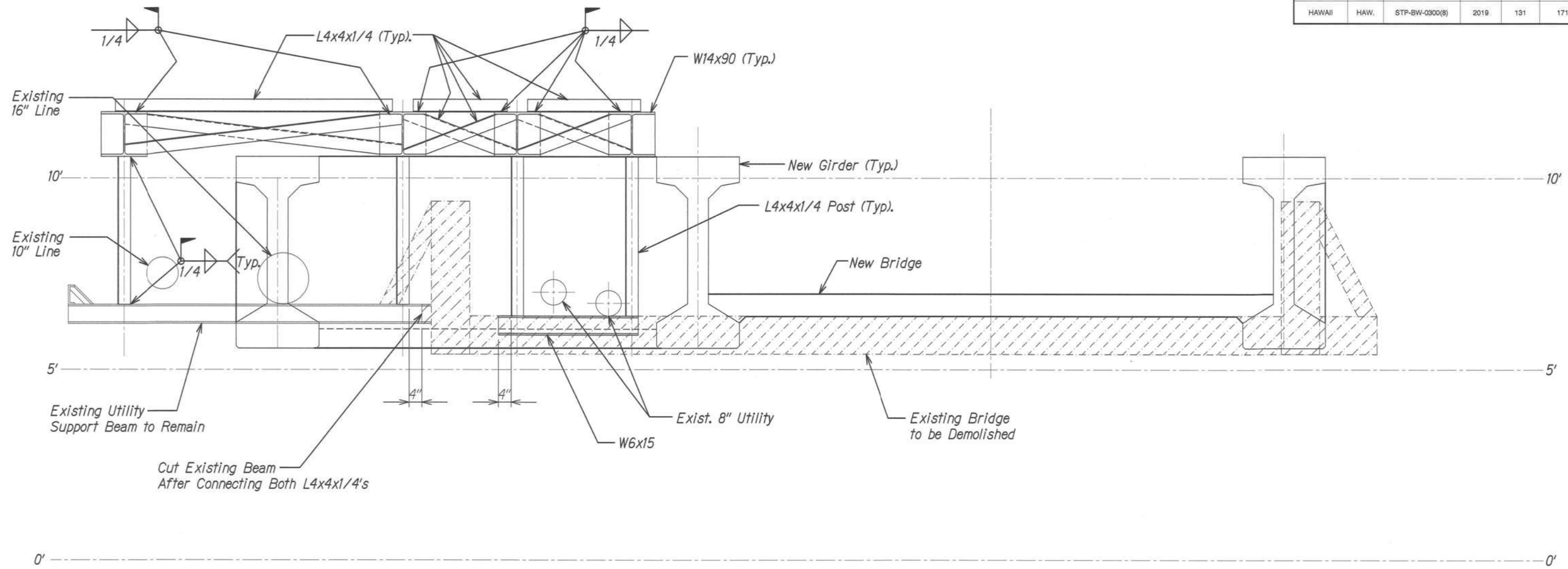
WAIKELE STREAM BRIDGE
TEMP. UTILITY SUPPORT FRAMING PLAN-STAGE 1

LEEWARD BIKEWAY
Philippine Sea Rd. to Waipahu Depot Street
Fed. Aid Proj. No. STP-BW-0300(8)

Scale: As Noted Date: Sept. 1, 2019

SHEET No. S5.1 OF 7 SHEETS

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-BW-0300(8)	2019	131	171



TEMPORARY UTILITY SUPPORT SECTION - STAGE 1
Scale: 3/4" = 1'-0" A
S5.1 | S5.2

Stage 1:

1. Construct temporary foundations for utility supports.
2. Install new temporary steel beams (W14x90). Connect new W6x15s and L4x4x1/4s to W14x90.
3. Connect existing utility support beams to W14x90 with L4x4x1/4.
4. Install pipe brackets. (By Utility Company). The contractor shall coordinate work with the utility companies. Contractor is responsible for additional framing to support pipe brackets if brackets cannot be supported directly on support beams. The additional supports shall be acceptable to the utility companies.
5. Remove existing bridge except for portion of the utility support beams that is to remain.

Note:

The contractor shall support and brace the existing pipes (lines) as necessary during all phases of construction to insure the pipes are not damaged in any way.



THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION.

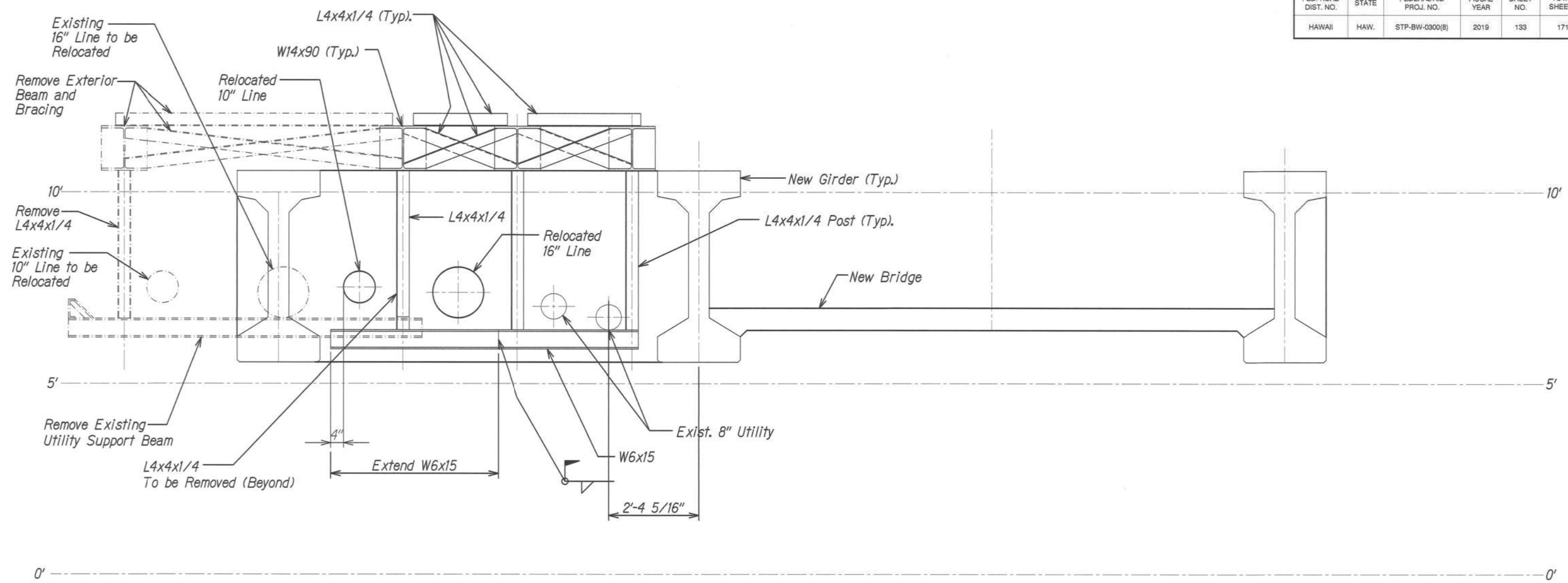
Calvin T. Miyahara
SIGNATURE
EXPIRATION DATE OF THE LICENSE: 4-30-20

DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
WAIKELE STREAM BRIDGE
TEMPORARY UTILITY SUPPORT SECTION - STAGE 1
LEEWARD BIKEWAY
Philippine Sea Rd. to Waipahu Depot Street
Fed. Aid Proj. No. STP-BW-0300(8)
Scale: As Noted Date: Sept. 1, 2019
SHEET No. S5.2 OF 7 SHEETS

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

DRAWING NAME: Z:\GO ONZONG\60032-LEEWARD BRY WAIKAPU HRS-WAIPU-BRIDGE\01 CAD\10-02-19 BID VELLUMS\LEW-5502-504-506.DWG PLOT TIME: 10-02-19, 5:22 PM

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-BW-0300(8)	2019	133	171



TEMPORARY UTILITY SUPPORT SECTION - STAGE 2
Scale: 3/4" = 1'-0" A
S5.3 | S5.4

- Stage 2:
1. Extend W6x15 and connect extended portion to W14x90 with New L4x4x1/4.
 2. Piles shall be driven before relocating utility lines.
 3. Relocate 16" Gasco Line and 10" Tesoro Line. (Relocation of utility lines shall be done by the utility companies. The contractor shall coordinate the work with the utility companies).
 4. Remove exterior W14x90 along with the bracing, L4x4x1/4, and the existing utility beams.

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

DRAWING NAME: Z:\00 ONGOING\60032-LEEWARD BIKWAY\HRS-WAIPAHU\HRS-WAIPAHU-BW-0300(8).DWG
PLOT TIME: 10-02-19, 5:22 PM

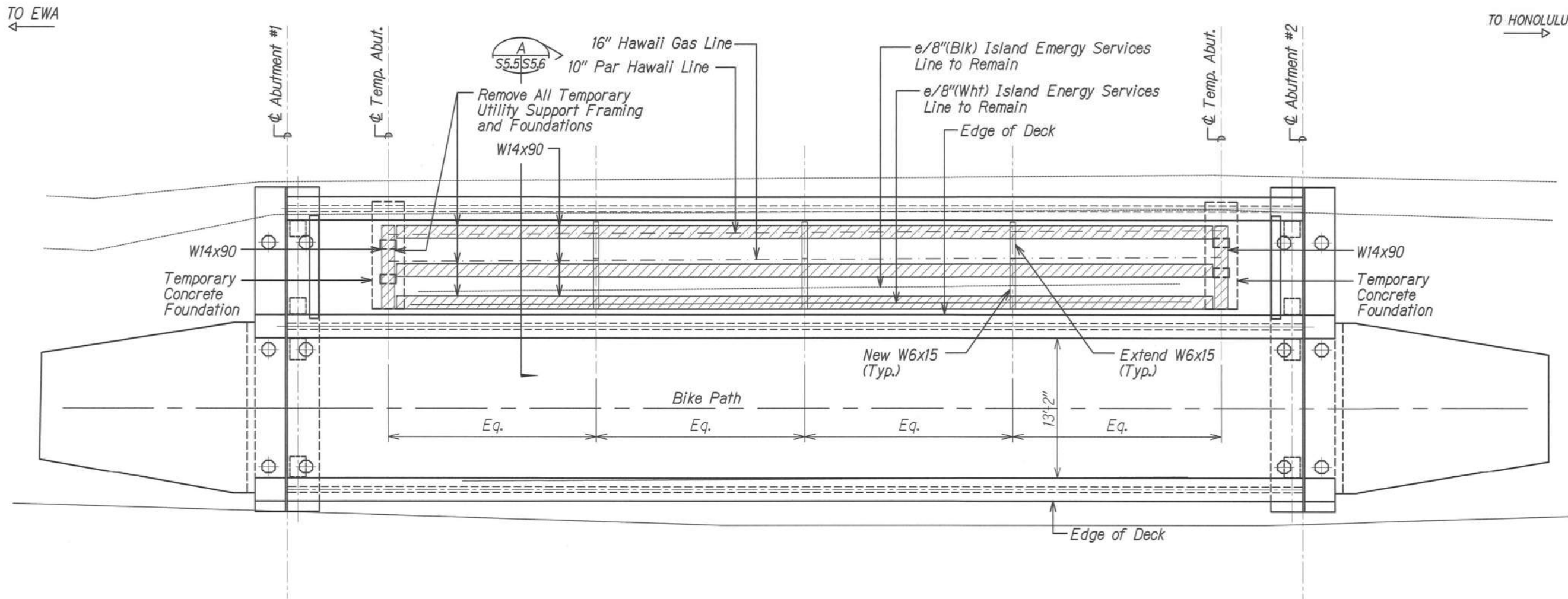


THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

Signature
SIGNATURE
EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
WAIKELE STREAM BRIDGE
TEMPORARY UTILITY SUPPORT SECTION - STAGE 2
LEEWARD BIKEWAY
Philippine Sea Rd. to Waipahu Depot Street
Fed. Aid Proj. No. STP-BW-0300(8)
Scale: As Noted Date: Sept. 1, 2019
SHEET No. S5.4 OF 7 SHEETS

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-BW-0300(8)	2019	134	171



TEMPORARY UTILITY SUPPORT FRAMING PLAN - STAGE 3
Scale: 3/16" = 1'-0"

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

DRAWING NAME: Z:\00 ONGOING\60032-LEEWARD BRY WAIKALE HRS-WAIPAHU-01 CA010-02-19 BID VELLUMS\LEW-S501 503 505.DWG PLOT TIME: 10-02-19, 5:22 PM



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE: *[Signature]* EXPIRATION DATE OF THE LICENSE: 4-30-20

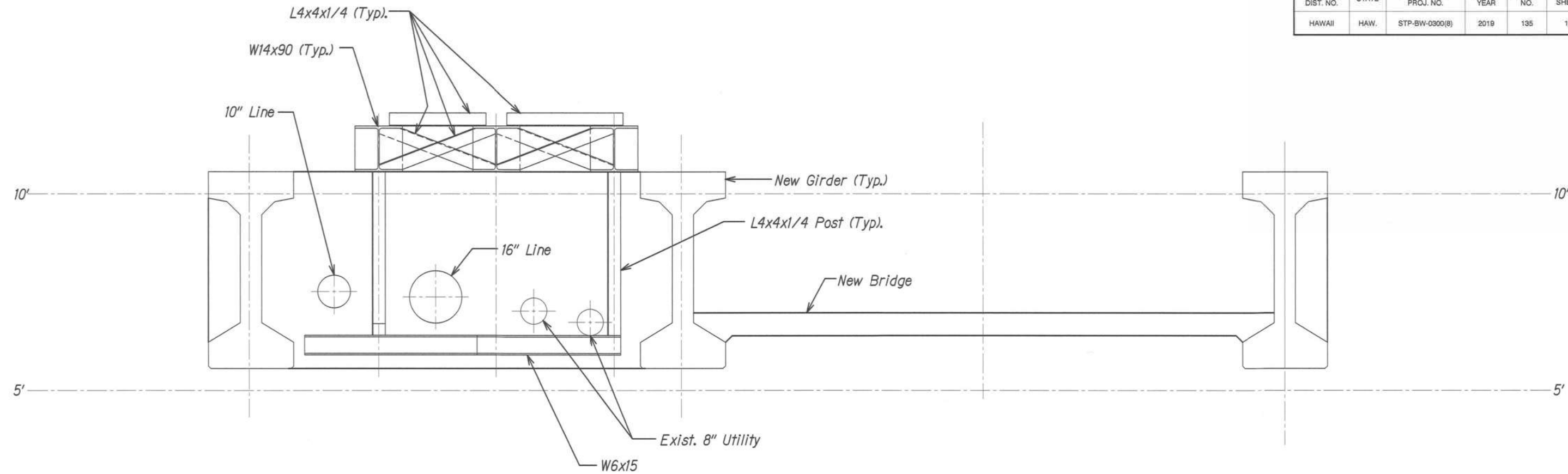
STATE OF HAWAII
HIGHWAYS DIVISION

WAIKELE STREAM BRIDGE
TEMP. UTILITY SUPPORT FRAMING PLAN-STAGE 3
LEEWARD BIKEWAY
Philippine Sea Rd. to Waipahu Depot Street
Fed. Aid Proj. No. STP-BW-0300(8)

Scale: As Noted
SHEET No. S5.5 OF 7 SHEETS

Date: Sept. 1, 2019

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-BW-0300(8)	2019	135	171



TEMPORARY UTILITY SUPPORT SECTION - STAGE 3
Scale: 3/4" = 1'-0" A
S5.5 | S5.6

- Stage 3:
1. Install new prestressed concrete girders, bridge deck, and diaphragms.
 2. Remove all temporary structural steel utility supports and temporary abutments after all utility lines are permanently installed.

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

DRAWING NAME: Z:\00 ONGOING\60032-LEEWARD BIKWAY\HRS-WAIPAHU\HRS-WAIPAHU-01 CAD\10-02-19 BID VELLUMS\LEBW-S502 504 506.DWG PLOT TIME: 10-02-19, 5:23 PM



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

[Signature]
SIGNATURE EXPIRATION DATE OF THE LICENSE: 4-30-20

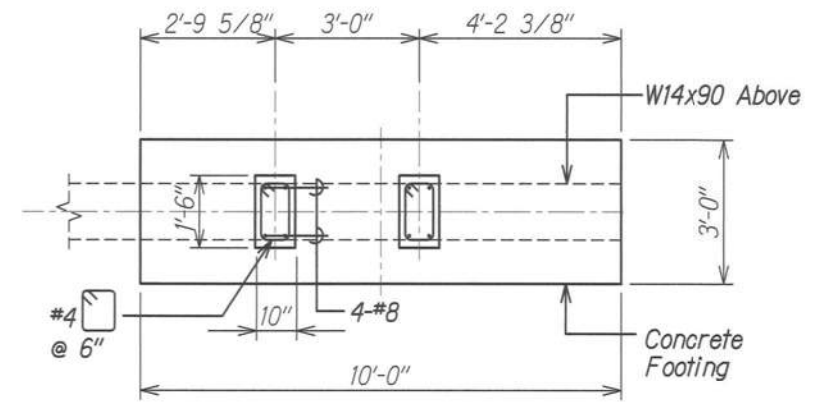
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

WAIKELE STREAM BRIDGE
TEMPORARY UTILITY SUPPORT SECTION - STAGE 3
LEEWARD BIKEWAY
Philippine Sea Rd. to Waipahu Depot Street
Fed. Aid Proj. No. STP-BW-0300(8)

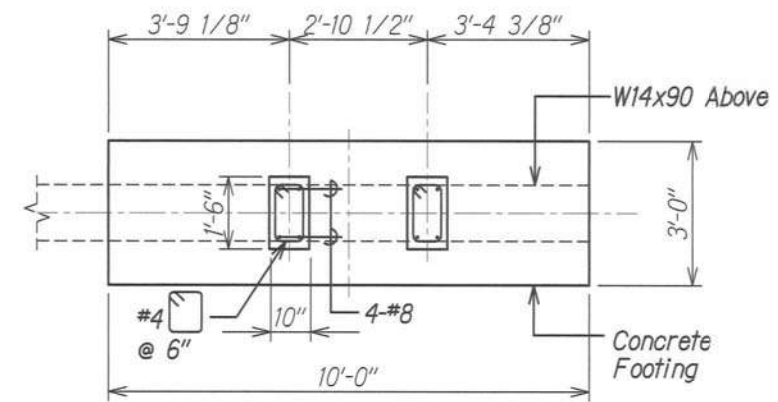
Scale: As Noted Date: Sept. 1, 2019

SHEET No. S5.6 OF 7 SHEETS

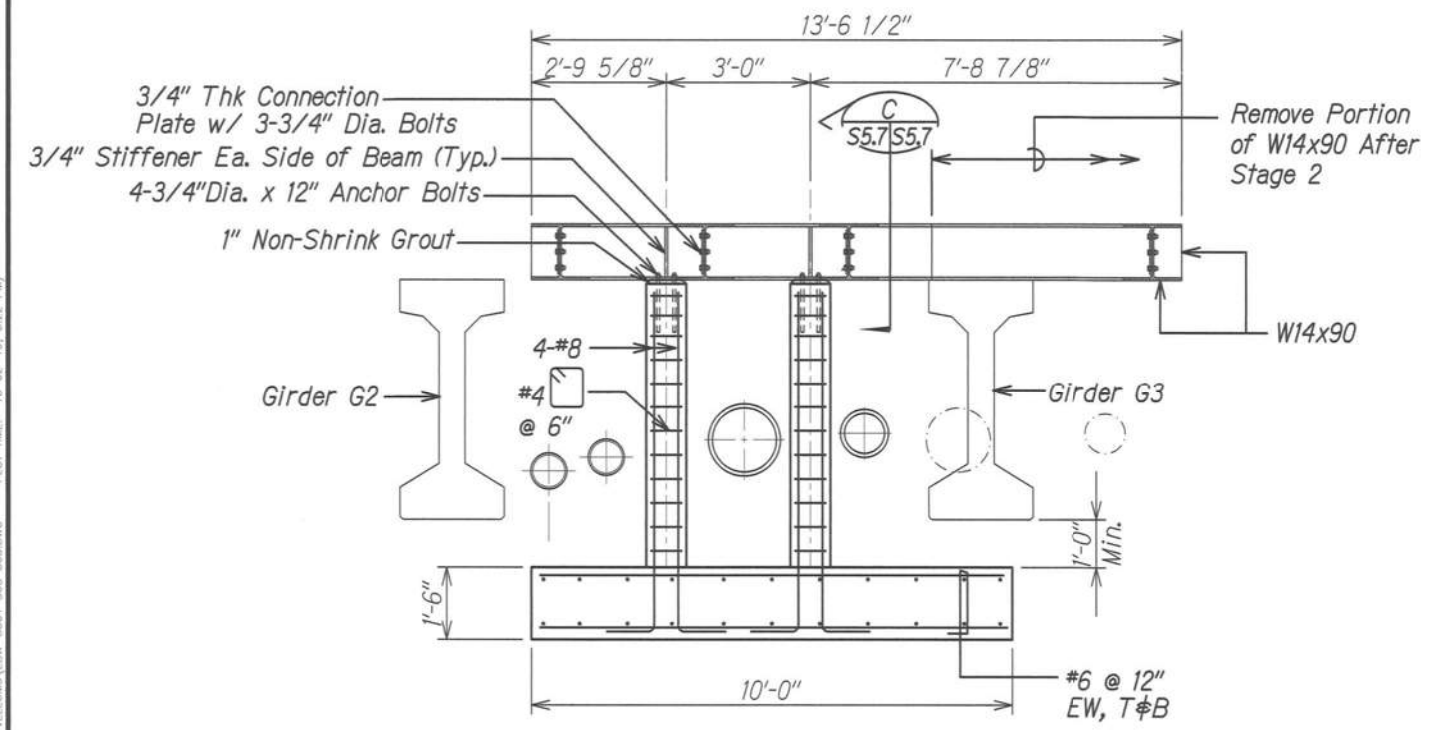
FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-BW-0300(8)	2019	136	171



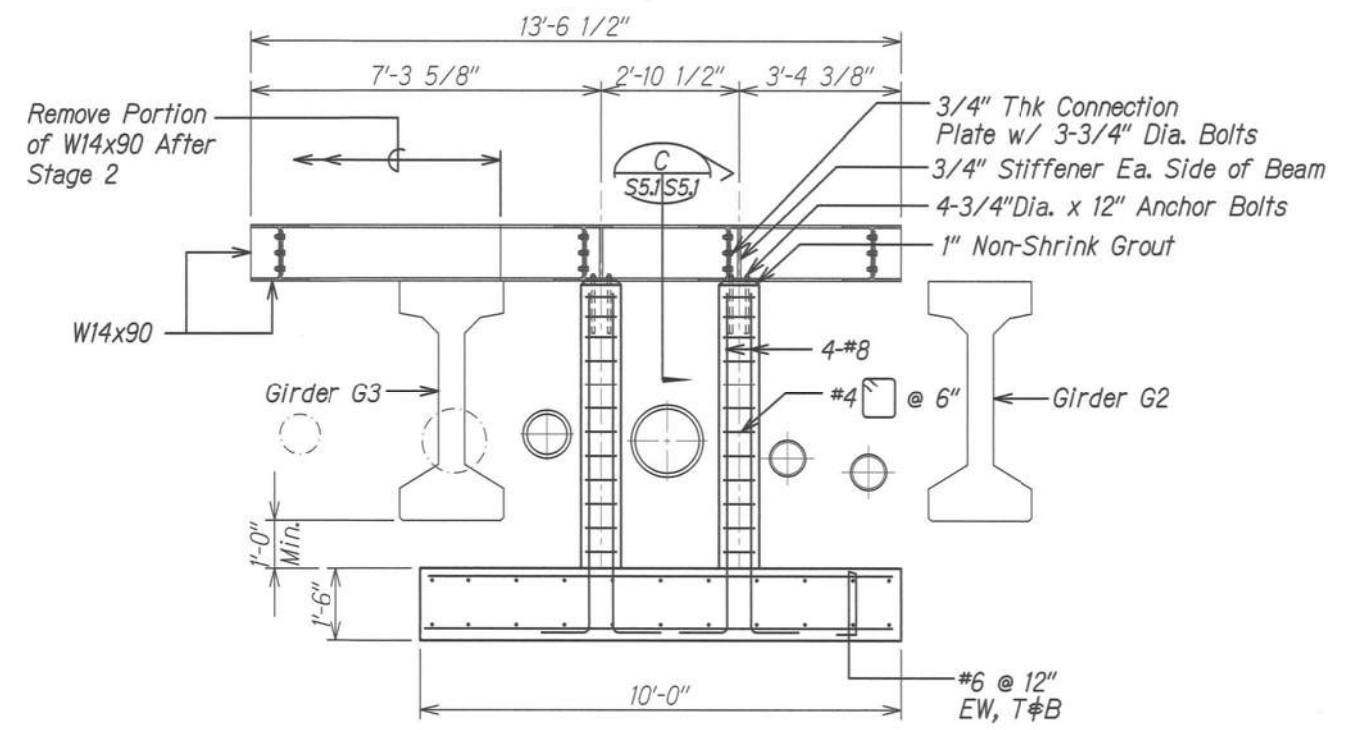
PLAN
Scale: 1/2" = 1'-0" S5.1 S5.7



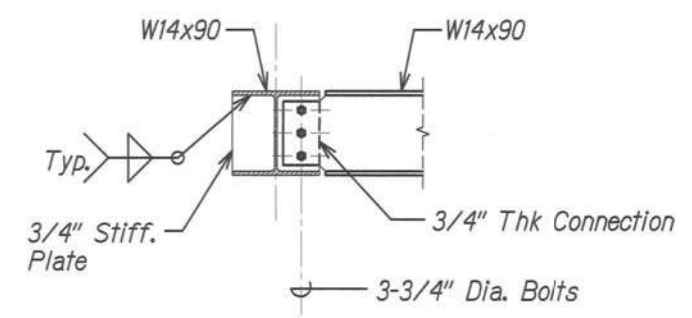
PLAN
Scale: 1/2" = 1'-0" S5.1 S5.7



SECTION AT ABUTMENT #1
Scale: 1/2" = 1'-0" S5.7 S5.7



SECTION AT ABUTMENT #2
Scale: 1/2" = 1'-0" S5.1 S5.7



SECTION C
Scale: 3/4" = 1'-0" S5.7 S5.7

NOTE:

Contractor to verify location of utility pipes. Location and elevation of steel beams and concrete footings and columns shall be adjusted to avoid conflict with new and existing bridge structures and utility lines. If steel beam or footings need to be adjusted notify Engineer before proceeding with any work.



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE: *[Signature]* EXPIRATION DATE OF THE LICENSE: 4-30-20

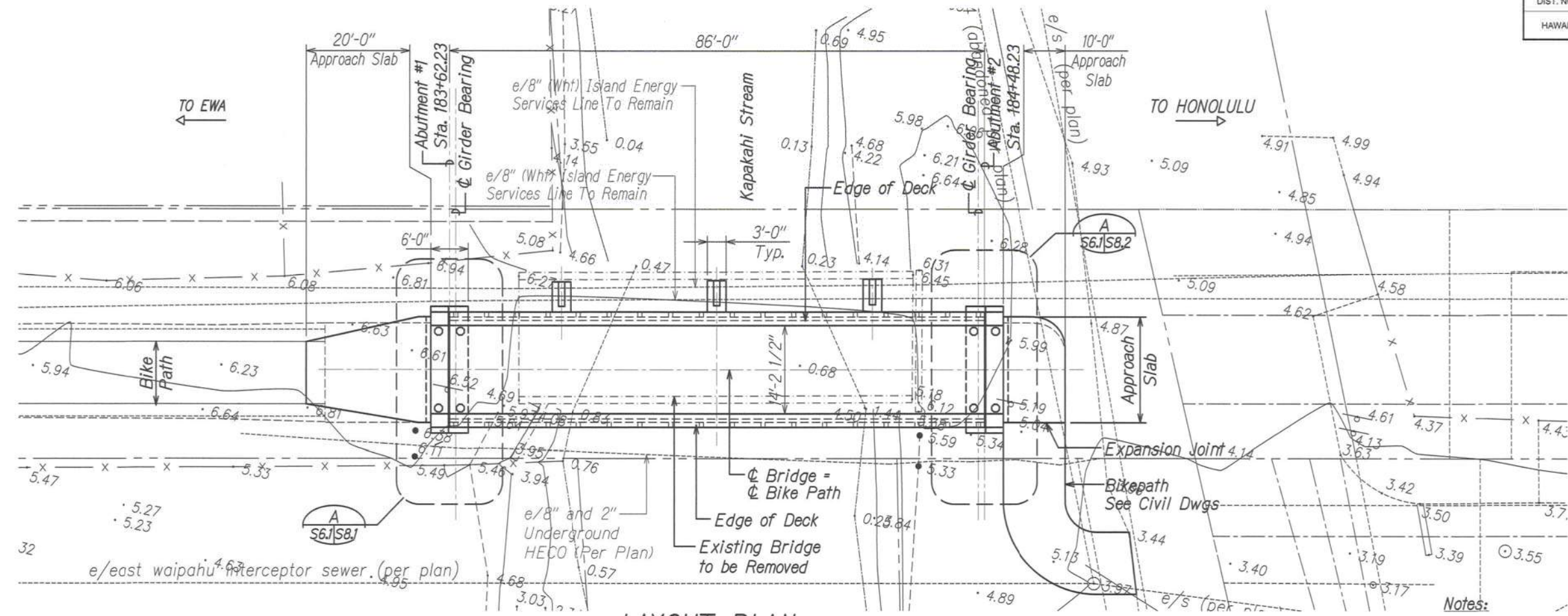
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

WAIKELE STREAM BRIDGE
TEMP. UTILITY SUPPORT DETAILS

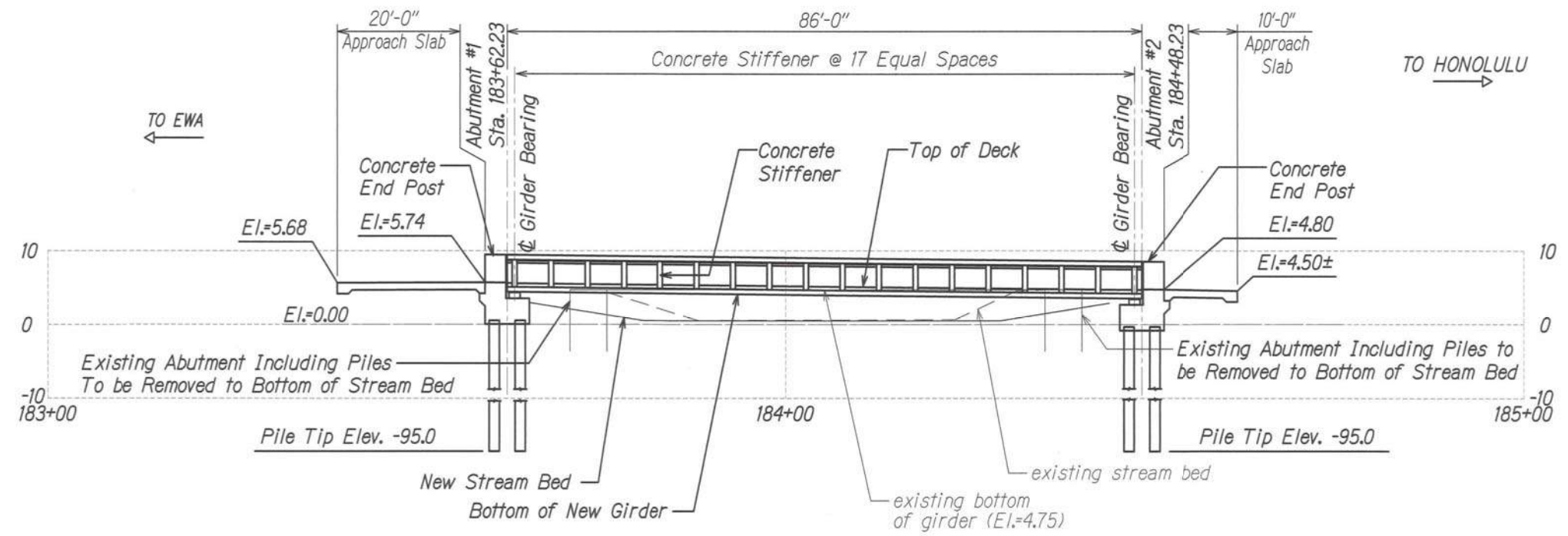
LEEWARD BIKEWAY
Philippine Sea Rd. to Waipahu Depot Street
Fed. Aid Proj. No. STP-BW-0300(8)

Scale: As Noted Date: Sept. 1, 2019
SHEET No. S5.7 OF 7 SHEETS

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-BW-0300(8)	2019	137	171



LAYOUT PLAN
Scale: 1" = 10'-0"



SECTION ALONG CENTERLINE BIKE PATH
Scale: 1" = 10'-0"

1. The contractor shall locate underground utility lines both vertically and horizontally before driving piles. See civil plans for approximate location. This work shall be considered incidental to the various contract items.
2. Notify the Engineer if there is a conflict between the piles and the utility lines.
3. The contractor shall predrill a minimum of 20-feet for each pile.



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE: *[Signature]* EXPIRATION DATE OF THE LICENSE: 4-30-20

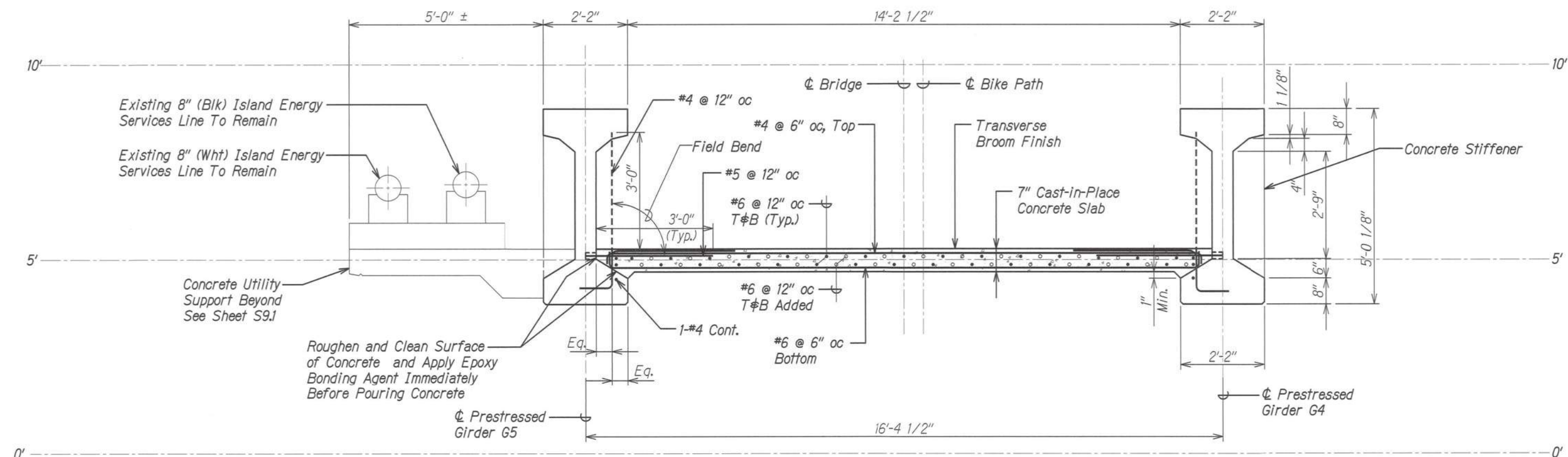
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

KAPAKAHI STREAM BRIDGE
PLAN AND SECTION

LEEWARD BIKEWAY
Philippine Sea Rd. to Waipahu Depot Street
Fed. Aid Proj. No. STP-BW-0300(8)

Scale: As Noted Date: Sept. 1, 2019
SHEET No. S6J OF 1 SHEETS

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-BW-0300(8)	2019	139	171



TYPICAL DECK SECTION **A**
Scale: 3/4" = 1'-0" **S7.1 | S7.2**

- Notes:
1. Slab shall be poured before installing utility supports.
 2. Stagger top and bottom longitudinal slab bars.

ORIGINAL PLAN	DATE
SURVEY PLOTTED BY	
DRAWN BY	
TRACED BY	
DESIGNED BY	
CHECKED BY	
No.	

DRAWING NAME: Z:\00 CONCRETE\60032-LEEWARD BWT WAIPAHU HRS-WAIP00-RMTC\01 CAD\10-02-19 BD VELLUMS\LBW-S702.DWG PLOT TIME: 10-02-19, 5:23 PM

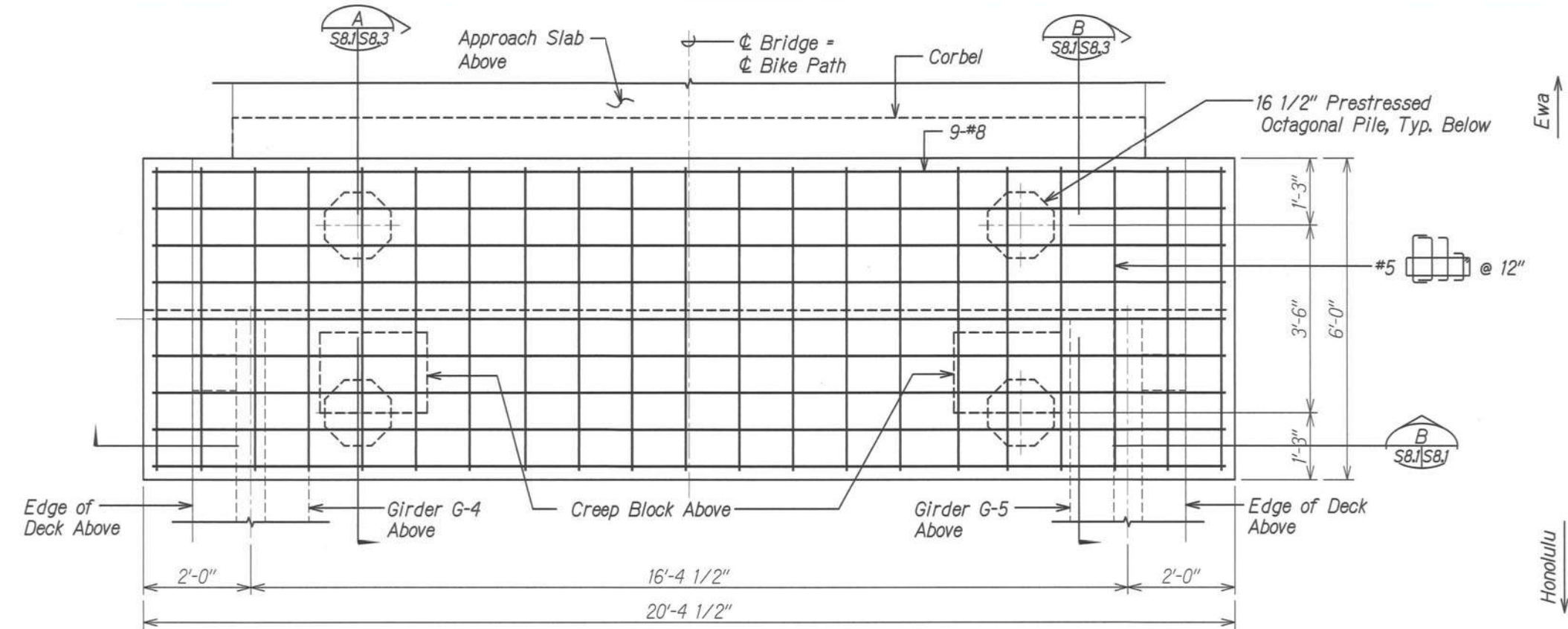


THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

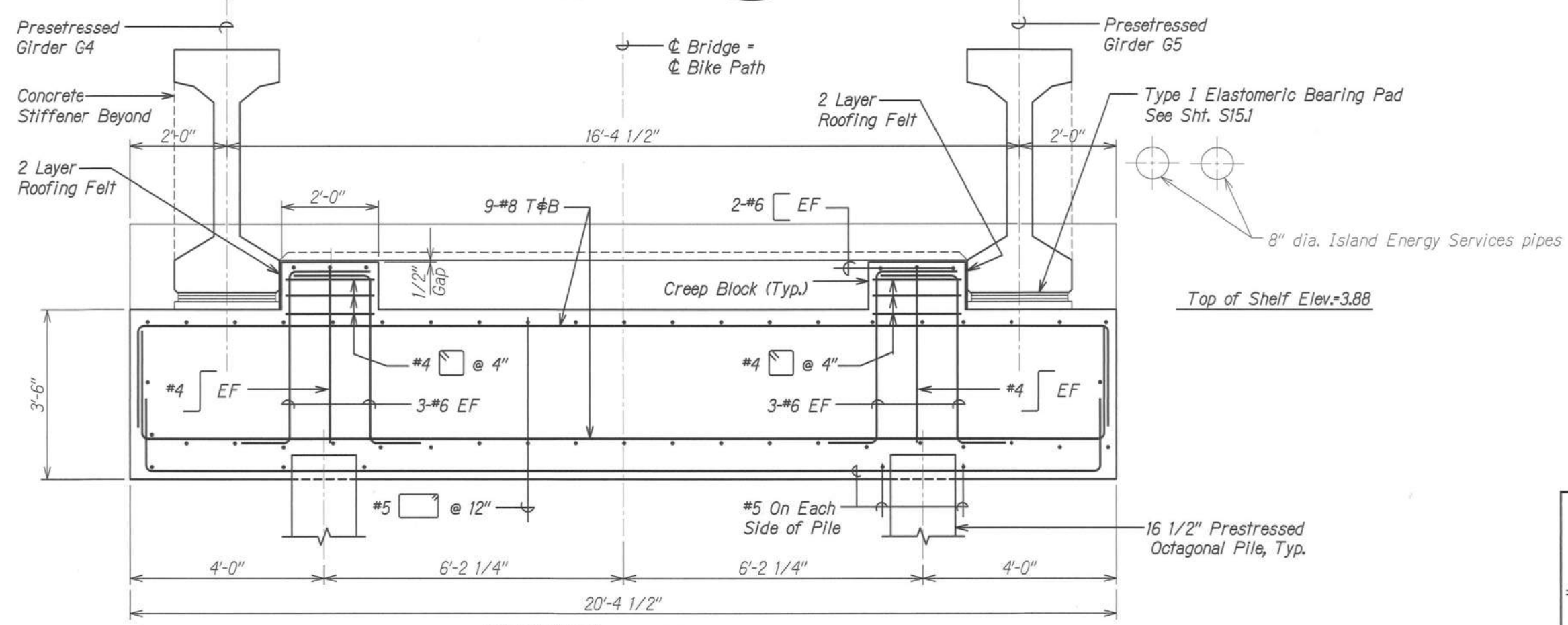
SIGNATURE: *[Signature]* 4-30-20
EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
KAPAKAHI STREAM BRIDGE
TYPICAL DECK SECTION AND INTERMEDIATE DIAPHRAGM
LEEWARD BIKEWAY
Philippine Sea Rd. to Waipahu Depot Street
Fed. Aid Proj. No. STP-BW-0300(8)
Scale: As Noted Date: Sept. 1, 2019
SHEET No. **S7.2** OF 2 SHEETS

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-BW-0300(8)	2019	140	171



ABUTMENT #1 PLAN
 Scale: 3/4" = 1'-0"
 S&J S&J



SECTION
 Scale: 3/4" = 1'-0"
 S&J S&J



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

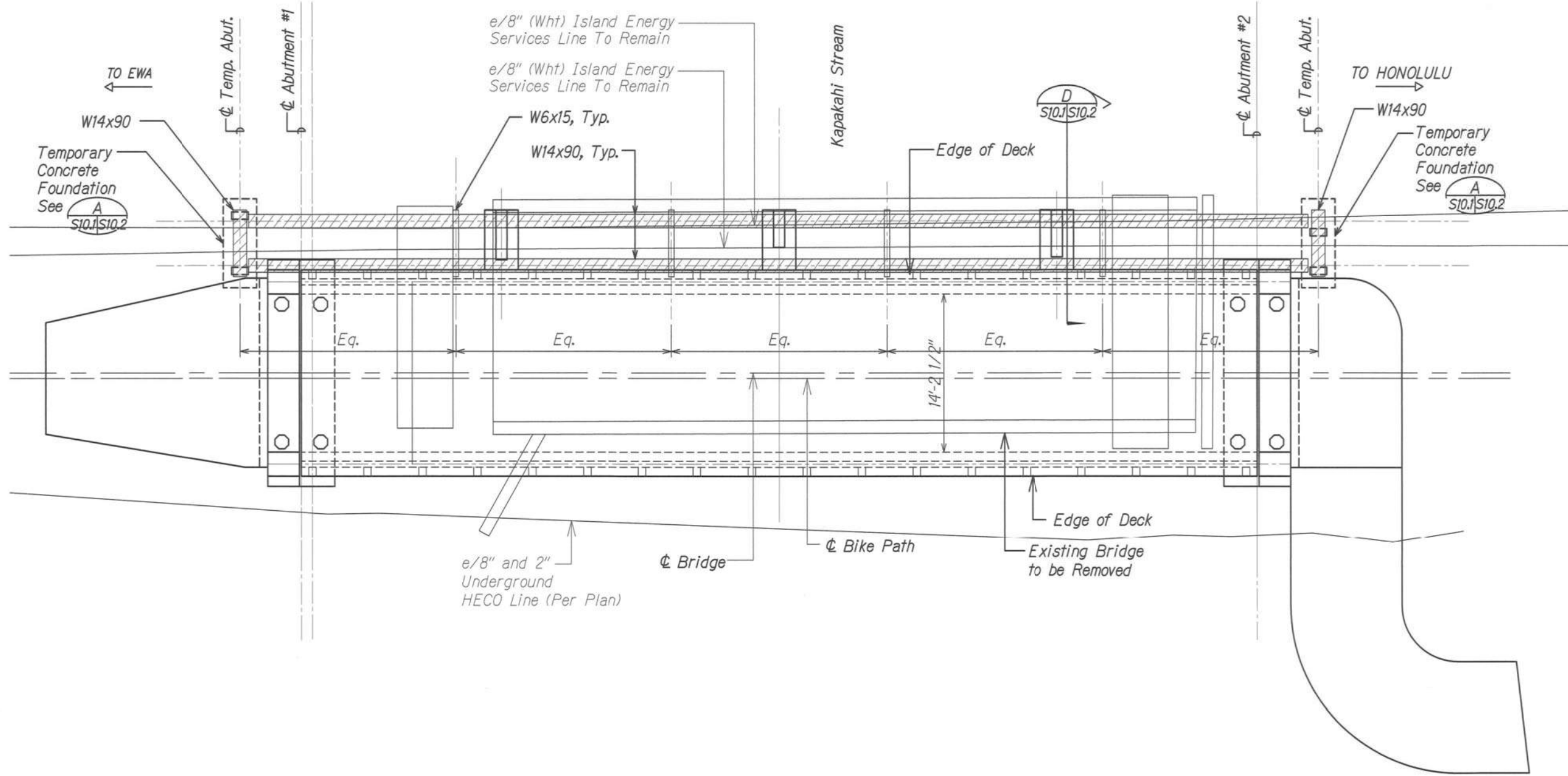
SIGNATURE: *[Signature]* EXPIRATION DATE OF THE LICENSE: 4-30-20

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION
KAPAKAHI STREAM BRIDGE
ABUTMENT #1 PLAN AND SECTION
LEEWARD BIKEWAY
 Philippine Sea Rd. to Waipahu Depot Street
 Fed. Aid Proj. No. STP-BW-0300(8)
 Scale: As Noted Date: Sept. 1, 2019
 SHEET No. S&J OF 4 SHEETS

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	
	DESIGNED BY	
	QUANTITIES BY	
	CHECKED BY	

DRAWING NAME: Z:\00 CONCRETE\60332-LEEWARD BRY WAPAHU HRS-WAPO-BW-CV01.CAD 10-02-19 10:02:19, 524 PM PLOT TIME: 10-02-19, 524 PM

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-BW-0300(8)	2019	145	171



TEMPORARY UTILITY SUPPORT FRAMING PLAN
Scale: 3/16" = 1'-0"

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

DRAWING NAME: Z:\DO ONGCONG\6032-LEEWARD BRY WAPAHU HRS-WAPO-BM\01 CA010-02-19 BID VELLUMS\LBW-S1001.DWG PLOT TIME: 10-02-19, 5:25 PM

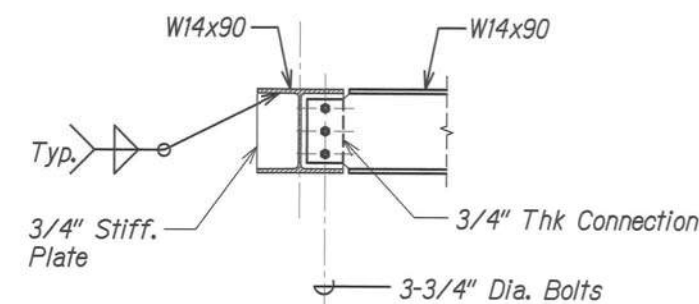
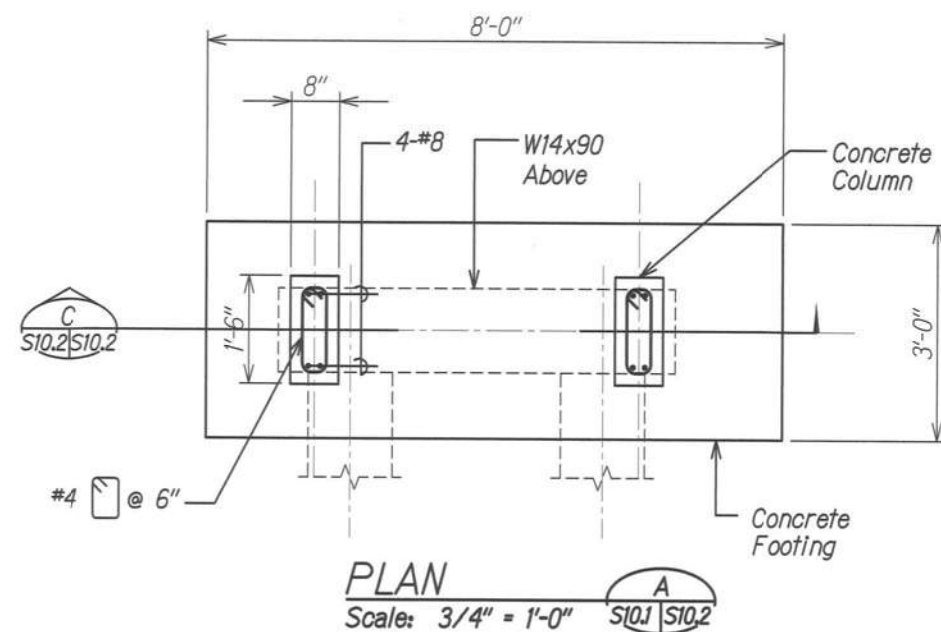


THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE: *[Signature]* EXPIRATION DATE OF THE LICENSE: 4-30-20

DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
KAPAKAHI STREAM BRIDGE
TEMPORARY UTILITY SUPPORT FRAMING PLAN
LEEWARD BIKEWAY
Philippine Sea Rd. to Waipahu Depot Street
Fed. Aid Proj. No. STP-BW-0300(8)
Scale: As Noted Date: Sept. 1, 2019
SHEET No. S10.1 OF 2 SHEETS

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-BW-0300(8)	2019	146	171

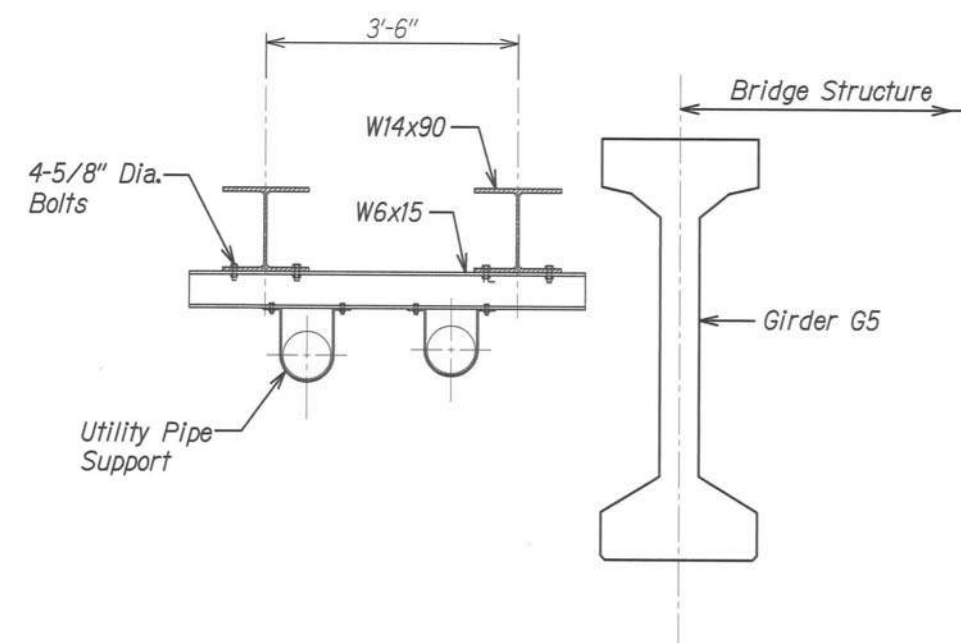
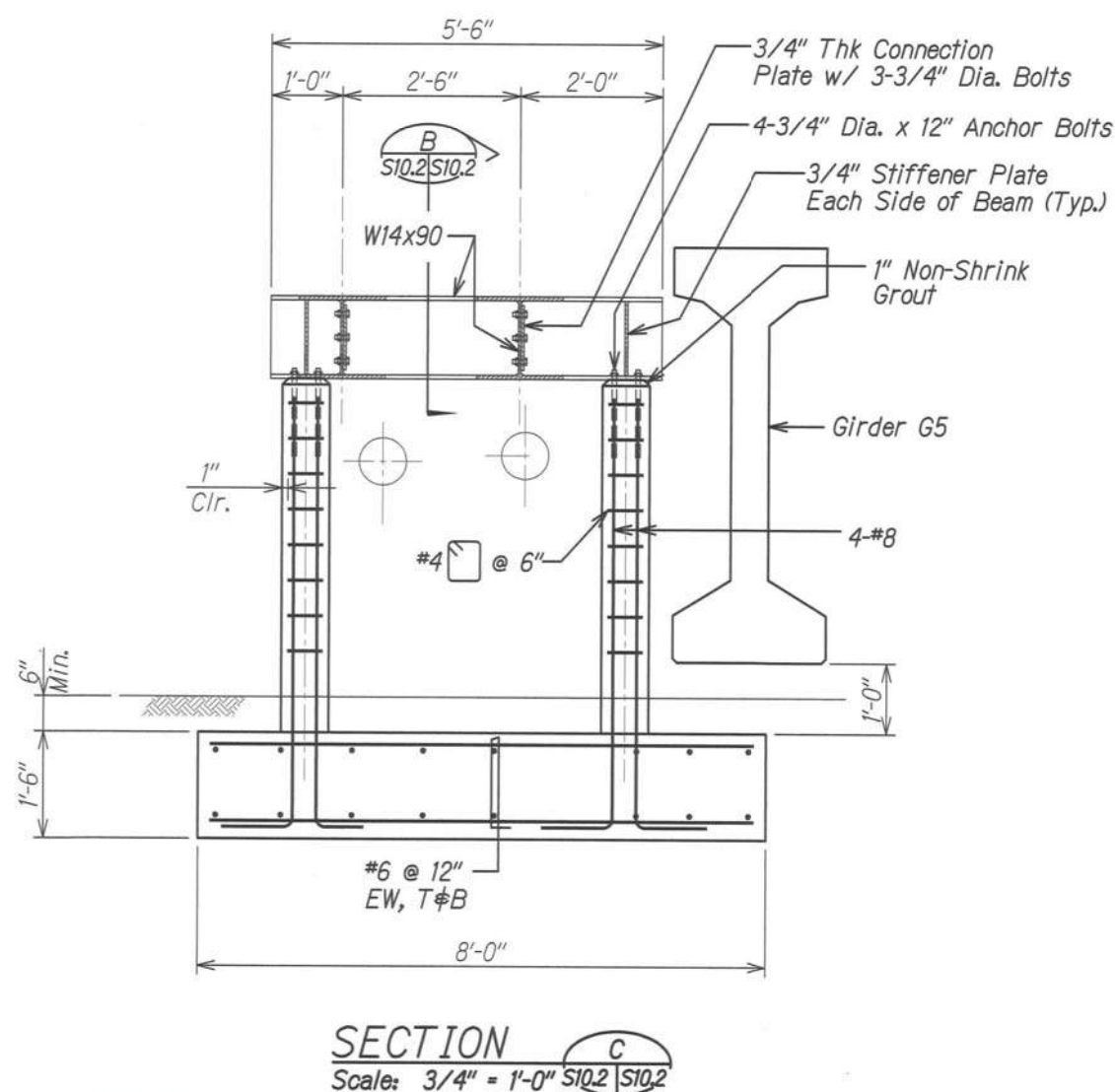


CONSTRUCTION SEQUENCE:

1. Install temporary utility support foundations and framing.
2. Connect existing lines to temporary utility support. Connection to be done by utility company. Coordination with utility company shall be done. Schedule and details shall be submitted for approval.
3. Demolish existing bridge.
4. Construct new bridge and connect existing utility lines to new bridge.
5. Remove temporary utility support foundations and framing.

NOTE:

Contractor to verify location of utility pipes. Location and elevation of steel beams and concrete footings and columns shall be adjusted to avoid conflict with new and existing bridge structures.



SECTION D
Scale: 3/4" = 1'-0" S10.1 S10.2



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE: *[Signature]* EXPIRATION DATE OF THE LICENSE: 4-30-20

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

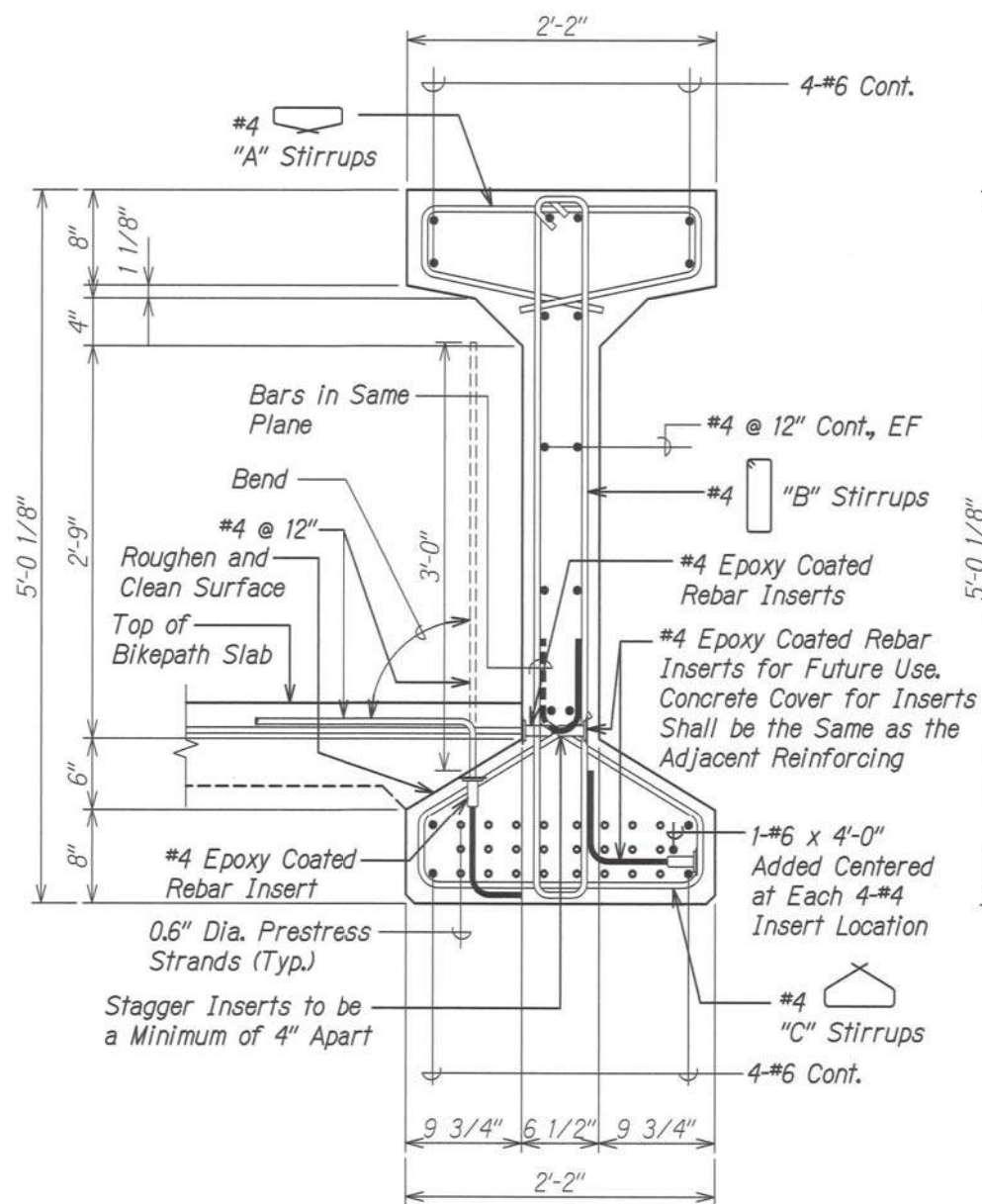
KAPAKAHI STREAM BRIDGE
TEMPORARY UTILITY SUPPORT PLAN AND SECTIONS

LEEWARD BIKEWAY
Philippine Sea Rd. to Waipahu Depot Street
Fed. Aid Proj. No. STP-BW-0300(8)

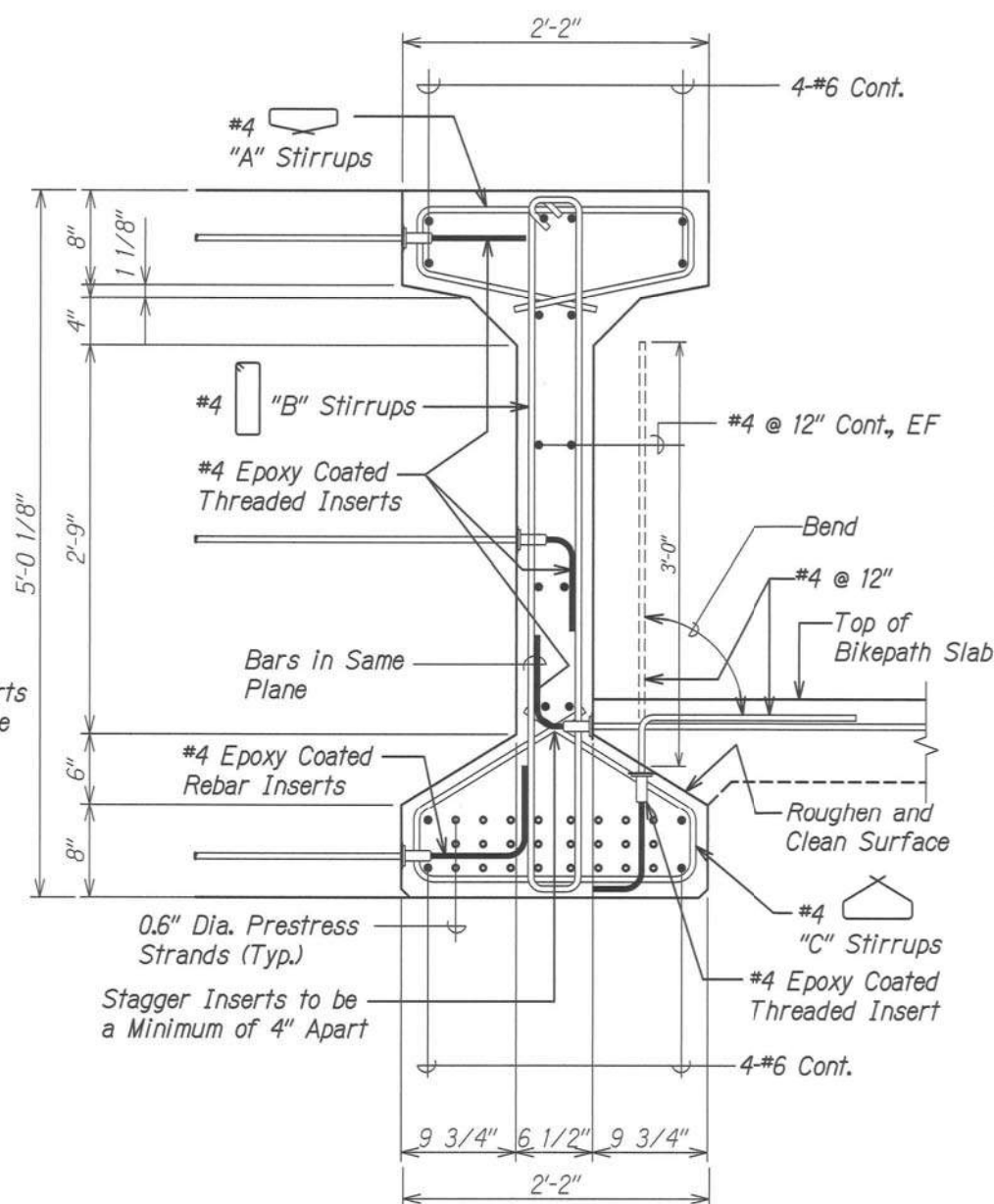
Scale: As Noted Date: Sept. 1, 2019

SHEET No. S10.2 OF 2 SHEETS

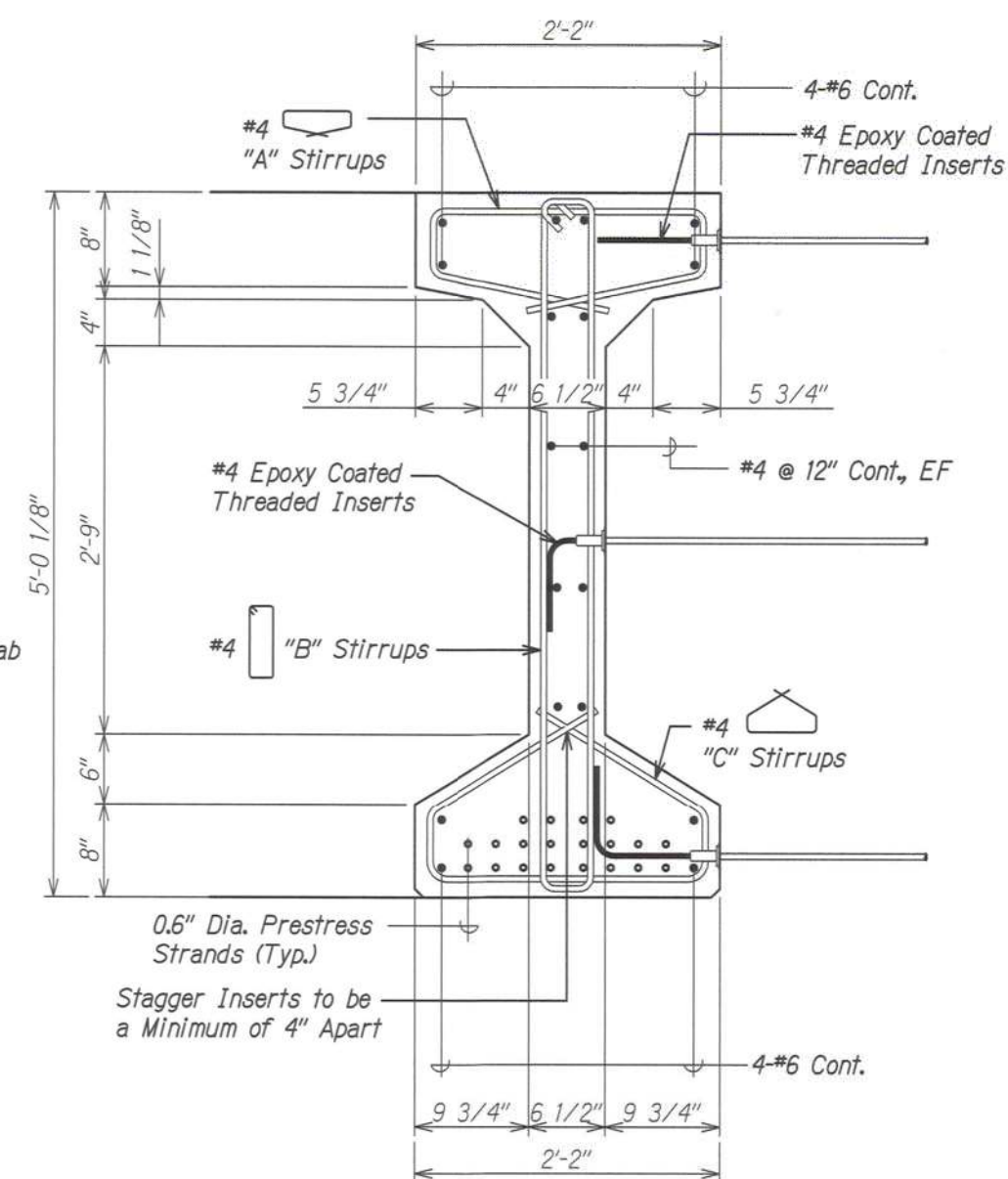
FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-BW-0300(8)	2019	148	171



GIRDER G1 SECTION A
 Scale: 1 1/2" = 1'-0" S11.2 S11.2



GIRDER G2 SECTION B
 Scale: 1 1/2" = 1'-0" S11.2 S11.2



GIRDER G3 SECTION C
 Scale: 1 1/2" = 1'-0" S11.2 S11.2

ORIGINAL PLAN	DATE
DRAWN BY	
DESIGNED BY	
CHECKED BY	
NO.	

DRAWING NAME: Z:\00 ONGOING\60132-LEEWARD BIKEWAY\HRS-WAPO-RMTC\01 CAD\10-02-19 BID VELLUMS\LEW-S1101.DWG PLOT TIME: 10-02-19, 5:28 PM



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

Calvin T. Miyahara
 SIGNATURE EXPIRATION DATE OF THE LICENSE: 4-30-20

STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION

HIGHWAYS DIVISION

TYPICAL

PRESTRESSED GIRDER DETAILS

LEEWARD BIKEWAY

Philippine Sea Rd. to Waipahu Depot Street

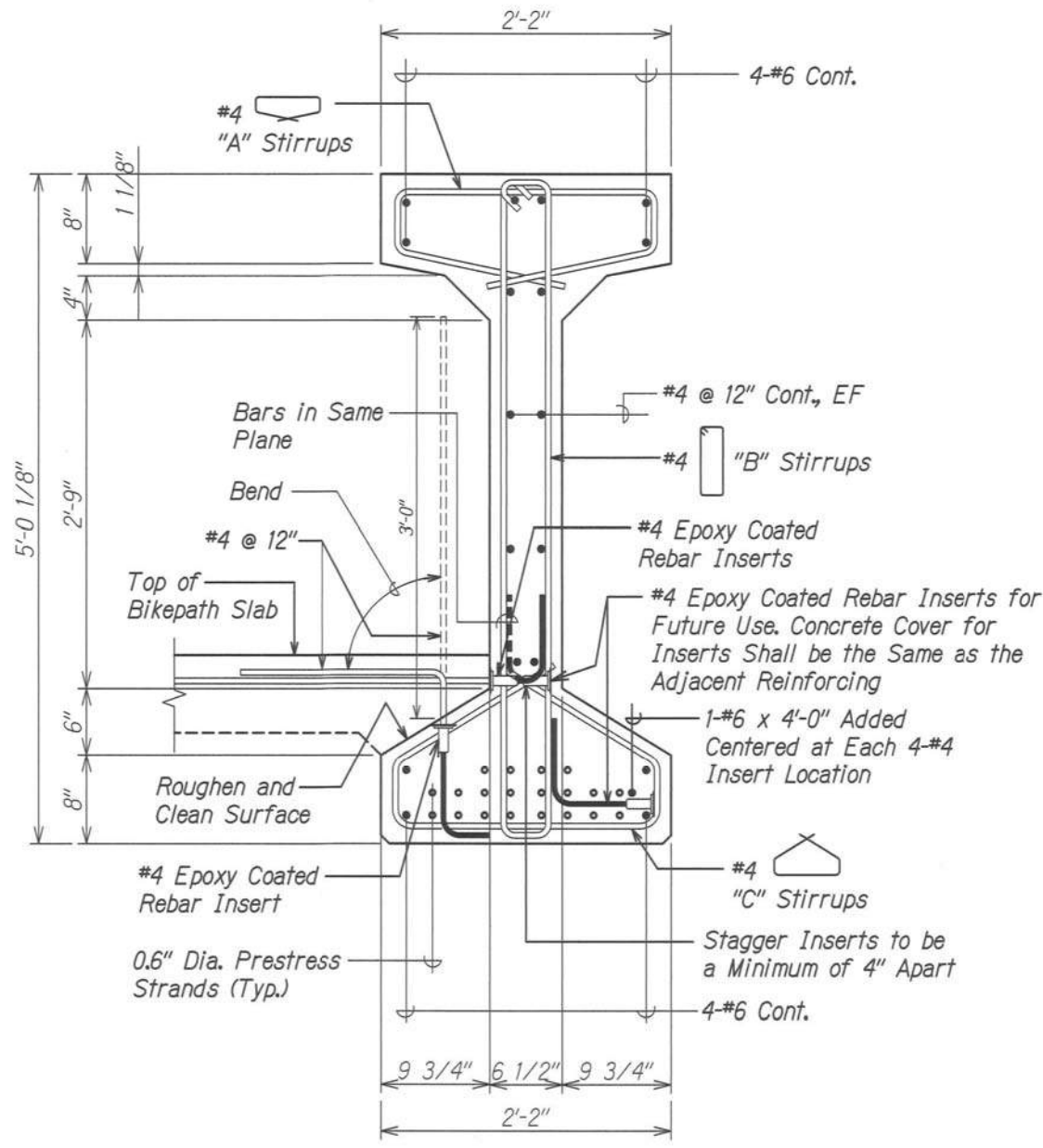
Fed. Aid Proj. No. STP-BW-0300(8)

Scale: As Noted

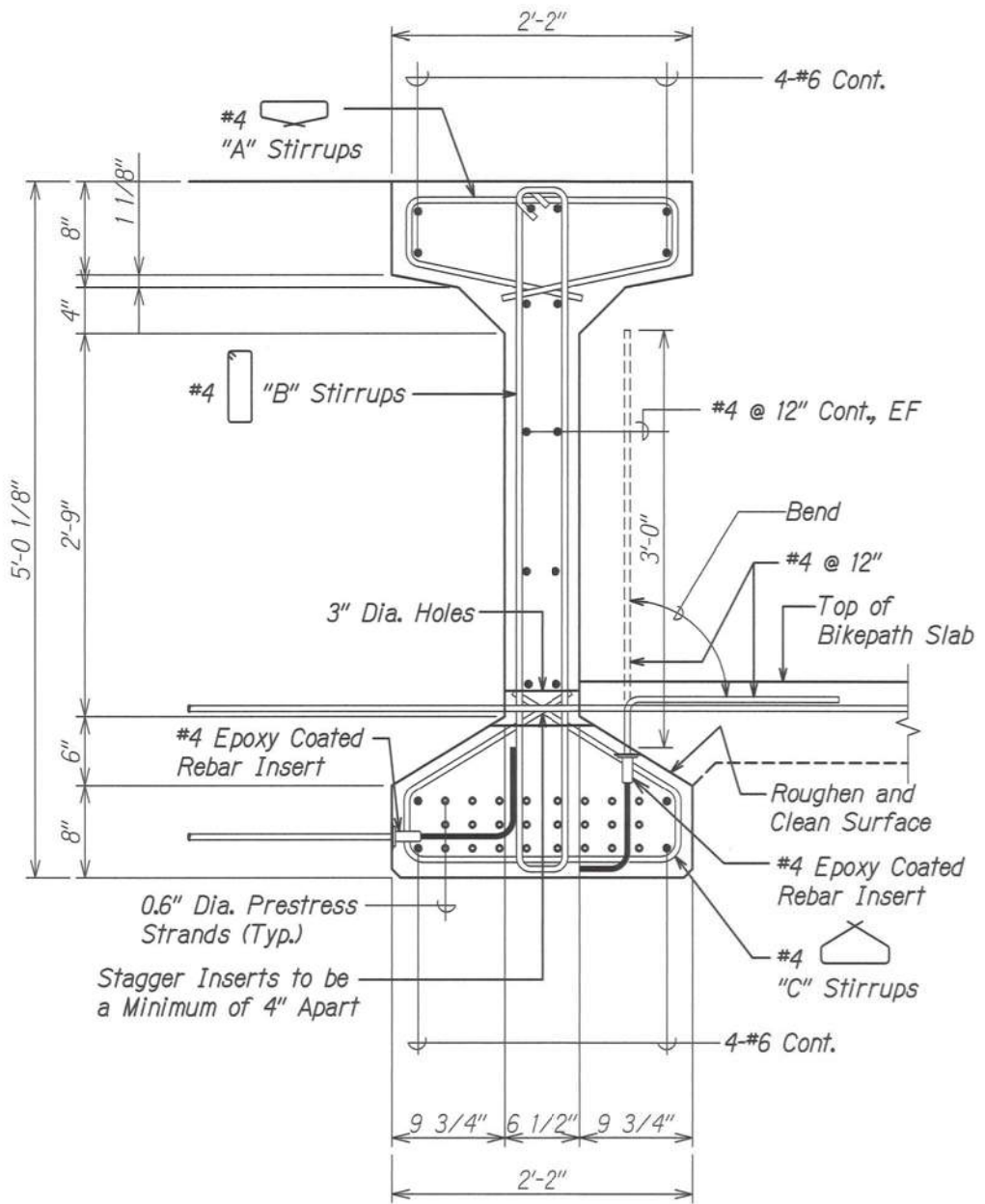
Date: Sept. 1, 2019

SHEET No. S11.2 OF 4 SHEETS

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-BW-0300(8)	2019	149	171



GIRDER G4 SECTION A
Scale: 1 1/2" = 1'-0"
S11.3 S11.3



GIRDER G5 SECTION B
Scale: 1 1/2" = 1'-0"
S11.3 S11.3

Note:
3" Dia. holes shall be grouted before pouring concrete slab. Grout shall be 5,000 psi non-shrink grout.

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

DRAWING NAME: Z:\00 ONGOING\60032-LEEWARD BIKWAY\HRS-WAPO-01 CAD\10-02-19 BID VELLUMS\LEW-S1101.DWG PLOT TIME: 10-02-19, 5:26 PM



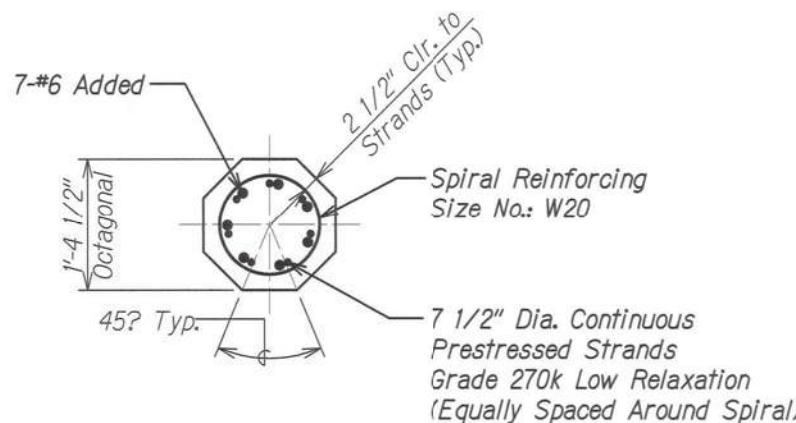
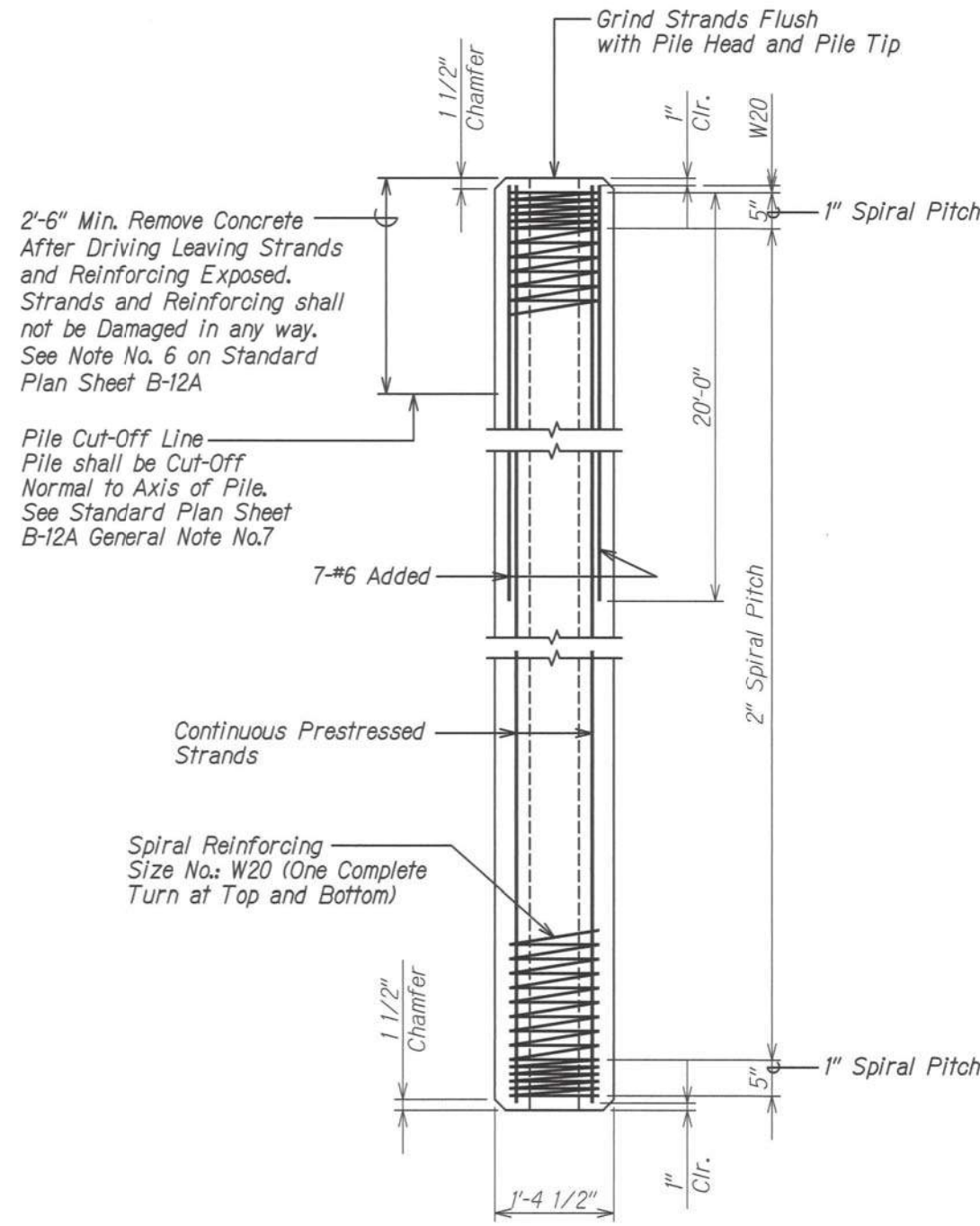
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE: *[Signature]* EXPIRATION DATE OF THE LICENSE: 4-30-20

DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
TYPICAL
PRESTRESSED GIRDER DETAILS
LEEWARD BIKEWAY
Philippine Sea Rd. to Waipahu Depot Street
Fed. Aid Proj. No. STP-BW-0300(8)

Scale: As Noted
Date: Sept. 1, 2019
SHEET No. S11.3 OF 4 SHEETS

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-BW-0300(8)	2019	151	171



- Notes:**
1. The 7-#6 bars shall have a minimum of 2'-6" embeded into the pile cap and extending 10'-0" below the bottom of pile cap.
 2. Top end of strands, #6 bars, and spirals may be cut off to maintain minimum concrete cover.
 3. See Standard Plans for additional details.

ELEVATION

PRESTRESSED CONCRETE PILE DETAILS
Scale: Not to Scale

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

DRAWING NAME: Z:\GO ONZONCY\6032-LEEWARD BIKWAY\HRS-WAPIO-BMTC\01 CAD\10-02-19 BID VELLUMS\LEW-S1201.DWG PLOT TIME: 10-02-19 5:26 PM

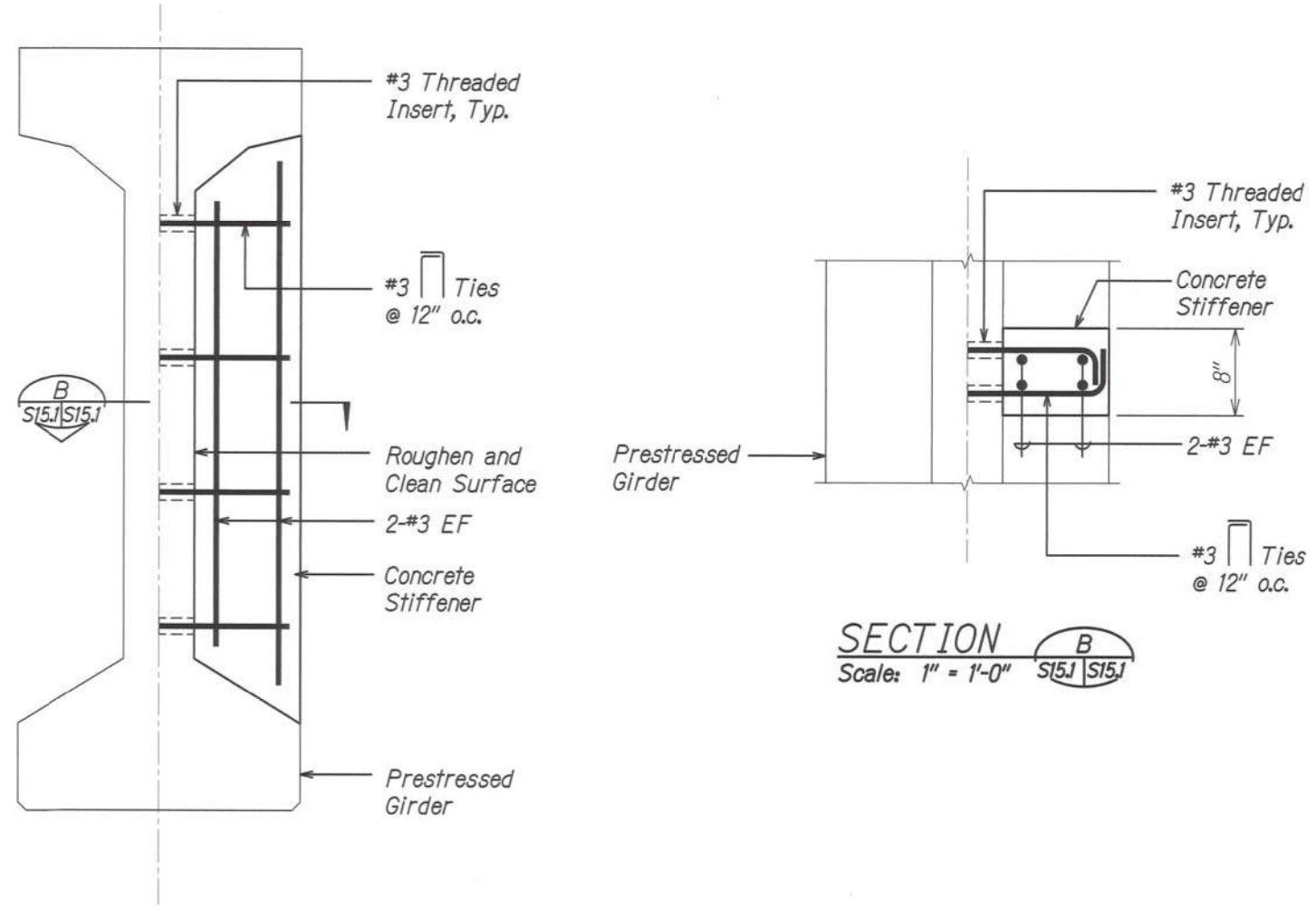


THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE: *[Signature]* EXPIRATION DATE OF THE LICENSE: 4-30-20

DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
TYPICAL PRESTRESSED CONCRETE PILE DETAILS
LEEWARD BIKEWAY
Philippine Sea Rd. to Waipahu Depot Street
Fed. Aid Proj. No. STP-BW-0300(8)
Scale: As Noted Date: Sept. 1, 2019
SHEET No. S121 OF 1 SHEETS

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-BW-0300(8)	2019	153	171



SECTION
Scale: 1" = 1'-0" B
S15.1 S15.1

CONCRETE STIFFENER A
S15.1 S15.1
Scale: 1 1/2" = 1'-0"

ORIGINAL PLAN	DATE
DRAWN BY	
DESIGNED BY	
CHECKED BY	
NO.	

DRAWING NAME: Z:\00 ONGOING\60032-LEEWARD BIWAY\WAIPIU HRS-WAPIO-RMTC\01 CAD\10-02-19 BID VELLOWS\LEW-S1401.DWG PLOT TIME: 10-02-19, 5:27 PM



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
Calvin T. Miyahara
SIGNATURE EXPIRATION DATE OF THE LICENSE 4-30-20

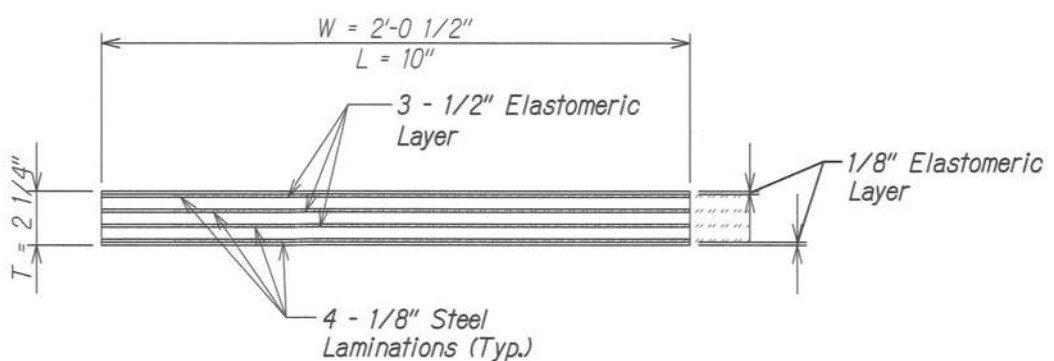
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CONCRETE STIFFENER

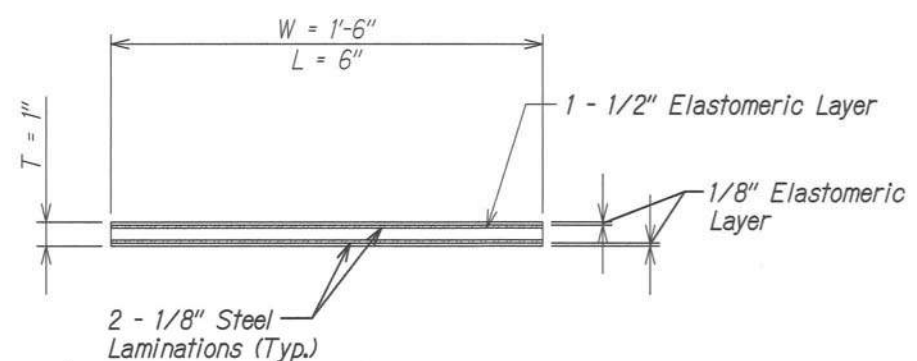
LEEWARD BIKEWAY
Philippine Sea Rd. to Waipahu Depot Street
Fed. Aid Proj. No. STP-BW-0300(8)

Scale: As Noted Date: Sept. 1, 2019
SHEET No. S141 OF 1 SHEETS

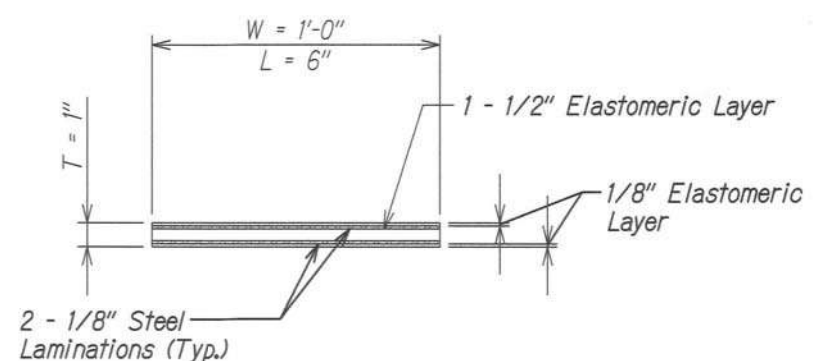
FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-BW-0300(8)	2019	154	171



TYPE I - ELASTOMERIC
BEARING PAD
Scale: 3" = 1'-0" 1 S15J S15J



TYPE II - ELASTOMERIC
BEARING PAD
Scale: 3" = 1'-0" 2 S15J S15J



TYPE III - ELASTOMERIC
BEARING PAD
Scale: 3" = 1'-0" 3 S15J S15J

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

DRAWING NAME: Z:\GO ONZONGA\60032-LEeward BRY WAIPAHU HRS-WAIPAHU\BID-10-02-19 BID VELLINGS\LBW-S1501.DWG PLOT TIME: 10-02-19 5:27 PM



THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION.

Calvin T. Miyahara
SIGNATURE EXPIRATION DATE OF THE LICENSE 4-30-20

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
**TYPICAL ELASTOMERIC
BEARING PAD DETAILS**
LEeward BIKEWAY
Philippine Sea Rd. to Waipahu Depot Street
Fed. Aid Proj. No. STP-BW-0300(8)
Scale: As Noted Date: Sept. 1, 2019
SHEET No. S15J OF 1 SHEETS