

GENERAL NOTES FOR TRAFFIC CONTROL PLAN
(FOR WORK WITHIN STATE RIGHT-OF-WAY)

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BR-019-2(38)	2002	33	73

- THE CONTRACTOR SHALL MAKE MINOR ADJUSTMENTS AT INTERSECTIONS, DRIVEWAYS, BRIDGES, STRUCTURES, ETC., AS REQUIRED BY THE ENGINEER.
- CONES OR DELINEATORS SHALL BE EXTENDED TO A POINT WHERE THEY ARE VISIBLE TO APPROACHING TRAFFIC.
- TRAFFIC CONTROL DEVICES SHALL BE INSTALLED SUCH THAT THE SIGN OR DEVICE FARTEST FROM THE WORK AREA SHALL BE PLACED FIRST. THE OTHERS SHALL THEN BE PLACED PROGRESSIVELY TOWARD THE WORK AREA.
- REGULATORY AND WARNING SIGNS WITHIN THE CONSTRUCTION ZONE THAT ARE IN CONFLICT WITH THE TRAFFIC CONTROL PLANS SHALL BE REMOVED OR COVERED. ALL SIGNS SHALL BE RESTORED UPON COMPLETION OF THE WORK.
- FLAGGERS AND/OR POLICE OFFICERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES.
- WHEN REQUIRED BY THE ENGINEER, THE CONTRACTOR SHALL INSTALL A FLASHING ARROW SIGNAL AS SHOWN ON THE TRAFFIC CONTROL PLANS AT NO ADDITIONAL COST TO THE STATE.
- SIGN SPACING (D), TAPER LENGTHS (T) AND SPACINGS OF CONES OR DELINEATORS SHALL BE AS SHOWN IN TABLE 1, UNLESS OTHERWISE NOTED ON THE TRAFFIC CONTROL PLANS.
- ALL TRAFFIC LANES SHALL BE A MINIMUM OF 11 FEET WIDE.
- ALL CONSTRUCTION WARNING SIGNS SHALL BE PROMPTLY REMOVED OR COVERED WHENEVER THE MESSAGE IS NOT APPLICABLE OR NOT IN USE.
- THE BACKS OF ALL SIGNS USED FOR TRAFFIC CONTROL SHALL BE APPROPRIATELY COVERED TO PRECLUDE THE DISPLAY OF INAPPLICABLE SIGN MESSAGES (I.E., WHEN SIGNS HAVE MESSAGES ON BOTH FACES).
- AT THE END OF EACH DAY'S WORK OR AS SOON AS THE WORK IS COMPLETED, THE PERMITTEE SHALL REMOVE ALL TRAFFIC CONTROL DEVICES NO LONGER NEEDED TO PERMIT FREE AND SAFE PASSAGE OF PUBLIC TRAFFIC. REMOVAL SHALL BE IN THE REVERSE ORDER OF INSTALLATION.
- REPLACE PERMANENT PAVEMENT MARKINGS AND TRAFFIC SIGNS UPON COMPLETION OF EACH PHASE OF WORK.
- TEMPORARY PAVEMENT FOR TEMPORARY TREATMENT AT TRANSITIONS WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE CONSIDERED INCIDENTAL TO COLD PLANING AND AC MIX NO. IV.
- EACH CONSTRUCTION SIGN SHALL BE SUPPORTED BY EITHER ONE OR TWO POSTS AS SPECIFIED BY GENERAL NOTE #3 ON STANDARD PLAN TE-01.

TABLE 1 FOR TRAFFIC CONTROL PLAN

POSTED SPEED LIMIT (M.P.H.)	SIGN SPACING (D) (FEET)	TAPER LENGTH (T) (FEET)		LONGITUDINAL BUFFER SPACE (B) (FEET)	SPACING OF CONES OR DELINEATORS (FEET)		
		W = 12' OR LESS ①	W = GREATER THAN 12' ①		TAPER	TANGENT	WORK AREA
20	250	200	W x 17	35	20	20	10
25	250	200	W x 17	55	25	25	10
30	250	250	W x 20	85	30	30	10
35	250	250	W x 20	120	35	35	10
40	500	350	W x 30	170	40	40	10
45	500	550	W x 45	220	45	45	10
50	1000	600	W x 50	280	50	50	10
55	1000	700	W x 55	335	55	55	10

LEGEND

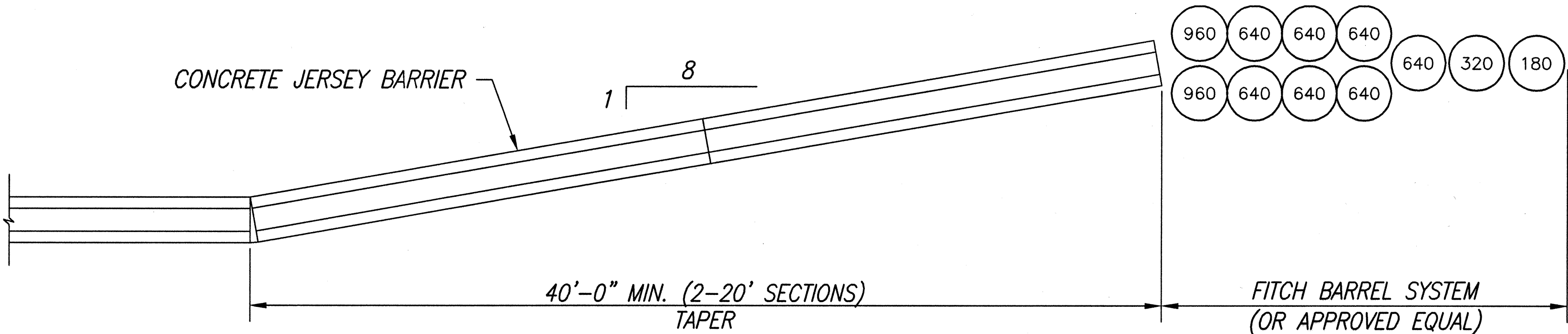
- SIGN
- CONE OR DELINEATOR
- DIRECTION OF TRAFFIC
- POLICE OFFICER/FLAGMAN
- WORK AREA
- FLASHING ARROW SIGNAL

NOTES:

- ① W = WIDTH OF LANE, SHOULDER, OR OFFSET

NOTE:

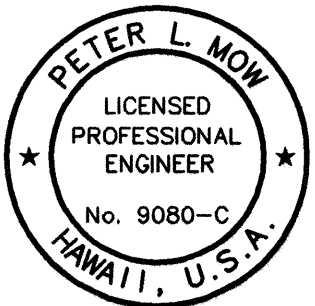
1. BARREL WEIGHTS IN KILOGRAMS.



CONCRETE JERSEY BARRIER END TREATMENT

NOT TO SCALE

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



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ME OR UNDER MY SUPERVISION.
[Signature]
ENGINEERS SURVEYORS HAWAII, INC.

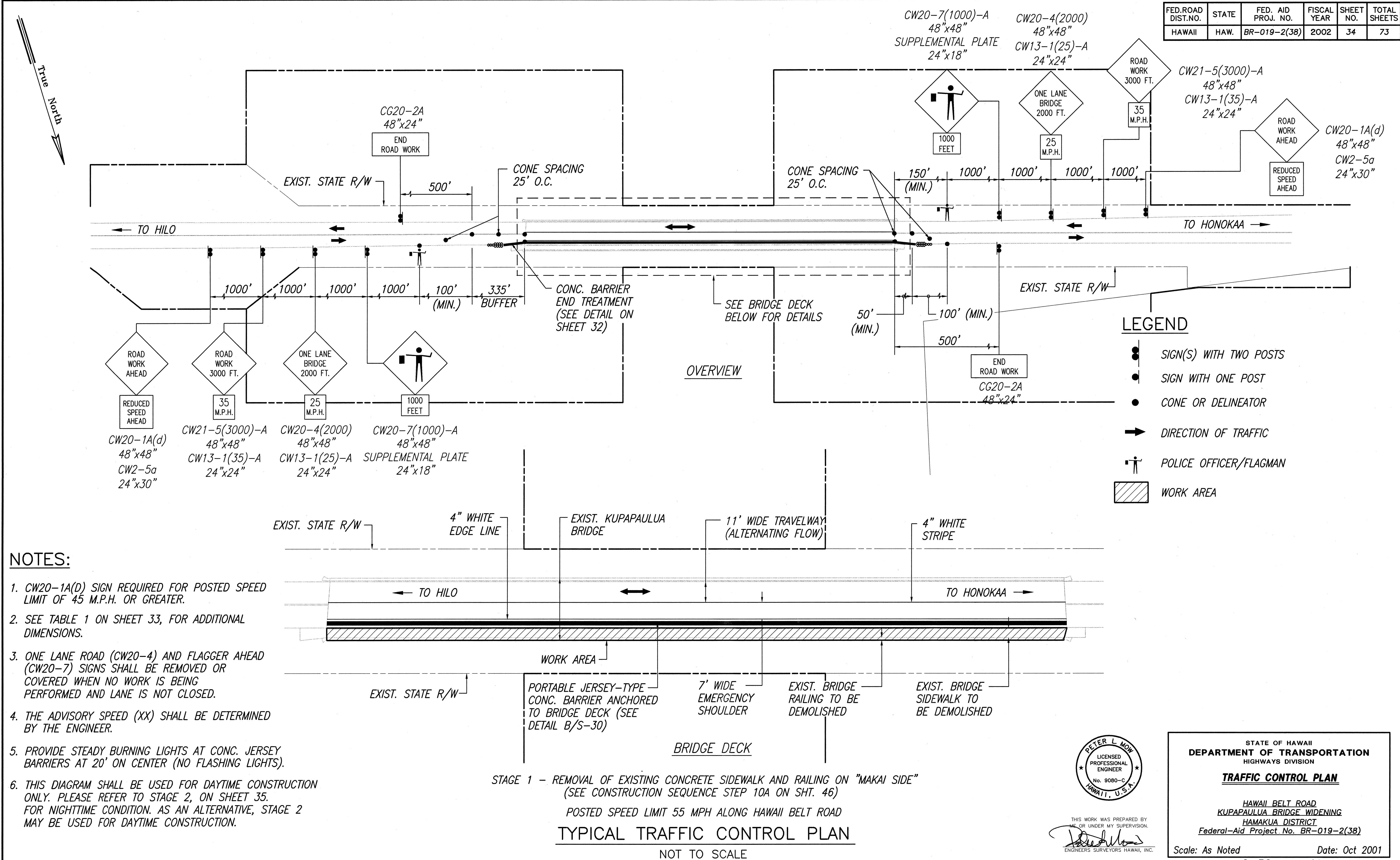
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC CONTROL PLAN

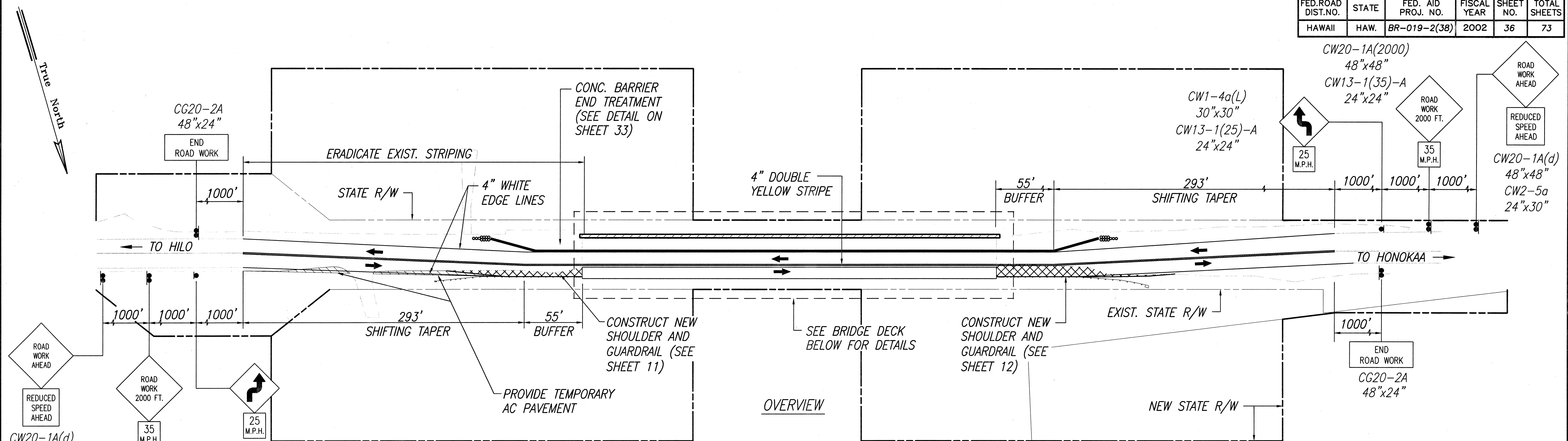
HAWAII BELT ROAD
KUPAPAU LUA BRIDGE WIDENING
HAMAKUA DISTRICT
Federal-Aid Project No. BR-019-2(38)

Scale: As Noted Date: Oct 2001
SHEET No. C-31 OF 41 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BR-019-2(38)	2002	34	73

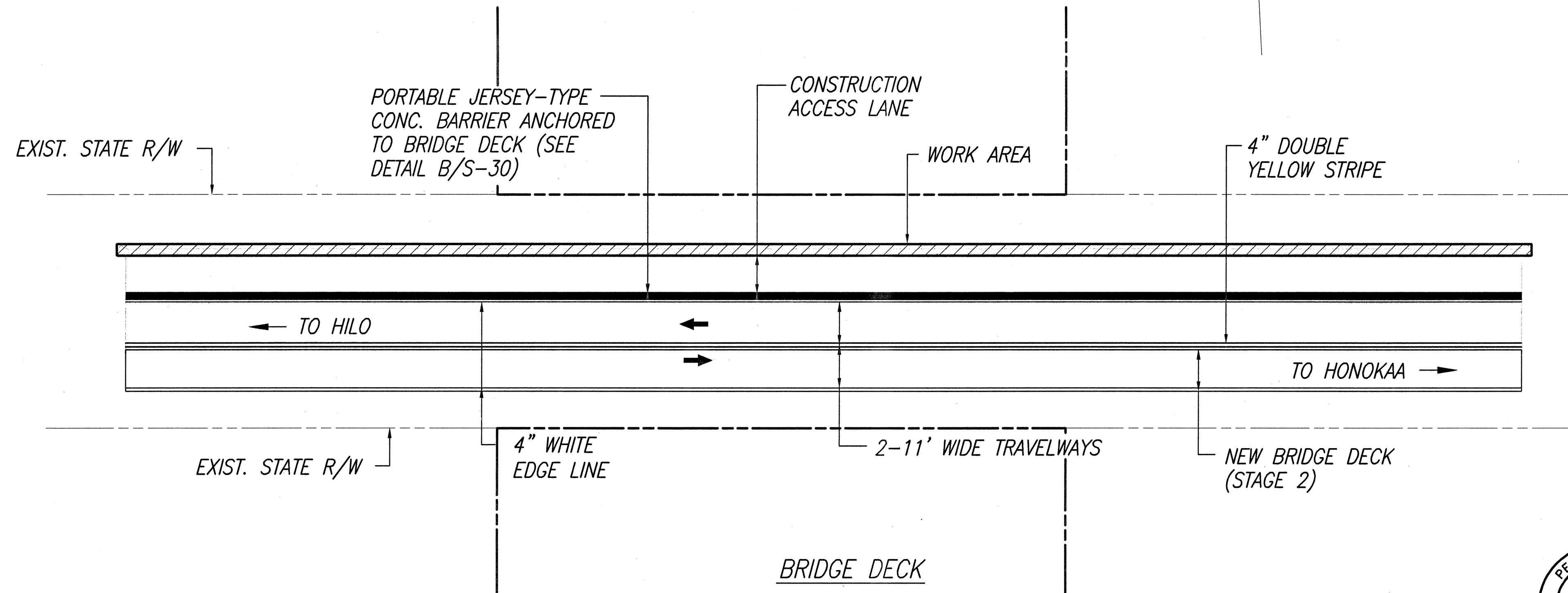


FED.ROAD DIST.NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BR-019-2(38)	2002	36	73









NOTES:

1. PROVIDE STEADY BURNING LIGHTS AT CONC. JERSEY BARRIERS AT 20' ON CENTER (NO FLASHING LIGHTS).
2. THIS DIAGRAM SHALL BE USED AS THE DAYTIME AND NIGHTTIME CONDITION FOR STAGE 3.



LEGEND

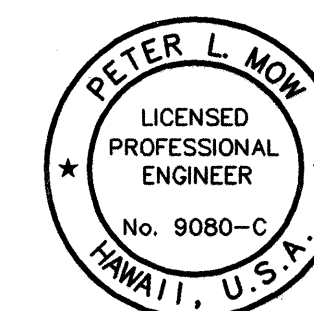
-  *SIGN(S) WITH TWO POSTS*
-  *SIGN WITH ONE POST*
-  *CONE OR DELINEATOR*
-  *DIRECTION OF TRAFFIC*
-  *POLICE OFFICER/FLAGMAN*
-  *WORK AREA*


STAGE 3 - REMOVAL OF EXISTING RAILING ON "MAUKA SIDE"
(SEE CONSTRUCTION SEQUENCE STEP 12A ON SHT. 46)

POSTED SPEED LIMIT 55 MPH ALONG HAWAII BELT ROAD

TYPICAL TRAFFIC CONTROL PLAN

NOT TO SCALE



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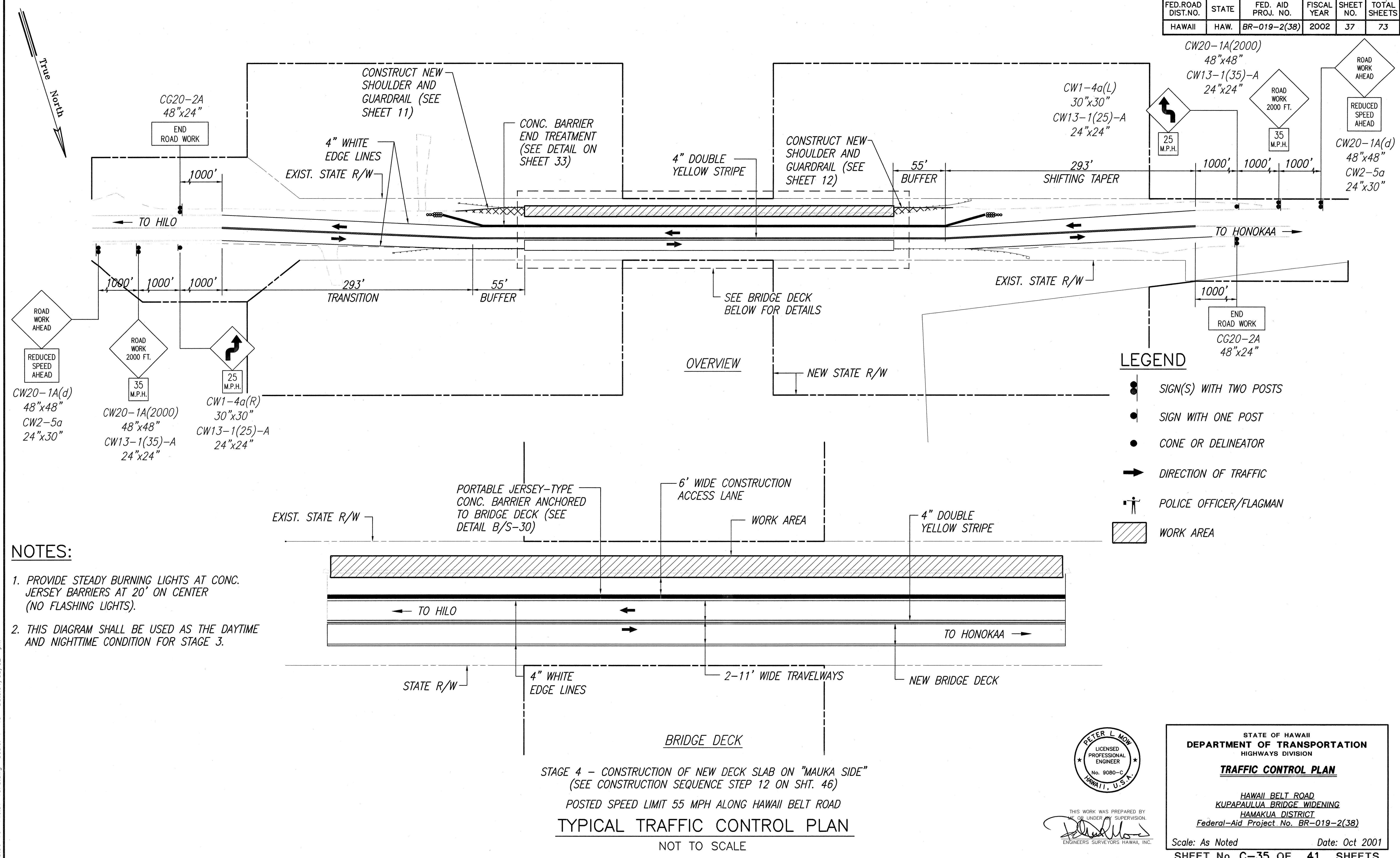
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC CONTROL PLAN

HAWAII BELT ROAD
KUPAPAU'UA BRIDGE WIDENING
HAMAKUA DISTRICT
Federal-Aid Project No. BR-019-2(38)

Scale: As Noted Date: Oct 2001
SHEET No. C-34 OF 41 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BR-019-2(38)	2002	37	73



- NOTES:**
1. PROVIDE STEADY BURNING LIGHTS AT CONC. JERSEY BARRIERS AT 20' ON CENTER (NO FLASHING LIGHTS).
 2. THIS DIAGRAM SHALL BE USED AS THE DAYTIME AND NIGHTTIME CONDITION FOR STAGE 3.

- LEGEND**
- SIGN(S) WITH TWO POSTS
 - SIGN WITH ONE POST
 - CONE OR DELINEATOR
 - ➔ DIRECTION OF TRAFFIC
 - 🚧 POLICE OFFICER/FLAGMAN
 - ▨ WORK AREA

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

STAGE 4 - CONSTRUCTION OF NEW DECK SLAB ON "MAUKA SIDE"
 (SEE CONSTRUCTION SEQUENCE STEP 12 ON SHT. 46)
 POSTED SPEED LIMIT 55 MPH ALONG HAWAII BELT ROAD
TYPICAL TRAFFIC CONTROL PLAN
 NOT TO SCALE

PETER L. MOW
 LICENSED PROFESSIONAL ENGINEER
 No. 9080-C
 HAWAII, U.S.A.

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

TRAFFIC CONTROL PLAN

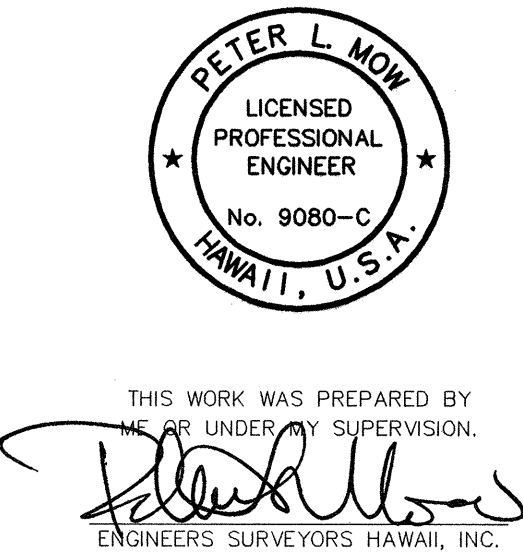
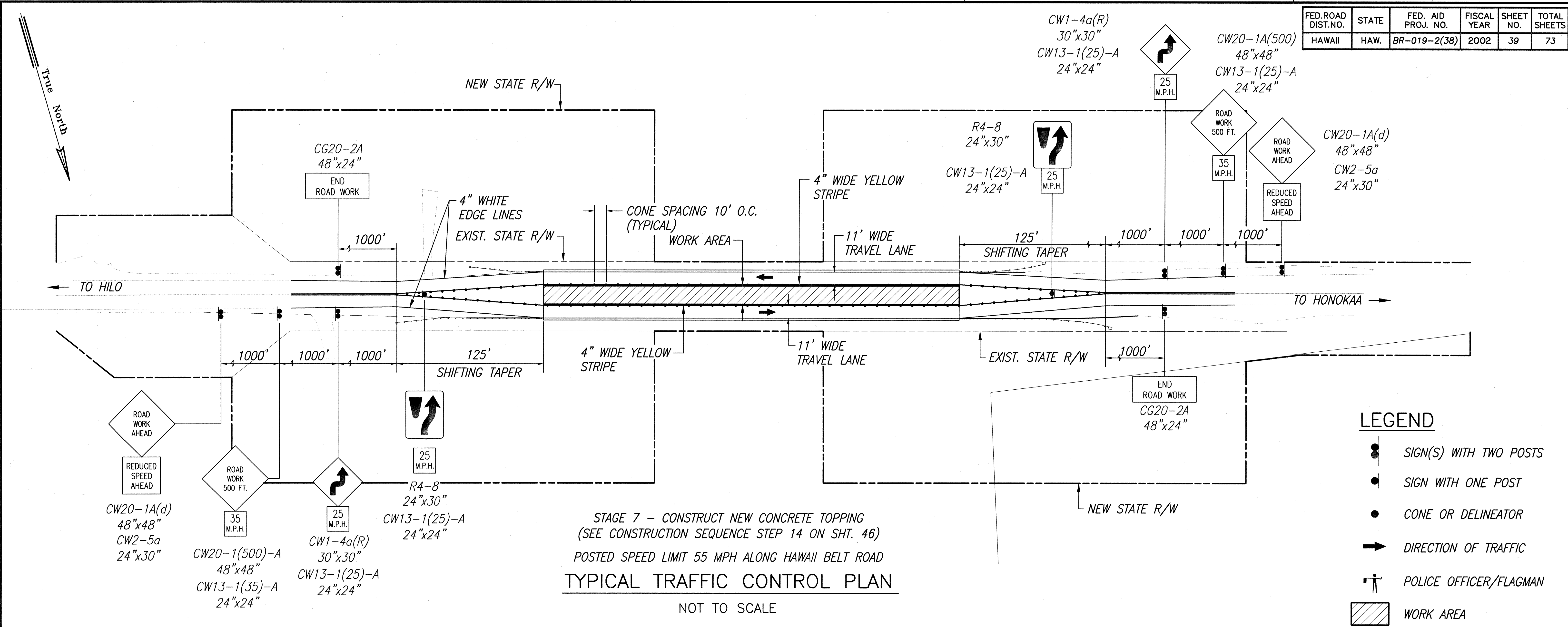
HAWAII BELT ROAD
 KUPAPAU LUA BRIDGE WIDENING
 HAMAKUA DISTRICT
 Federal-Aid Project No. BR-019-2(38)

Scale: As Noted Date: Oct 2001

SHEET No. C-35 OF 41 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BR-019-2(38)	2002	39	73

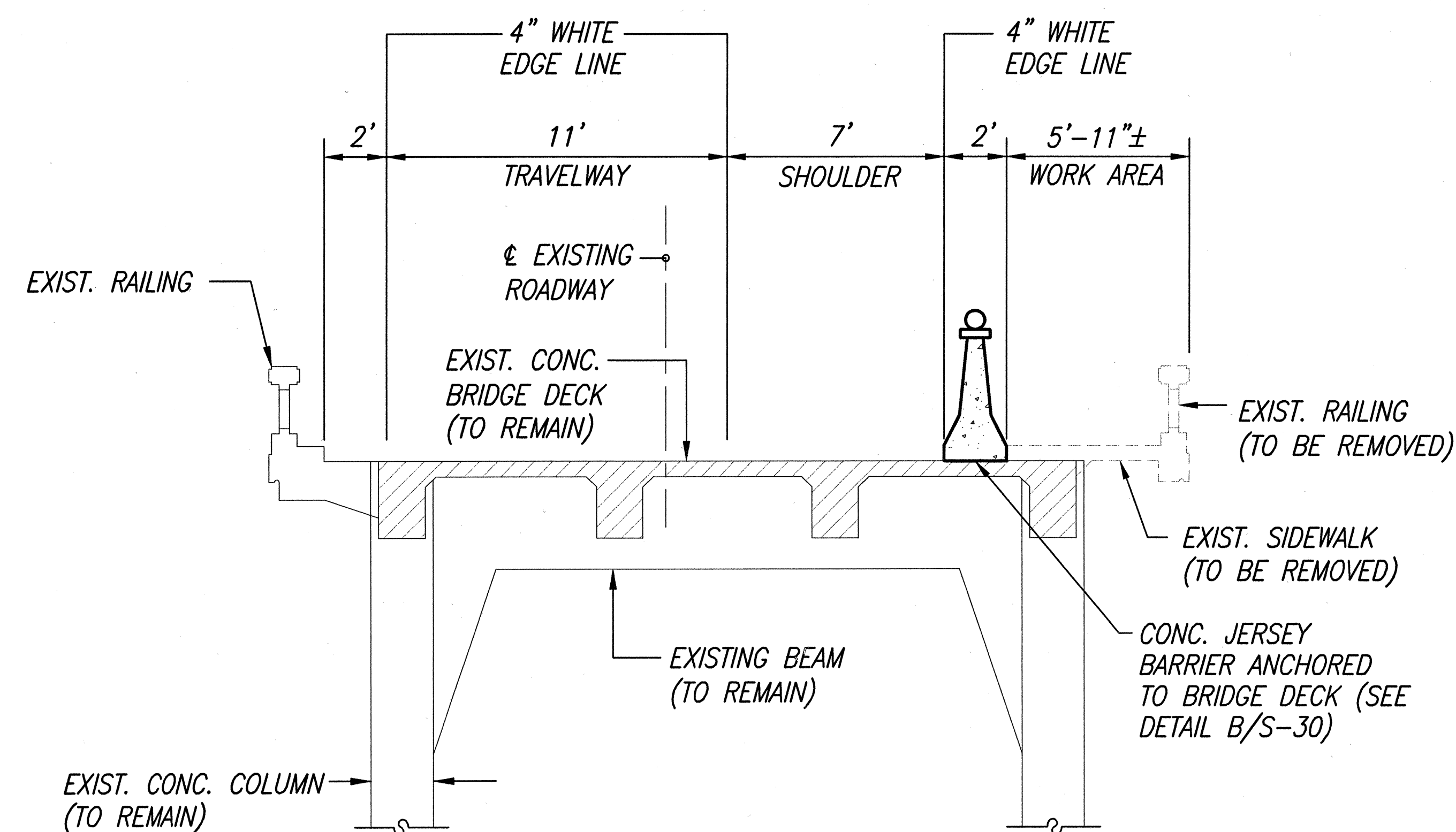
ORIGINAL PLAN	DATE
NOTED BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	
NO.	



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
TRAFFIC CONTROL PLAN
HAWAII BELT ROAD
KUPAPAU'UA BRIDGE WIDENING
HAMAKUA DISTRICT
Federal-Aid Project No. BR-019-2(38)

Scale: As Noted
Date: Oct 2001
SHEET No. C-37 OF 41 SHEETS

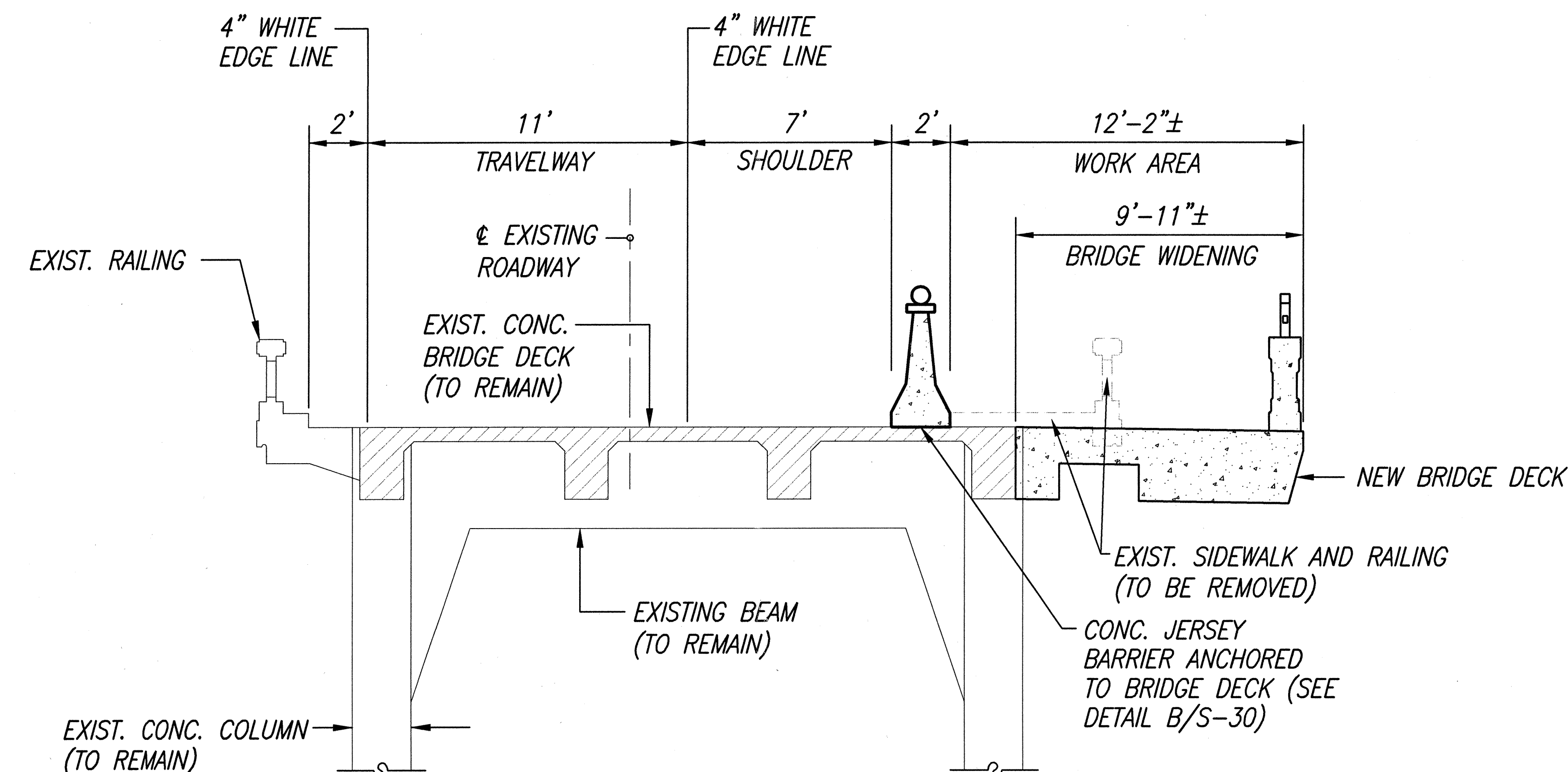
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BR-019-2(38)	2002	40	73



STAGE 1 - REMOVAL OF EXISTING CONCRETE SIDEWALK AND RAILING ON "MAKAI SIDE"
(SEE CONSTRUCTION SEQUENCE STEP 10A)

TYPICAL BRIDGE SECTION

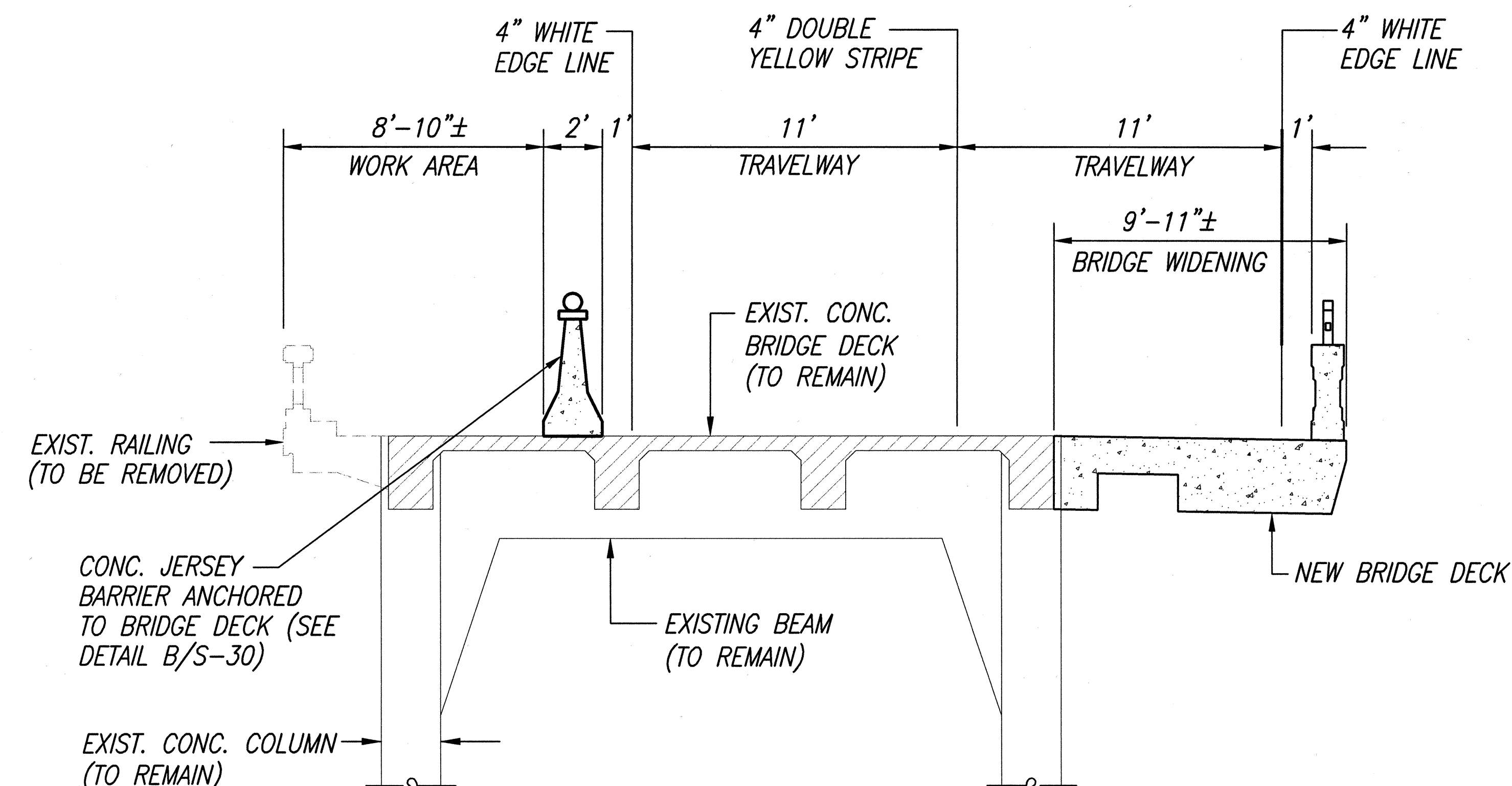
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STAGE 2 - CONSTRUCTION OF NEW DECK SLAB ON "MAKAI SIDE"
(SEE CONSTRUCTION SEQUENCE STEP 10B)

TYPICAL BRIDGE SECTION

NOT TO SCALE

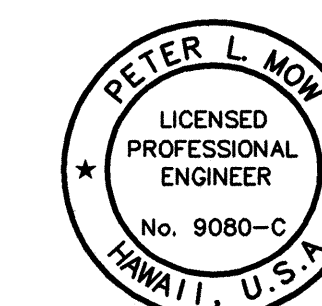


STAGE 3 - CONSTRUCTION OF NEW DECK SLAB ON "MAUKA SIDE"
(SEE CONSTRUCTION SEQUENCE STEP 12A)

TYPICAL BRIDGE SECTION

NOT TO SCALE

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



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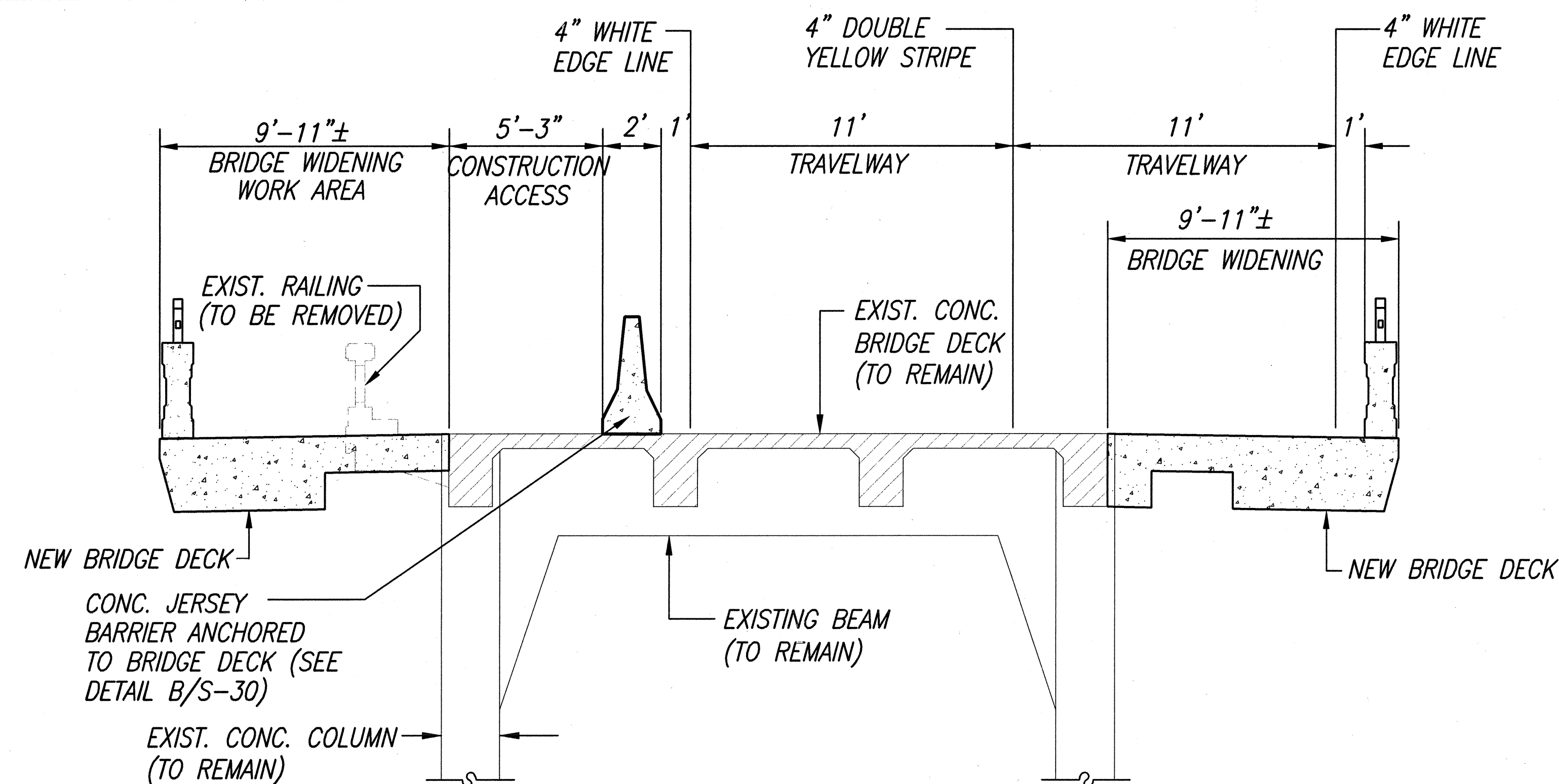
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC CONTROL PLAN

HAWAII BELT ROAD
KUPAPAUHUA BRIDGE WIDENING
HAMAKUA DISTRICT
Federal-Aid Project No. BR-019-2(38)

Scale: As Noted Date: August 2001
SHEET No. C-38 OF 41 SHEETS

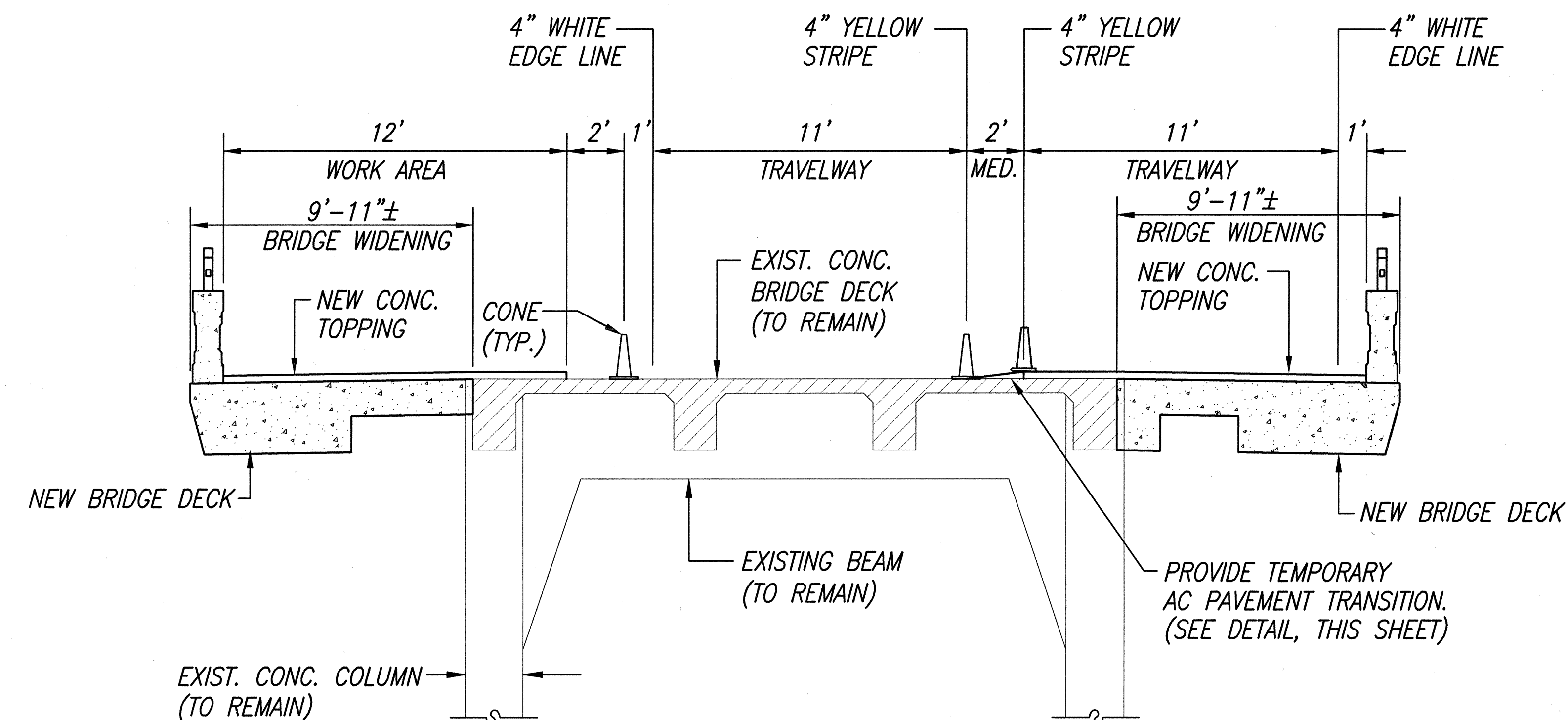
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BR-019-2(38)	2002	41	73



STAGE 4 - CONSTRUCTION OF NEW DECK SLAB ON "MAUKA SIDE"
(SEE CONSTRUCTION SEQUENCE STEP 12)

TYPICAL BRIDGE SECTION

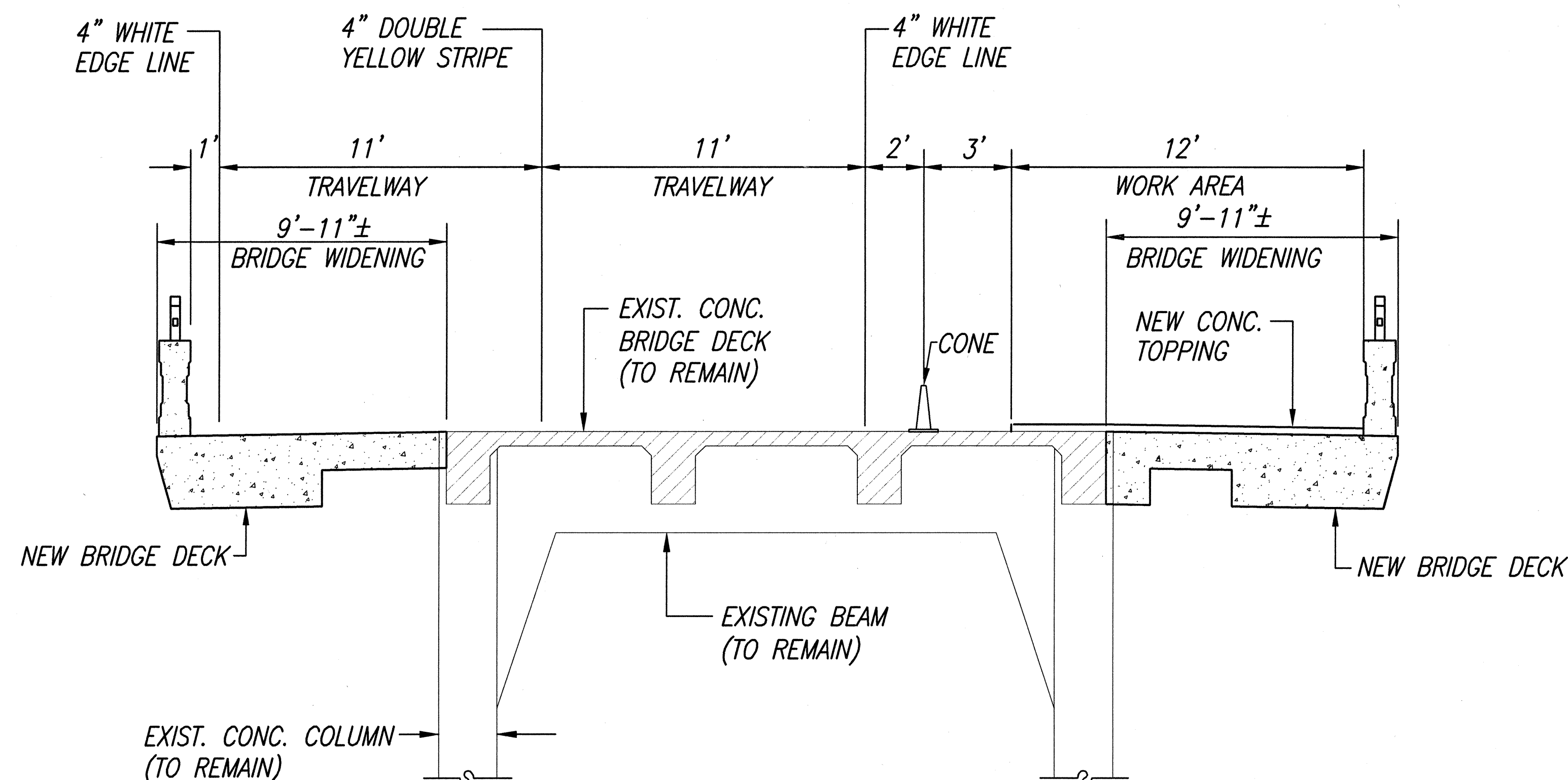
NOT TO SCALE



STAGE 6 - CONSTRUCTION OF NEW CONCRETE TOPPING ON "MAUKA SIDE"
(SEE CONSTRUCTION SEQUENCE STEP 14 ON SHT. 46)

TYPICAL BRIDGE SECTION

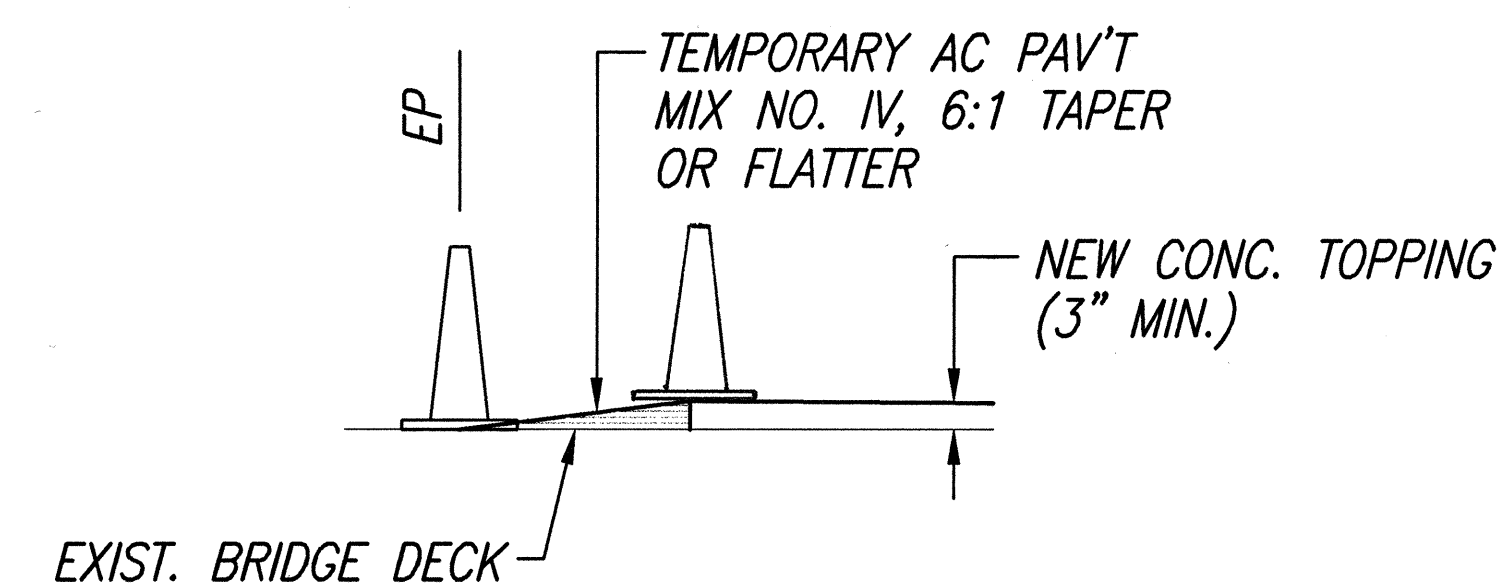
NOT TO SCALE



STAGE 5 - CONSTRUCTION OF NEW CONCRETE TOPPING ON "MAKAI SIDE"
(SEE CONSTRUCTION SEQUENCE STEP 14)

TYPICAL BRIDGE SECTION

NOT TO SCALE



TEMPORARY AC PAV'T TRANSITION

NOT TO SCALE



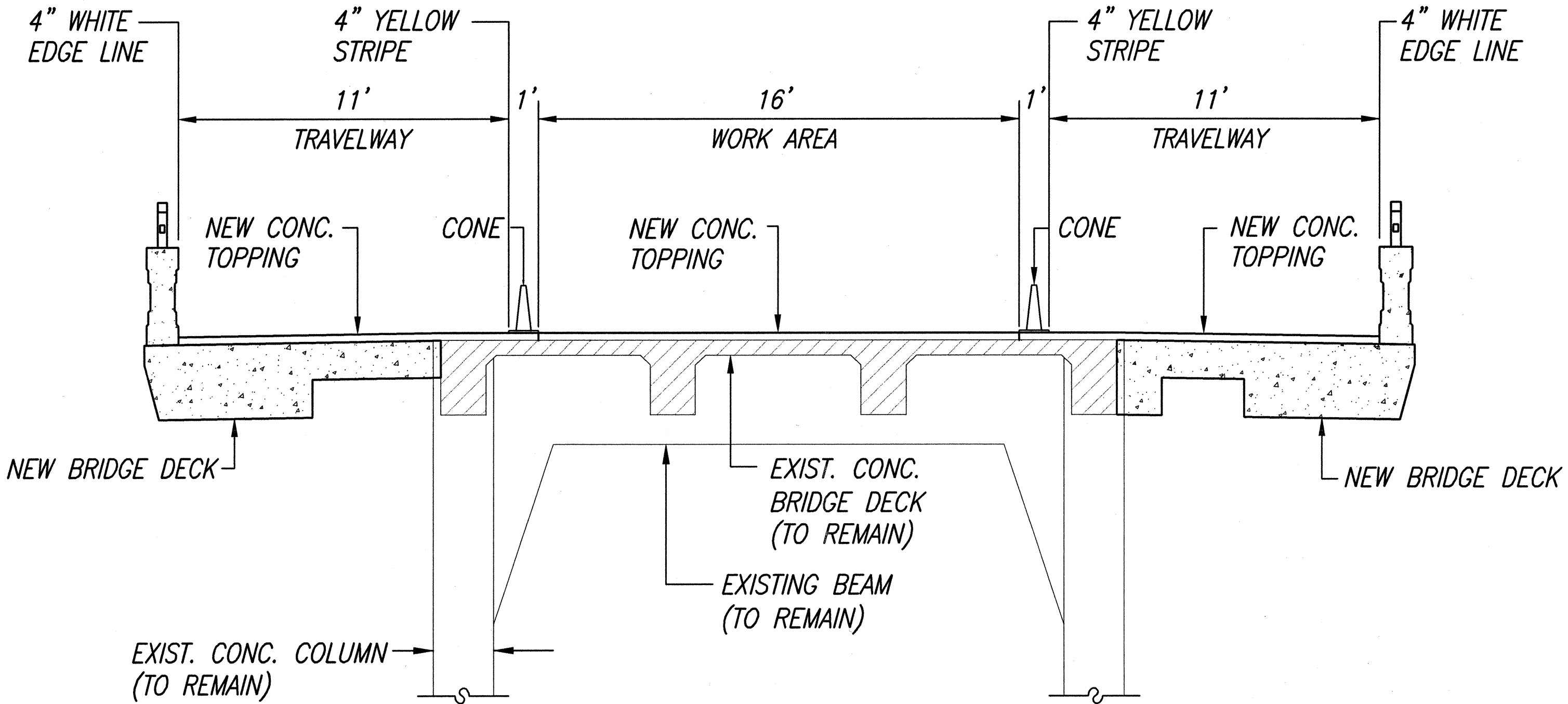
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
TRAFFIC CONTROL PLAN

HAWAII BELT ROAD
KUPAPAPULUA BRIDGE WIDENING
HAMAKUA DISTRICT
Federal-Aid Project No. BR-019-2(38)

Scale: As Noted Date: Oct 2001
SHEET No. C-39 OF 41 SHEETS

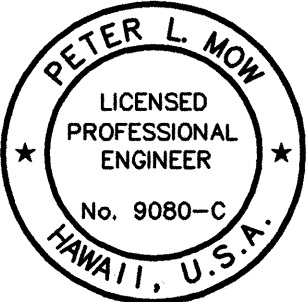
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BR-019-2(38)	2002	42	73



STAGE 7 - CONSTRUCTION OF NEW CONCRETE TOPPING
(SEE CONSTRUCTION SEQUENCE STEP 14)

TYPICAL BRIDGE SECTION
NOT TO SCALE

ORIGINAL PLAN	DATE
SURVEY PLOTTED BY	
DESIGNED BY	
TRACED BY	
NOTED BY	
CHECKED BY	
QUANTITIES BY	
NO.	



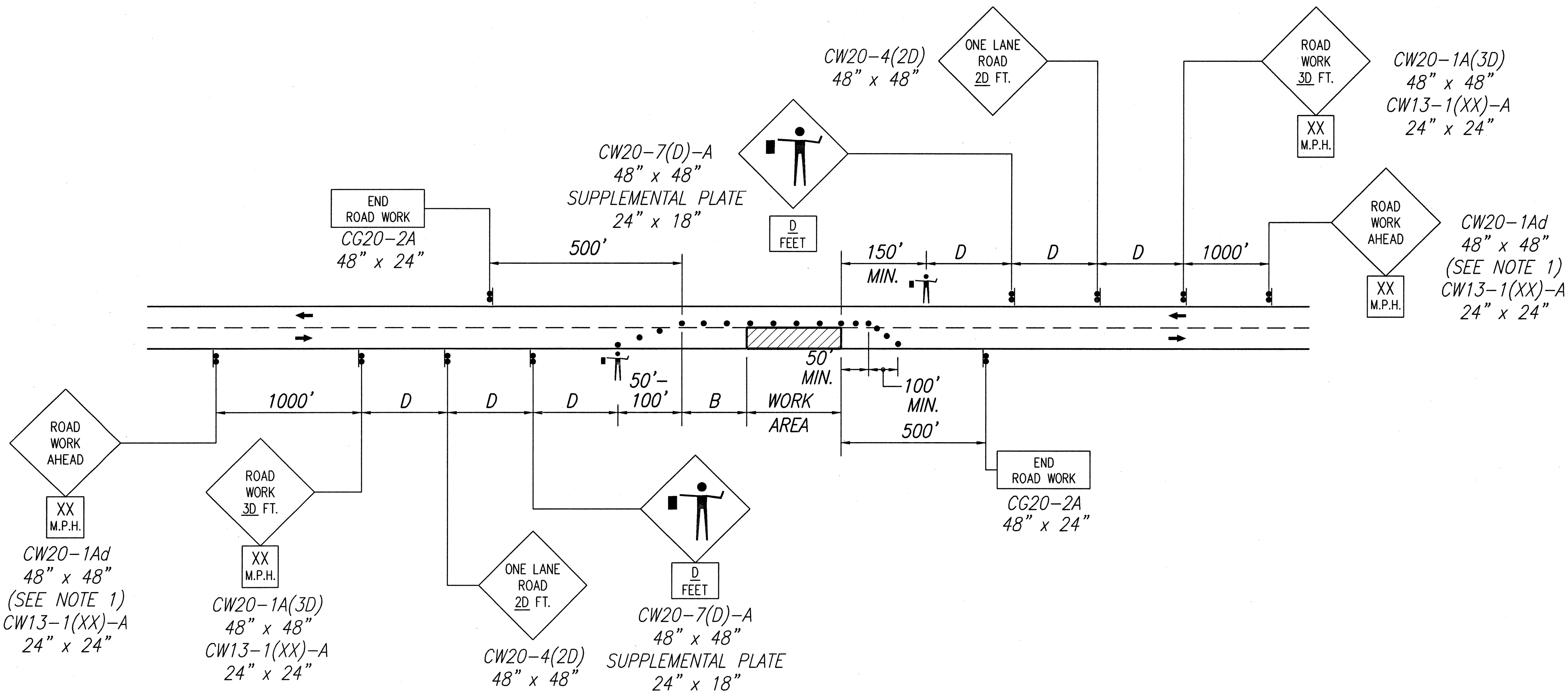
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
TRAFFIC CONTROL PLAN

HAWAII BELT ROAD
KUPAPAU LUA BRIDGE WIDENING
HAMAKUA DISTRICT
Federal-Aid Project No. BR-019-2(38)

Scale: As Noted Date: Oct 2001
SHEET No. C-40 OF 41 SHEETS

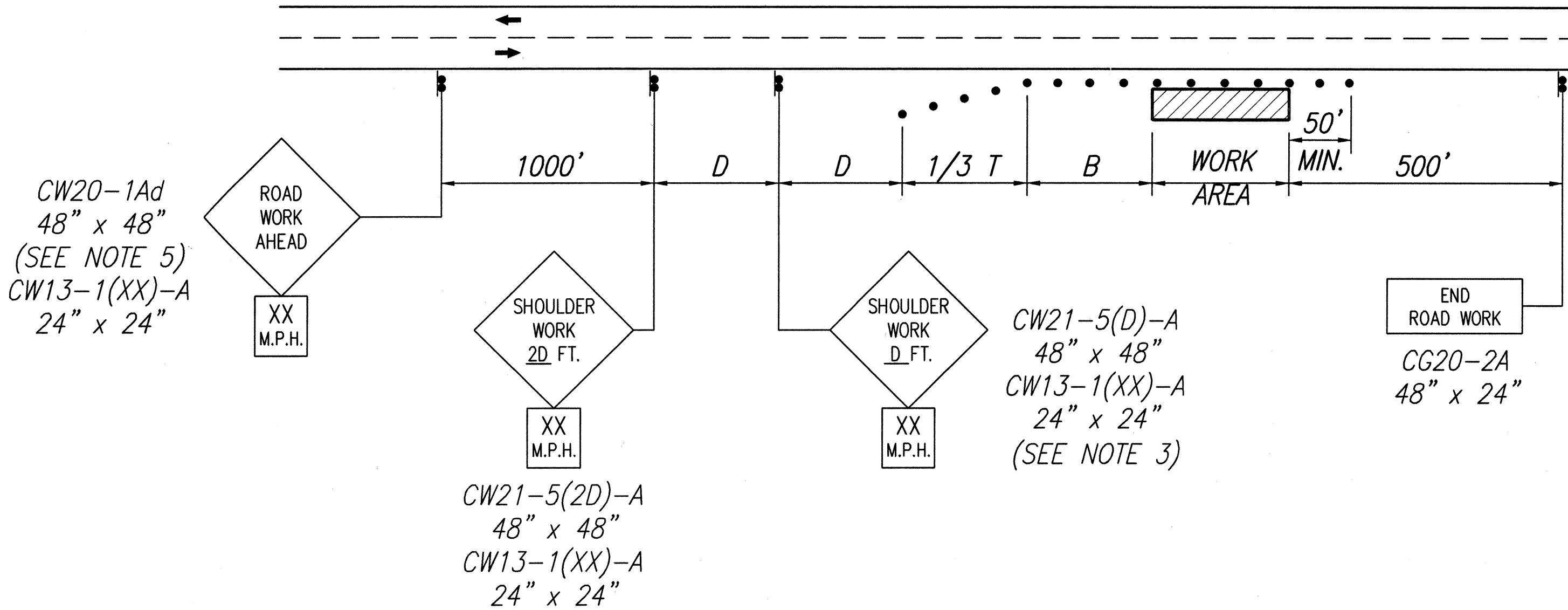
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BR-019-2(38)	2002	43	73



POSTED SPEED LIMIT 55 MPH ALONG HAWAII BELT ROAD
TYPICAL TRAFFIC CONTROL PLAN
TWO-LANE HIGHWAY — ONE LANE CLOSED
NOT TO SCALE

NOTES:

1. CW20-1A(D) SIGN REQUIRED FOR POSTED SPEED LIMIT OF 45 M.P.H. OR GREATER.
2. SEE TABLE 1 ON SHEET 33, FOR ADDITIONAL DIMENSIONS.
3. ONE LANE ROAD (CW20-4) AND FLAGGER AHEAD (CW20-7) SIGNS SHALL BE REMOVED OR COVERED WHEN NO WORK IS BEING PERFORMED AND LANE IS NOT CLOSED.
4. THE ADVISORY SPEED (XX) SHALL BE DETERMINED BY THE ENGINEER.



POSTED SPEED LIMIT 55 MPH ALONG HAWAII BELT ROAD
TYPICAL TRAFFIC CONTROL PLAN
WORKING ON SHOULDER OR ROADSIDE
NOT TO SCALE

NOTES:

1. THIS PLAN MAY BE USED ONLY IF ALL ROAD WORK, INCLUDING EQUIPMENT AND WORKERS ARE OFF THE TRAVEL WAY.
2. SEE TABLE 1 ON SHEET 33 FOR ADDITIONAL DIMENSIONS.
3. ENGINEER WILL DETERMINE IF ADVISORY SPEED SIGN IS NECESSARY.
4. CONTRACTOR WILL PROVIDE NECESSARY ADJUSTMENTS TO ACCOMMODATE BICYCLISTS AND PEDESTRIANS.
5. CW20-1AD SIGN REQUIRED FOR POSTED SPEED LIMIT OF 45 M.P.H. OR GREATER.
6. SIGNING IS NOT REQUIRED IF THE WORK AREA INCLUDING EQUIPMENT AND WORKERS, IS OUTSIDE THE CLEAR ZONE DISTANCE, AS SPECIFIED IN THE LATEST AASHTO ROADSIDE DESIGN GUIDE.



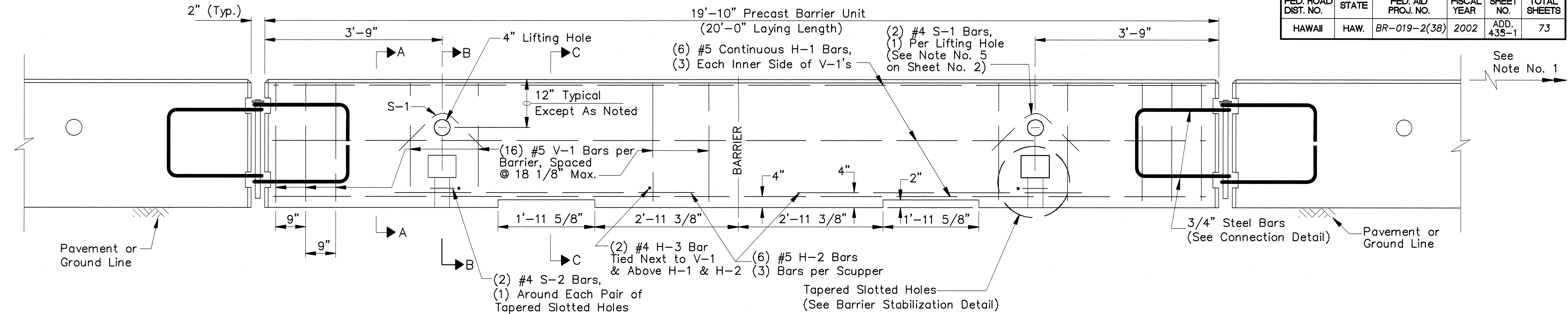
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ENGINEERS SURVEYORS HAWAII, INC.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
TRAFFIC CONTROL PLAN

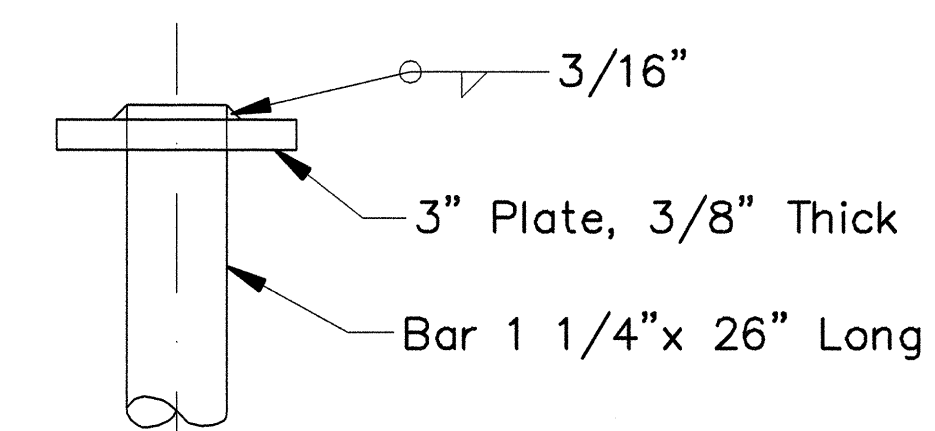
HAWAII BELT ROAD
KUPAPAU LUA BRIDGE WIDENING
HAMAKUA DISTRICT
Federal-Aid Project No. BR-019-2(38)

Scale: As Noted Date: Oct 2001
SHEET No. C-41 OF 41 SHEETS

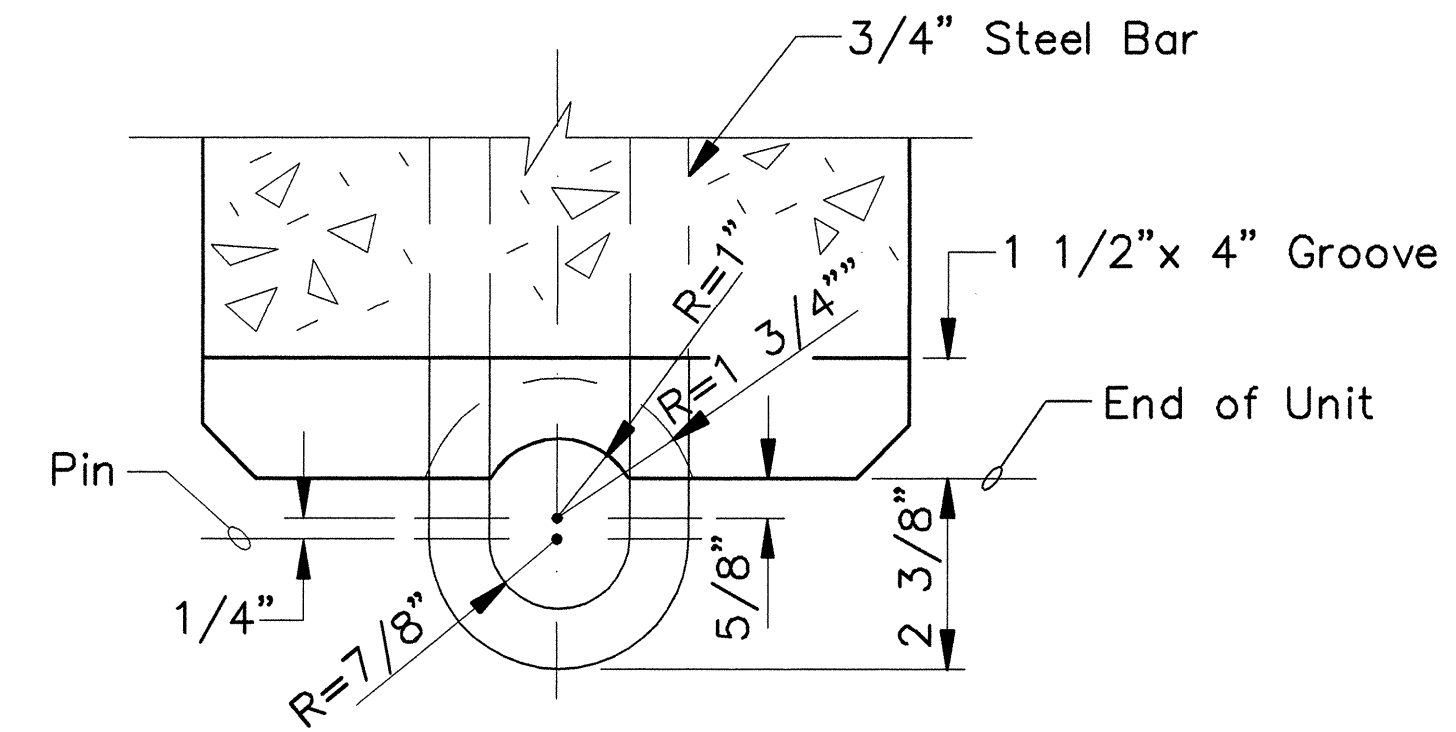
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BR-019-2(38)	2002	ADD. 435-1	73



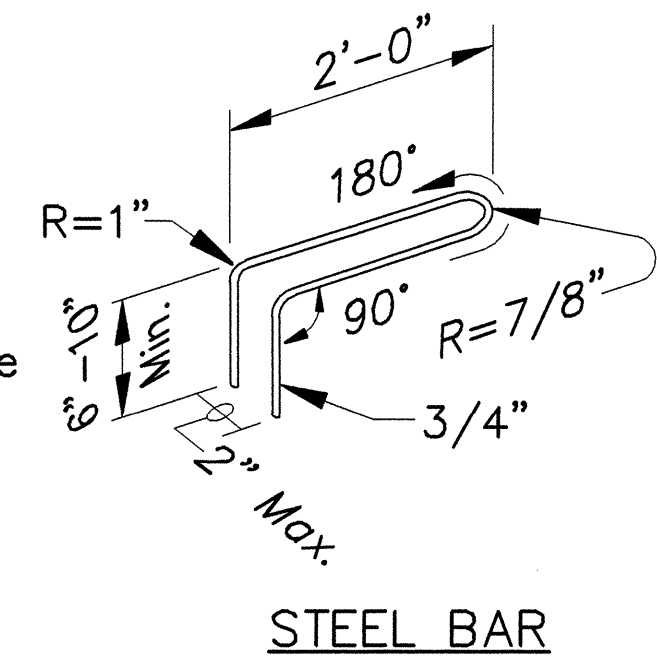
ELEVATION - TYPICAL BARRIER
MASS: 3.9 tons PER PANEL



CONNECTING PIN
(See Note No. 4 on Sheet No. 2)

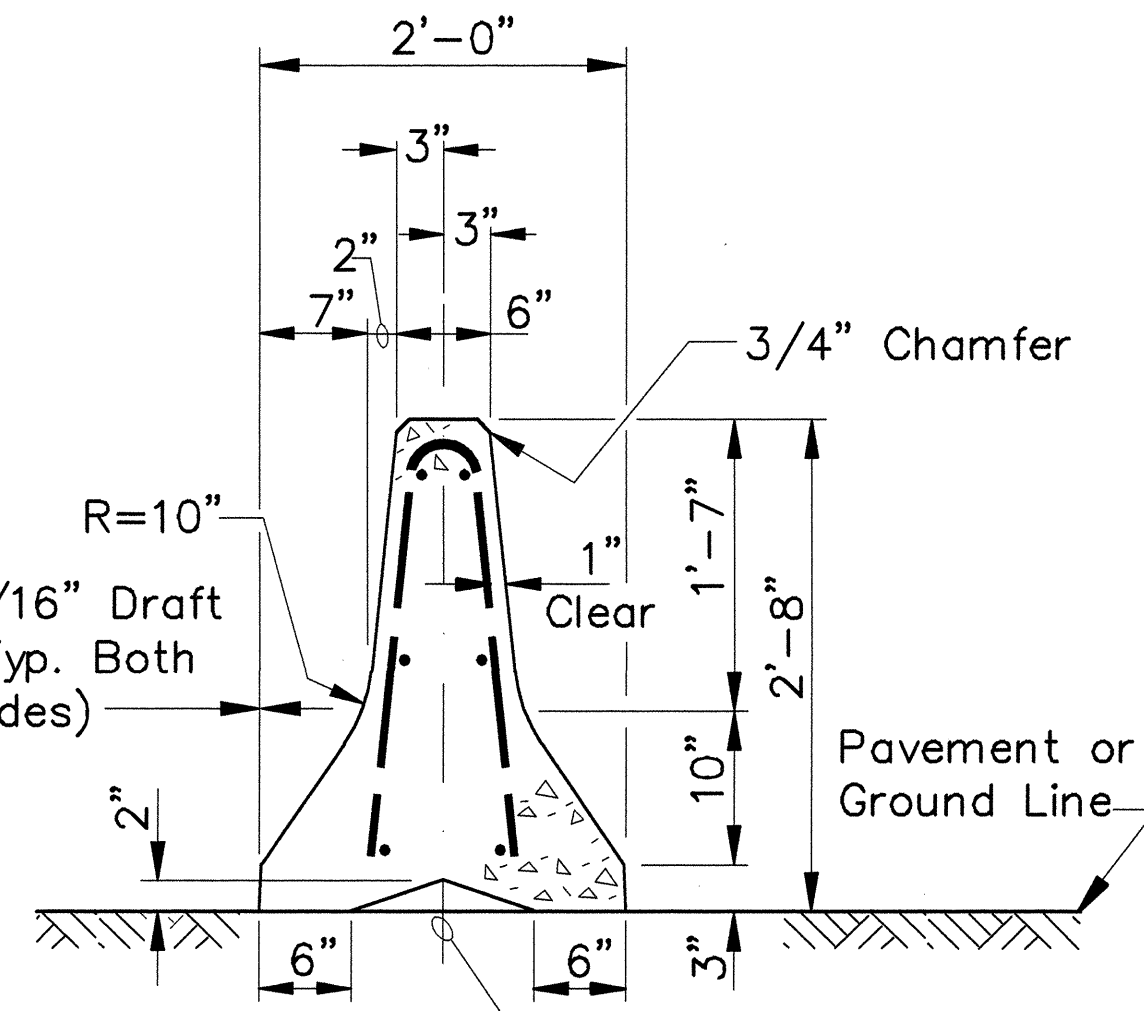


SECTION E-E

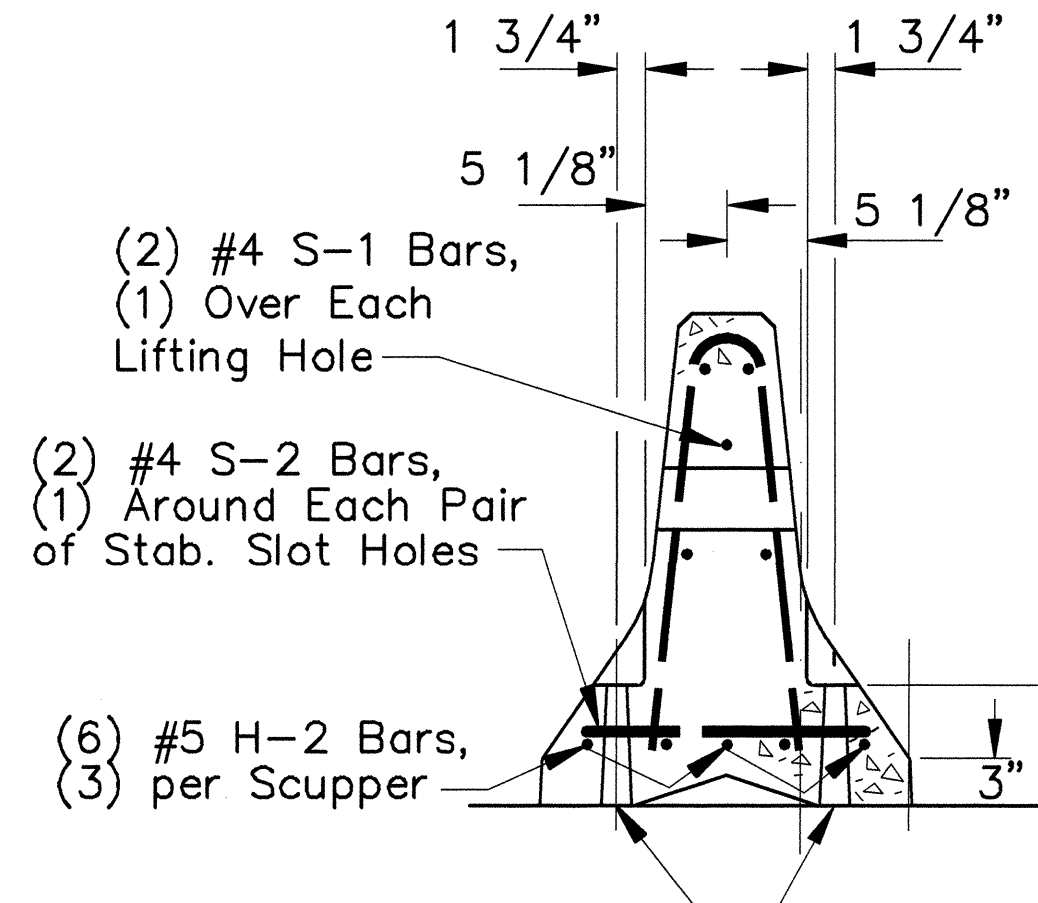


STEEL BAR

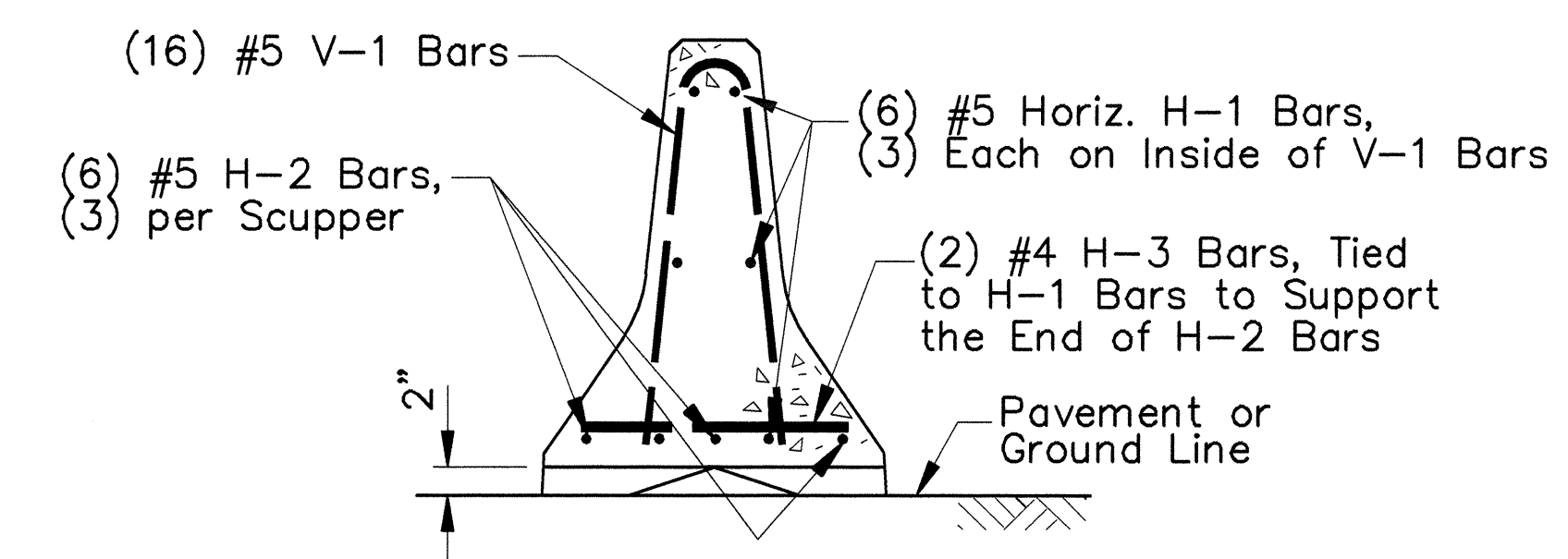
CONNECTION DETAILS
(See Note No. 4 on Sheet No. 2)



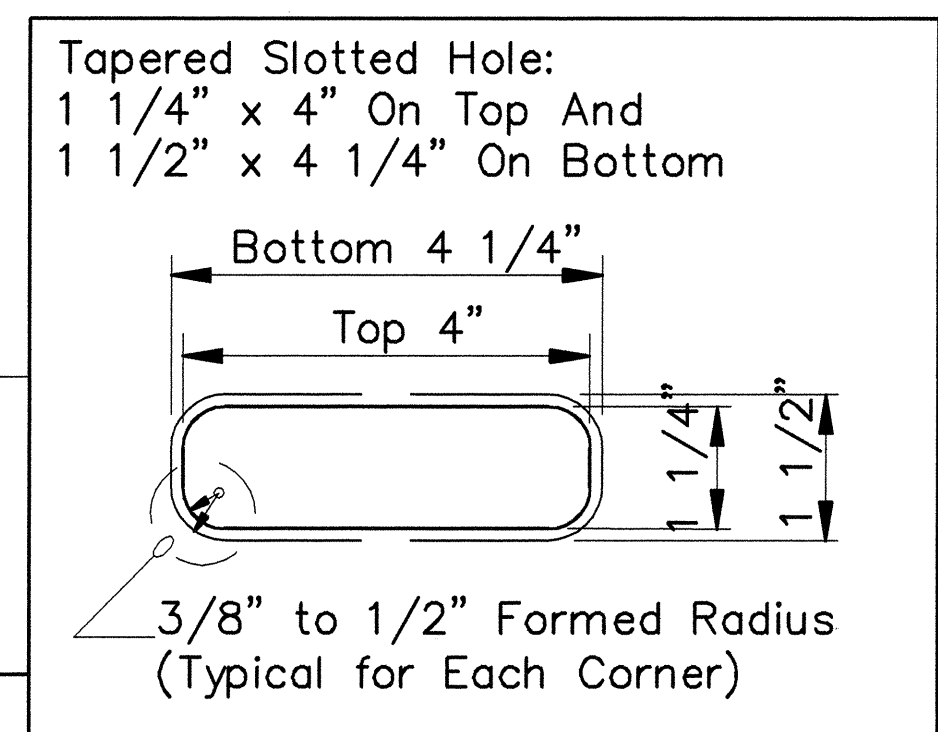
SECTION A-A



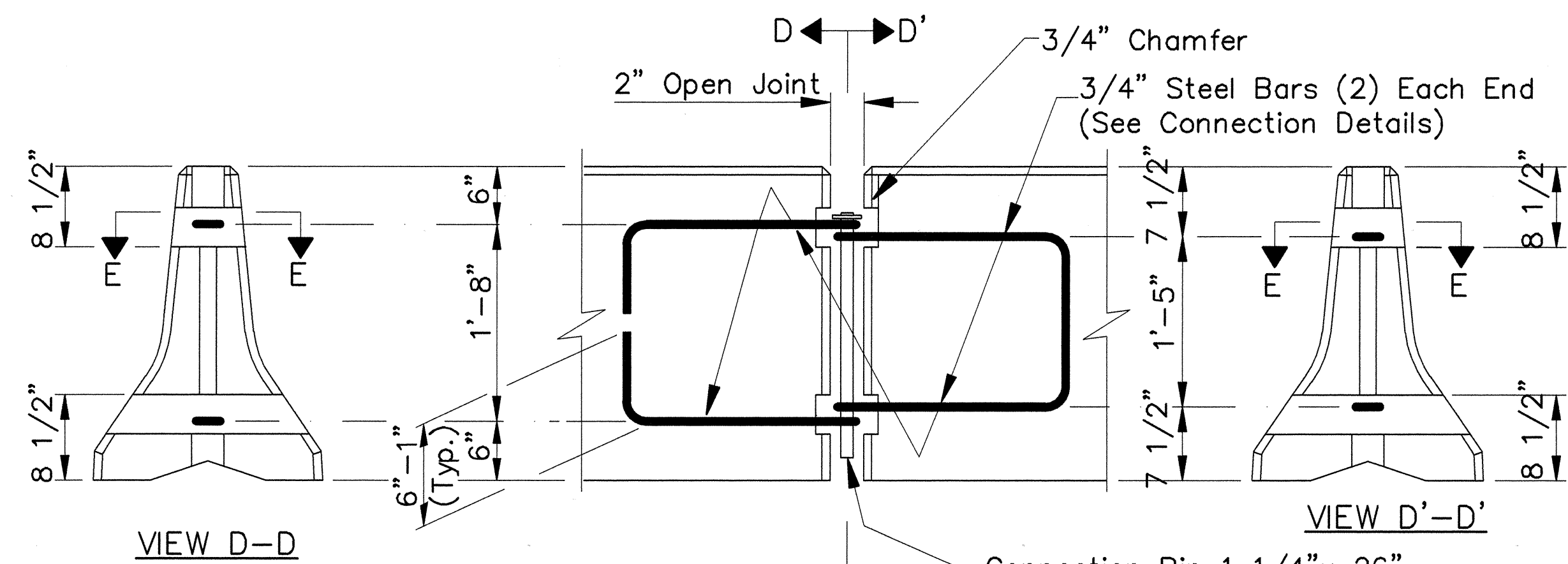
SECTION B-B



SECTION C-C



BARRIER STABILIZATION DETAIL

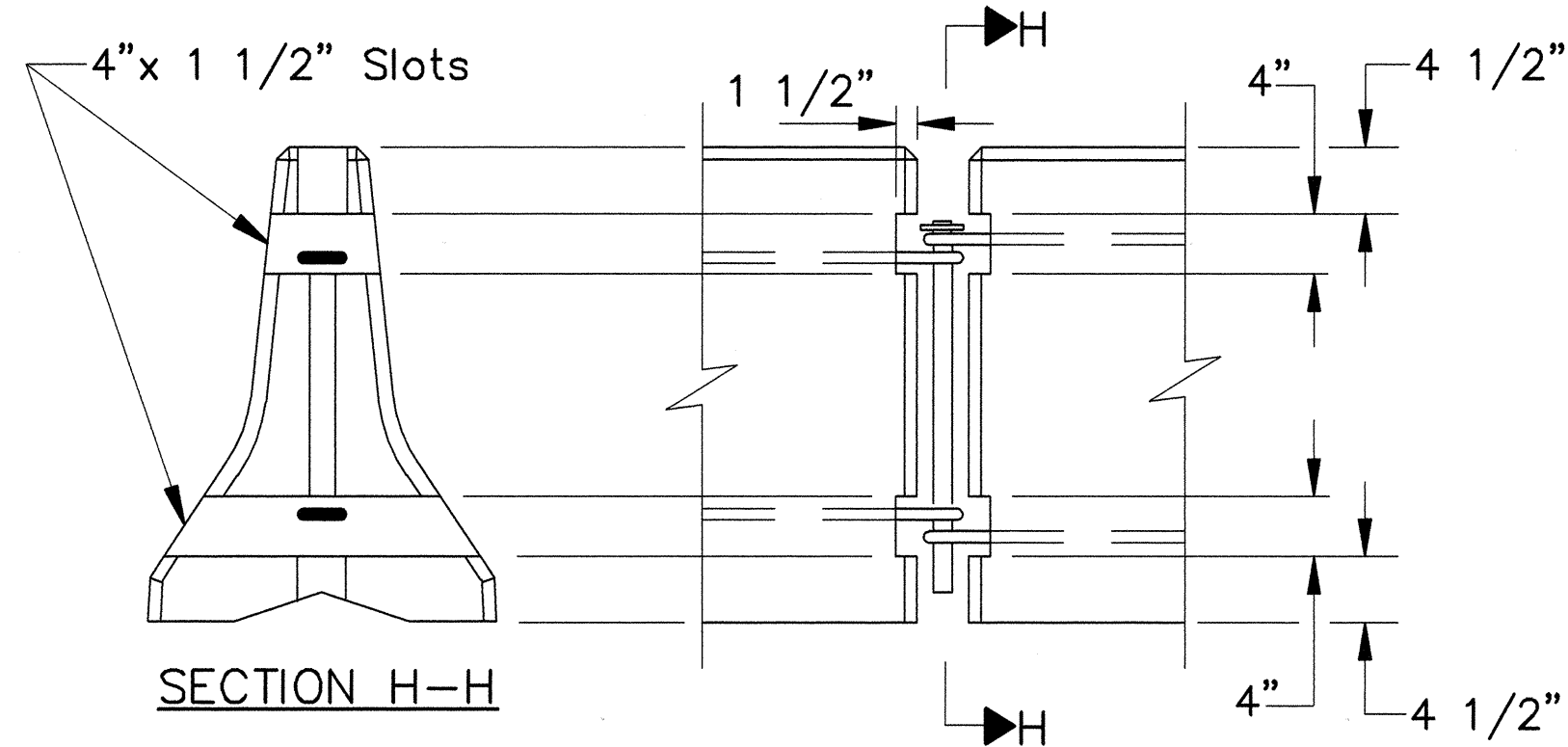


VIEW D-D

VIEW D'-D'

ELEVATION

Connection Pin 1 1/4" x 26" & Washer 3/8" x 3" (See Connection Details)



SECTION H-H

BARRIER REMOVAL SLOT DETAILS



4/15/02	ADDED SHEET
DATE	REVISION
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION PORTABLE CONCRETE BARRIER HAWAII BELT ROAD KUPAPAUHUA BRIDGE WIDENING HAMAKUA DISTRICT Federal Aid Project No. BR-019-2(38)	
SCALE: AS NOTED	DATE: OCT., 2001
SHEET No. C-41A OF 41 SHEETS	

ORIGINAL PLAN
DRAWN BY
DESIGNED BY
NOTED BY
CHECKED BY
No.

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BR-019-2(38)	2002	ADD. 43S-2	73

METAL REINFORCEMENT TABLE				
MARK	LOCATION	BAR SIZE	(NO. BARS)	SKETCH
H-1	Horizontal in Barrier Tied Inside V-1 Bars	#5	(6)	19'-3"
H-2	Centered Above Scuppers Long. & Transversely	#5	(6)	6'-6"
H-3	Tied Above H-1 Bars to Support H-2, Tied to V-1	#4	(2)	1'-6"
S-1	Horizontal in Top of Wing Wall & in Floor Back Wall	#4	(2)	
S-2	Horizontal Around Slots Between V-1's @ Scuppers	#4	(2)	
V-1	Vertical in Barrier (3) Each End & (2) at Each Scupper	#5	(16)	

NOTES:

- For end treatment, layout, crash cushions and where needed see Project Plans or Special Provisions.
- Barriers must be pinned together and cannot exceed the Taper as shown on the Project Plans.
- The Portable Concrete Barrier shall be anchored to the Bridge Deck. Refer to Detail B/S-30 For Typical Portable Concrete Barrier Anchorage Detail.
- ASTM A-36 steel shall be used for the connection pin and connection loops. A one piece pin with a 3" rounded top may be used in place of the detailed connection pin if the one piece pin meets ASTM A-36 requirements.
- A 4" white PVC sleeve may be used to form the lifting hole and if used the sleeve is to be left in place.
- Concrete shall be Class A and reinforcing shall be Grade 60.
- Minimum tangent length for portable Concrete Barrier System shall be 100' (5 units). This minimum does not include the required system length of the Inertial Barrier System.
- Install steady burn amber lamps on portable concrete barriers @ 20.0' o.c. Installing, maintaining and removing each steady burn amber lamp including changing of batteries and bulbs shall be considered incidental to applicable portable concrete barrier items.

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



4/15/02	ADDED SHEET
DATE	REVISION
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION PORTABLE CONCRETE BARRIER HAWAII BELT ROAD KUPAPAU LUA BRIDGE WIDENING HAMAKUA DISTRICT Federal Aid Project No. BR-019-2(38) SCALE: AS NOTED DATE: OCT., 2001	
SHEET No. C-41B OF 41 SHEETS	