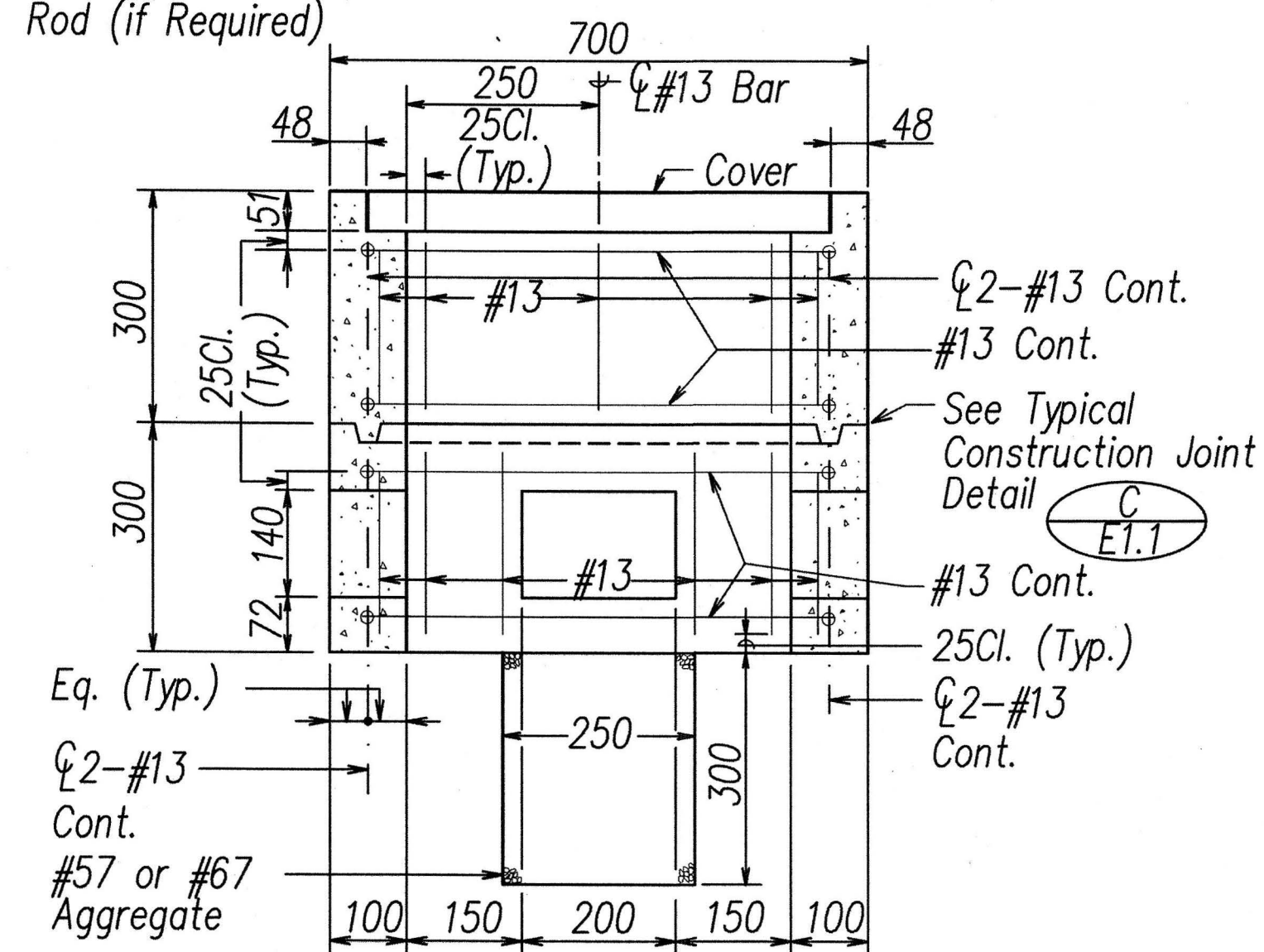
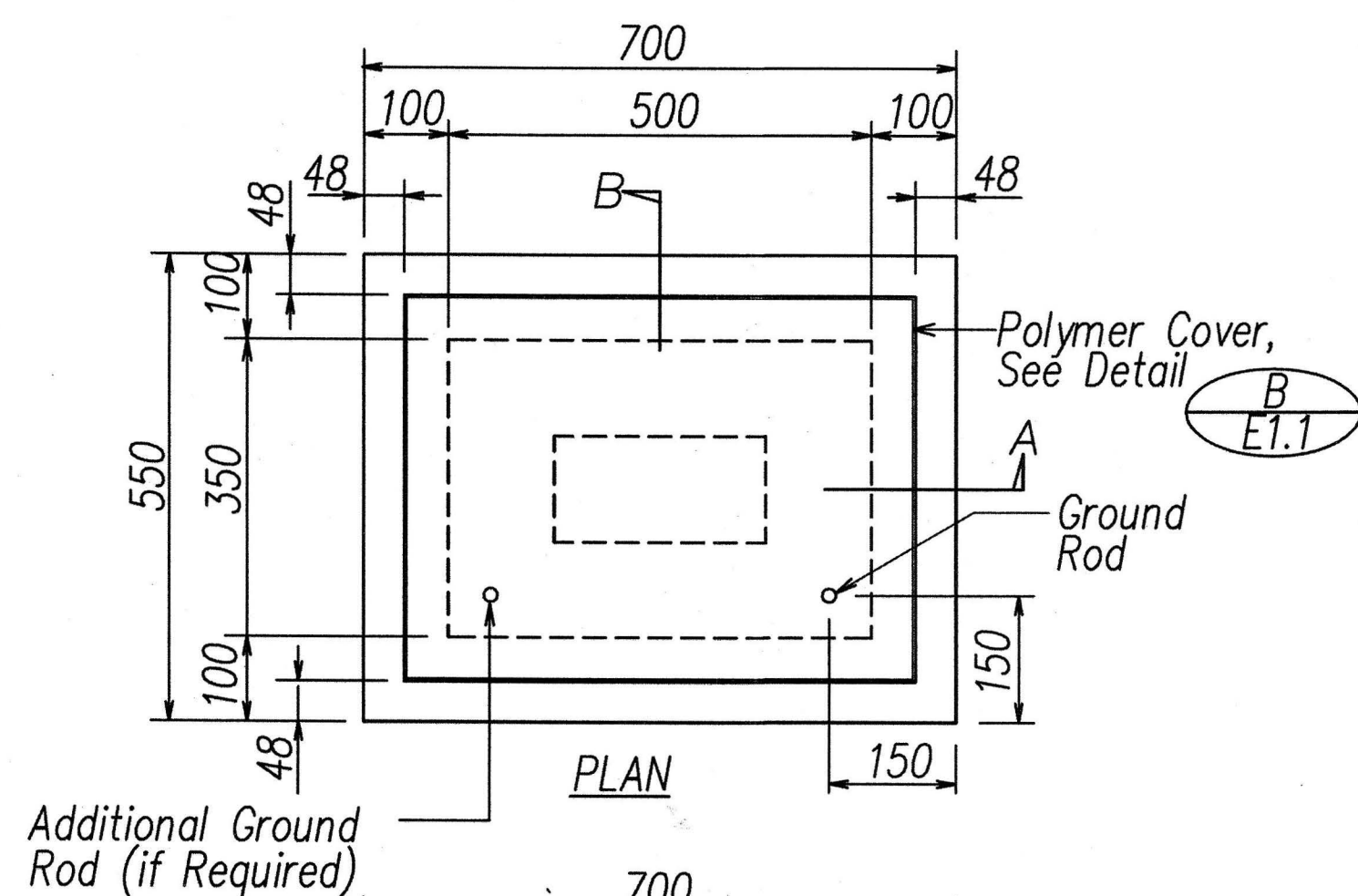
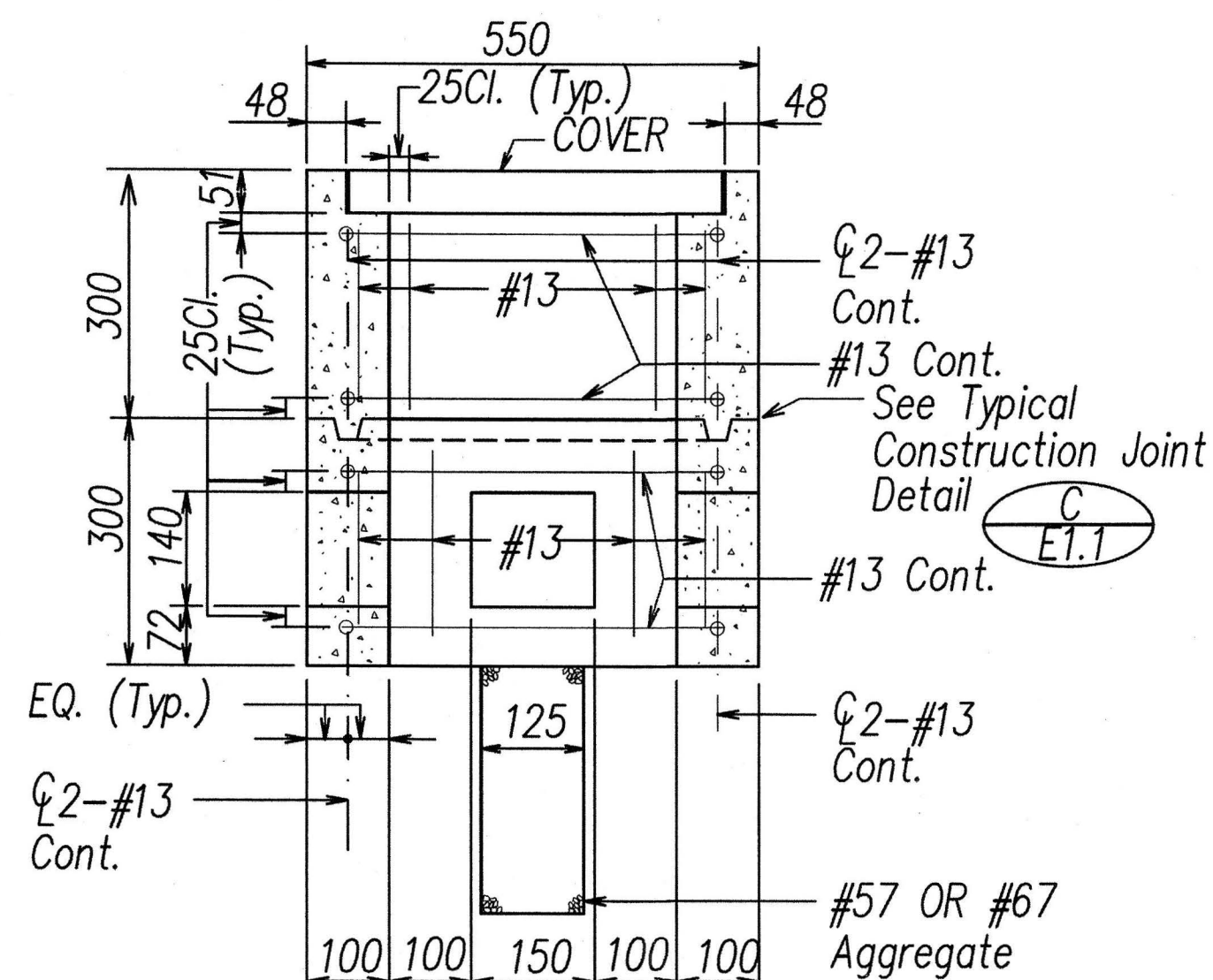


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-IM-0300(142)	2016	85	191



SECTION A-A

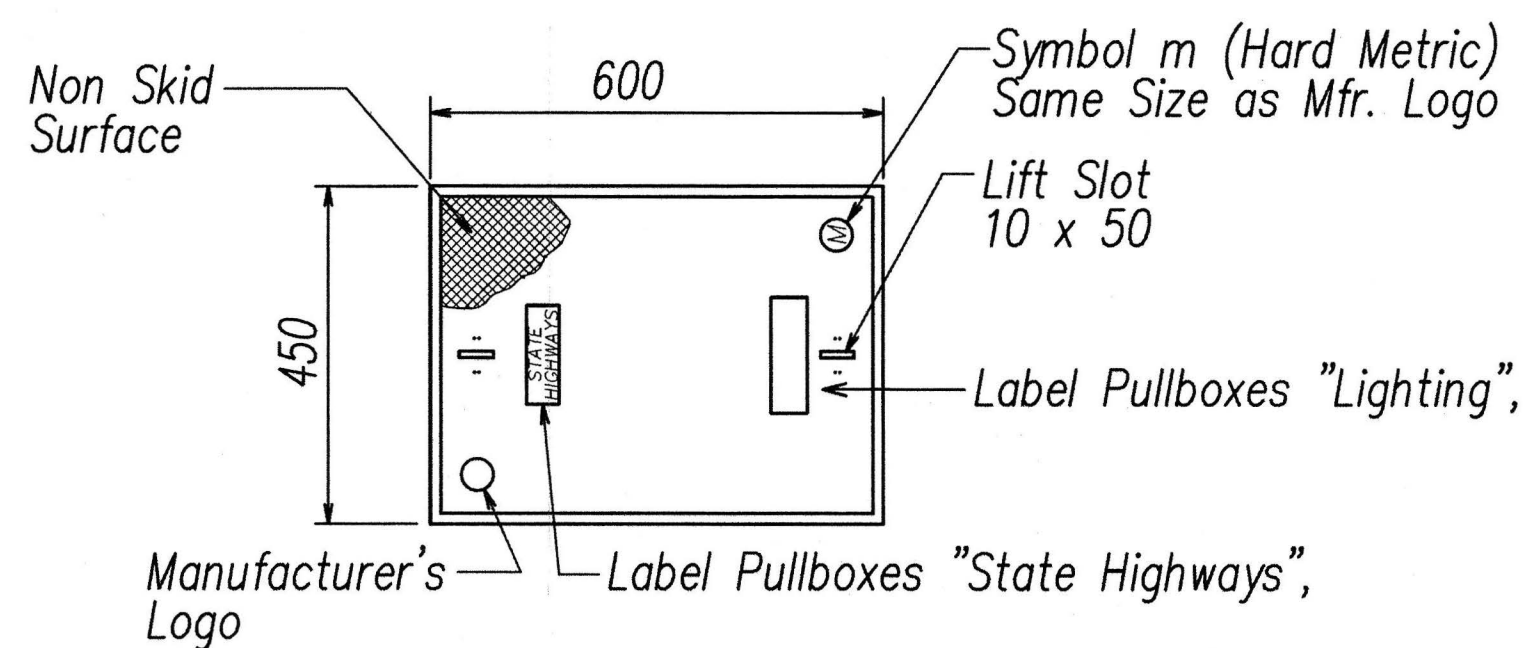


SECTION B-B

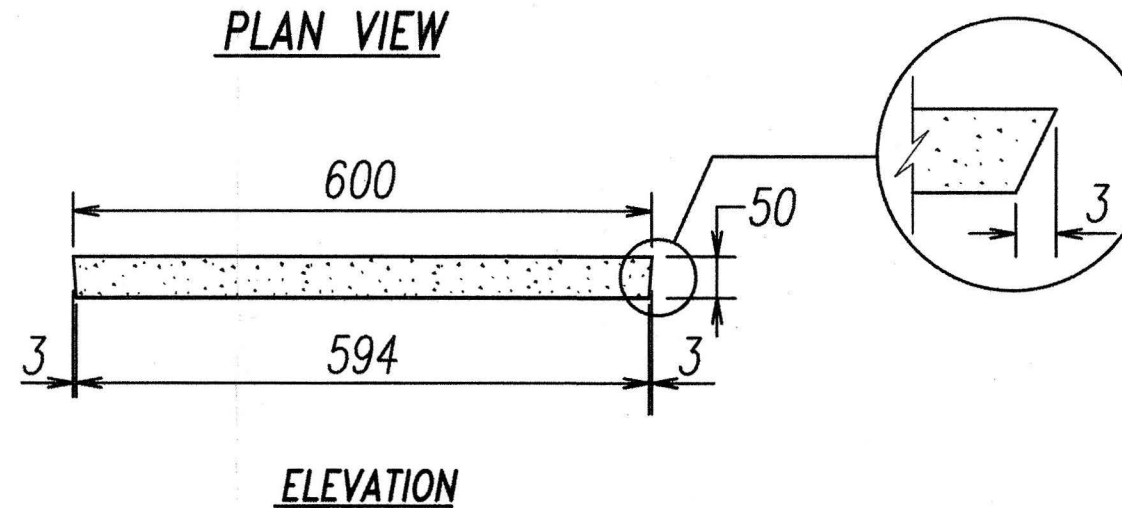
A
E1.1
TYPE A PULLBOX
Not to Scale

All Dimensions on this Sheet are in Millimeters Unless Otherwise Shown

Sign	Sheet Number
H1EB-112	E3.1
H1EB-113	E3.2
H1EB-114	E3.3
H1EB-308	E3.4
H1WB-402	E3.5
H1WBR-451	E3.6
H1WB-418	E3.7
H1WB-424	E3.7
78WB-851	E3.8
H1WB-605	E3.9
78EBR-822	E3.9
78WBR-871	E3.10

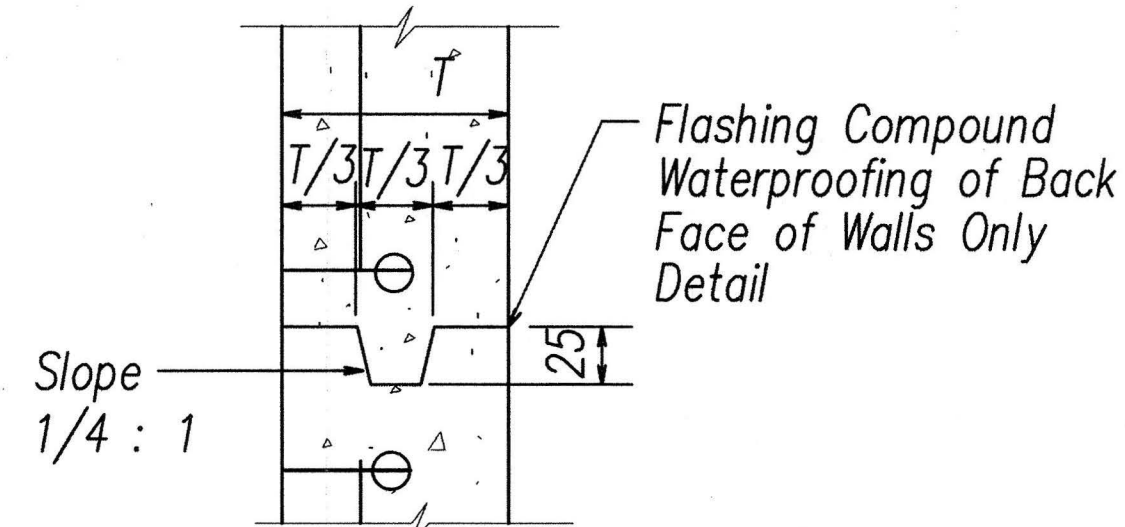


PLAN VIEW



ELEVATION

B
E1.1
POLYMER CONCRETE COVER
Not to Scale



C
E1.1
TYPICAL CONSTRUCTION JOINT
Not to Scale

ELECTRICAL SYMBOLS

SYMBOL			DESCRIPTION
EXIST	REMOVE	NEW	
			Highway Light Pole
			Utility Wood Pole
			Junction Box
			Traffic Camera
			Pullbox
			Type A Pullbox
			Sign Light Fixture
			Conduit Stub Out
			Exposed Flex Conduit
			Exposed Conduit
			Conduit Concealed/Buried Below Finished Grade
BL			Denotes Baseline
Exst / Exist			Denotes Existing

SYMBOL NOTES

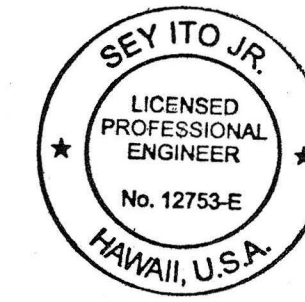
- "X" through symbol indicates item to be removed/demolished.
- "e" through symbol indicates existing item.
- Solid lines indicate new item/work.

GENERAL ELECTRICAL NOTES

- Existing electrical equipment shall remain unless indicated otherwise.
- The location of existing underground utilities shown on plans are from existing records and are approximations only. Contractor shall exercise caution when construction crosses or is in close proximity to existing underground utilities. Damages to utility companies' existing facilities shall be repaired by the respective utility company and repair costs shall be paid by the contractor at no increase in contract time or contract price.
- CAUTION!!! Contractor shall exercise extreme caution when working on the existing handhole/pullboxes/junction boxes.

ELECTRICAL DEMOLITION NOTES

- The Contractor shall verify all existing circuit wiring prior to any demolition work.
- The Contractor shall remove all conduits and exposed raceways, lights, photocells, cabinets, junction boxes related to sign lighting for all signs, unless otherwise noted.



PRINCIPAL-IN-CHARGE
Dennis I. Tora
2016.05.18
EXPIRATION DATE OF THE LICENSE 4/30/2018

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
Sey Ito Jr.
2016.05.18
EXPIRATION DATE OF THE LICENSE 4/30/2018

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**GENERAL ELECTRICAL NOTES
AND ELECTRICAL SYMBOLS LIST**

INTERSTATE ROUTE H-1, H-2 AND H-201
DESTINATION SIGN UPGRADE / REPLACEMENT, PHASE 2
Federal Aid Project NO. - NH-IM-0300(142)
Scale: As Shown Date: May 2016

SHEET No. E1.1 OF 191 SHEETS

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HAWAII	HAW.	NH-1M-0300(142)	2016	86	191

HAWAIIAN ELECTRIC NOTES (REV. 5/8/15)

1. LOCATION OF HECO FACILITIES

THE LOCATION OF HAWAIIAN ELECTRIC COMPANY'S (HECO) OVERHEAD AND UNDERGROUND FACILITIES SHOWN ON THE PLANS ARE FROM EXISTING RECORDS WITH VARYING DEGREES OF ACCURACY AND ARE NOT GUARANTEED AS SHOWN. THE CONTRACTOR SHALL VERIFY IN THE FIELD THE LOCATIONS OF THE FACILITIES AND SHALL EXERCISE PROPER CARE IN EXCAVATING AND WORKING IN THE AREA. WHEREVER CONNECTIONS OF NEW UTILITIES TO EXISTING UTILITIES AND UTILITY CROSSINGS ARE SHOWN, THE CONTRACTOR SHALL EXPOSE THE EXISTING LINES AT THE PROPOSED CONNECTIONS AND CROSSINGS TO VERIFY THE DEPTHS PRIOR TO EXCAVATION FOR THE NEW LINES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGES TO HECO'S FACILITIES WHETHER SHOWN OR NOT SHOWN ON THE PLANS.

2. COMPLIANCE WITH HAWAII OCCUPATIONAL SAFETY AND HEALTH LAWS

THE CONTRACTOR SHALL COMPLY WITH THE STATE OF HAWAII'S OCCUPATIONAL SAFETY AND HEALTH LAWS AND REGULATIONS, INCLUDING WITHOUT LIMITATION, THOSE RELATED TO WORKING ON OR NEAR EXPOSED OR ENERGIZED ELECTRICAL LINES AND EQUIPMENT.

3. EXCAVATION CLEARANCE

THE CONTRACTOR SHALL OBTAIN AN EXCAVATION CLEARANCE FROM HECO'S PLANNING AND DESIGN SECTION OF THE CUSTOMER INSTALLATIONS DEPARTMENT (543-5654) LOCATED AT 820 WARD AVENUE, 4TH FLOOR, A MINIMUM OF TEN (10) WORKING DAYS PRIOR TO STARTING CONSTRUCTION.

4. CAUTION!!! ELECTRICAL HAZARD!!!

EXISTING HECO OVERHEAD AND UNDERGROUND LINES ARE ENERGIZED AND WILL REMAIN ENERGIZED DURING CONSTRUCTION UNLESS PRIOR SPECIAL ARRANGEMENTS HAVE BEEN MADE WITH HECO. ONLY HECO PERSONNEL ARE TO HANDLE THESE ENERGIZED LINES AND ERECT TEMPORARY GUARDS TO PROTECT THESE LINES FROM DAMAGE. THE CONTRACTOR SHALL WORK CAUTIOUSLY AT ALL TIMES TO AVOID ACCIDENTS AND DAMAGE TO EXISTING HECO FACILITIES, WHICH CAN RESULT IN ELECTROCUTION.

5. OVERHEAD LINES

STATE LAW (OSHA) REQUIRES THAT A WORKER AND THE LONGEST OBJECT HE OR SHE MAY CONTACT CANNOT COME CLOSER THAN A SPECIFIED MINIMUM RADIAL CLEARANCE WHEN WORKING CLOSE TO OR UNDER ANY OVERHEAD LINES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO BE INFORMED OF AND COMPLY WITH THE LAW.

AT ANY TIME SHOULD THE CONTRACTOR ANTICIPATE THAT HIS WORK WILL RESULT IN THE NEED TO ENCR OACH WITHIN THE MINIMUM REQUIRED CLEARANCE AS STATED IN THE LAW, THE CONTRACTOR SHALL NOTIFY HECO AT LEAST FOUR (4) WEEKS PRIOR TO THE PLANNED ENCR OACHMENT SO THAT, IF FEASIBLE, THE NECESSARY PROTECTIONS (E.G. RELOCATE OR DE-ENERGIZE HECO LINES) CAN BE INVESTIGATED. HECO MAY ALSO BE ABLE TO BLANKET ITS DISTRIBUTION (12KV AND BELOW) LINES TO PROVIDE A VISUAL AID IN PREVENTING ACCIDENTAL CONTACT. HECO'S COST OF SAFEGUARDING OR IDENTIFYING ITS LINES WILL BE CHARGED TO THE CONTRACTOR.

CONTACT HECO'S CUSTOMER INSTALLATIONS DEPARTMENT AT 543-7846 FOR ASSISTANCE IN IDENTIFYING AND SAFEGUARDING OVERHEAD POWER LINES.

6. POLE BRACING

A MINIMUM CLEARANCE OF 10 FEET MUST BE MAINTAINED WHEN EXCAVATING AROUND UTILITY POLES AND/OR THEIR ANCHOR SYSTEM TO PREVENT WEAKENING OR POLE SUPPORT FAILURE. SHOULD WORK REQUIRE EXCAVATING WITHIN 10 FEET OF A POLE AND/OR ITS ANCHOR SYSTEM, THE CONTRACTOR SHALL PROTECT, SUPPORT, SECURE, AND TAKE ALL OTHER PRECAUTIONS TO PREVENT DAMAGE TO OR LEANING OF THESE POLES. THE CONTRACTOR IS RESPONSIBLE FOR ALL POLE BRACING DESIGNS AND STRUCTURAL CALCULATIONS, AS WELL AS THE ASSOCIATED COSTS TO BRACE, REPAIR, OR STRAIGHTEN POLES. ALL MEANS OF STRUCTURAL SUPPORT FOR THE POLE AND/OR ANCHOR SYSTEM PROPOSED BY THE CONTRACTOR SHALL BE SUBMITTED TO HECO'S CUSTOMER INSTALLATIONS DEPARTMENT (543-7846) FOR REVIEW A MINIMUM OF TEN (10) WORKING DAYS PRIOR TO IMPLEMENTATION. THE COST OF HECO'S REVIEW/ASSISTANCE IN PROVIDING PROPER SUPPORT AND PROTECTION OF ITS POLES WILL BE CHARGED TO THE CONTRACTOR.

7. UNDERGROUND LINES

THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION WHENEVER CONSTRUCTION CROSSES OR IS IN CLOSE PROXIMITY OF UNDERGROUND LINE. HECO'S EXISTING ELECTRICAL CABLES ARE ENERGIZED AND WILL REMAIN ENERGIZED DURING CONSTRUCTION. ONLY HECO PERSONNEL ARE TO BREAK INTO EXISTING HECO FACILITIES, HANDLE THESE CABLES, AND ERECT TEMPORARY GUARDS TO PROTECT THESE CABLES FROM DAMAGE. THE COST OF HECO'S ASSISTANCE IN PROVIDING PROPER SUPPORT AND PROTECTION OF ITS UNDERGROUND LINES WILL BE CHARGED TO THE CONTRACTOR. FOR ASSISTANCE/COORDINATION IN PROVIDING PROPER SUPPORT AND PROTECTION OF THESE LINES, THE CONTRACTOR SHALL CALL HECO'S CUSTOMER INSTALLATIONS DEPARTMENT AT 543-7846 A MINIMUM OF TEN (10) WORKING DAYS IN ADVANCE.

SPECIAL PRECAUTIONS ARE REQUIRED WHEN EXCAVATING NEAR HECO'S 138KV UNDERGROUND LINES (SEE HECO INSTRUCTIONS TO CONSULTANTS/CONTRACTORS ON "EXCAVATION NEAR HECO'S UNDERGROUND 138KV LINES" FOR DETAILED REQUIREMENTS).

FOR VERIFICATION OF UNDERGROUND LINES, THE CONTRACTOR SHALL CALL THE HAWAII ONE CALL CENTER AT 866-423-7287 A MINIMUM OF FIVE (5) WORKING DAYS IN ADVANCE.

8. UNDERGROUND FUEL PIPELINES

THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION WHENEVER CONSTRUCTION CROSSES OR IS IN CLOSE PROXIMITY OF HECO'S UNDERGROUND FUEL OIL PIPELINES. SPECIAL PRECAUTIONS ARE REQUIRED WHEN EXCAVATING NEAR HECO'S UNDERGROUND FUEL OIL PIPELINES (SEE HECO'S SPECIFIC FUEL PIPELINE "GUIDELINES" TO CONSULTANTS/CONTRACTORS ON EXCAVATION NEAR HECO'S UNDERGROUND FUEL PIPELINES FOR DETAILED REQUIREMENTS).

9. EXCAVATIONS

WHEN TRENCH EXCAVATION IS ADJACENT TO OR BENEATH HECO'S EXISTING STRUCTURES OR FACILITIES, THE CONTRACTOR IS RESPONSIBLE FOR:

- A) ARRANGING FOR HECO STANDBY PERSONNEL TO OBSERVE WORK AT THE CONTRACTOR'S COST.
- B) SHEETING, BRACING, OR OTHERWISE SUPPORTING THE EXCAVATION AND STABILIZING THE EXISTING GROUND TO RENDER IT SAFE AND SECURE AND TO PREVENT POSSIBLE SLIDES, CAVE-INS, AND SETTLEMENTS.
- C) PROPERLY SUPPORTING EXISTING STRUCTURES OR FACILITIES WITH BEAMS, STRUTS, UNDER-PINNINGS, OR OTHER NECESSARY METHODS TO FULLY PROTECT IT FROM DAMAGE.
- D) BACKFILLING WITH PROPER BACKFILL MATERIAL INCLUDING SPECIAL THERMAL BACKFILL WHERE EXISTING (REFER TO ENGINEERING DEPARTMENT FOR THERMAL BACKFILL SPECIFICATIONS).

10. RELOCATION OF HECO FACILITIES

ANY WORK REQUIRED TO RELOCATE OR MODIFY HECO FACILITIES SHALL BE DONE BY HECO, OR BY THE CONTRACTOR UNDER HECO'S SUPERVISION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COORDINATION, AND SHALL PROVIDE NECESSARY SUPPORT FOR HECO'S WORK, WHICH MAY INCLUDE, BUT NOT BE LIMITED TO, STAKING OF POLE/ANCHOR LOCATIONS, IDENTIFYING RIGHT OF WAY AND PROPERTY LINES, EXCAVATION AND BACKFILL, PERMITS AND TRAFFIC CONTROL, BARRICADING, AND RESTORATION OF PAVEMENT, SIDEWALKS, AND OTHER FACILITIES.

ALL COSTS ASSOCIATED WITH ANY RELOCATION OR MODIFICATION (EITHER TEMPORARY OR PERMANENT) FOR THE CONVENIENCE OF THE CONTRACTOR, OR TO ENABLE THE CONTRACTOR TO PERFORM HIS WORK IN A SAFE AND EXPEDITIOUS MANNER IN FULFILLING HIS CONTRACT OBLIGATIONS SHALL BE BORNE BY THE CONTRACTOR.

11. CONFLICTS

ANY REDESIGN OR RELOCATION OF HECO'S FACILITIES NOT SHOWN ON THE PLANS MAY BE CAUSE FOR LENGTHY DELAYS. THE CONTRACTOR ACKNOWLEDGES THAT HECO IS NOT RESPONSIBLE FOR ANY DELAY OR DAMAGE THAT MAY ARISE AS A RESULT OF ANY CONFLICTS DISCOVERED OR IDENTIFIED WITH RESPECT TO THE LOCATION OR CONSTRUCTION OF HECO'S ELECTRICAL FACILITIES IN THE FIELD, REGARDLESS OF WHETHER THE CONTRACTOR HAS MET THE REQUESTED MINIMUM ADVANCE NOTICES. IN ORDER TO MINIMIZE ANY DELAY OR IMPACT ARISING FROM SUCH CONFLICTS, HECO SHOULD BE NOTIFIED IMMEDIATELY UPON DISCOVERY OR IDENTIFICATION OF SUCH CONFLICT.

12. DAMAGE TO HECO FACILITIES

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL HECO SURFACE AND SUBSURFACE UTILITIES AND SHALL BE RESPONSIBLE FOR ANY DAMAGES TO HECO'S FACILITIES AS A RESULT OF HIS OPERATIONS. THE CONTRACTOR SHALL IMMEDIATELY REPORT SUCH DAMAGES OR ANY HAZARDOUS CONDITIONS RELATED TO HECO'S LINES TO HECO'S TROUBLE DISPATCHER AT 548-7961. REPAIR WORK SHALL BE DONE BY HECO OR BY THE CONTRACTOR UNDER HECO'S SUPERVISION. COSTS FOR DAMAGES TO HECO'S FACILITIES SHALL BE BORNE BY THE CONTRACTOR.

IN CASE OF DAMAGE OR SUSPECTED DAMAGE TO HECO'S FUEL PIPELINE, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY HECO'S SECURITY COMMAND CENTER AT 543-7685 (A 24-HOUR NUMBER) SO HECO PERSONNEL CAN SECURE THE DAMAGED SECTION AND REPORT ANY OIL SPILLS TO THE PROPER AUTHORITIES. ALL COSTS ASSOCIATED WITH THE DAMAGE, REPAIR, AND OIL SPILL CLEANUP SHALL BE BORNE BY THE CONTRACTOR.

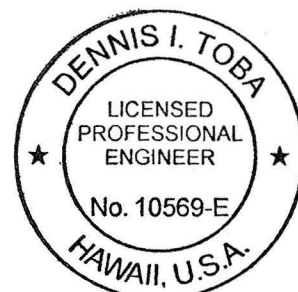
13. HECO STAND-BY PERSONNEL

THE CONTRACTOR MAY REQUEST HECO TO PROVIDE AN INSPECTOR TO STAND-BY DURING CONSTRUCTION NEAR HECO'S FACILITIES. THE COST OF SUCH INSPECTION WILL BE CHARGED TO THE CONTRACTOR.

THE CONTRACTOR SHALL CALL HECO'S CUSTOMER INSTALLATIONS DEPARTMENT AT 543-7846 A MINIMUM OF FIVE (5) WORKING DAYS IN ADVANCE TO ARRANGE FOR HECO STAND-BY PERSONNEL.

14. CLEARANCES

ADJACENT STRUCTURES (CHARTED AND UNCHARTED) IN THE TRENCH: THE FOLLOWING CLEARANCES SHALL BE MAINTAINED BETWEEN HECO'S DUCTLINE AND ALL



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2016.05.18
EXPIRATION DATE OF THE LICENSE 4/30/2018

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EXPIRATION DATE OF THE LICENSE 4/30/2018

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
HECO NOTES

*INTERSTATE ROUTE H-1, H-2 AND H201
DESTINATION SIGN UPGRADE / REPLACEMENT, PHASE 2
Federal Aid Project NO. - NH-1M-0300(142)*
Scale: As Shown Date: May 2016

SHEET No. *E1.2* OF 191 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-IM-0300(142)	2016	87	191

MINIMUM SEPARATION CLEARANCES TO EXISTING UNDERGROUND DUCTLINES HORIZONTAL (PARALLEL)				
UTILITY BEING INSTALLED	EXISTING DIRECT BURIED CABLE	EXISTING DIRECT BURIED IN CONDUIT (NO CONCRETE ENCASEMENT)	EXISTING 3" CONCRETE ENCASEMENT	APPLICABLE NOTES:
HECO DB CONDUITS	12"	3"	0"	
HECO 3" ENCASEMENT	0"	0"	0"	
TELEPHONE/CATV DB	12"	12"	6"	
TELEPHONE/CATV DB DUCTS	12"	12"	6"	
TELEPHONE/CATV 3" ENCASEMENT	0"	0"	0"	5
TRAFFIC SIGNAL	12"	12"	12"	
WATER DB	36"	36"	36"	1,4
WATER SERVICE LATERALS	12"	12"	12"	
WATER (CONCRETE JACKETED)	36"	36"	36"	1,4
GAS DB	12"	12"	12"	1
GAS (CONCRETE JACKETED)	12"	12"	12"	1
SEWER DB	36"	36"	36"	1,2
SEWER (CONCRETE JACKETED)	36"	36"	36"	1,2
DRAIN	12"	12"	12"	1
FUEL PIPELINES				3
NOTES: 1. WHERE SPACE IS AVAILABLE, PARALLEL CLEARANCE TO OTHER UTILITIES, OR FOREIGN STRUCTURES OTHER THAN COMMUNICATION OR TRAFFIC SIGNAL SHALL BE 36". 2. IF 36" CLEARANCE CANNOT BE MET: - IF CLEARANCE IS LESS THAN 12", JACKET SEWER LINE WITH REINFORCED CONCRETE (PER HECO'S STANDARD 30-1030) FOR A DISTANCE OF 5'-0" PLUS PIPE DIAMETER. - IF CLEARANCE IS BETWEEN 12" AND 36", JACKET SEWER LINE WITH PLAIN CONCRETE. 3. ALL FUEL PIPELINE CROSSINGS SHALL BE REVIEWED AND APPROVED BY THE COMPANY THAT OWNS AND MAINTAINS IT. 4. 5 FEET CLEAR TO WATER MAINS 16" AND LARGER. 5. FOR SITUATIONS WITH 0" MINIMUM SEPARATION, A 6" SEPARATION IS RECOMMENDED. 6. CLEARANCES MEASURED FROM OUTER EDGES OR DIAMETERS OF UTILITIES.				

MINIMUM SEPARATION CLEARANCES TO EXISTING UNDERGROUND DUCTLINES VERTICAL (CROSSING)				
UTILITY BEING INSTALLED	EXISTING DIRECT BURIED CABLE	EXISTING DIRECT BURIED IN CONDUIT (NO CONCRETE ENCASEMENT)	EXISTING 3" CONCRETE ENCASEMENT	APPLICABLE NOTES:
HECO DB CONDUITS	6"	3"	0"	
HECO 3" ENCASEMENT	0"	0"	0"	
TELEPHONE/CATV DB	12"	12"	6"	
TELEPHONE/CATV DB DUCTS	12"	12"	6"	
TELEPHONE/CATV 3" ENCASEMENT	0"	0"	0"	5
TRAFFIC SIGNAL	12"	12"	6"	
WATER DB	6"	6"	6"	2
WATER SERVICE LATERALS	6"	6"	6"	
WATER (CONCRETE JACKETED)	6"	6"	6"	2
GAS DB	12"	12"	12"	
GAS (CONCRETE JACKETED)	12"	12"	12"	
SEWER DB	24"	24"	24"	1
SEWER (CONCRETE JACKETED)	24"	24"	24"	1
DRAIN	12"	12"	6"	
FUEL PIPELINES				3
NOTES: 1. IF CLEARANCE CANNOT BE MET: - IF CLEARANCE IS LESS THAN 12", JACKET SEWER LINE WITH REINFORCED CONCRETE (PER HECO'S STANDARD 30-1030) FOR A DISTANCE OF 5'-0" PLUS PIPE DIAMETER. - IF CLEARANCE IS BETWEEN 12" AND 24", JACKET SEWER LINE WITH PLAIN CONCRETE. 2. 12" VERTICAL CLEARANCE FOR PIPE DIAMETERS GREATER THAN 16". 3. ALL FUEL PIPELINE CROSSINGS SHALL BE REVIEWED AND APPROVED BY THE COMPANY THAT OWNS AND MAINTAINS IT. 4. 5 FEET CLEAR TO WATER MAINS 16" AND LARGER. 5. FOR SITUATIONS WITH 0" MINIMUM SEPARATION, A 6" SEPARATION IS RECOMMENDED. 6. CLEARANCES MEASURED FROM OUTER EDGES OR DIAMETERS OF UTILITIES.				

THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER AND HECO OF ANY HEAT SOURCES (POWER CABLE DUCT BANK, STEAMLINE, ETC.) ENCOUNTERED THAT ARE NOT PROPERLY IDENTIFIED ON THE DRAWING.

15. INDEMNITY

THE CONTRACTOR SHALL INDEMNIFY, DEFEND AND HOLD HARMLESS HECO FROM AND AGAINST ALL LOSSES, DAMAGES, CLAIMS, AND ACTIONS, INCLUDING BUT NOT LIMITED TO REASONABLE ATTORNEY'S FEES AND COSTS BASED UPON OR ARISING OUT OF DAMAGE TO PROPERTY OR INJURIES TO PERSONS, OR OTHER TORTIOUS ACTS CAUSED OR CONTRIBUTED TO BY CONTRACTOR OR ANYONE ACTING UNDER ITS DIRECTION OR CONTROL OR ON ITS BEHALF; PROVIDED CONTRACTOR'S INDEMNITY SHALL NOT BE APPLICABLE TO ANY LIABILITY BASED UPON THE SOLE NEGLIGENCE OF HECO.

ADDITIONAL NOTES WHEN WORK INVOLVES CONSTR. OF HECO FACILITIES

16. SCHEDULE

CONTRACTOR SHALL FURNISH HIS CONSTRUCTION SCHEDULE SIX (6) MONTHS PRIOR TO STARTING WORK ON HECO FACILITIES. CONTRACTOR SHALL GIVE HECO, IN WRITING, THREE (3) MONTHS NOTICE TO PROCEED WITH HECO'S PORTION OF WORK.

17. AUTHORITY

ALL CONSTRUCTION, RESTORATION WORK, AND INSPECTION SHALL BE SUBJECT TO WHICHEVER GOVERNMENTAL AGENCY HAS AUTHORITY OVER THE WORK.

18. SPECIFICATIONS

CONSTRUCTION OF HECO'S UNDERGROUND FACILITIES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST REVISIONS OF HECO SPECIFICATIONS CS7001, CS7003, CS7202, CS9301, AND CS9401 AND APPLICABLE HECO STANDARDS.

19. CONSTRUCTION

CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS, EQUIPMENT, AND SERVICES TO PROPERLY PERFORM AND FULLY COMPLETE ALL WORK SHOWN ON THE CONTRACT, DRAWINGS, AND SPECIFICATIONS. ALL MATERIALS SHALL BE NEW AND MANUFACTURED IN THE UNITED STATES OF AMERICA. ALL MANHOLE, HANDHOLE, AND DUCTLINE INSTALLATIONS SHALL BE INSPECTED AND APPROVED BY HECO PRIOR TO EXCAVATION AND PRIOR TO PLACING CONCRETE. CONTRACTOR SHALL NOTIFY HECO'S INSPECTION DIVISION AT 543-4329 AT LEAST FIVE (5) WORKING DAYS PRIOR TO INSTALLING FACILITIES OR PLACING CONCRETE.

CONTRACTOR TO COORDINATE WORK TO BREAK INTO HECO'S EXISTING ELECTRICAL FACILITIES WITH HECO'S UNDERGROUND DIVISION AT 543-4329 AT LEAST TEN WORKING DAYS IN ADVANCE.

20. STAKEOUT

THE CONTRACTOR SHALL ARRANGE FOR TONEOUTS OF ALL UNDERGROUND FACILITIES AND SHALL STAKEOUT ALL PROPOSED HECO FACILITIES WITHIN THE PROJECT AREA SO AS TO NOT CONFLICT WITH ANY UTILITY (EXISTING OR PROPOSED) AND ANY PROPOSED CONSTRUCTION OR IMPROVEMENT WORK FOR VERIFICATION BY HECO BEFORE PROCEEDING WITH HECO WORK.

21. DUCTLINES

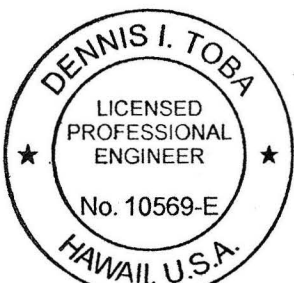
ALL DUCTLINE INSTALLATIONS SHALL BE PVC SCHEDULE 40 ENCASED IN CONCRETE, UNLESS OTHERWISE NOTED. ALL COMPLETED DUCTLINES SHALL BE MANDREL TESTED BY THE CONTRACTOR IN THE PRESENCE OF HECO'S INSPECTOR USING HECO'S STANDARD PRACTICE. THE CONTRACTOR SHALL INSTALL A 1800# TENSILE STRENGTH MULETAPE PULL LINE IN ALL COMPLETED DUCTLINES DUCTLINES AFTER MANDREL TESTING IN COMPLETE.

22. JOINT POLE REMOVAL

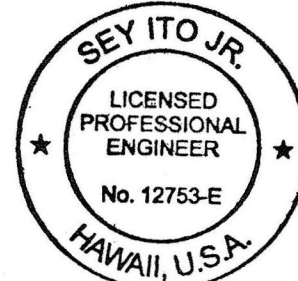
THE LAST JOINT POLE OCCUPANT OFF THE POLES SHALL REMOVE THE POLES.

23. AS-BUILT PLANS

THE CONTRACTOR SHALL PROVIDE HECO WITH TWO SETS OF AS-BUILT REPRODUCIBLE TRACINGS SHOWING THE OFFSETS, STATIONING, AND VERTICAL ELEVATION OF THE DUCT LINE(S) CONSTRUCTED.



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STATE OF HAWAII
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HIGHWAYS DIVISION

HECO NOTES

INTERSTATE ROUTE H-1, H-2 AND H201
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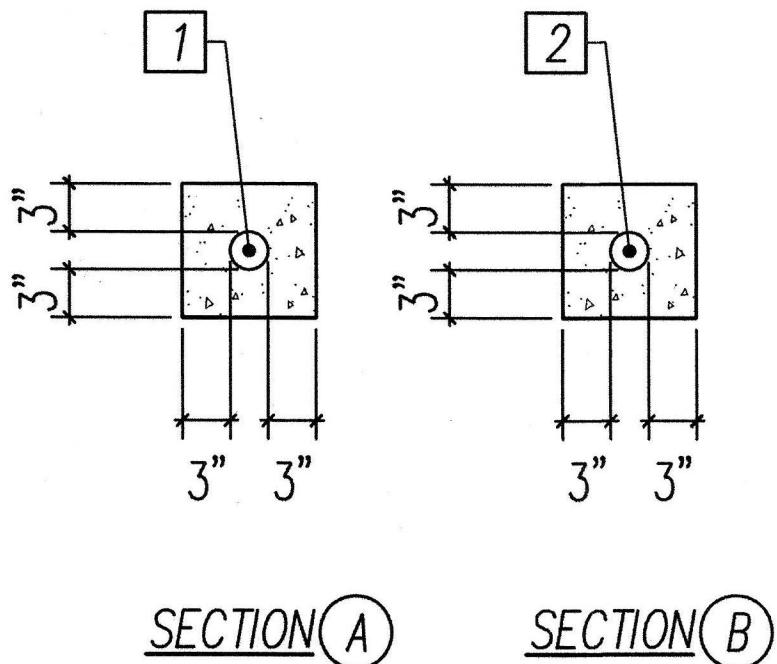
SHEET No. E1.3 OF 191 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-IM-0300(142)	2016	88	191

STATE RIGHT OF WAY BACKFILL NOTES

- Trench Backfill Material "A"
When Tested According to AASHTO T176, The Sand Equivalent Value Shall be 20 or Greater.
- Trench Backfill Material "B"
When Tested According to AASHTO T176, The Sand Equivalent Value of the Backfill Material Shall be Equal to or Greater Than the Surrounding Soil.
- Trench Backfill Material "C"
Excavate Material and Provide 3" Backfill Material "A", See Above.
- Concrete - 3" Encasement, 3000 PSI COMPRESSIVE STRENGTH @ 28 DAYS.

NOTE:
See Specification Section 703.21 for Additional Trench Backfill Material Requirements.



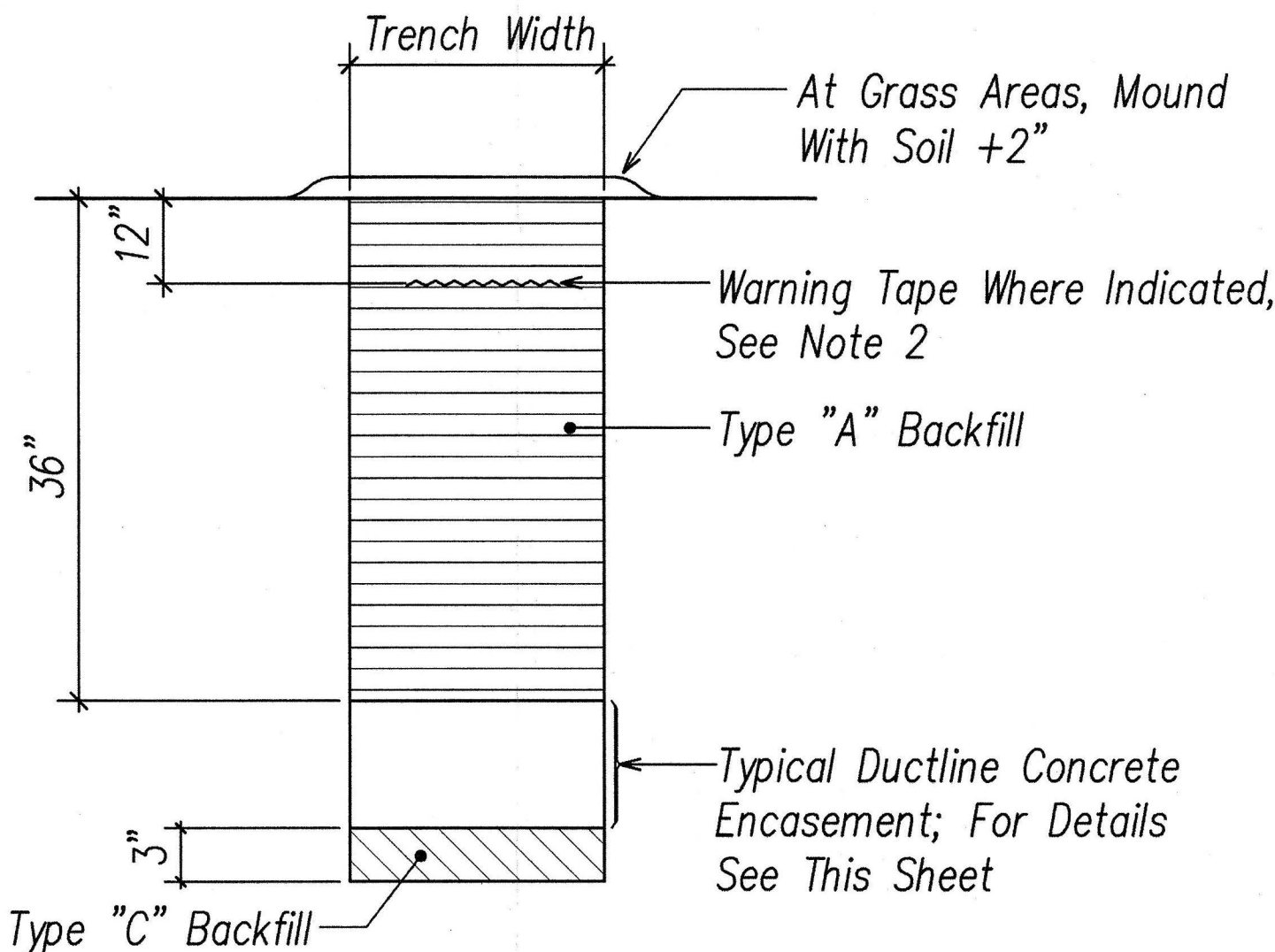
DUCT AND CABLE SCHEDULE			
No.	Duct Size	Cable	Description
1	1"C*	Pull-Cord	Future Conductors
2	1"C*	Pull-Cord	Match Exist Conductors

* Adjust Size as Needed to Match Existing Conduit

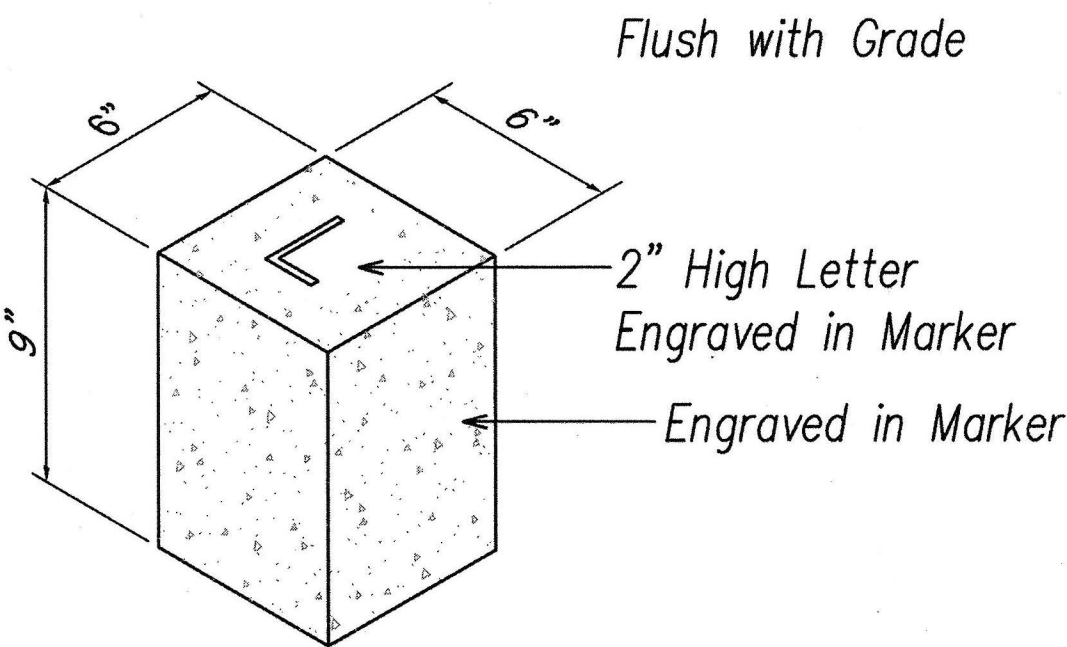
HIGHWAY LIGHT DUCT SECTION DETAILS
NOT TO SCALE

GENERAL DUCTLINE DUCT SECTION NOTES:

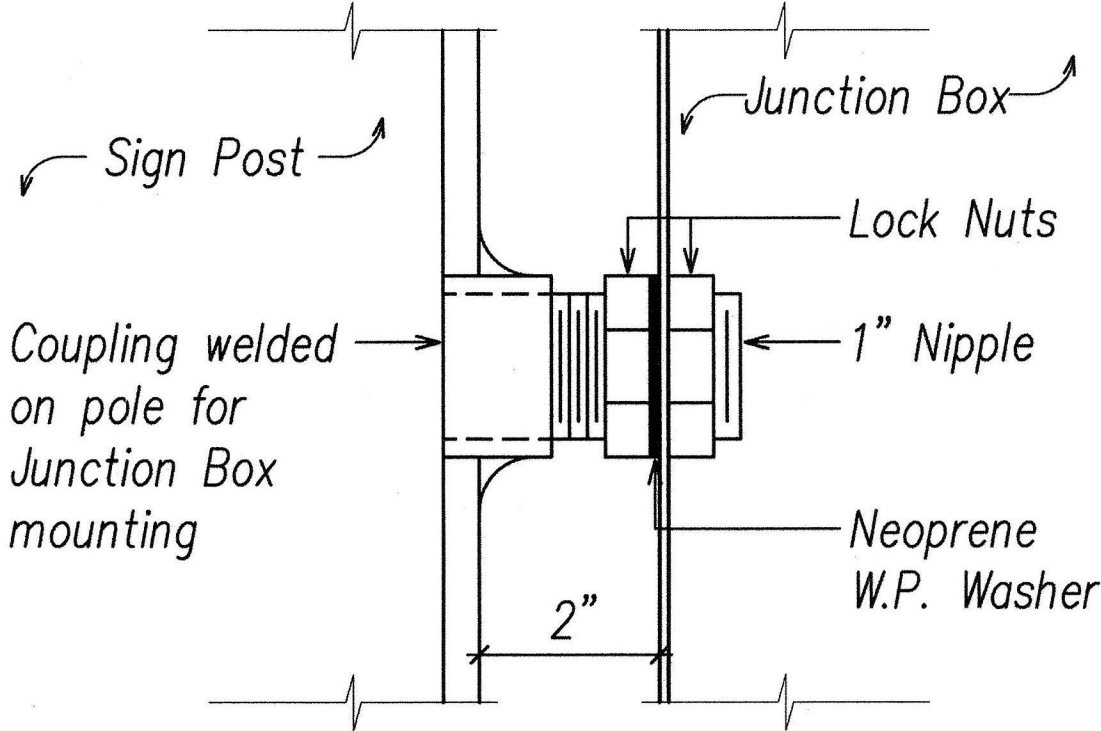
- If trench is located on unpaved area, the Contractor shall replace 10" A.C. Base Course and 4" A.C. Pavement with Type "A" backfill material.
- The Metal Detectable Red Plastic Warning Tape shall be a minimum 5 mils thick and 4" wide with a continuous metallic backing and corrosion resistant 1' min thick foil core. The message on the tape shall read, "CAUTION - STATE HWY LIGHTING BURIED BELOW," utilizing 1 1/2 inches series "C" block lettering. The message will be repeated with a 4 1/4" spacing between top line of message and start of next repeat.



BACKFILL SECTION WITHIN STATE R-O-W
BEYOND PAVED ROADWAY
NOT TO SCALE

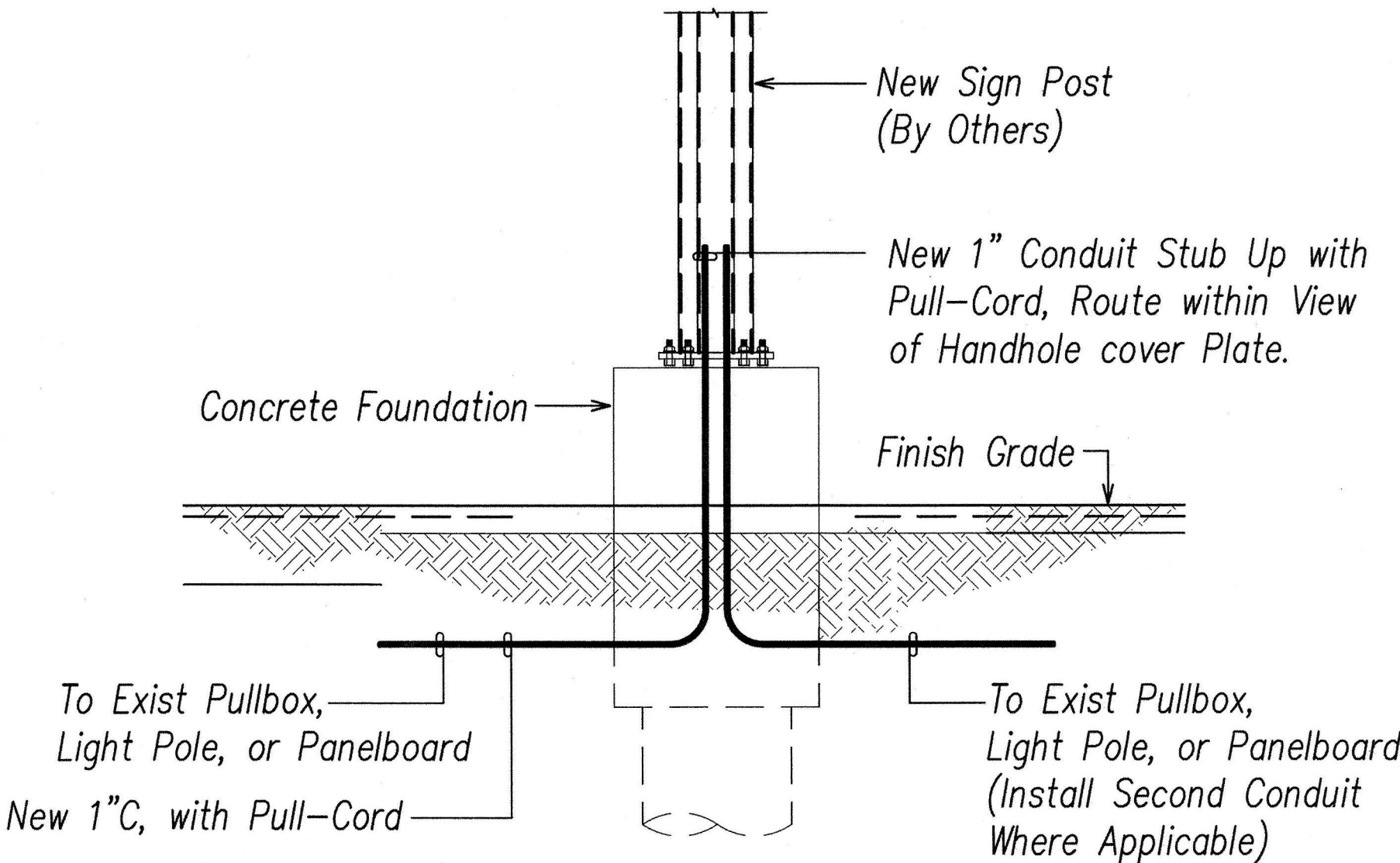


CONCRETE CONDUIT STUB OUT MARKER
NOT TO SCALE

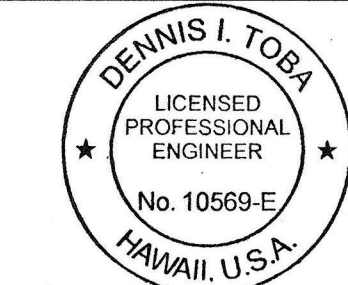


Coordinate Conduit Nipple Requirements with Pole Manufacturer.
See Structural Drawings for Sign Post Detail.

CONDUIT NIPPLE DETAIL
NOT TO SCALE



TYPICAL ELECTRICAL ELEVATION
FOR SIGNS MOUNTED ABOVE FINISH GRADE
Scale: None



PRINCIPAL-IN-CHARGE

2016.05.18
EXPIRATION DATE OF THE LICENSE 4/30/2018



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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DUCT SECTION AND MISCELLANEOUS
DETAILS

INTERSTATE ROUTE H-1, H-2 AND H201
DESTINATION SIGN UPGRADE / REPLACEMENT, PHASE 2
Federal Aid Project NO. - NH-IM-0300(142)
Scale: As Shown Date: May 2016

SHEET No. E2.1 OF 191 SHEETS

Note(s):

- [illegible]



The diagram illustrates a T-junction where a road from the left meets a main road labeled 'H1 EASTBOUND' with a right-pointing arrow. Three numbered circles (1, 2, 3) are positioned along the top edge of the diagram. A dashed line represents the road from the left, and a solid line represents the main road. A 'New Sign Post (By Others)' is indicated by a square with a cross inside, located on the main road just before the junction. An 'Exist Junction Box' is indicated by a square with a dot inside, located on the main road just after the junction. A wavy line connects the two boxes.



Demolish Light Fixture

Sign Structure

Metal Railing

Concrete Barrier

Roadway Surface

Demolish Cabinet

Exist Junction Box

Concrete Pier Cap

2 New Junction Box
6"SQ x 4"D
NEMA 4X 316 SS

Exist junction Box

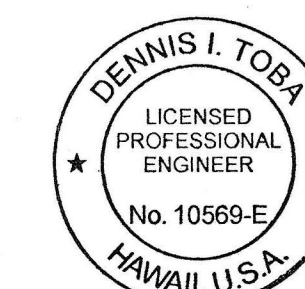
3 New 1" Flexible Conduit with Pull-Cord

10'-0"

DENNIS L.
LICENSED PROFESSIONAL ENGINEER

4' 2' 0 4' 8' 12'
SCALE: $3/16" = 1'-0"$

8' 4' 0 8' 16' 24'
SCALE: $1/8" = 1'-0"$
GRAPHIC SCALE



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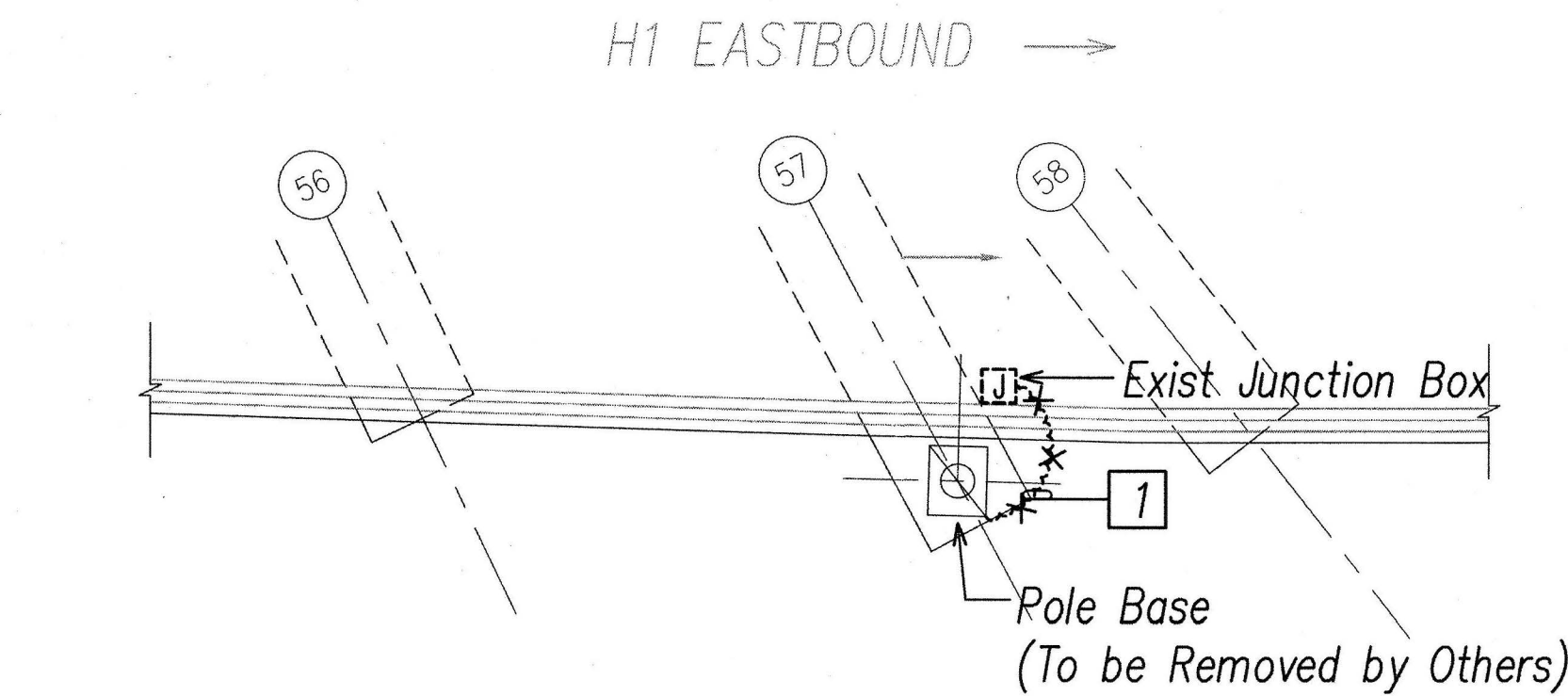
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
DEMOLITION AND REVISED ELECTRICAL
PLANS AND ELEVATIONS 1

INTERSTATE ROUTE H-1, H-2 AND H201
DESTINATION SIGN UPGRADE / REPLACEMENT, PHASE 2
Federal Aid Project NO. - NH-IM-0300(142)
 Scale: As Shown Date: May 2016

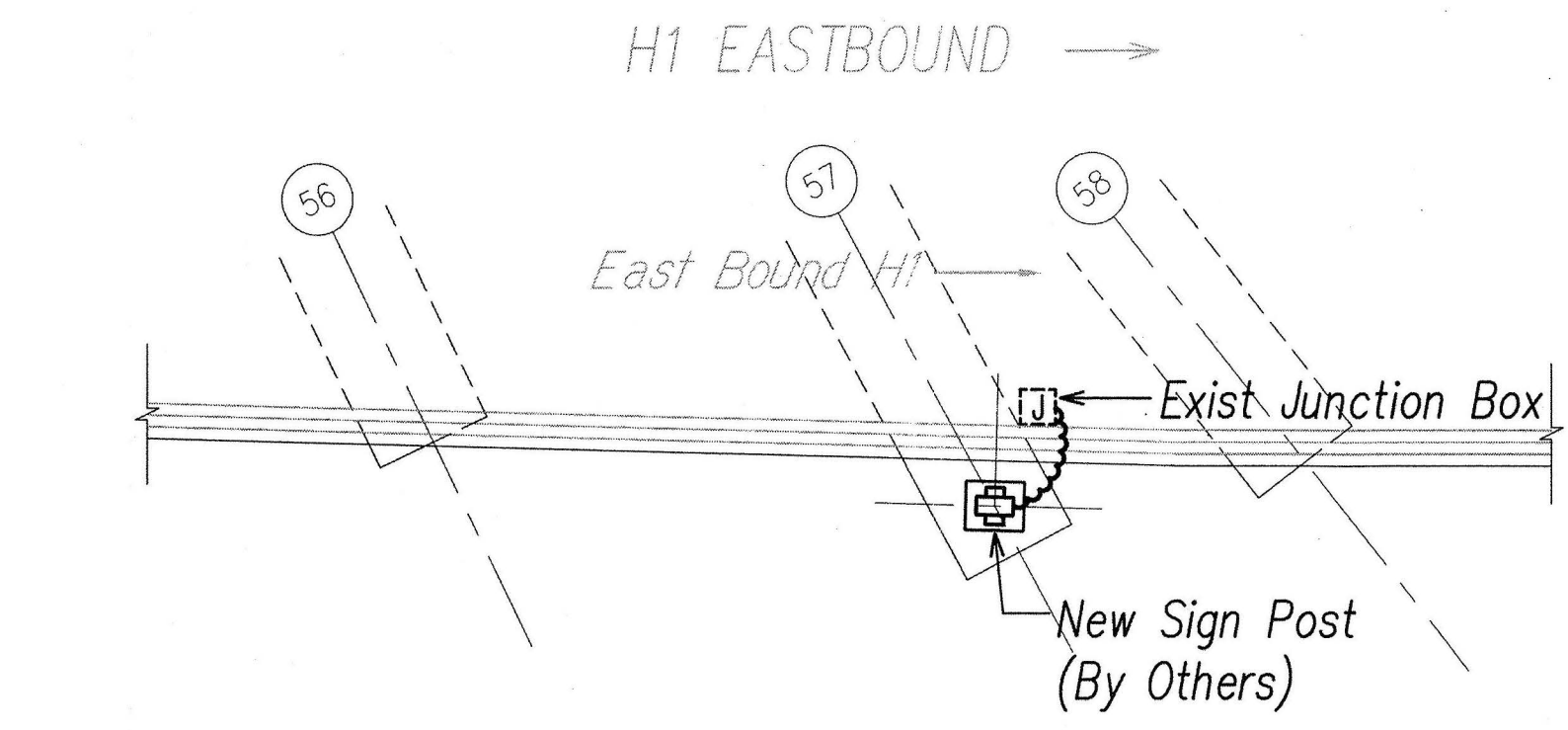
SHEET No. *E3.1* OF *191* SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-1M-0300(142)	2016	91	191

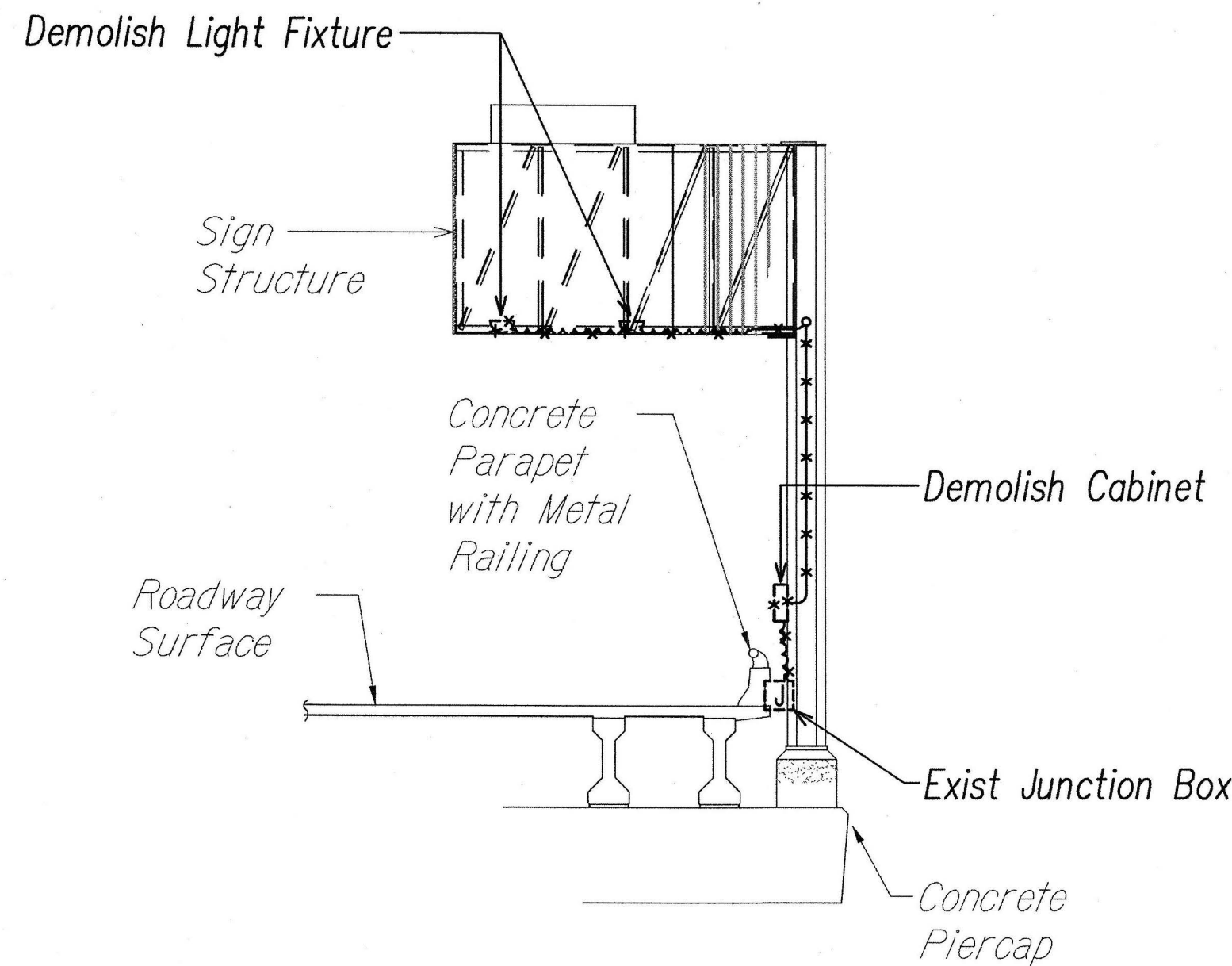
- Note(s):
- 1 Remove Conductors from Sign Lighting to Junction Box. Pullback and Hot-Cap, Coil and Stow Conductors in Junction Box as Required.
 - 2 See Drawing E2.1 for Conduit Nipple Details. Provide New Stainless Steel Mounting Hardware as Required.
 - 3 Do Not Block Handhole Cover Plate on Sign Post.



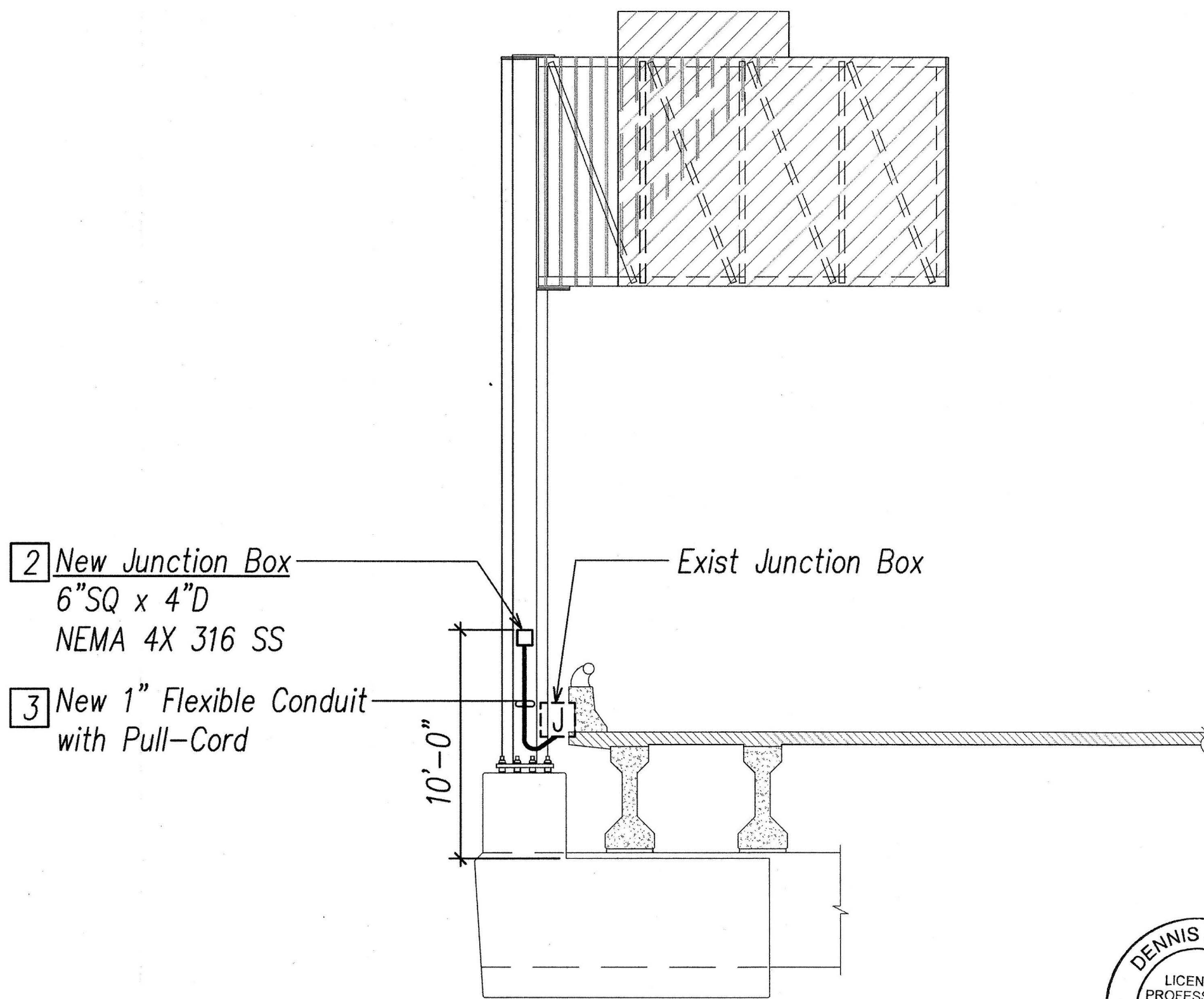
SIGN H1EB-114
DEMOLITION ELECTRICAL PLAN
 Scale: 1/8"=1'-0"



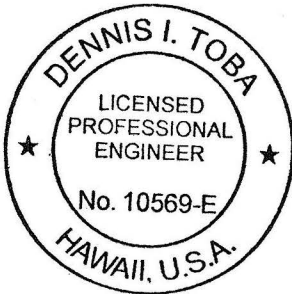
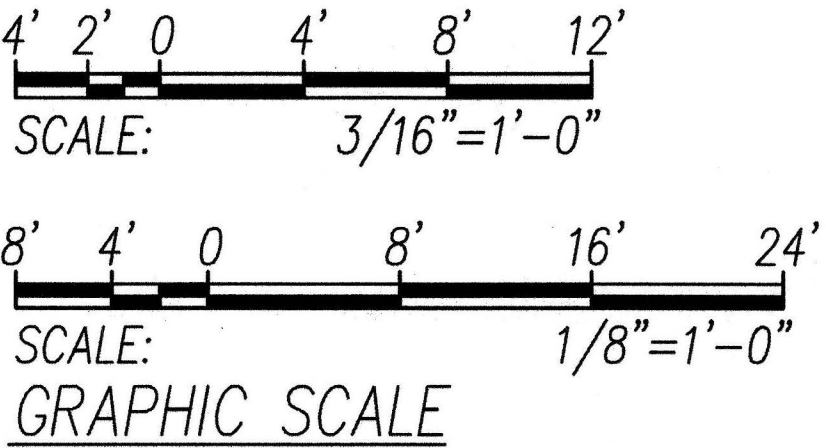
SIGN H1EB-114
REVISED ELECTRICAL PLAN
 Scale: 1/8"=1'-0"



SIGN H1EB-114
DEMOLITION ELECTRICAL ELEVATION
 Scale: 1/8"=1'-0"



SIGN H1EB-114
REVISED ELECTRICAL ELEVATION
 Scale: 3/16"=1'-0" (Back Side of Sign Shown)



PRINCIPAL-IN-CHARGE

2016.05.18
 EXPIRATION DATE OF THE LICENSE 4/30/2018



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2016.05.18
 EXPIRATION DATE OF THE LICENSE 4/30/2018

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

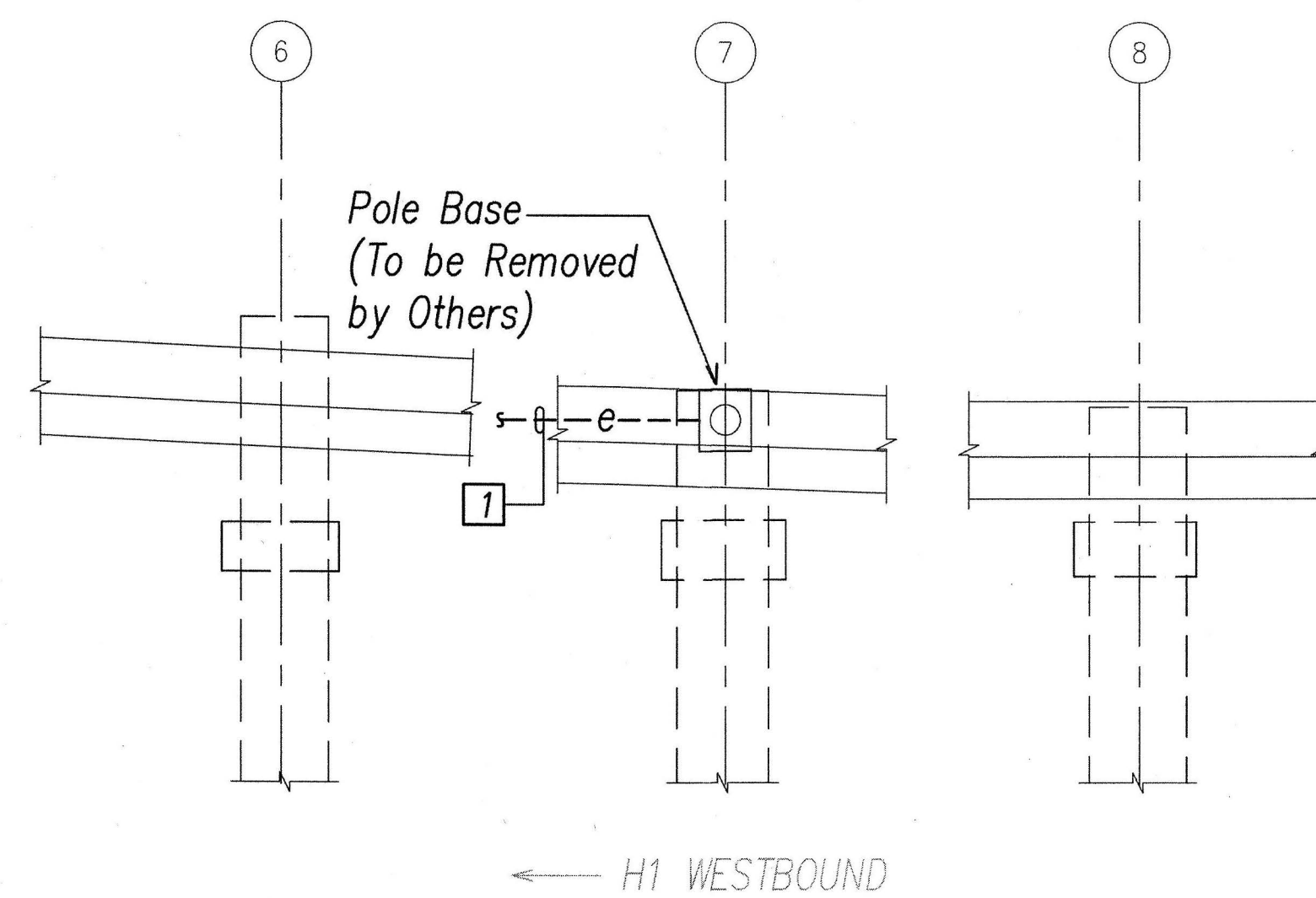
DEMOLITION AND REVISED ELECTRICAL PLANS AND ELEVATIONS 3
INTERSTATE ROUTE H-1, H-2 AND H201
DESTINATION SIGN UPGRADE / REPLACEMENT, PHASE 2
Federal Aid Project NO. - NH-1M-0300(142)
Scale: As Shown Date: May 2016

SHEET No. E33 OF 191 SHEETS

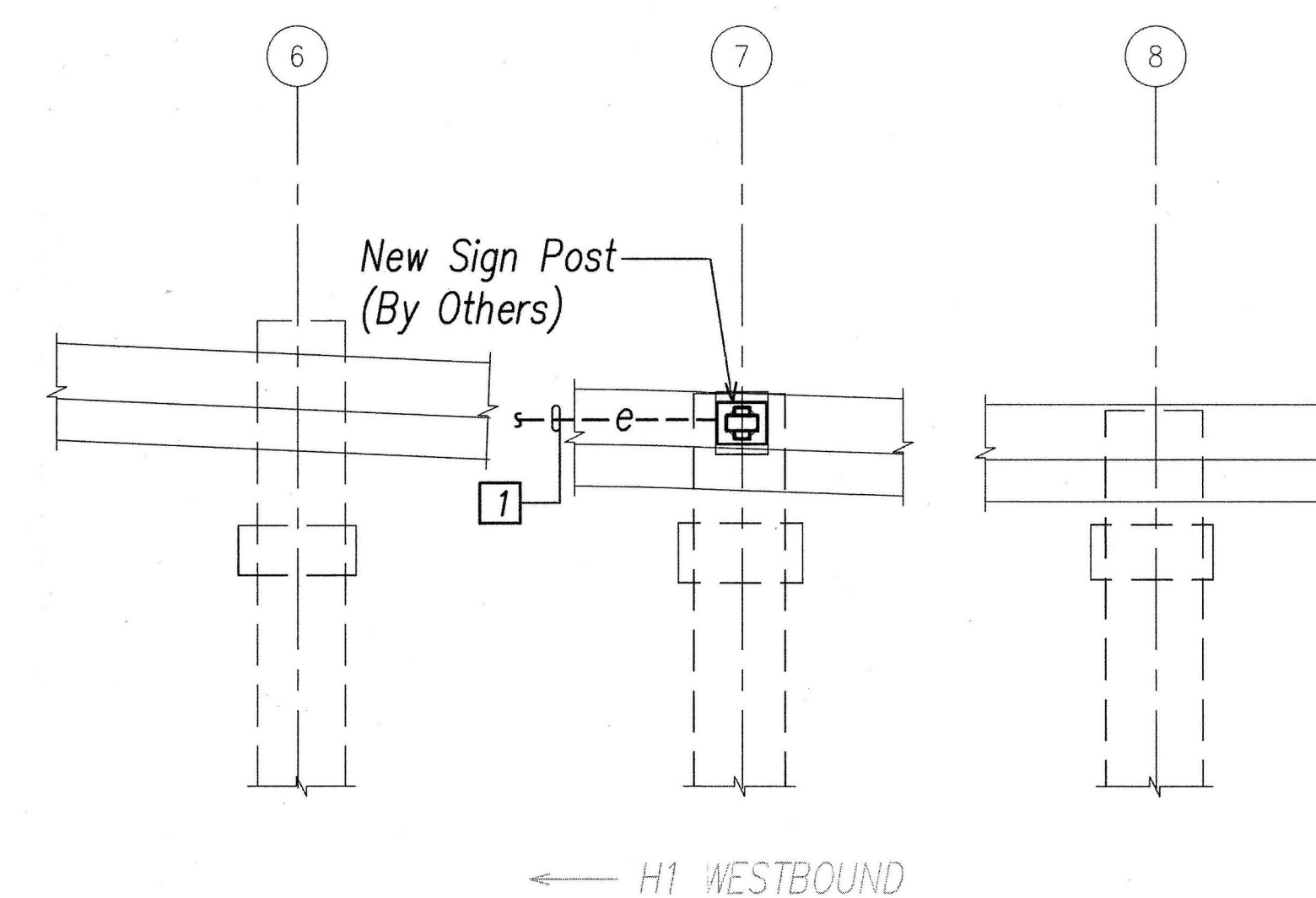
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-IM-0300(142)	2016	93	191

General Sheet Note(s):

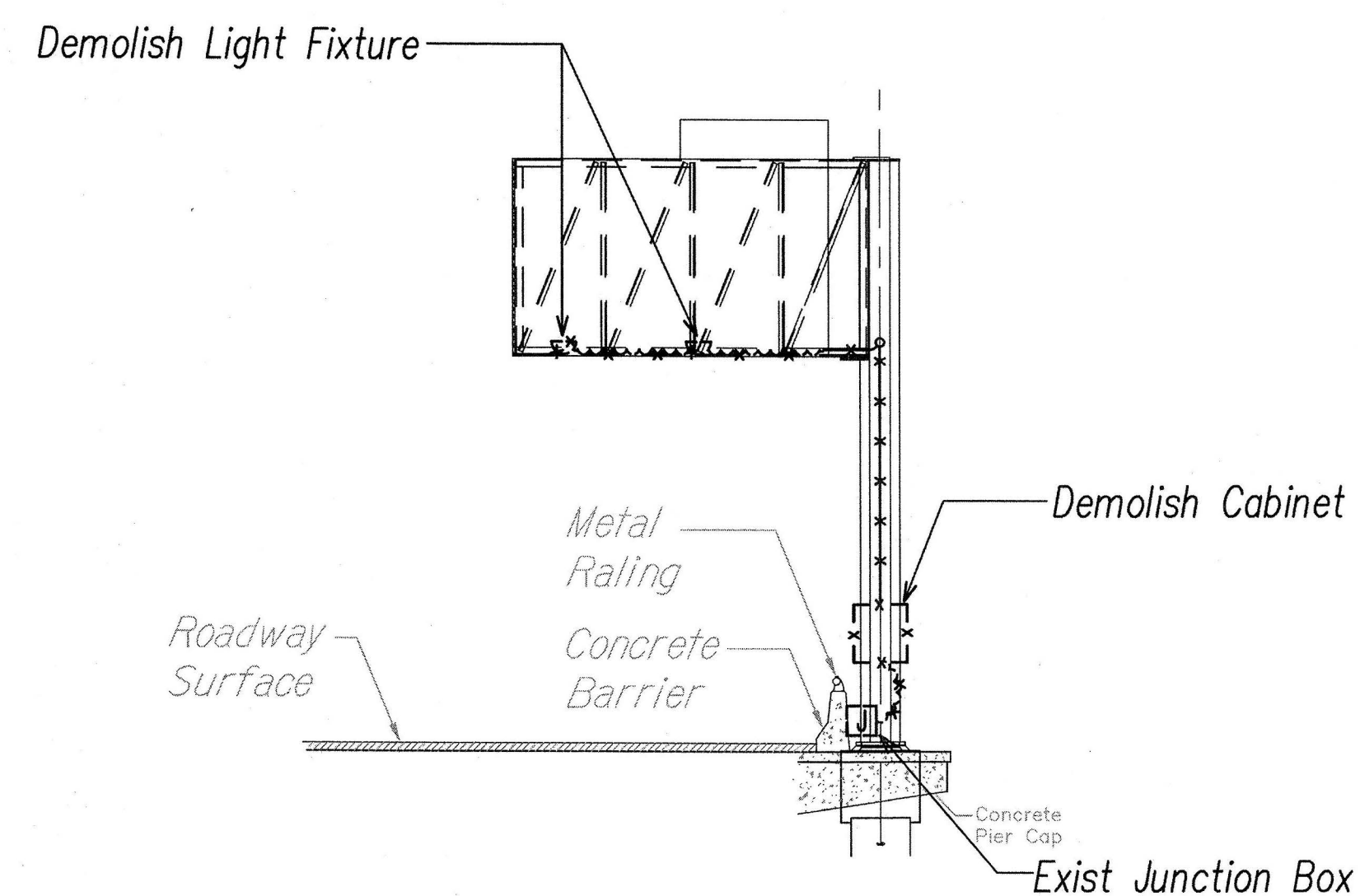
- 1 Remove Conductors from Sign Lighting to Junction Box. Pullback and Hot-Cap, Coil and Stow Conductors in Junction Box as Required.
- 2 See Drawing E2.1 for Nipple Details. Provide New Stainless Steel Hardware as Required.
- 3 Do Not Block Handhole Cover Plate on Sign Post.



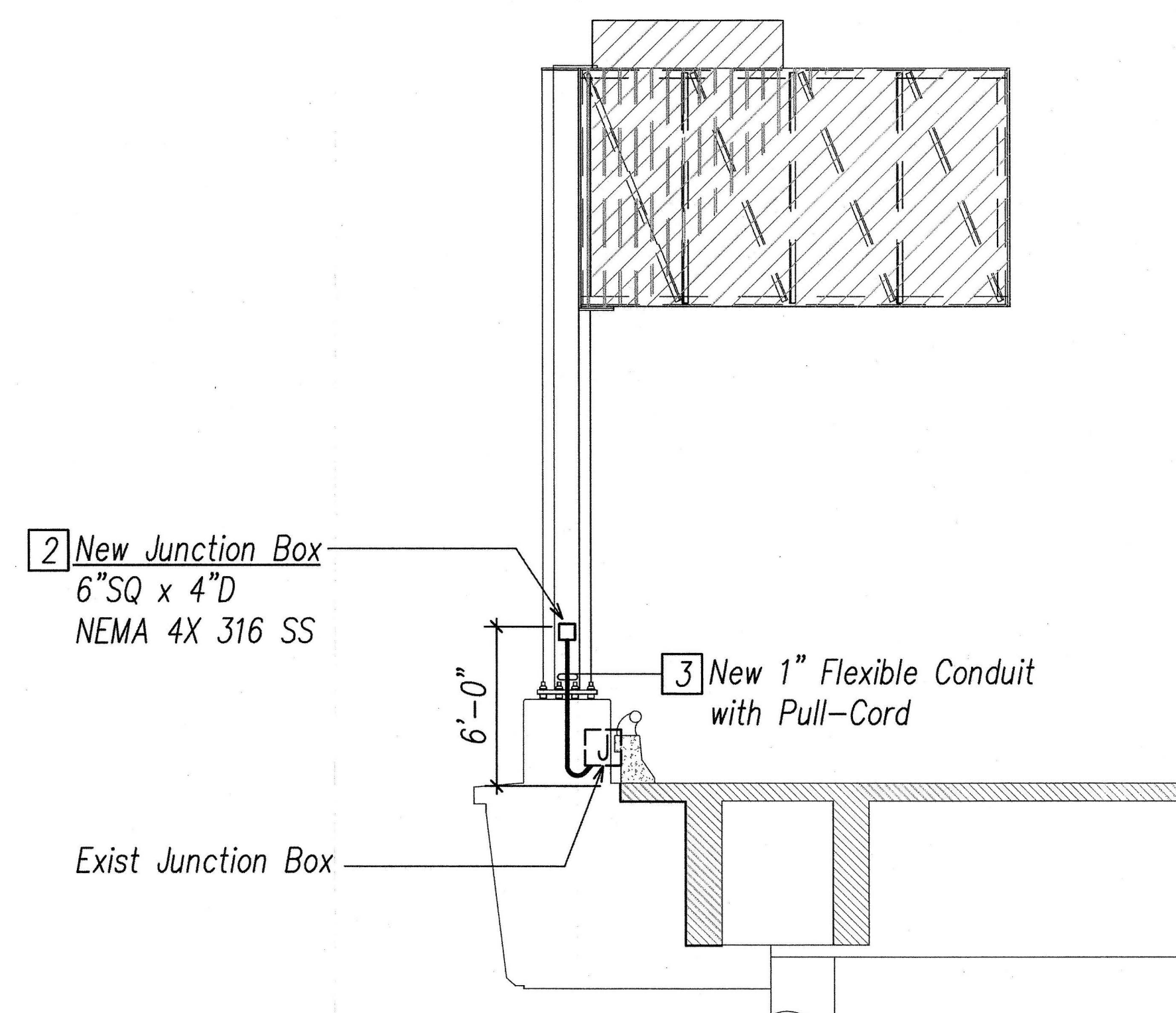
SIGN H1WB-402
DEMOLITION ELECTRICAL PLAN
Scale: 1/8"=1'-0"



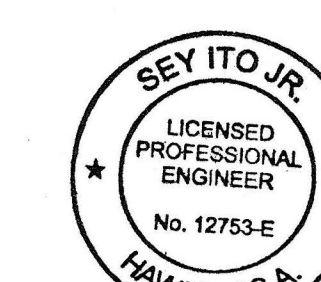
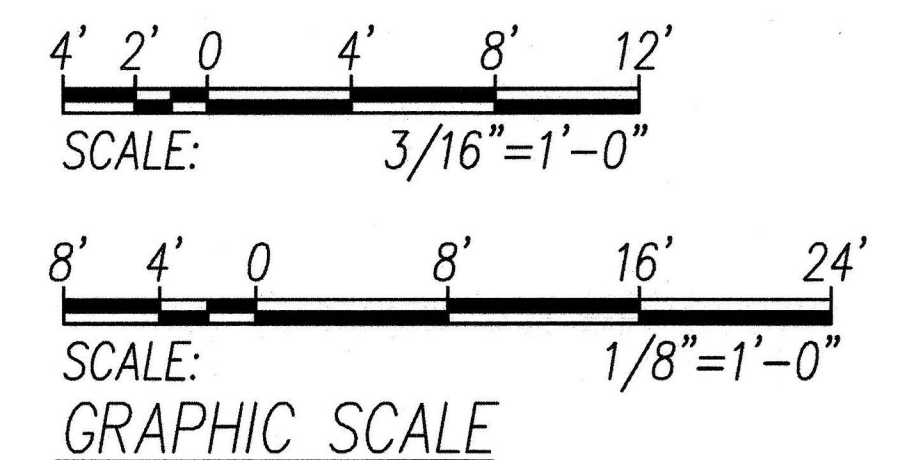
SIGN H1WB-402
REVISED ELECTRICAL PLAN
Scale: 1/8"=1'-0"



SIGN H1WB-402
DEMOLITION ELECTRICAL ELEVATION
Scale: 1/8"=1'-0"



SIGN H1WB-402
REVISED ELECTRICAL ELEVATION
Scale: 3/16"=1'-0" (Back Side of Sign Shown)



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2016.05.18
EXPIRATION DATE OF THE LICENSE 4/30/2018

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2016.05.18
EXPIRATION DATE OF THE LICENSE 4/30/2018

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

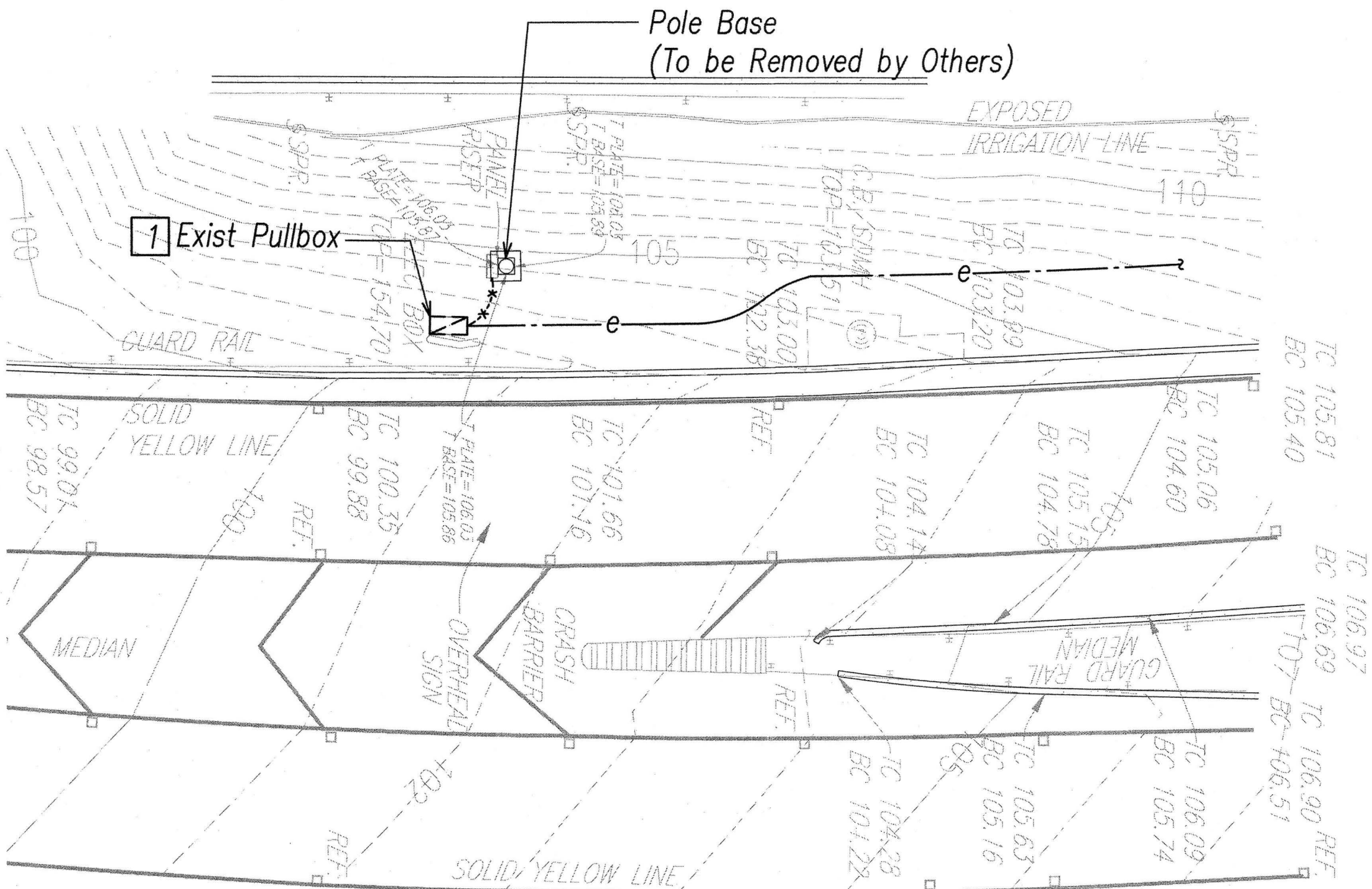
DEMOLITION AND REVISED ELECTRICAL PLANS AND ELEVATIONS 5

INTERSTATE ROUTE H-1, H-2 AND H201
DESTINATION SIGN UPGRADE / REPLACEMENT, PHASE 2
Federal Aid Project NO. - NH-IM-0300(142)
Scale: As Shown Date: May 2016

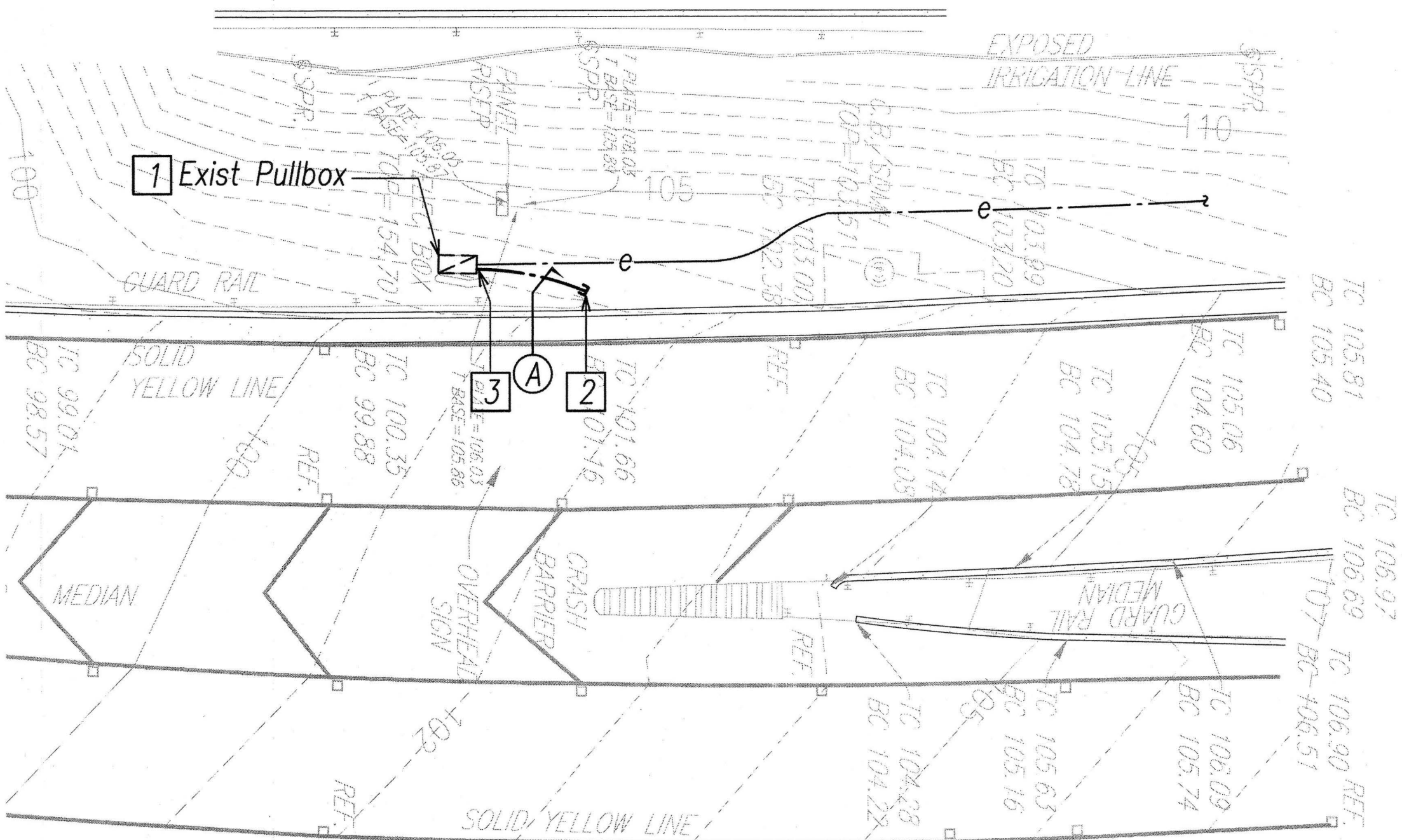
SHEET No. E3.5 OF 191 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-IM-0300(142)	2016	94	191

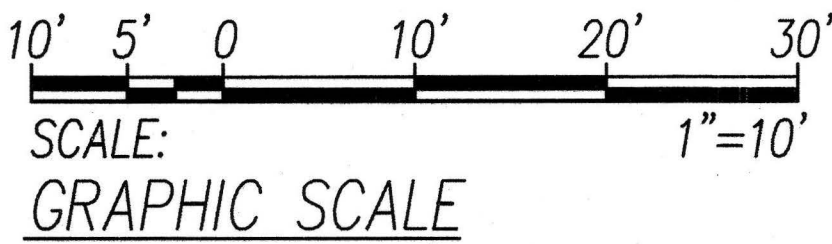
- General Sheet Note(s):
- 1 Pullback And Hot-Cap, Coil and Stow Conductors in Pullbox as Required.
 - 2 Provide Concrete Conduit Stub Out Marker.
 - 3 Break Into Exist Pullbox for Conduit Penetration.



SIGN H1WBR-451
DEMOLITION ELECTRICAL PLAN
 Scale: 1"=10'



SIGN H1WBR-451
REVISED ELECTRICAL PLAN
 Scale: 1"=10'



PRINCIPAL-IN-CHARGE

Dennis I. Toia
 2016.05.18
 EXPIRATION DATE OF THE LICENSE 4/30/2018



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Sey Ito Jr.
 2016.05.18
 EXPIRATION DATE OF THE LICENSE 4/30/2018

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

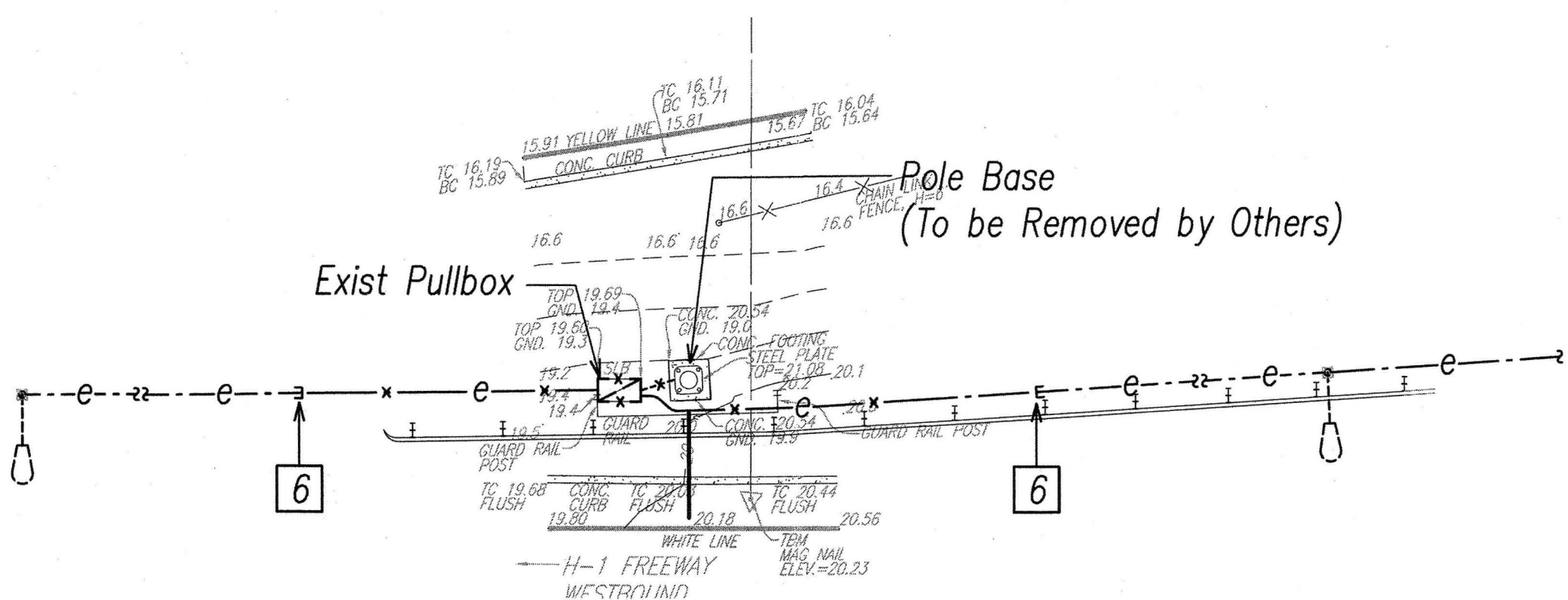
DEMOLITION AND REVISED ELECTRICAL PLANS 6
INTERSTATE ROUTE H-1, H-2 AND H201
DESTINATION SIGN UPGRADE / REPLACEMENT, PHASE 2
Federal Aid Project NO. - NH-IM-0300(142)
Scale: As Shown Date: May 2016

SHEET No. E3.6 OF 191 SHEETS

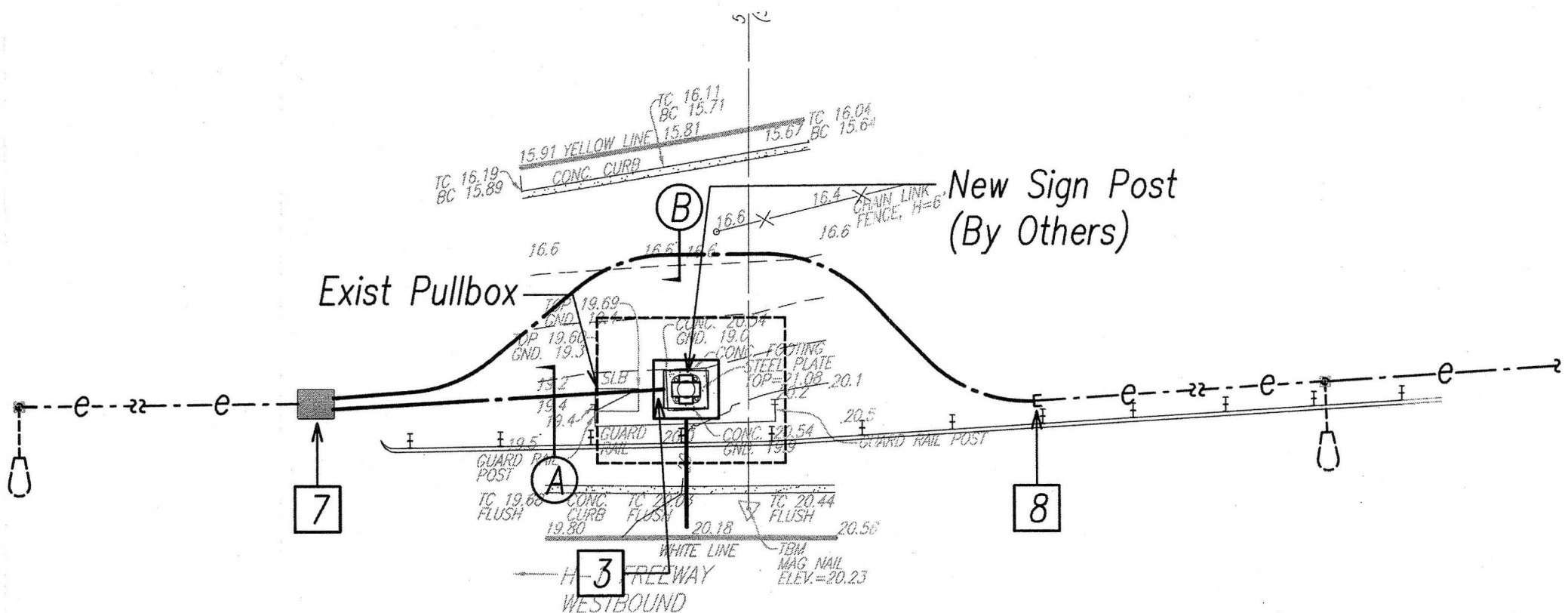
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-IM-0300(142)	2016	95	191

General Sheet Note(s):

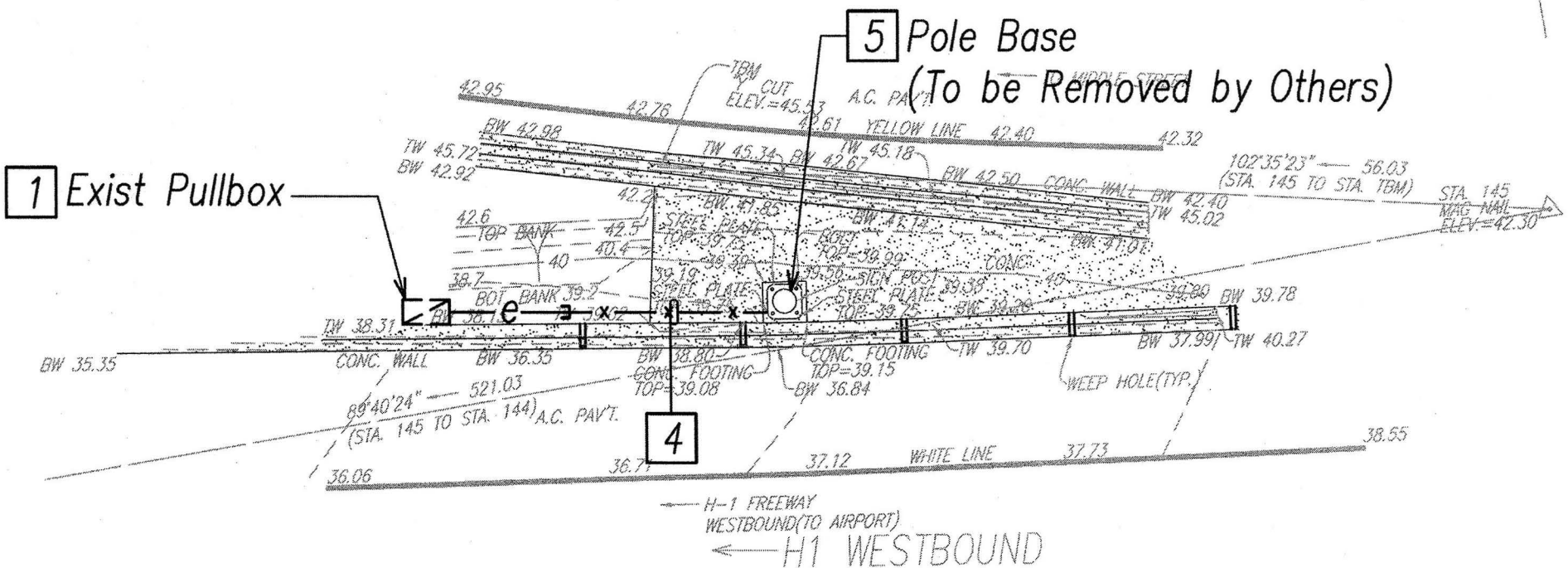
- 1 Pullback And Hot-Cap, Coil and Stow Conductors in Pullbox as Required.
- 2 Connect New Conduit to Exist Conduit Stub Out.
- 3 Route Conduit and Pull-Cord within View of Handhole Cover plate on Sign Post.
- 4 Abandon Conduit in Place.
- 5 Patch and Seal Conduit Opening..
- 6 Cut Conduit and Remove Conductors.
- 7 Intercept Exist Conduit with New Pullbox and Route New Conductors to Exist Highway Light Pole.
- 8 Intercept Exist Conduit with New Conduit and Route New Conductors to Exist Highway Light Pole.



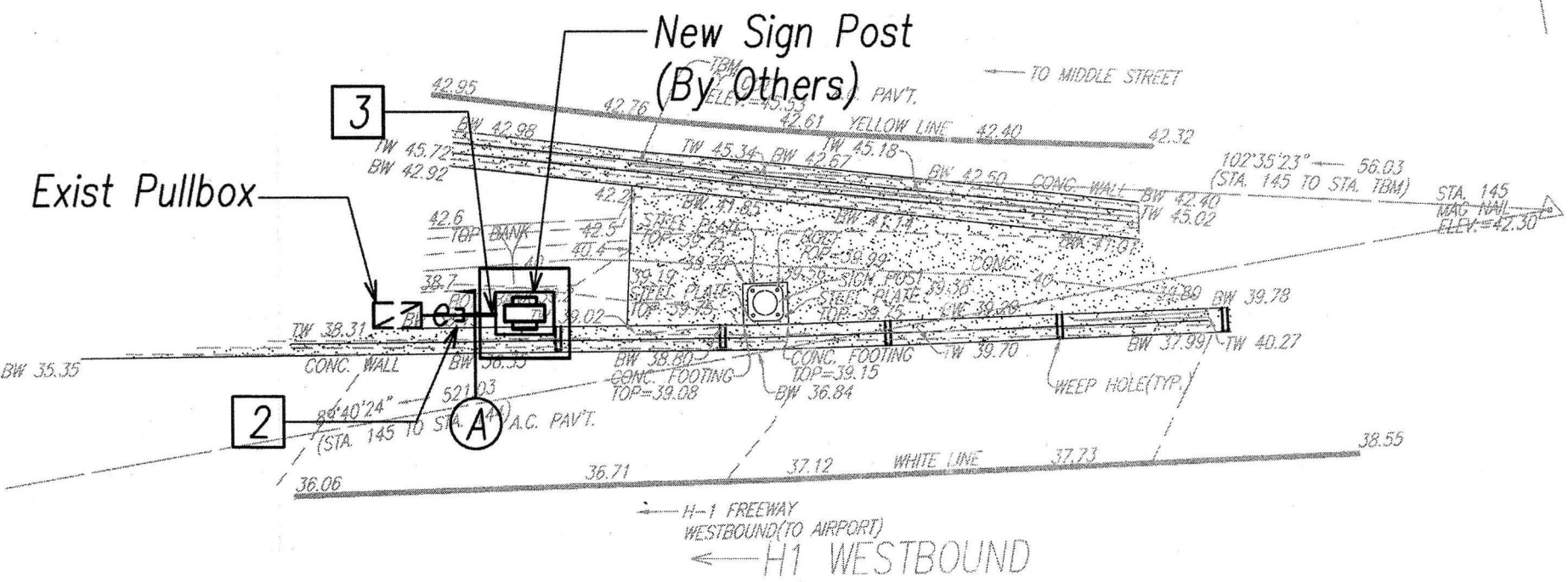
SIGN H1WB-418
DEMOLITION ELECTRICAL PLAN
 Scale: 1"=10'



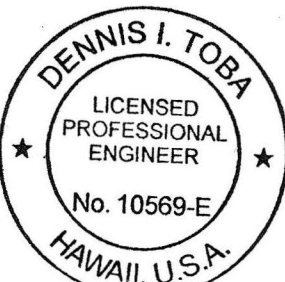
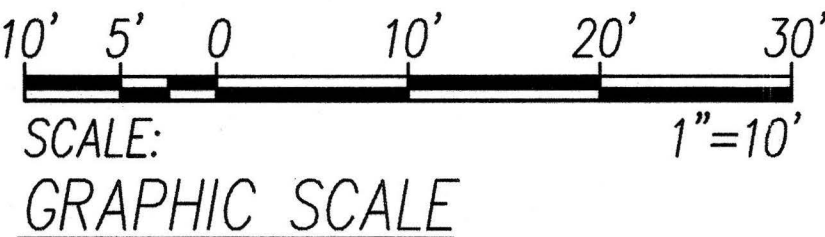
SIGN H1WB-418
REVISED ELECTRICAL PLAN
 Scale: 1"=10'



SIGN H1WB-424
DEMOLITION ELECTRICAL PLAN
 Scale: 1"=10'



SIGN H1WB-424
REVISED ELECTRICAL PLAN
 Scale: 1"=10'



PRINCIPAL-IN-CHARGE

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Dennis I. Toba
 2016.05.18
 EXPIRATION DATE OF THE LICENSE 4/30/2018

Sey Ito Jr.
 2016.05.18
 EXPIRATION DATE OF THE LICENSE 4/30/2018

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

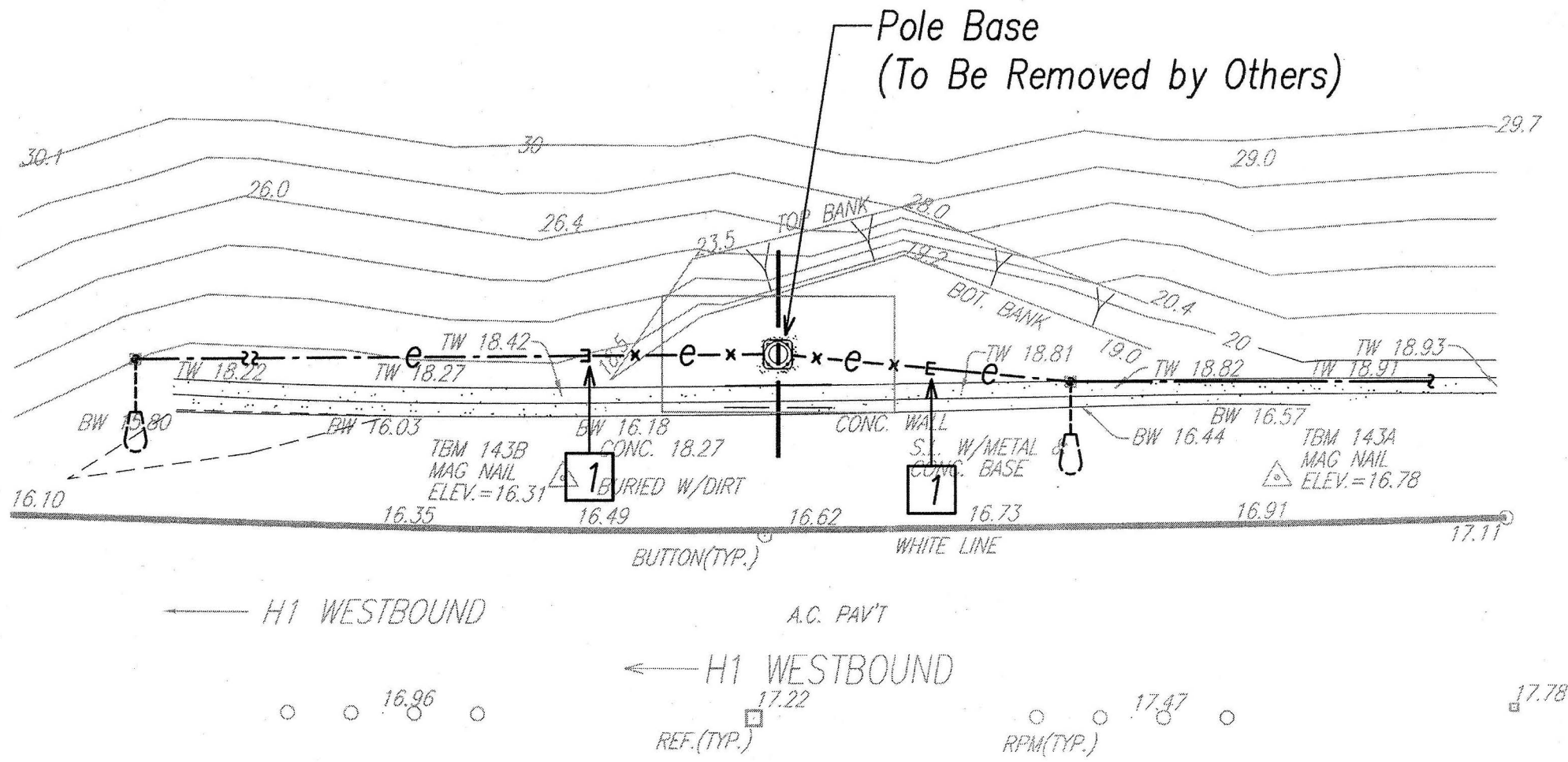
DEMOLITION AND REVISED ELECTRICAL PLANS 7
INTERSTATE ROUTE H-1, H-2 AND H201
DESTINATION SIGN UPGRADE / REPLACEMENT, PHASE 2
Federal Aid Project NO. - NH-IM-0300(142)
Scale: As Shown Date: May 2016

SHEET No. E3.7 OF 191 SHEETS

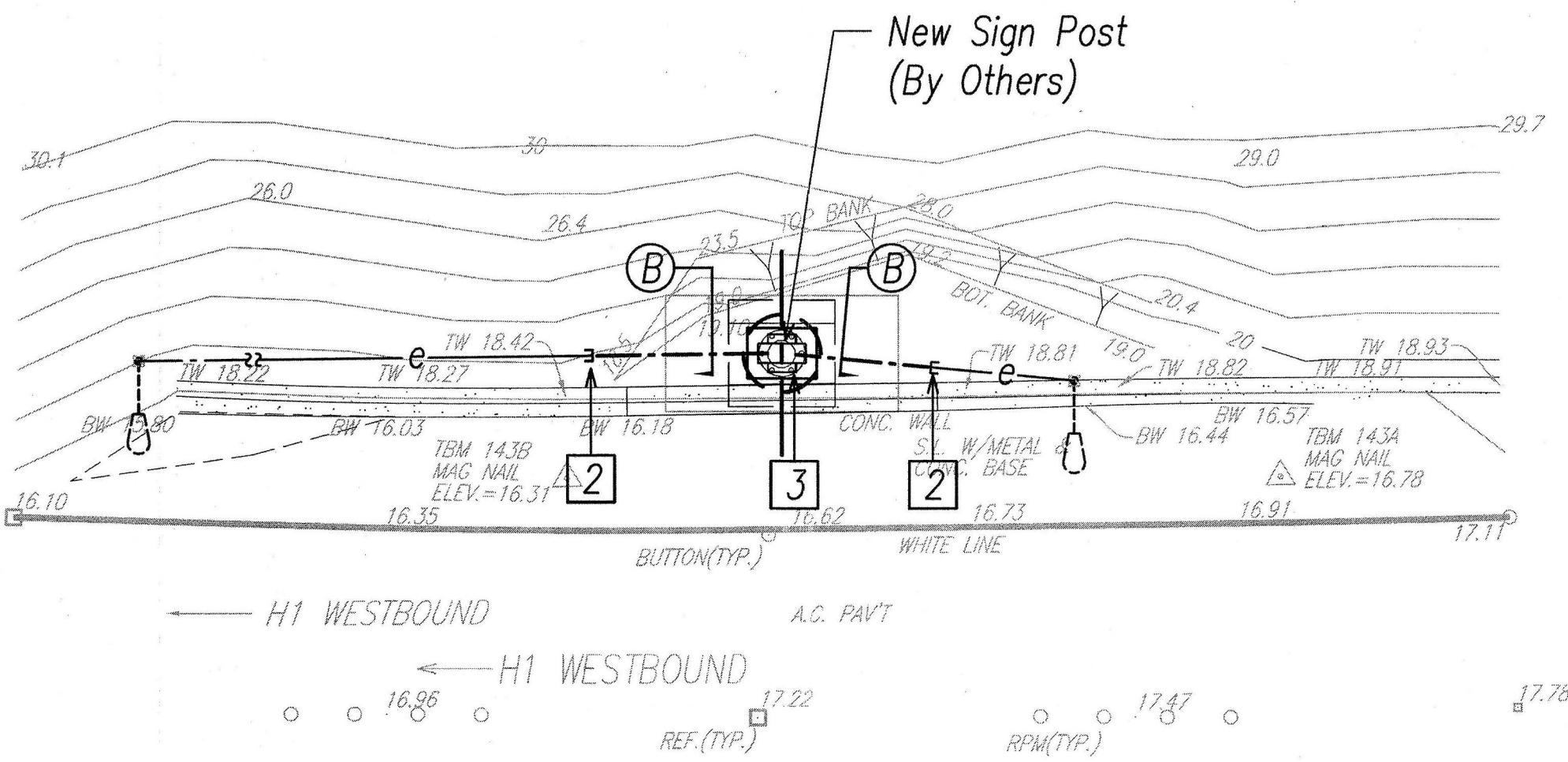
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-IM-0300(142)	2016	96	191

General Sheet Note(s):

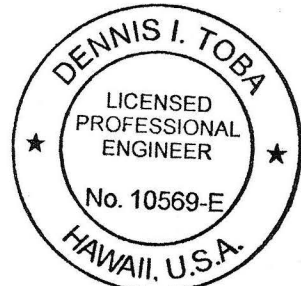
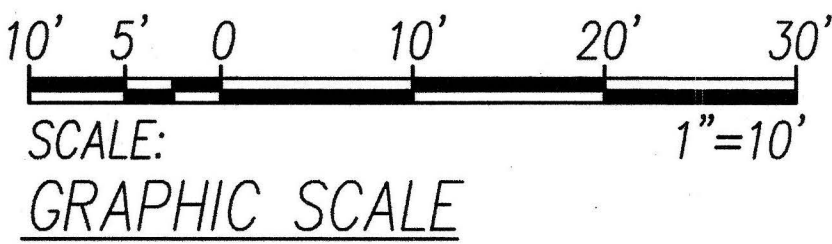
- 1
- Cut Conduit, Pull Back Conductors, Coil, Protect and Stow for Reconnection.
- 2
- Intercept Exist Conduit with New Conduit and Route Conductors to New Sign Post and Splice.
- 3
- Splice Conductors in New Sign Post.



SIGN 78WB-851
DEMOLITION ELECTRICAL PLAN
Scale: 1"=10'



SIGN 78WB-851
REVISED ELECTRICAL PLAN
Scale: 1"=10'



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2016.05.18
EXPIRATION DATE OF THE LICENSE 4/30/2018



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2016.05.18
EXPIRATION DATE OF THE LICENSE 4/30/2018

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DEMOLITION AND REVISED ELECTRICAL
PLANS 8

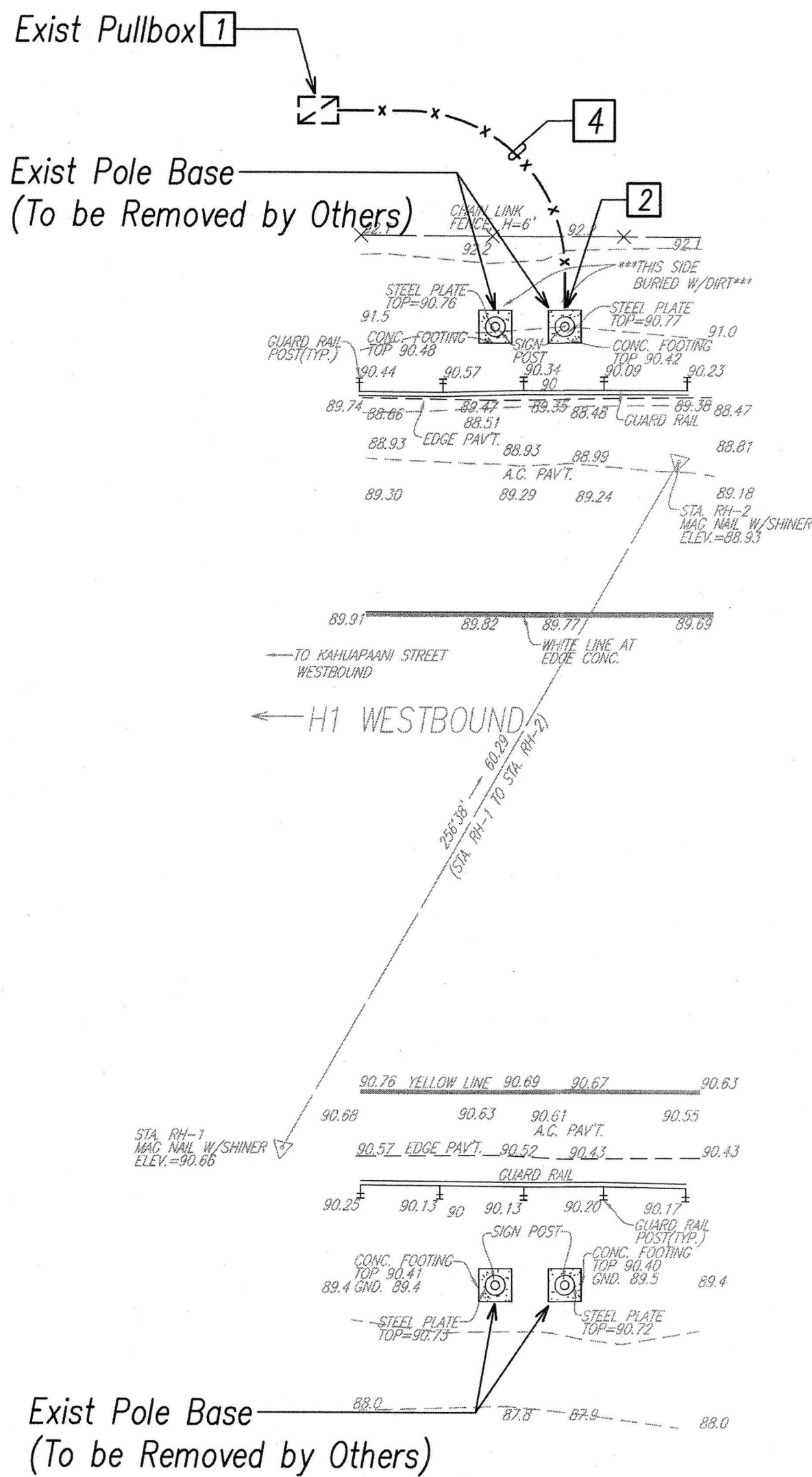
INTERSTATE ROUTE H-1, H-2 AND H201
DESTINATION SIGN UPGRADE / REPLACEMENT, PHASE 2
Federal Aid Project NO. - NH-IM-0300(142)
Scale: As Shown Date: May 2016

SHEET No. E38 OF 191 SHEETS

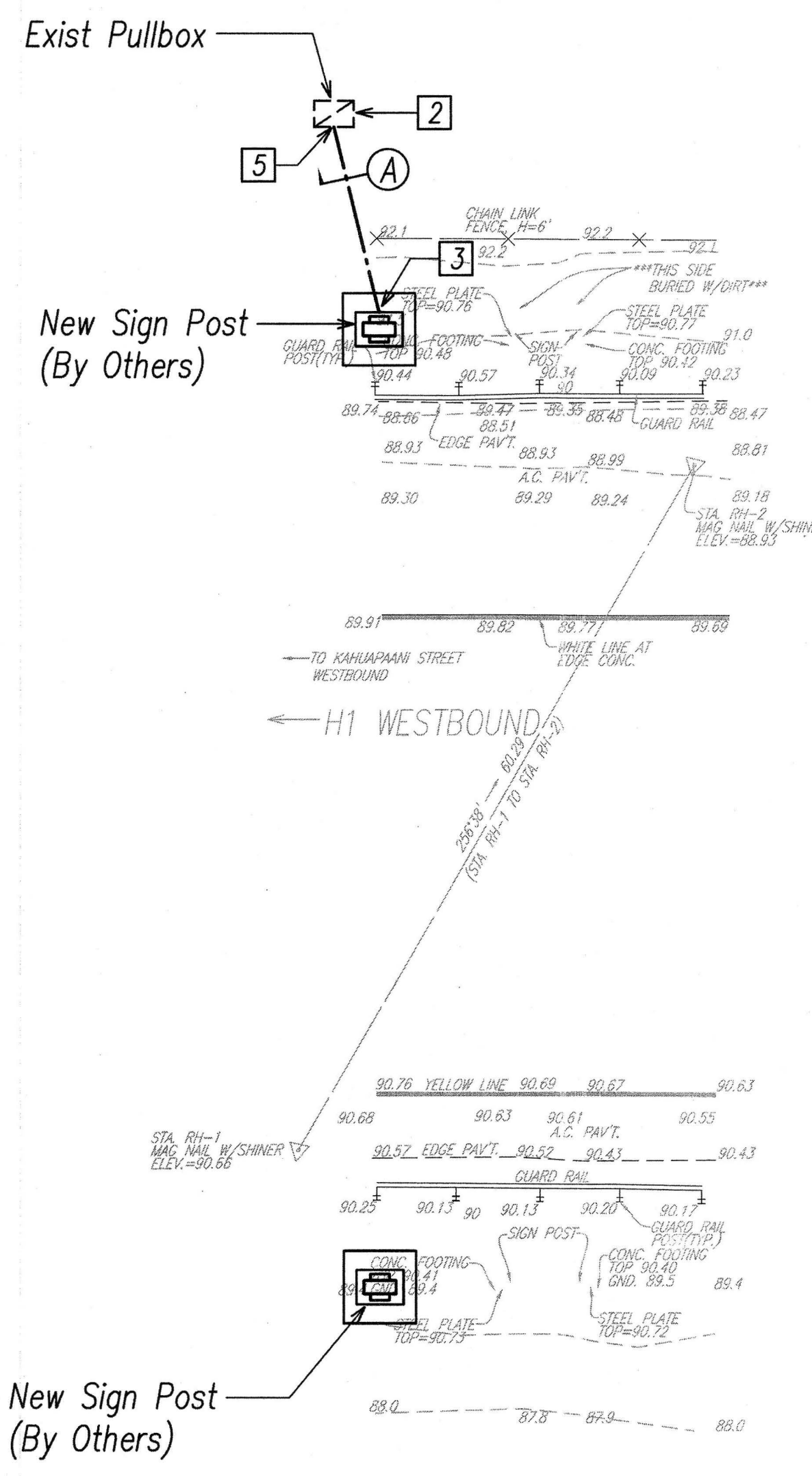
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-IM-0300(142)	2016	98	191

General Sheet Note(s):

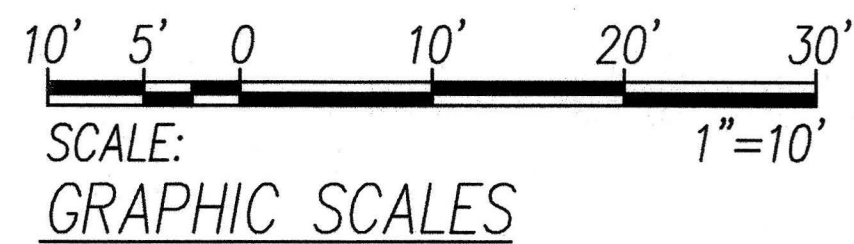
- 1 Pullback And Hot-Cap, Coil and Stow Conductors in Pullbox as Required.
- 2 Patch and Seal Conduit Opening.
- 3 Route Conduit and Pull-Cord within View of Handhole Cover Plate on Sign Post.
- 4 Abandon Conduit in Place.
- 5 Break into Exist Pullbox for Conduit Penetration.



SIGN 78WBR-871
DEMOLITION ELECTRICAL PLAN
Scale: 1"=10'



SIGN 78WBR-871
REVISED ELECTRICAL PLAN
Scale: 1"=10'



PRINCIPAL-IN-CHARGE
Dennis I. Toba
2016.05.18
EXPIRATION DATE OF THE LICENSE 4/30/2018



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Sey Ito Jr.
2016.05.18
EXPIRATION DATE OF THE LICENSE 4/30/2018

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DEMOLITION AND REVISED ELECTRICAL PLANS

INTERSTATE ROUTE H-1, H-2 AND H201
DESTINATION SIGN UPGRADE / REPLACEMENT, PHASE 2
Federal Aid Project NO. - NH-IM-0300(142)
Scale: As Shown Date: May 2016

SHEET No. E3.10 OF 191 SHEETS