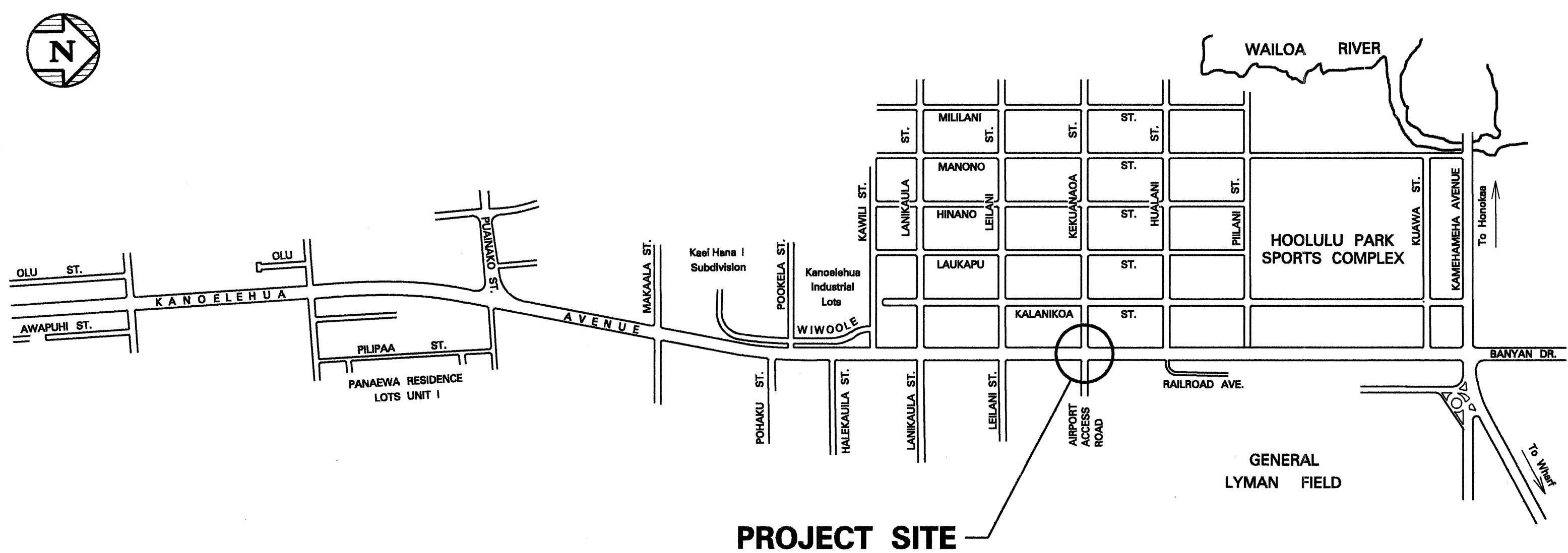


INDEX TO DRAWINGS	
SHEET NO.	DESCRIPTION
108	TITLE SHEET
109	STANDARD PLANS SUMMARY
110	TYPICAL SECTIONS
111	GENERAL NOTES & DETAILS
112	ROADWAY PLAN
113	PAVEMENT MARKING & SIGNING
	LEGEND, DETAILS & NOTES
114	PAVEMENT MARKING & SIGNING
	PLAN
115	SIGN DETAILS
116	SIGN DETAILS & FRAME LAYOUT
117	STREET NAME SIGN & MOUNTING
	DETAILS
118	PAVEMENT MARKING & SIGNING
	SUMMARIES
119	TRAFFIC SIGNAL LEGEND, DETAILS & NOTES
120-121	TRAFFIC SIGNAL PLAN
122	TRAFFIC SIGNAL DETAILS
123	ELECTRICAL SERVICE DETAIL
124	LOOP DETECTORS & DUCT DETAIL

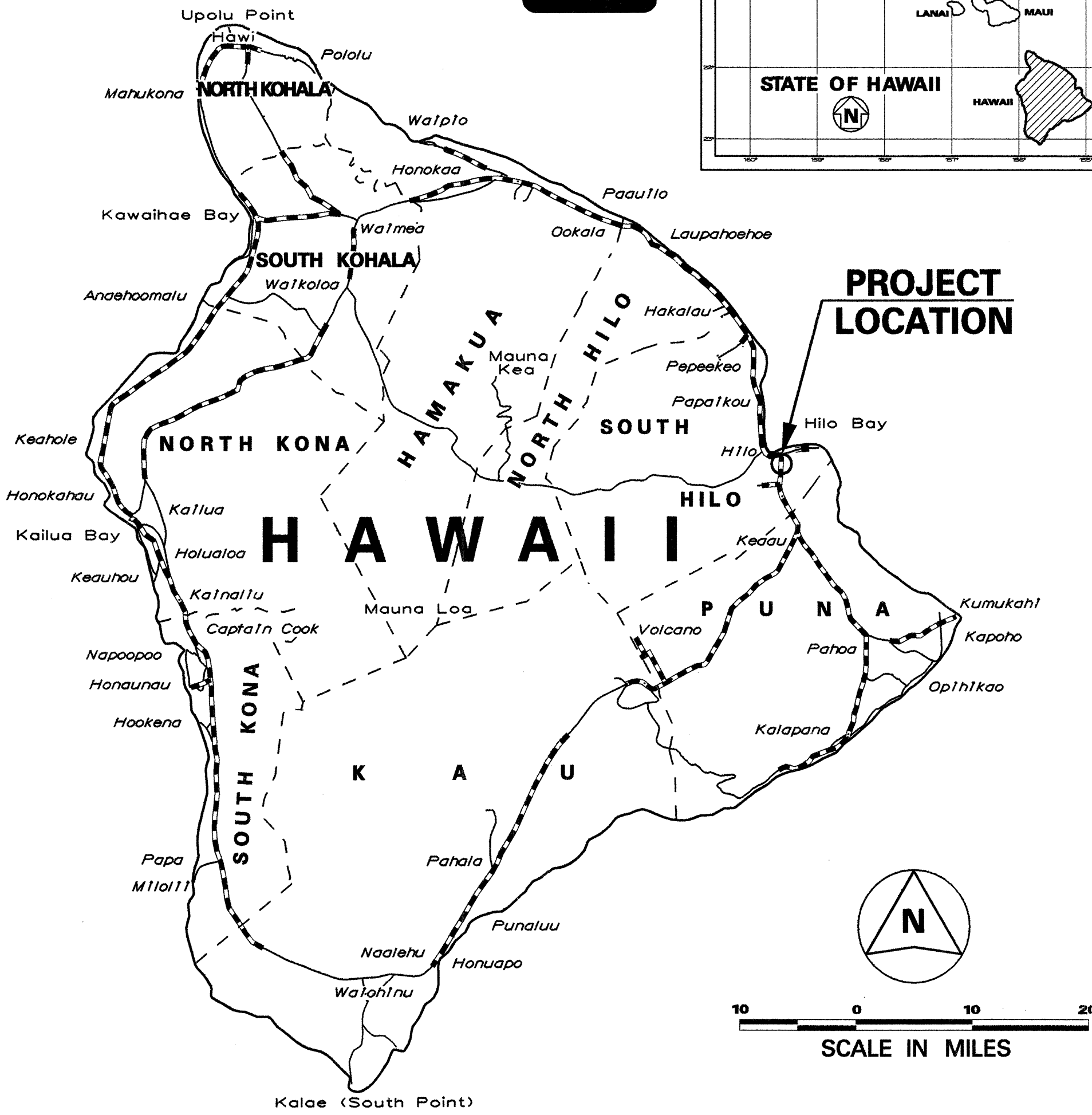
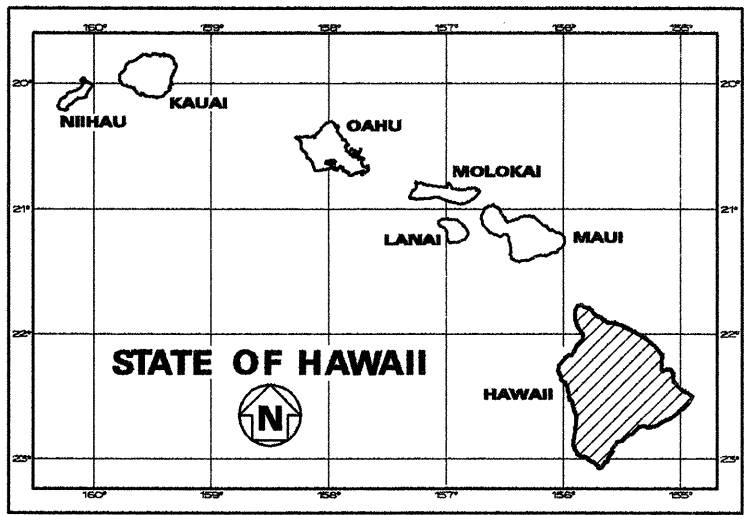
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
HONOLULU, HAWAII
PLANS FOR
**KANOELEHUA AVENUE
INTERSECTION IMPROVEMENTS
AT KEKUANAOA STREET &
AIRPORT ACCESS ROAD**
FEDERAL AID PROJECT NO. HES-STP-011-2(20)

DISTRICT OF SOUTH HILO
ISLAND OF HAWAII



PROJECT LOCATION
SCALE IN THOUSAND FEET

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HES-STP-011-2(20)	1997	108	125



FEDERAL AID PROJECTS PREVIOUSLY CONSTRUCTED OR UNDER CONSTRUCTION

MILE POST 0.70 TO MILE POST 0.77

KAMEHAMEHA AVENUE TO
KEKUANAOA STREET
DESIGN DESIGNATION

ADT (1995)	30,500
ADT (2015)	38,700
DHV	3,300
K _{AM} /K _{PM}	7.5/8.5
D _{AM} /D _{PM}	55/45/60/40
T _{AM} /T _{PM}	6.5/4.5
T ₂₄	5.0
V	35 M.P.H.

KEKUANAOA STREET TO
PUAINAKO STREET
DESIGN DESIGNATION

ADT (1995)	33,900
ADT (2015)	43,100
DHV	3,700
K _{AM} /K _{PM}	7.5/8.5
D _{AM} /D _{PM}	60/40/60/40
T _{AM} /T _{PM}	6.5/4.5
T ₂₄	5.0
V	35 M.P.H.

DEPARTMENT OF TRANSPORTATION STATE OF HAWAII	
APPROVED: <i>[Signature]</i> DIR. OF TRANSPORTATION	DATE 1/27/97

STANDARD PLANS SUMMARY

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HES-STP-011-2(20)	1997	109	125

STANDARD PLAN NO.	TITLE	DATE
B-01	Notes and Miscellaneous Details	07/01/86
B-02		
B-03	Typical Structure Excavation and Backfill Pay Limits	07/01/86
B-04		
B-05		
B-06	Concrete Box Girder	07/01/86
B-07	Concrete Box Girder	07/01/86
B-08	Concrete Box Girder	07/01/86
B-09		
B-10		
B-11		
B-12	Prestressed Concrete Piles	r07/16/90
B-13	Prestressed Concrete Piles	r07/16/90

D-01	Chain Link Fence With Toprail	r03/06/87
D-02	Chain Link Fence Without Toprail	r07/26/90
D-03	Wire Fence With Metal Posts	07/01/86
D-04	Typical Details of Curbs and/or Gutters	07/01/86
D-05	Typical Details of Reinforced Concrete Drop Driveway	07/01/86
D-06	Centerline and Reference Survey Monument	07/01/86
D-07	Street Survey Monument	07/01/86
D-08	Landscaping Shrub and Tree Planting	07/01/86
D-09	Field Office	07/01/86
D-10	Field Office	07/01/86
D-11	Project Site Laboratory	07/01/86
D-12	Project Site Laboratory	07/01/86
D-13	Field Office & Project Site Laboratory	07/01/86

H-01	Type A, B, C and D Catch Basin	07/01/86
H-02	Type A1, B1, C1 and D1 Catch Basin	07/01/86
H-03	Type A2, B2, C2 and D2 Catch Basin	07/01/86
H-04	Typical Reinforcing Details for Catch Basins	07/01/86
H-05	Type A, B and C Storm Drain Manhole	07/01/86
H-06	Type D and E Storm Drain Manhole	07/01/86
H-07	Type F Storm Drain Manhole	07/01/86
H-08	Catch Basin and Manhole Casting	07/01/86
H-09	Type A-9 and A-9P Frames and Grates	07/01/86
H-10	Type A-9B Frames and Grates	07/01/86
H-11	Type 61614 and 61214 Grated Drop Inlet	07/01/86
H-12	Type 61616 Grated Drop Inlet	07/01/86
H-13	61214, 61614 & 61616 Steel Frames and Grates	07/01/86
H-14	61214B Steel Frame and Grates	07/01/86
H-15	61614B Steel Frame and Grates	07/01/86
H-16	Concrete and Cement Rubble Masonry Structures	r10/16/90
H-17	Inlet Structures	r10/16/90
H-18	Flared End Section for Culverts	07/01/86
H-19	Outlet Structures	r02/15/91
H-20	Concrete Spillway Inlet	07/01/86
H-21	18" Slotted C.M.P. Drain	07/01/86
H-22	C.M.P. Coupling Details Standard Joint	r10/16/90
H-23	Hat Shaped Coupling Band	r10/16/90

STANDARD PLAN NO.	TITLE	DATE
TE-01	Miscellaneous Sign Details	07/01/86
TE-02	Galvanized Flanged Channel Sign Post Mounting	07/01/86
TE-03	Galvanized Square Tube Sign Post Mounting	07/01/86
TE-04	Regulatory Signs	r09/01/87
TE-05	Warning Signs	07/01/86
TE-06	Miscellaneous Signs	r11/03/89
TE-07	Reserved	07/01/86
TE-08	Construction Signs	r09/01/87
TE-09	Miscellaneous Intersection Signs	r03/06/87
TE-10	Reserved	07/01/86
TE-11	Bike Route Sign and Supplementary Plates	07/01/86
TE-12	State Route Marker and Auxiliary Markers	07/01/86
TE-13	Interstate Route Marker	07/01/86
TE-14	State Route Marker and Border Detail for Guide Signs	07/01/86
TE-15	Route Marker Assemblies	07/01/86
TE-16	Miscellaneous Reflector Markers	07/01/86
TE-17	Type II Object Markers	07/01/86
TE-18	Mileposts	07/01/86
TE-19	Reserved	07/01/86
TE-20	Overhead Sign Supports	07/01/86
TE-21	Overhead Sign Support, Box Truss Type, Aluminum	07/01/86
TE-22	Foundation Details and Schedules	07/01/86
TE-23	Supports for Ground Mounted Guide Sign	r11/03/89
TE-24	Breakaway Sign Supports for Ground Mounted Guide Signs	07/01/86
TE-25	Laminated Aluminum Sign Panels (Overhead)	07/01/86
TE-26	Laminated Aluminum Sign Panels (Ground Mounted)	07/01/86
TE-27	Solid Aluminum Extruded Sign Panel and Accessory Details	07/01/86
TE-28	Guide Signs Luminaire Mountings	07/01/86
TE-29	Reserved	07/01/86
TE-30	Raised Pavement Markers and Striping	r05/09/90
TE-31	Miscellaneous Pavement Markings	r05/09/90
TE-32	Miscellaneous Pavement Markings	r05/09/90
TE-33	Miscellaneous Pavement Markings	r11/03/89
TE-34	Reserved	07/01/86
TE-35	Pavement Alphabets, Numbers & Symbols	07/01/86
TE-36	Pavement Alphabets, Numbers & Symbols	07/01/86
TE-37	Reserved	07/01/86
TE-38	Traffic Signal System, Miscellaneous Details	r11/03/89
TE-39	Traffic Signal System, Miscellaneous Details	07/01/86
TE-40	Loop Detectors	r11/03/89
TE-41	Pullboxes	07/01/86
TE-42	Type III Traffic Signal Standard	07/01/86
TE-43	Concrete Pullbox (2' x 3')	07/01/86
TE-44	Reserved	07/01/86

STANDARD PLAN NO.	TITLE	DATE
TE-45	Reserved	07/01/86
TE-46	Reserved	07/01/86
TE-47	Reserved	07/01/86
TE-48	Reserved	07/01/86
TE-49	Reserved	07/01/86
TE-50	Metal Guardrail	r03/06/87
TE-51	Metal Guardrail	r09/01/87
TE-52	Metal Guardrail with Rubrail	r11/03/89
TE-53	Metal Guardrail with Rubrail at Obstruction	r09/01/87
TE-54	Beam Type Guardrail with Rubrail at Obstruction (Shoulder Installation)	r11/03/89
TE-55	Metal Guardrail Connection to Concrete Barrier	r11/03/89
TE-56	Concrete Barrier Transition	07/01/86
TE-57	Guardrail Type 3, Thrie Beam	r11/03/89
TE-57A	Guardrail Type 3, Modified Thrie Beam	11/03/89
TE-58	Approach End Flare, One & Two Way Roadway	07/01/86
TE-59	Trailing End Flare, One & Two Way Roadway	r11/03/89
TE-60	Anchor Block Details	07/01/86
TE-61	Breakaway Cable Terminal (BCT)	r11/03/89
TE-62	Breakaway Cable Terminal (BCT)	r09/01/87
TE-63	Guardrail Type 4 (Rigid Barrier)	r09/01/87
TE-64	Portable Concrete Barrier	r11/03/89
TE-65	Guardrail Type 4, Miscellaneous	r09/01/87
TE-66	Barricades	07/01/86
TE-67	Delineation & Pavement Markings at Bridges	07/01/86
TE-68	Wheelchair Ramps	r11/03/89
TE-69	Wheelchair Ramps	r11/03/89

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	12/09/96
002/george	DESIGNED BY	
00105/pls/dgn	QUANTITIES BY	
	CHECKED BY	

02/15/91	REVISED STANDARD PLAN H-19
10/16/90	REVISED STANDARD PLANS H-16, H-17, H-22 & H-23.
07/26/90	REVISED STANDARD PLANS D-02.
07/16/90	REVISED STANDARD PLANS B-12, B-13,
05/09/90	REVISED STANDARD PLANS TE-30, TE-31, & TE-32.
11/03/89	REVISED STANDARD PLANS TE-06, TE-23, TE-30, TE-31, TE-32, TE-33, TE-38, TE-40, TE-52, TE-54, TE-55, TE-57, TE-59, TE-61, TE-64, TE-68 & TE-69.
	ADDED TE-57A TO STANDARD PLANS
09/01/87	REVISED STANDARD PLANS TE-04, TE-06, TE-08, TE-32, TE-51, TE-53, TE-54, TE-55, TE-57, TE-59, TE-62, TE-63, TE-65 & TE-69.
03/06/87	REVISED STANDARD PLANS D-01, TE-09, TE-40, TE-50, TE-51, TE-57, TE-59, TE-61, TE-63 & TE-64.
DATE	REVISION

NOTE:
STANDARD PLANS APPLICABLE TO THIS PROJECT ARE INDICATED BY A " ● " NEXT TO THE STANDARD PLAN NO. (D-07 ●)

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

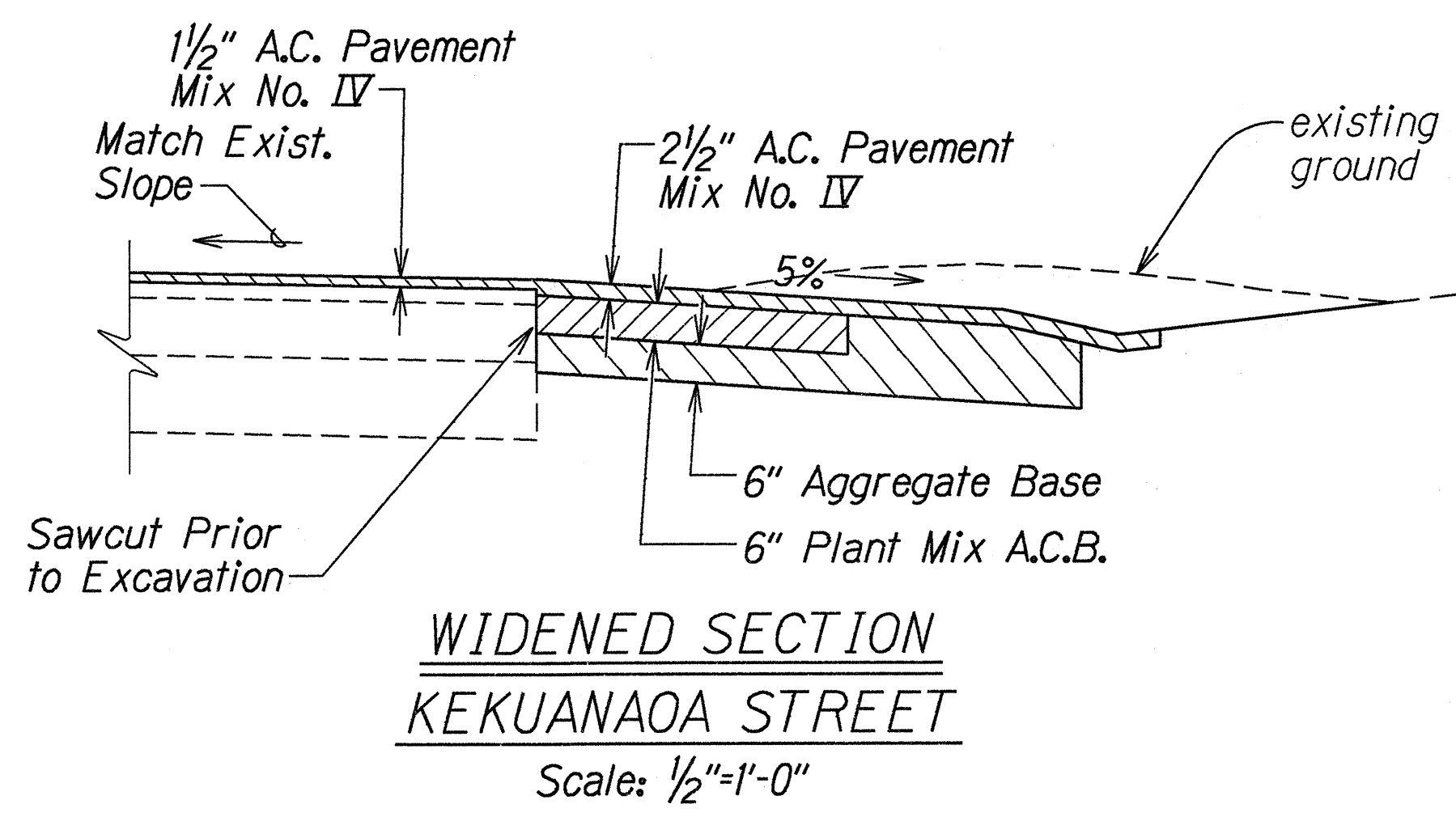
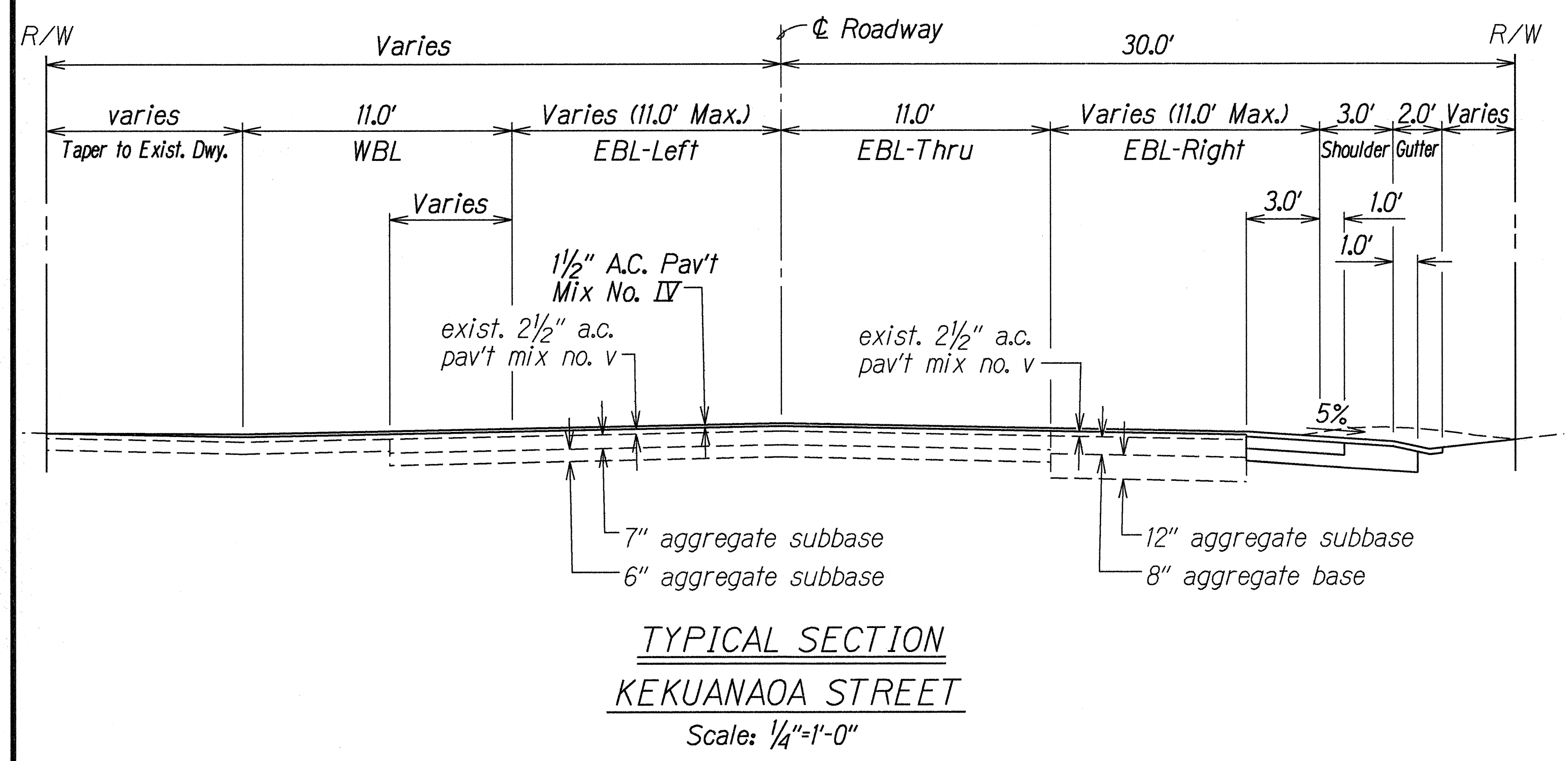
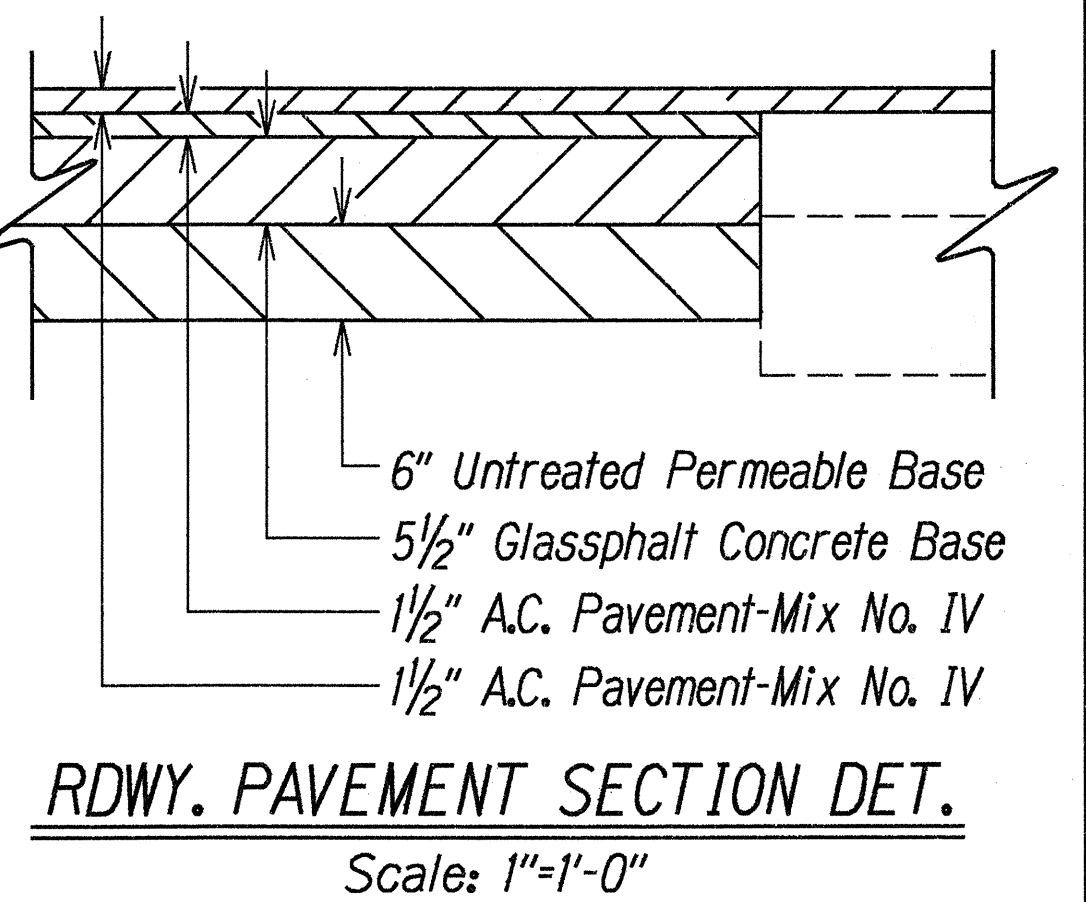
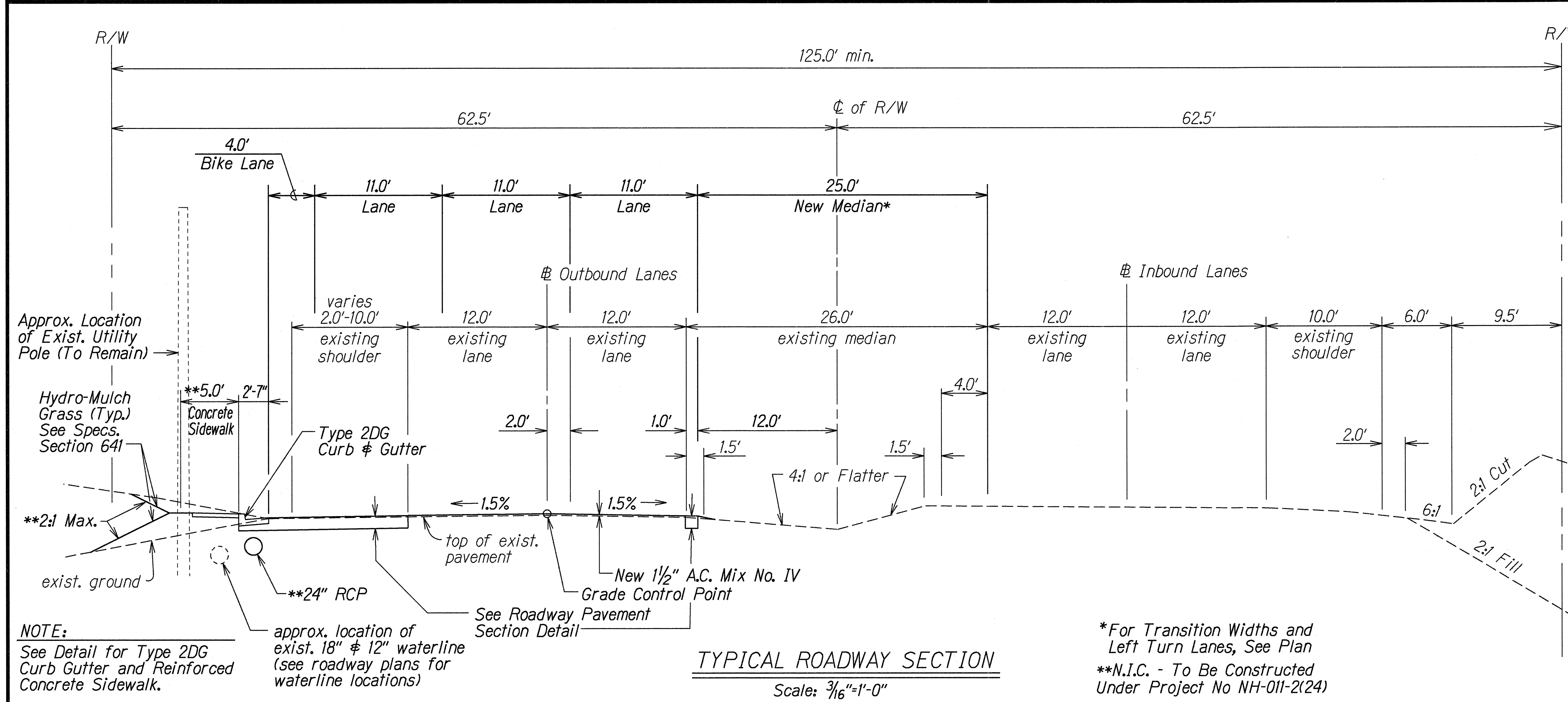
STANDARD PLANS SUMMARY

KANOELEHUA AVENUE
Intersection Improvements at
Kekuanaoa Street and Airport Access Road
Federal Aid Project No. HES-STP-011-2(20)

Date: March, 1997

SHEET No. 1 OF 1 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HES-STP-011-2(20)	1997	ADD.110	125

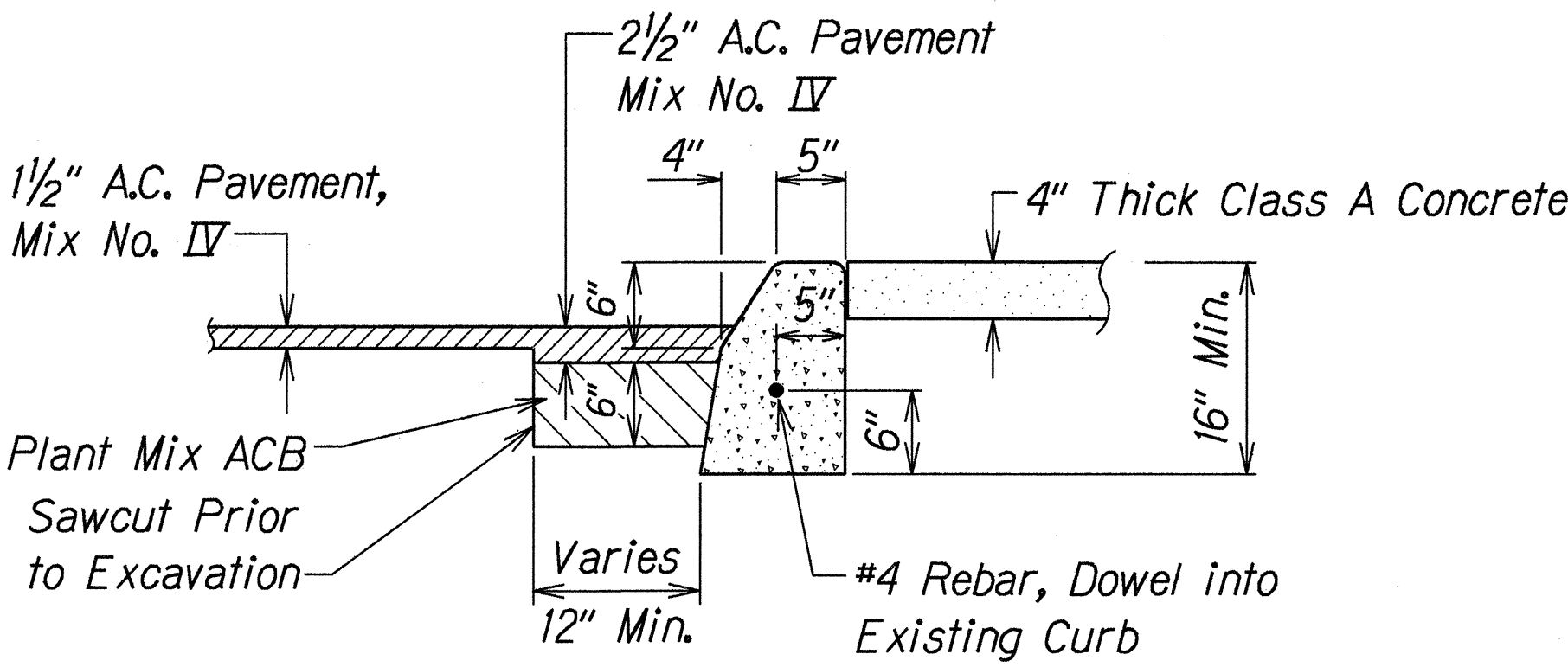


5/23/97	Added Hydro-Mulch Note and Revise Rdwy. Pavement Section Det. Per Addendum No. 3
DATE	REVISION
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION TYPICAL SECTIONS KANOELEHUA AVENUE Intersection Improvements at Kekuanaoa St. and Airport Access Rd. Fed. Aid Proj. No. HES-STP-011-2(20) Scale: As Shown Date: March, 1997 SHEET No. 1 OF 1 SHEETS	

ORIGINAL PLAN	DATE
SURVEY PLOTTED BY	1/5/98
DRAWN BY	
DESIGNED BY	
CHECKED BY	
NOTED BY	
APPROVED BY	

GENERAL NOTES

- Improvements consist of modifying the existing traffic signal system, resurfacing the existing pavement, widening Kekuanaoa Street, adjusting manhole frames and covers, reconstructing a median curb, adjusting centerline and reference survey monuments, installing regulatory signs, pavement markers, reflector markers, striping & markings and relocating signs.
- Existing Preformed Pavement Marking Tape shall be removed prior to resurfacing. Removal shall be by scraping or other method approved by the Engineer. Payment shall be incidental to Item No. 401.0400-Asphalt Concrete Pavement, Mix No. IV.
- Prime coat shall be incidental to Item No. 401.0400-Asphalt Concrete Pavement, Mix No. IV.
- Existing pavement surface variable. Surface indicated on Typical sections is not intended to represent any specific location.
- Smooth and easy riding connections shall be constructed at the beginning and ending of project and at the ending of daily work.
- All lanes shall be opened to traffic during morning peak hours from 6:00 a.m. to 8:00 a.m. and during afternoon peak hours from 3:30 p.m. to 5:30 p.m. and during off-work hours or as directed by the Engineer. Only one lane of the highway shall be closed during work hours.
- All construction signs shall be reflectorized with high intensity reflective sheeting.
- Project limits are from Sta. 68+50 to Sta. 72+00. Work shown which is outside these limits and/or beyond the scope of work (installing sidewalk, curb and gutter, drainage facilities, etc.) will be done under Project No. NH-011-2(24).



RECONSTRUCTED MEDIAN ISLAND DETAIL

Scale: 1"=1'-0"

NOTES

- Work consists of demolishing the existing concrete median island nosing, excavating for the new pavement structure and concrete curb, constructing the new pavement structure and type 2A concrete curb and pouring the 4" thick concrete slab.
- The lump sum contract price paid shall be full compensation for all equipment, tools, labor and incidentals required to complete this work, including sawcutting, rebars, epoxy, etc. This work shall not be paid for separately, but shall be considered incidental to Item No. 401.0400 - Asphalt Concrete Pavement Mix No. IV.

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HES-STP-011-2(20)	1997	111	125

SURVEY PLOTTED BY	DATE
DRAWN BY	12/0/97
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
002/00/98	
002/00/98	

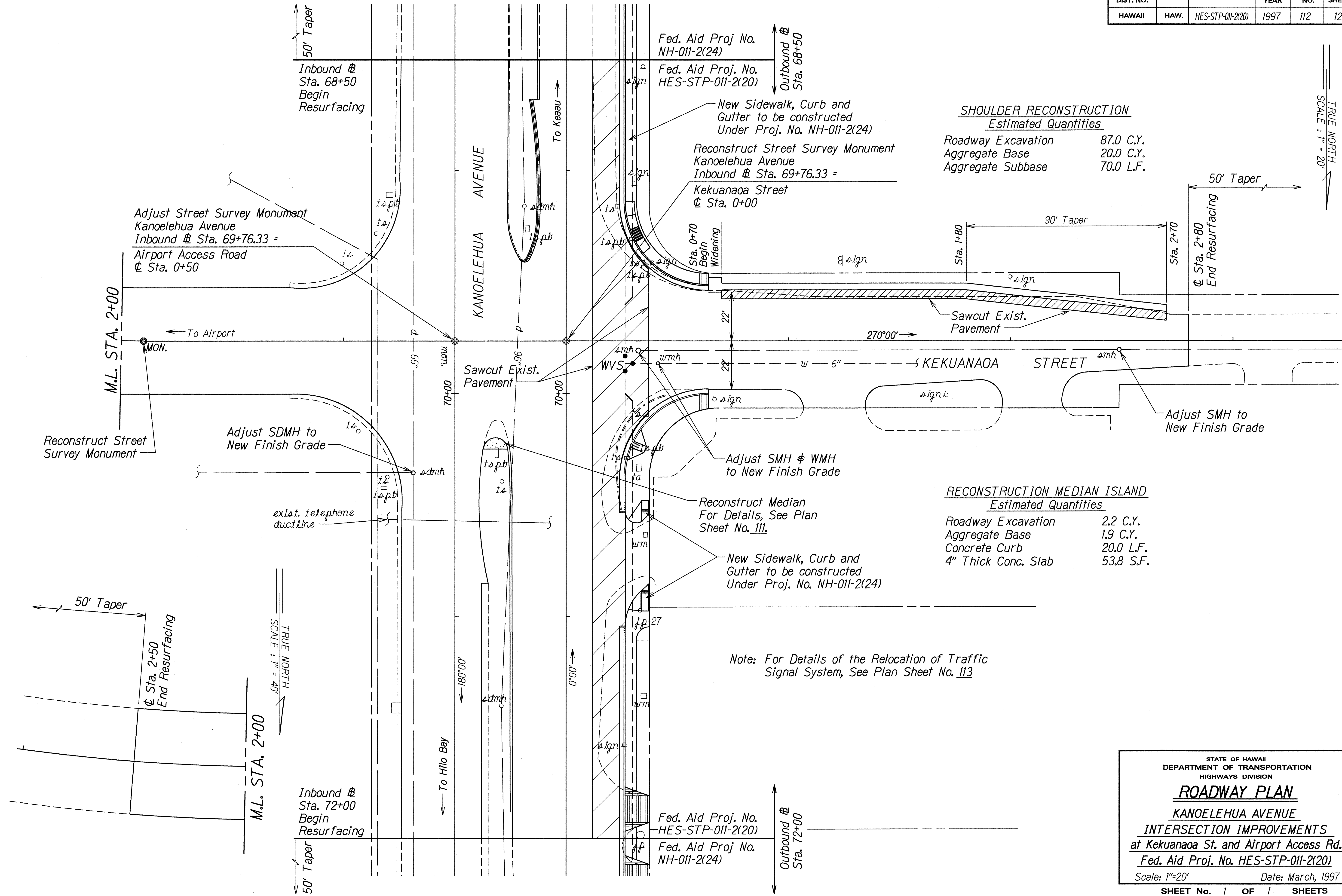
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GEN. NOTES & DETAILS
KANOELEHUA AVENUE
Intersection Improvements at
Kekuanaoa St. and Airport Access Rd.
Fed. Aid Proj. No. HES-STP-011-2(20)

Scale: As Shown Date: March, 1997

SHEET No. 1 OF 1 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HES-STP-011-2(20)	1997	112	125



ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	12/02/97
QUANTITIES BY	DESIGNED BY	
CHECKED BY	NOTED BY	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY PLAN

KANOELEHUA AVENUE

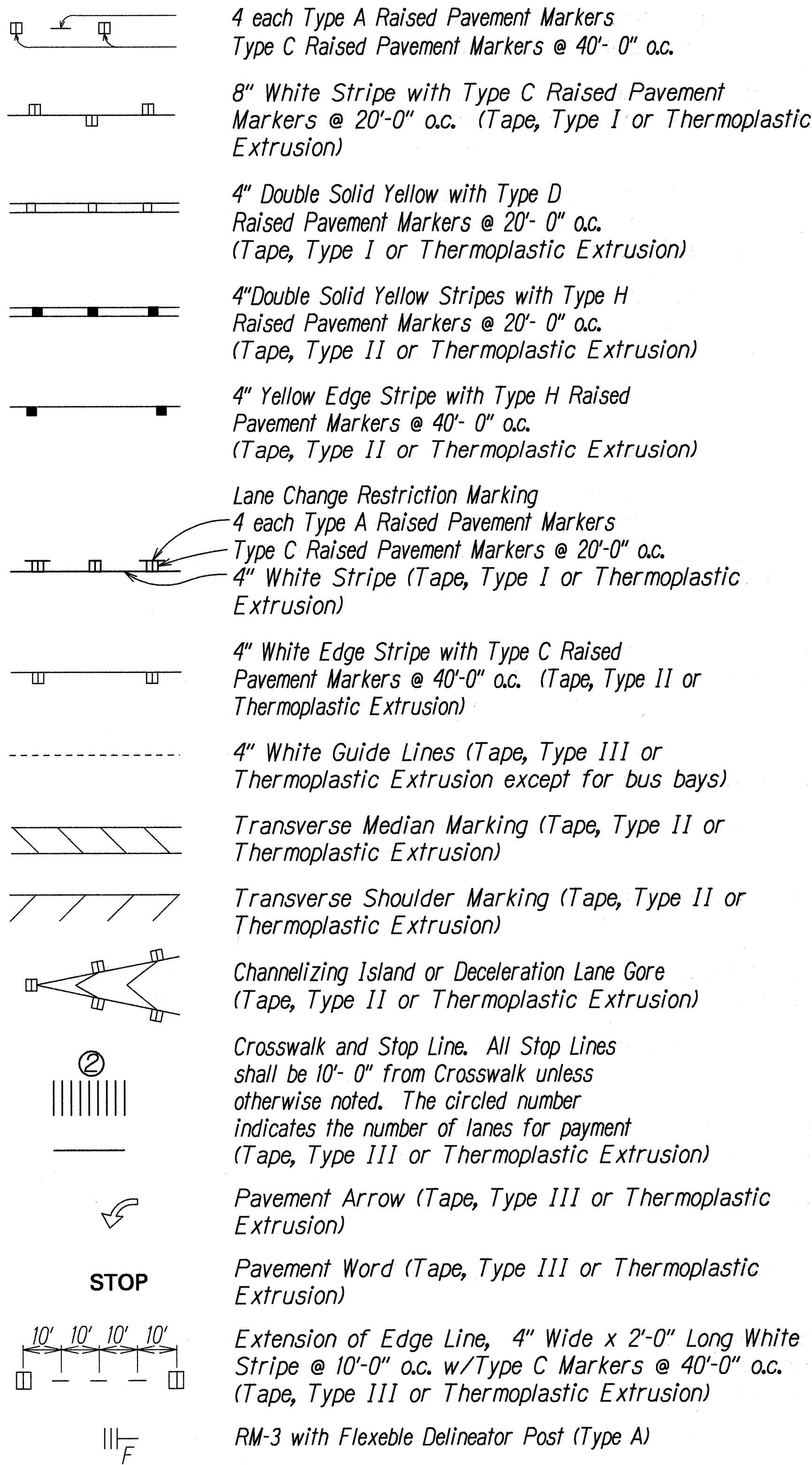
INTERSECTION IMPROVEMENTS
at Kekuanaoa St. and Airport Access Rd.
Fed. Aid Proj. No. HES-STP-011-2(20)

Scale: 1"=20' Date: March, 1997

SHEET No. 1 OF 1 SHEETS

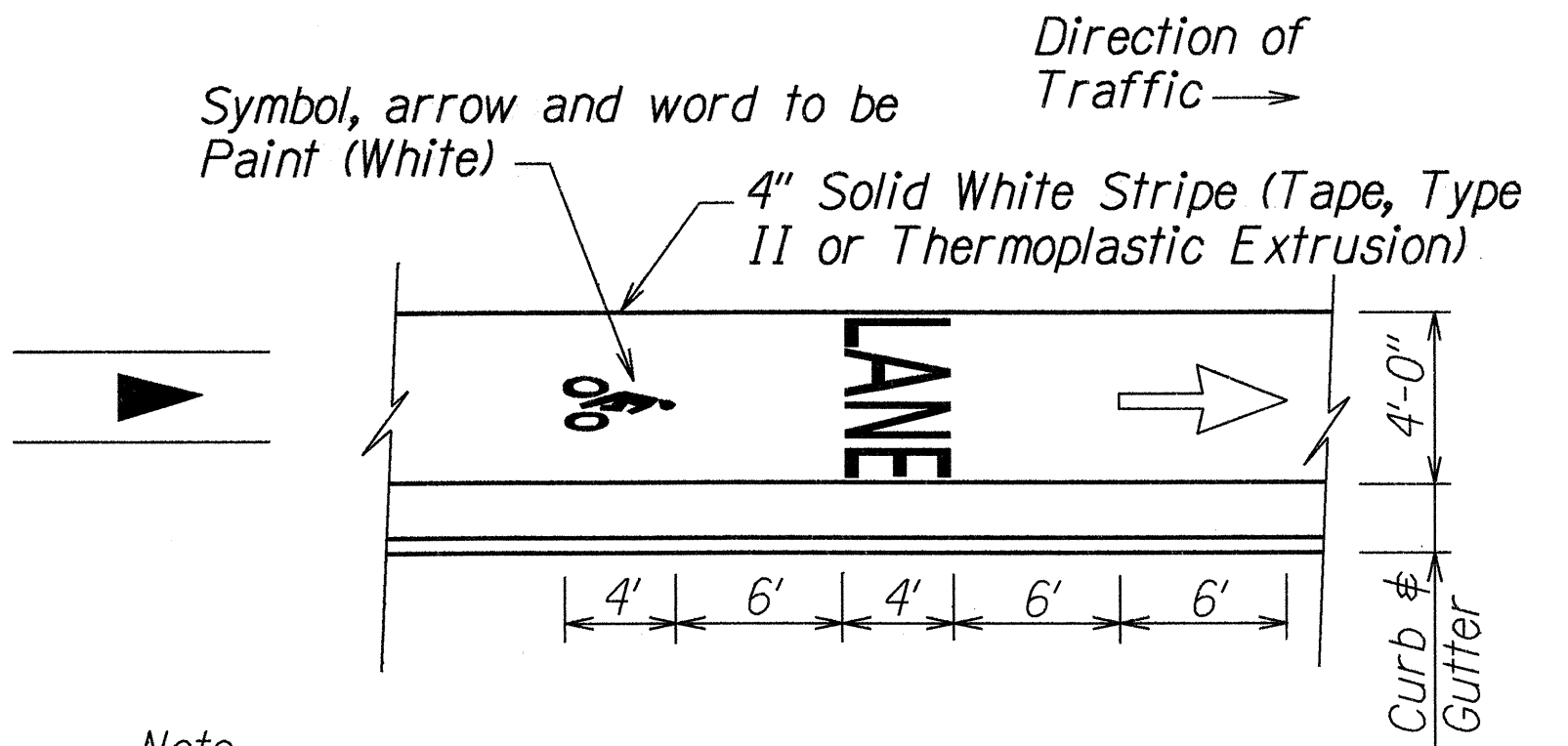
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HES-STP-011-2(20)	1997	113	125

PAVEMENT MARKING & REFLECTOR MARKER LEGEND



SIGNING & PAVEMENT MARKING NOTES

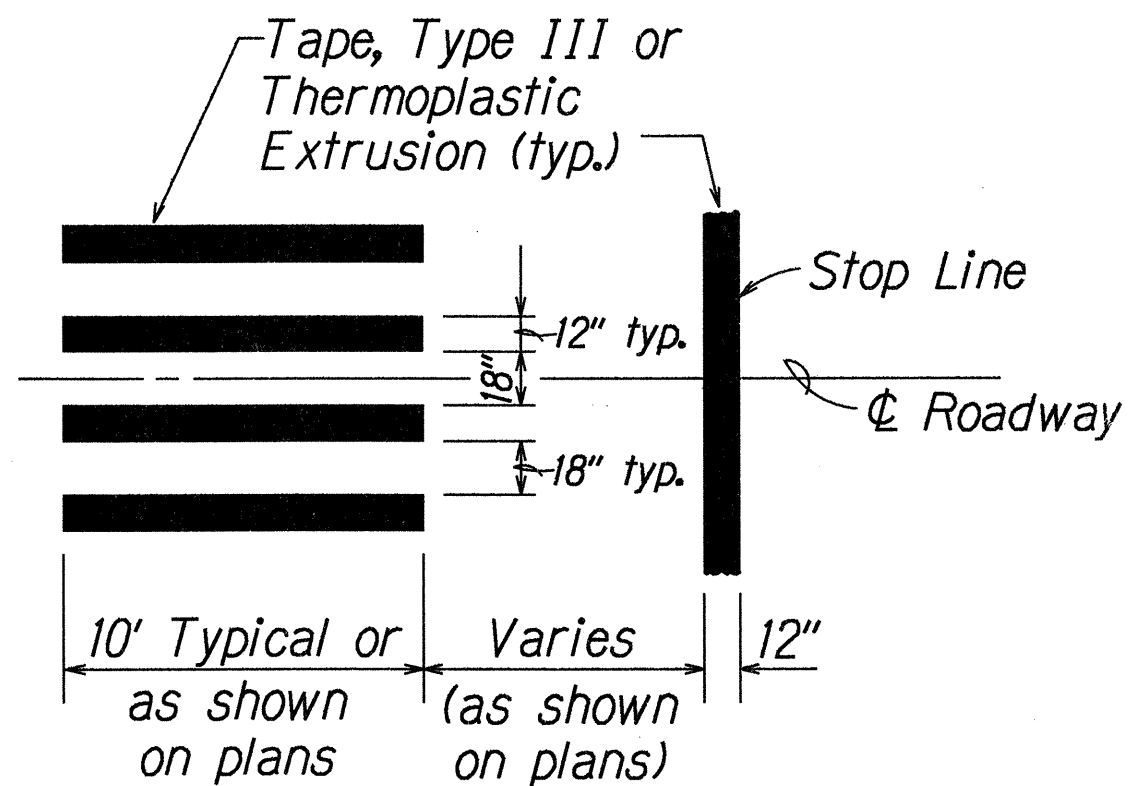
1. Layout of pavement markings and striping shall be done by the Contractor and approved by the Engineer prior to any installation work.
2. Existing pavement markings not incorporated in the final traffic pattern shall be removed as directed by the Engineer. Costs shall be incidental to the various pavement marking items.
3. Raised pavement markers shall not be installed within crosswalks.
4. Final locations of all signs shall be approved by the Engineer prior to any installation work.
5. Existing signs not shown on these plans shall remain as posted unless otherwise directed by the Engineer. Removal and disposal of existing signs and/or posts as designated on these plans shall be incidental to the various signing items. Signs removed to facilitate construction work shall be reset as soon as possible, but no later than the end of the work day.
6. Final locations of all stop lines and crosswalks shall be approved by the Engineer prior to installation.
7. All pavement striping shall be Paint or Thermoplastic Extrusion as noted on the legend or plans.
8. Preparation of existing surfaces to receive new pavement striping and markings shall be per the manufacturers recommendations.
9. The Contractor shall erect at the beginning of the project and at the end of the project advance construction warning signs as indicated on the plans or as directed by the Engineer for the duration of the highway project and shall be maintained by the Contractor. These signs shall be placed in addition to the required traffic control signs called for in Section 645 - Traffic Control. The advance construction warning signs shall be new and become the property of the State. The Contractor shall remove, clean, and deliver the signs and posts to the Hilo District Baseyard or as directed by the Engineer at the end of the project.
10. The Contractor shall paint all sign posts with an engineer's approval yellow reflective paint. Cost shall be incidental to the various signing items.



Note:
The pavement bike lane symbol, word, and arrow markings shall be considered as one unit and shall be paid as one complete unit, per each, complete in place.

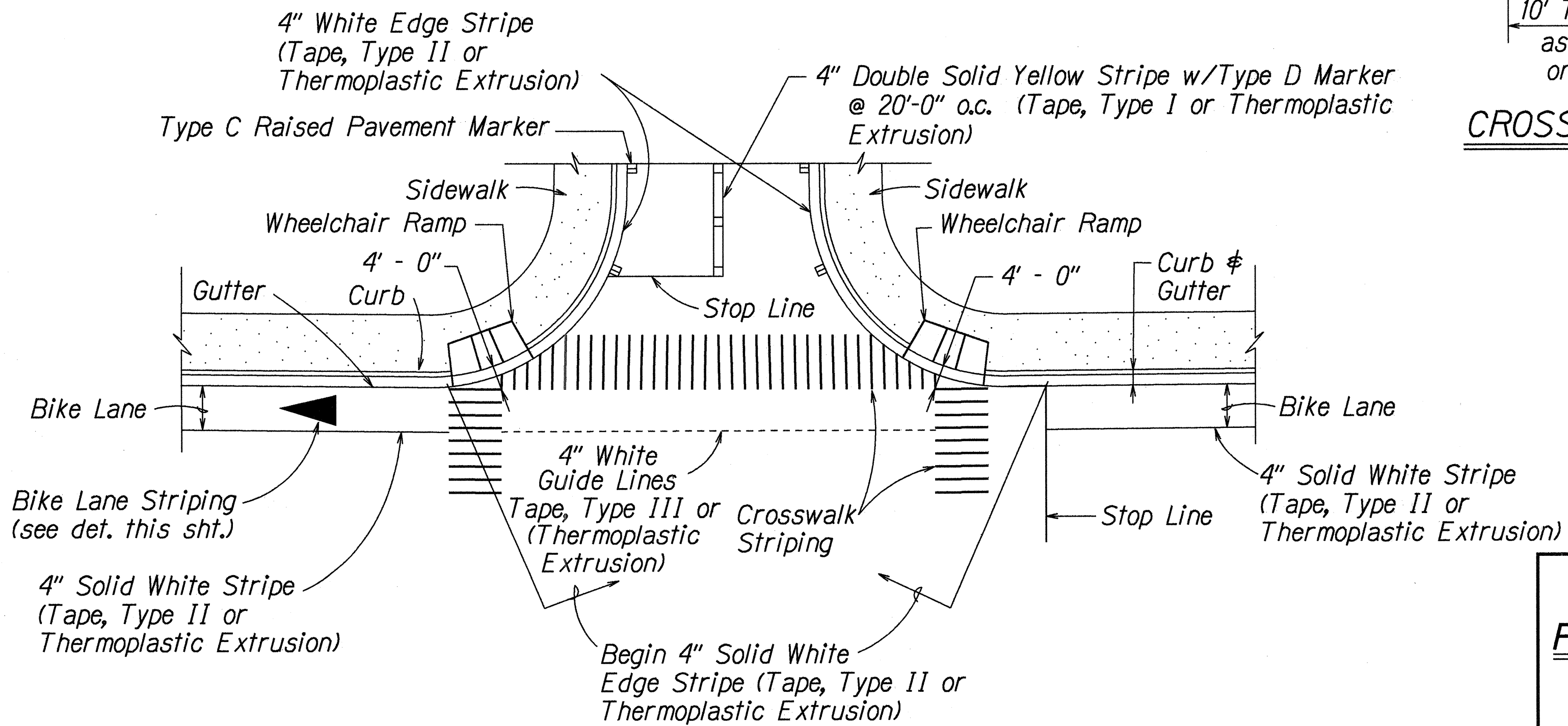
BIKE LANE STRIPING DETAIL

Not to Scale



CROSSWALK STRIPING DETAIL

Not to Scale

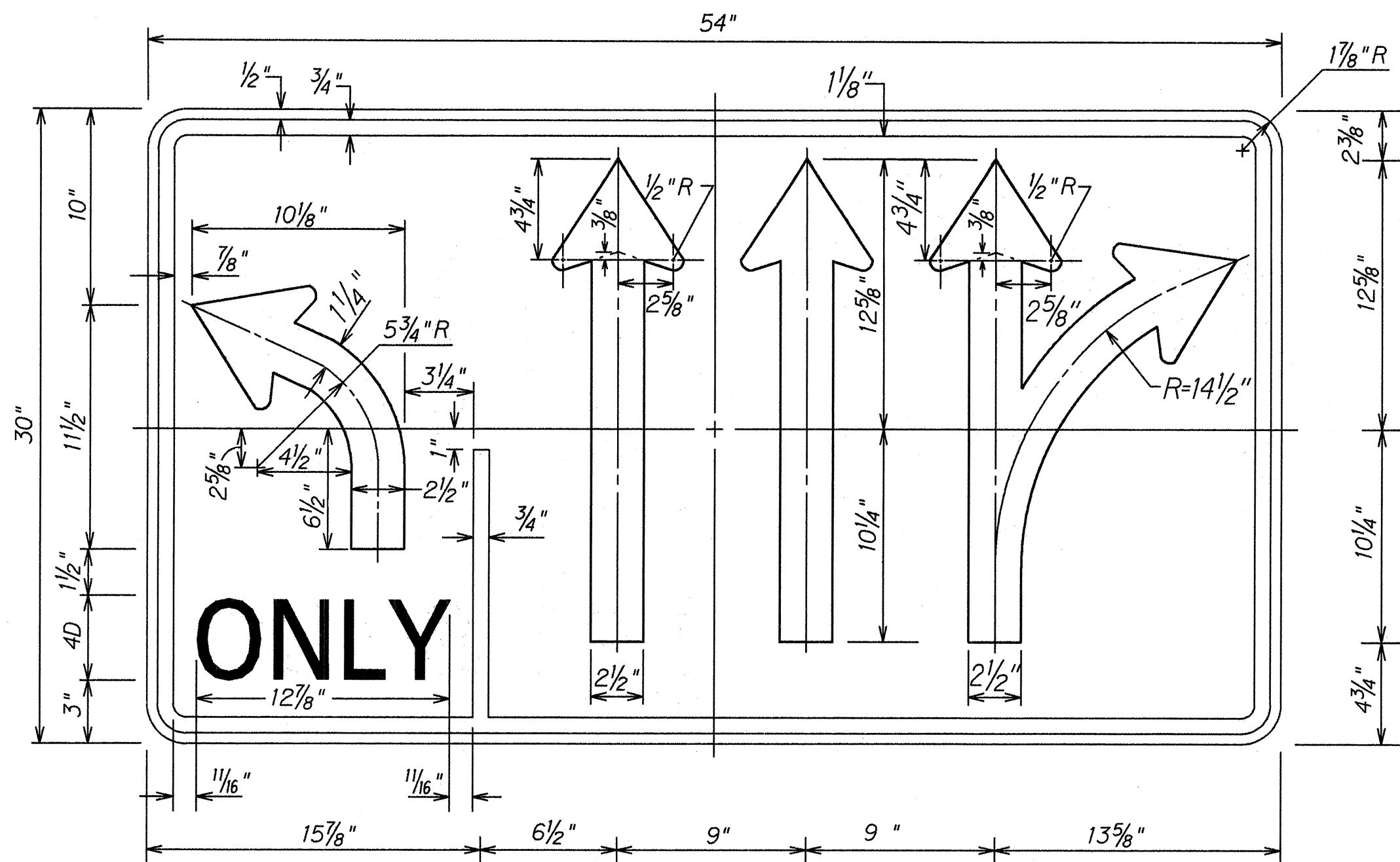


TYPICAL INTERSECTION STRIPING WITH CROSSWALK, WHEELCHAIR RAMP, & BIKE LANE

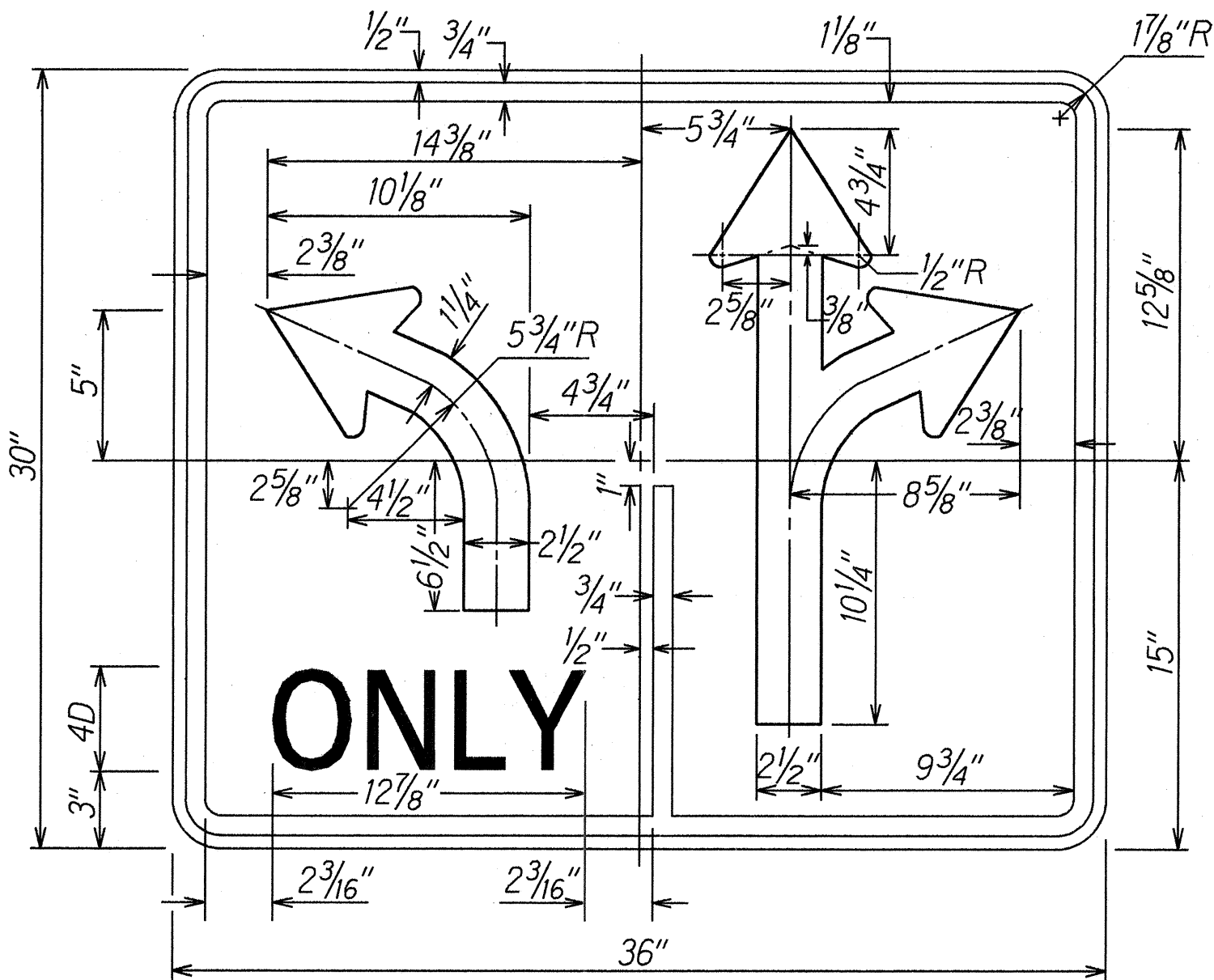
Not to Scale

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
PAVEMENT MARKING & SIGNING
LEGEND, DETAILS & NOTES
KAOELEHUA AVENUE
Intersection Improvements at
Kekuanaoa St. & Airport Access Rd.
Fed. Aid Project No. HES-STP-011-2(20)
Date: Mar., 1997
SHEET No. 11 OF 12 SHEETS

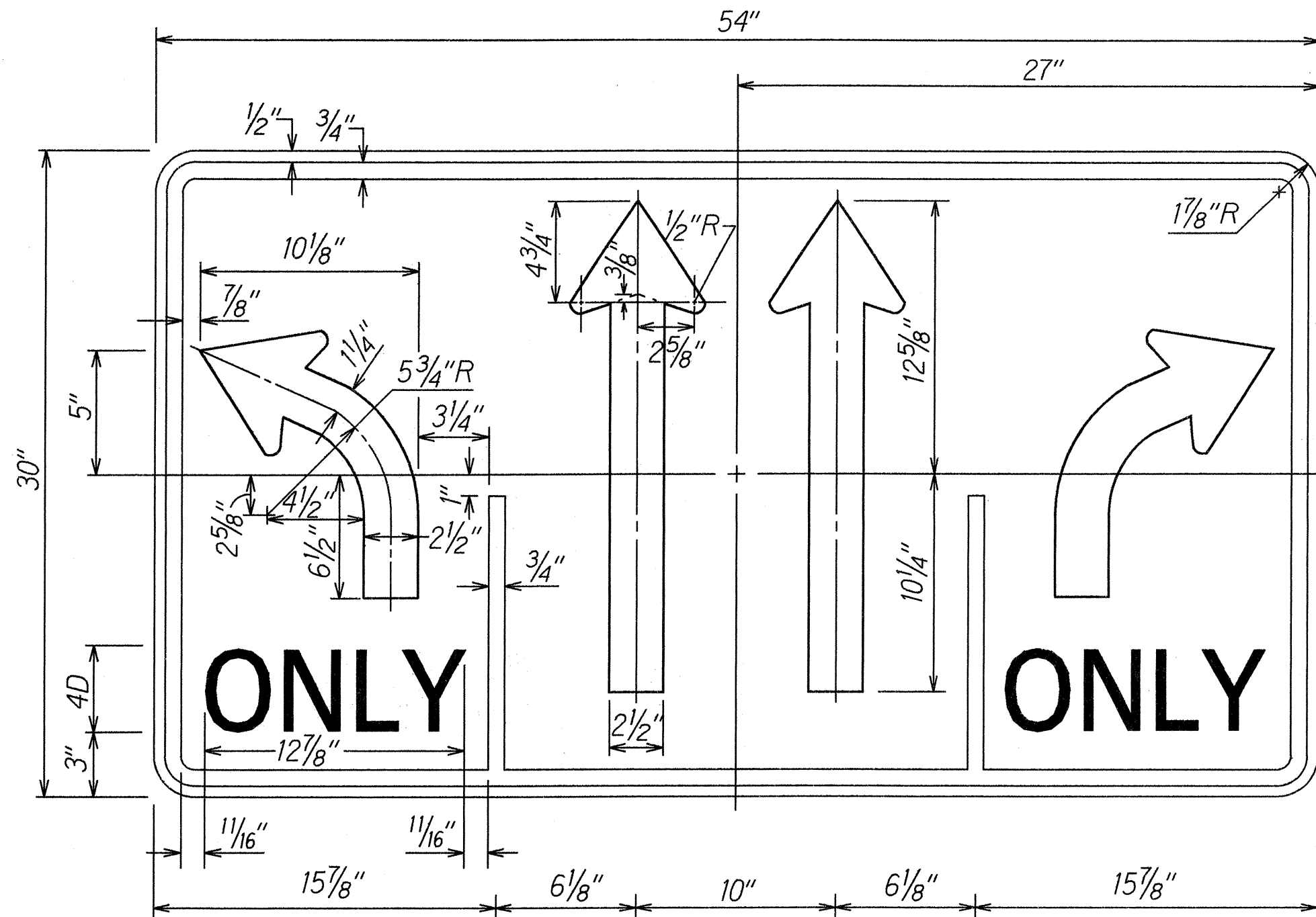
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HES-STP-011-2(20)	1997	115	125



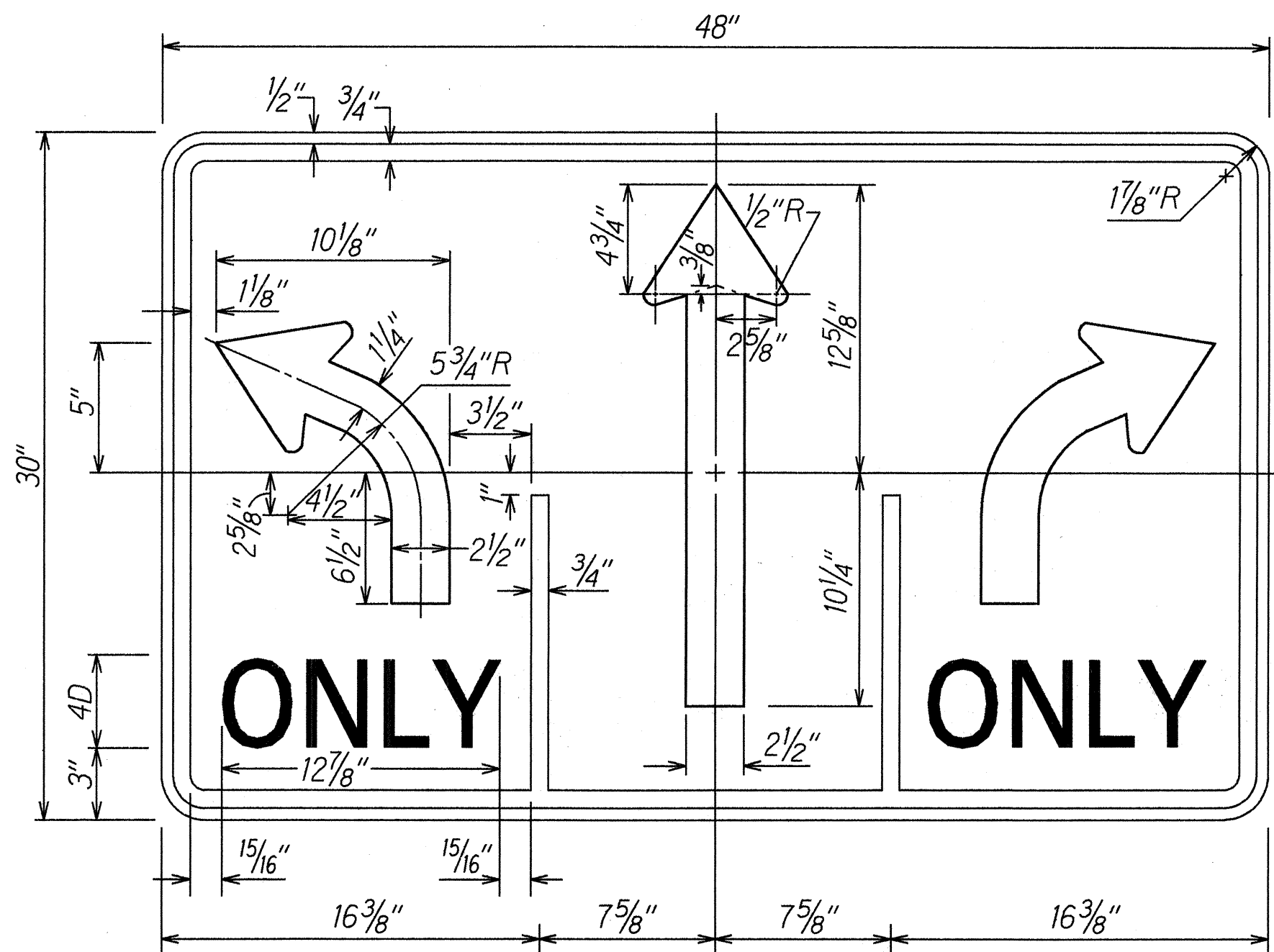
R3-9(L)
Not to Scale



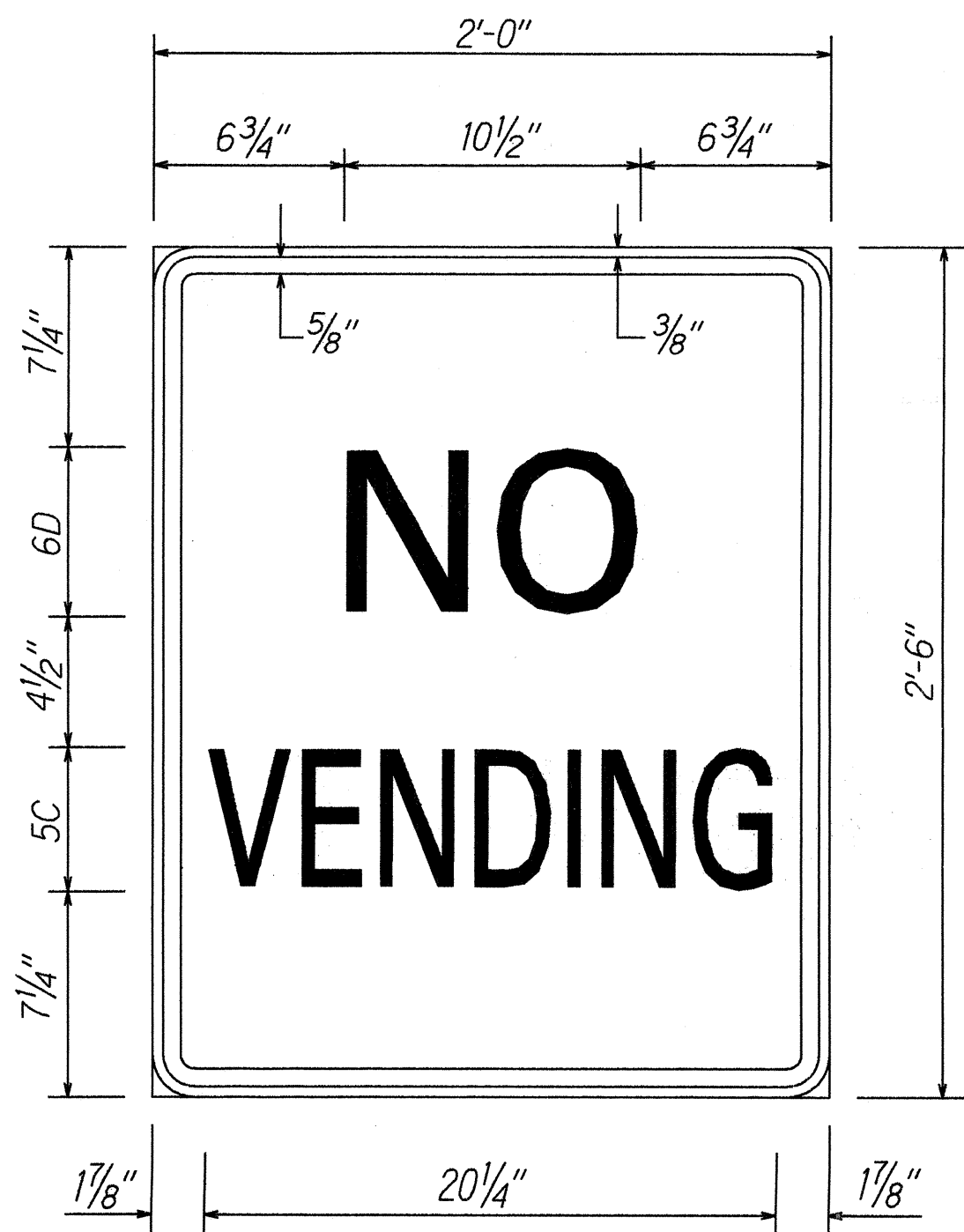
R3-24
Not to Scale



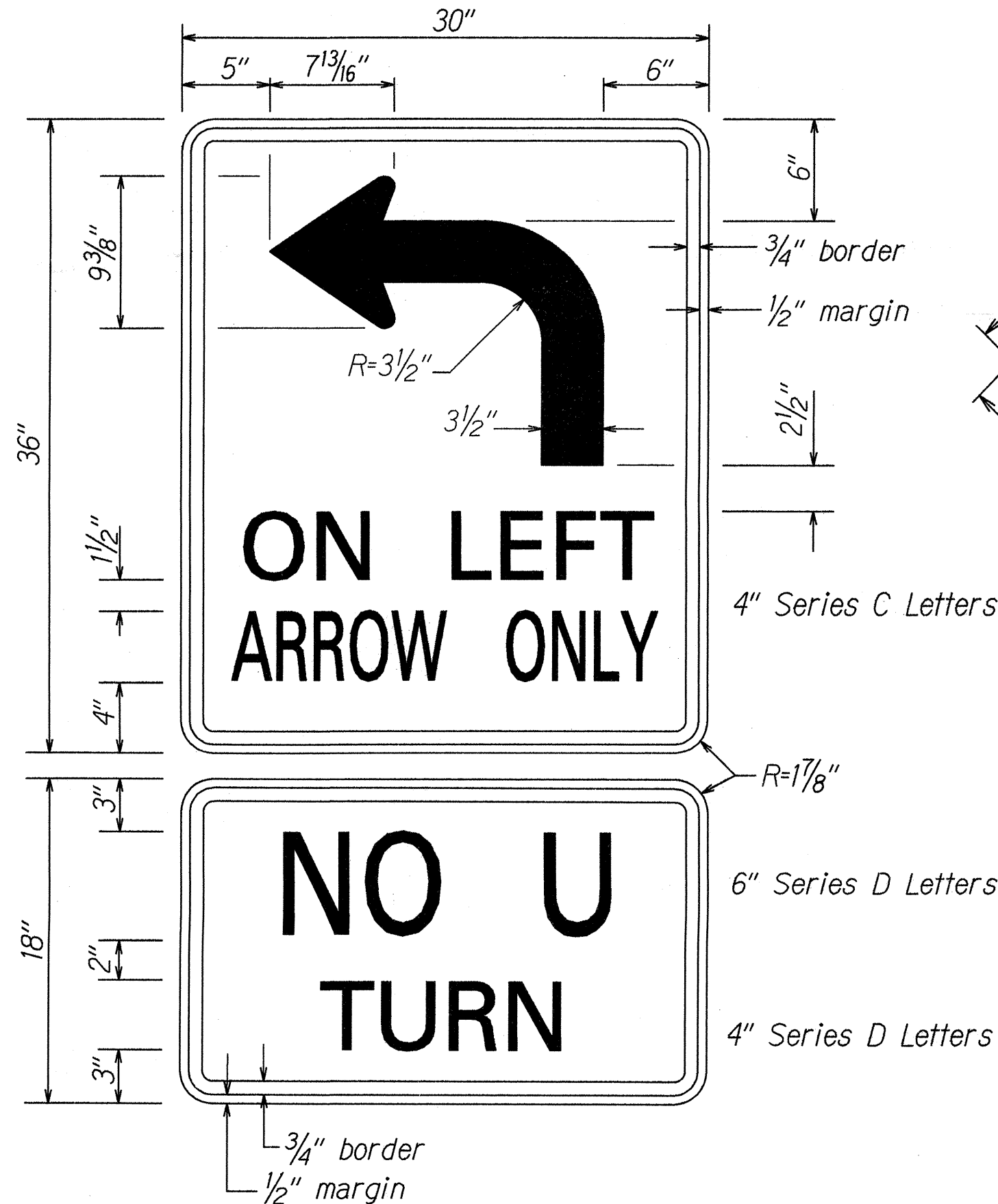
R3-38
Not to Scale



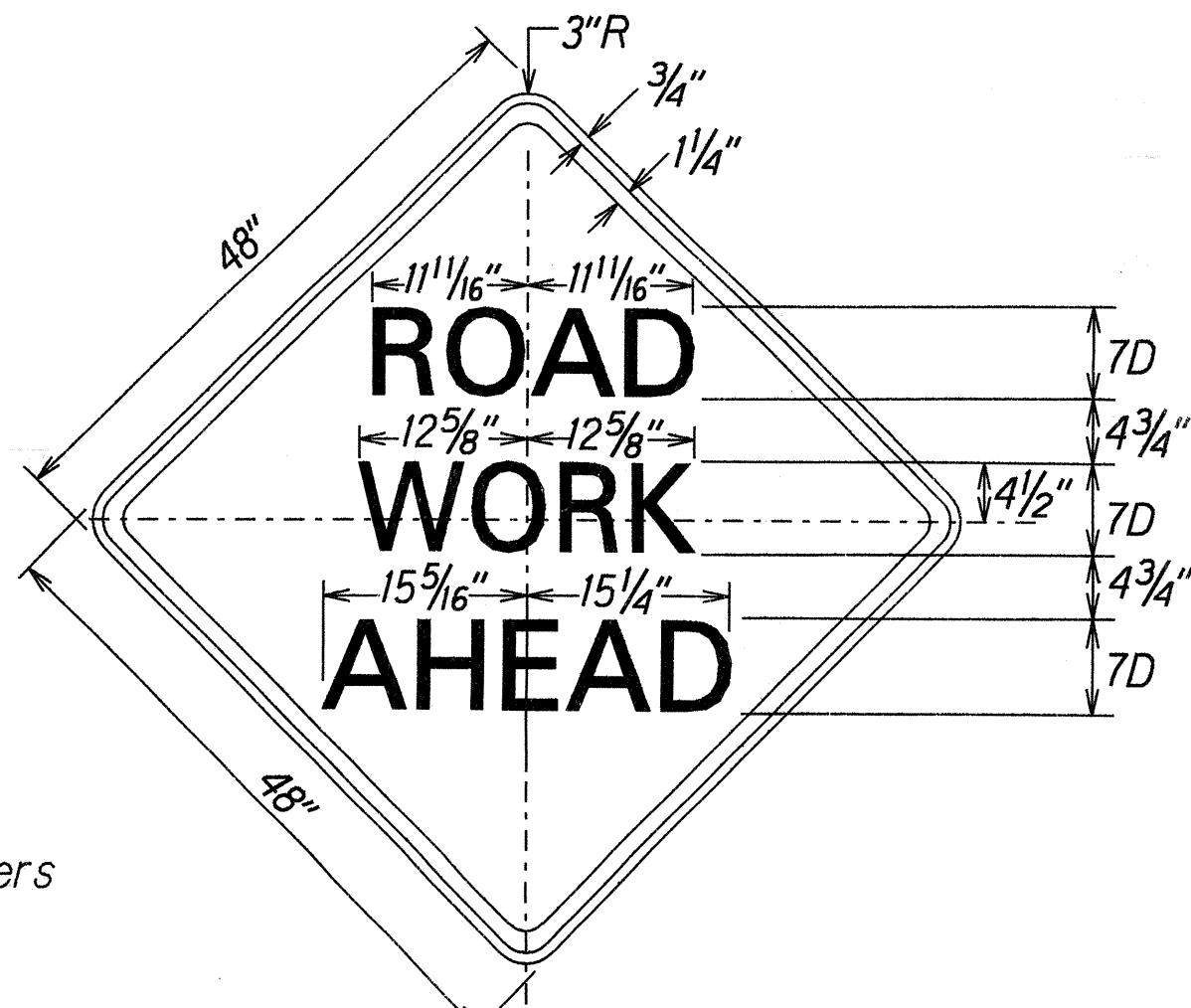
R3-44
Not to Scale



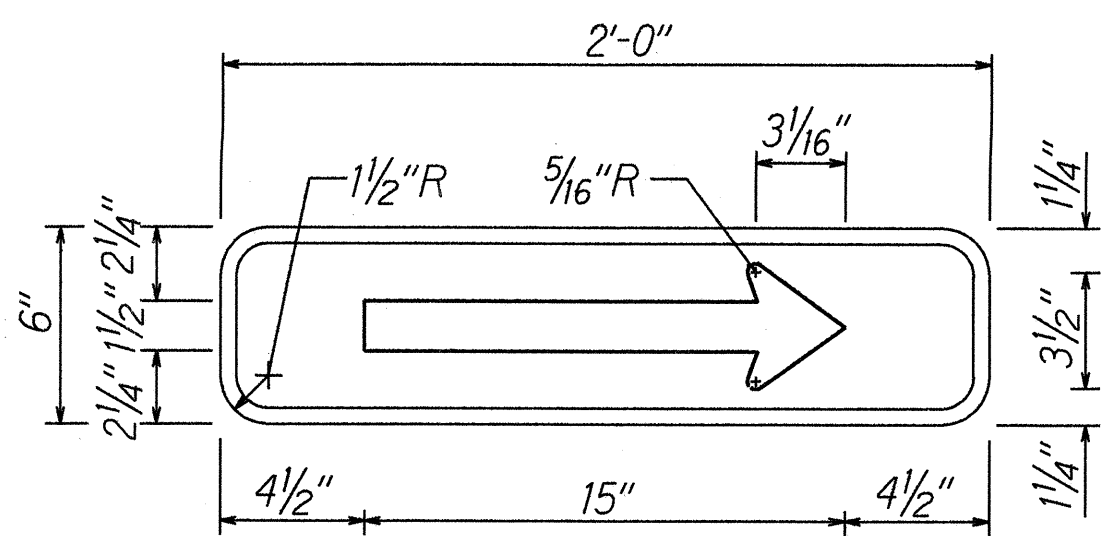
R8-3b
Scale: 2"=1'-0"



R17-3
Not to Scale



CW20-1Ad
Not to Scale
Colors:
Legend: Black (Non Refl)
Background: Orange



NOTE:

Sign D9-15 shall have a white
Reflectorized Legend, Border, & Arrow
on a Blue Reflectorized Background.

D9-15
Scale: 2"=1'-0"

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	1/23/98
QUANTITIES BY	DESIGNED BY	11/4/95/ra
CHECKED BY	NOTED BY	
	DATE	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SIGN DETAILS

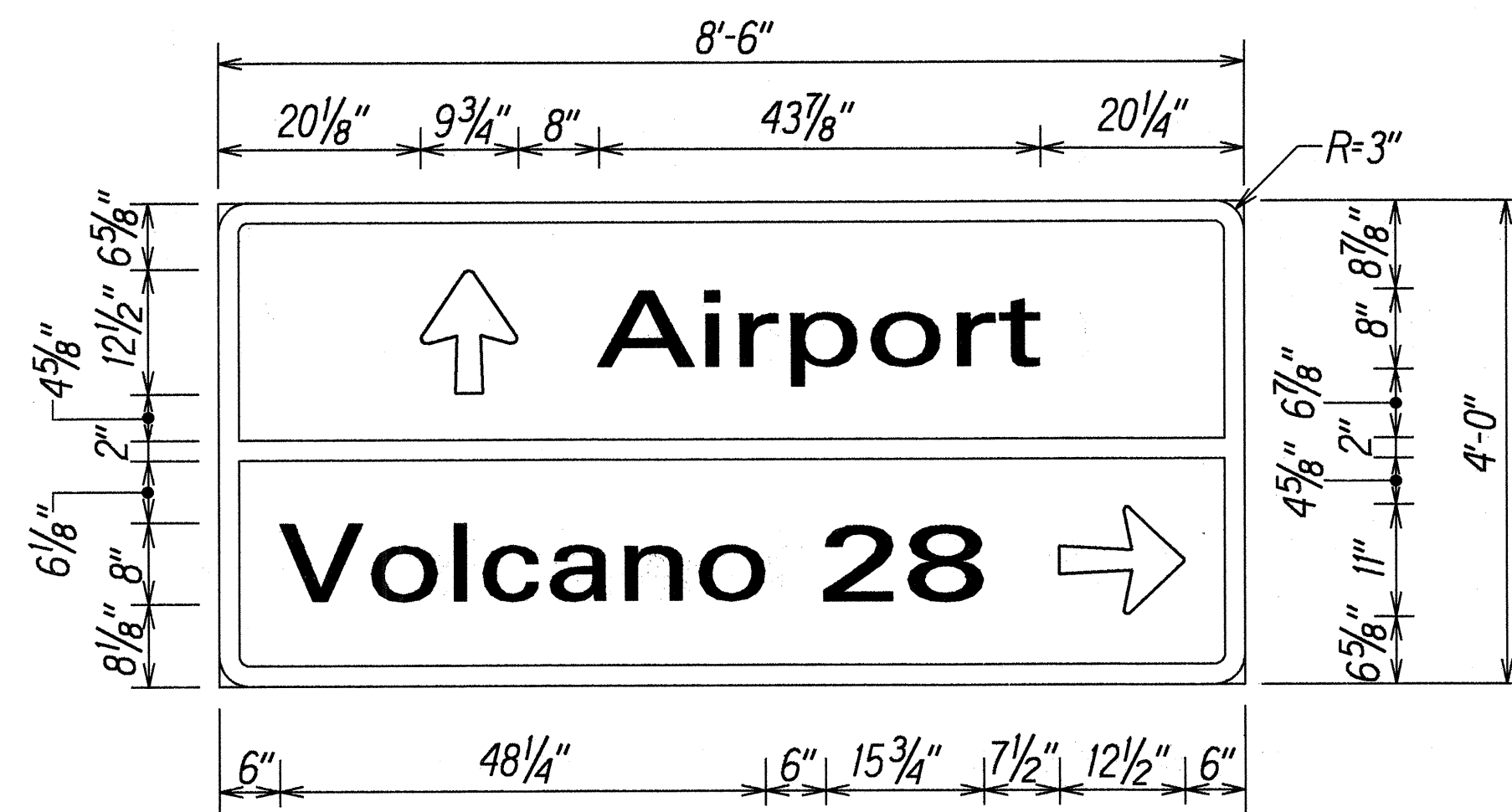
KANOELEHUA AVENUE
Intersection Improvements at
Kekuanaoa St. & Airport Access Rd.
Fed. Aid Project No. HES-STP-011-2(20)

Scale: As Shown

Date: Mar., 1997

SHEET No. T3 OF 12 SHEETS

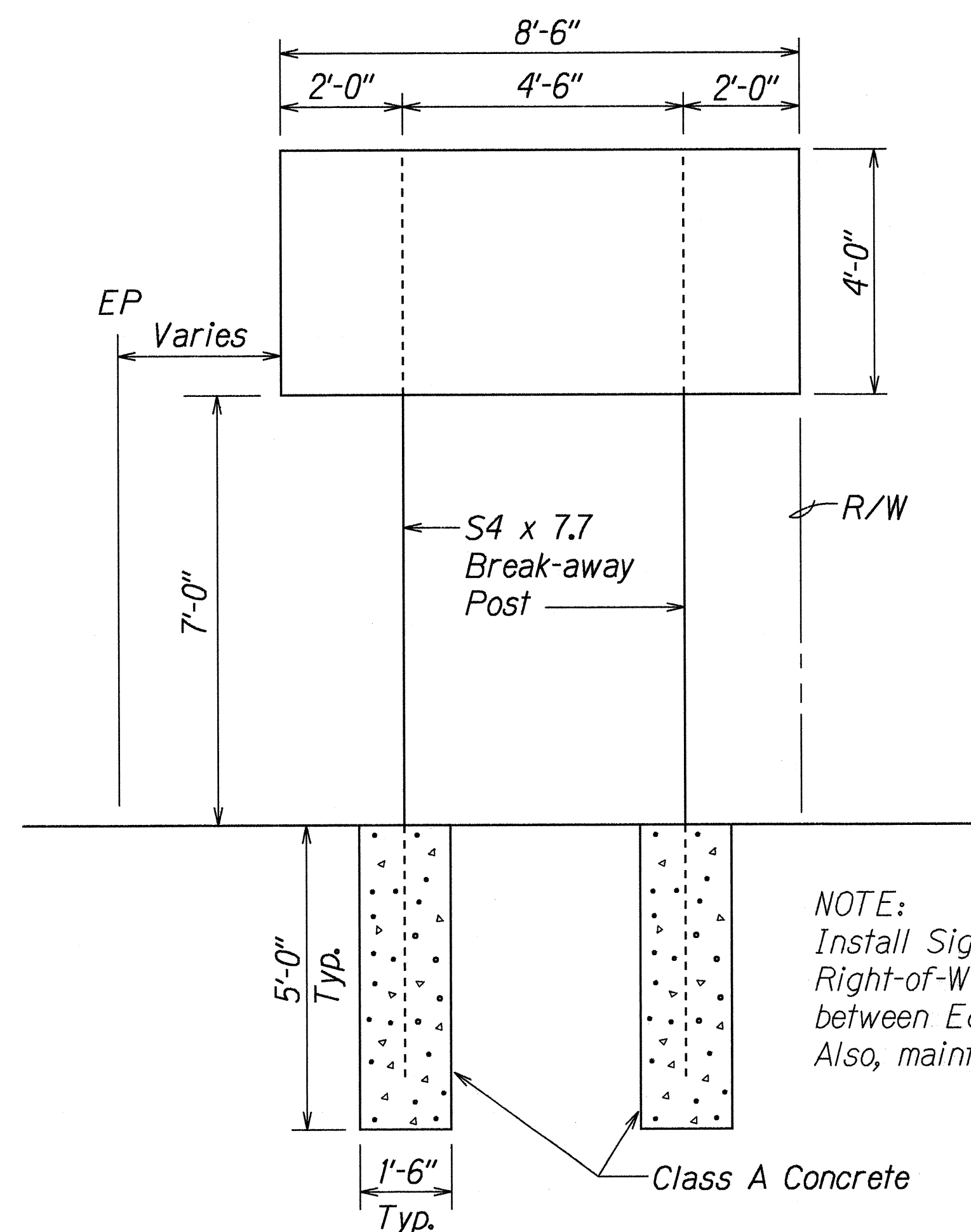
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HES-STP-011-2(20)	1997	116	125



D-1
Scale: 3/4" = 1'-0"

DESTINATION (D) SIGN NOTES

1. New sign panels shall be laminated aluminum or extruded aluminum.
2. Letter Size Use series "E" (M) for the upper case letter and series E for lowercase letters.
3. Contractor shall submit all sign splicing details to the Engineer for approval. All backings for signs 4 feet by 6 feet or less shall be of one sheet.
4. Destination Sign Posts and Foundations shall be as noted on the plans.
5. Incidental parts and services, not shown on the plans or specified but deemed necessary for the sign and sign luminaire installation, shall be furnished and installed by the Contractor as part of the work contracted.
6. Removal and disposal of existing sign panels, posts with footings and supports will not be paid for separately, but shall be considered incidental to the various signing items.



NOTE:
Install Sign as close as possible to
Right-of-Way to maximize clearance
between Edge of Pavement and Sign.
Also, maintain ADA requirements.

GROUND MOUNTED SIGN SUPPORTS BREAK-AWAY TYPE FOR SIGN D-1

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

SURVEY PLOTTED BY	DATE
DRAWN BY A. A. H.	10/10/97
DESIGNED BY C. A. B.	
QUANTITIES BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
FILED BY	
DATE	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

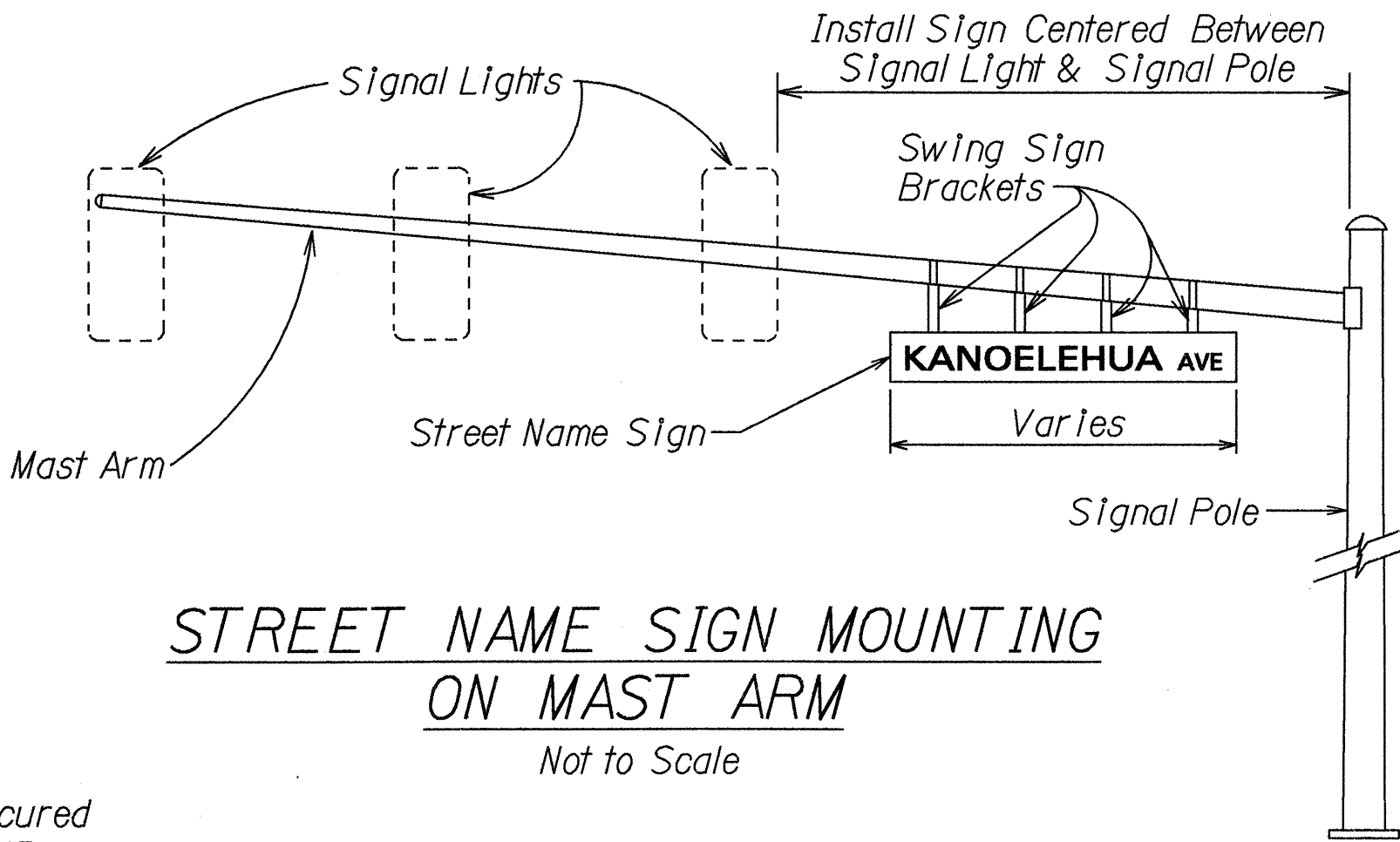
SIGN DETAILS
FRAME LAYOUT
KANOELEHUA AVENUE
Intersection Improvements at
Kekuanaoa St. & Airport Access Rd.
Fed. Aid Project No. HES-STP-011-2(20)
Date: Mar., 1997

SHEET No. T4 OF 12 SHEETS

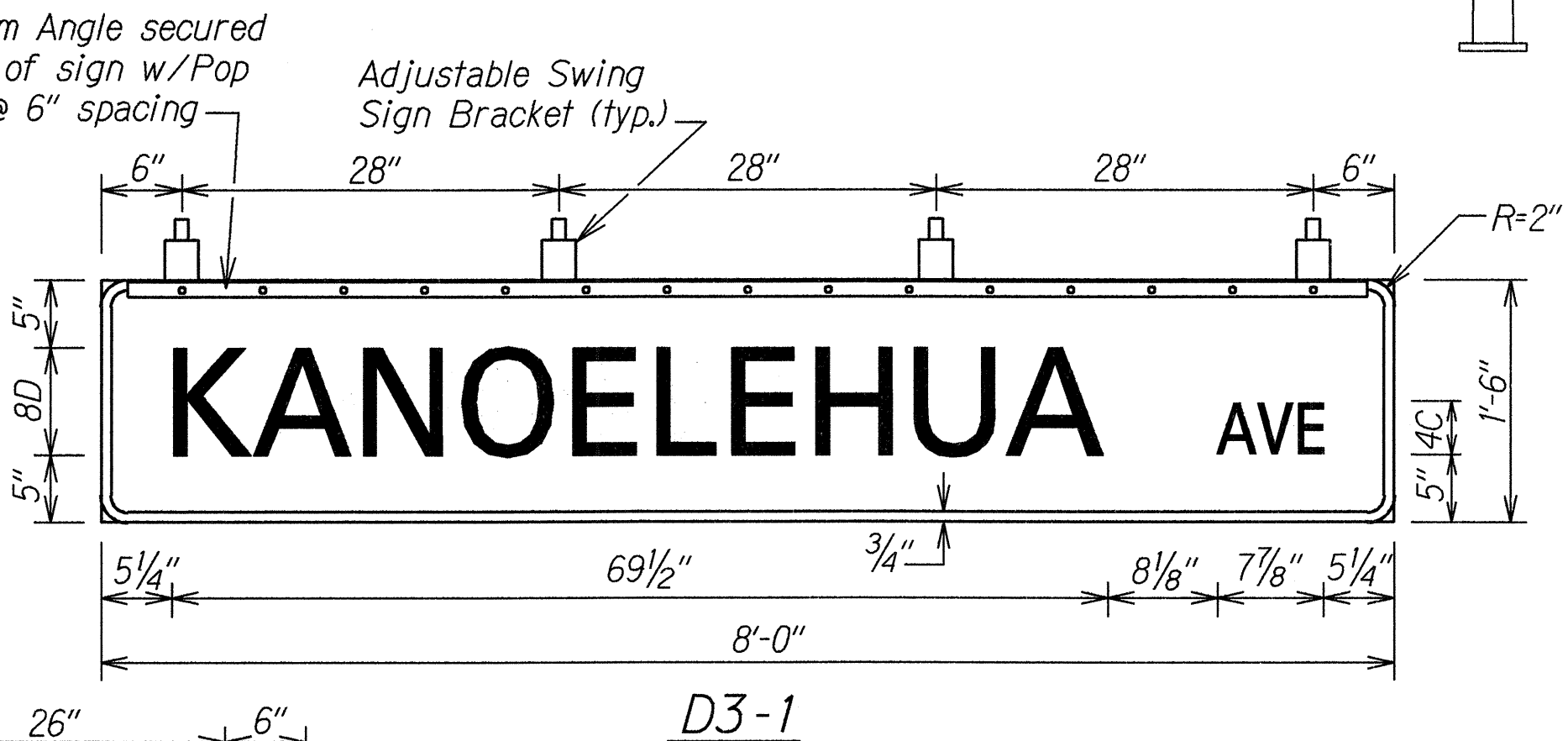
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HES-STP-011-2(20)	1997	117	125

NOTES

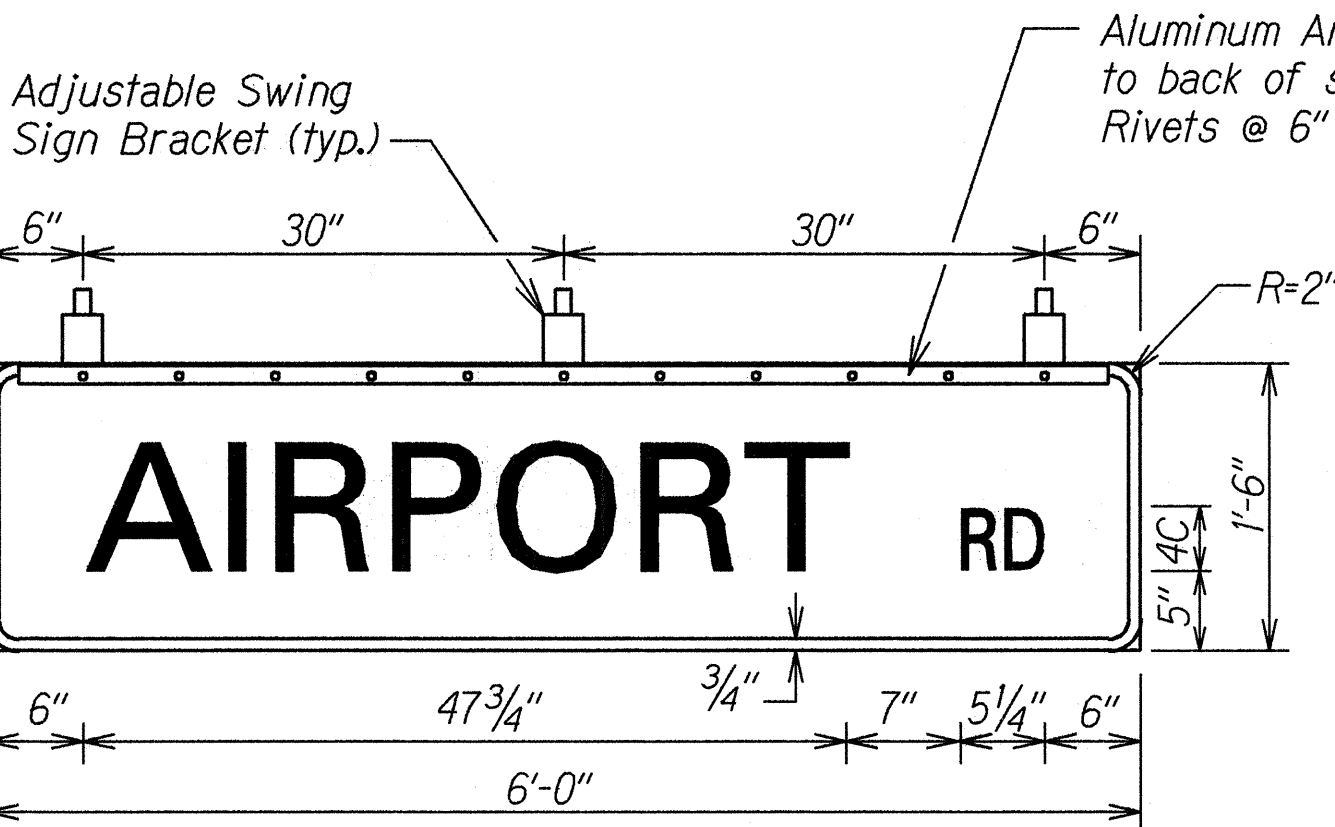
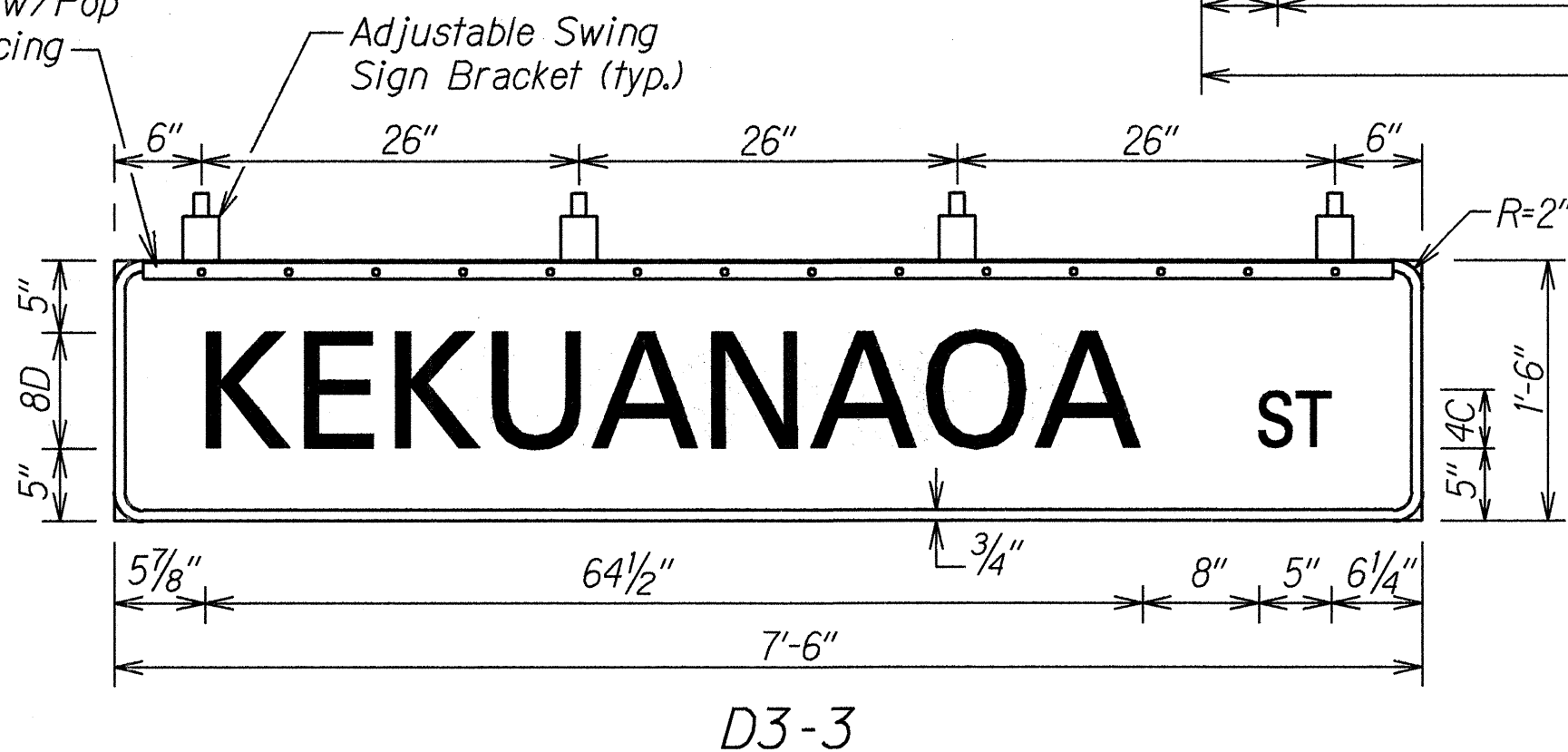
- Sign D3-1, D3-2 & D3-3 shall be a New Street Name Sign. Signs D3-1 & D3-2 shall have four (4) sets of sign brackets while D3-3 shall have three (3) sets of sign brackets. The Contractor shall provide the same message on the front and back side of the sign. Payment will not be made separately but shall be considered as one unit.
- Colors:
Legend - White (Reflectorized)
Background - Green (Reflectorized)
- All panels shall be reflectorized with Type B reflective sheeting in accordance with Section 712.20 of the Standard Specifications.
- All signs shall conform to section 621 of the Standard Specifications and the latest editions and amendments of the following FHWA publications:
a. "Manual on Uniform Traffic Control Devices for Streets and Highways" (MUTCD)
b. "Standard Highway Signs"
c. "Standard Alphabets for Highway Signs"
- Borders and messages shall conform to details as shown on the plans and as specified in the MUTCD.
- Sign mounting brackets, aluminum angle, fixtures, fasteners, and all necessary hardware, and equipment, tools, labor, materials and other incidentals for installation, will not be paid for separately but shall be considered incidental to street name sign installation.



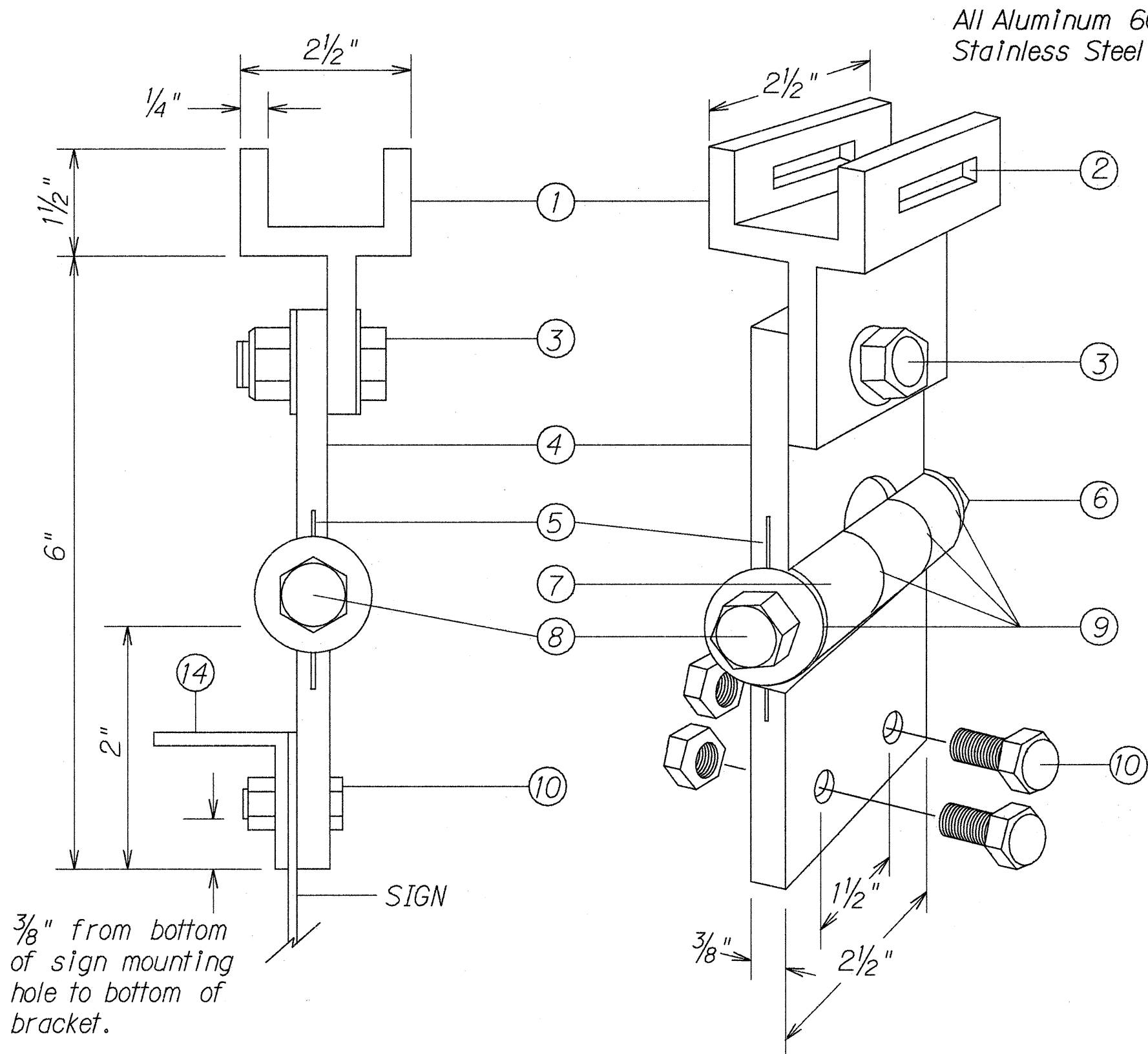
STREET NAME SIGN MOUNTING ON MAST ARM
Not to Scale



ADJUSTABLE LENGTH SWING SIGN BRACKET



TYPICAL PANEL & SWING BRACKET LAYOUT FOR STREET NAME SIGN
Scale: 1" = 1'-0"



FIXED LENGTH NON-ADJUSTABLE SWING SIGN BRACKET

- Pivotal Upper Bracket
- 1 5/8" x 1/4" Slot for double strapping to electrolier mast arm. (M2G-34S(HD) .030" x 3/4" Heavy Duty Stainless Steel Strap with M2G-34B(HD) Buckle recommended.)
- 1/2" - 13 x 1 1/2" Stainless Steel Hex Head Bolt with Stainless Steel Hex Lock Nut and 1/16" Stainless Steel Washer (both sides). Allows upper bracket to pivot and align with electrolier mast arm.
- 6" Overall drop with Fixed Length Sign Bracket
- Stainless Steel Dampener Spring (Removable)
- Stainless Steel Hex Lock Nut with 1/16" Stainless Steel Washer
- 1" O.D. Axle Housing
- 1/2" - 13 x 4" Stainless Steel Hex Head Bolt with 1/16" Stainless Steel Washer
- Ollite Bushing
- Sign Mounting Sets, consisting of two each 5/16" - 18 x 1" Stainless Steel Hex Head Bolt with Stainless Steel Hex Lock Nut. Two holes on 1 1/2" centers provide positive lock sign mounting to bracket.
- 8 1/4" overall length Upper Adjustable Sign Bracket section
- 9" overall length Lower Adjustable Sign Bracket section, including Axle Housing (8" overall length to top of Axle Housing)
- 1/2" - 13 x 1 1/2" Stainless Steel Hex Bolt with Stainless Steel Hex Lock Nut and 1/16" Stainless Steel Washers (both sides). Loosen lock nut, adjust bracket teeth to level sign.
- 1 1/4" x 1 1/4" x 1/8" Aluminum Angle

Note: Dimensions may vary slightly.

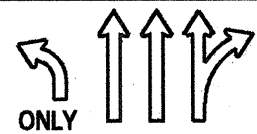
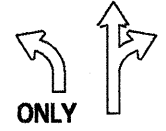
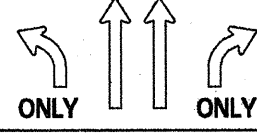
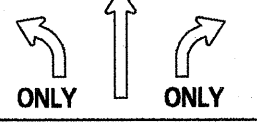


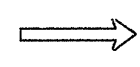
ORIGINAL PLAN	DATE	4-22-2019
DRAWN BY	DATE	4-22-2019
TRACED BY	DATE	4-22-2019
NOTED BY	DATE	4-22-2019
QUANTITIES BY	DATE	4-22-2019
CHECKED BY	DATE	4-22-2019

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION


STREET NAME SIGN & MOUNTING DETAIL
KANOELEHUA AVENUE
Intersection Improvements at
Kekuanaoa St. & Airport Access Rd.
Fed. Aid Project No. HES-STP-011-2(20)

Scale: As Shown
Date: Mar., 1997

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HES-STP-011-2(20)	1997	118	125

TRAFFIC SIGN SUMMARY					
	MESSAGE	QUANTITY			
		10 SQ. FT. OR LESS		GREATER THAN 10 SQ. FT.	
		W/POST	W/O POST	W/POSTS	W/O POST
R2-1(35)	SPEED LIMIT 35			4	
R3-9(L)				2	
R3-24		2			
R3-38				2	
R3-44		2			
R8-3a		1			
R8-3b	NO VENDING	1			
R10-12	LEFT TURN YIELD ON GREEN ●		4		
R17-3	 ON LEFT ARROW ONLY NO U TURN				2
D9-14 *	POLICE	1			
D9-15 *			1		
TOTAL		7	5	8	2

* General Service Sign

ROUTE MARKER SUMMARY					
SIGN ASSEMBLY	SIGN NO. AND MESSAGE	TYPE A ASSEMBLY		TYPE B ASSEMBLY	
		W/POST	W/O POST	W/POST	W/O POST
SRM-1	MI-6(11) 	1			
TOTAL		1	0	0	0

REFLECTOR MARKER SUMMARY		
TYPE	QUANTITY	
	W/FLEXIBLE POST (TYPE A)	
	YELLOW	WHITE
RM-3	6	
TOTAL	6	0

CONSTRUCTION SIGN SUMMARY			
SIGN NO.	MESSAGE	W/POSTS	W/O POST
CG20-2A	END ROAD WORK	2	
CW20-1A(d)	ROAD WORK AHEAD	2	
TOTAL		4	0

DESTINATION SIGN SUMMARY				
SIGN NO.	MESSAGE	SIZE	NEW PANEL AREA (SQ. FT.)	
			W/O POSTS	W/POSTS
D-1	⤴ AIRPORT VOLCANO 28 ⤵	4'-0"x8'-6"		34.0
TOTAL				34.0

PAVEMENT MARKING SUMMARY	
DESCRIPTION	QUANTITY
PAVEMENT MARKERS	
TYPE A _____	136 EA.
TYPE C _____	173 EA.
TYPE D _____	26 EA.
TYPE H _____	71 EA.
TAPE - TYPE I OR THERMOPLASTIC EXTRUSION	
4-INCH PAVEMENT STRIPE (WHITE) _____	650 L.F.
8-INCH PAVEMENT STRIPE (WHITE) _____	600 L.F.
DOUBLE 4-INCH PAVEMENT STRIPE (YELLOW) _____	490 L.F.
TAPE - TYPE II OR THERMOPLASTIC EXTRUSION	
4-INCH PAVEMENT STRIPE (WHITE) _____	2,730 L.F.
4-INCH PAVEMENT STRIPE (YELLOW) _____	580 L.F.
8-INCH PAVEMENT STRIPE (WHITE) _____	205 L.F.
12-INCH PAVEMENT STRIPE (WHITE) _____	80 L.F.
12-INCH PAVEMENT STRIPE (YELLOW) _____	150 L.F.
DOUBLE 4-INCH PAVEMENT STRIPE (YELLOW) _____	1,120 L.F.
TAPE - TYPE III OR THERMOPLASTIC EXTRUSION	
4-INCH PAVEMENT STRIPE (WHITE) _____	360 L.F.
4-INCH PAVEMENT STRIPE (YELLOW) _____	290 L.F.
12-INCH PAVEMENT STRIPE (WHITE) _____	235 L.F.
DOUBLE 4-INCH PAVEMENT STRIPE (YELLOW) _____	80 L.F.
CROSSWALK MARKINGS (WHITE) _____	26 LANES
PAVEMENT ARROW (WHITE) _____	11 EA.
PAINT (WHITE)	
PAVEMENT BIKE LANE SYMBOL, WORDS, AND ARROW MARKINGS _____	1 EA.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
PAVMENT MARKING & SIGNING
SUMMARIES
KANOELEHUA AVENUE
Intersection Improvements at
Kekuanaoa St. & Airport Access Rd.
Fed. Aid Project No. HES-STP-011-2(20)
Date: Mar., 1997

SHEET No. 76 OF 12 SHEETS

SURVEY PLOTTED BY: DATE: 12/15/95/a

DRAWN BY: J. HENDRICKS

DESIGNED BY: C. ALA

QUANTITIES BY: J. HENDRICKS

CHECKED BY: J. HENDRICKS

ORIGINAL PLAN

NOTE BOOK

10/1/95

118

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HES-STP-011-2(20)	1997	119	125

TRAFFIC SIGNAL LEGEND

	Existing Traffic Signal Controller
	New Traffic Signal Conduits & Cables
	New 12" RYG Traffic Signal Head
	New 12" RY↑ Traffic Signal Head
	New 12" RY← Traffic Signal Head
	New 12" RY← Traffic Signal Head (Programmed Visibility)
	New 12" RYG← Fiber Optic Traffic Signal Head
	New 12" RYG→ Fiber Optic Traffic Signal Head
	New Type I Traffic Signal Standard w/Traffic Signal Head as specified on plan
	New Type III Traffic Signal Standard w/Mast Arm, Traffic Signal Heads, and 15' Highway Lighting Bracket Arm Length (length of traffic signal mast arm & distance between signal heads as specified on plan)
	Existing Traffic Signal Standard
	New Pedestrian Signal Head
	New Type B Pullbox
	New Type B Pullbox w/Modified Cover
	New Type C Pullbox
	New Type D Pullbox
	Existing Traffic Signal Pullbox
	New Loop Detectors
	New Opticom Detector

TRAFFIC SIGNAL NOTES

- All traffic signal controller equipment shall be completely wired in the cabinet and shall control the traffic signals as called for in the plans.
- The Contractor shall install each meter socket and 50 Amp. breaker on power pole as shown on the plans in accordance with HELCO requirements. Meter shall be mounted between 5 feet and 7 feet above ground. Meter socket shall be 4-prong, complete with a manual circuit closing device.
- Existing traffic signal standards to be replaced shall be removed together with its respective footing. The Contractor may elect to remove only the top portion of the footing. In such cases, the Contractor shall ensure that the remaining footing shall be 6 inches below the existing ground. The Engineer will determine whether the removed standards shall be disposed of or salvaged. Costs shall be considered incidental to the various contract items.
- Exist conduits, cables and pullboxes not to be incorporated in the new traffic signal system shall remain in place unless otherwise noted on plans or directed by the Engineer.
- Locations of all new traffic signal equipment shall be staked out in the field by the Contractor for approval by the Engineer prior to construction and installation.
- All splicing shall be done in the pullboxes.
- The existing traffic signal system shall remain in operation until the new traffic signal system is put into service. The Contractor shall arrange his work accordingly and shall provide temporary relocations and wirings as necessary. Payment shall be considered incidental to the various contract items.
- Furnishing and installing controller barriers, risers on poles and conduit stubouts (pullboxes to edge of pavement) will not be paid for separately but shall be considered incidental to the various contract items.
- The Contractor shall clean and/or repair the existing traffic signal pullboxes to be used prior to installing conduits and cables. This work will not be paid for separately but shall be considered incidental to the various contract items.
- The existing controller foundation not to be incorporated in the final traffic signal system shall be removed in accordance with Section 202, Removal of Structure and Obstruction of the Standard Specifications. Costs shall be considered incidental to the various contract items.
- The Contractor shall notify the Traffic Division, Public Works Department, County of Hawaii, 2 weeks prior to commencing any work on the traffic signal system.
- Public Works Department, County of Hawaii, will assist the Engineer in Construction inspection for the traffic signal system.
- A solid #8 bare copper wire shall be pulled with the traffic signal control cable for equipment ground. Cost shall be incidental to the installation of the control cable.
- The Contractor shall maintain a 36" clearance between the Control Ductline and Loop Detectors.
- All conduits shall be concrete encased unless directed by the County of Hawaii Engineer Inspector. All conduits encased in concrete shall be Schedule 40. Conduits not encased shall be Schedule 80.
- If abandoned in place, existing conduits and cables shall be saw cut completely through every 10' to prevent inductive coupling.
- Removing and disposing of Existing Power Source Equipment (i.e., Meter, conduits, cables, etc.) shall not be paid for separately but considered incidental.

CONSTRUCTION NOTES

- Locations of existing underground structures and utilities such as pipelines, conduits, cables, etc., shown on plans are approximate only. It is not the intent of these plans to show the exact location of all underground utilities and structures. It is the responsibility of the contractor to verify the locations of all exist. utilities w/the respective owners. Exist. utilities damaged by the Contractor shall be repaired by the Contractor at his own cost.
- The Contractor shall verify & check all dimensions & details shown on the drawings prior to the start of construction. Any discrepancy shall be immediately brought to the attention of the Engineer for clarification.
- The Contractor shall notify all agencies to verify actual location of all utilities in the project area prior to excavating. The Contractor shall coordinate all work.
- The Contractor shall tone & locate exist. utilities along ductlines prior to excavation.
- The locations of the new traffic signal standards, traffic signal standards with mast-arms, pedestrian push buttons, traffic controller, pullboxes, conduits and loop detectors shall be staked out in the field by the Contractor and approval of the locations shall be obtained from the Engineer prior to construction and installation.
- All traffic signal work shall conform to the requirements of the "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS" (MUTCD), Federal Highway Administration (1988) and Amendments.
- Locations of new pav't. striping, markers, & markings (pav't arrow, stop lines, crosswalk, etc.) shown on the plans shall be verified w/the Engineer prior to the installation of the traffic signal system.
- Maintenance of traffic through the Construction area shall be in accordance w/part VI of the MUTCD, FHWA (1988) with amendments and as specified in the special provisions. The Contractor shall furnish & maintain adequate barricades, blinkers, construction signs, etc. for the safety of the general public.
- Removal of exist. signs shall also include the removal of posts & foundations unless otherwise noted. Cost for removal & temporary installation of signs, posts, & foundations shall be considered incidental to other items of work.

SURVEY PLOTTED BY	DATE
DRAWN BY	11/4/92
CHECKED BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
FILED BY	
DATE	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
TRAFFIC SIGNAL
LEGEND, DETAILS & NOTES
KANOELEHUA AVENUE
Intersection Improvements at
Kekuanaoa St. & Airport Access Rd.
Fed. Aid Project No. HES-STP-011-2(20)
Date: Mar., 1997
SHEET No. 77 OF 12 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HES-STP-011-2(20)	1997	ADD 120	125

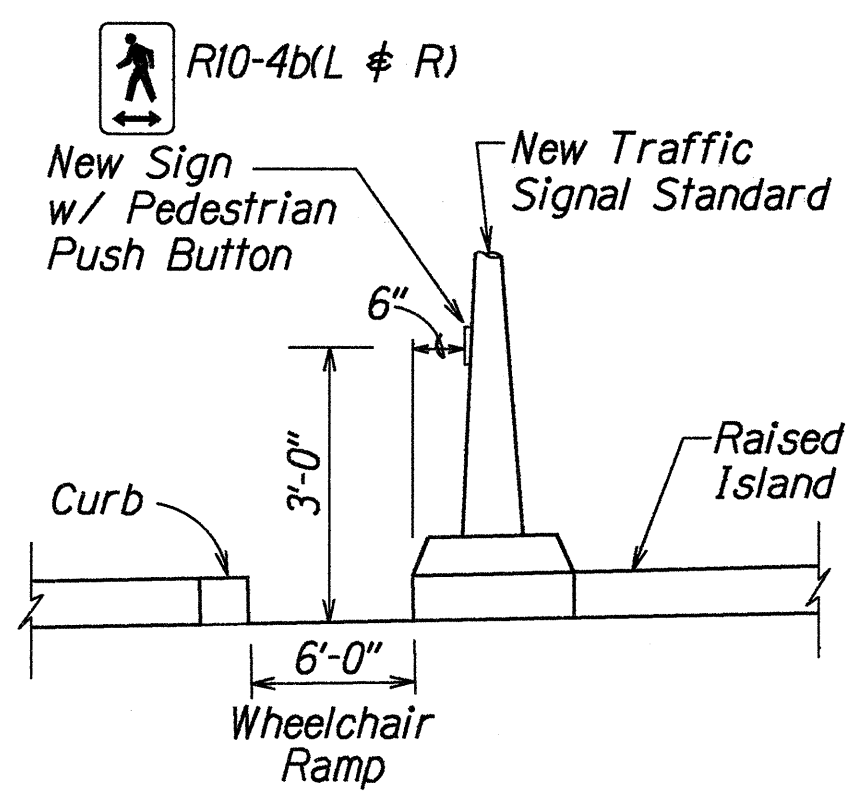
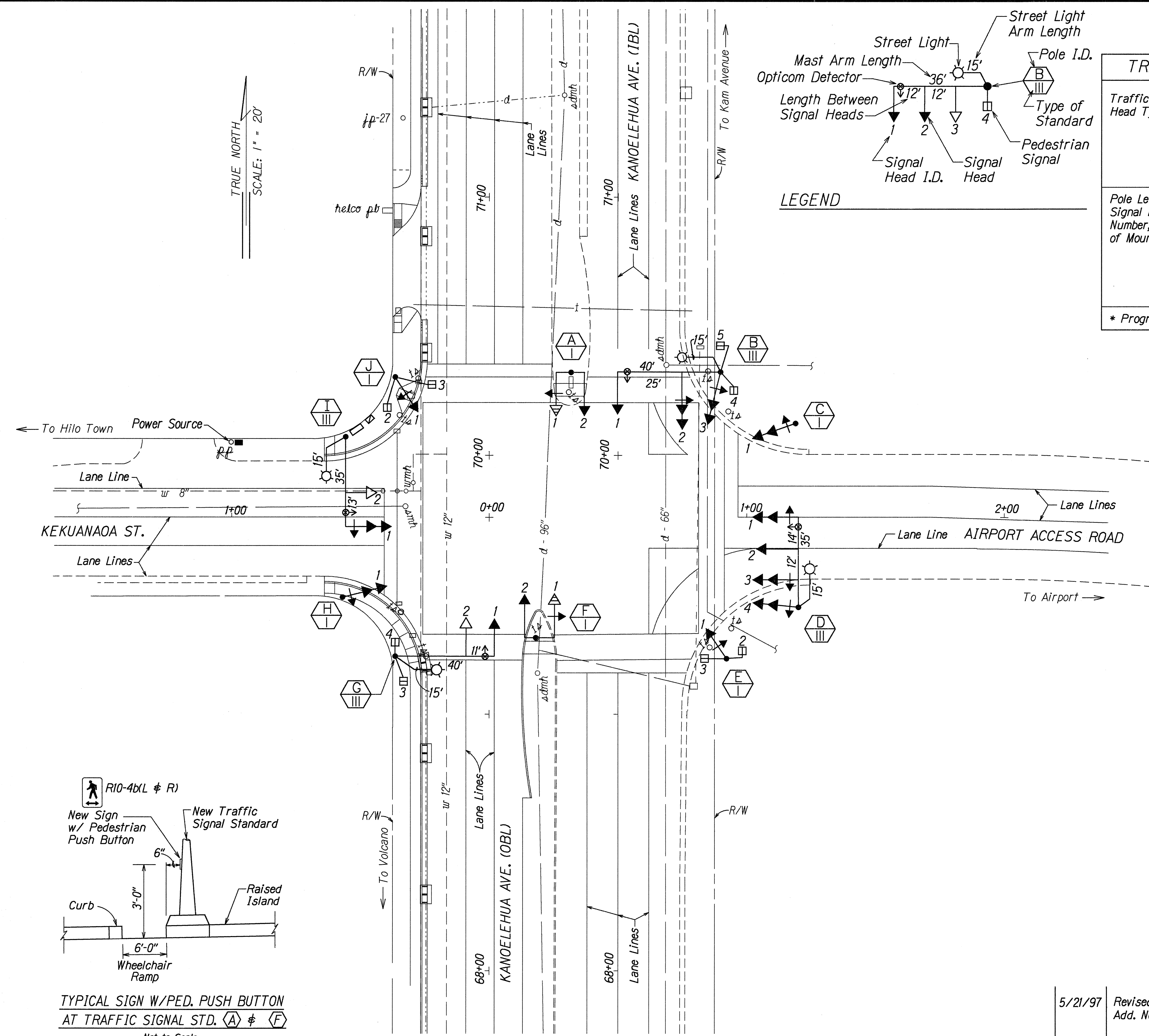
TRAFFIC SIGNAL ARRANGEMENT AND MOUNTING

Traffic Signal Head Type						
Pole Letter, Signal Head Number, Type of Mount	G-2-VI I-2-VI	A-2-II B-1-VI D-2-VI F-2-II G-1-VI	*A-1-II E-1-I *F-1-II J-1-II	C-1-I D-1-VI H-1-I I-1-VI	B-2-VI B-3-V D-3-VI D-4-V	B-4 CLMS B-5 CLMS E-2 CLMS E-3 CLMS G-3 CLMS G-4 CLMS J-2 CLMS J-3 CLMS

* Programmed Visibility Head

LEGEND

- R = Red (LED Lamp)
Y = Yellow
G = Green
← = Arrow
I = 1 Way (1 vert.) Slipfitter Mounting
II = 2 Way (2 vert.) Slipfitter Mounting
V = 1 Way (1 vert.) Bracket Mounting
VI = 1 Way (1 vert.) Mast Arm Mounting
CLMS = 1 Way (1 vert.) Clamshell Bracket Mounting



TYPICAL SIGN W/PED. PUSH BUTTON
AT TRAFFIC SIGNAL STD. (A) & (F)
Not to Scale

KANOELEHUA AVE

Install New Street Name Sign
on Mast Arm, Traffic
Signal Standard

KEKUANAOA ST

Install New Street Name Sign
on Mast Arm, Traffic
Signal Standard

AIRPORT RD

Install New Street Name Sign
on Mast Arm, Traffic
Signal Standard

For Details, See Sheet No. T5

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC SIGNAL PLAN

KANOELEHUA AVENUE

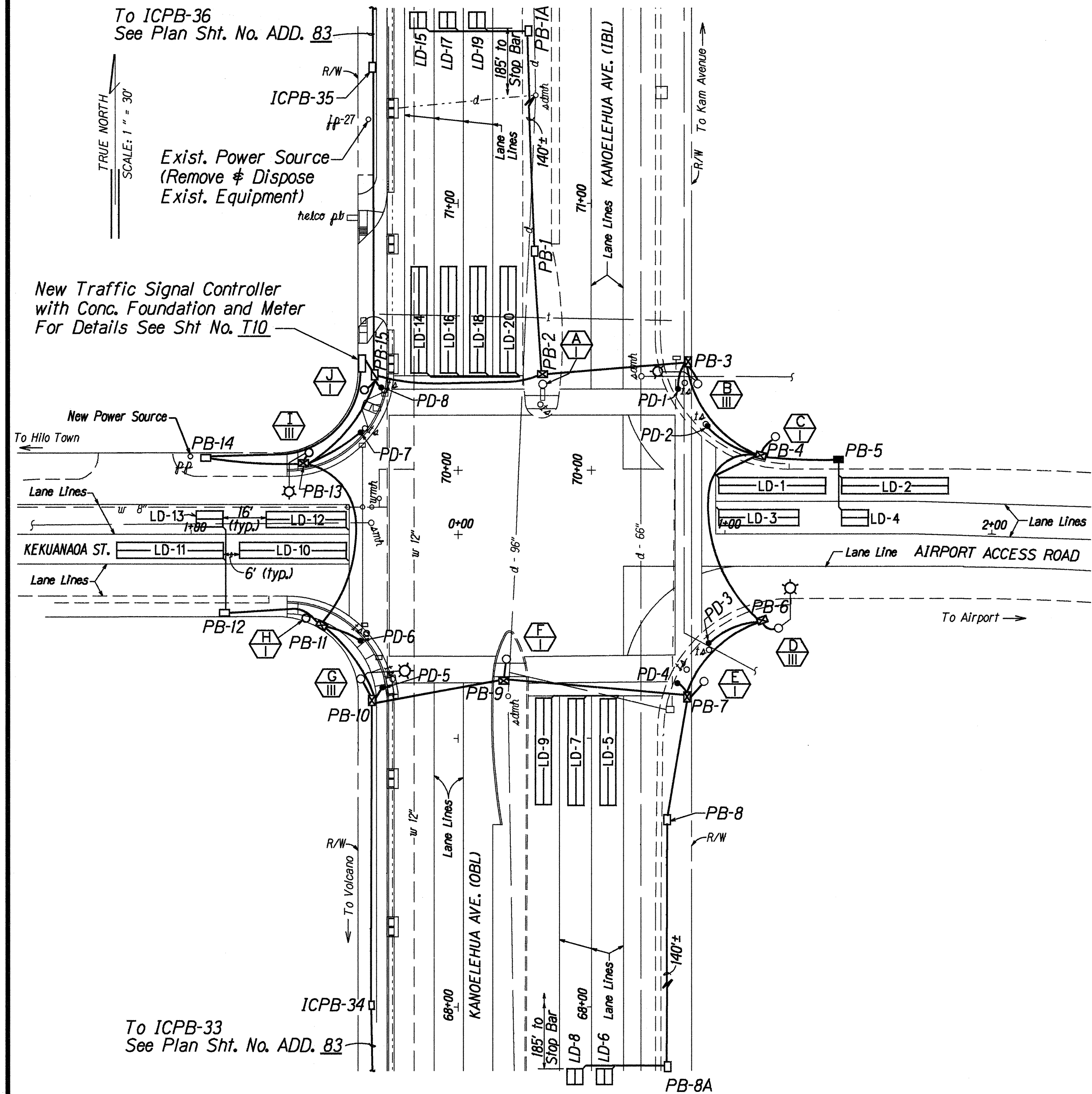
Intersection Improvements at
Kekuanaoa St. & Airport Access Rd.
Fed. Aid Project No. HES-STP-011-2(20)
Scale: 1"=20' Date: Mar., 1997

5/21/97 Revised Wheelchair Ramp width per
Add. No. 3.

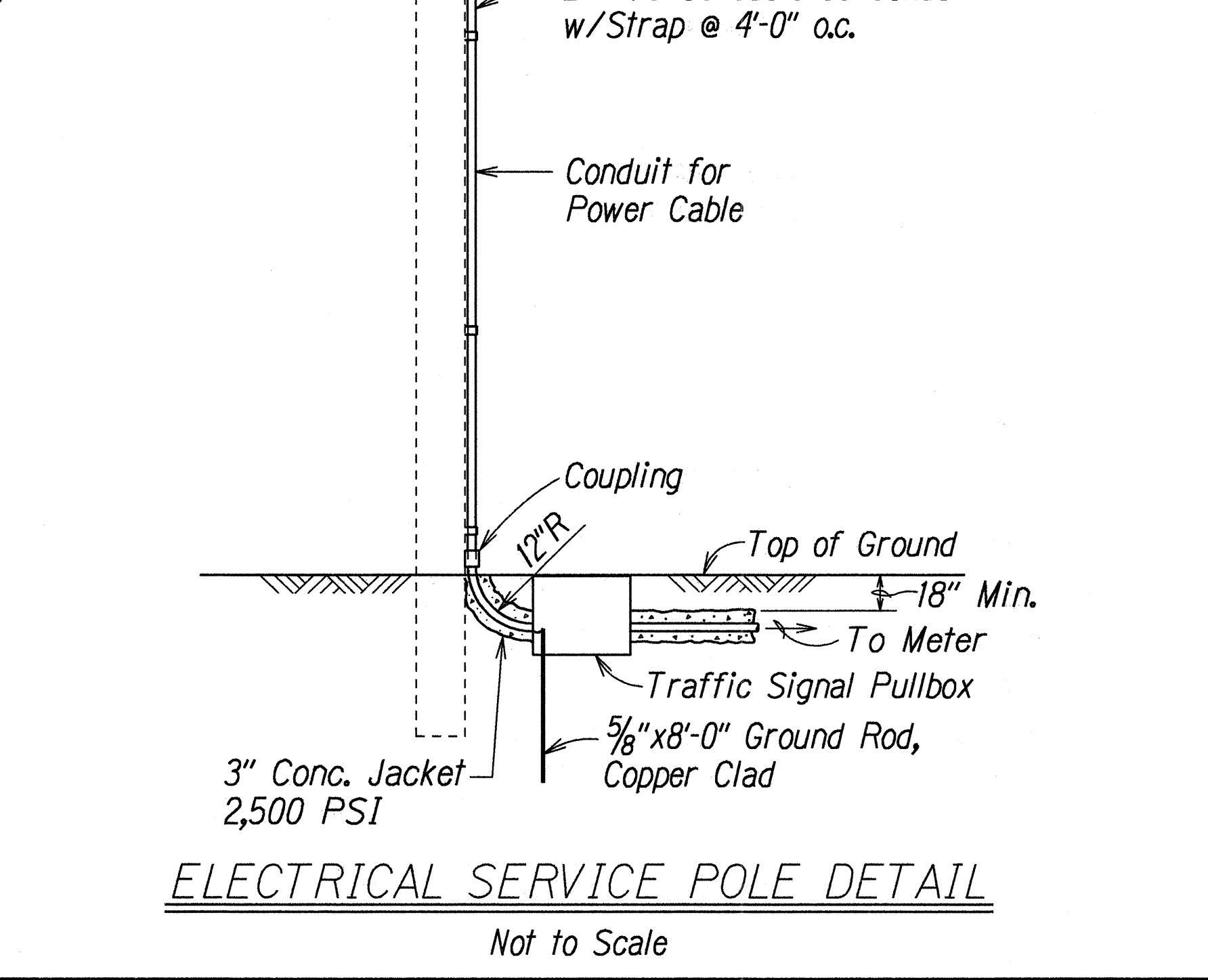
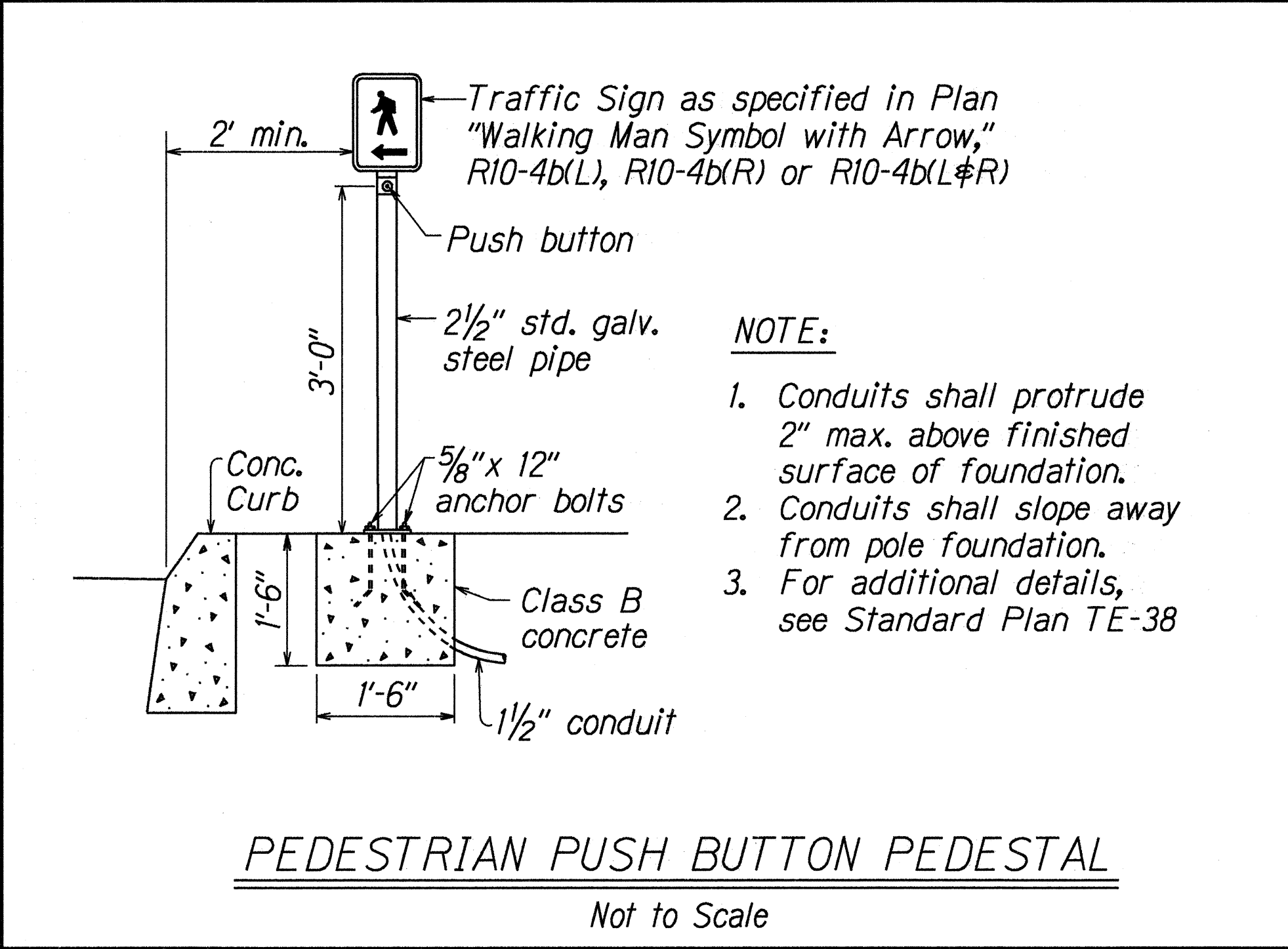
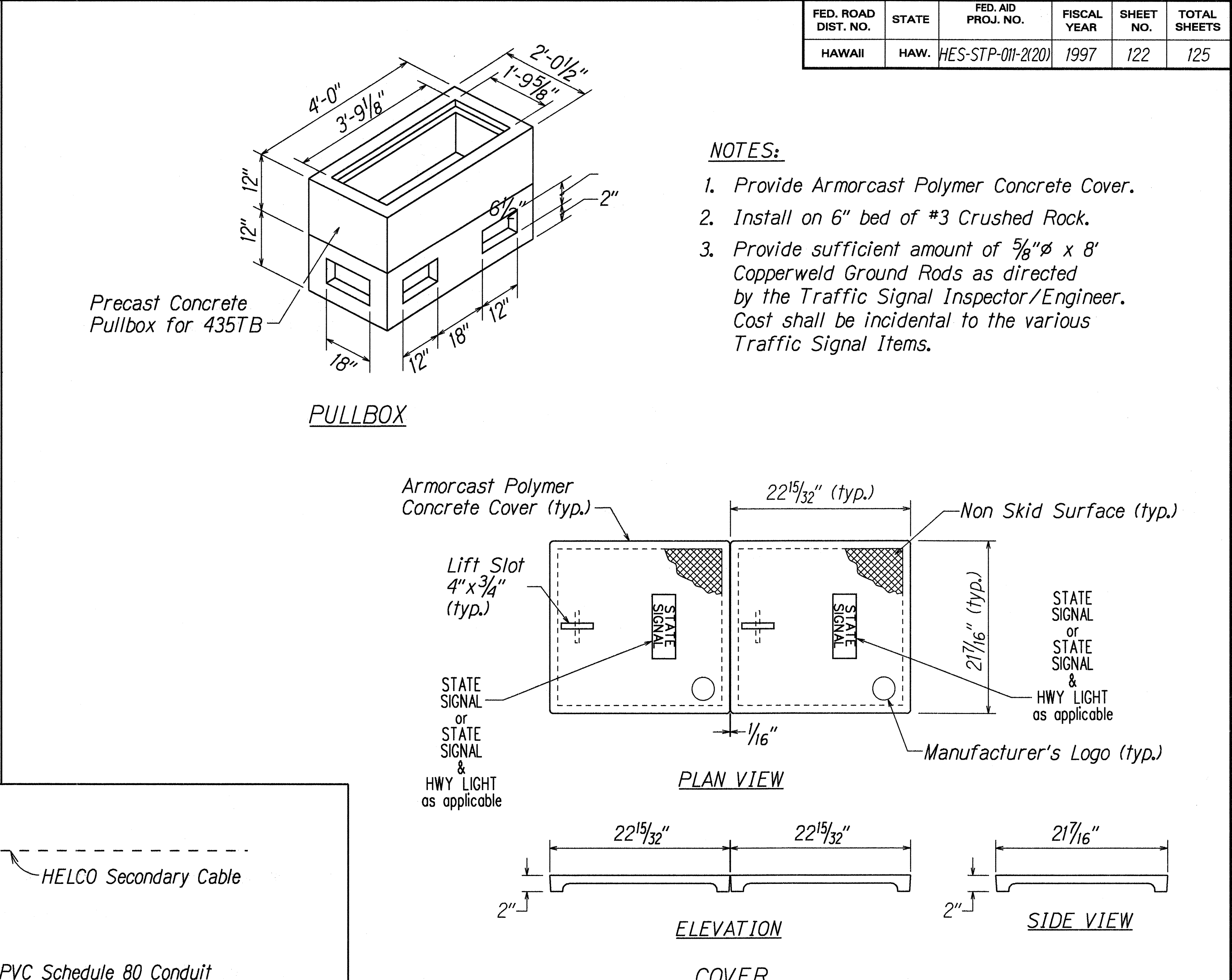
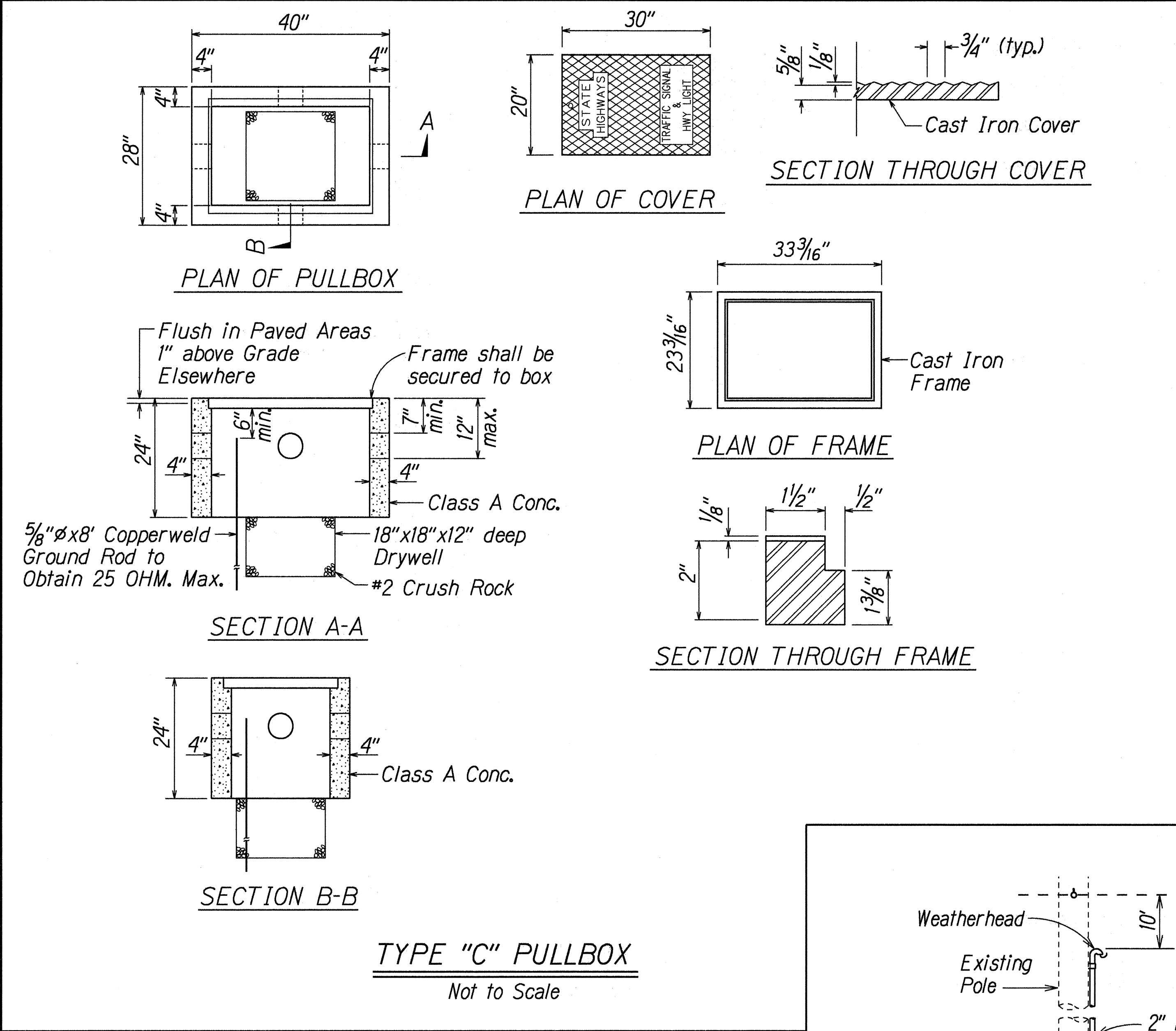
DATE REVISION

SHEET No. T8 OF 12 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HES-STP-011-2(20)	1997	ADD. 121	125



FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HES-STP-011-2(20)	1997	122	125



SURVEY PLOTTED BY	DATE	3/20/98
DRAWN BY	DESIGNED BY	C. Abe
NOTE BOOK	QUANTITIES BY	2/21/98
ORIGINAL	CHECKED BY	

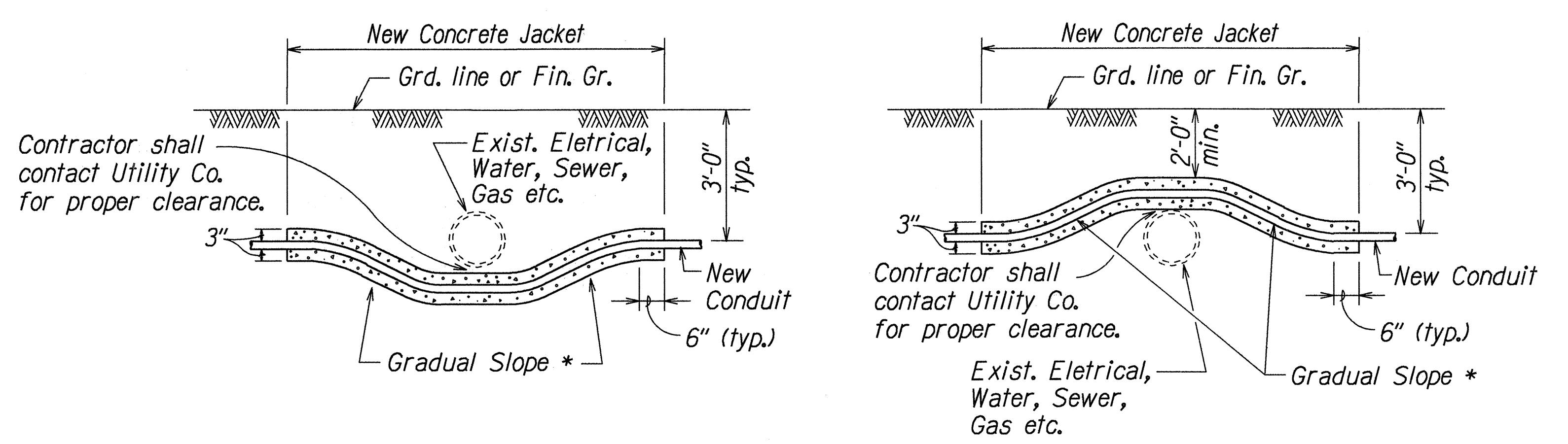
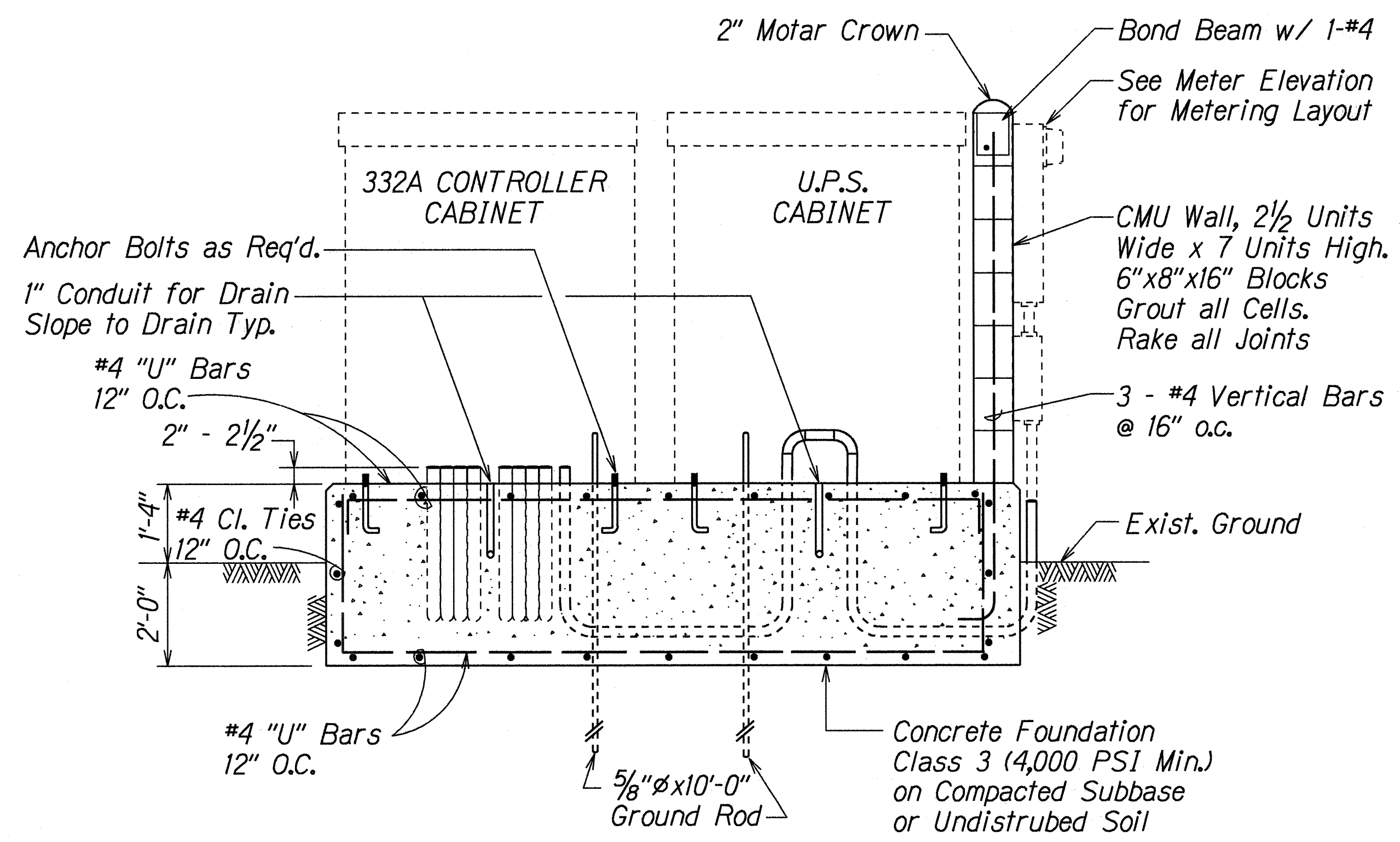
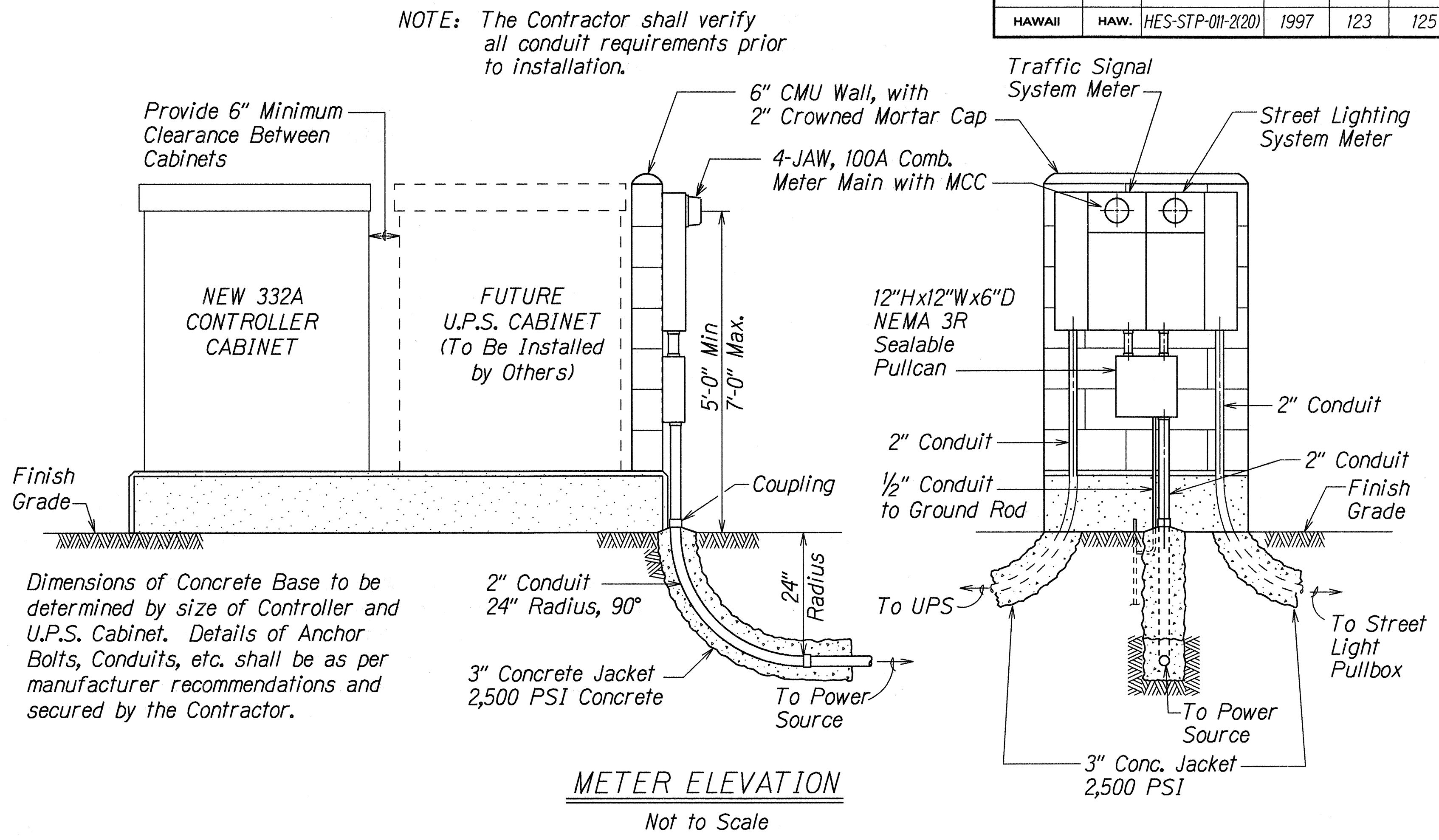
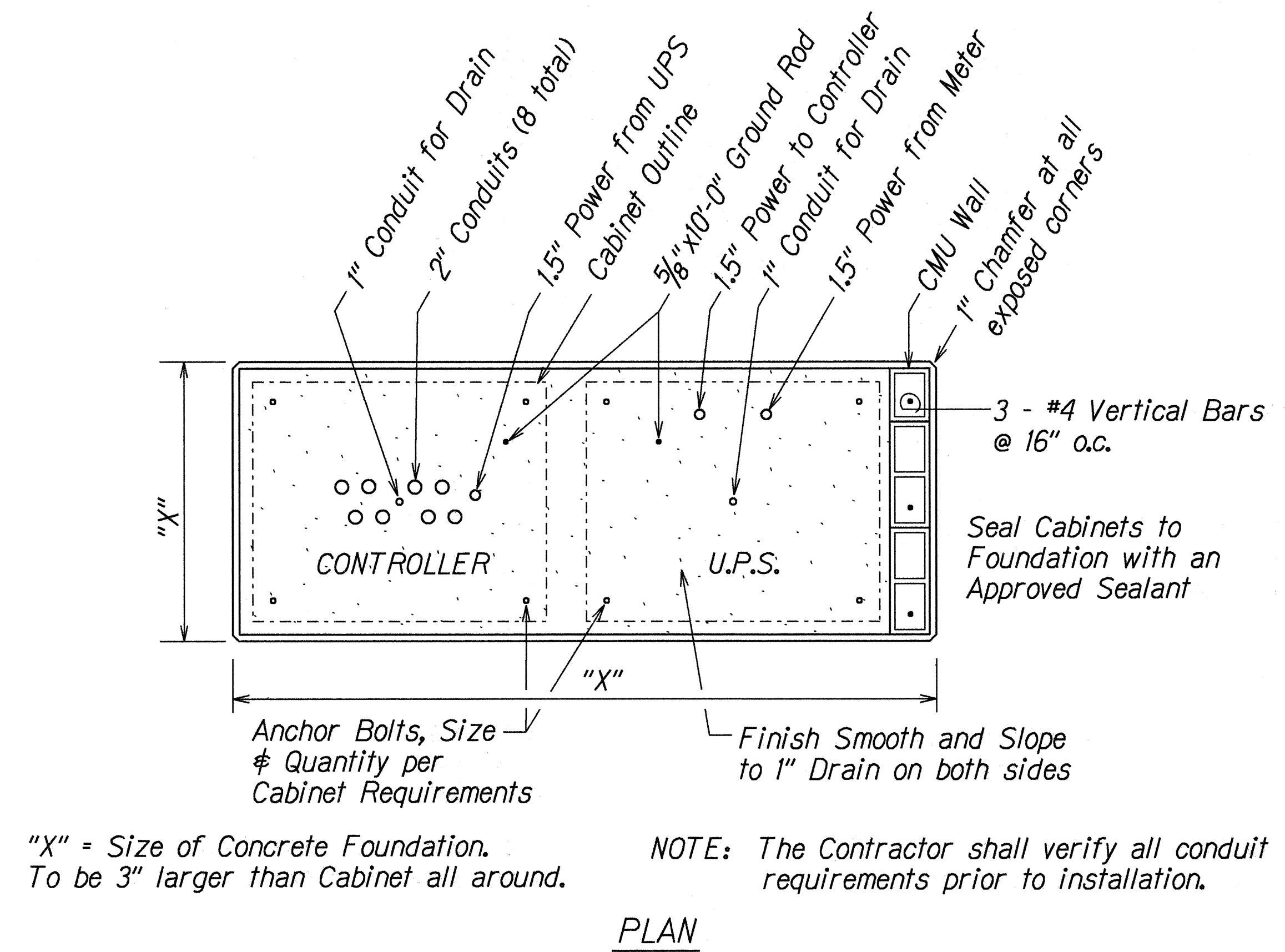
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC SIGNAL DETAILS

KANOELEHUA AVENUE
Intersection Improvements at
Kekuanaoa St. & Airport Access Rd.
Fed. Aid Project No. HES-STP-011-2(20)
Scale: As shown Date: Mar., 1997

SHEET No. T10 OF 12 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HES-STP-011-2(20)	1997	123	125



ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
	DRAWN BY	
	NOTES	
	CHECKED BY	

UNINTERRUPTED POWER SUPPLY (UPS) UNIT &
CONTROLLER CABINET FOUNDATION
Not to Scale

CONDUIT BY-PASS DETAIL AT VARIOUS UTILITIES
Not to Scale

STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION

HIGHWAYS DIVISION

ELECTRICAL SERVICE DETAIL

KANOELEHUA AVENUE

Intersection Improvements at

Kekuanaoa St. & Airport Access Rd.

Federal Aid Project No. HES-STP-011-2(20)

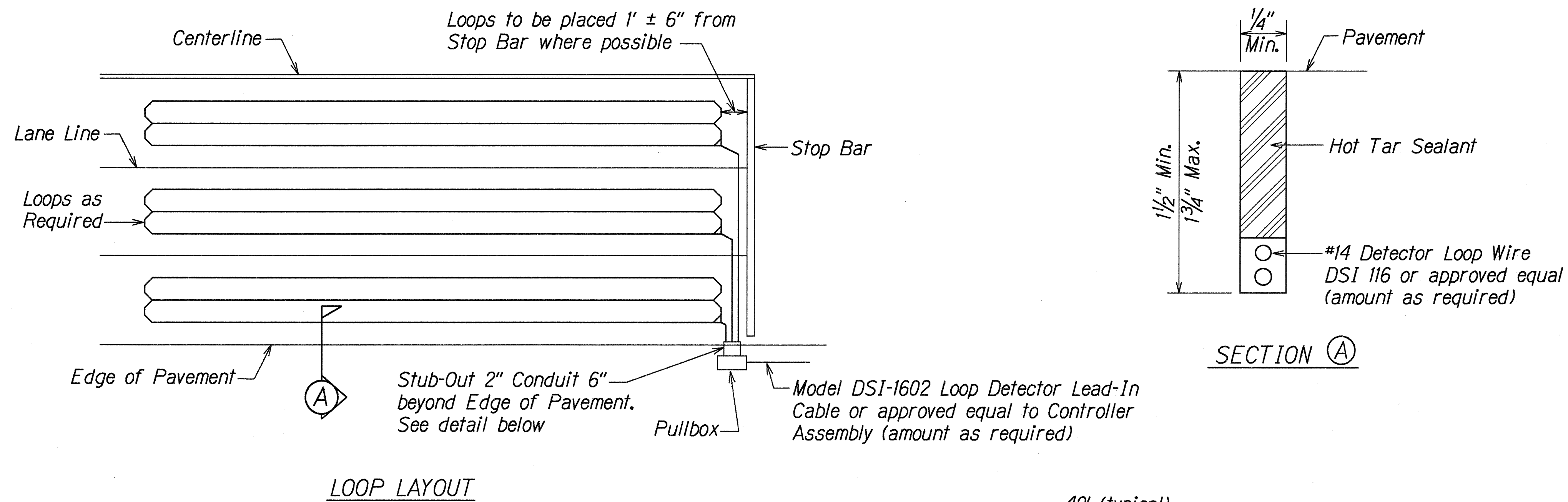
Scale: As Noted

Date: Mar., 1997

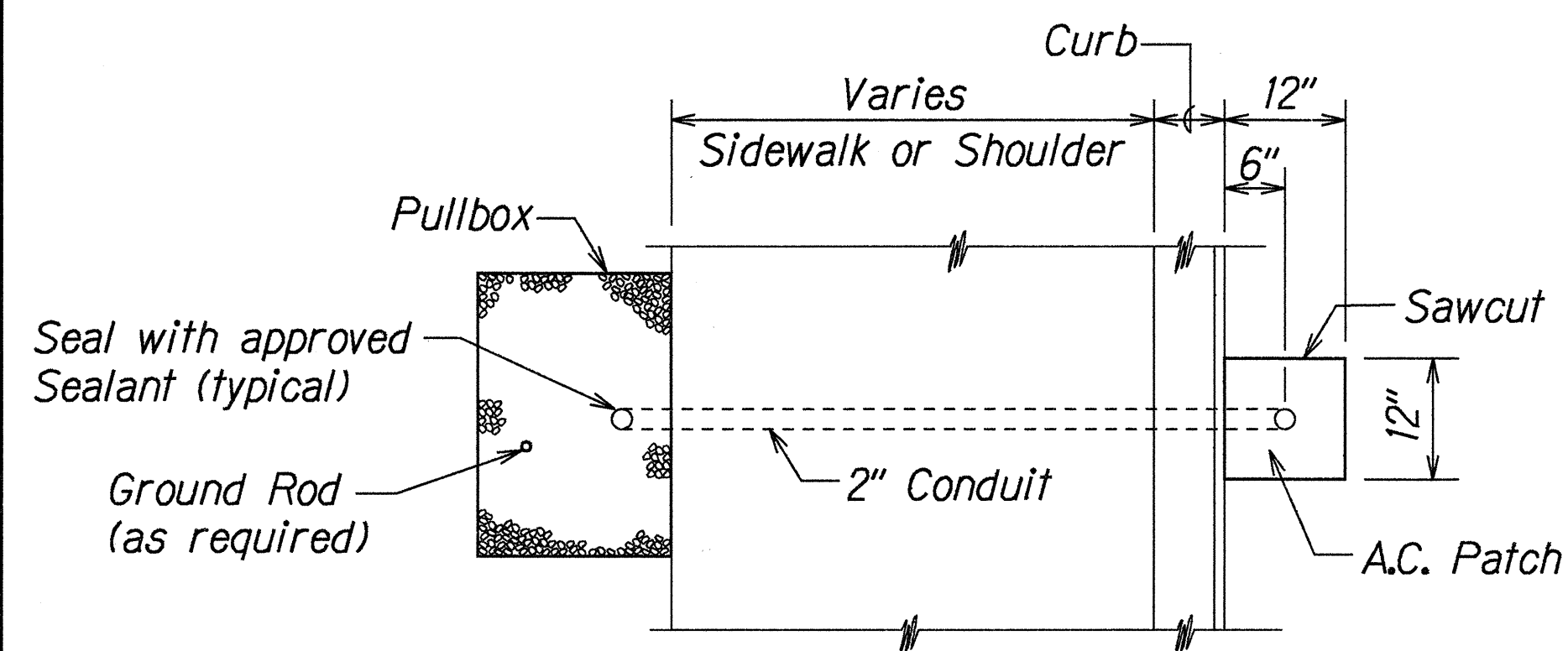
SHEET No. 111 OF 12

SHEETS

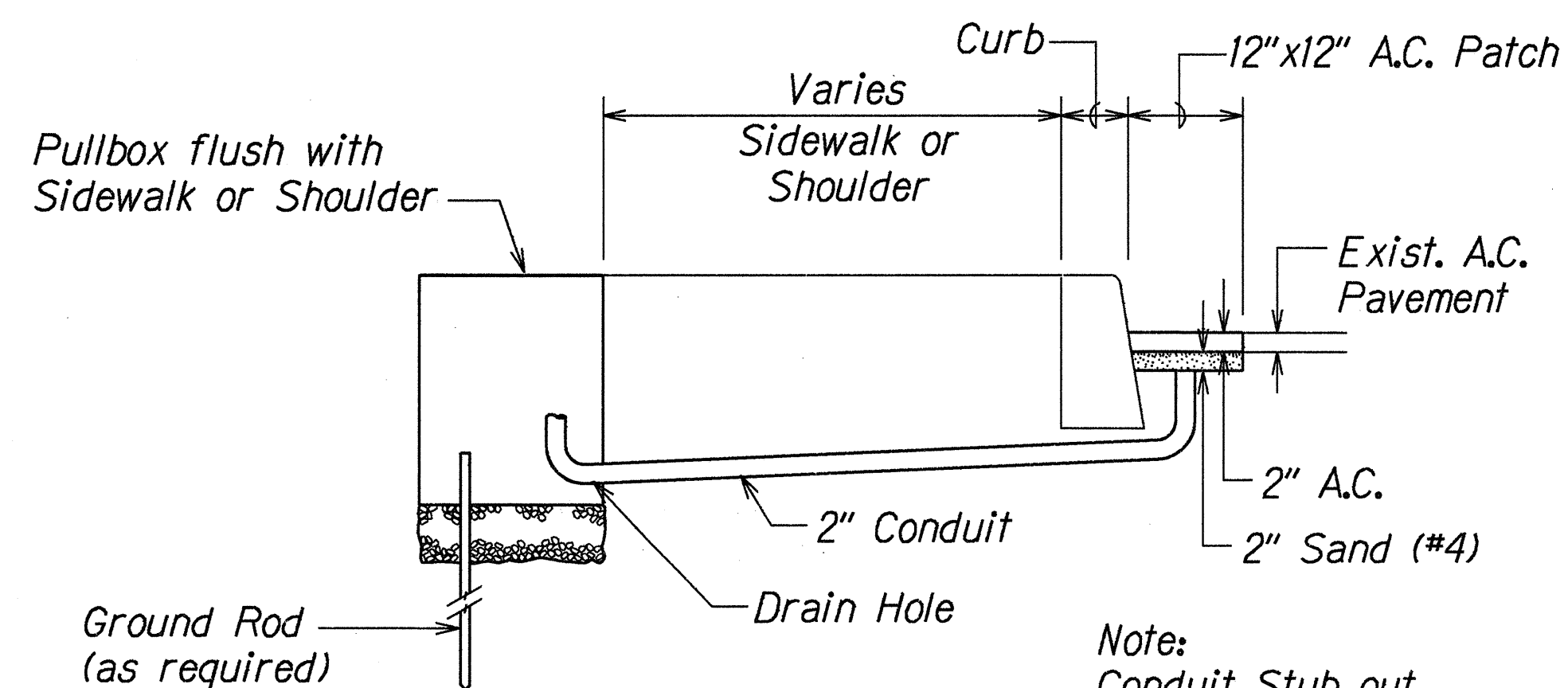
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HES-STP-011-2(20)	1997	ADD. 124	125



LOOP LAYOUT

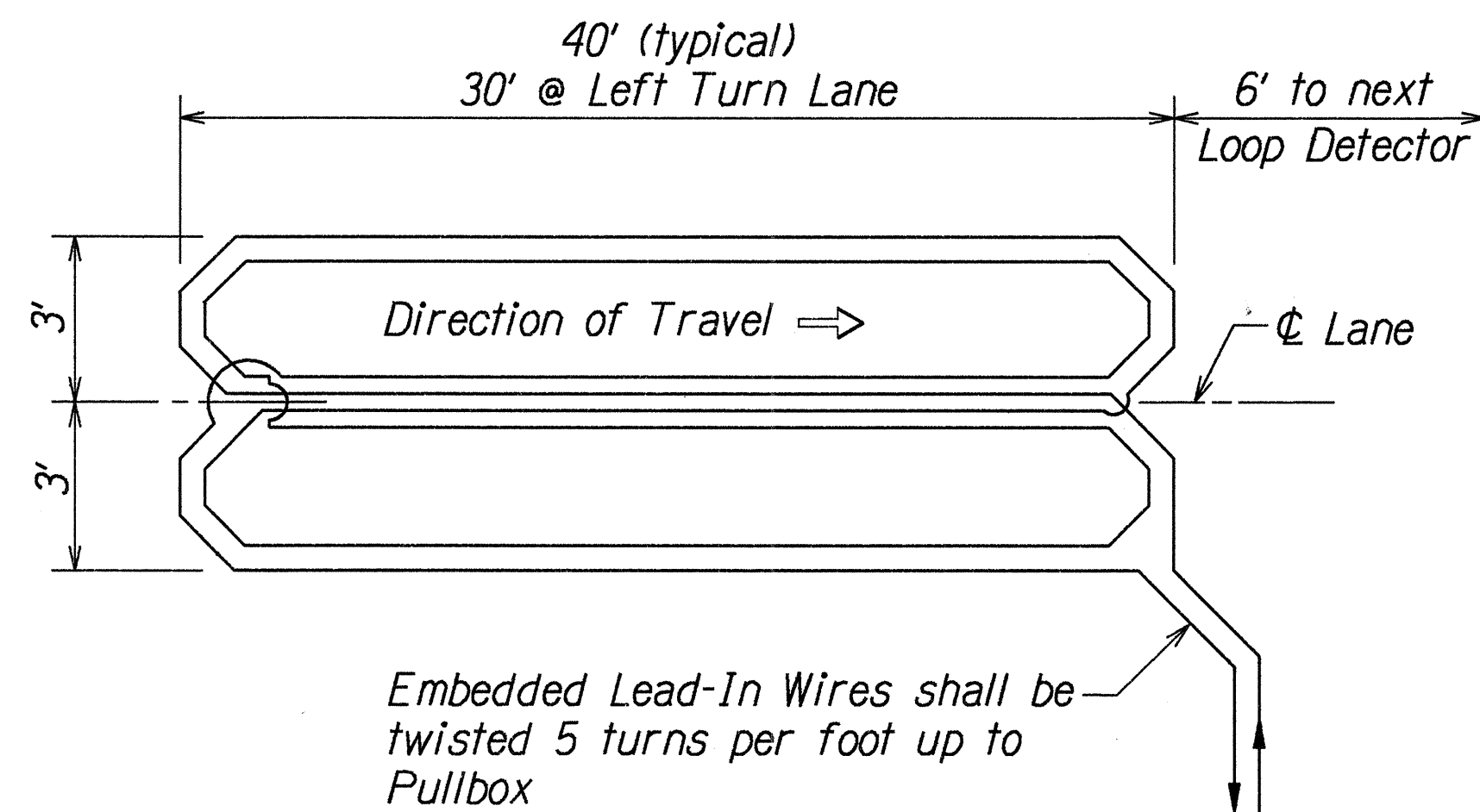


PLAN

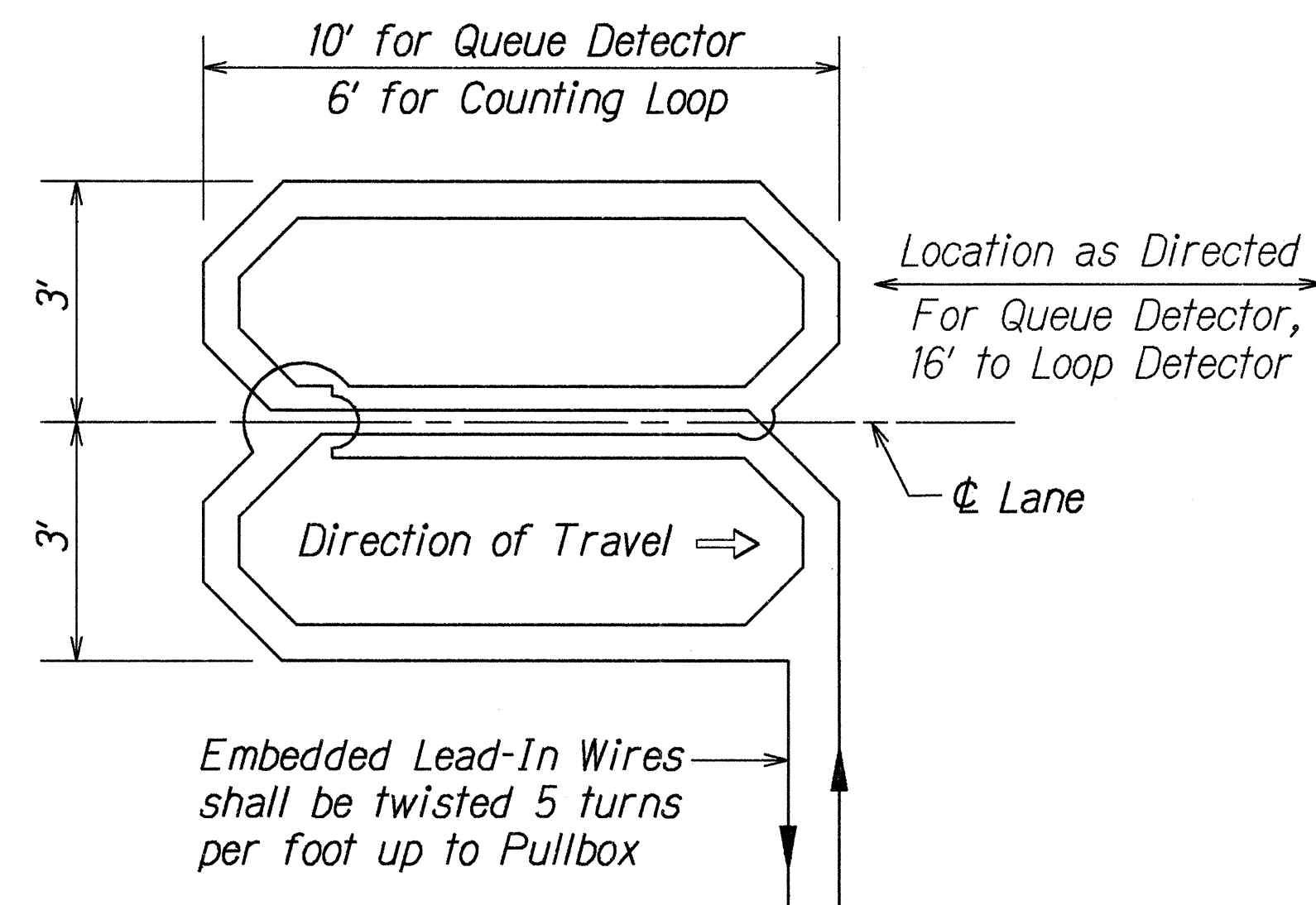


SECTION

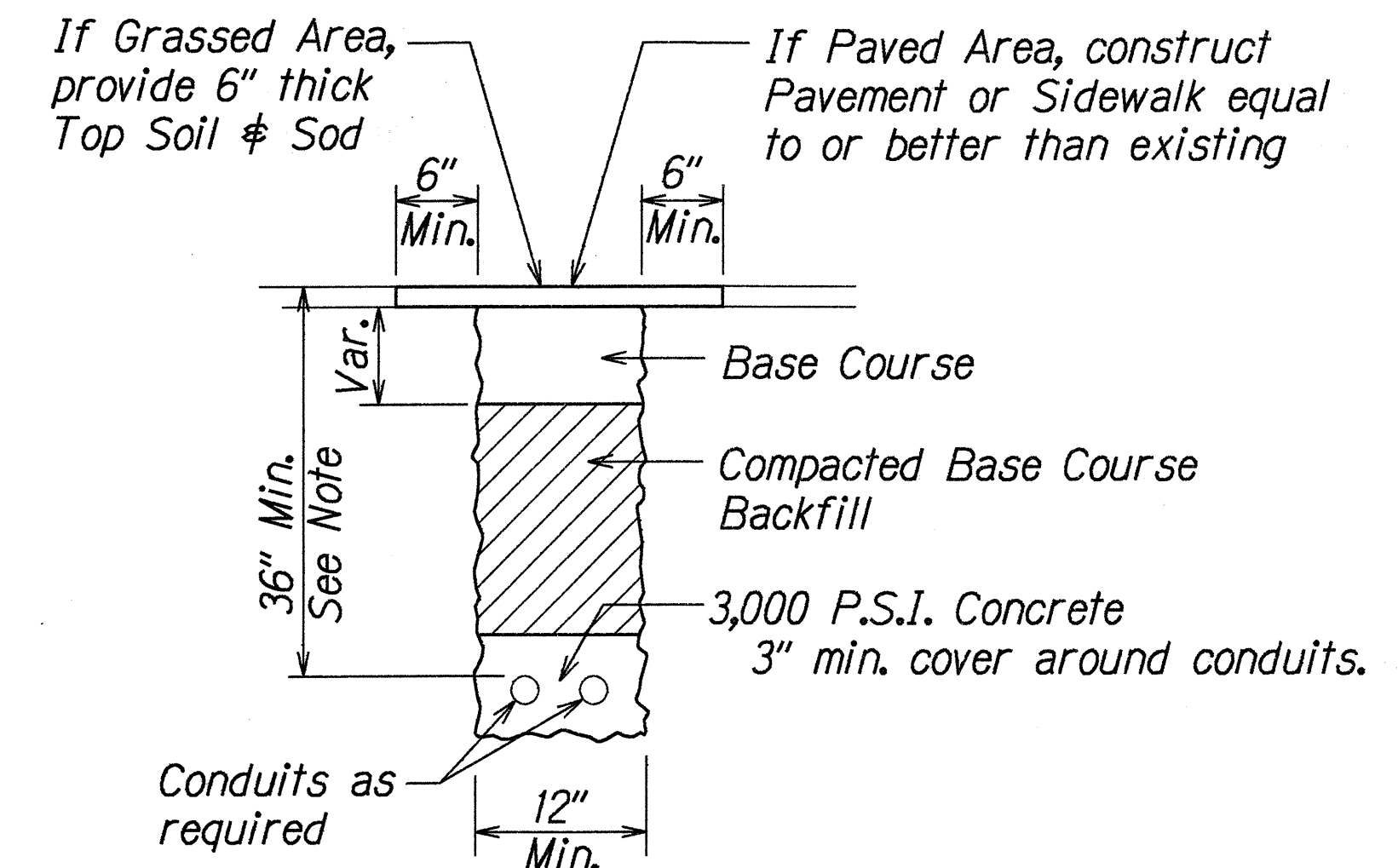
LOOP DETECTOR STUB OUT



WIRING DIAGRAM



WIRING DIAGRAM - QUEUE/COUNTING DETECTORS



NOTES

1. All Conduits shall be PVC Schedule 40 when encased in concrete.
2. Indicated bury depth shall be adjusted in the field to clear and avoid interferences with all existing buried utility.

DUCT DETAILS

NOTES

1. If abandoned in place, all existing loop detectors shall be saw cut completely through every 10' to prevent inductive coupling.
2. All loop detector lead in cables shall be identified in the cabinet with it's appropriate loop detector assignment number per plans.
3. When hot sealants are used, only polyester insulation with a minimum 400° melting point will be permitted.

SURVEY PLOTTED BY	DATE
DRAWN BY	3/14/96
CHECKED BY	
NOTED BY	
QUANTITIES BY	
CHECKED BY	
ORIGINAL PLAN	
NO. 201104	
DATE	

LOOP DETECTOR DETAILS

5/21/97	Revised Duct Details per Add. No. 3.
DATE	REVISION

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION LOOP DETECTORS & DUCT DETAILS KANOELEHUA AVENUE Intersection Improvements at Kekuanaoa St. & Airport Access Rd. Fed. Aid Project No. HES-STP-011-2(20) Scale: Not to Scale Date: Mar., 1997 SHEET No. T12 OF 12 SHEETS
