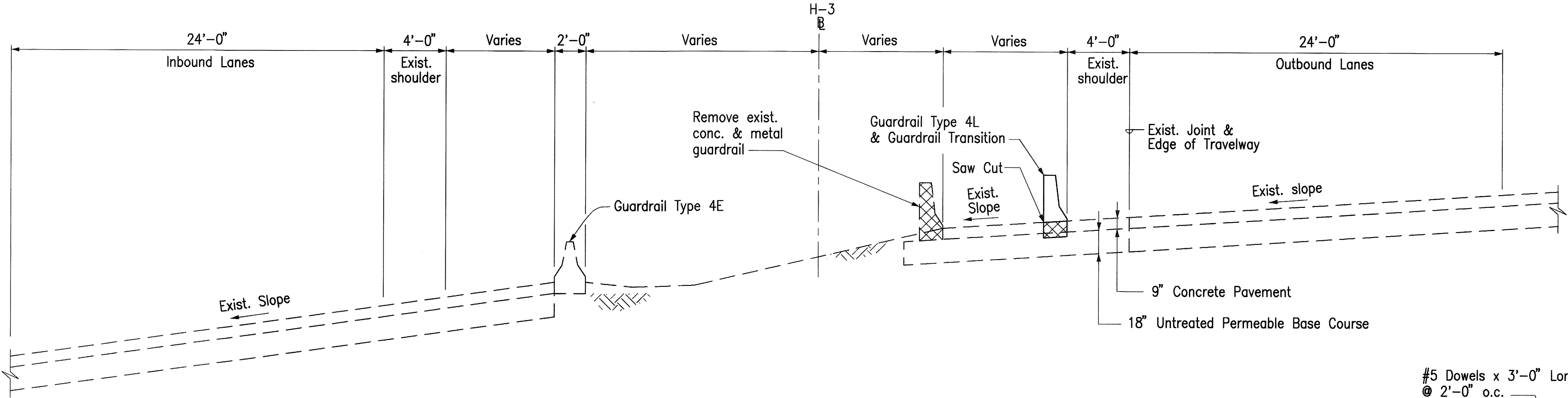
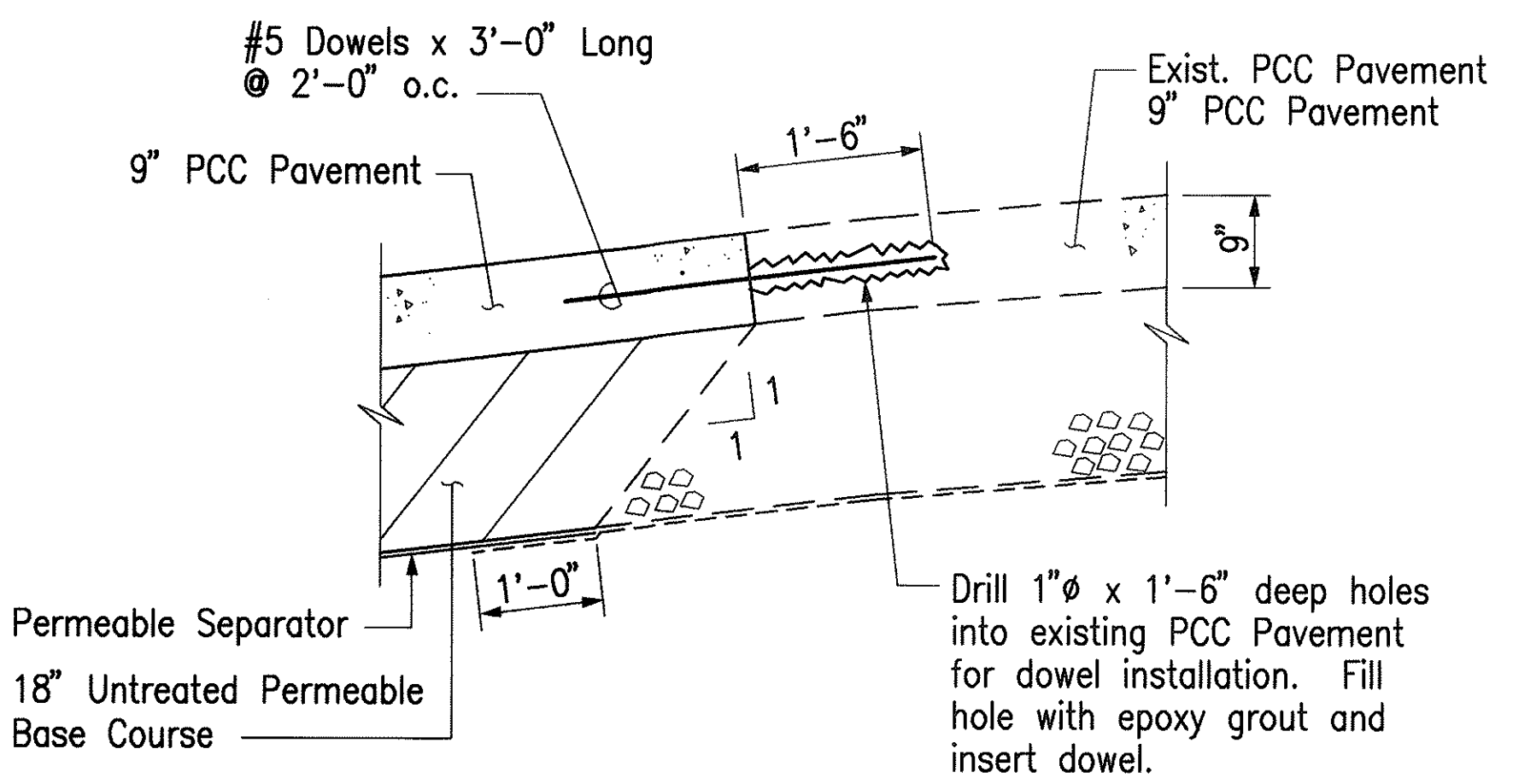


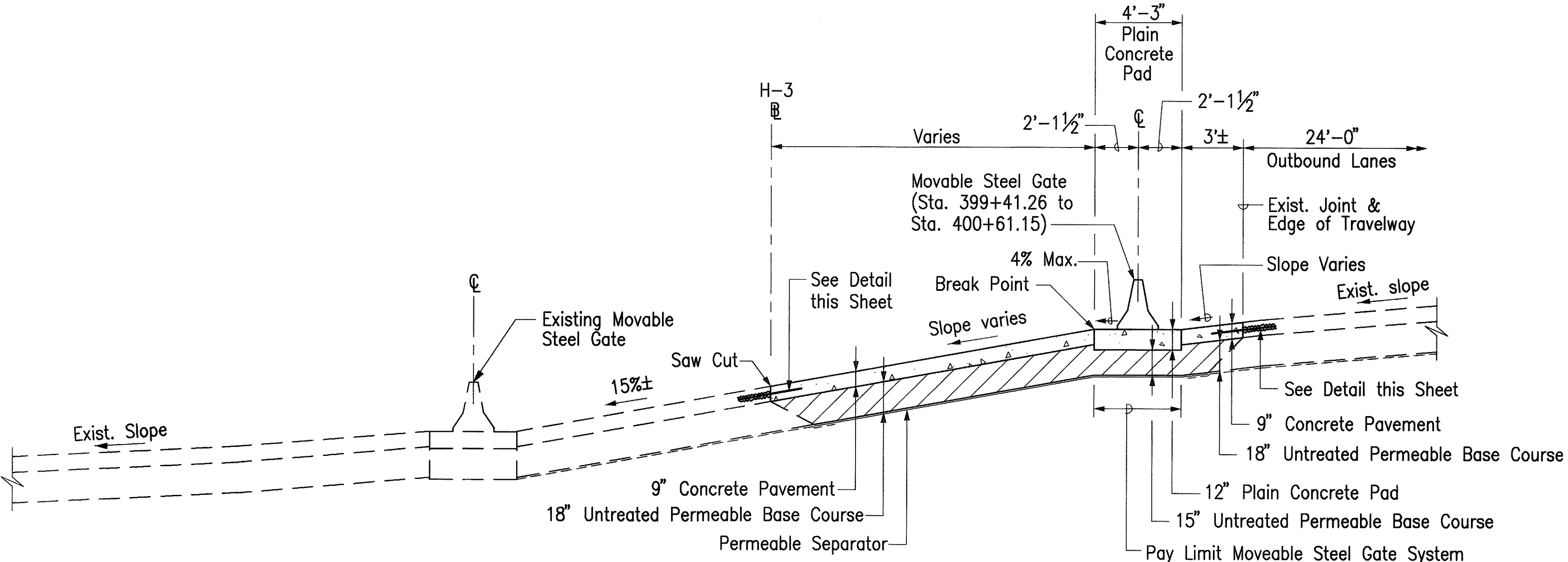
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(75), UNIT VI	1999	62	111



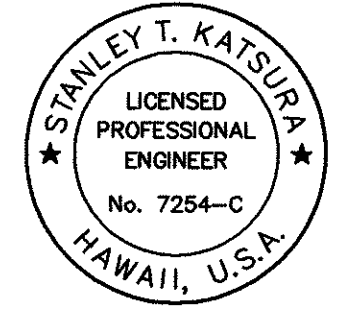
TYPICAL SECTION – OUTBOUND LANES
STA. 353+35± TO STA. 399+41.26
STA. 400+61.15 TO STA. 400+98±
 Scale: 1/4" = 1'-0"



LONGITUDINAL CONSTRUCTION JOINT DOWEL DETAIL
 Scale: 3/4" = 1'-0"



TYPICAL SECTION – OUTBOUND LANES
STA. 399+41.26 TO STA. 400+61.15
 Scale: 1/4" = 1'-0"



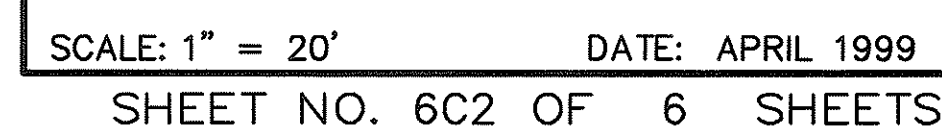
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8-9-99		Revised Stations	
Date		Revision	

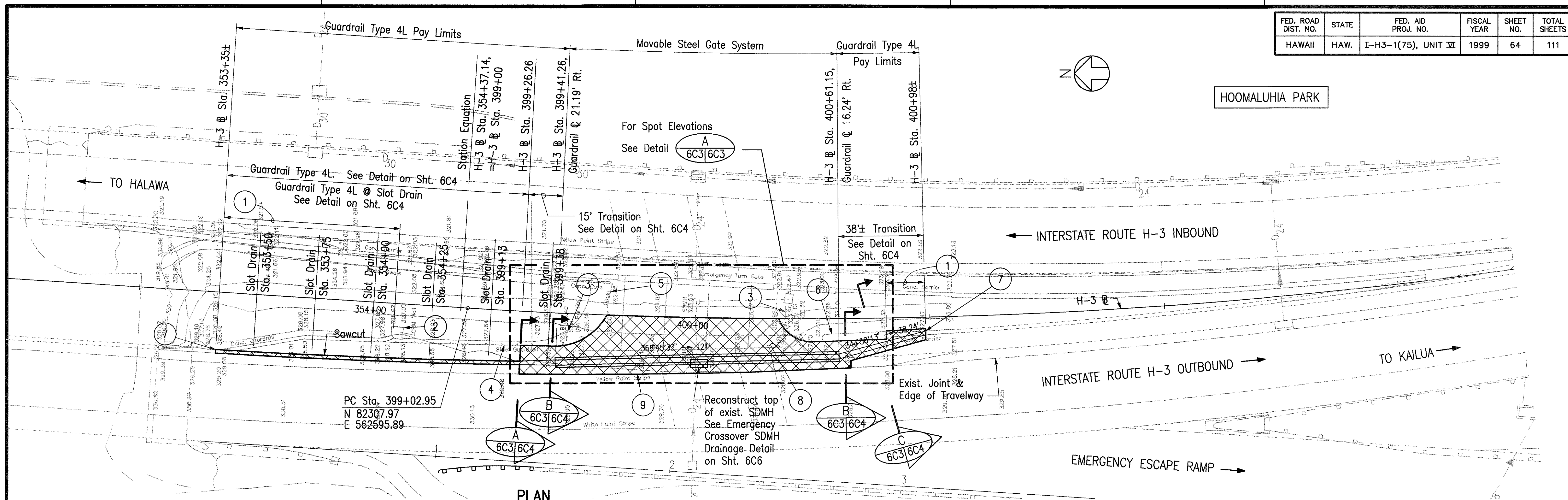
STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION
EMERGENCY CROSSOVER
TYPICAL SECTION
 H-3 FINISH (UNIT VI)
 FAIP NO. I-H3-1(75), UNIT VI
 SCALE: AS SHOWN DATE: APRIL 1999
 SHEET NO. 6C1 OF 6 SHEETS

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

CAD by E. DELA CRUZ, 55-52

Hoomaluhia Park

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(75), UNIT VI	1999	64	111

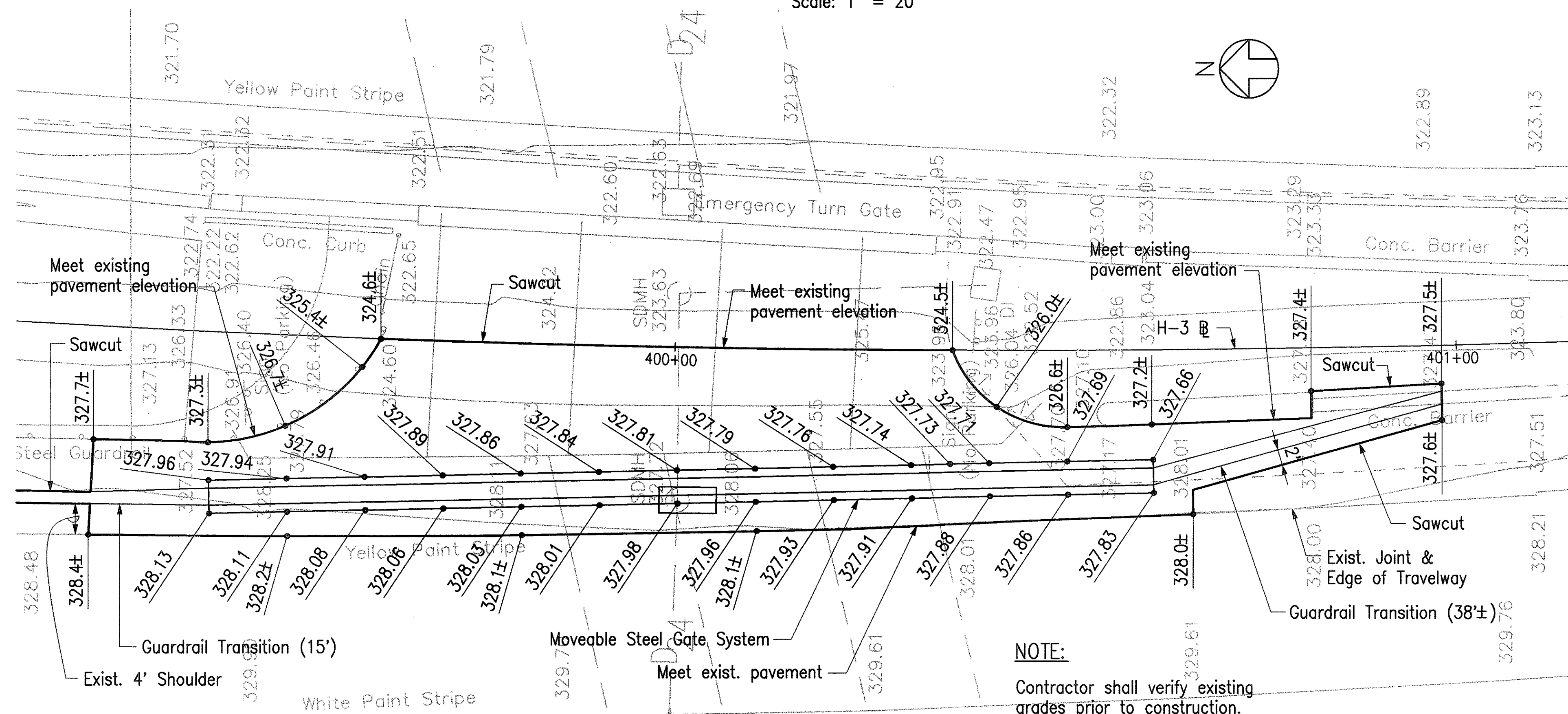


PLAN

Scale: 1" = 20'

CONSTRUCTION NOTES:

- Demolish and remove existing concrete guardrail, and end post transition. Remove footing to 1' min. below grade, or as necessary to install Guardrail Type 4L or Transition.
- Demolish and remove existing CRM wall to 1' min. below grade.
- Remove existing sign and posts.
- Remove exist. metal guardrail and posts. Patch holes with AC Mix V.
- Remove existing posts and chain.
- Remove existing quadguard system. Concrete Pad to remain. Salvage quadguard system according to Section 202 of the Special Provisions.
- Connect to existing concrete guardrail. See Expansion Joint Detail on Sht. 6C5.
- Remove existing concrete pavement. Construct new 9" concrete pavement with 18" Untreated Permeable Base Course. See Typical Section on Sht. 6C1.
- Paint yellow edge stripe (80 LF).

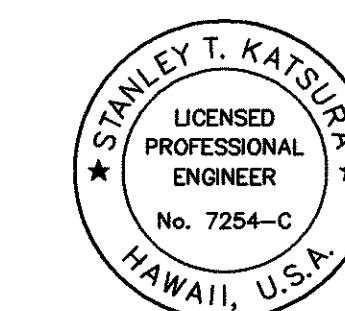


DETAIL

Scale: 1" = 10'

NOTE:

Contractor shall verify existing grades prior to construction.



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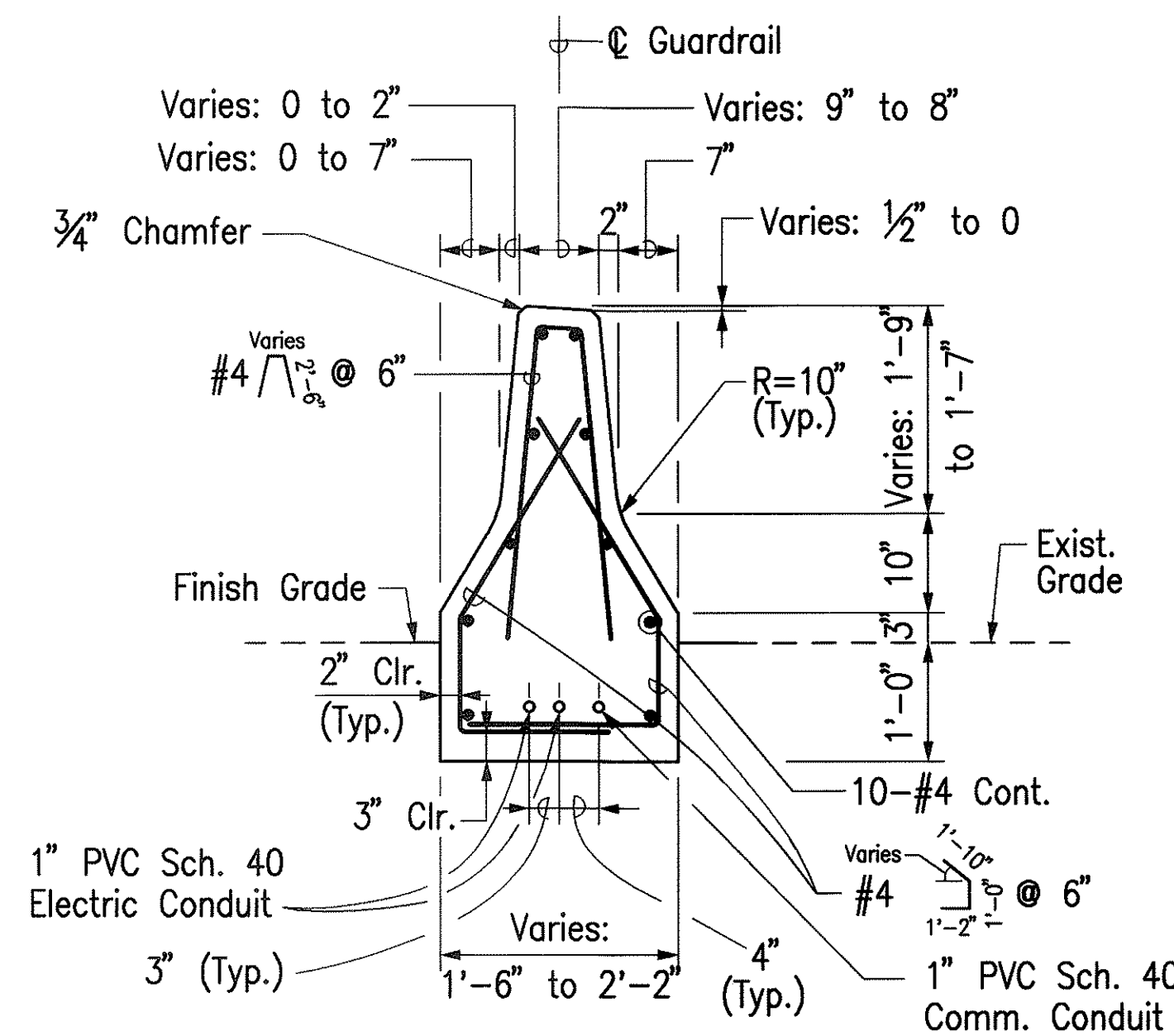
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**EMERGENCY CROSSOVER
WINDWARD HIGHWAY
ROADWAY CONSTRUCTION PLAN**

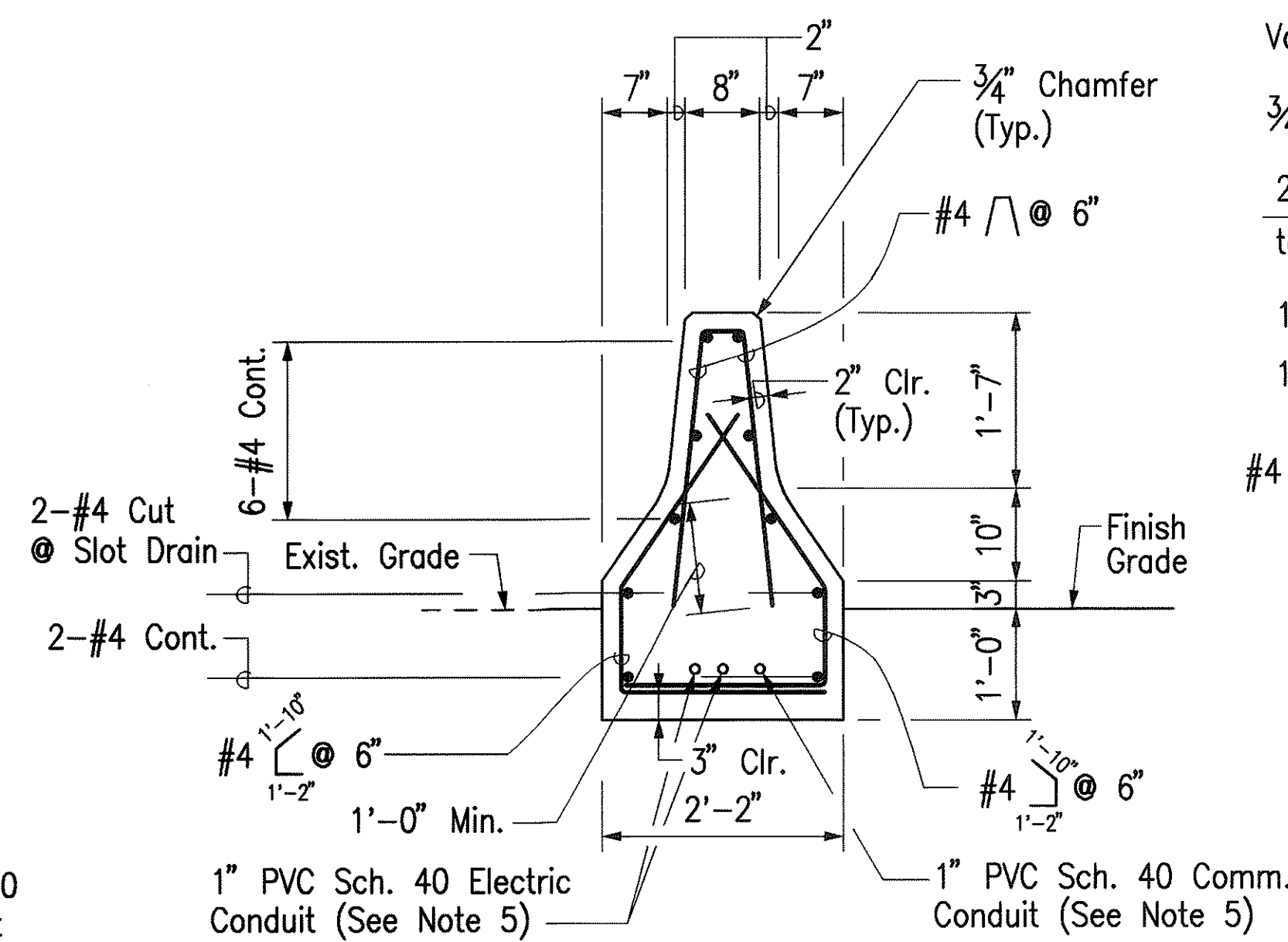
H-3 FINISH (UNIT VI)
FAIP NO. I-H3-1(75), UNIT VI

SCALE: AS SHOWN DATE: APRIL 1999
SHEET NO. 6C3 OF 6 SHEETS

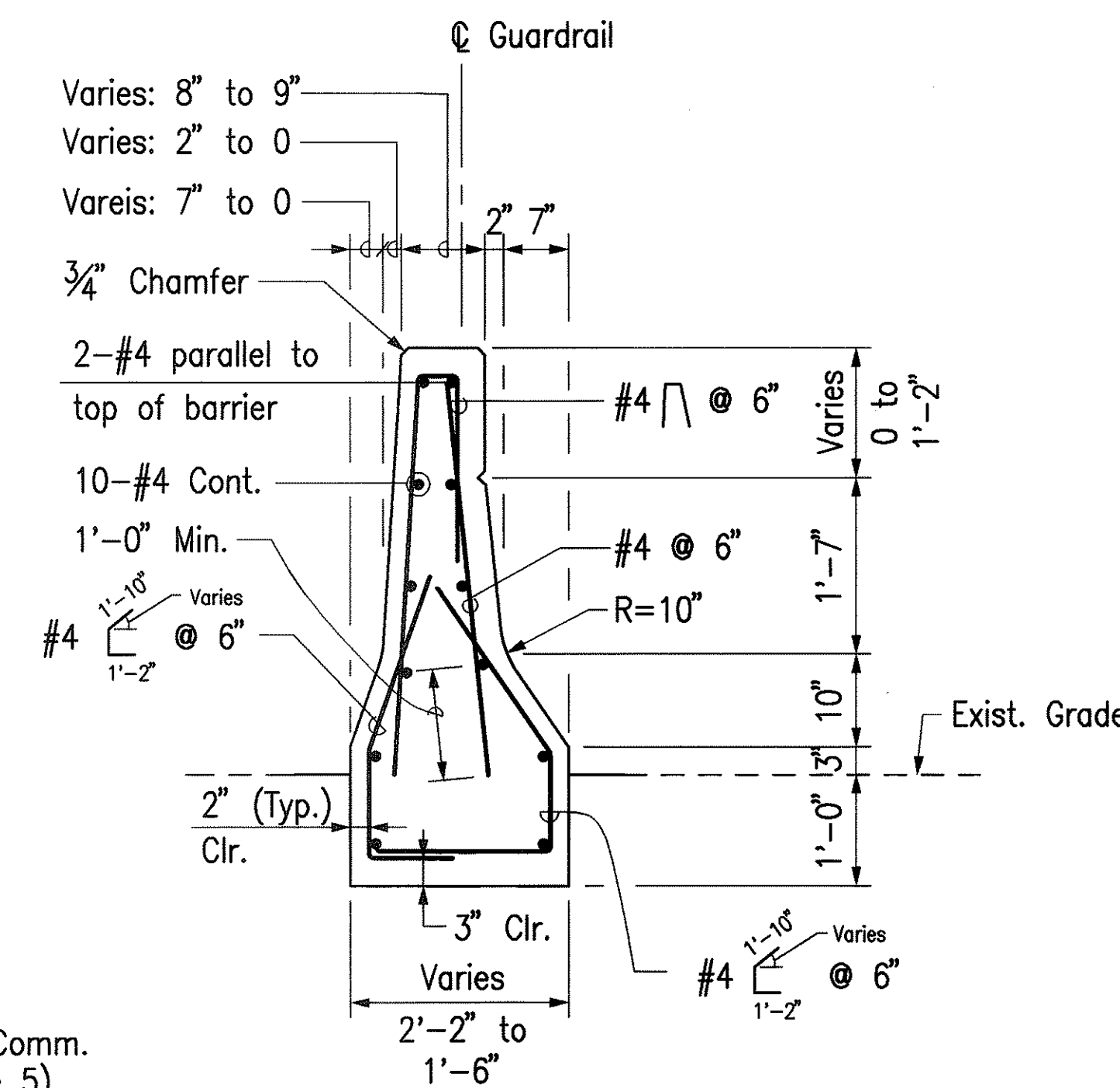
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(75), UNIT VI	1999	65	111



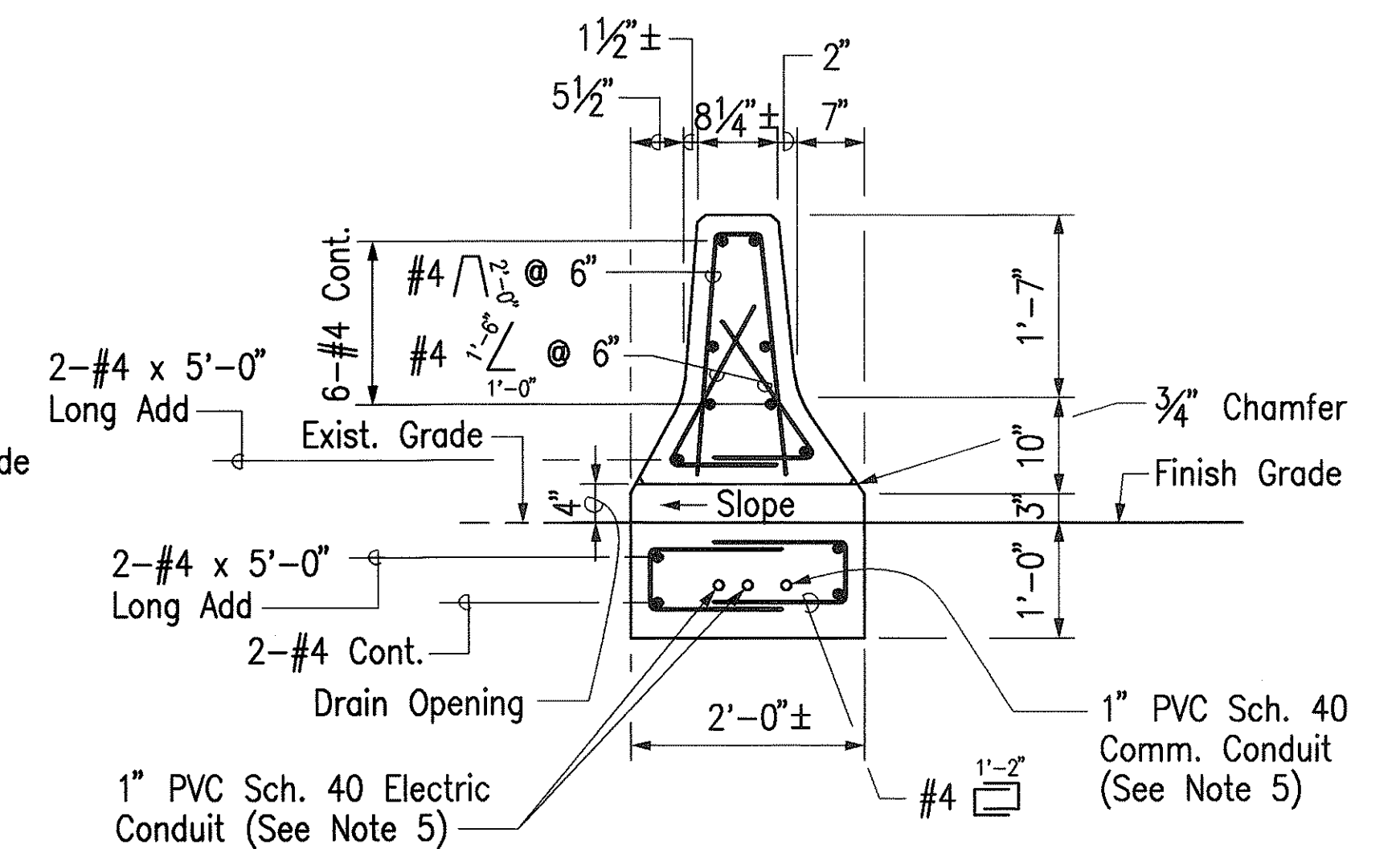
SECTION A
Scale: 3/4" = 1'-0"



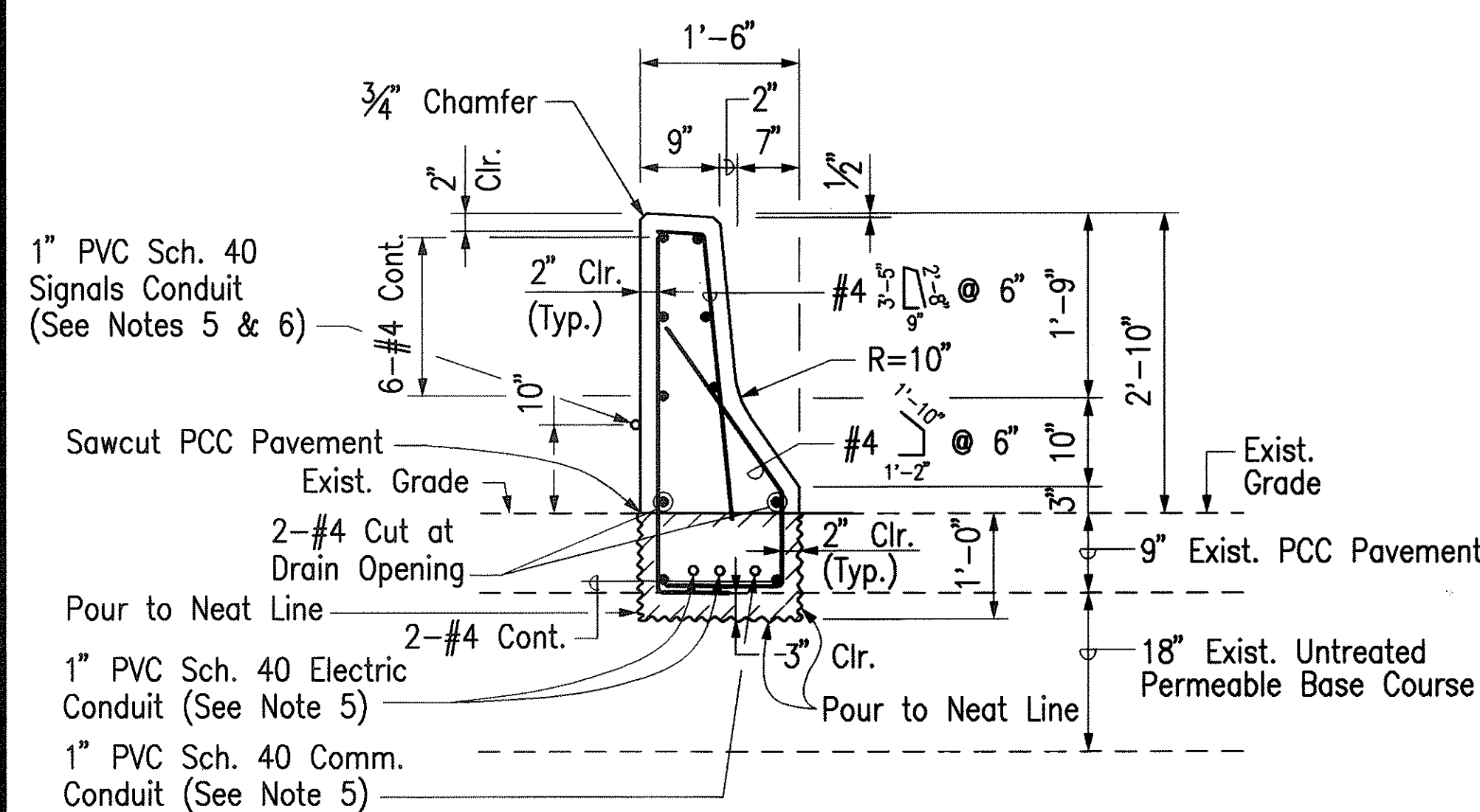
SECTION B
Scale: 3/4" = 1'-0"



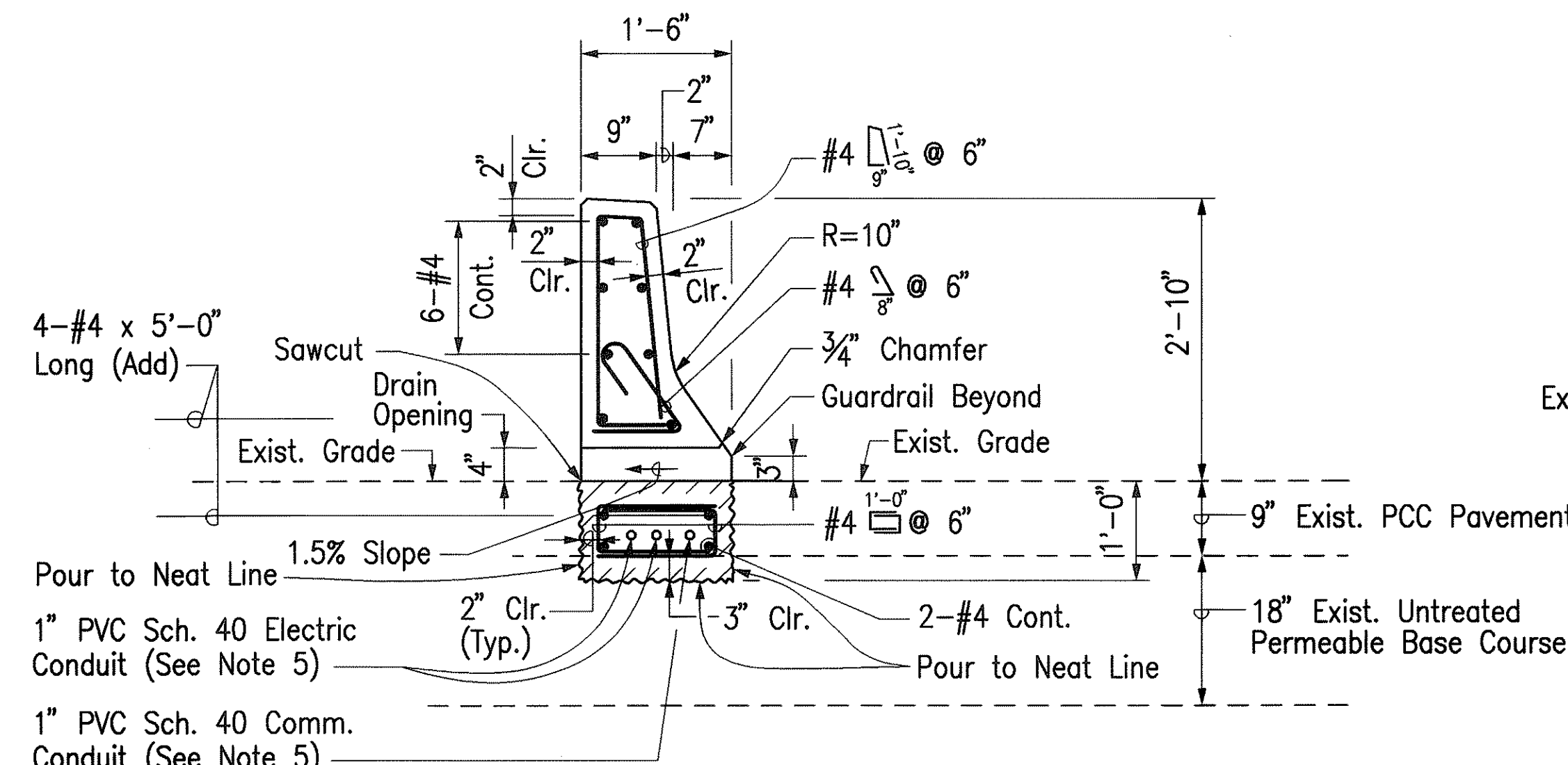
SECTION C
Scale: 3/4" = 1'-0"



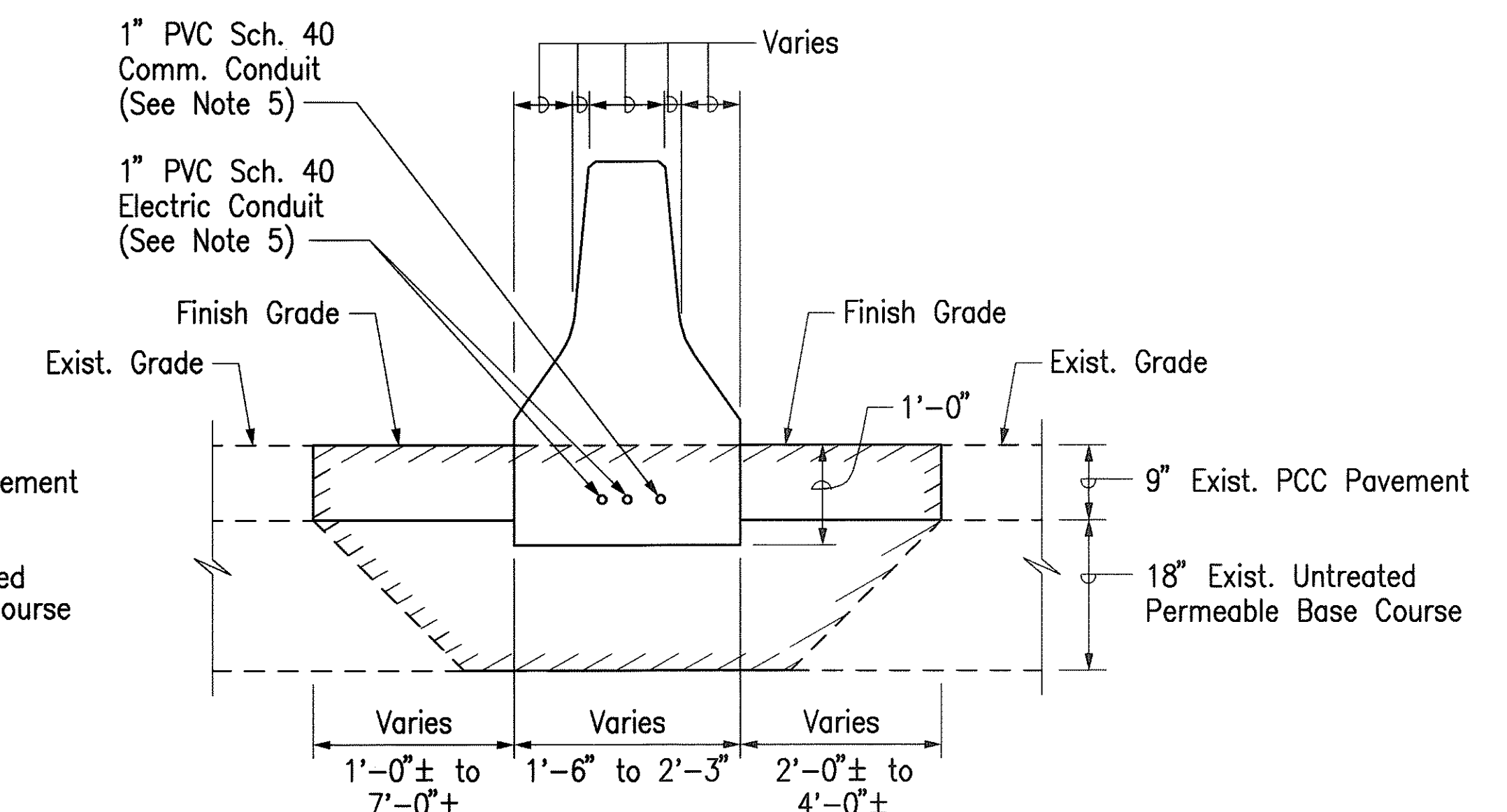
TRANSITION SECTION @ DRAIN OPENING
Scale: 3/4" = 1'-0"



GUARDRAIL TYPE 4L
Scale: 3/4" = 1'-0"



GUARDRAIL TYPE 4L @ DRAIN OPENING
Scale: 3/4" = 1'-0"



LIMITS OF EXCAVATION FOR TRANSITION SECTIONS
Scale: 3/4" = 1'-0"

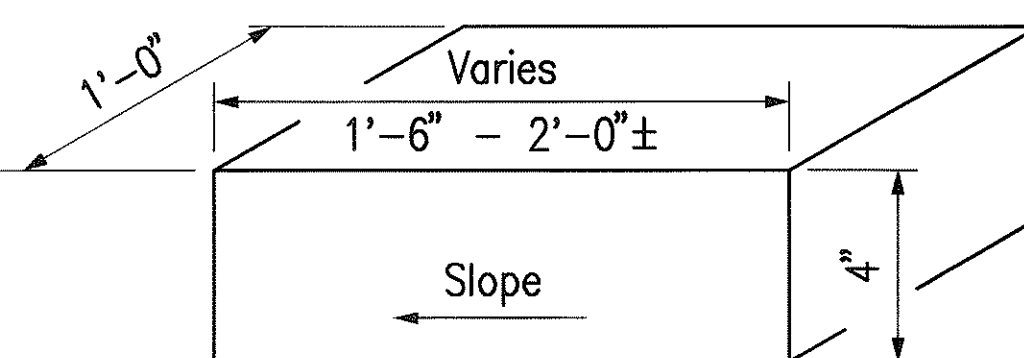
NOTES:

- All concrete shall have a 28-day compressive strength of 4,000 psi.
- All Reinforcing Steel shall be ASTM A615 GR. 60.
- On each side of the Drain Opening add one additional vertical reinforcing bar set for Guardrail Type 4L.
- Transition base width and sides of Transition Sections at Steel Movable Gate Enclosure at 4:1 maximum taper to width required by Moveable Steel Gate System Manufacturer.
- PVC Sch. 40 Conduits to be excluded after H-3 Sta. 399+42±.

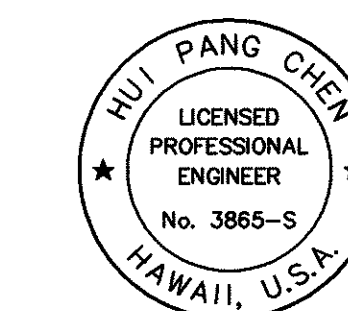
LEGEND:

Denotes limits of excavation

- Surface-Mount 1" PVC Sch. 40 Signals Conduit to existing parapet from H-3 Sta. 353+35± to 353+55±.

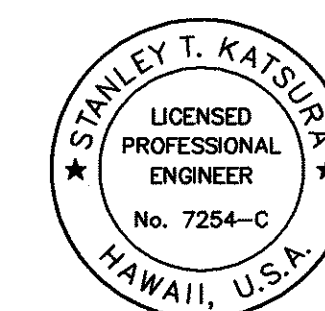


DRAIN OPENING
Scale: 3" = 1'-0"



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Date	Revision
8-9-99	Revised Drain Opening Detail
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION EMERGENCY CROSSOVER WINDWARD HIGHWAY BARRIER DETAIL - 1 H-3 FINISH (UNIT VI) FAIP NO. I-H3-1(75), UNIT VI SCALE: AS SHOWN DATE: APRIL 1999 SHEET NO. 6C4 OF 6 SHEETS	

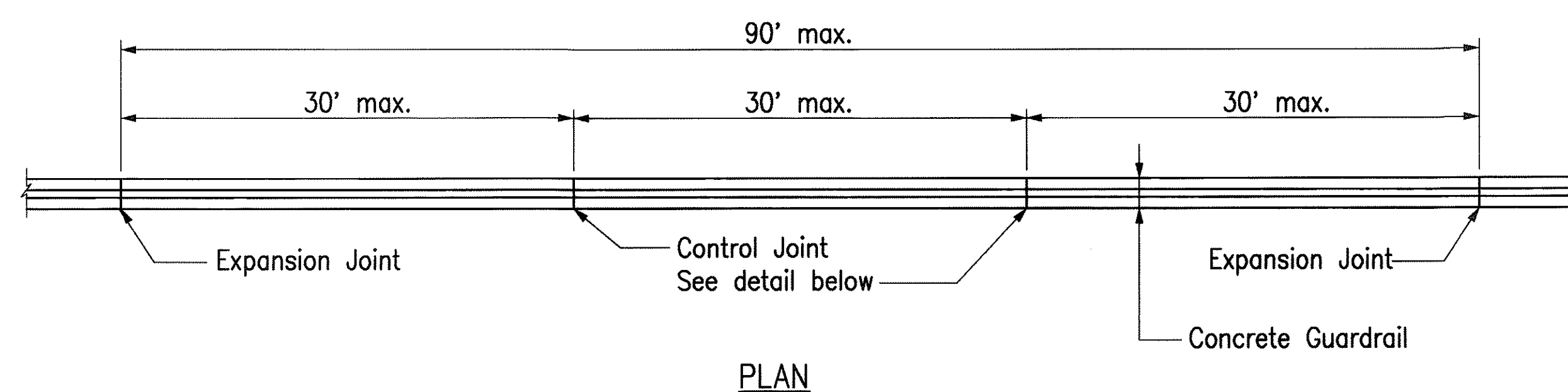
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(75), UNIT VI	1999	66	111

NOTES

- The holes for dowels shall be drilled as shown into the existing concrete surfaces. When the drill contacts any existing rebar, the hole shall be filled with epoxy grout and a replacement shall be drilled so that the spacing of dowels will be maintained. Contractor shall avoid cutting existing rebar.
- Expansion Joints shall be constructed at ninety-feet (90ft.) maximum intervals and at existing expansion joints of structures. Use 1/2" premolded joint filler. Control Joints shall be placed between expansion joints at 30' maximum.
- The exterior surface and vertical alignment of the concrete guardrail shall be constructed to give a uniform and presentable appearance. Variation of more than 1/4" in 20' max. and 1/2" in 40' or more will be considered objectionable. The Engineer will determine the acceptability of the work.

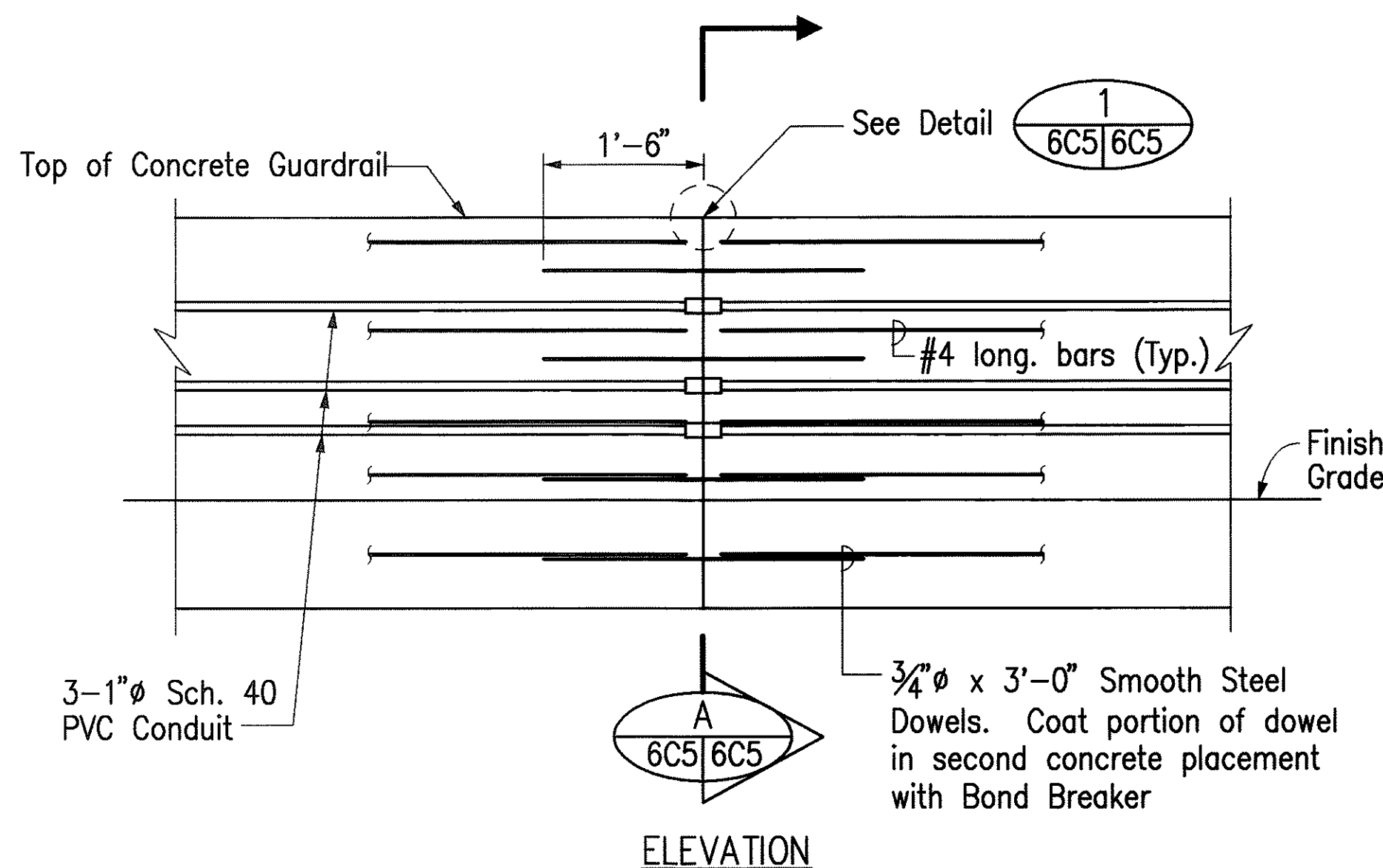
During the course of the work, samples may be tested and measurements made to establish whether or not the specified values or dimensions are being met. If the specified values or dimensions are not being met, the Engineer will determine the degree of the non-conformance, the effect on the serviceability of the project, whether the work be accepted and remain in place and, if so, the amount to be paid for such work, or whether the work shall be removed and replaced or otherwise corrected at no additional cost to the State.

- The concrete pour shall be terminated at either expansion joint or control joint at the end of the work day. Terminate longitudinal reinforcement at expansion and control joints.
- Expansion joint connection to exist. bridge end post will not be measured for payment and shall be considered incidental to Concrete Guardrail Transition.
- Expansion Joints and expansion joint connection to existing guardrail for Guardrail Type 4L will not be measured for payment and shall be considered incidental to Guardrail Type 4L.
- The 3/4" x 3'-0" smooth dowels for expansion and control joints shall conform to the requirements of ASTM A36.
- Transition Section at Bridge End Post to Guardrail Type 4L Section over a 10' length.



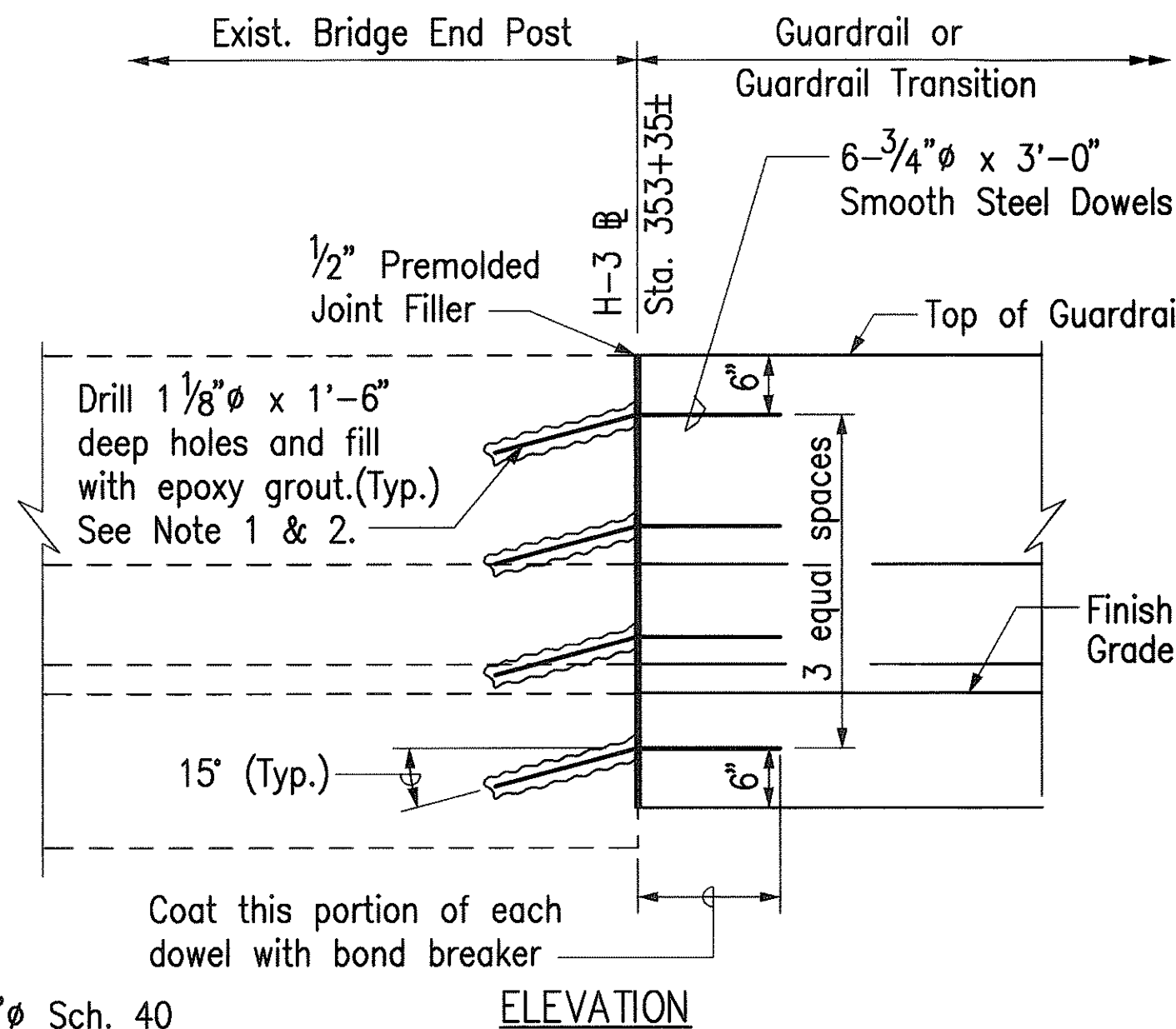
GUARDRAIL TYPE 4L JOINT LOCATION PLAN

SCALE: 1/8" = 1'-0"



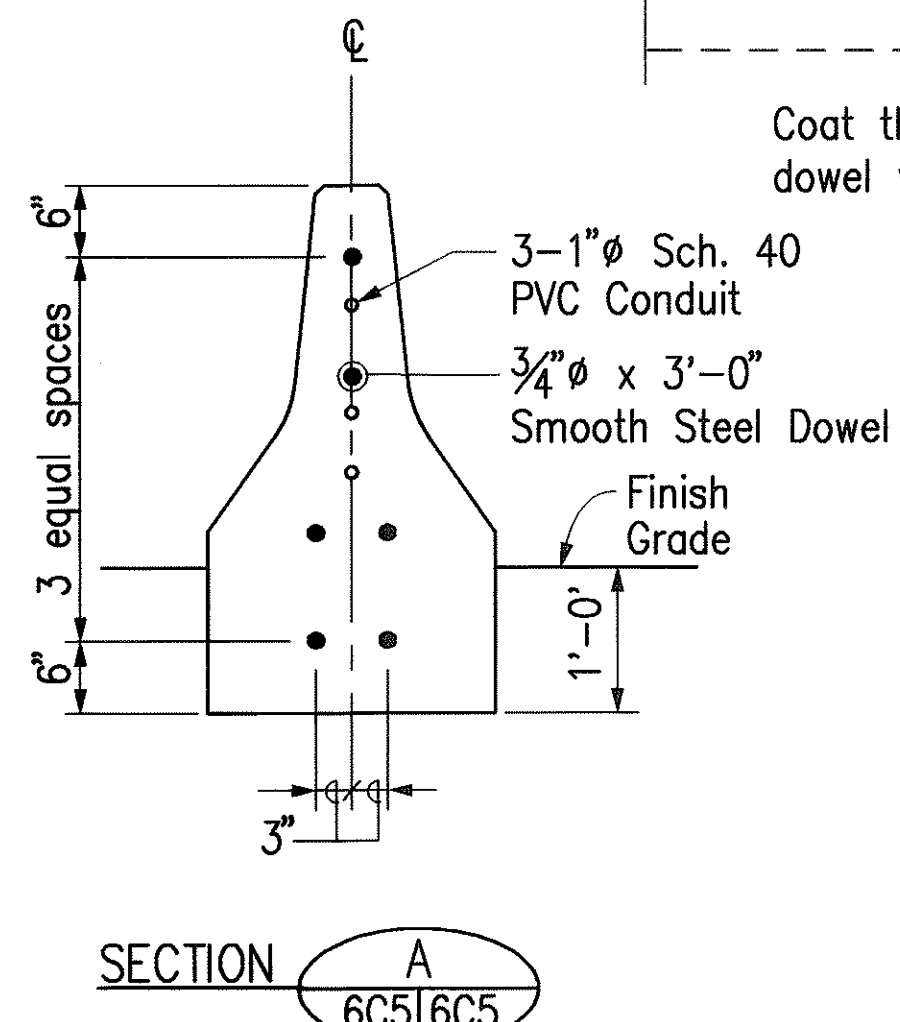
CONTROL JOINT DETAIL

SCALE: 3/4" = 1'-0"

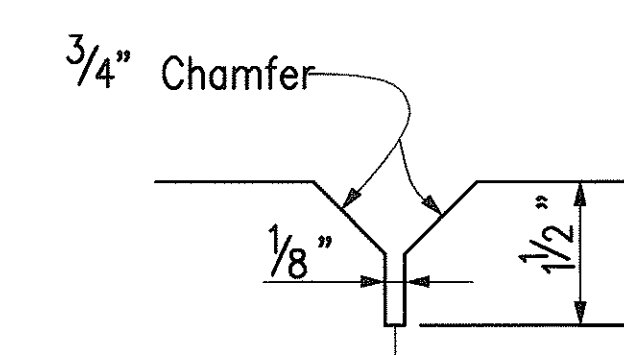


EXPANSION JOINT DETAIL AT EXISTING BRIDGE END POST

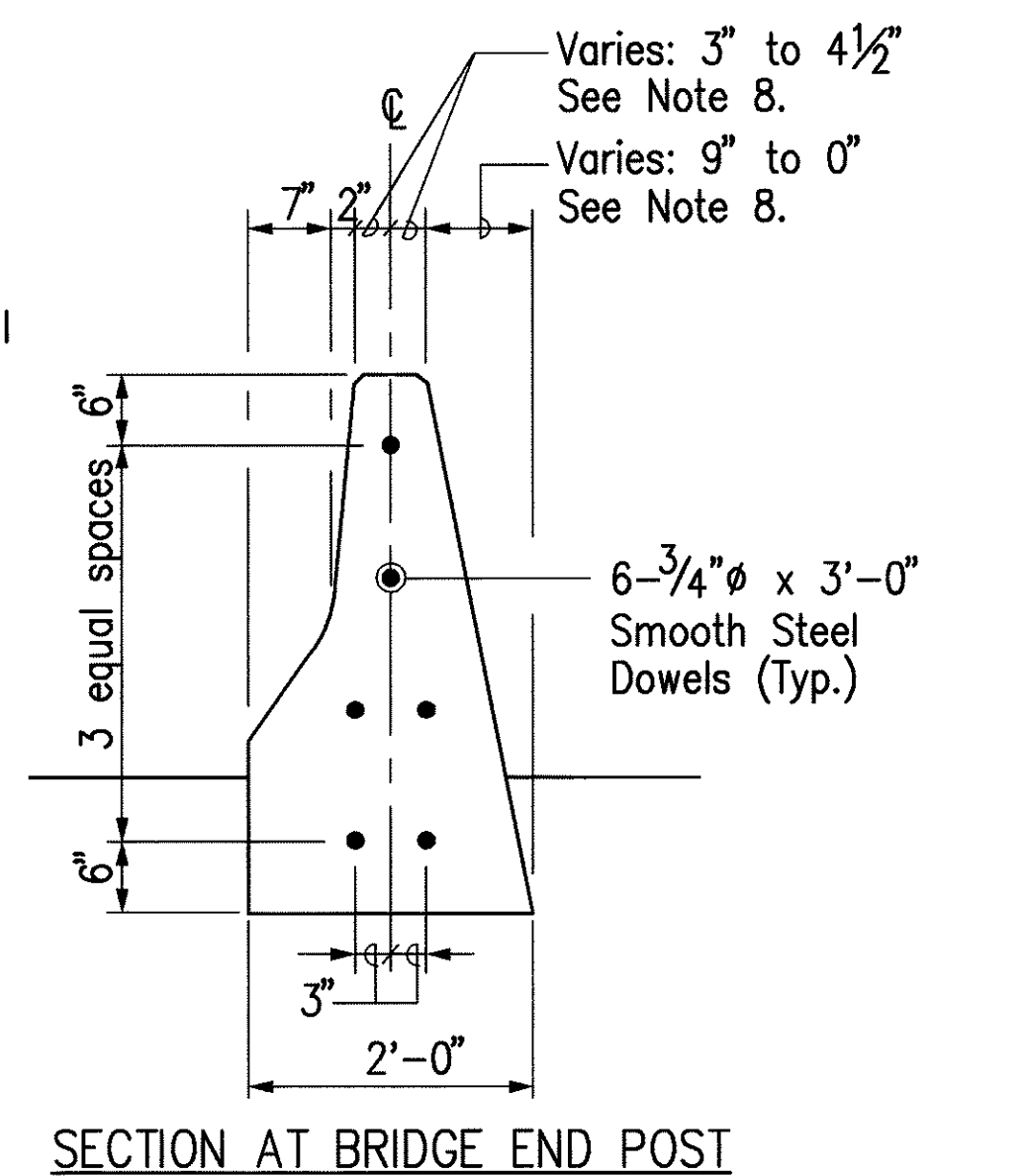
SCALE: 3/4" = 1'-0"



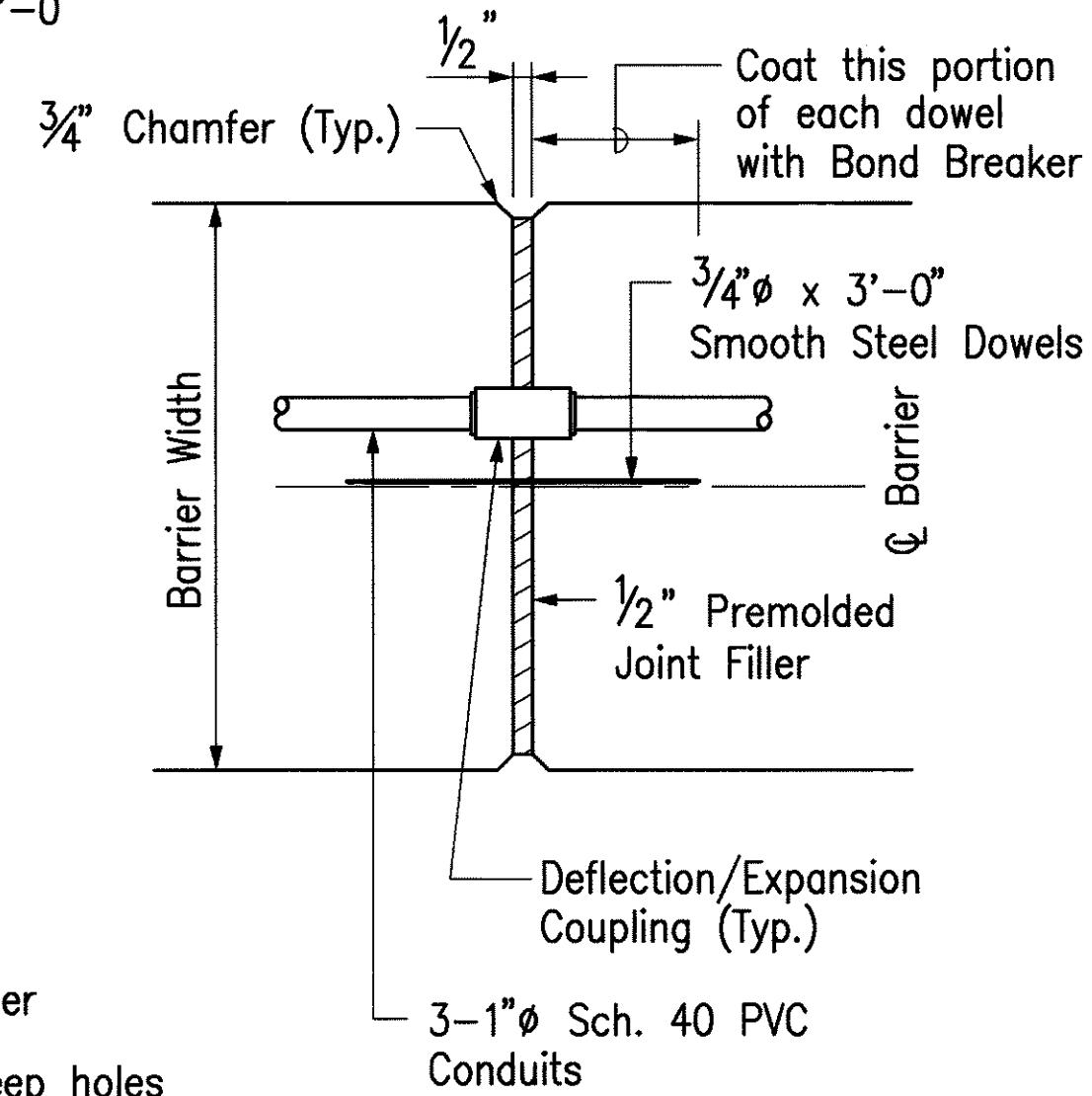
SECTION A 6C5/6C5



DETAIL 1 6C5/6C5

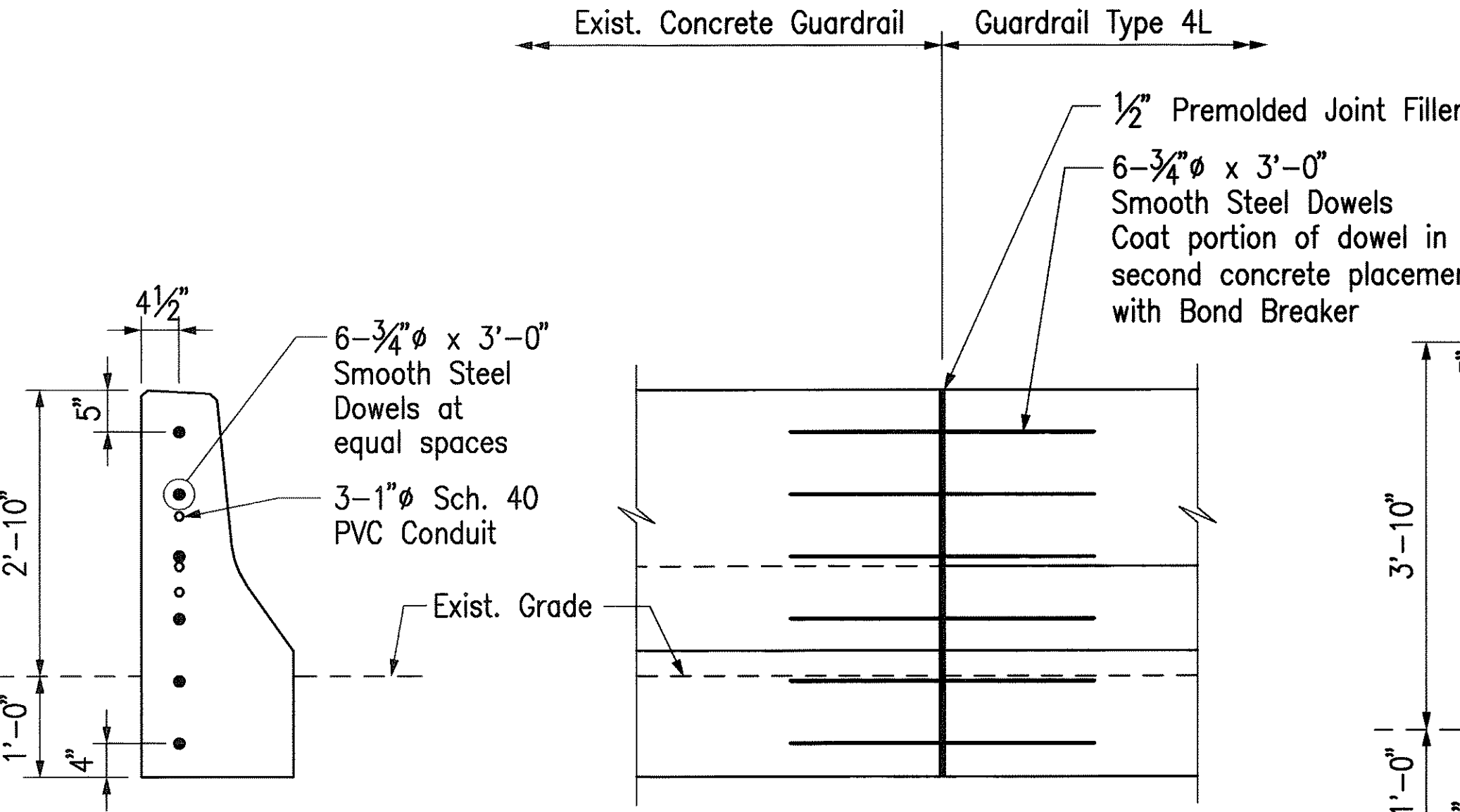


SECTION AT BRIDGE END POST



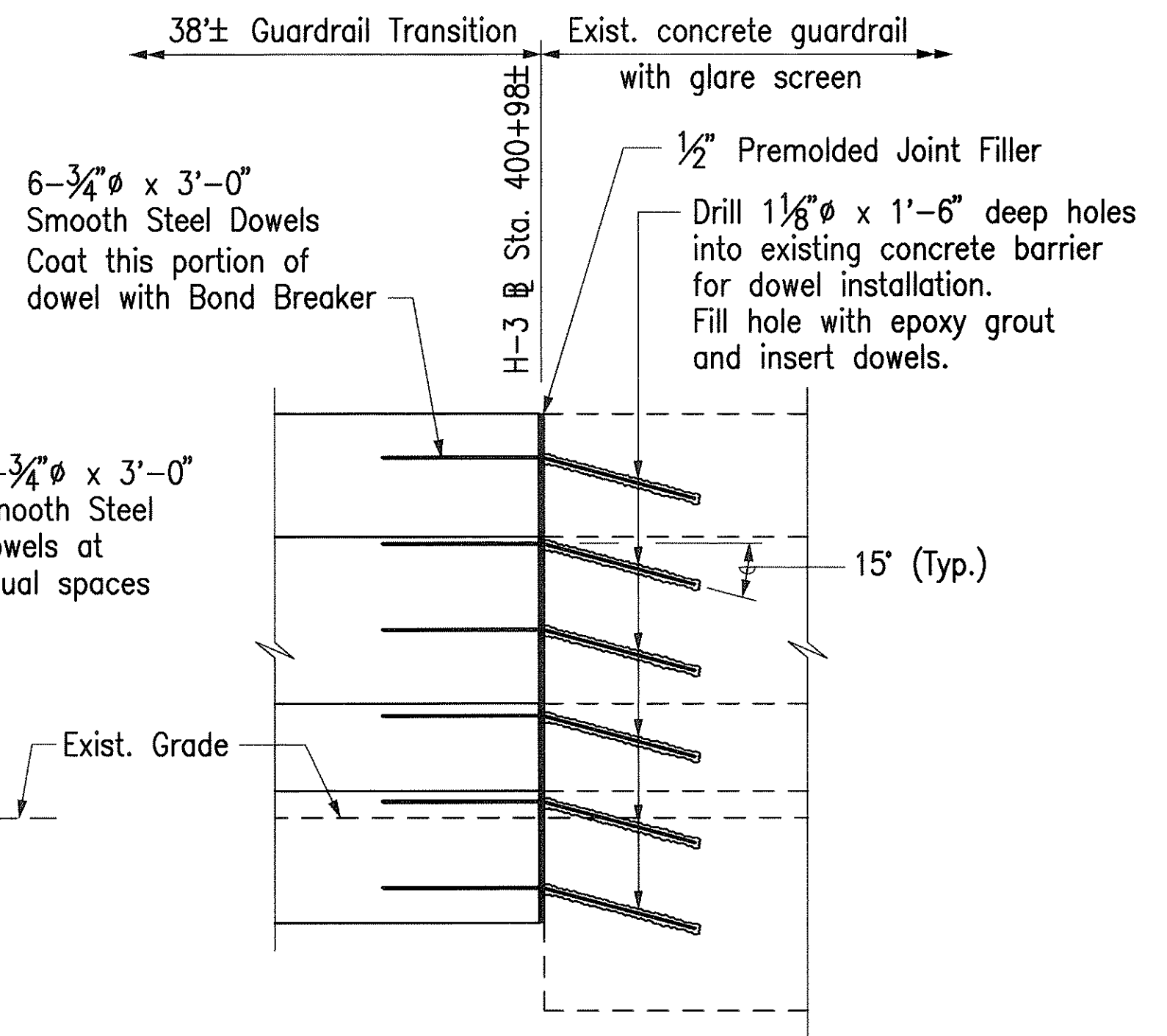
SECTION THRU EXPANSION JOINT

N.T.S.



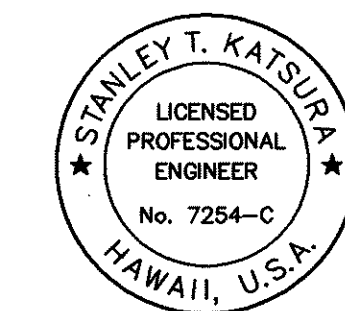
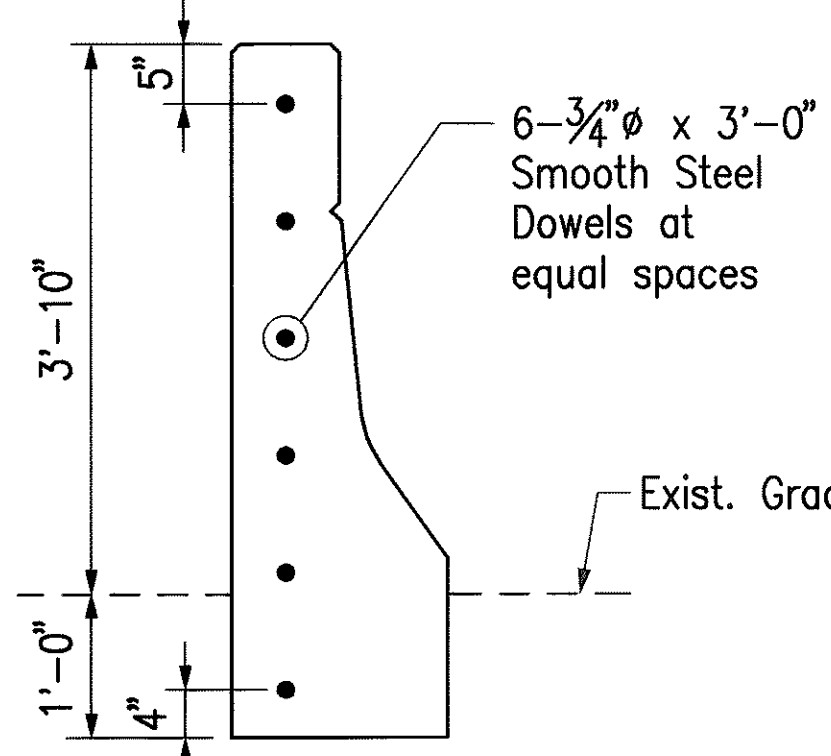
EXPANSION JOINT DETAIL TYPE 4L GUARDRAIL

SCALE: " = 3/4"-0"



EXPANSION JOINT DETAIL @ EXISTING CONCRETE GUARDRAIL

SCALE: 3/4" = 1'-0"



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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
EMERGENCY CROSSOVER
WINDWARD HIGHWAY
BARRIER DETAIL - 2
H-3 FINISH (UNIT VI)
FAIP NO. I-H3-1(75), UNIT VI
SCALE: AS SHOWN
DATE: APRIL 1999
SHEET NO. 6C5 OF 6 SHEETS

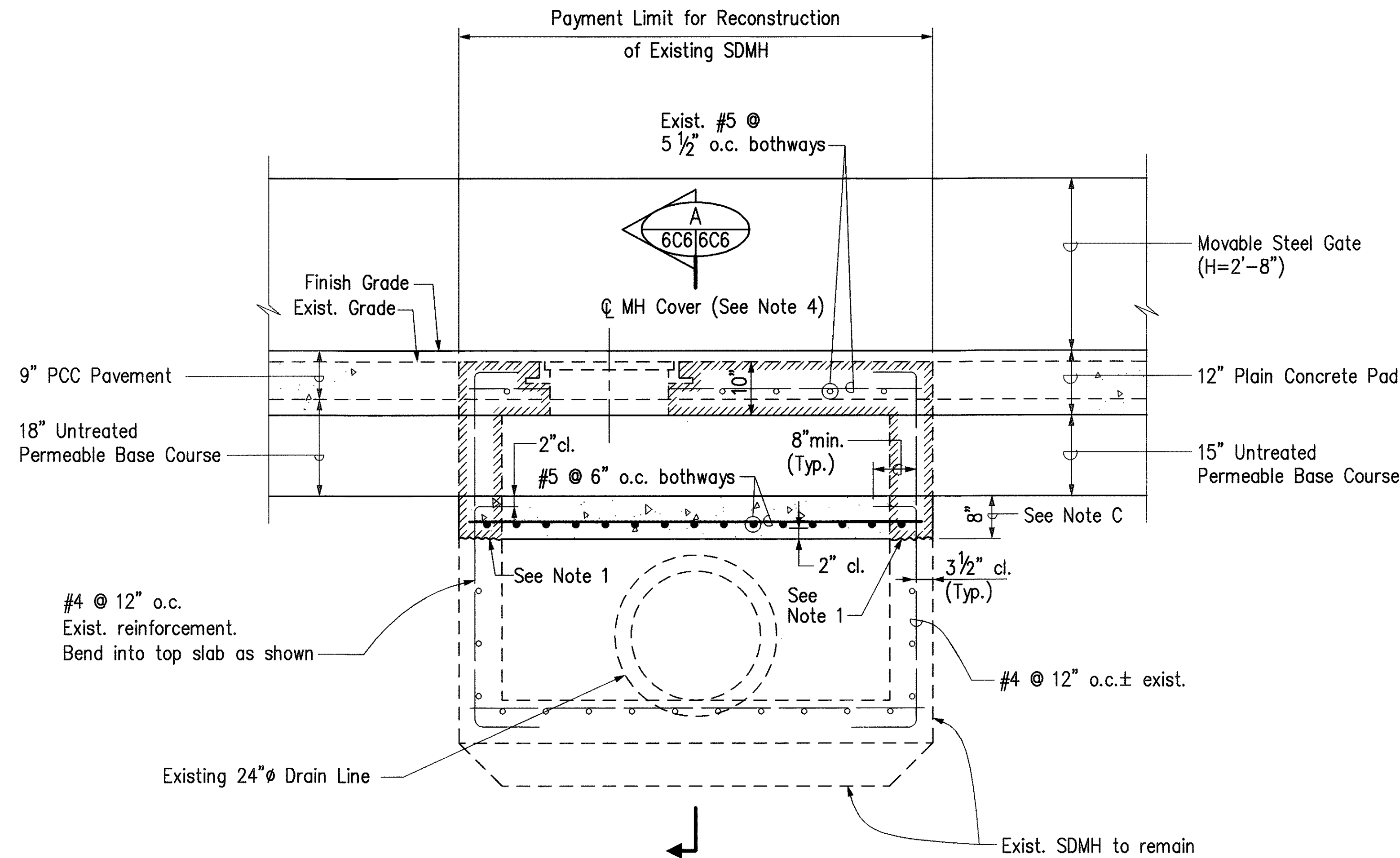
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

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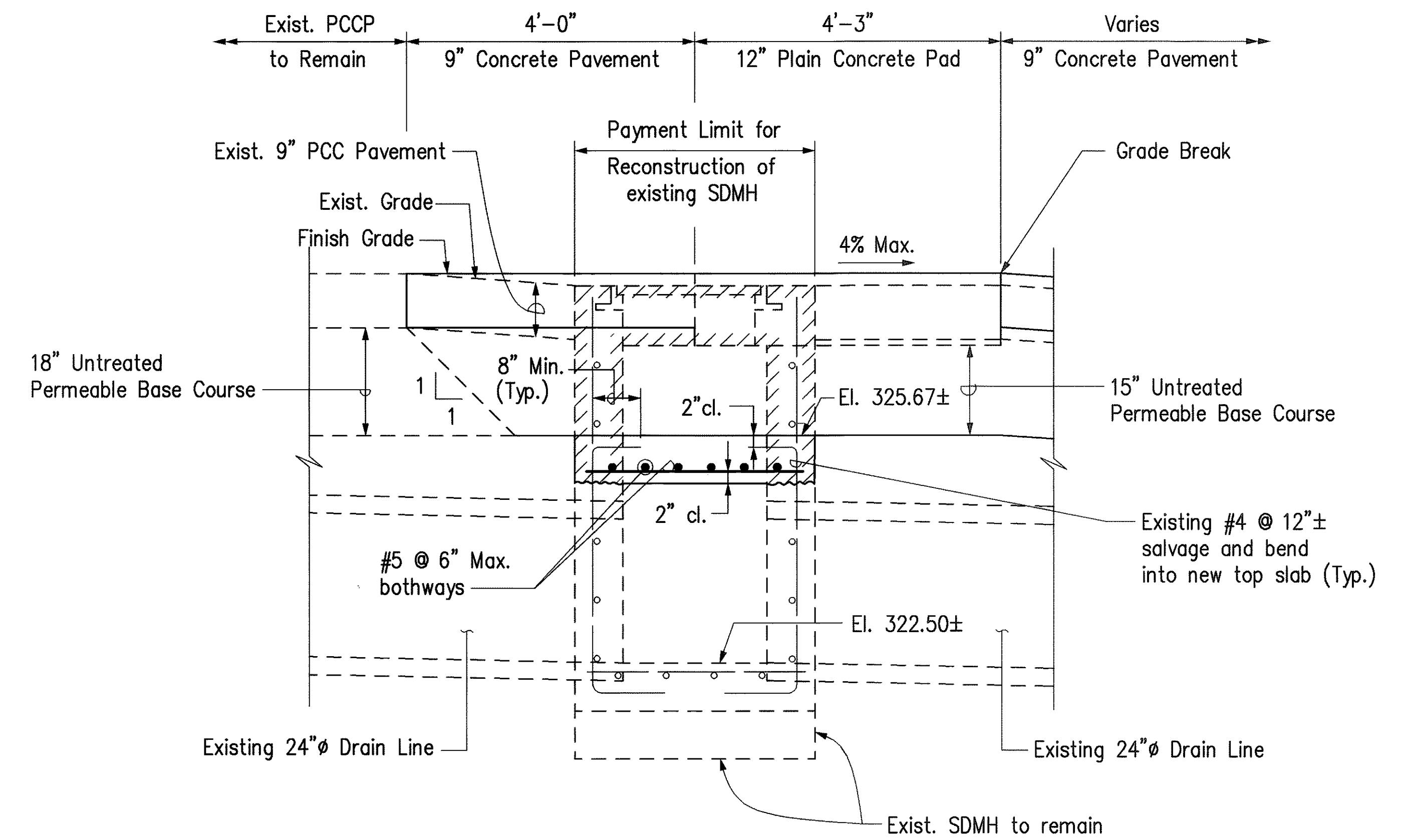
SURVEY PLOTTED BY	DATE
ORIGINAL DRAWN BY	
TRACED BY	
NOTE BOOK	
DESIGNED BY	
CHECKED BY	
No.	

CAD by J. Minura, 55-52

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(75), UNIT VI	1999	67	111



EMERGENCY CROSSOVER SDMH DETAIL
Scale: $\frac{3}{4}" = 1'-0"$



SECTION
Scale: $\frac{3}{4}" = 1'-0"$

NOTES:

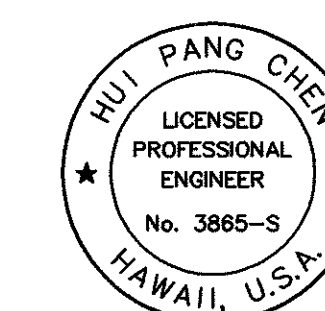
- The interface between new and old concrete shall be clean, free of laitance and roughened to a full amplitude of approximately $\frac{1}{4}"$. Epoxy bonding material shall be coated on the roughened surface immediately prior to pouring new concrete.
- Existing rebars to remain shall be cleaned and cut to fit new construction.
- For Plan and Sectional Plan for Wall, see Standard Plan H-05.
- Existing Cast Iron Frame and Cover to be salvaged per specifications.
- Payment for reconstruction of Emergency Crossover Storm Drain MH shall be considered incidental to "Moveable Steel Gate System."
- The Contractor shall exercise care while removing the SDMH concrete to insure existing 24" Ø Drain Lines are not damaged.

MATERIALS NOTES:

- Concrete for new top slab shall attain a 28 day compressive strength of 4000 psi.
- Reinforcing shall meet the requirements of ASTM A615 Grade 60.
- No vertical supports for top slab forming are to be used in the manhole. Attach joists to the existing manhole walls above pipe openings to form the bottom side of the top slab.

LEGEND

- Existing structure
 to be removed.



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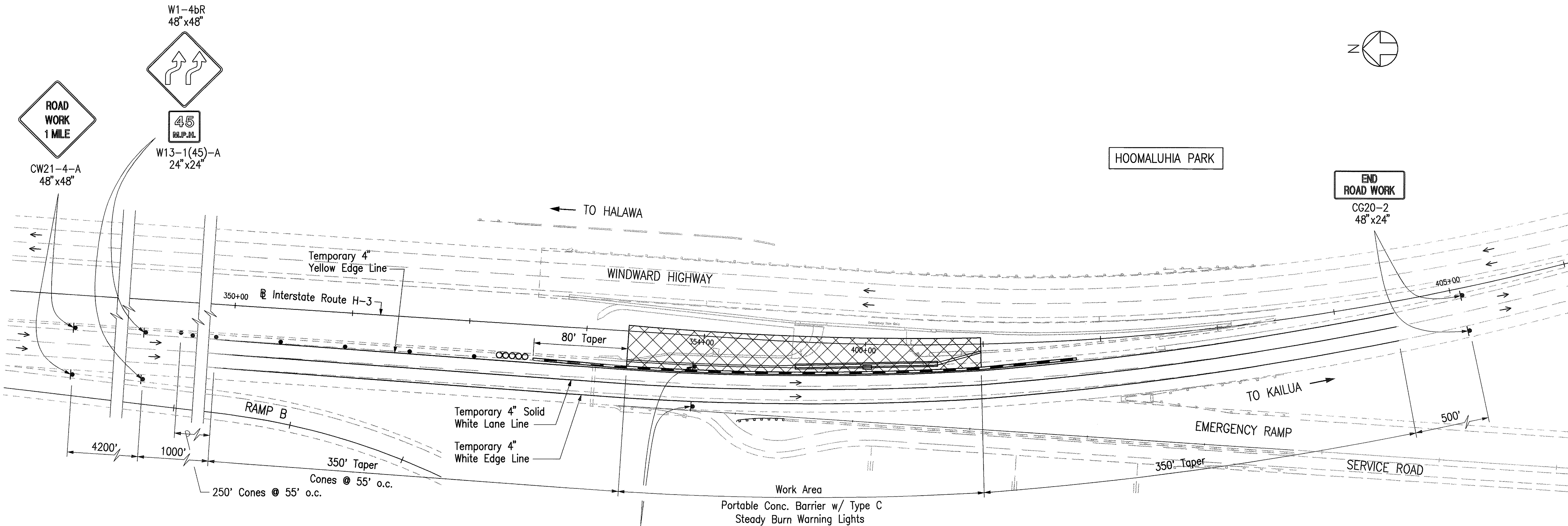
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

EMERGENCY CROSSOVER WINDWARD HIGHWAY DRAINAGE DETAIL

H-3 FINISH (UNIT VI)
FAIP NO. I-H3-1(75), UNIT VI

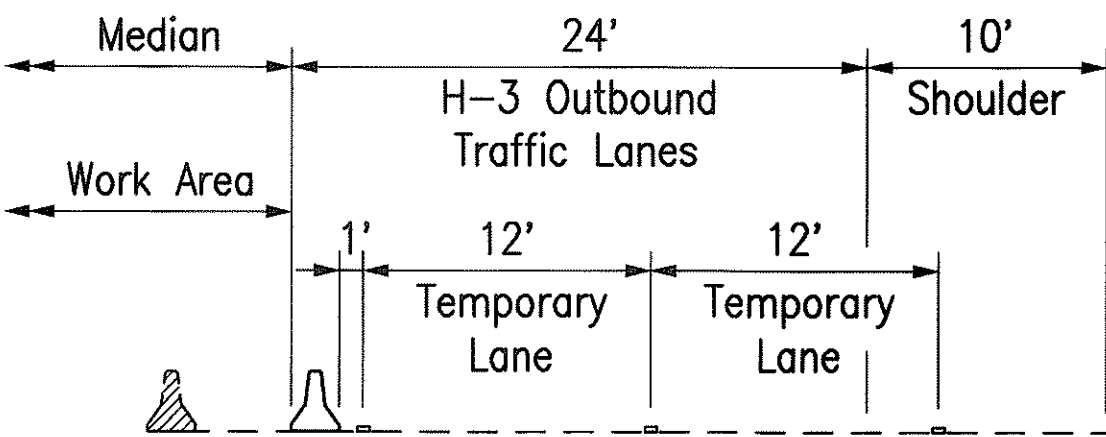
SCALE: AS SHOWN DATE: APRIL 1999
SHEET NO. 6C6 OF 6 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(75), UNIT VI	1999	ADD. 67S-1	111



NOTES:

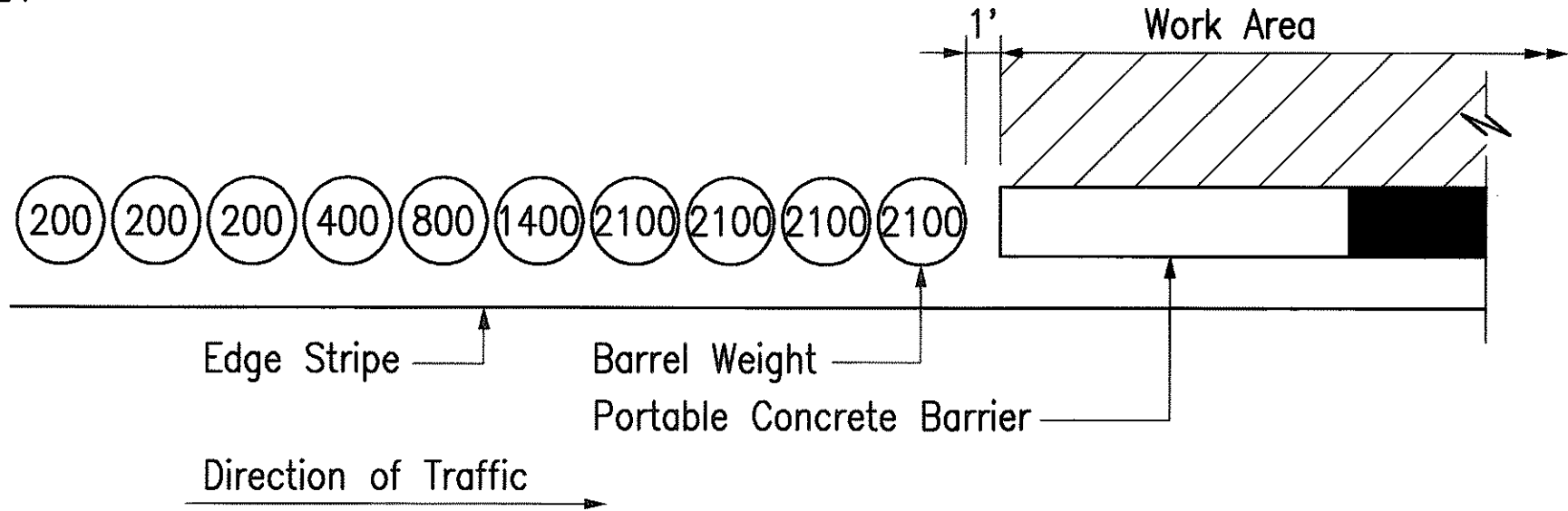
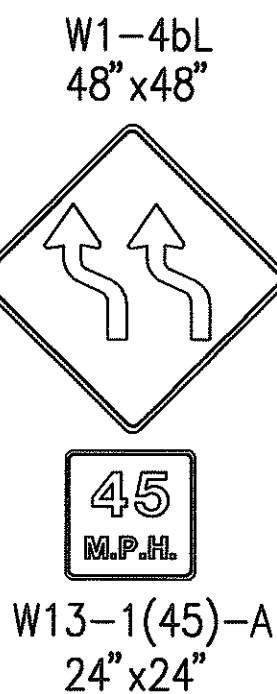
- Existing Conflicting pavement markings shall be removed and temporary markings shall be installed before traffic pattern are changed. After completion of the emergency crossover work, temporary markings shall be removed. Permanent pavement markings shall be installed at no additional cost to the State.



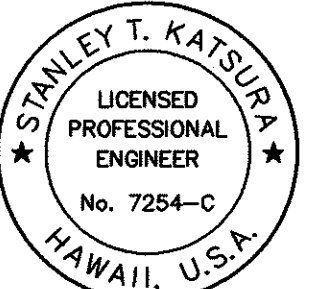
TYPICAL SECTION
Scale: 1/8" = 1'-0"

LEGEND:

- Work Area
- Traffic Cone or Delineator
- Traffic Control Sign
- Traffic Flow
- Traffic Impact Attenuator
- Portable Concrete Barrier



TRAFFIC IMPACT ATTENUATOR DETAIL
Not to Scale



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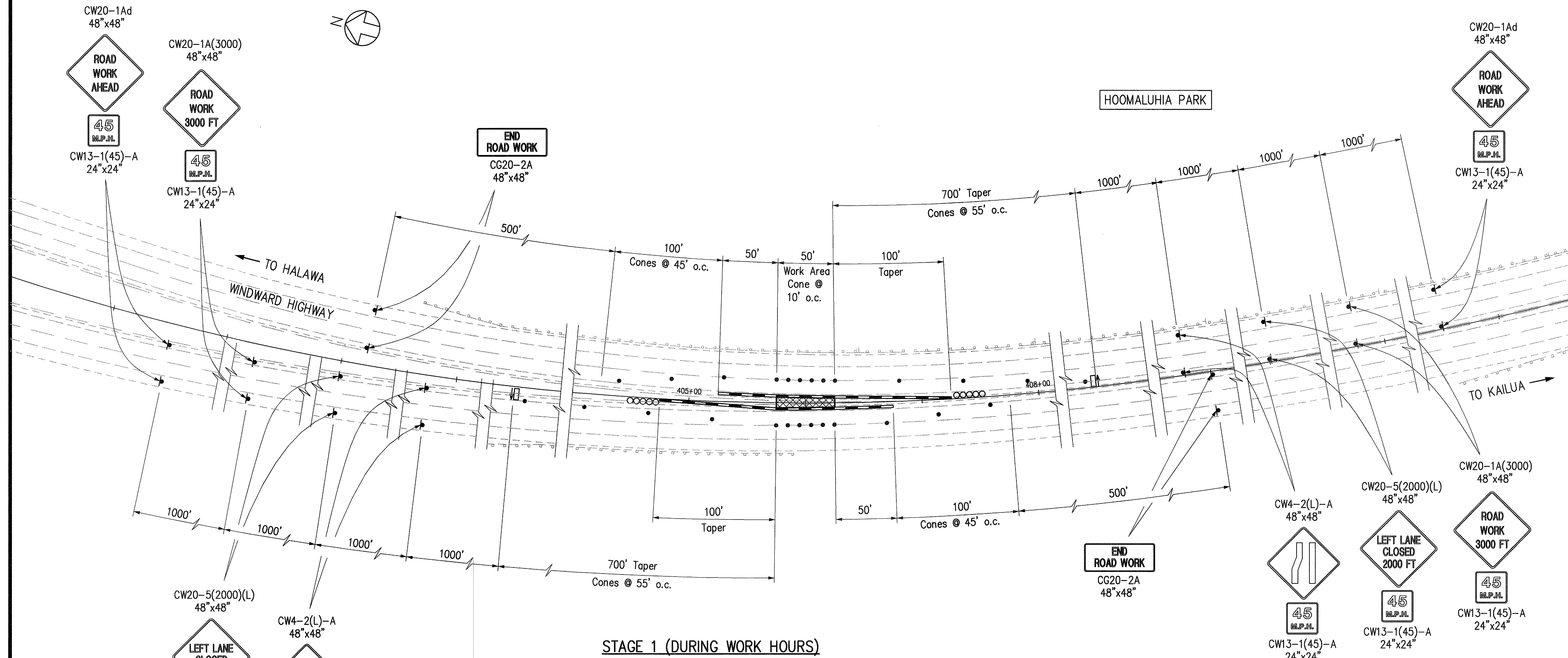
Stanley T. Katsura

8-9-99	Added Sheet	Revision
Date	Added Sheet	Revision
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION EMERGENCY CROSSOVER WINDWARD HIGHWAY TRAFFIC CONTROL PLAN - 1 H-3 FINISH (UNIT VI) FAIP NO. I-H3-1(75), UNIT VI SCALE: 1" = 40' DATE: APRIL 1999 SHEET NO. 6C6A OF 6 SHEETS		

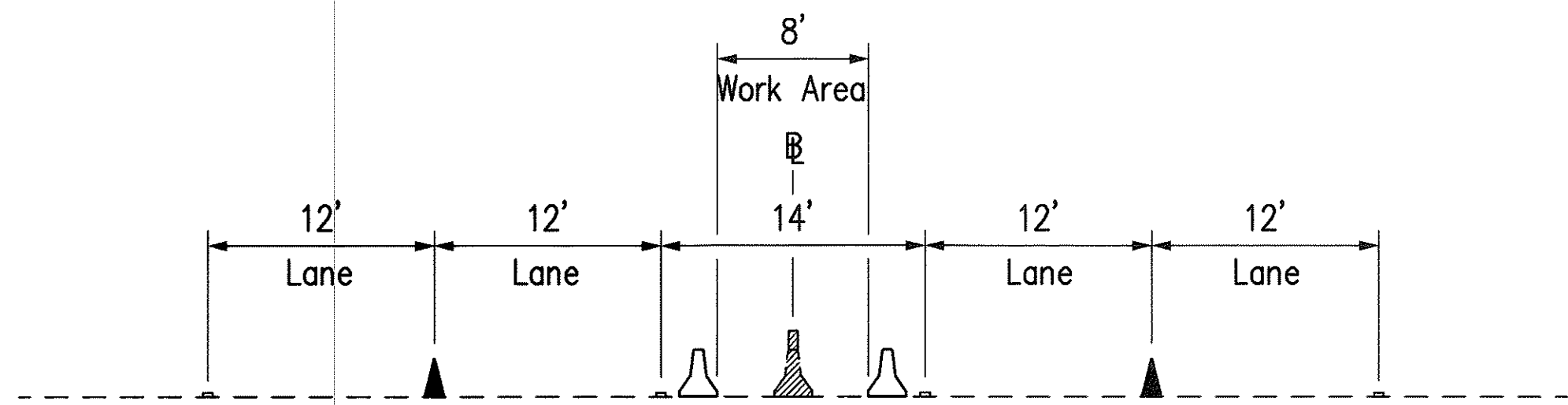
ADD. 67S-1

ORIGINAL
PLAN
DATE
DRAWN BY
CHECKED BY
NOTE BOOK
QUANTITIES BY
No.

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(75), UNIT VI	1999	ADD. 67S-2	111



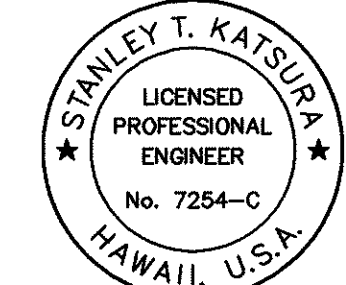
STAGE 1 (DURING WORK HOURS)



TYPICAL SECTION
Scale: 1/8" = 1'-0"

LEGEND:

- Work Area
- Traffic Cone or Delineator
- Traffic Impact Attenuator
For Detail, See Sheet No. 6C6A
- Flashing Arrow Board
- Traffic Control Sign
- Traffic Flow
- Portable Concrete Barrier



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8-9-99	Added Sheet
Date	Revision

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**EMERGENCY CROSSOVER
WINDWARD HIGHWAY
TRAFFIC CONTROL PLAN - 2**

H-3 FINISH (UNIT VI)
FAIP NO. I-H3-1(75), UNIT VI

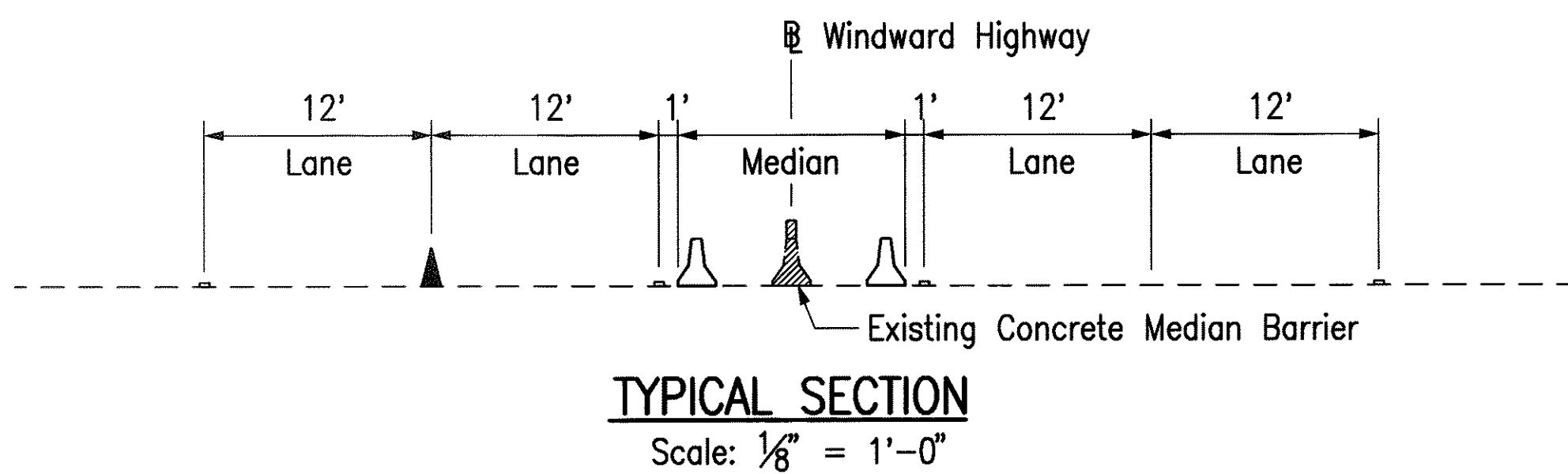
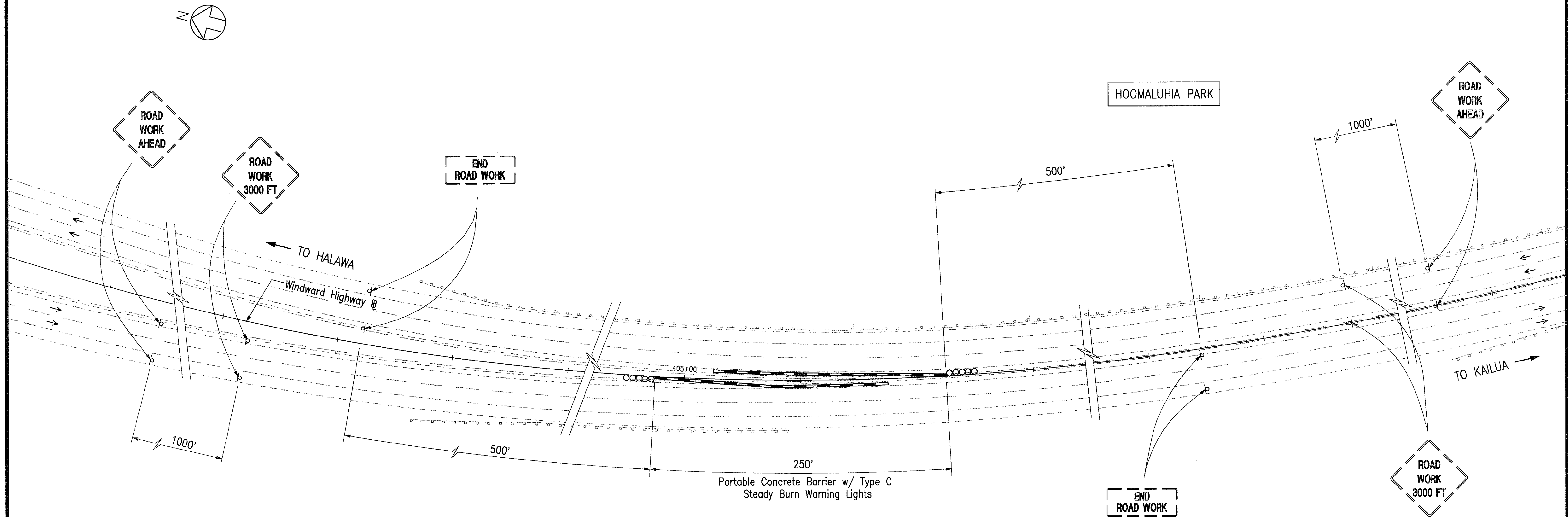
SCALE: 1" = 40' DATE: APRIL 1999
SHEET NO. 6C6B OF 6 SHEETS

ADD. 67S-2

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

CAD by E. DELA CRUZ, 95-52

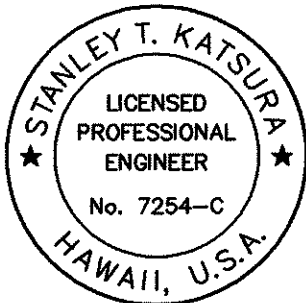
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(75), UNIT VI	1999	ADD. 67S-3	111



STAGE 2 (AFTER WORK HOURS)

LEGEND

- oooo Traffic Impact Attenuator
For Detail, See Sheet No. 6C6A
- d Traffic Control Sign
- ← Traffic Flow
- Portable Concrete Barrier



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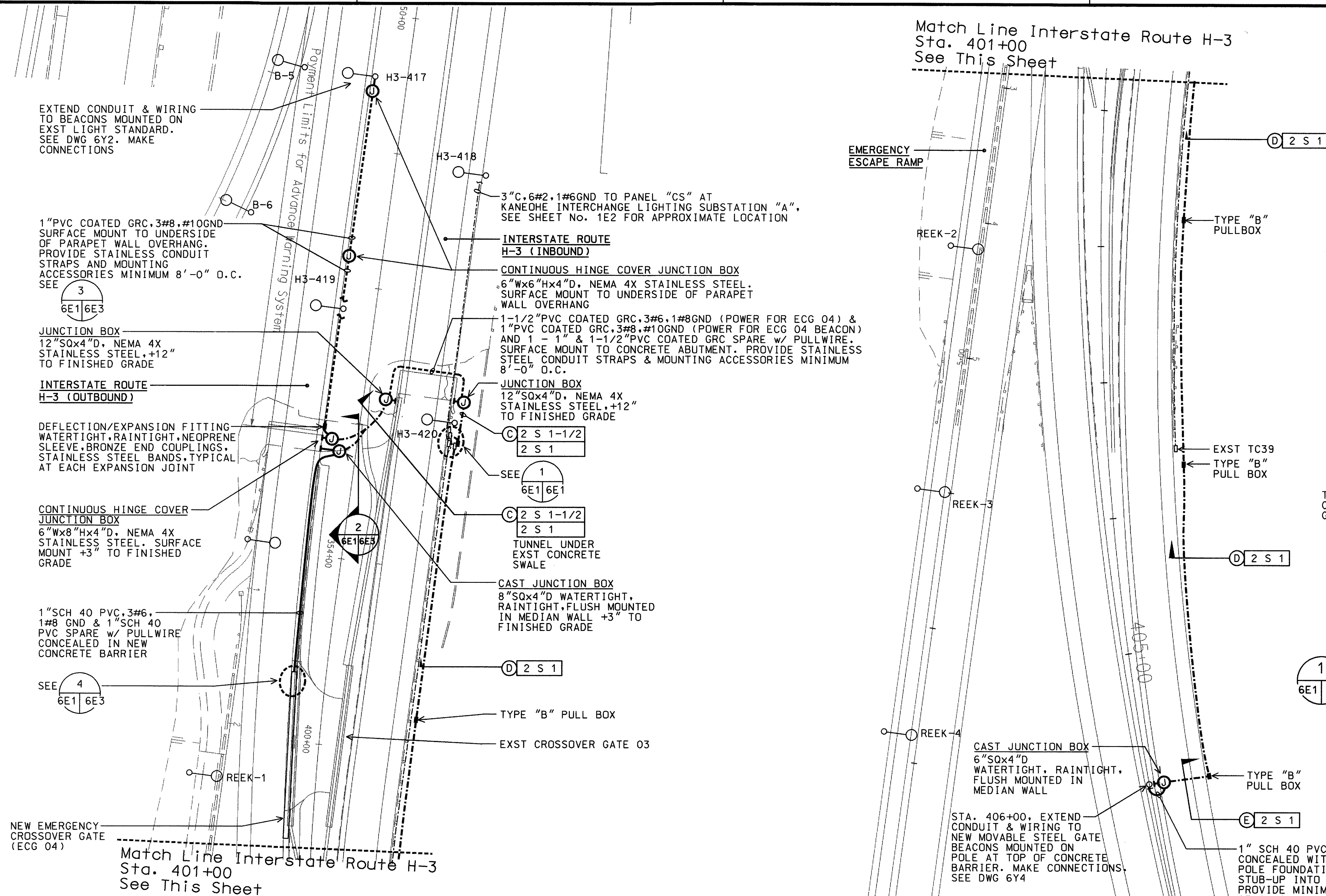
Stanley T. Katsura

8-9-99	Added Sheet
Date	Revision
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION EMERGENCY CROSSOVER WINDWARD HIGHWAY TRAFFIC CONTROL PLAN-3 H-3 FINISH (UNIT VI) FAIP NO. I-H3-1(75), UNIT VI	
SCALE: 1" = 40'	DATE: APRIL 1999
SHEET NO. 6C6C OF 6 SHEETS	

ADD. 67S-3

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

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(75), UNIT VI	1999	68	111

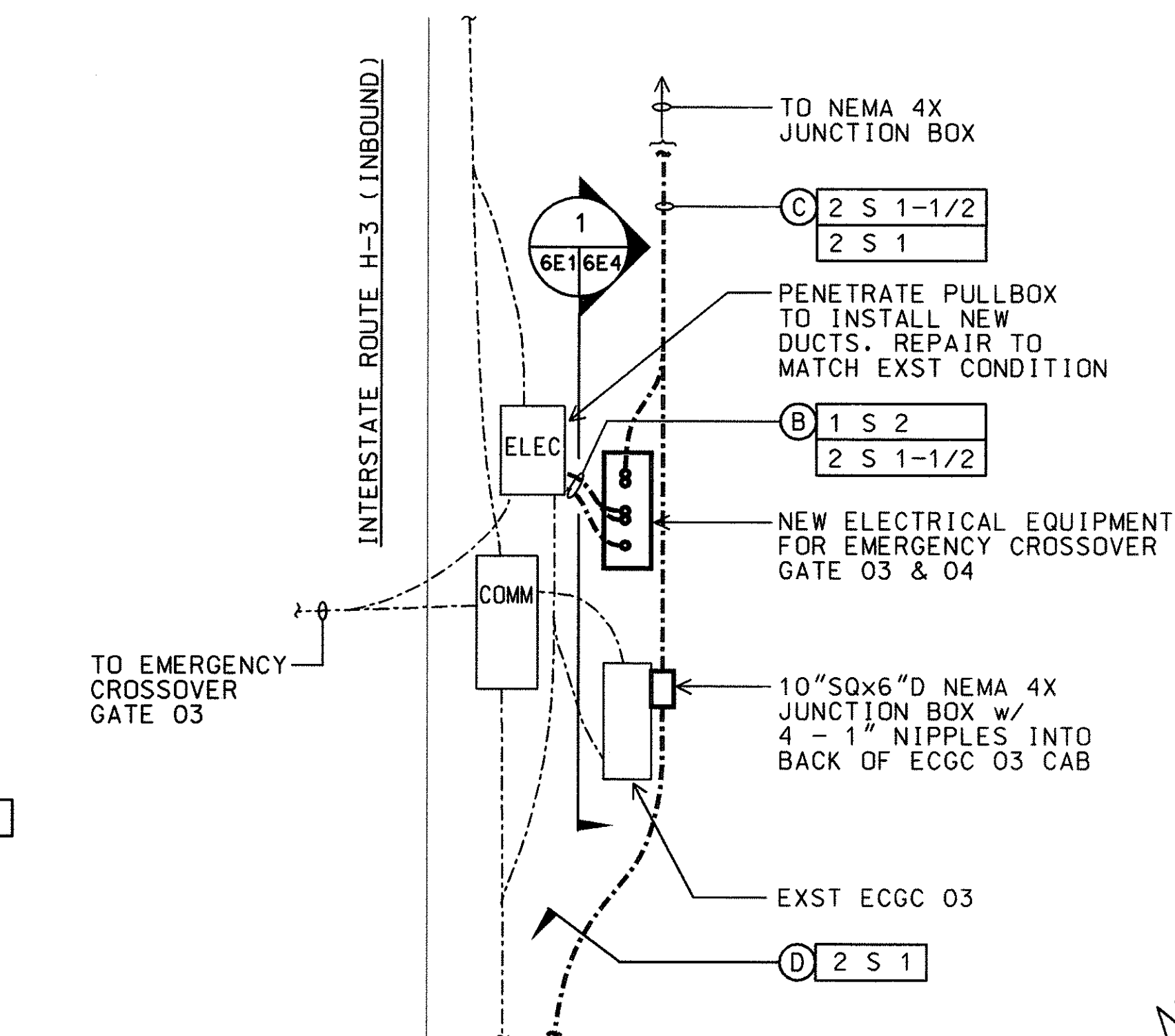
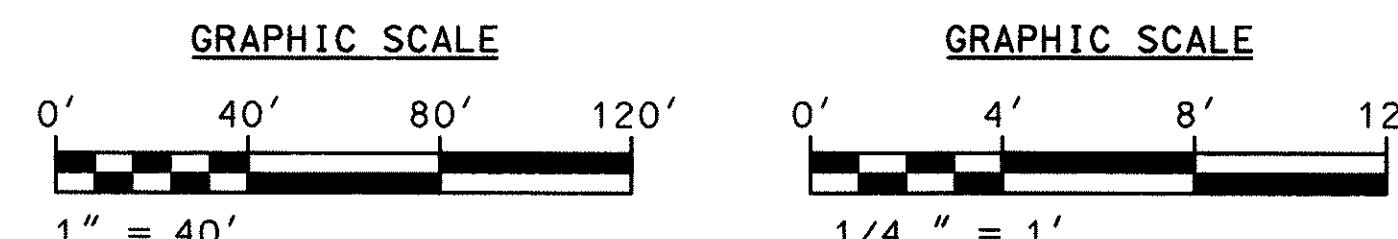


ELECTRICAL PLAN - INTERSTATE ROUTE H-3 (PART A)
 SCALE: 1" = 40'-0"

NOTES:
 1. LIGHT LINES DENOTE EXISTING CONDITION.
 BOLD LINES DENOTE NEW WORK.

ELECTRICAL PLAN - INTERSTATE ROUTE H-3 (PART B)
 SCALE: 1" = 40'-0"

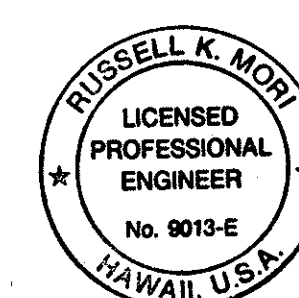
NOTES:
 1. LIGHT LINES DENOTE EXISTING CONDITION.
 BOLD LINES DENOTE NEW WORK.



1 PARTIAL SITE ELECTRICAL PLAN
 SCALE: 1/4" = 1'-0"

NOTES:
 1. LIGHT LINES DENOTE EXISTING CONDITION.
 BOLD LINES DENOTE NEW WORK.

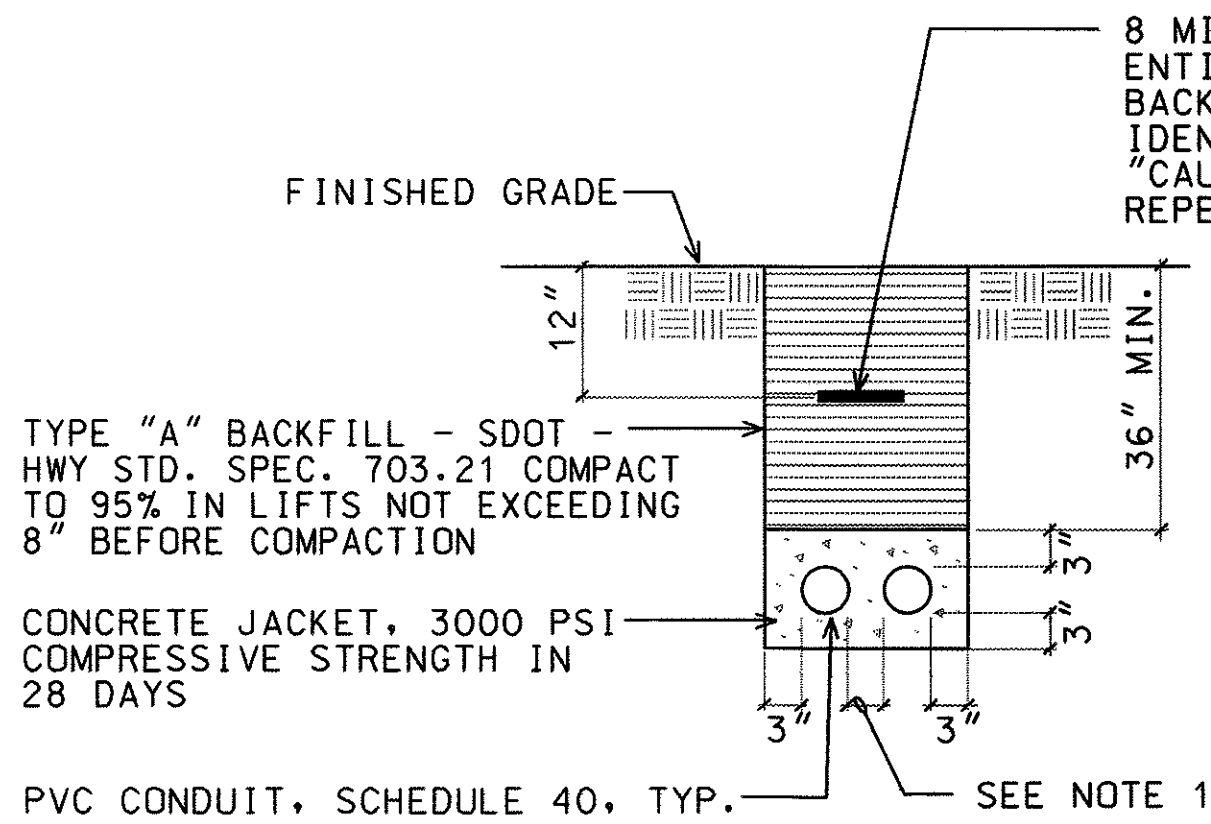
DATE: _____
 SURVEY PLOTTED BY: _____
 ORIGINAL DRAWN BY: _____
 NOTE BOOK DESIGNED BY: _____
 NO. CHECKED BY: _____



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 OR UNDER MY SUPERVISION
Russell K. Mori
 MK ENGINEERS, LTD

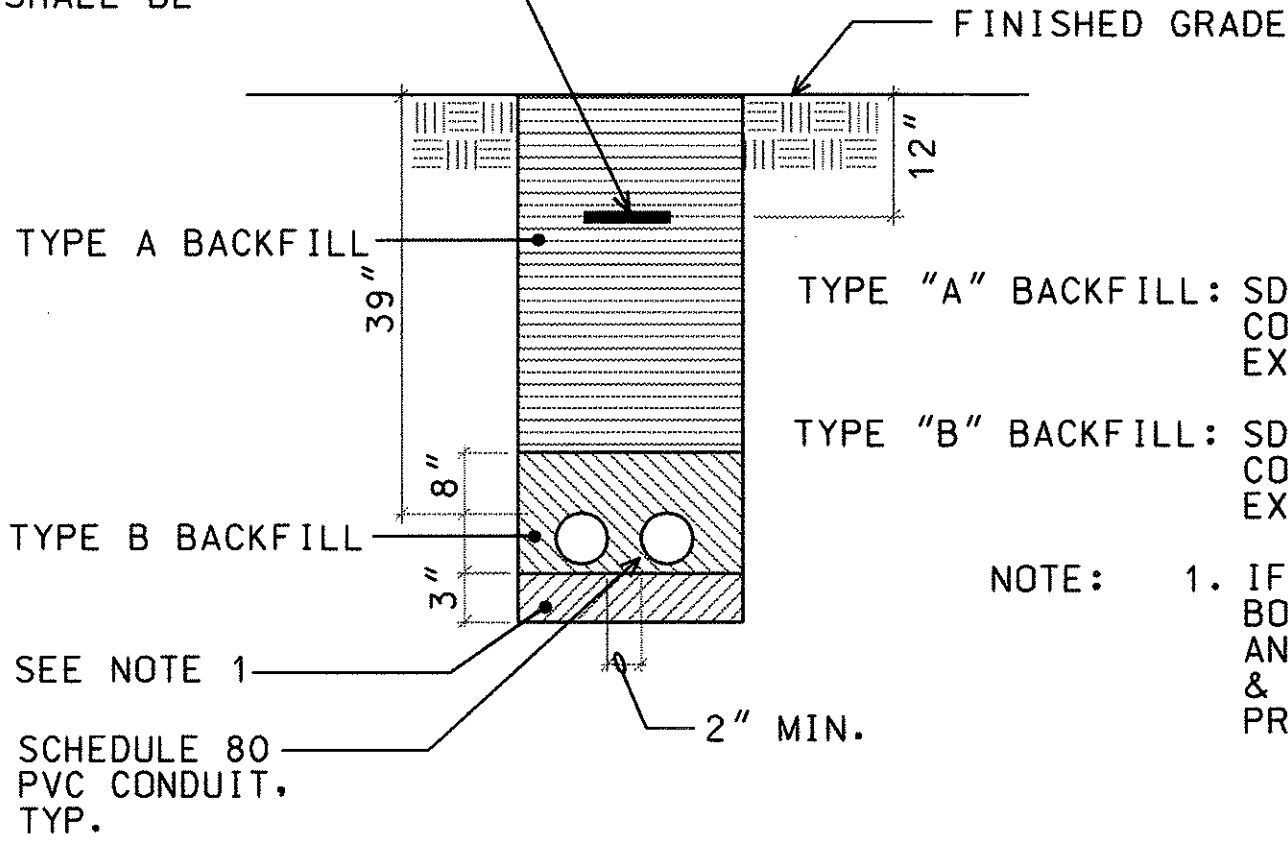
DATE	REVISION
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
EMERGENCY CROSSOVER: WINDWARD HIGHWAY PLANS	
H-3 FINISH (UNIT VI) FAIP NO. I-H3-1(75), UNIT VI	
SCALE: AS NOTED	DATE: APRIL 1999
SHEET NO. 6E1 OF 21 SHEETS	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(75), UNIT VI	1999	69	111



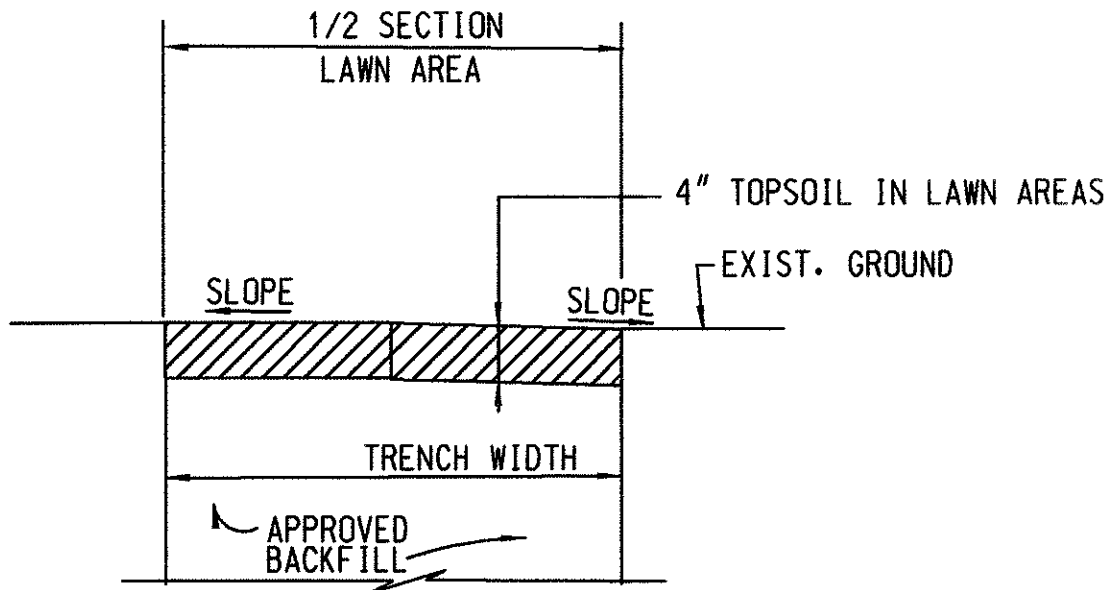
CONCRETE ENCASED

- NOTES:
1. PROVIDE 2" SEPARATION BETWEEN DUCTS OF SAME SYSTEM.
 2. REFER TO "SY" DWGS FOR TRENCHLESS EXCAVATION DETAILS. DUCT SECTION SHOWS MINIMUM REQUIREMENTS FOR DEPTH OF DUCT AND CONCRETE ENCASEMENT OF CONDUITS.



DIRECT BURIED

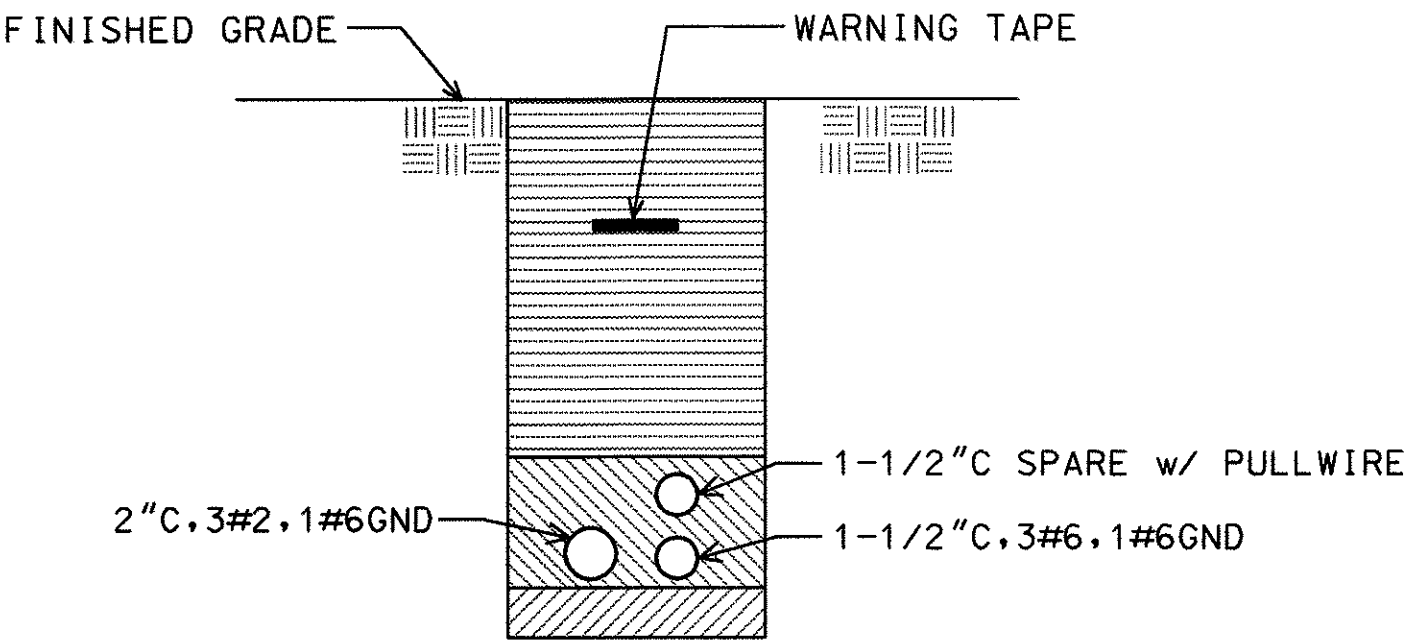
- TYPE "A" BACKFILL: SDOT - HWY STD. SPEC. 703.21 COMPACT TO 95% IN LIFTS NOT EXCEEDING 8" BEFORE COMPACTION.
- TYPE "B" BACKFILL: SDOT - HWY STD. SPEC. 703.21 COMPACT TO 95% IN LIFTS NOT EXCEEDING 8" BEFORE COMPACTION.
- NOTE: 1. IF THE NORMAL MATERIAL IN THE BOTTOM OF TRENCH IS NOT TYPE "B" AN ADDITIONAL 3" SHALL BE EXCAVED & TYPE "B" BACKFILL SHALL BE PROVIDED.



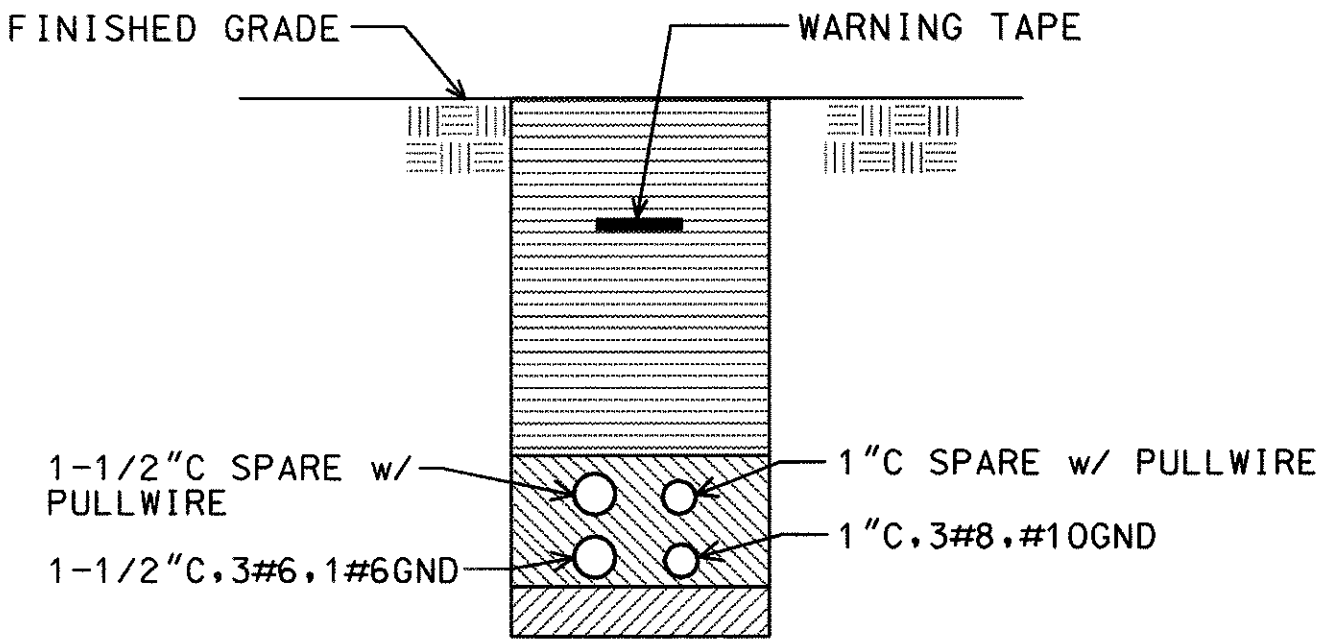
NON-ROADWAY TRENCH RESTORATION WORK

(NOT USED)

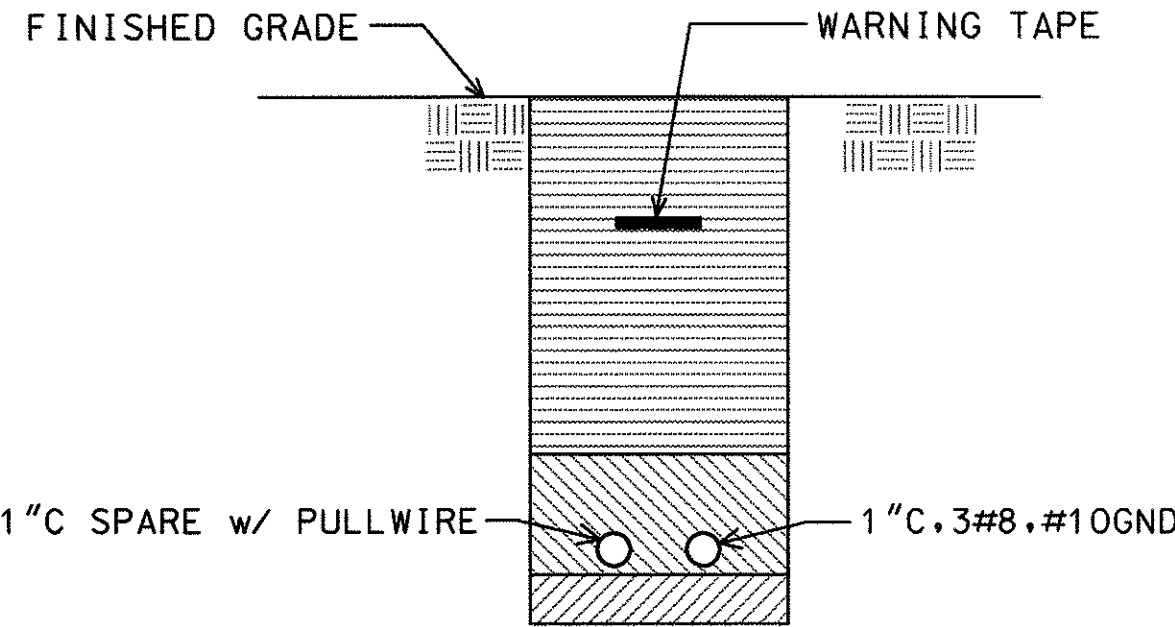
SECTION (A)



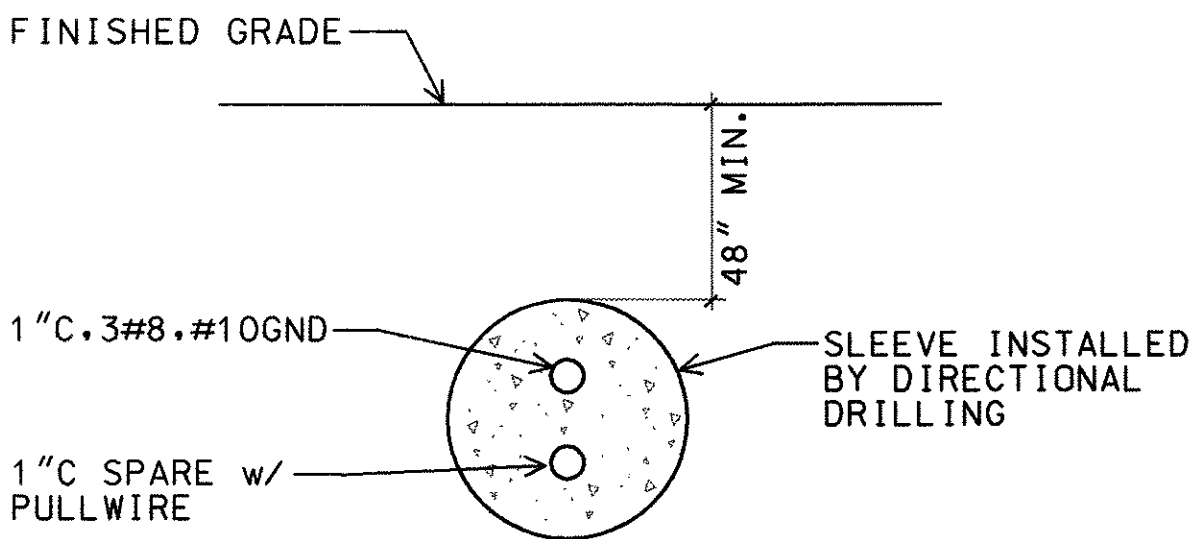
SECTION (B)



SECTION (C)



SECTION (D)

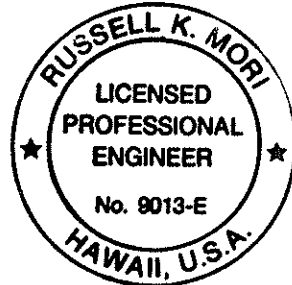
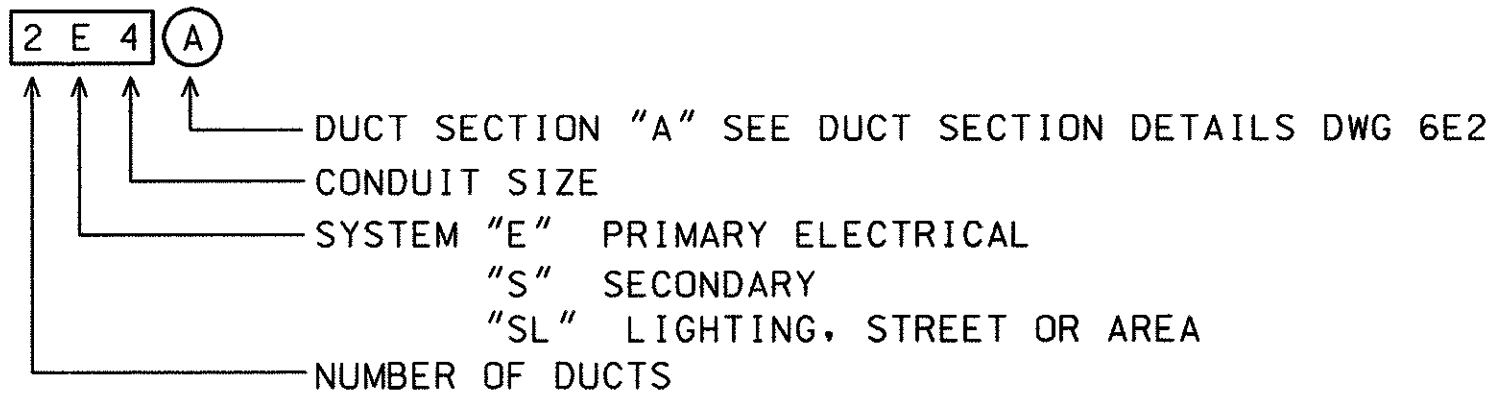


SECTION (E)

ELECTRICAL SYMBOLS

EXISTING	NEW	DESCRIPTION
		HIGHWAY LIGHTING PULLBOX
		SINGLE ARM, HIGHWAY LIGHTING STANDARD
		DOUBLE ARM, HIGHWAY LIGHTING STANDARD
		UNDERGROUND HIGHWAY LIGHTING DUCTLINE
		CONDUIT AND CONDUCTORS ROUTED WITHIN CONCRETE STRUCTURE
		UNDERGROUND HIGHWAY LIGHTING DUCTLINE AND CONDUCTORS, SEE THIS SHEET FOR DETAILS
		EXPOSED PVC COATED GALVANIZED RIGID STEEL CONDUIT AND CONDUCTORS.

DUCT DESIGNATION



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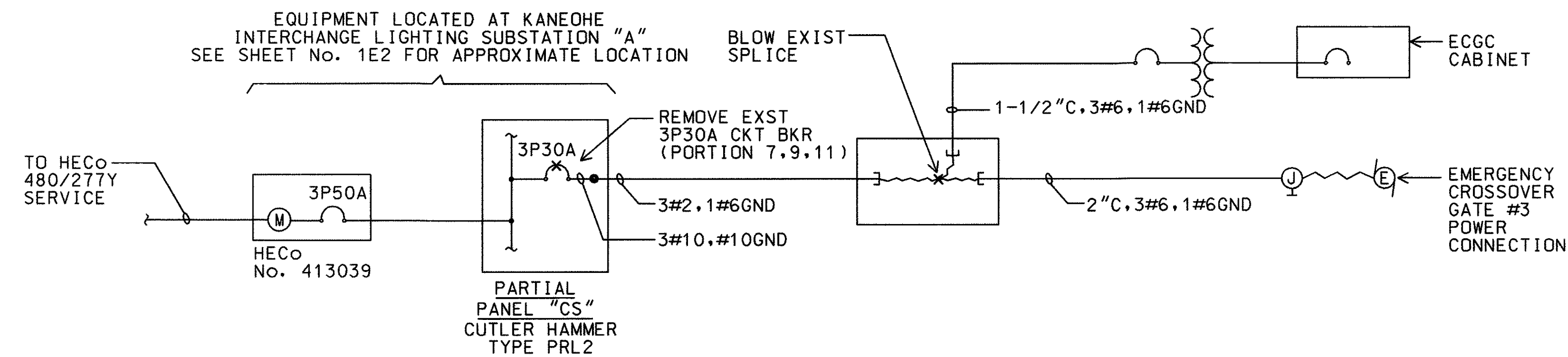
Russell K. Mori 9/23/99
MK ENGINEERS, LTD

DATE	REVISION
	STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION
	DUCT SECTION DETAILS
	H-3 FINISH (UNIT VI) FAIP NO. I-H3-1(75), UNIT VI
SCALE: AS NOTED	DATE: APRIL 1999
SHEET NO. 6E2	OF 21 SHEETS

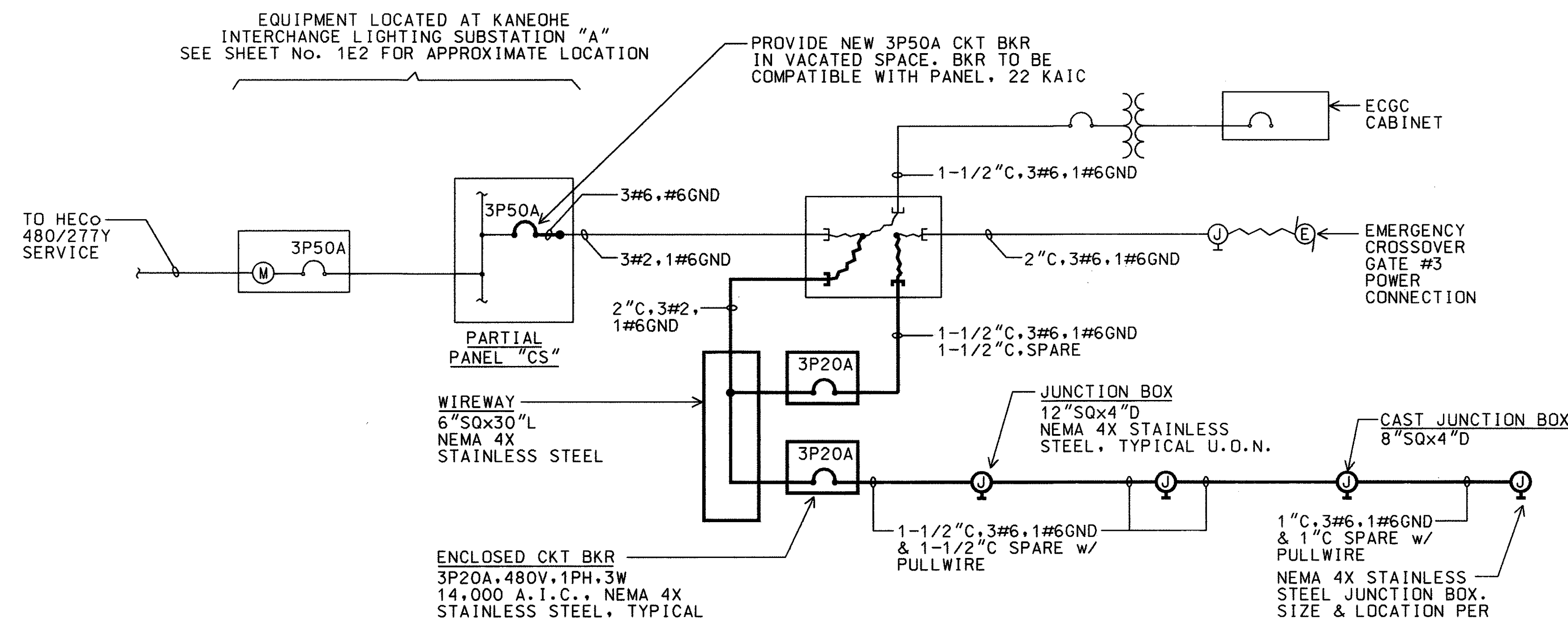
ORIGINAL	SURVEY PLOTTED BY	DATE
PLAN	DRAWN BY	
NOTE BOOK	TRACED BY	
	DESIGNED BY	
	QUANTITIES BY	
	CHECKED BY	
	No.	

70

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(75), UNIT VII	1999	71	111



DEMOLITION WORK



NEW WORK

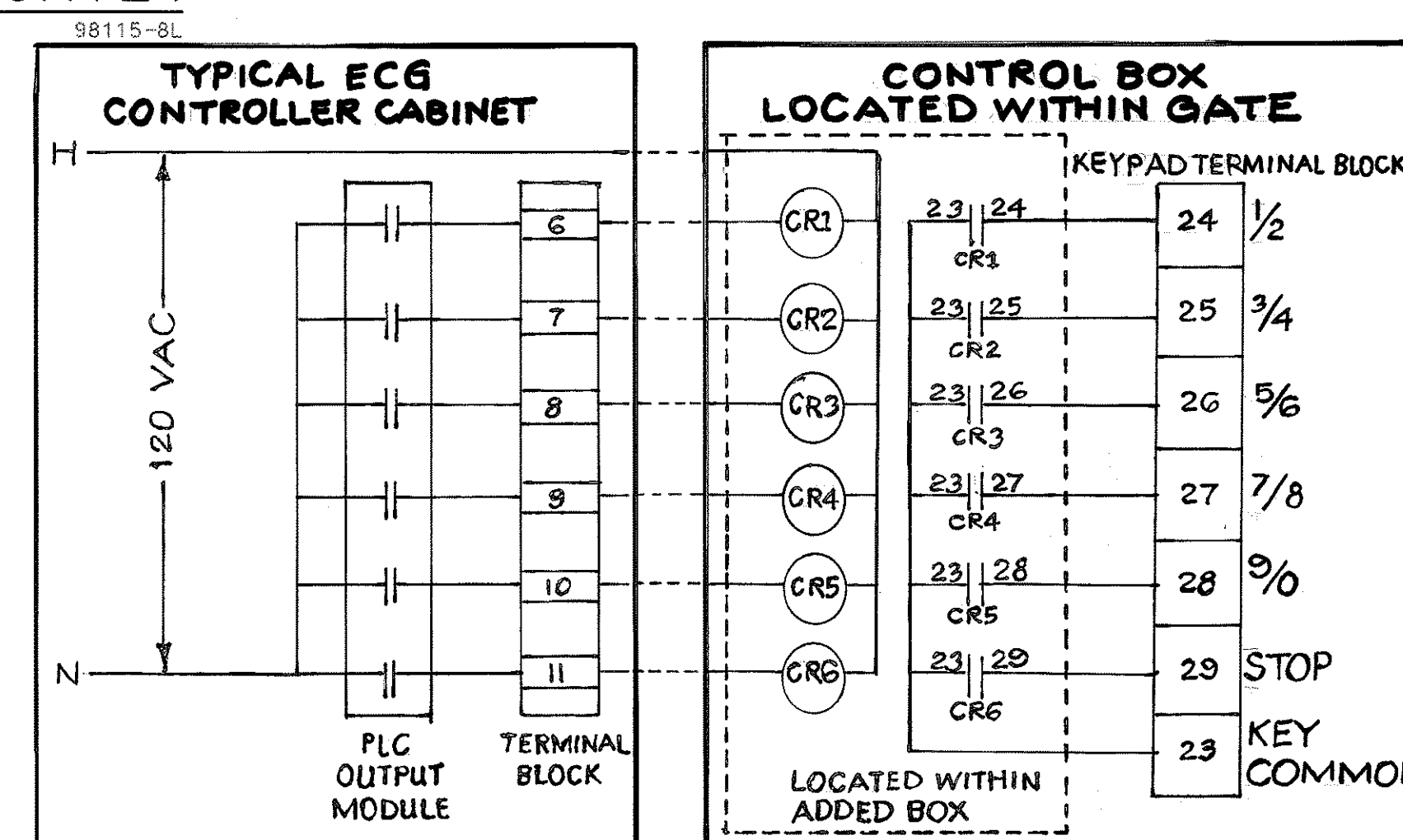
PARTIAL ONE-LINE DIAGRAM (NEW EMERGENCY CROSSOVER GATE)

NO SCALE

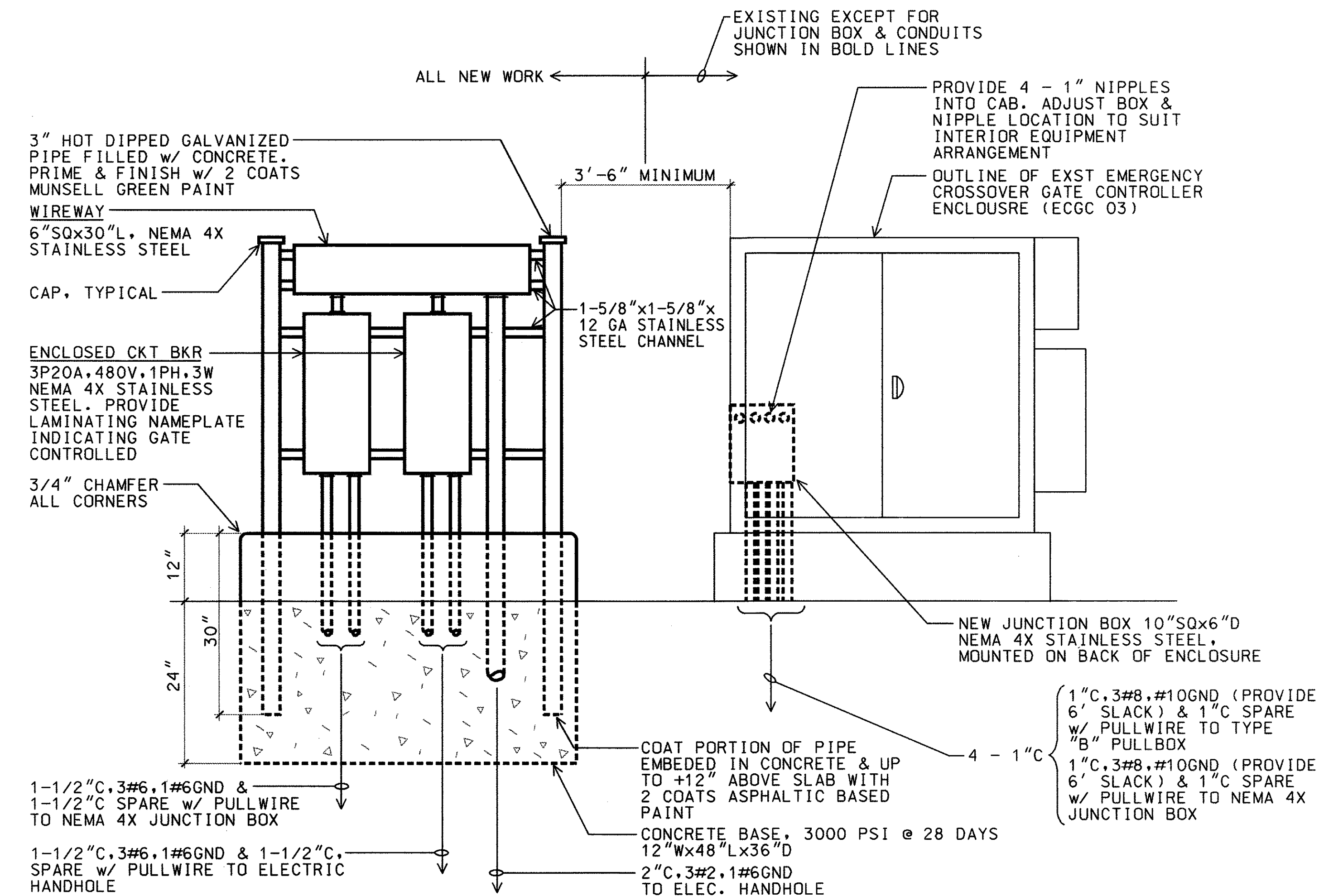
NOTES:

1. LIGHT LINES DENOTE EXISTING CONDITION.
BOLD LINES DENOTE NEW WORK.
X-X-X DENOTE REMOVAL WORK.

(CR) CONTROL RELAY
CR CONTROL RELAY CONTACTS
CR EMERGENCY CROSSOVER GATE



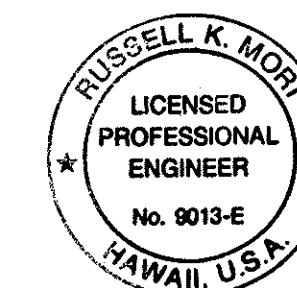
H-3 EMERGENCY CROSSOVER GATE REMOTE CONTROL CIRCUIT TYPICAL FOR ECG 2,3,4



1 EQUIPMENT MOUNTING DETAIL 6E1 6E4 NOT TO SCALE 98115D12

NOTES:

1. CONDUITS BELOW GRADE SHALL BE SCH 40 PVC. CONDUITS ABOVE GRADE SHALL BE PVC-COATED GRC.
2. PRIME ALL CONDUITS, ENCLOSURE AND MOUNTING FRAME WITH PRIMER AND 2 FINISH COATS OF PAINT (MUNSSELL GREEN).



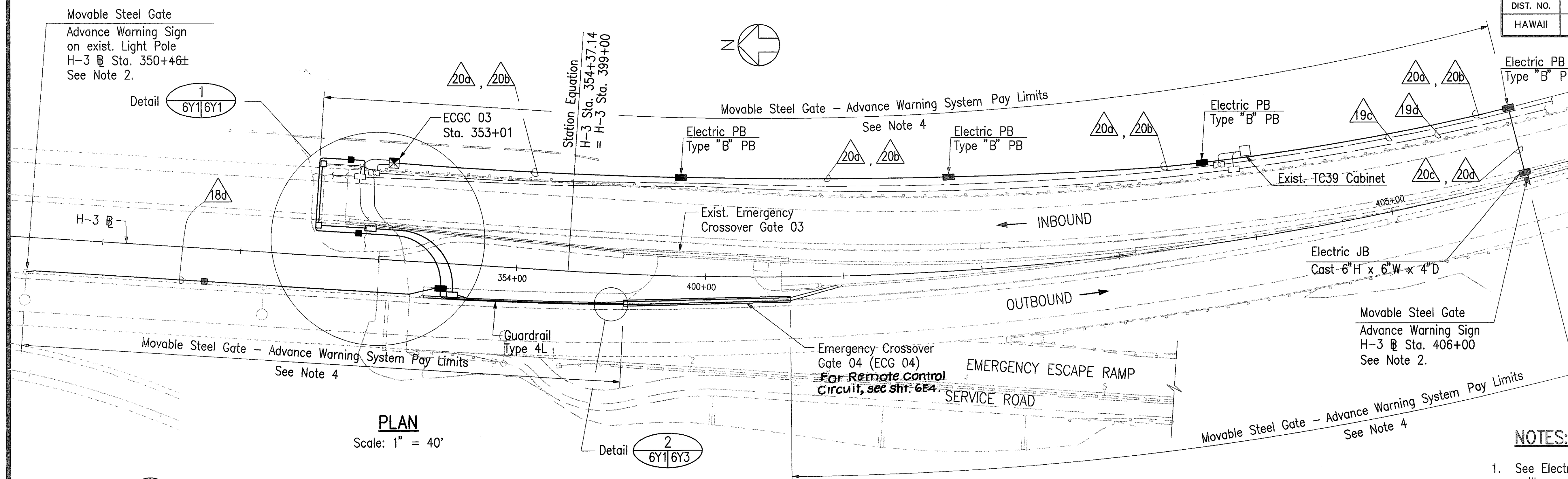
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Russell K. Mori 9/12/99
MK ENGINEERS, LTD

DATE	REVISION
	STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION
	EMERGENCY CROSSOVER WINDWARD HIGHWAY MISC. ELECTRICAL DETAILS
	H-3 FINISH (UNIT VII) FAIP NO. I-H3-1(75), UNIT VII
SCALE: AS NOTED	DATE: APRIL 1999
SHEET NO. 6E4 OF 21 SHEETS	

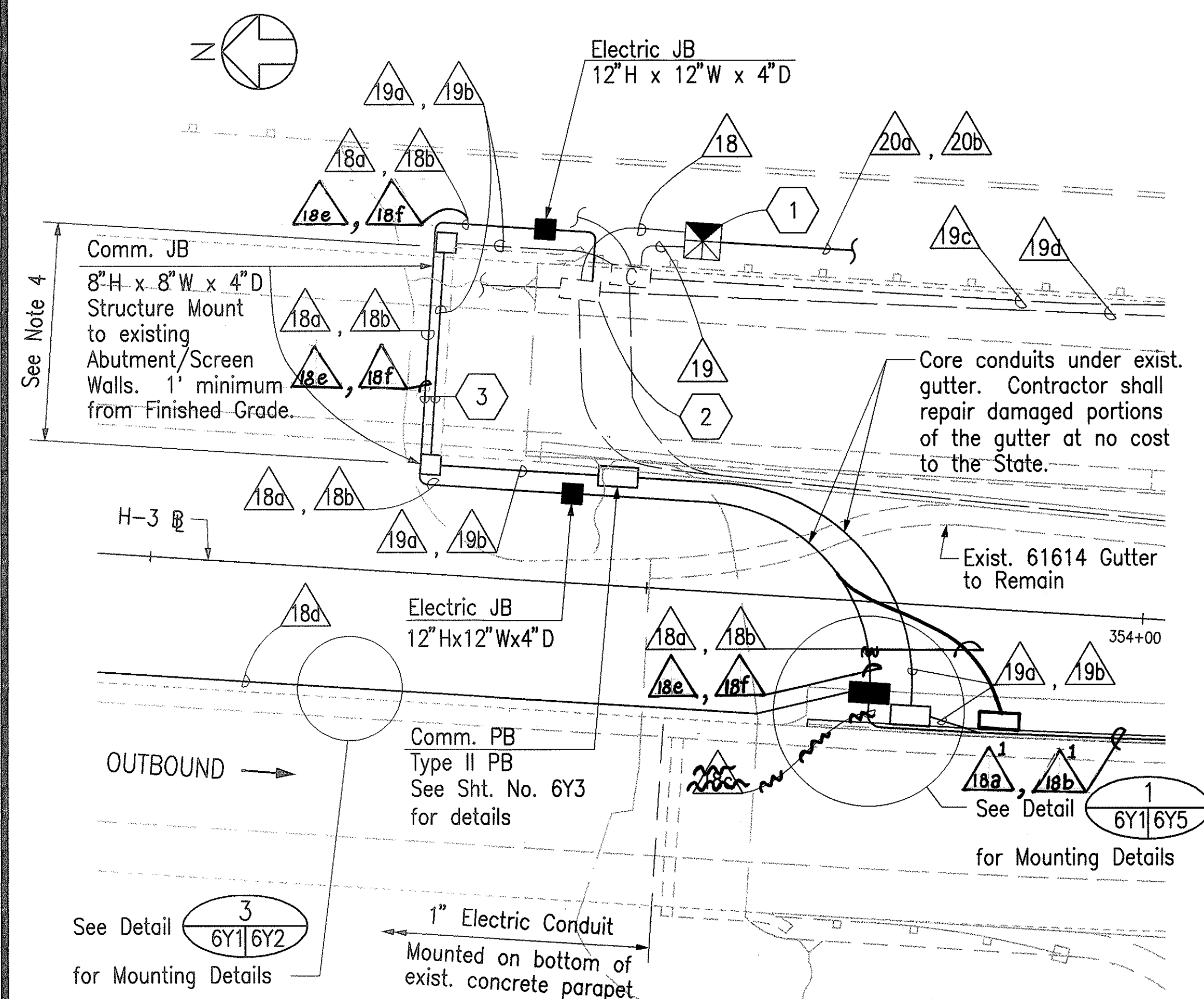
"AS-BUILT"

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(75), UNIT VII	1999	72	111



PLAN

Scale: 1" = 40'



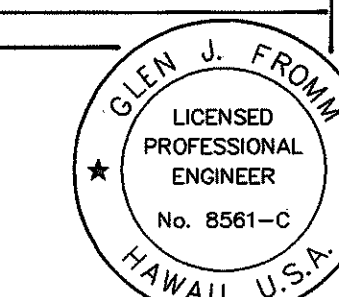
DETAIL

Not to Scale

CONDUIT / CABLE SCHEDULE						
RUN NO.	CONDUIT		CABLE / CONDUCTOR		USED FOR	REMARKS
	NEW	EXISTING	NEW	EXISTING		
18		1-1/2"		3-#6 & GND	Power	480V Power to ECGC 03. See Note 1.
			3-#8		Signals	120V Power to ECG 04 Beacon.
18a	1-1/2"		3-#8		Power	480V Power to ECG 04. See Note 1.
18b	1-1/2"		3-#6 & 1-#8 GND		Power	Spare Conduit
18c			3-#6 & 1-#8 GND		Power	480V Power to ECG 04.
18d	1"		3-#8 & 1-#10 GND		Signals	120V Power to ECG 04 Beacon.
19		1-1/2"		1-4MM	Comm.	Fiber Comm. PLC to TC 39.
				1-6PR #18 w/ Shld.	Control	PLC Control to ECG 03.
19a	1"		1-6PR #18 w/ Shld.		Control	PLC Control to ECG 04.
19b	1"				Control	Spare Conduit
19c		3"		1-12MM	Data/Comm.	Fiber Comm. to ECGC 03.
				1-4MM	Data/Control	Fiber Comm. to ECGC 03.
19d		3"		3-#2 & GND	Power	480V Power to TC 39 & 40.
20a	1"		3-#8		Power	480V Power to ECG 04.
20b	1"				Power	Spare Conduit
20c	1"		3-#8		Power	Trenchless Conduit Crossing. Power to ECG 04 Beacon. See Note 1.
20d	1"				Power	Trenchless Conduit Crossing. Spare Conduit.
18a	1"		3-#6 & 1-#8 GND		SIGNALS	480V POWER TO ECG 04 BEACON
18b	1"				POWER	SPARE CONDUIT
18c	1"		3-#8 & 1-#10 GND		SIGNALS	120V POWER TO ECG 04 BEACON
18d	1"				SIGNALS	SPARE CONDUIT

CONSTRUCTION NOTES:

- Install new wire and cable into existing cabinet. Make connections to existing PLC for monitor and control of new ECG04 and flashing beacons for Advance Warning Signs.
- Intercept existing 480V feeder conductors and splice new conductors to provide power to ECG04.
- Surface mount PVC coated rigid galvanized steel conduits to existing bridge abutment.



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NOTES:

- See Electrical Plans for location and types of electrical pullboxes and junction boxes.
- See Sht. No. 6Y2 for Emergency Crossover Gate Advance Warning Sign Details.
- Install 6" HDPE sleeve by trenchless method per specifications. HDPE sleeve shall have smooth exterior wall, Standard Dimension Ratio (SDR) of 13.5 or thicker; and be installed with 4' minimum cover. Grout annular space between trenchless sleeve and conduits with low strength material (100 psi minimum). Payment for HDPE sleeve, conduits, conduit spacers, cables, Type "B" pullbox, six-inch (6") square by four-inch (4") cast junction box, and annular grout shall be paid for under "Trenchless Sleeve (48 L.F.)."
- Payment for Advance Warning Sign, Advance Warning Sign Support Structure, conduits, and other incidentals shall be paid under "Movable Steel Gate Control System."

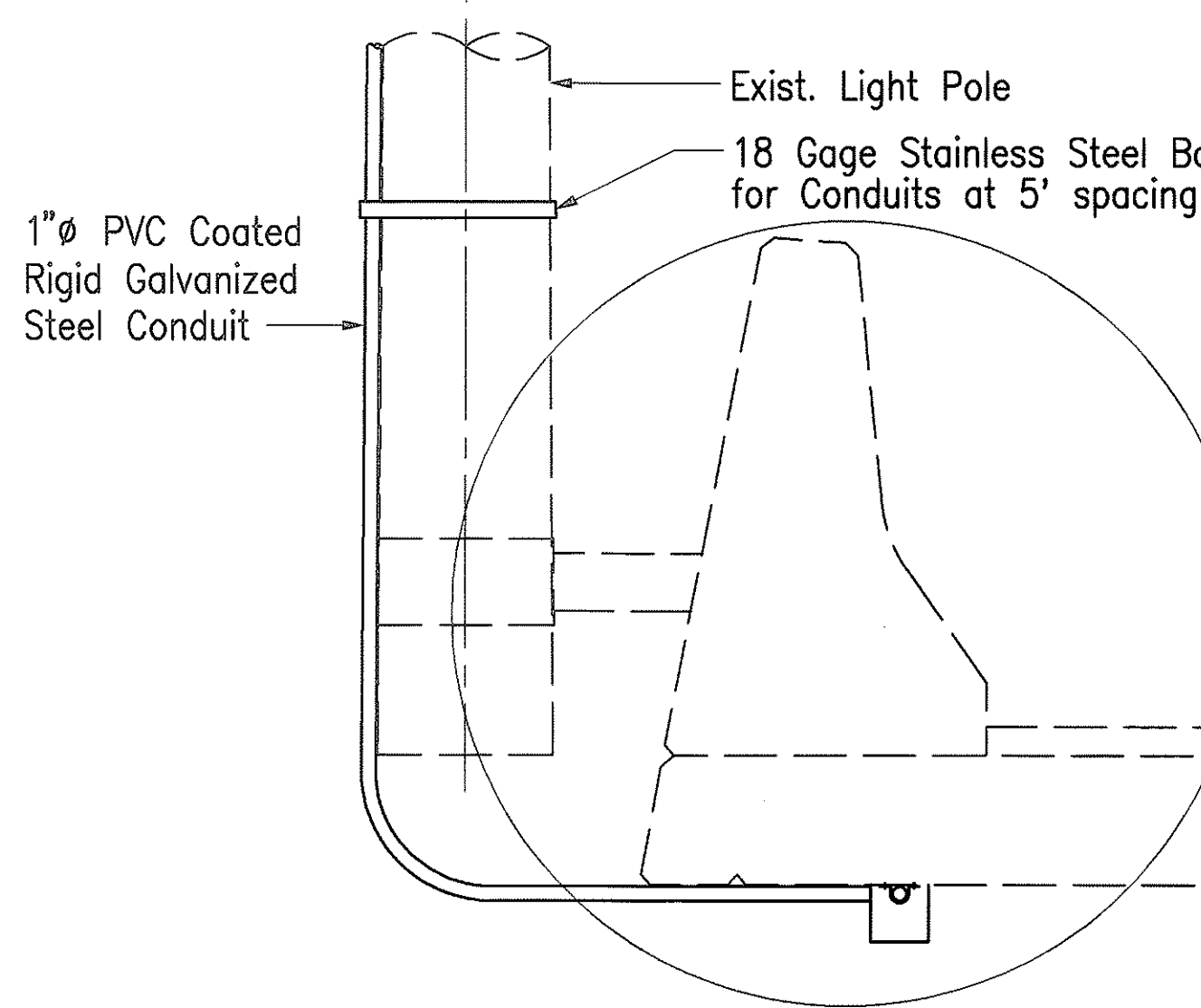
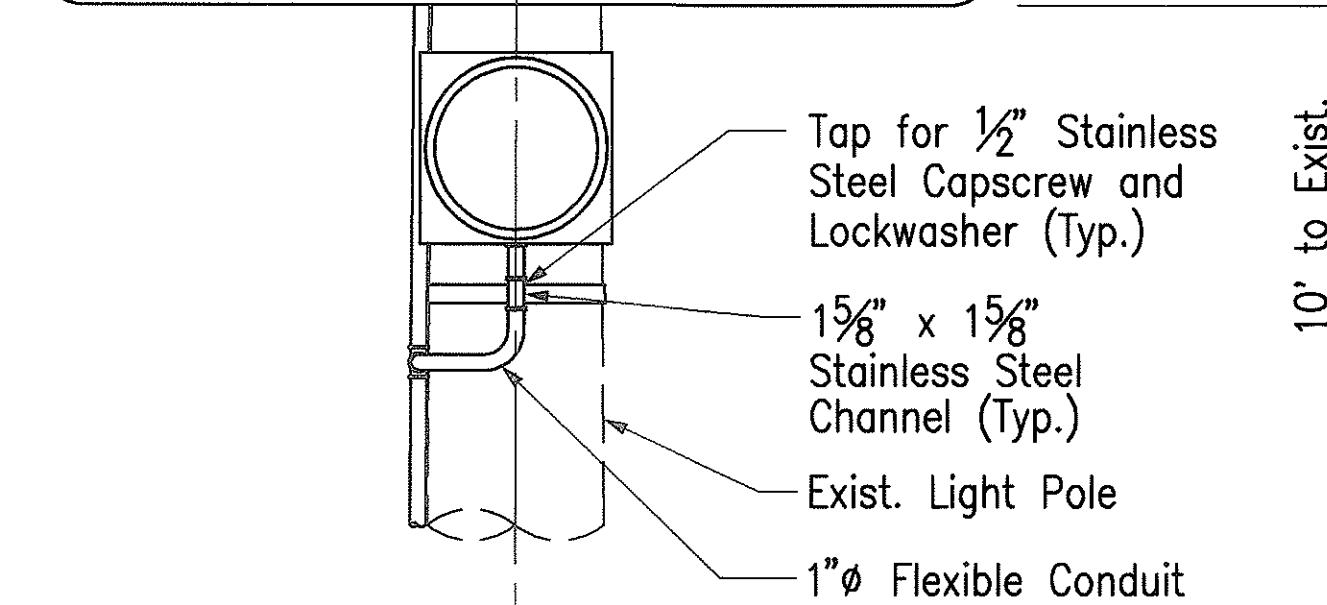
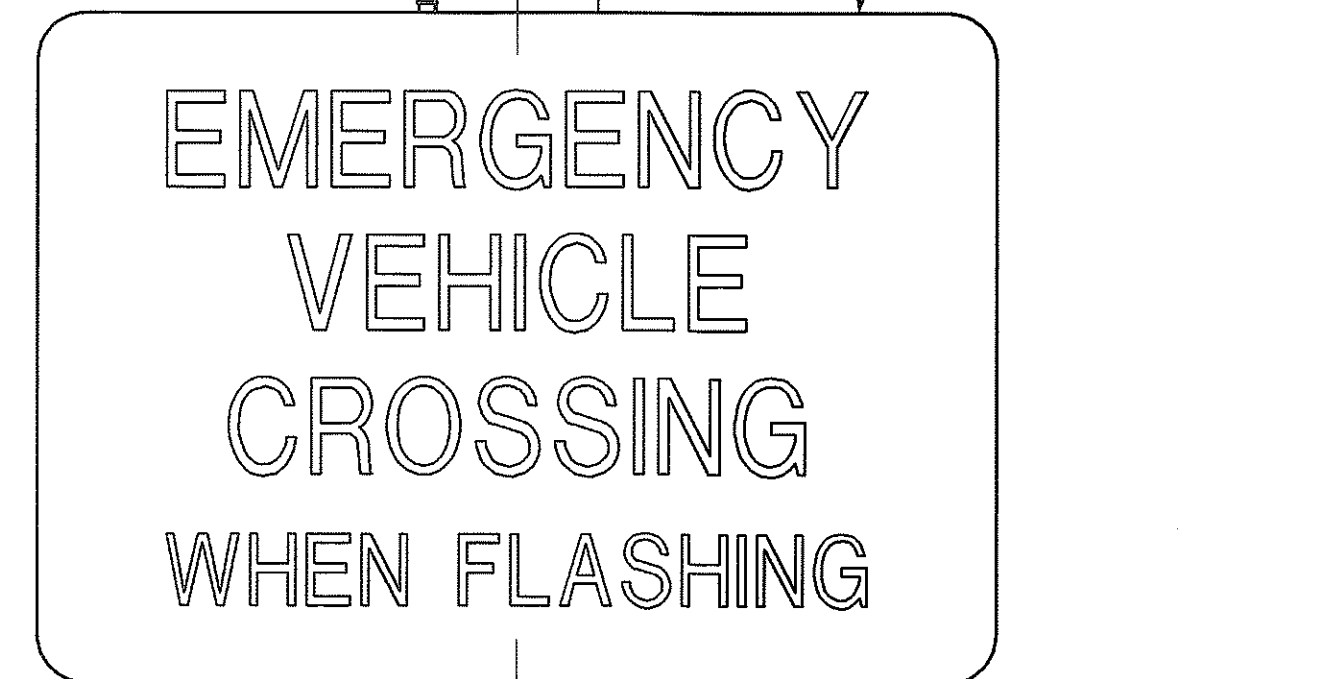
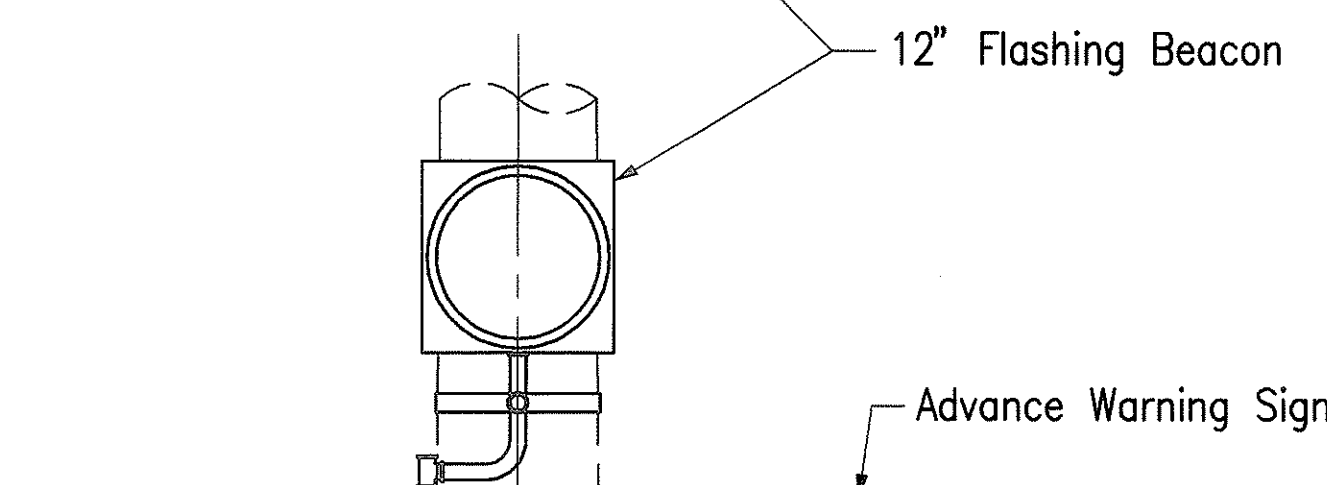
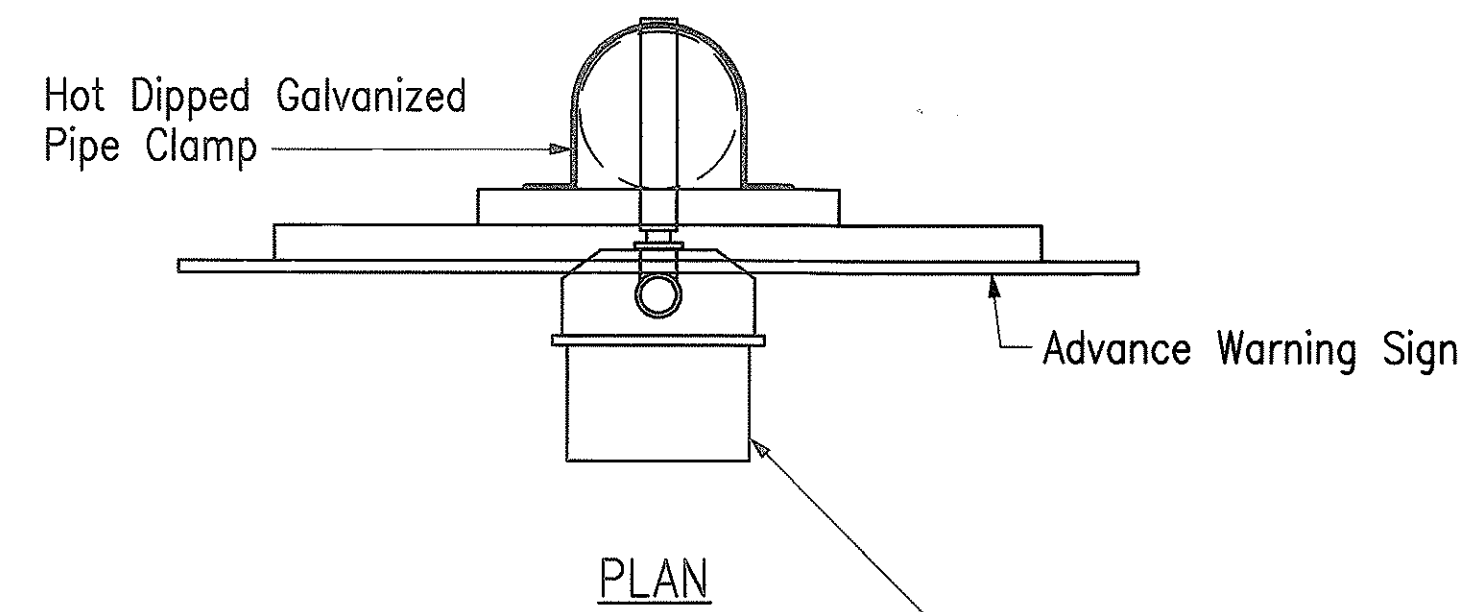
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION **EMERGENCY CROSSOVER WINDWARD HIGHWAY SYSTEMS PLAN**

H-3 FINISH (UNIT VII)
FAIP NO. I-H3-1(75), UNIT VII

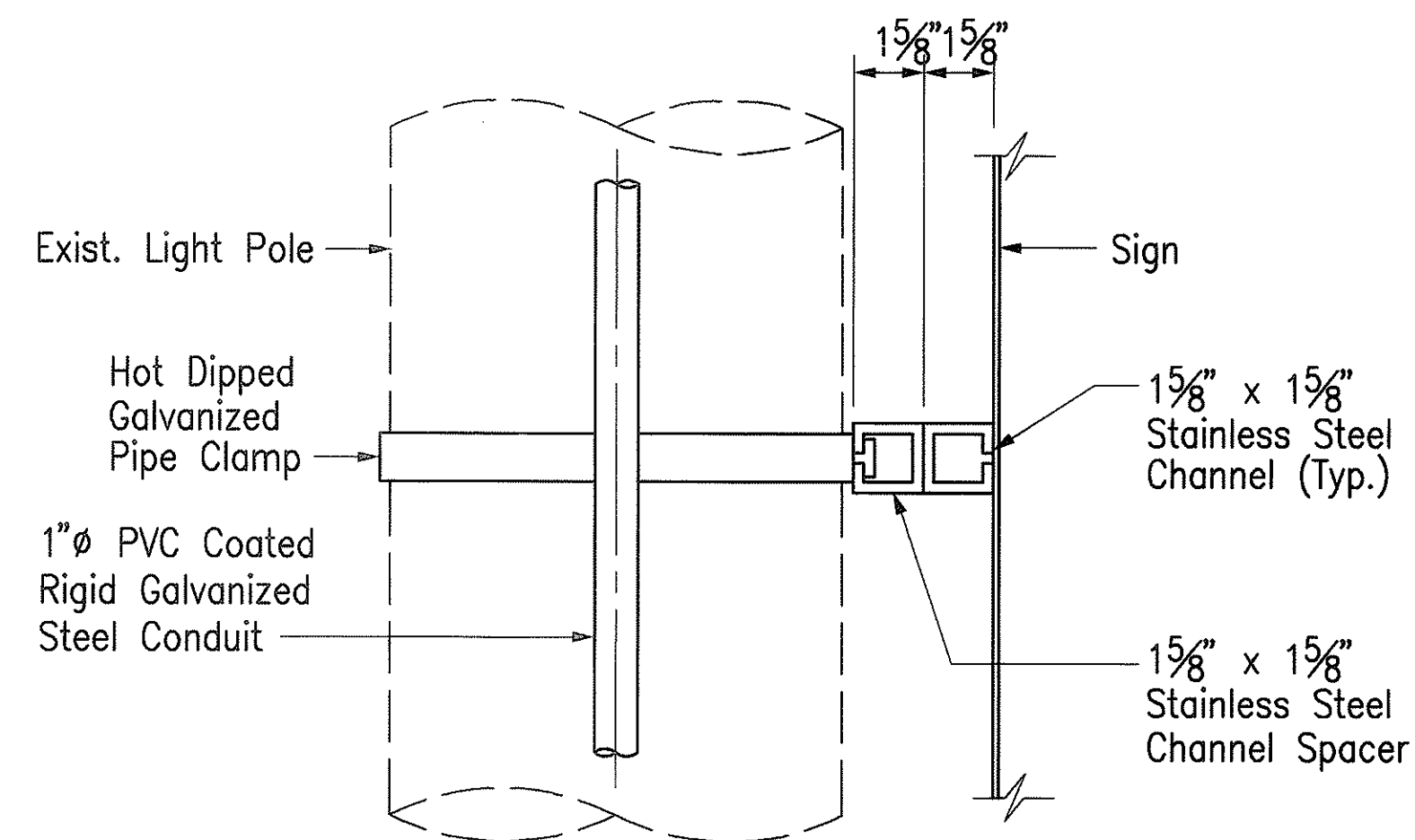
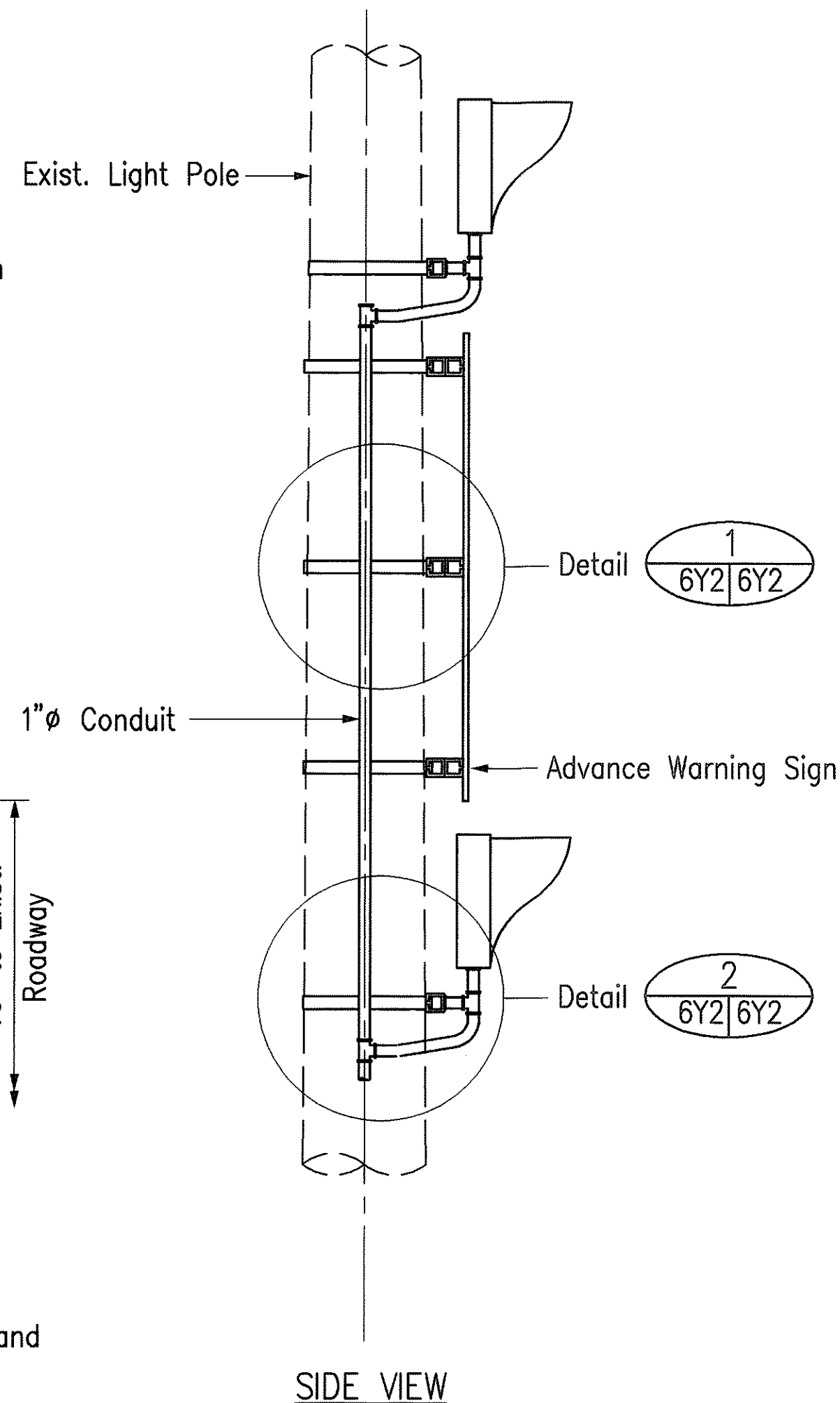
SCALE: AS SHOWN DATE: APRIL 1999
SHEET NO. 6Y1 OF 5 SHEETS

"AS-BUILT"

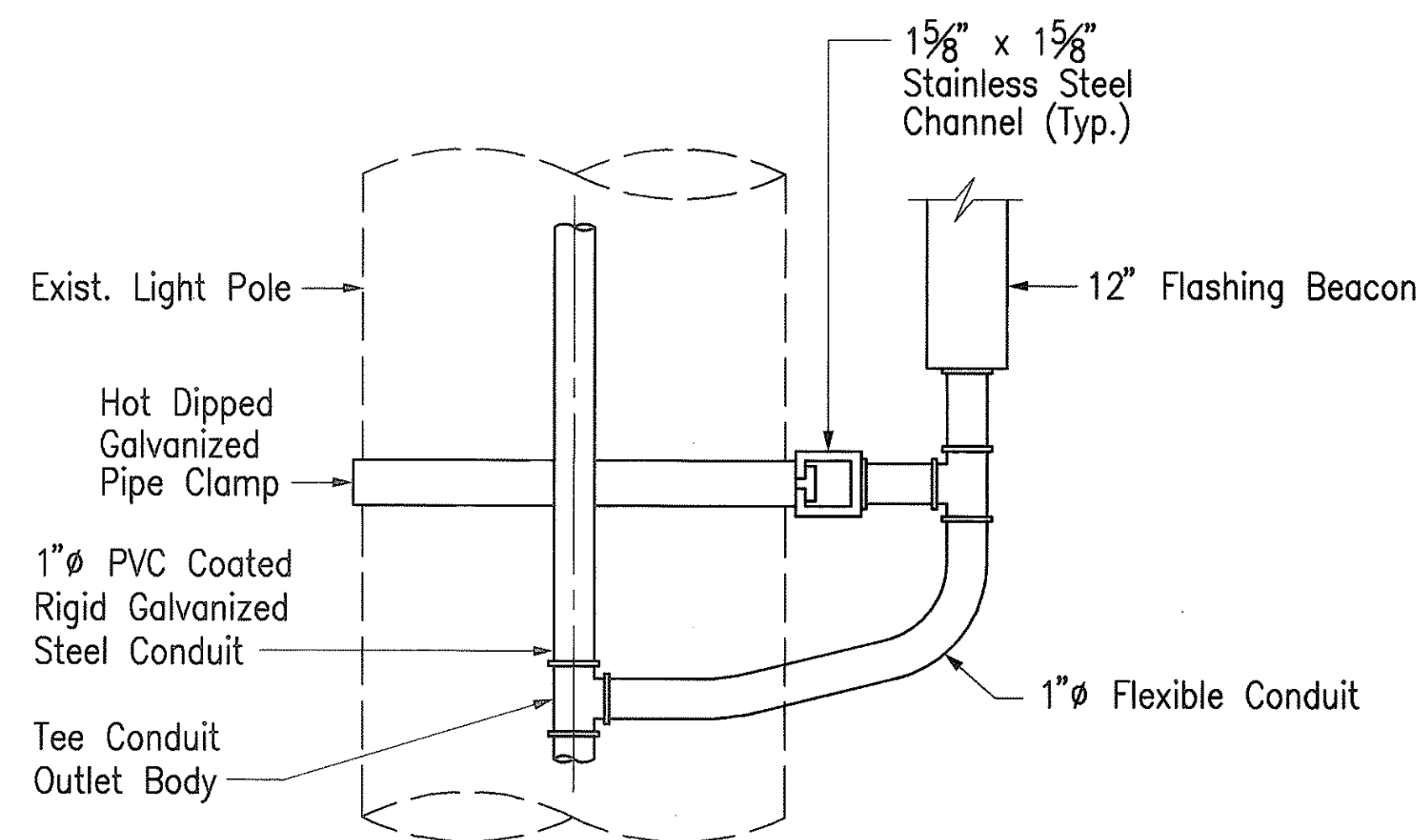
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(75), UNIT VI	1999	73	111



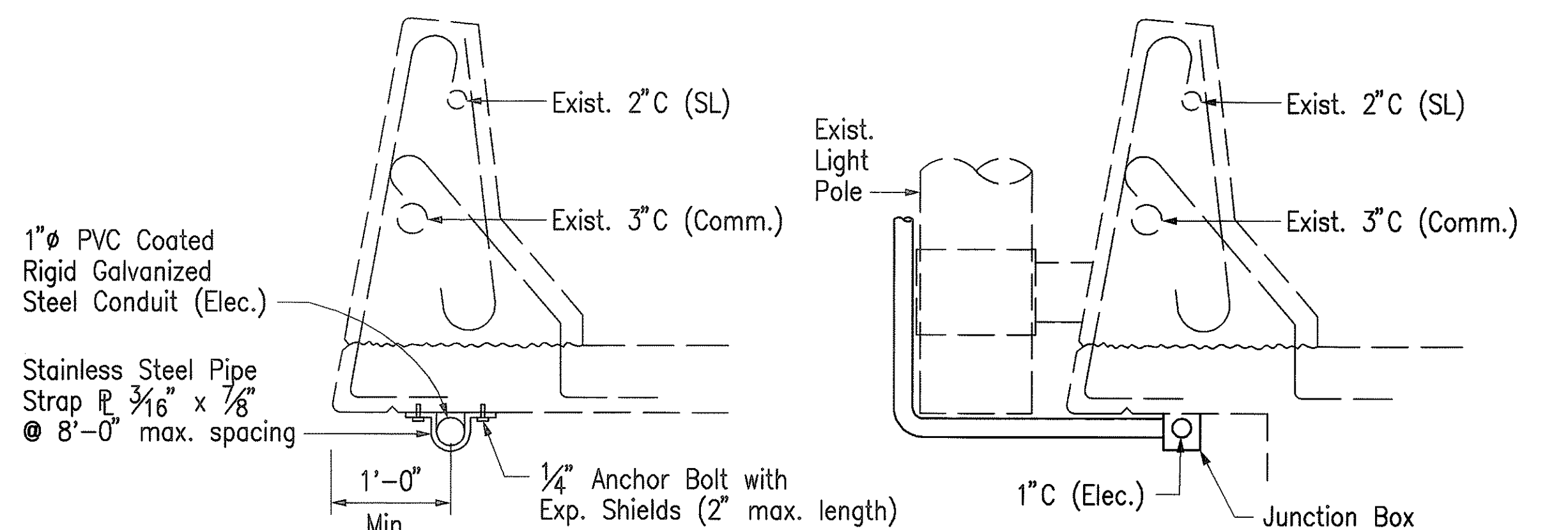
TYPICAL CONCRETE PARAPET SECTION
Scale: 1" = 1'-0"



DETAIL 1
Not to Scale
6Y2 6Y2



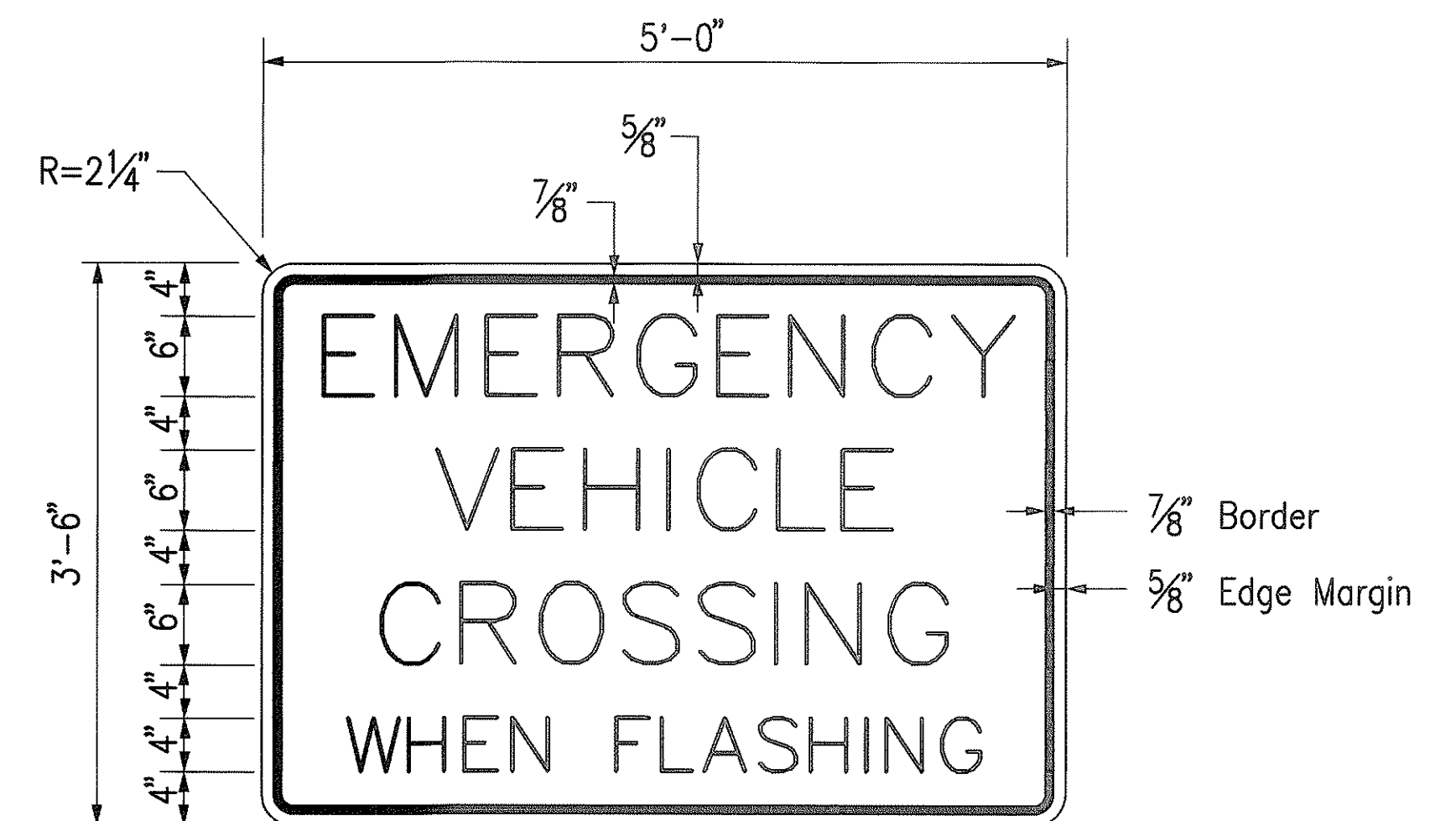
DETAIL 2
Not to Scale
6Y2 6Y2



TYPICAL ELECTRIC CONDUIT MOUNTING DETAIL

DETAIL 3
Not to Scale
6Y1 6Y2

LIGHT POLE CONNECTION @ STA. 350+46±



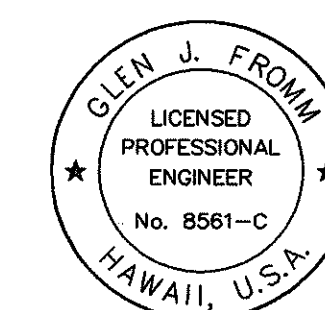
NOTES

1. All lettering to be Series D.
2. Black border and legend on yellow background.
3. For additional information, see Std. Plan TE-09.

ADVANCE WARNING SIGN DETAIL FOR EMERGENCY CROSSOVERS
N.T.S.

NOTE:

1. Payment for Advance Warning Sign, Advance Warning Sign Support Structure, conduits, and other incidentals shall be paid under "Movable Steel Gate Control System."



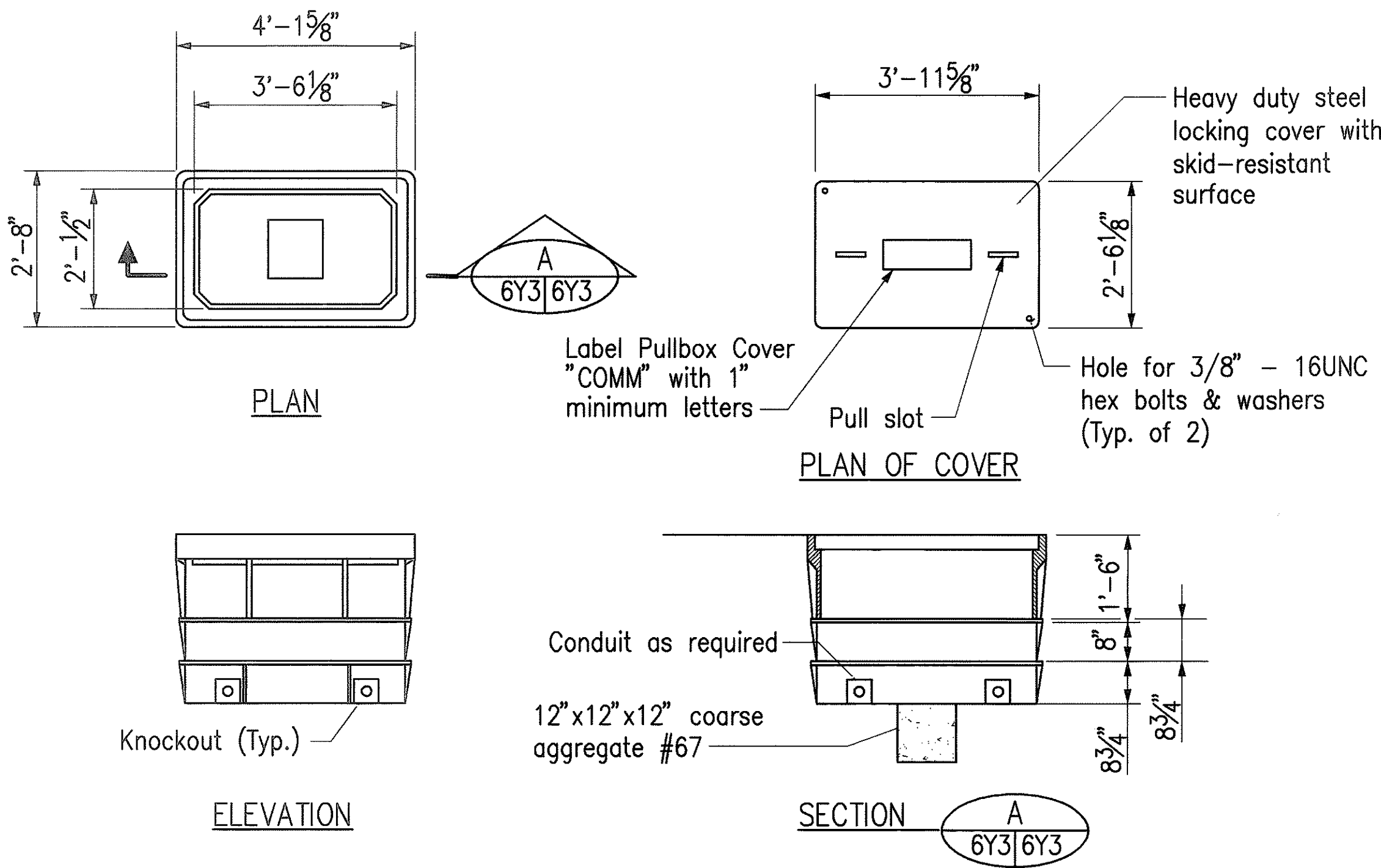
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
EMERGENCY CROSSOVER
WINDWARD HIGHWAY
SYSTEMS DETAIL - 1
H-3 FINISH (UNIT VI)
FAIP NO. I-H3-1(75), UNIT VI
SCALE: AS SHOWN DATE: APRIL 1999
SHEET NO. 6Y2 OF 5 SHEETS

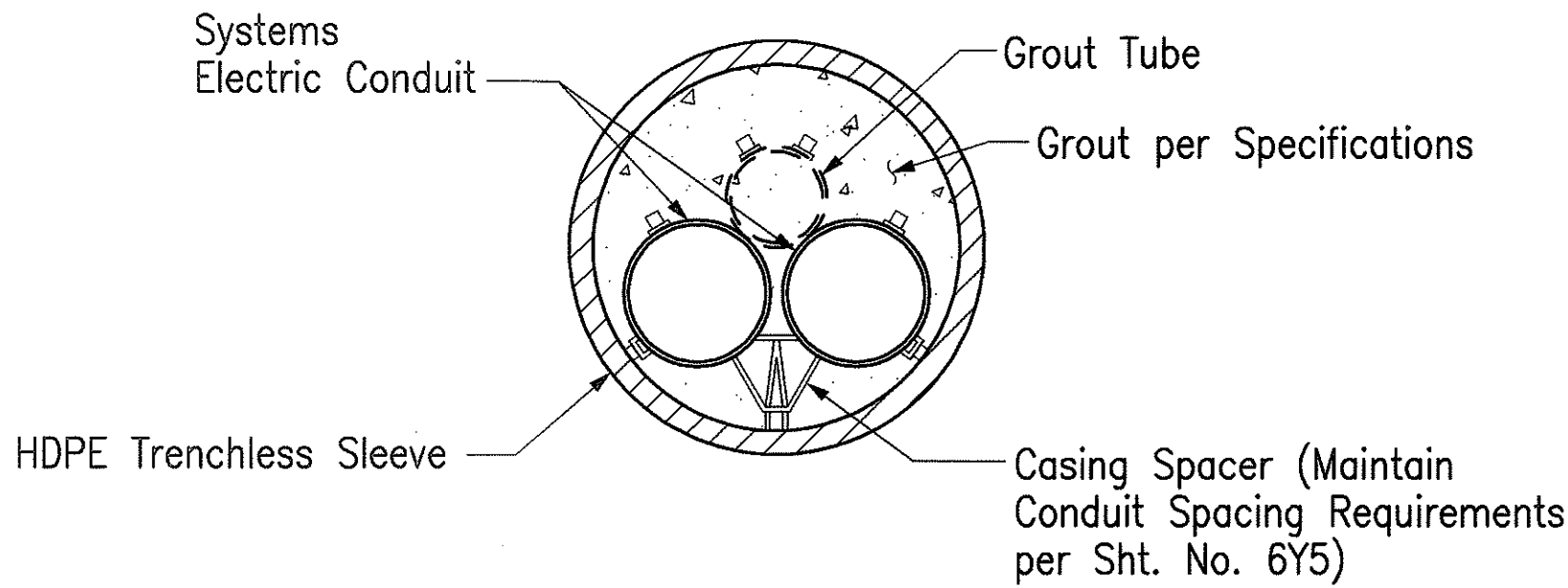
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(75), UNIT VI	1999	74	111

NOTE:

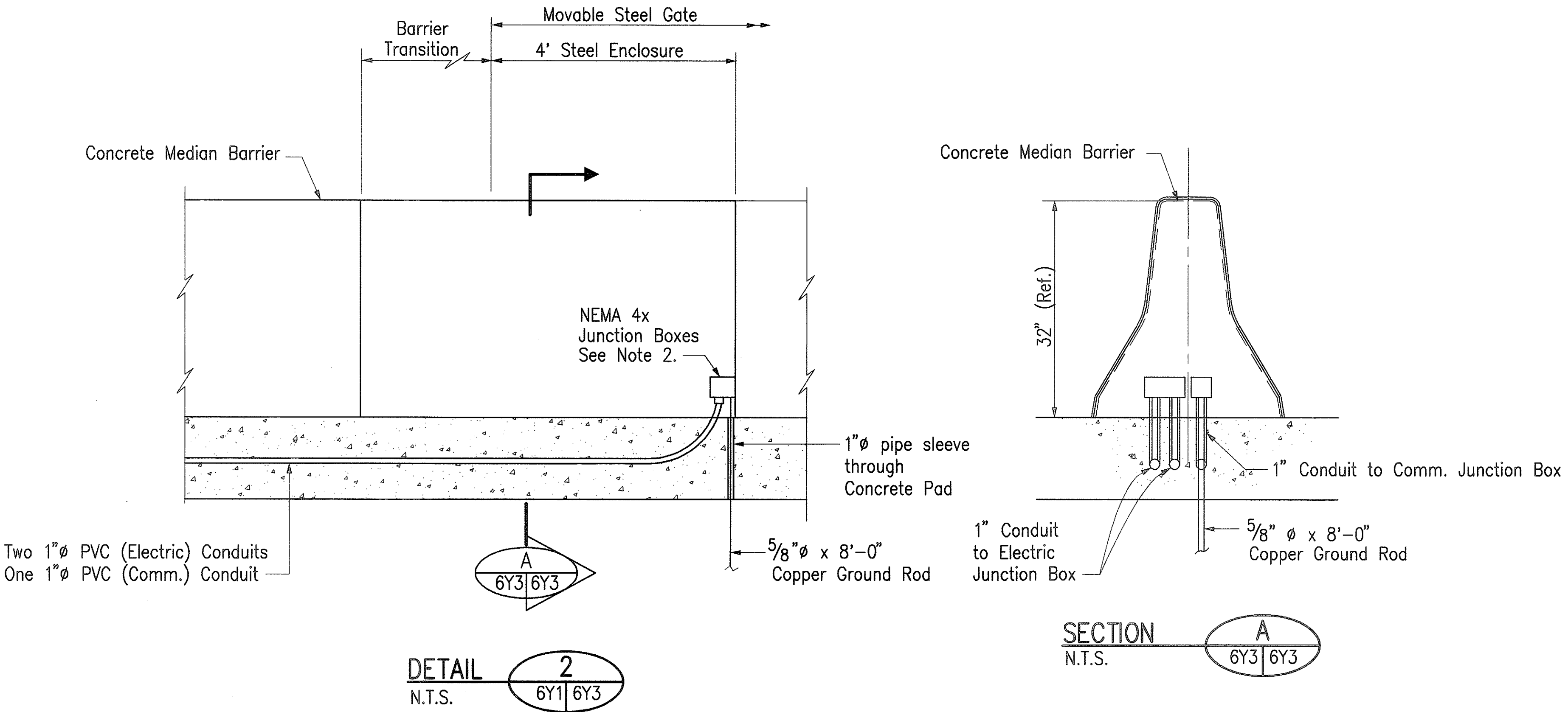
Boxes shall be polymer concrete, fiberglass reinforced. Provide stacked boxes with appropriate knockouts to accommodate required number and sizes of conduits.



**COMMUNICATION AND SIGNALS PULLBOX
TYPE II PULLBOX DETAIL**



**TRENCHLESS SLEEVE MULTIPLE
SYSTEMS CONDUIT**



GATE END CONNECTION

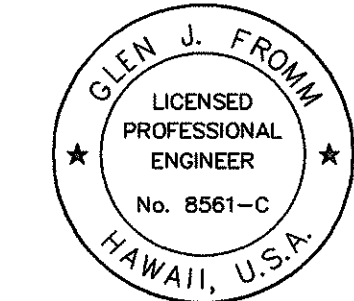
NOTE:

- Contractor shall verify exact location of conduit entrance into gate enclosure with gate supplier.
- Contractor to install NEMA 4X junction boxes for conductor splicing. Coordinate with ECG manufacturer to determine JB size. Provide minimum 10 feet of slack in conductors and seal ends against moisture. Secure conductors out of traveled way.

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

CAD by J. Minerva 55-52

Last Saved: J:\H3RF\RFU6\XOVER\SYSTEMS\6Y3A.DWG 06/25/99 at 19:08



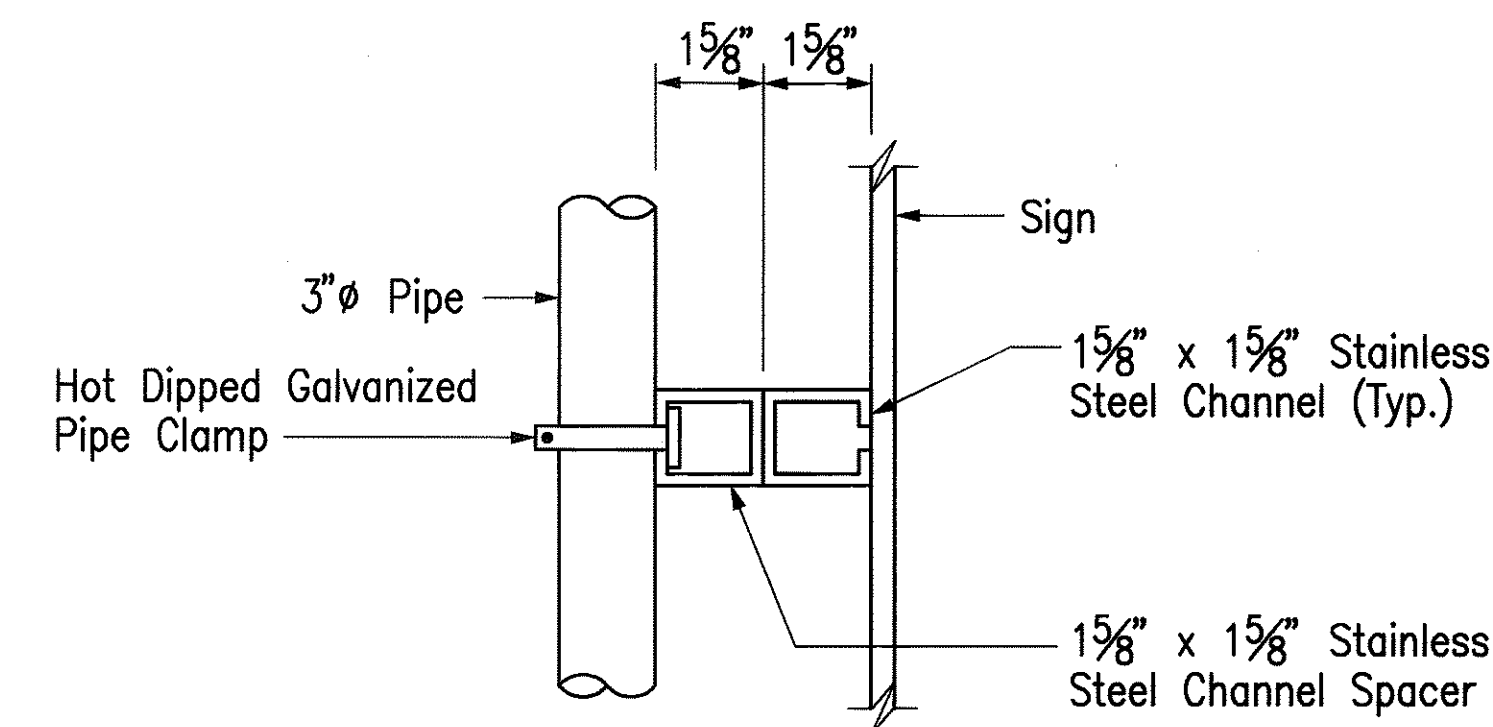
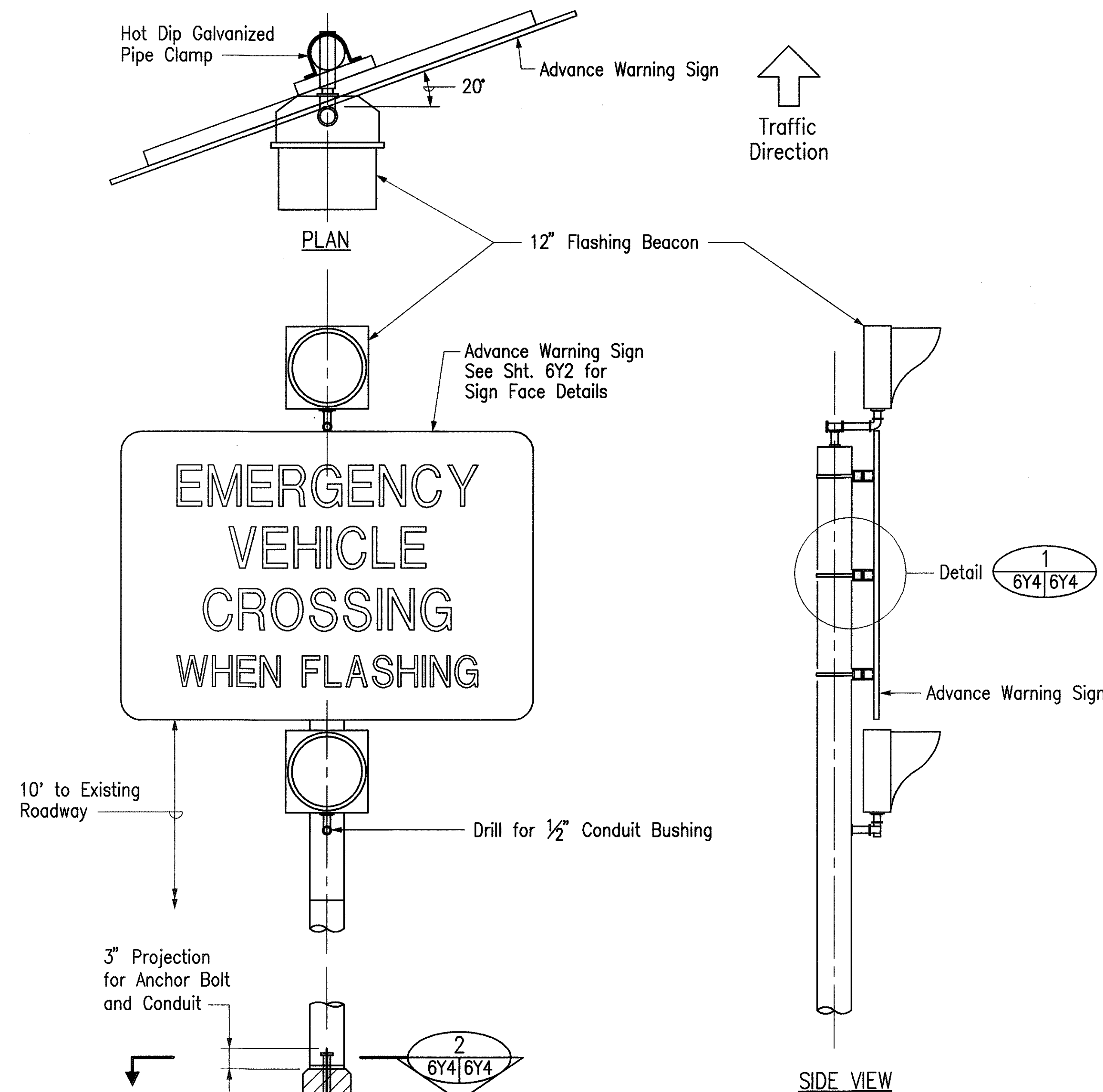
THIS WORK WAS PREPARED BY ME
OR UNDER MY SUPERVISION.

[Signature]

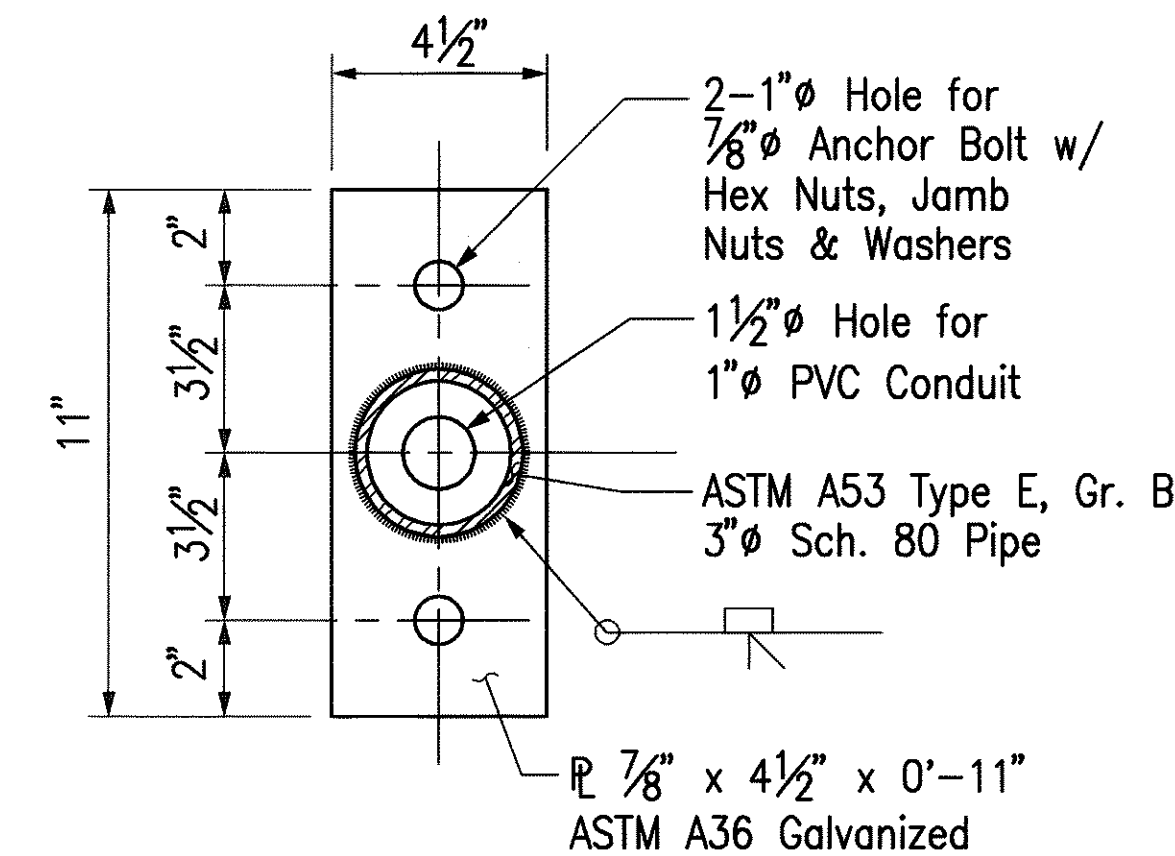
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
**EMERGENCY CROSSOVER
WINDWARD HIGHWAY
SYSTEMS DETAIL - 2**
H-3 FINISH (UNIT VI)
FAIP NO. I-H3-1(75), UNIT VI
SCALE: AS SHOWN
DATE: APRIL 1999
SHEET NO. 6Y3 OF 5 SHEETS

74

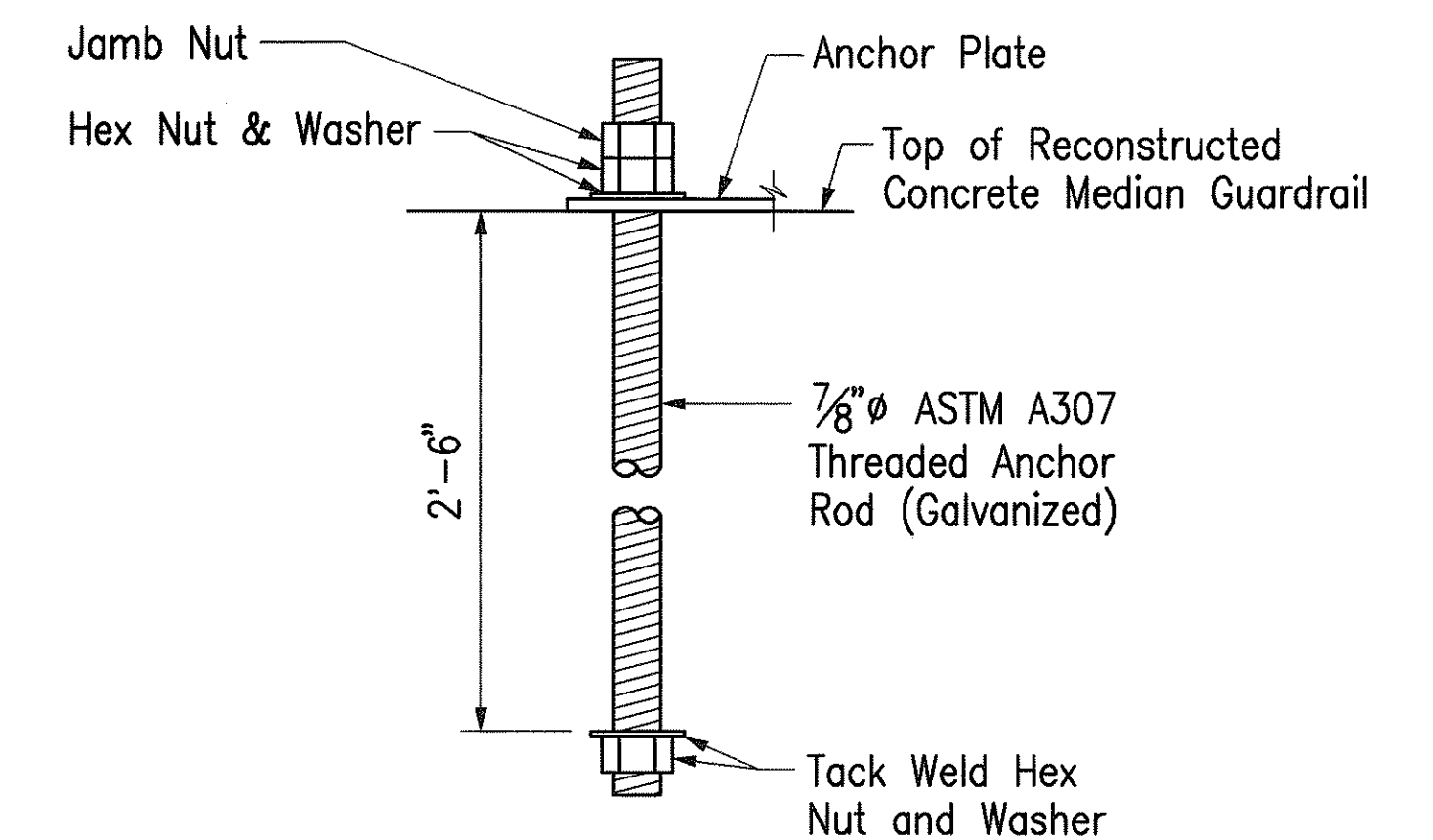
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(75), UNIT VI	1999	75	111



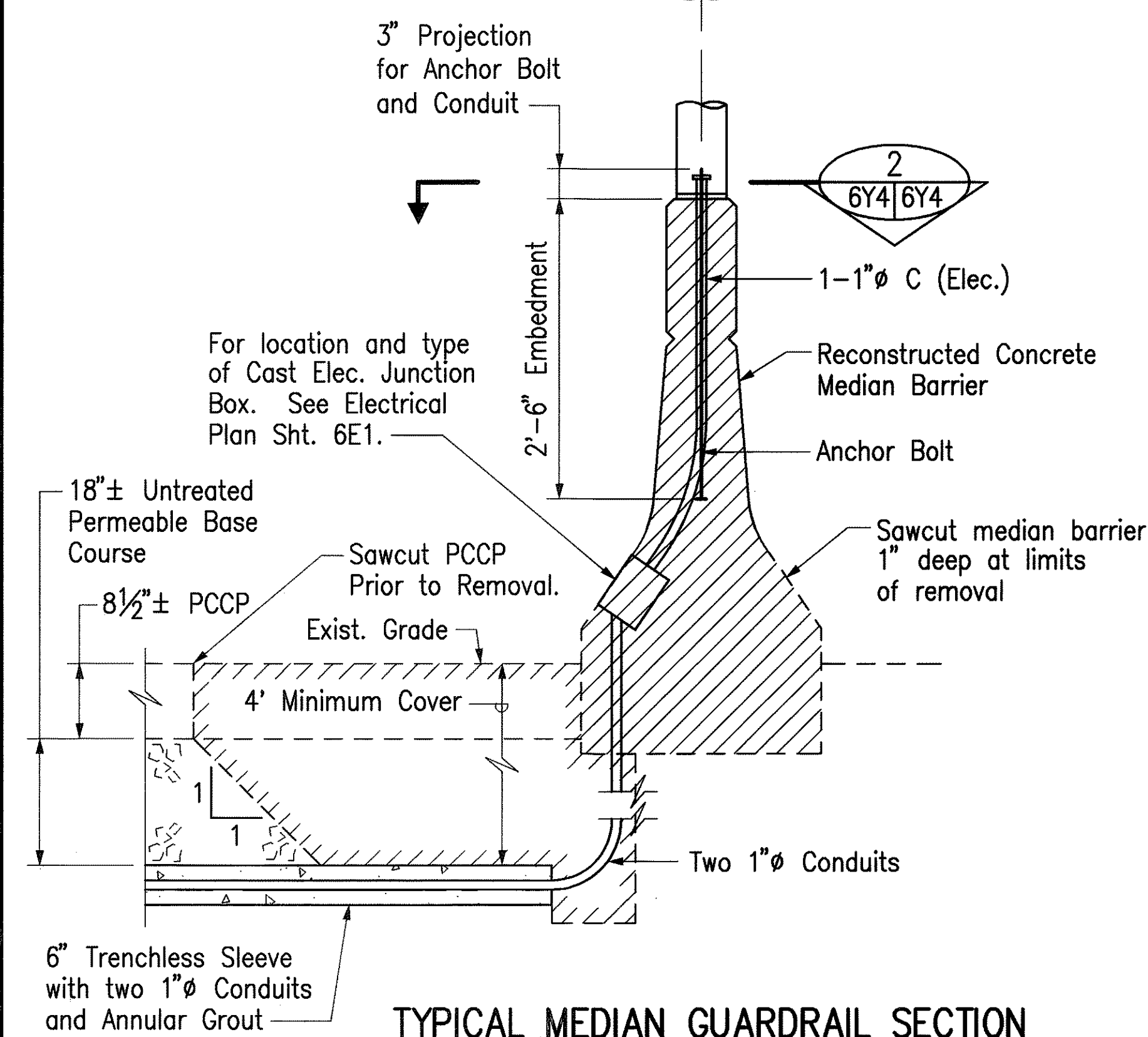
DETAIL 1
Not to Scale
6Y4 6Y4



ANCHOR PLATE DETAIL 2
Scale: 3" = 1'-0"
6Y4 6Y4



ANCHOR BOLT DETAIL
Not to Scale

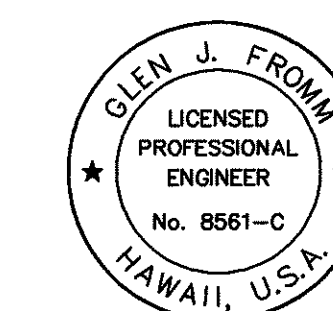


NOTE:

- Payment for Advance Warning Sign, Advance Warning Sign Support Structure, conduits, concrete median barrier reconstruction and other incidentals shall be paid under "Movable Steel Gate Control System."
- Reconstruct 3 LF± of Concrete Median Barrier to allow for installation of Anchor Bolts and Electrical Conduits. Existing reinforcing to remain. Clean Rebars prior to pouring concrete. Add #4 vertical sets of bars @ 6" o.c.

LEGEND:

Denotes Excavation Limits

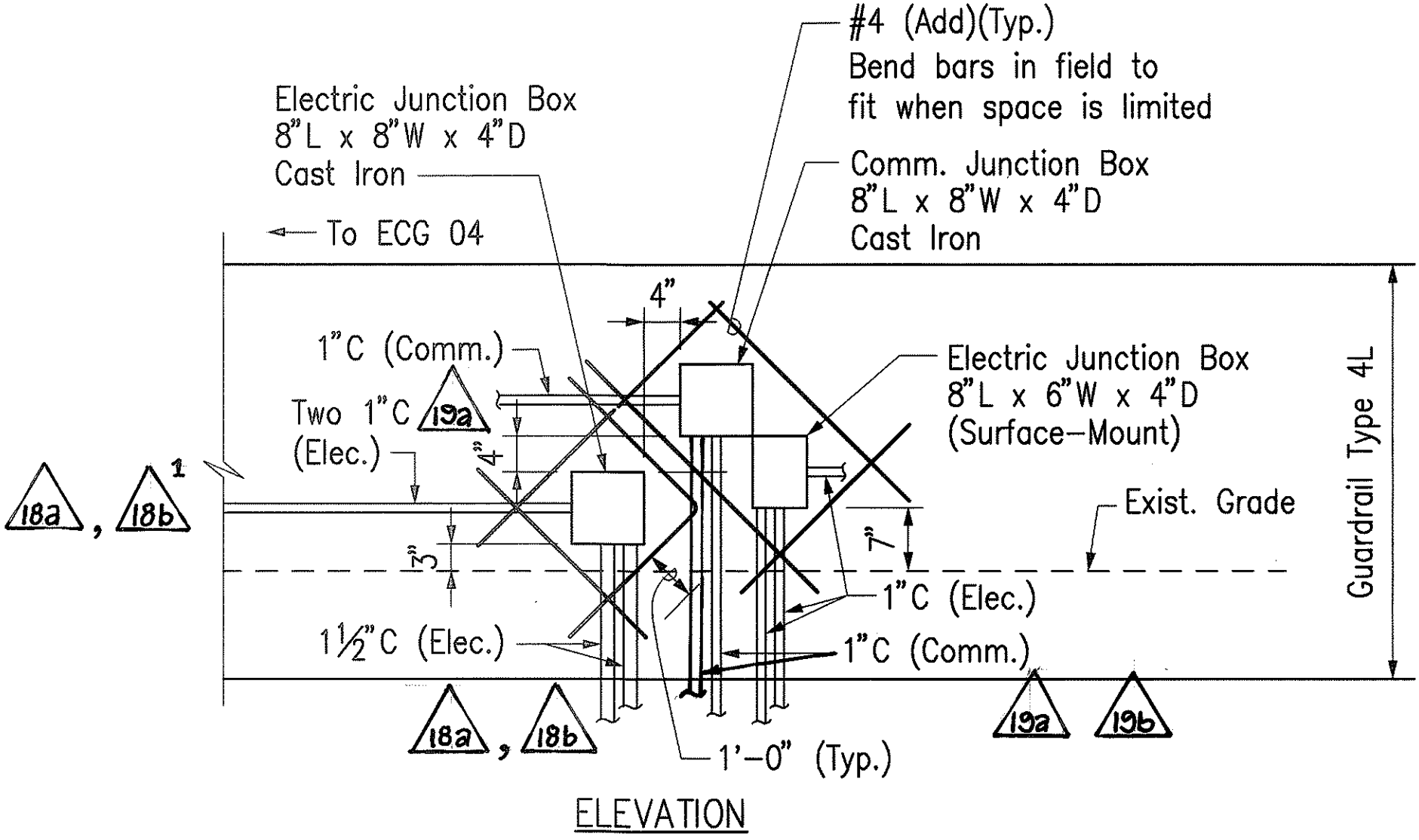


THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

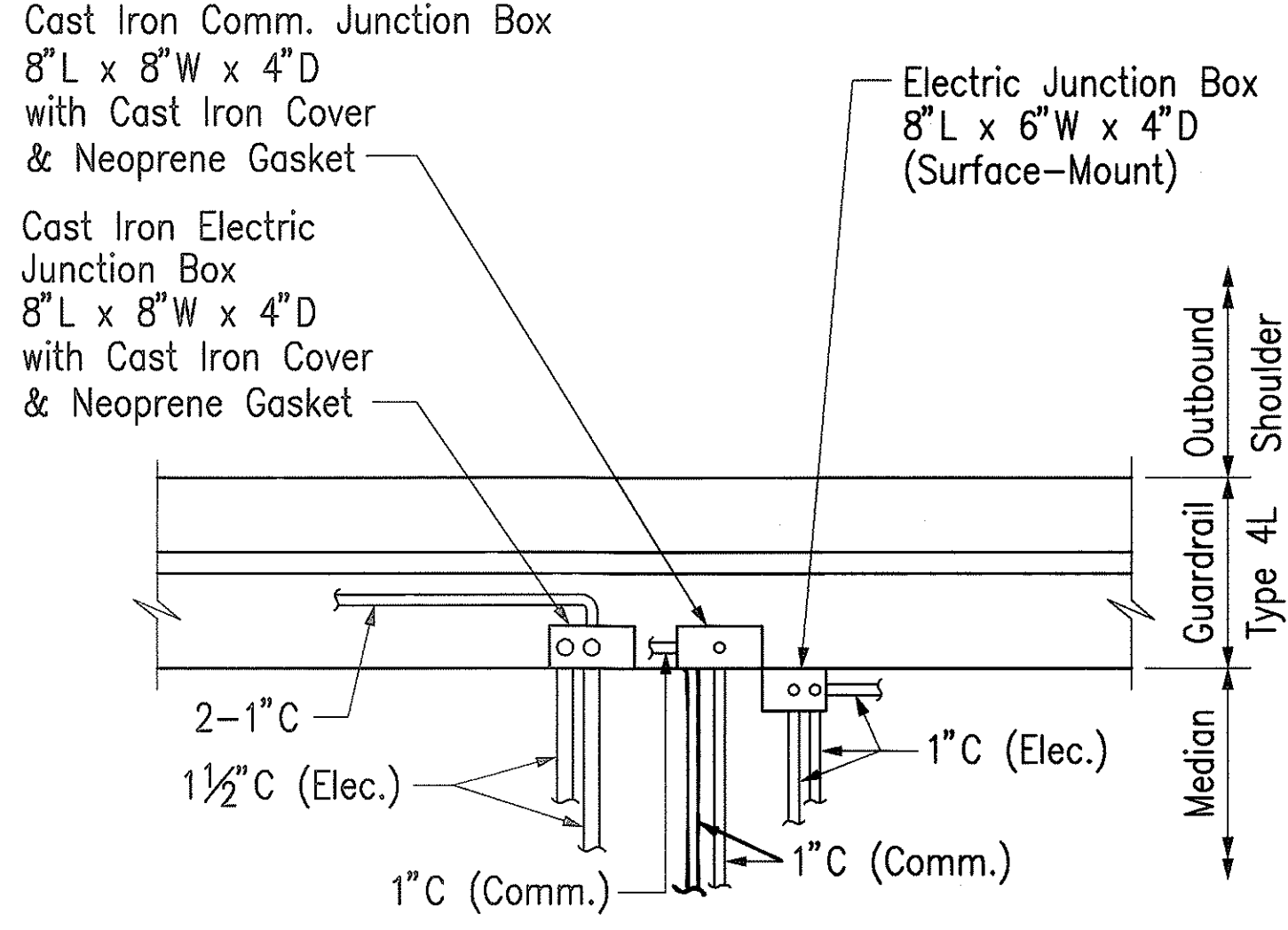
8-9-99	Revised Note 2
Date	Revision
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION EMERGENCY CROSSOVER WINDWARD HIGHWAY SYSTEMS DETAIL - 3 H-3 FINISH (UNIT VI) FAIP NO. I-H3-1(75), UNIT VI SCALE: AS SHOWN DATE: APRIL 1999 SHEET NO. 6Y4 OF 5 SHEETS	

ADD. 75

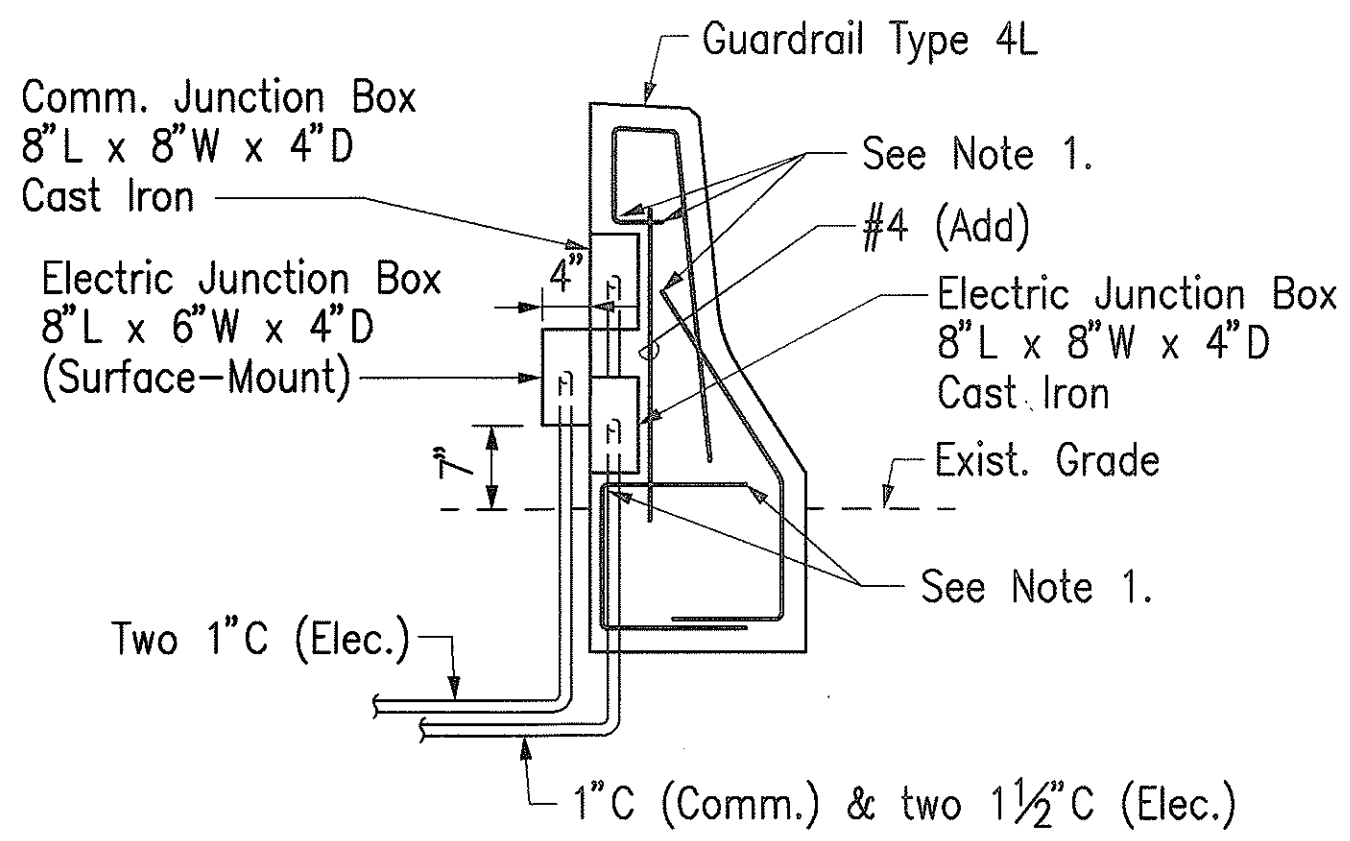
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(75), UNIT VI	1999	76	111



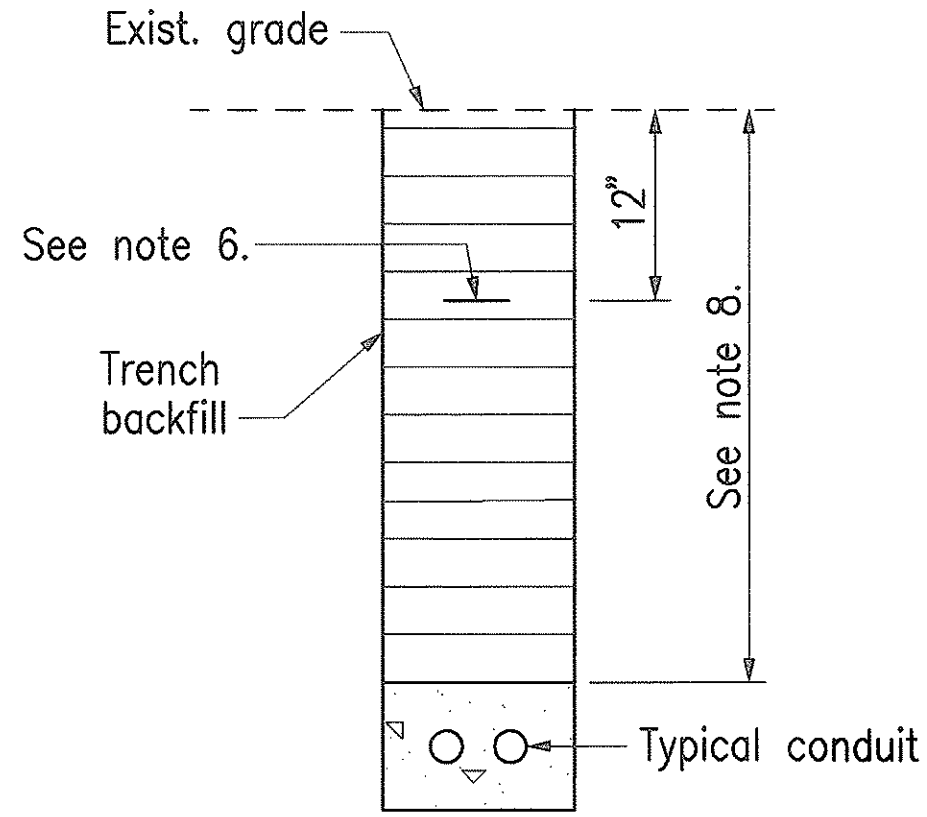
ELEVATION



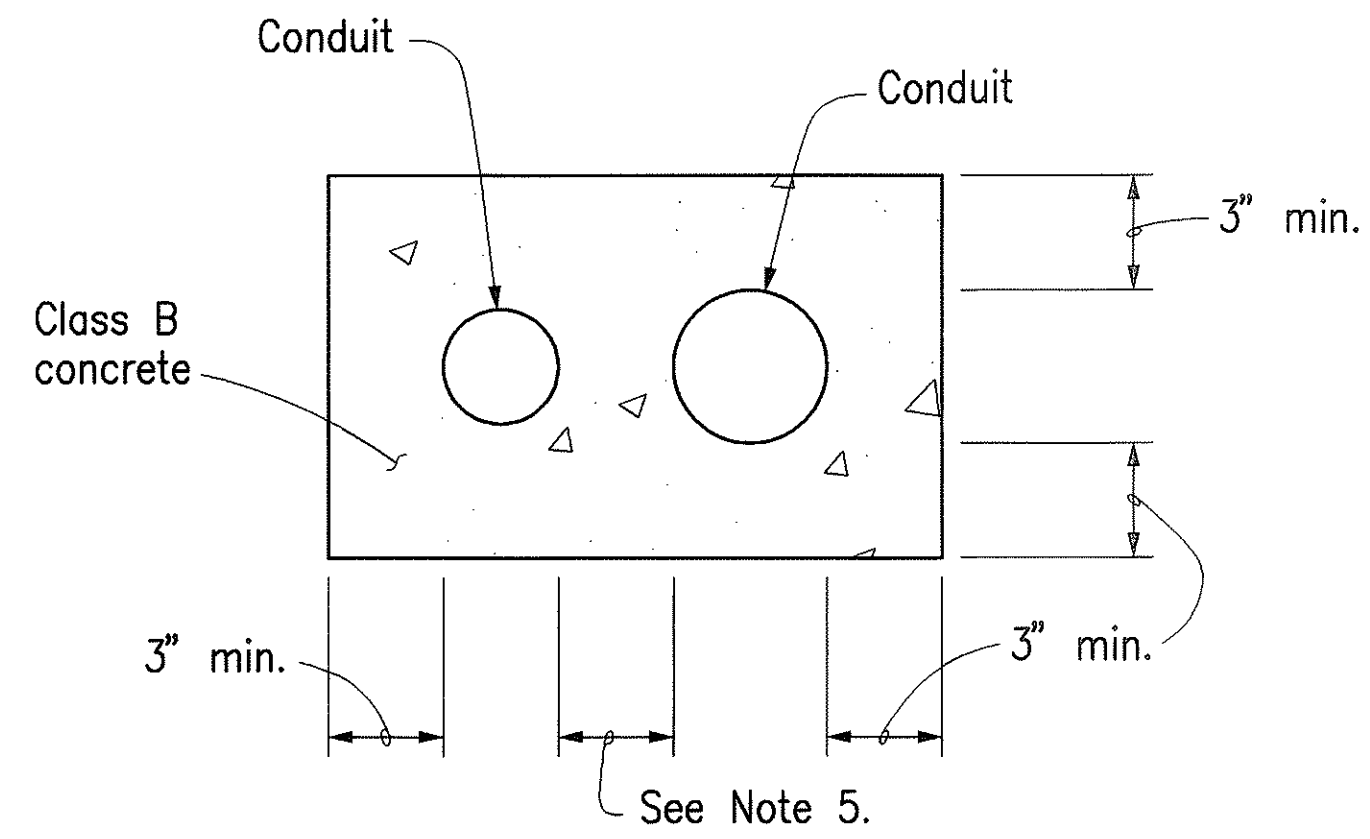
PLAN



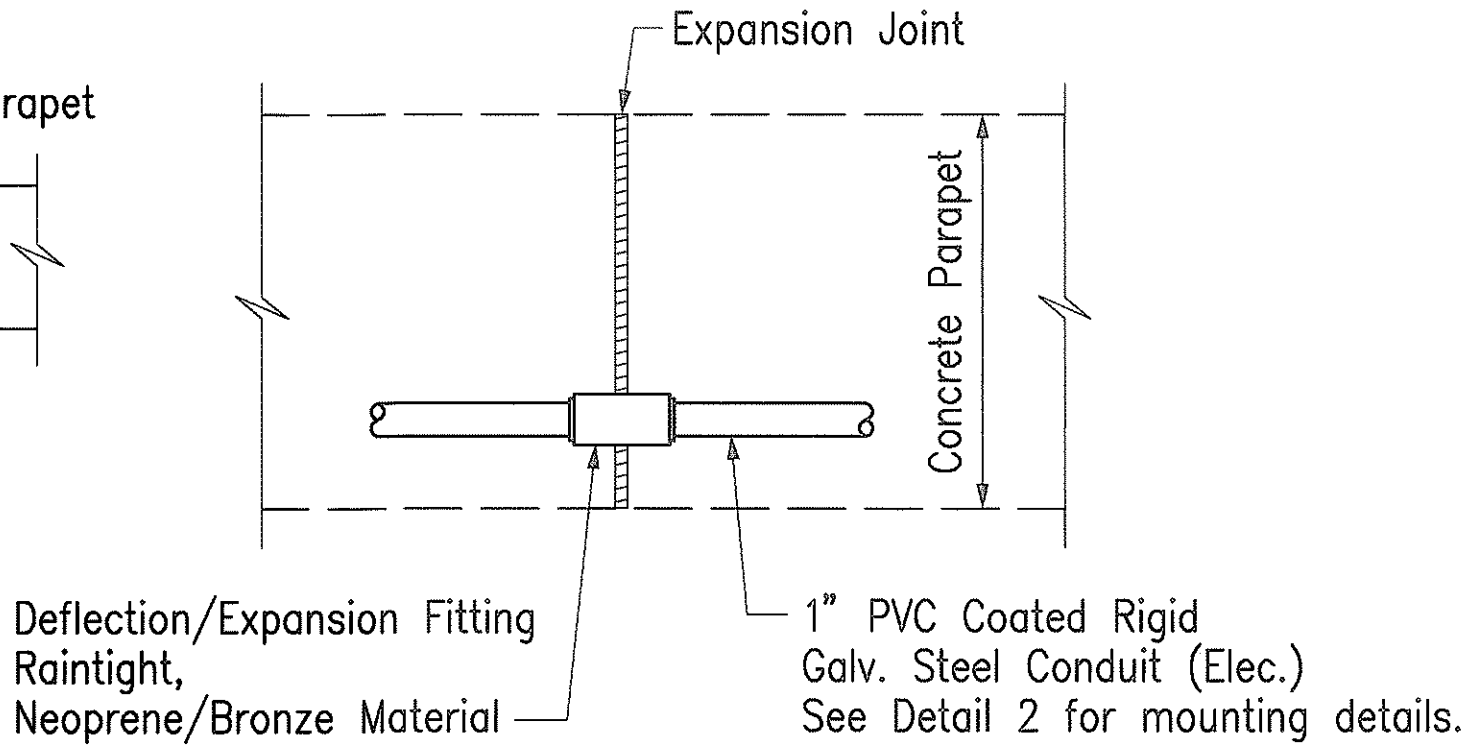
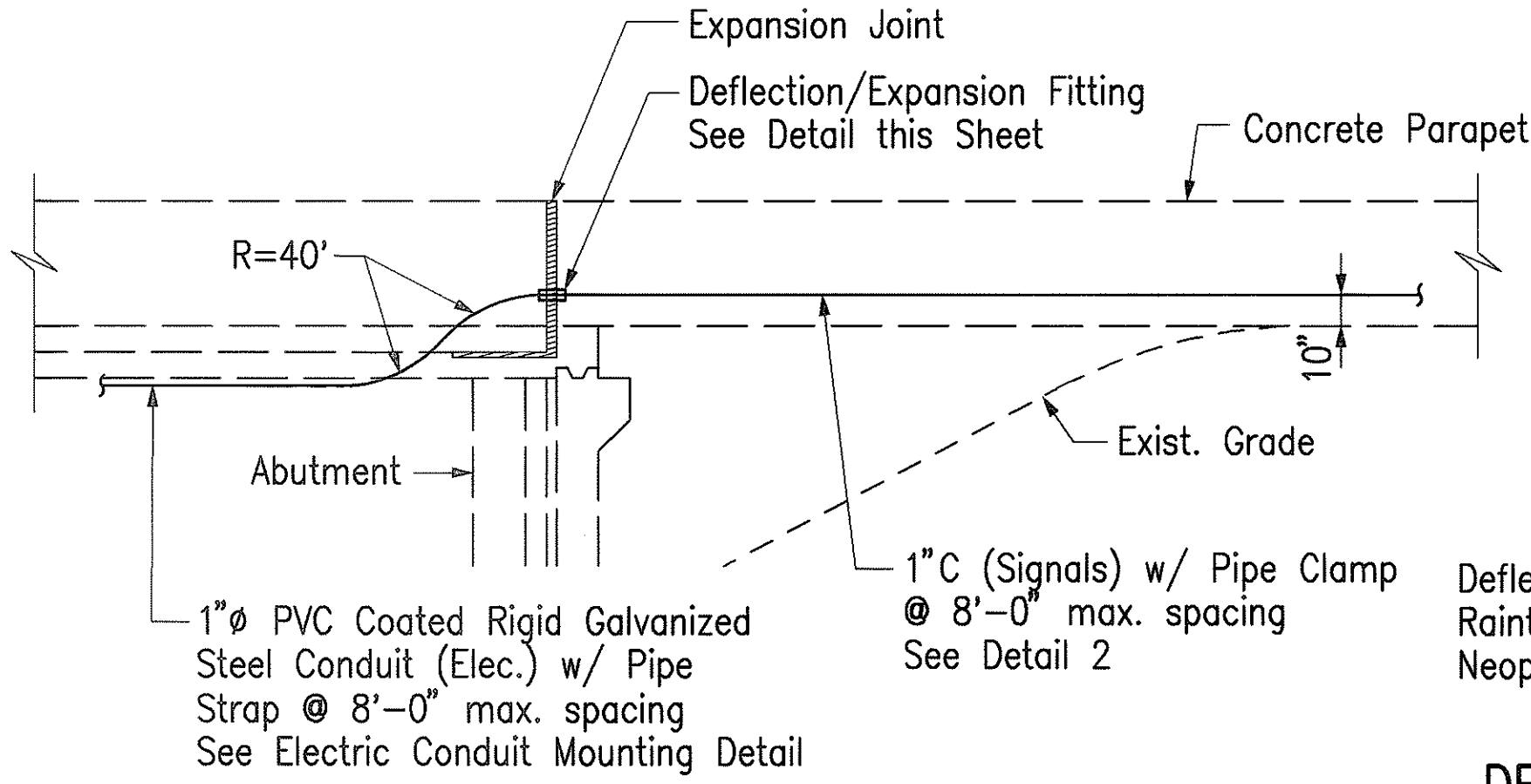
DETAIL 1
Not to Scale



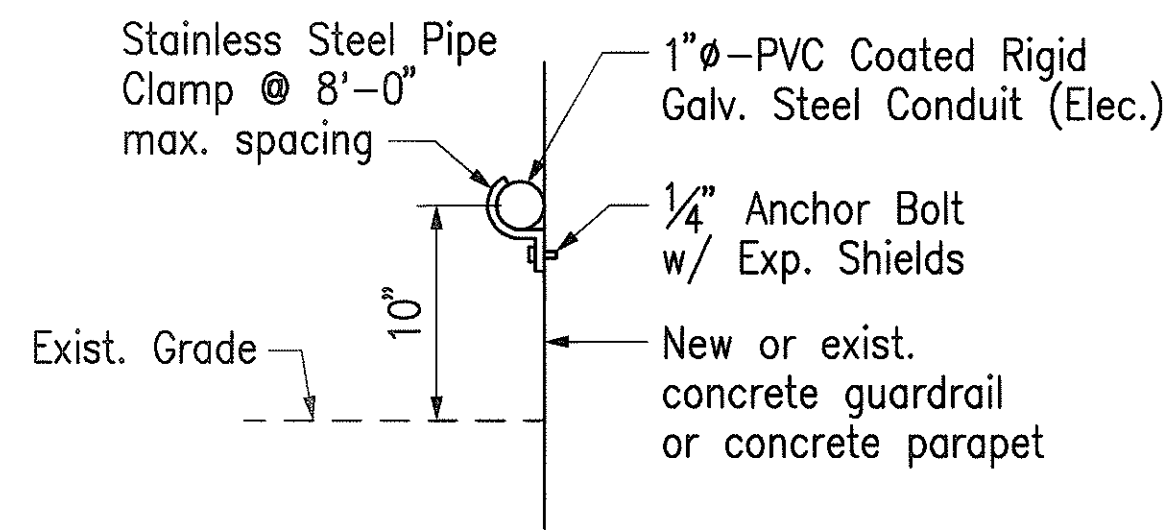
TYPICAL UTILITY TRENCH DETAIL
(FOR NON-PAVED AREAS ONLY)
N.T.S.



TYPICAL CONCRETE ENCASED SECTION DETAIL
N.T.S.



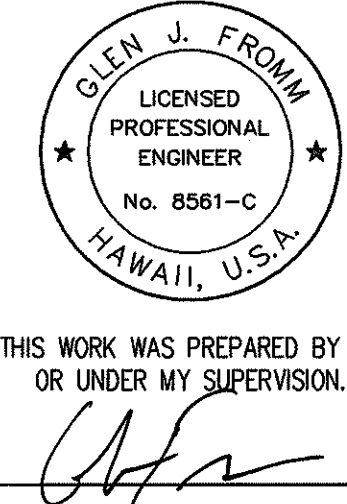
DEFLECTION/EXPANSION FITTING DETAIL (TYP.)



DETAIL 2
Not to Scale

NOTES:

- Bend and cut rebars as necessary to install conduits and junction boxes.
- Conduits to be designated by utility and size (ID). The following abbreviations will be used:
P3 for 3" electric/power conduit.
S2 for 2" signals conduit.
All conduits to be PVC schedule 40, unless noted.
- All surface-mounted conduits to be PVC-coated rigid galvanized steel conduits unless noted.
- Electric/power and signals conduits encased with 3" minimum Class B concrete jacket per details hereon.
- Provide 2" minimum separation between conduits of same utility. Provide 3" minimum separation between electric conduits and other utility conduits.
- Install 8 mil. thick red plastic warning tape 4" wide, entire length. Tape should have continuous metallic backing and corrosion resistant foil core. Appropriate message, as determined by the Engineer, shall be repeated approximately every ten feet.
- A.C. pavement, base course, and subbase course to match existing thickness or the minimum thickness shown, whichever is greater.
- 3'-0" minimum under all pavement areas. 2'-0" minimum under non-pavement areas and at pullbox locations.
- See Electrical Plans for Typical Duct Sections.



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
**EMERGENCY CROSSOVER
WINDWARD HIGHWAY
SYSTEMS DETAIL - 4**
H-3 FINISH (UNIT VI)
FAIP NO. I-H3-1(75), UNIT VI
SCALE: AS SHOWN DATE: APRIL 1999
SHEET NO. 6Y5 OF 5 SHEETS