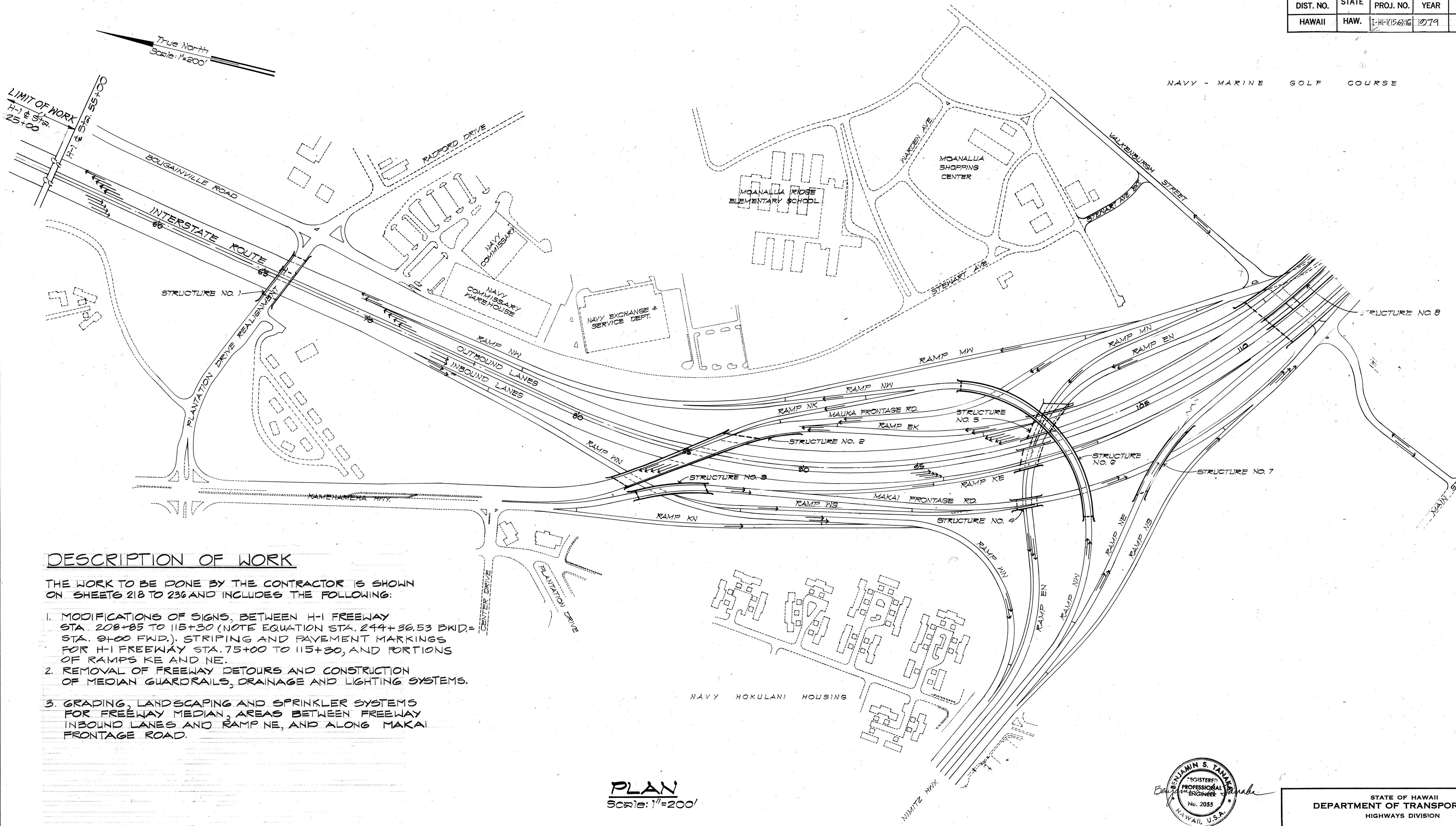


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H-1(156)16	1979	217	236

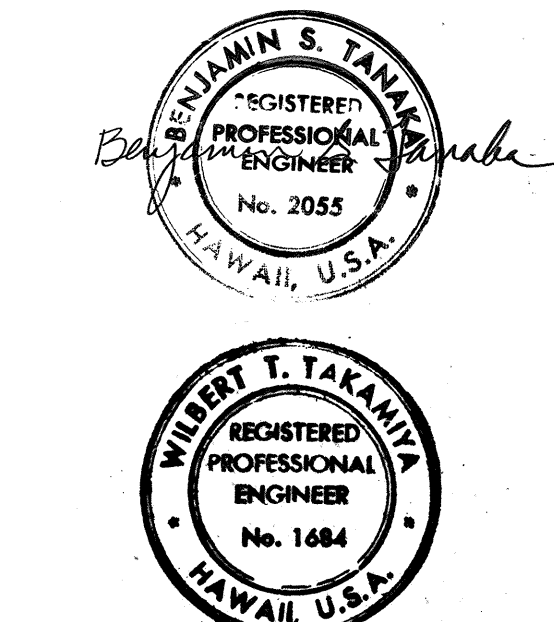


DESCRIPTION OF WORK

- THE WORK TO BE DONE BY THE CONTRACTOR IS SHOWN ON SHEETS 218 TO 236 AND INCLUDES THE FOLLOWING:
1. MODIFICATIONS OF SIGNS, BETWEEN H-1 FREEWAY STA. 208+85 TO 115+30 (NOTE EQUATION STA. 244+36.53 BKID= STA. 9+00 FWD.). STRIPING AND PAVEMENT MARKINGS FOR H-1 FREEWAY STA. 75+00 TO 115+30, AND PORTIONS OF RAMPS KE AND NE.
 2. REMOVAL OF FREEWAY DETOURS AND CONSTRUCTION OF MEDIAN GUARDRAILS, DRAINAGE AND LIGHTING SYSTEMS.
 3. GRADING, LANDSCAPING AND SPRINKLER SYSTEMS FOR FREEWAY MEDIAN, AREAS BETWEEN FREEWAY INBOUND LANES AND RAMP NE, AND ALONG MAKAI FRONTAGE ROAD.

PLAN
Scale: 1"=200'

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
DESIGNED BY		
CHECKED BY		
NO. 1		

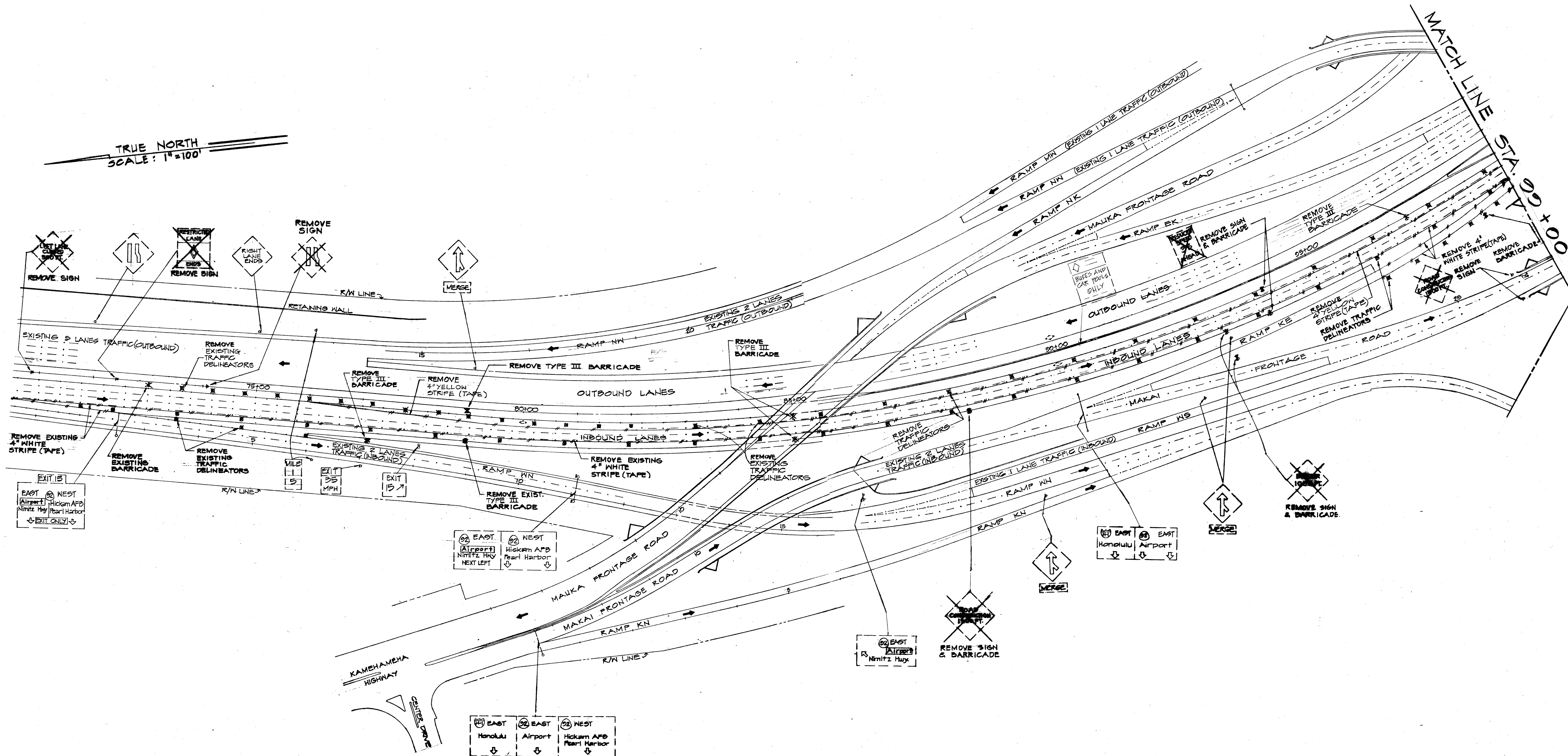


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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

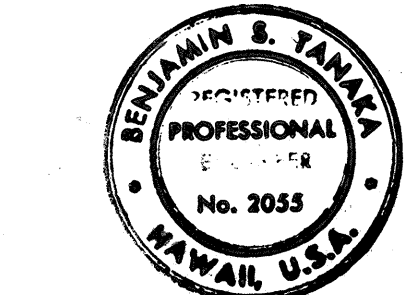
TRAFFIC ROUTING PLAN
INTERSTATE ROUTE H-1
F.A.I. Project No. I-H-1(156)16
SCALE: AS SHOWN DATE: NOV. 15, 1978
SHEET NO. 1 OF 20 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(156):16	1973	218	236



PLAN
SCALE: 1" = 100'

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



Benjamin S. Tanaka
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OR UNDER MY SUPERVISION.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

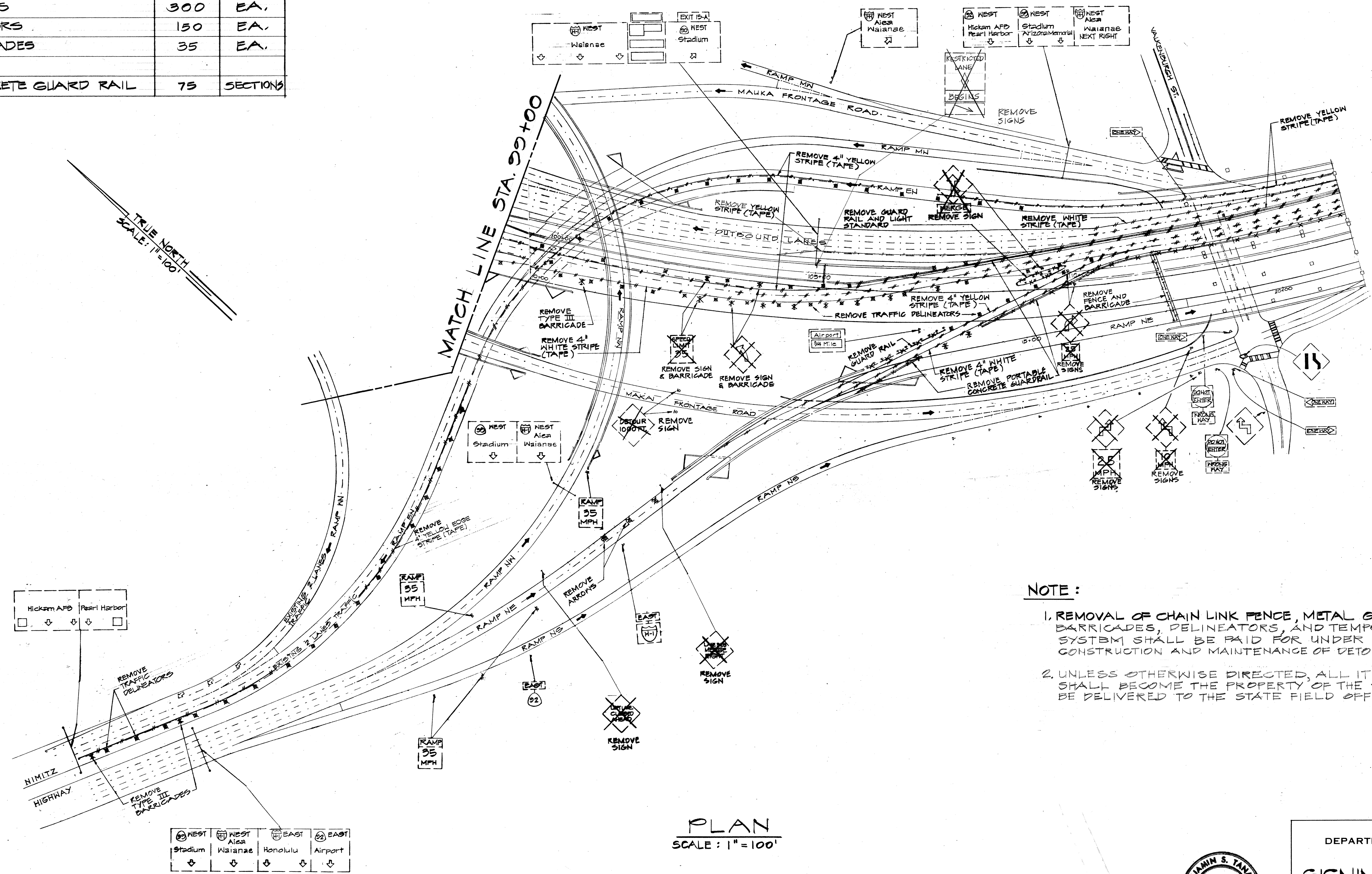
SIGNING AND PAVEMENT MARKING REMOVAL PLAN

INTERSTATE ROUTE H-1
Project No. I-HI-1(156):16

SCALE: AS SHOWN DATE: NOV. 15, 1973
SHEET NO. 2 OF 20 SHEETS

ROADWAY REMOVAL SUMMARY		
ITEM	QUANTITY	UNIT
PAVEMENT STRIPING (TAPE)	13,000	L.F.
PAVEMENT ARROWS	5	EA.
PAVEMENT MARKERS	300	EA.
TRAFFIC DELINEATORS	150	EA.
TYPE III BARRICADES	35	EA.
PORTABLE CONCRETE GUARD RAIL	75	SECTIONS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(156)16	1979	219	236

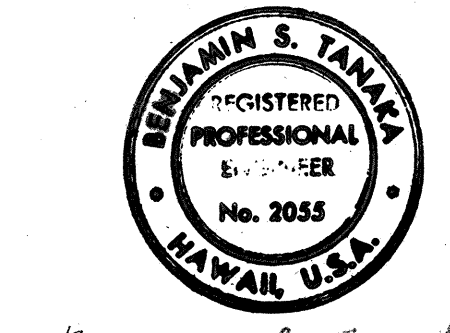


NOTE:

1. REMOVAL OF CHAIN LINK FENCE, METAL GUARD RAIL, SIGNS, BARRICADES, DELINEATORS, AND TEMPORARY LIGHTING SYSTEM SHALL BE PAID FOR UNDER ITEM NO. 104.0500, CONSTRUCTION AND MAINTENANCE OF DETOURS.
2. UNLESS OTHERWISE DIRECTED, ALL ITEMS IN NOTE 1 ABOVE SHALL BECOME THE PROPERTY OF THE STATE AND SHALL BE DELIVERED TO THE STATE FIELD OFFICE.

PLAN
SCALE: 1" = 100'

SURVEY PLOTTED BY	DATE
DESIGNED BY	
TRACED BY	
NOTE BOOK	
QUANTITIES BY	
CHECKED BY	



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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SIGNING AND PAVEMENT MARKING REMOVAL PLAN

INTERSTATE ROUTE H-1
Project No. I-HI-1(156)16

SCALE: AS SHOWN DATE: NOV. 15, 1978
SHEET NO. 3 OF 20 SHEETS

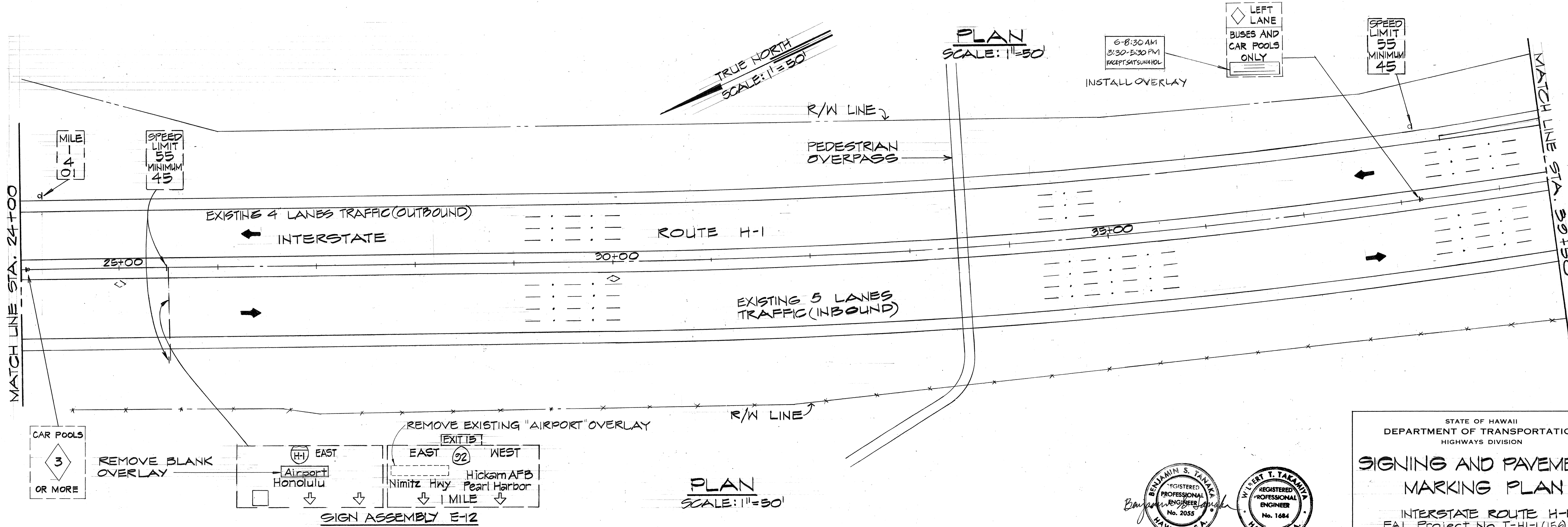
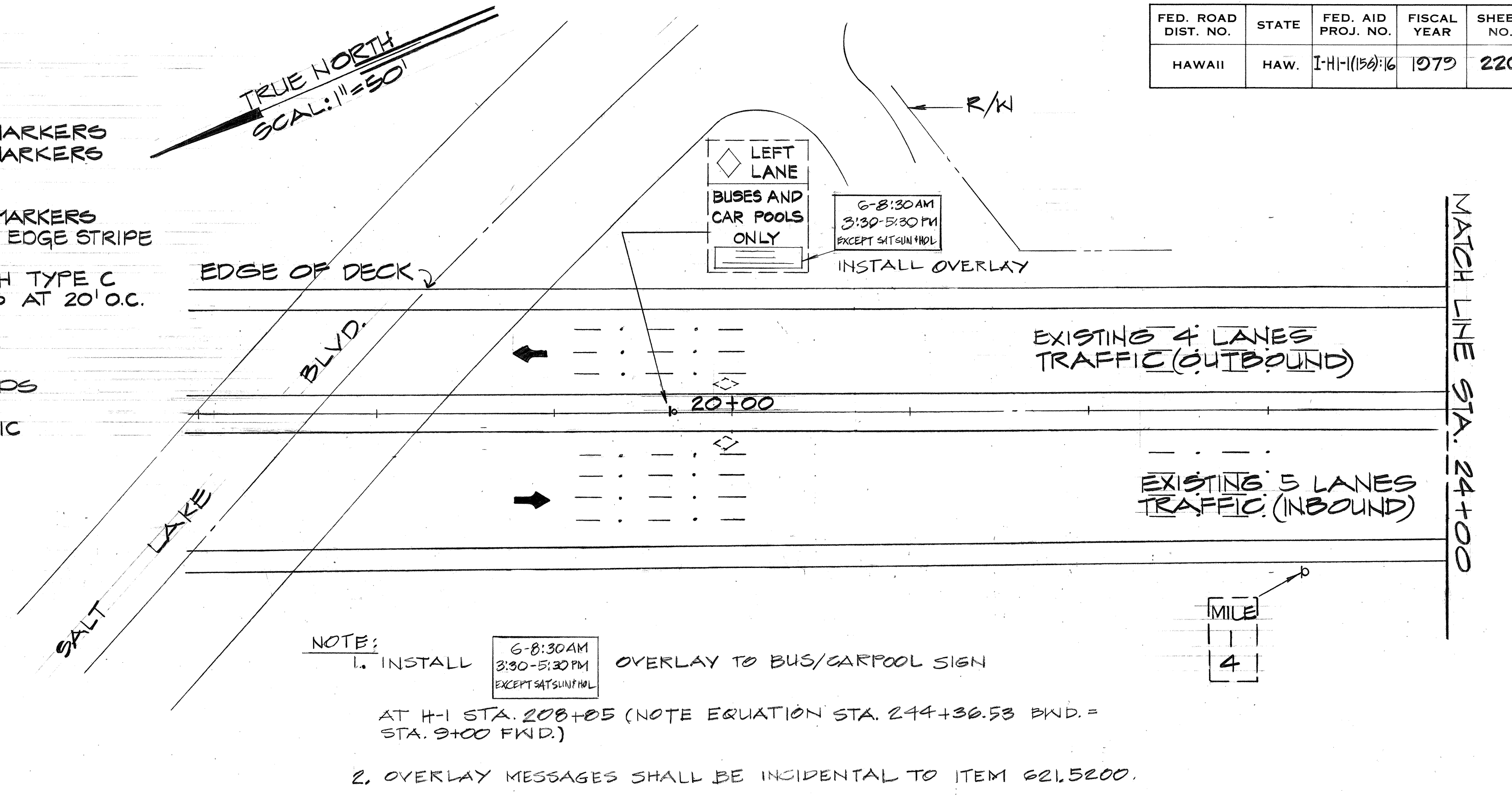
GENERAL NOTES:

1. UNLESS OTHERWISE DIRECTED, UPON COMPLETION OF CONSTRUCTION, SIGNS, BARRICADE, ETC. SHALL BECOME THE PROPERTY OF THE STATE AND SHALL BE DELIVERED TO THE FIELD OFFICE.
2. EXISTING ROADWAY ITEMS NOT APPLICABLE TO TRAFFIC REQUIREMENTS SHALL BE REMOVED.
3. THE NUMBER OF EXISTING LANES TO BE USED TO CARRY TRAFFIC AT THE TIME OF PAINTING AND STRIPING WORK ARE DESIGNATED ON SHEETS

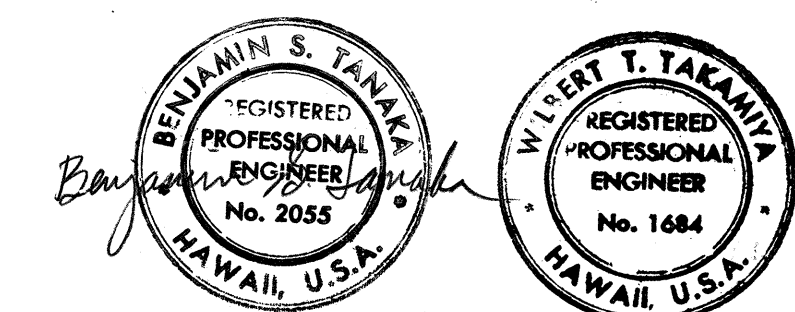
LEGEND

- EXISTING PROPOSED
- TYPE A PAVEMENT MARKERS
 - TYPE C PAVEMENT MARKERS
 - TYPE H PAVEMENT MARKERS AT 40' O.C. W/ 4" YELLOW EDGE STRIPE
 - 8" WHITE STRIPE WITH TYPE C PAVEMENT MARKERS AT 20' O.C.
 - TYPE I BARRICADE
 - PAVEMENT DIAMONDS
 - DIRECTION OF TRAFFIC

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H-1(159):16	1979	220	236



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



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SIGNING AND PAVEMENT MARKING PLAN

INTERSTATE ROUTE H-1
F.A.J. Project No. I-H-1(159):16

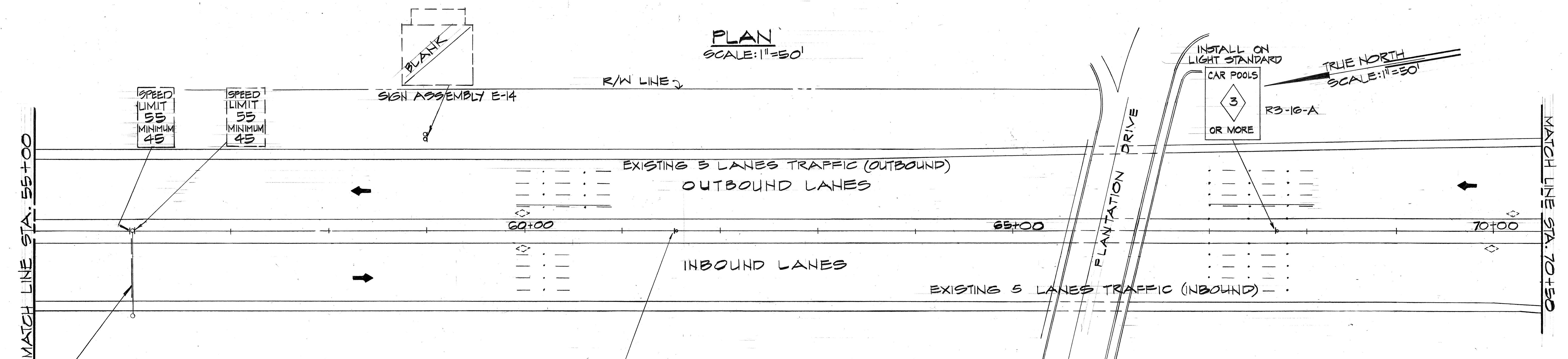
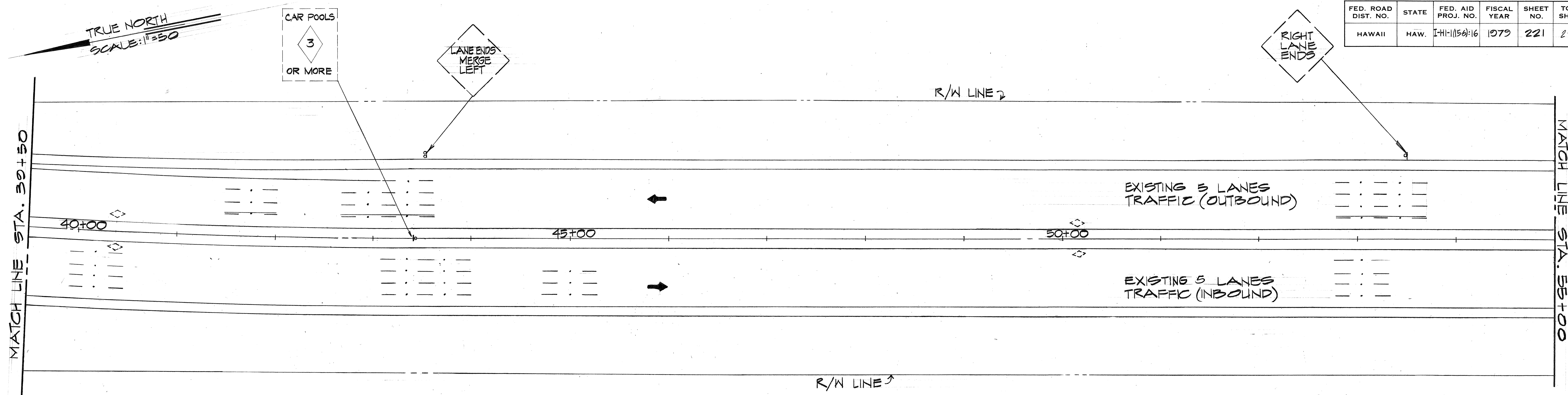
SCALE: AS SHOWN DATE: NOV. 15, 1979
SHEET NO. 4 OF 20 SHEETS

WILBERT T. YANKE
REGISTERED PROFESSIONAL ENGINEER
No. 1684
HAWAII, U.S.A.

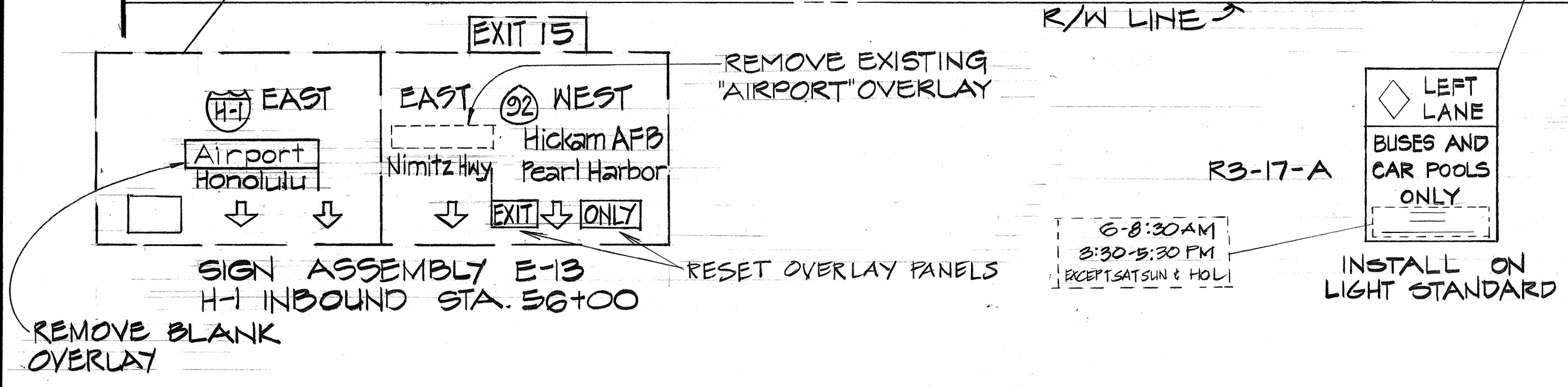
BENJAMIN S. YANKE
REGISTERED PROFESSIONAL ENGINEER
No. 2055
HAWAII, U.S.A.

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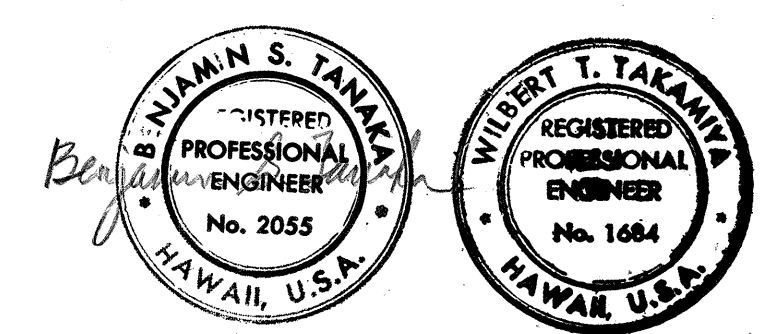
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(150):16	1979	221	236



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



PLAN
SCALE: 1"=50'



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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

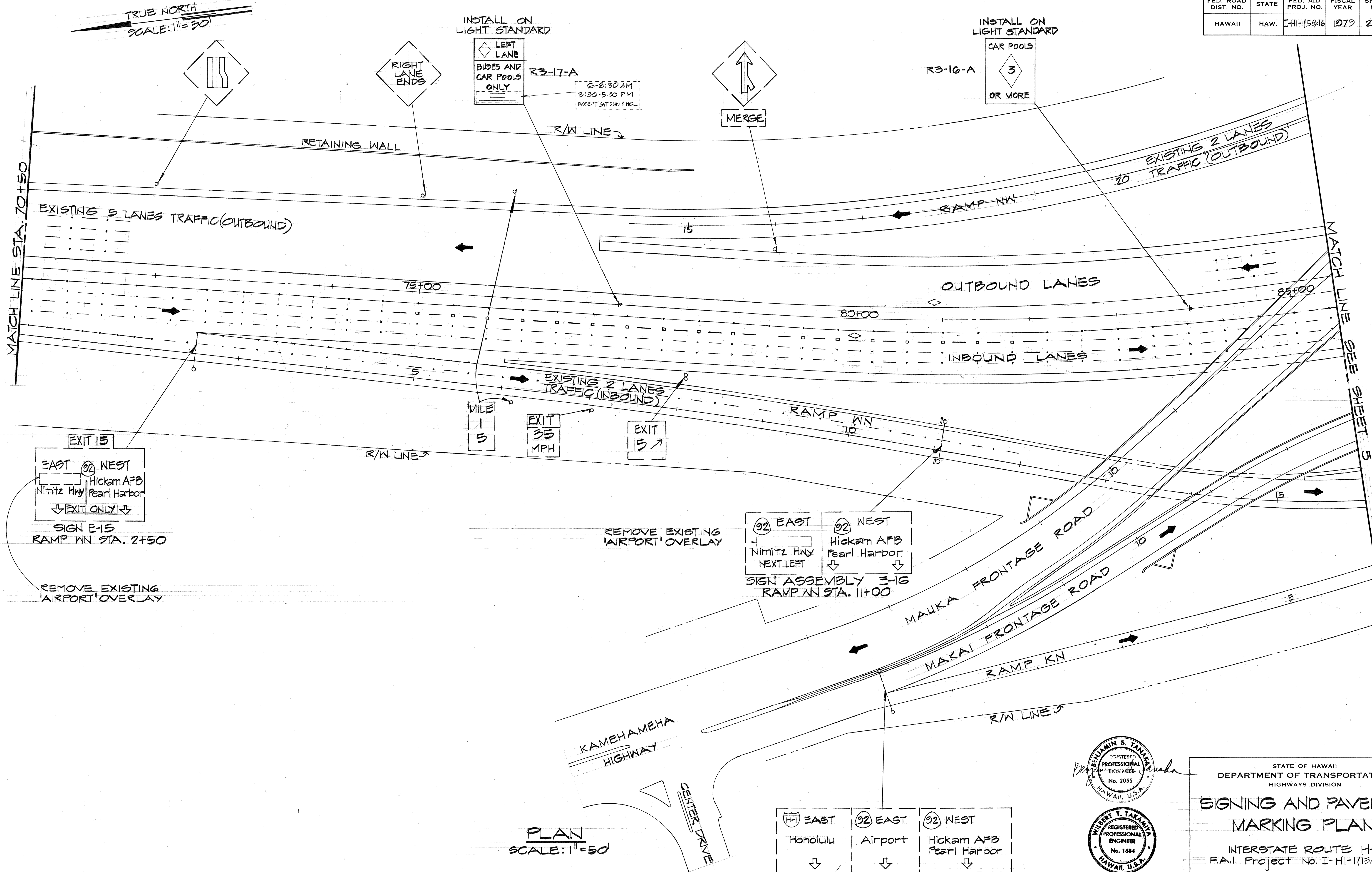
SIGNING AND PAVEMENT MARKING PLAN

INTERSTATE ROUTE H-1
FAI Project No. I-HI-1(150):16

SCALE: AS SHOWN DATE: NOV. 15, 1979
SHEET NO. 5 OF 20 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H-1(150)-16	1979	222	236

TRUE NORTH
SCALE: 1"=50'



DATE
SURVEY PLOTTED BY
DRAWN BY
TRACED BY
DESIGNED BY
CHECKED BY
NO.

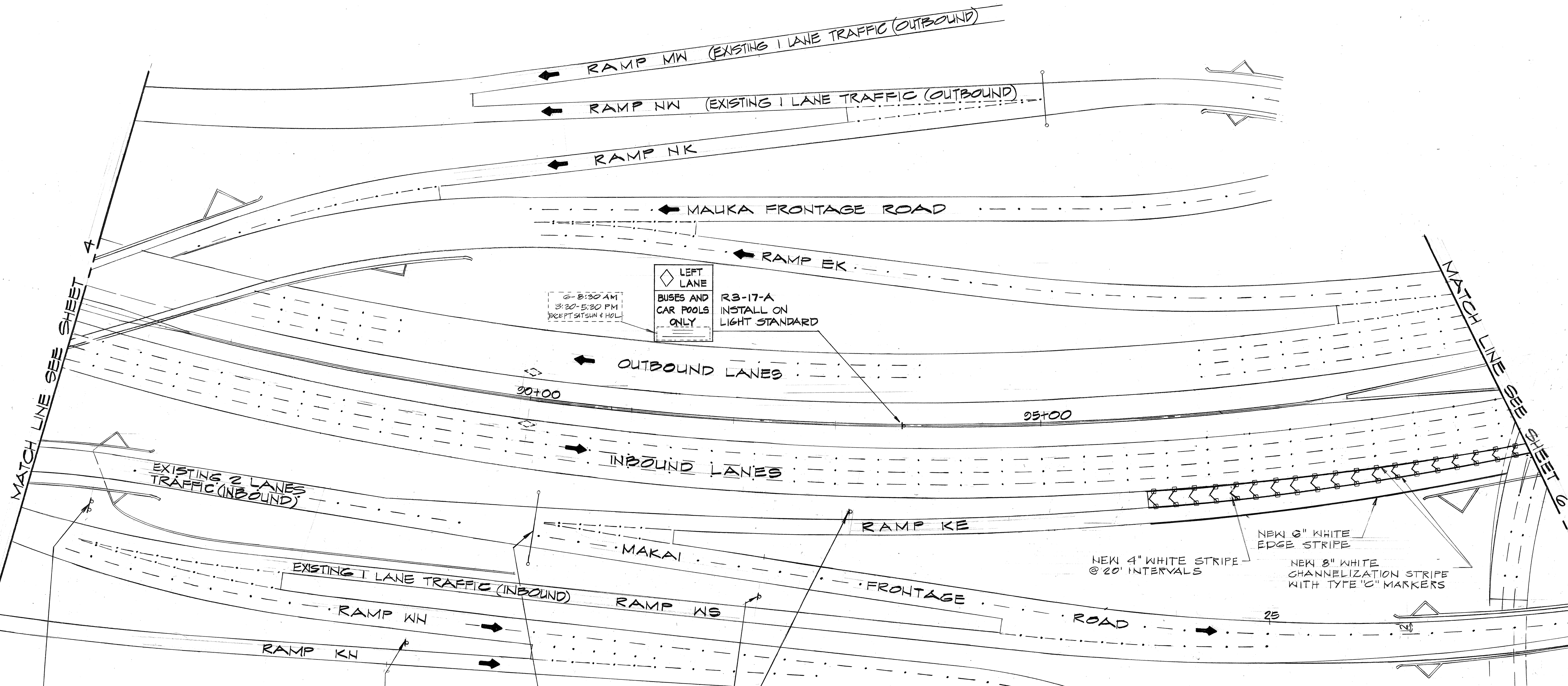
EAST 92 WEST
 Honolulu Airport Hickam AFB
 Pearl Harbor
 SIGN E-2
 MAKAI F.R. STA. 6+70

BENJAMIN S. TAKAMIA
 REGISTERED PROFESSIONAL ENGINEER
 No. 2055
 HAWAII, U.S.A.
 WILBERT T. TAKAMIA
 REGISTERED PROFESSIONAL ENGINEER
 No. 1684
 HAWAII, U.S.A.

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION
SIGNING AND PAVEMENT MARKING PLAN
 INTERSTATE ROUTE H-1
 F.A.I. Project No. I-H-1(150)-16
 SCALE: AS SHOWN DATE: NOV. 15, 1978
 SHEET No. 6 OF 20 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(150):16	1979	223	236

TRUE NORTH
SCALE: 1"=50'

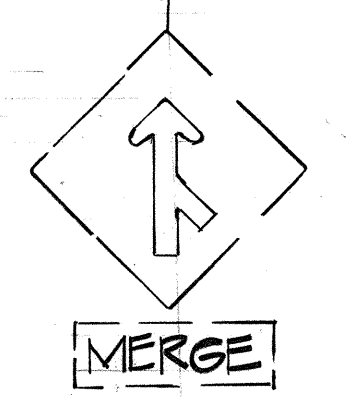


6-8:30 AM
8:30-5:30 PM
EXCEPT SATSUN & HOL

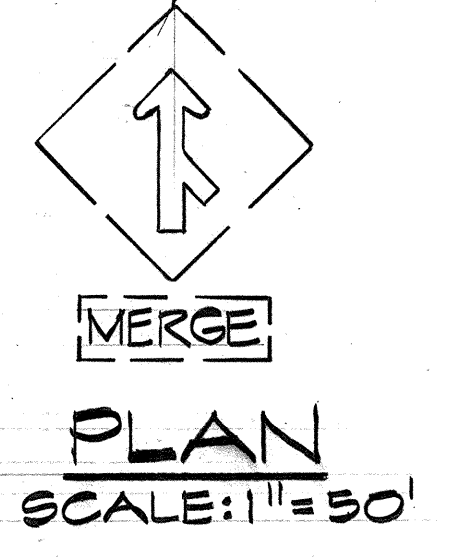
LEFT LANE
BUSES AND
CAR POOLS
ONLY
R3-17-A
INSTALL ON
LIGHT STANDARD

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

② EAST
Nimitz Hwy.
REMOVE EXISTING
'AIRPORT' OVERLAY
SIGN ASSEMBLY E-14
RAMP WS @ STA. 0+00=
RAMP WN @ STA. 16+63



EAST ② EAST
Honolulu Airport
SIGN ASSEMBLY E-9
MAKAI FRONTAGE ROAD @
STA. 17+75 = RAMP KE
@ STA. 0+00

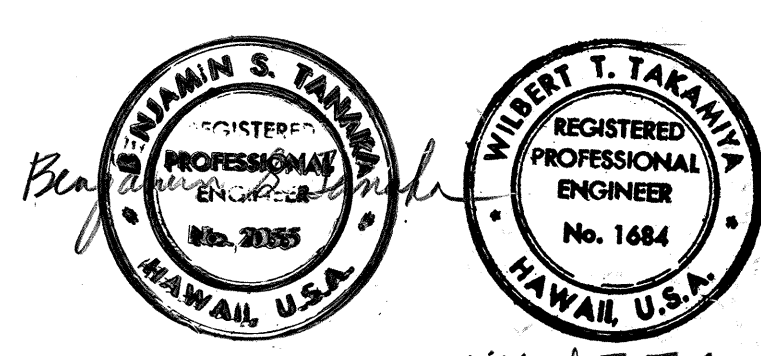
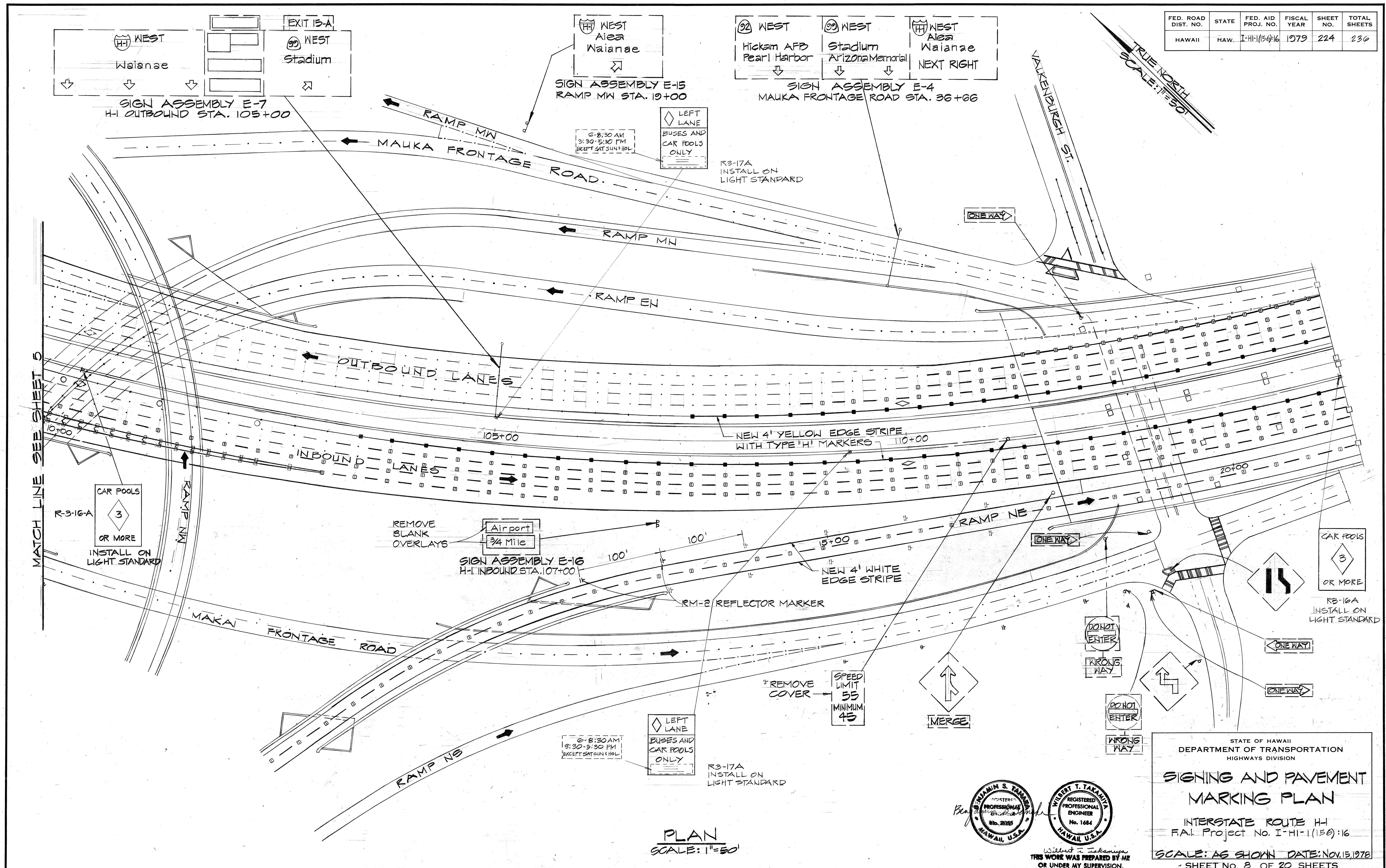


BENJAMIN S. TANAKA
REGISTERED
PROFESSIONAL
ENGINEER
No. 2055
HAWAII, U.S.A.
WILBERT T. TAKAMURA
REGISTERED
PROFESSIONAL
ENGINEER
No. 1684
HAWAII, U.S.A.
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OR UNDER MY SUPERVISION.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
**SIGNING AND PAVEMENT
MARKING PLAN**
INTERSTATE ROUTE H-1
F.A.I. Project No. I-HI-1(150):16
SCALE: AS SHOWN DATE: NOV. 13, 1978
SHEET NO. 7 OF 20 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(150)-16	1979	224	236

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



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SIGNING AND PAVEMENT MARKING PLAN

INTERSTATE ROUTE HI-1
F.A.I. Project No. I-HI-1(150)-16

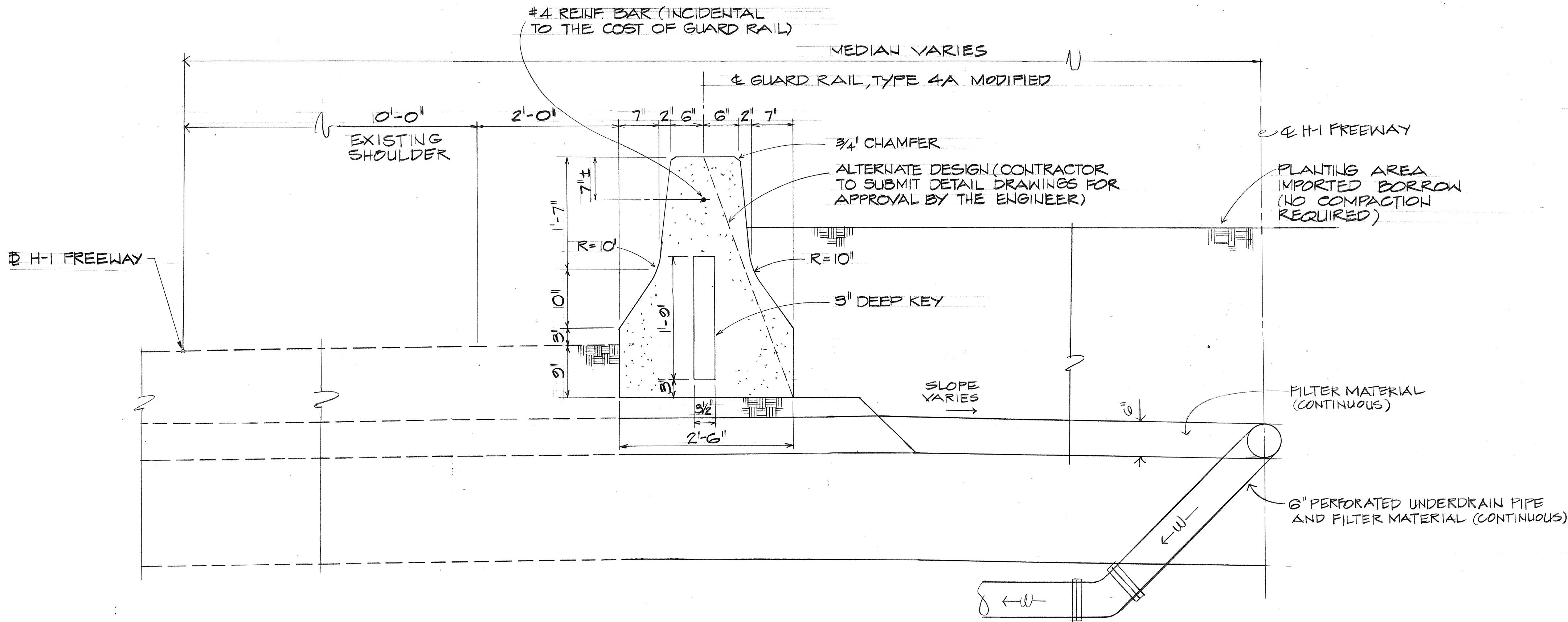
SCALE: AS SHOWN DATE: NOV. 15, 1978
SHEET NO. 8 OF 20 SHEETS

WILBERT T. TAKAMIZAWA
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FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(159)16	1979	225	236

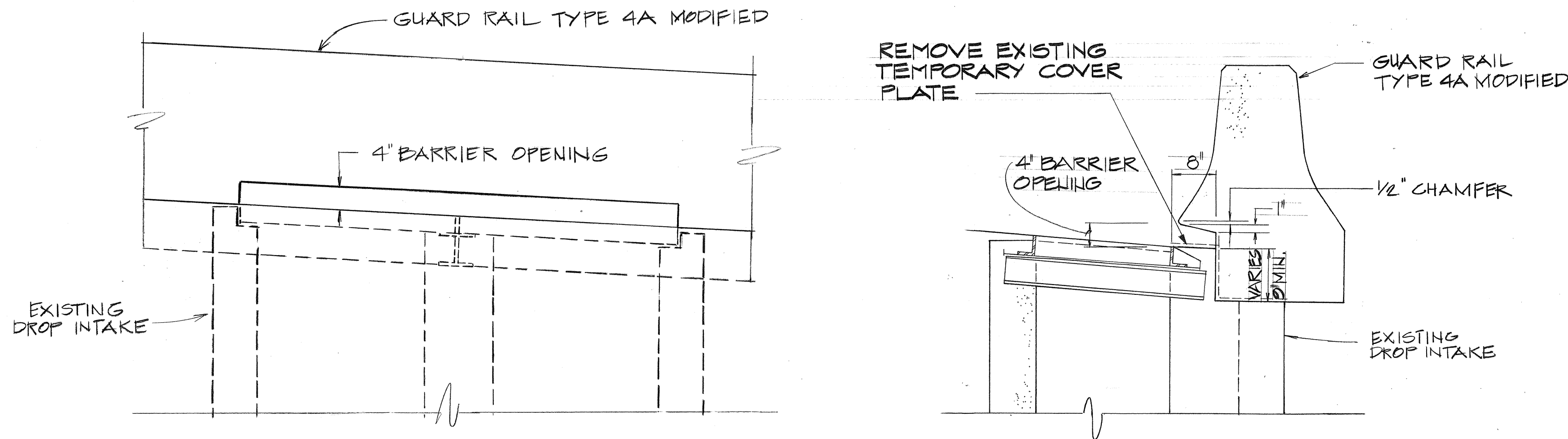
GENERAL NOTES

1. PRECAST RIGID BARRIER GUARD RAIL MAY BE INSTALLED AS AN OPTION TO CAST-IN-PLACE TYPE 4 RIGID BARRIER GUARD RAIL. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO ENGINEER FOR APPROVAL.
2. EXPANSION JOINTS SHALL BE CONSTRUCTED AT NINETY-FOOT (90 FT.) MAXIMUM INTERVALS AND AT EXISTING EXPANSION JOINTS OF STRUCTURES. (USE 1/2" PREMOLDED JOINT FILLER, INCIDENTAL TO TYPE 4 RIGID BARRIER GUARD RAIL). CONTROL JOINTS SHALL BE PLACED BETWEEN EXPANSION JOINTS AT 30' MAXIMUM. SHEAR KEYS SHALL BE REQUIRED AT ALL CONSTRUCTION JOINTS.
3. THE EXTERIOR SURFACE AND VERTICAL ALIGNMENT OF THE TYPE 4 RIGID BARRIER GUARD RAIL 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 SHALL 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 SHALL DETERMINE THE DEGREE OF THE NON-COMFORMANCE, 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 THE CONTRACTOR'S EXPENSE.



FREEWAY HALF SECTION

SCALE 1" = 1'-0"

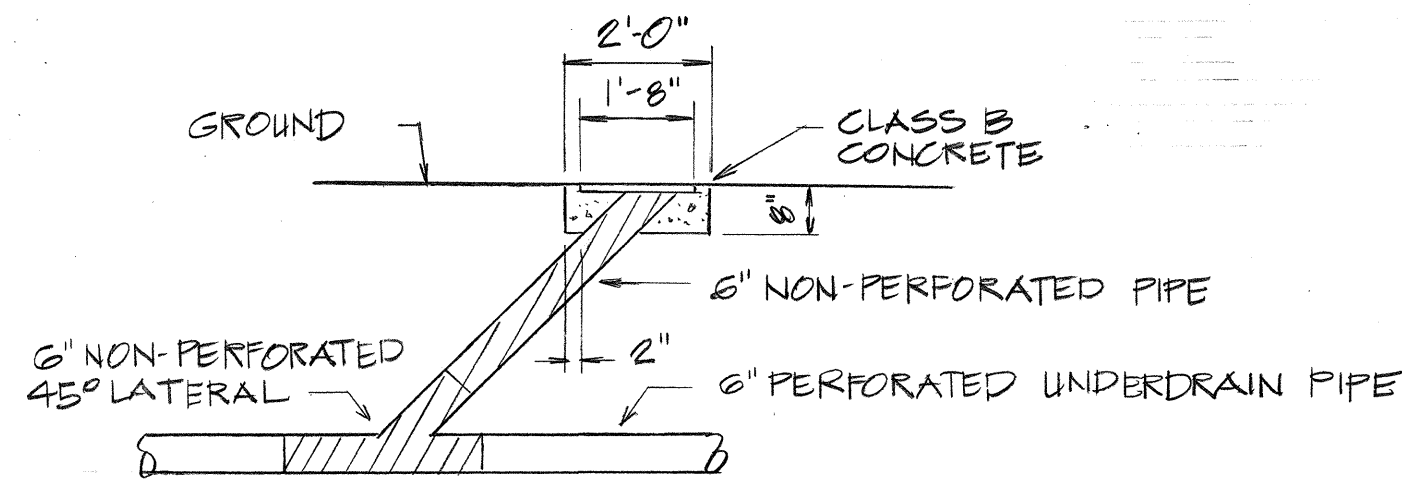


ELEVATION

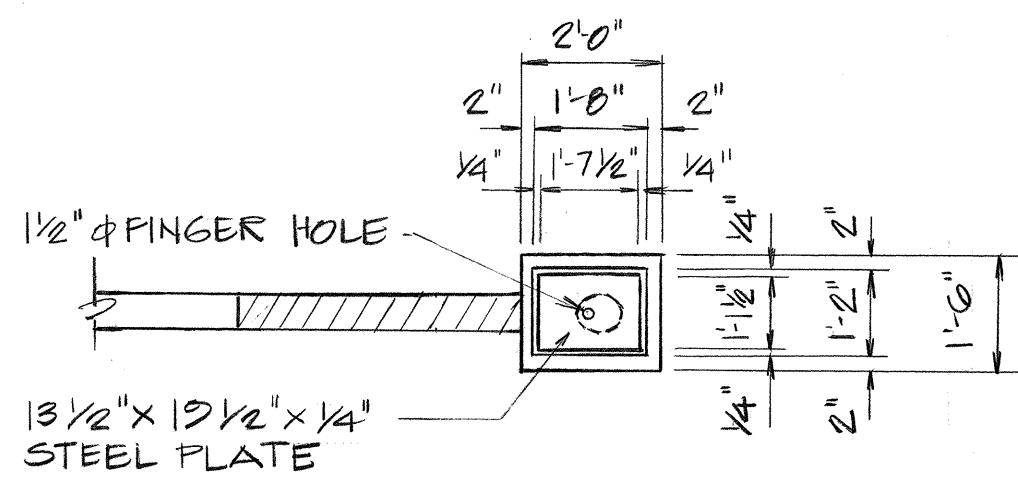
SECTION

GUARD RAIL AT DROP INTAKE

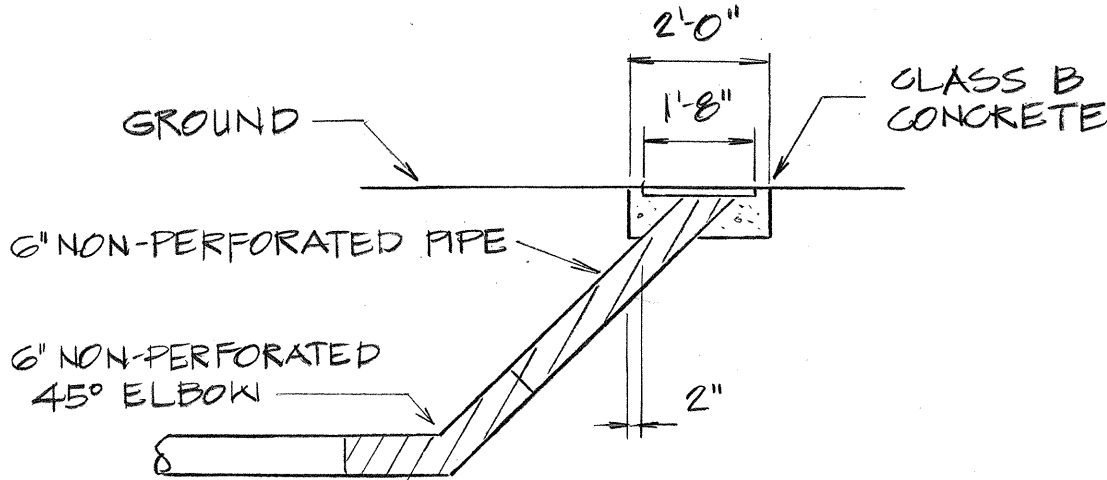
SCALE 3/4" = 1'-0"



ELEVATION



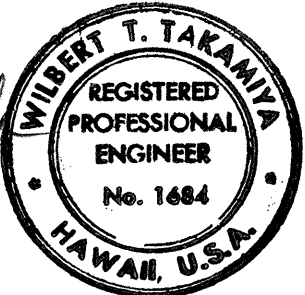
PLAN



ELEVATION

UNDERDRAIN CLEANOUT DETAIL

SCALE 3/8" = 1'-0"



Witnessed by: *Robert T. Takamizawa*
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OR UNDER MY SUPERVISION.

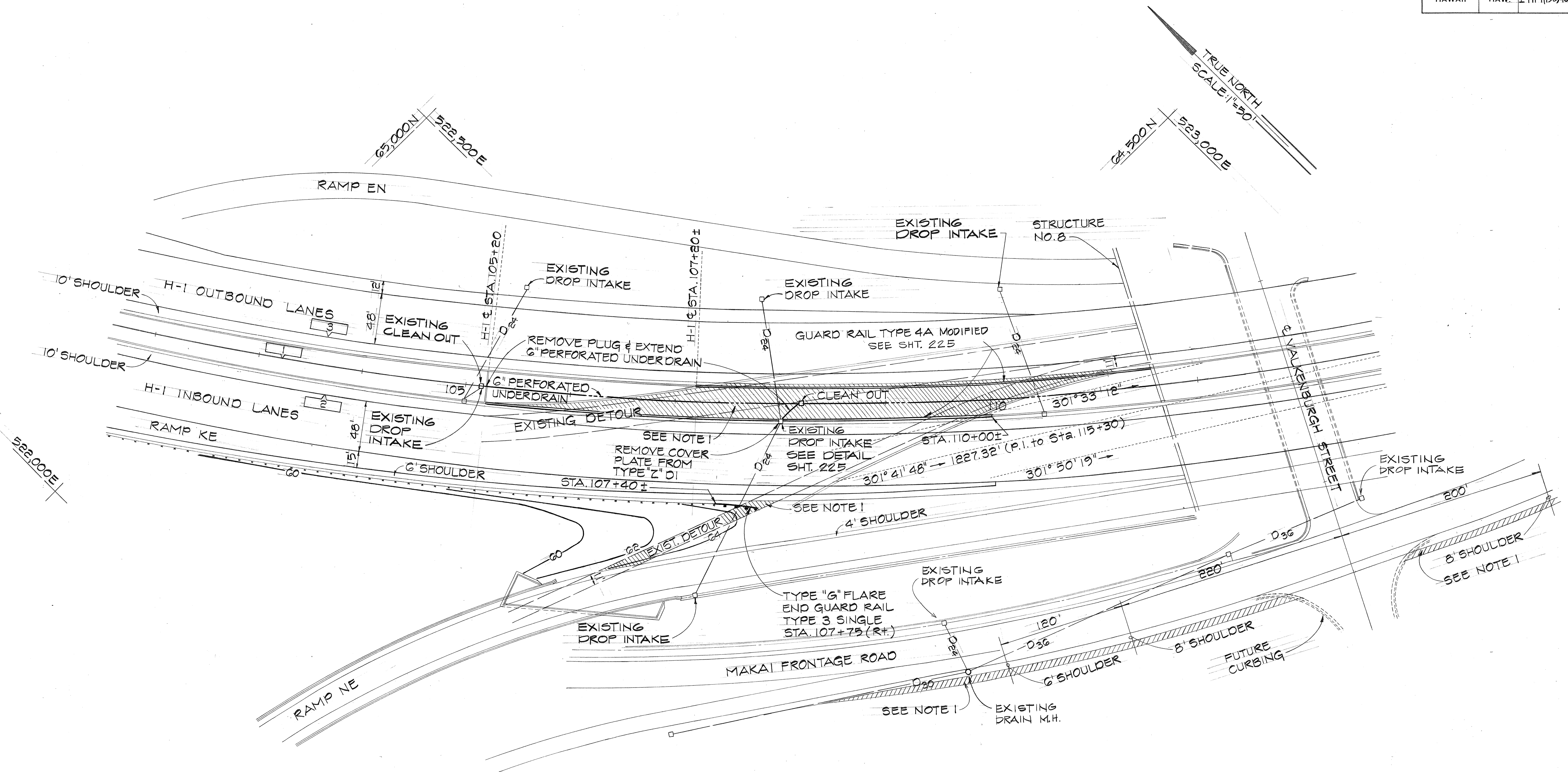
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY TYPICAL SECTION & DRAINAGE DETAILS

INTERSTATE ROUTE H-1
F.A.I. Project No. I-HI-1(159)16

SCALE: AS SHOWN DATE: NOV. 13, 1978
SHEET NO. 2 OF 20 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(150)16	1979	226	236



PLAN
SCALE: 1" = 50'

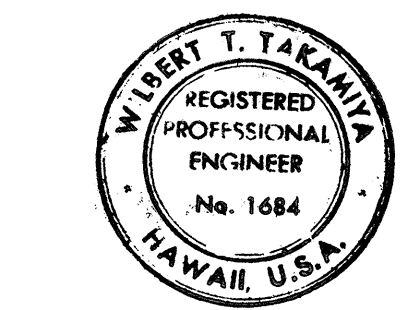
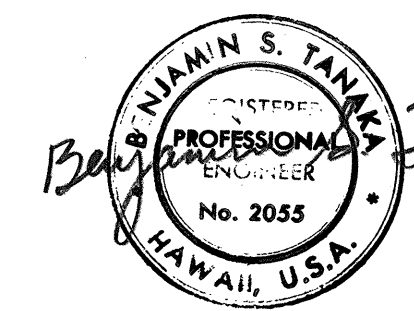
CURVE DATA

	1	2	3
Δ	44° 29' 58"	44° 41' 49"	44° 18' 01"
$\Delta/2$	22° 14' 59"	22° 20' 54.5"	22° 09' 00.5"
R	3000.00	3013.63	2986.37
T	1227.32	1236.96	1215.68
Ch	2271.86	2291.80	2251.93
Lc	2330.00	2350.96	2309.02

NOTES:

1. REMOVE 14,400 ± S.F. TEMPORARY PAVEMENT AND SCARIFY GROUND FROM FREEWAY MEDIAN AREA STA. 105+40 TO 111+40 ±, 2500 ± S.F. BETWEEN RAMP NE AND H-1 INBOUND LANES, AND 3500 ± S.F. FROM MAKAI FRONTAGE ROAD.
2. PAVEMENT REMOVAL AND GROUND SCARIFYING SHALL BE INCIDENTAL TO CONTRACT ITEM 104.0500.
3. CLEANOUT FOR UNDERDRAIN PIPE SHALL BE CONSIDERED INCIDENTAL TO THE INSTALLATION OF THE UNDERDRAIN.

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



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OR UNDER MY SUPERVISION

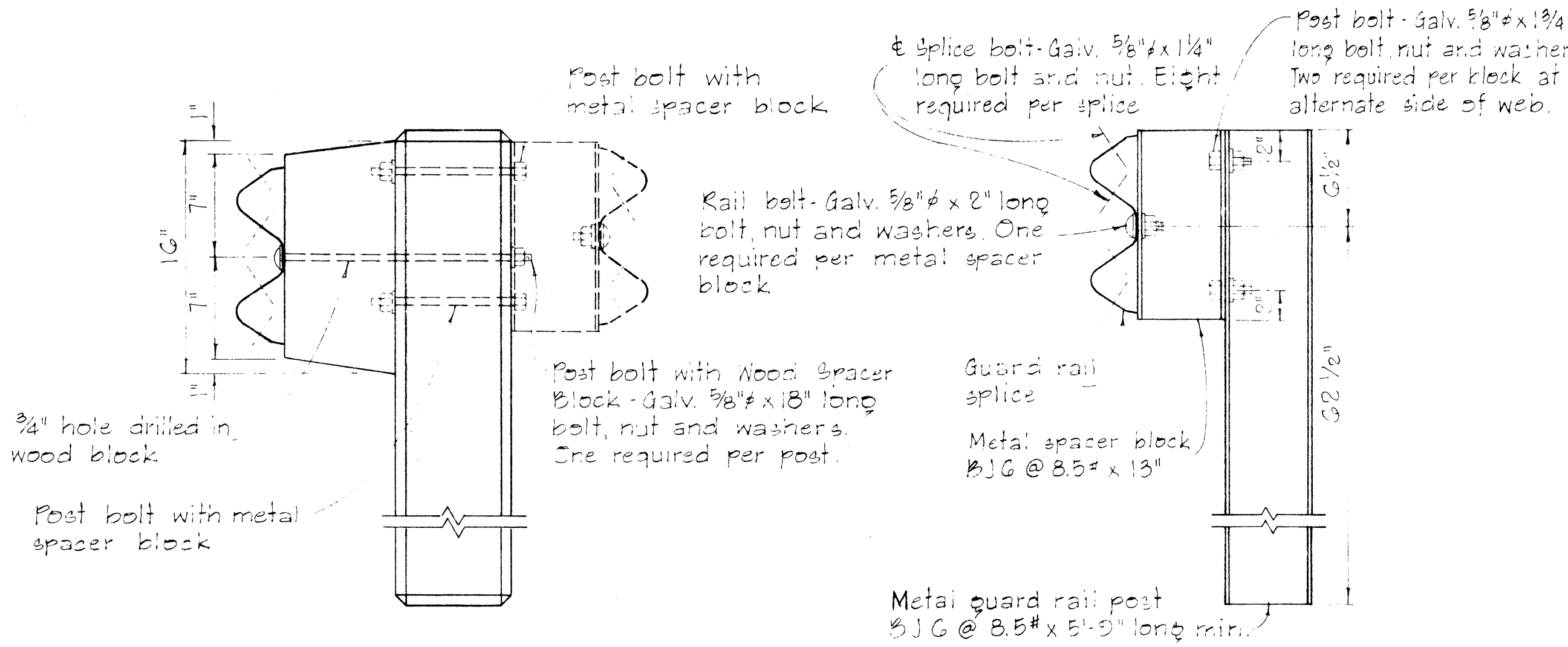
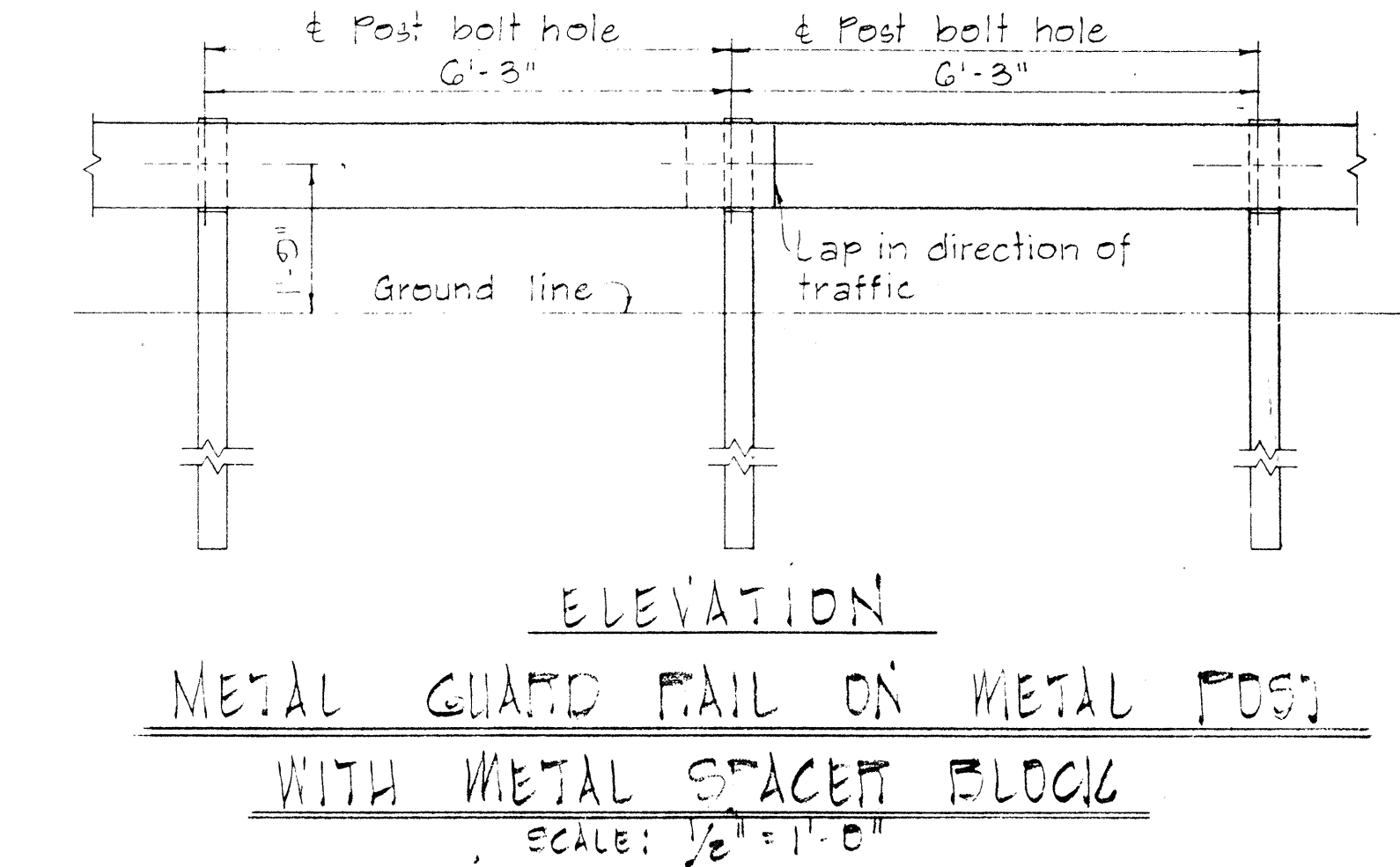
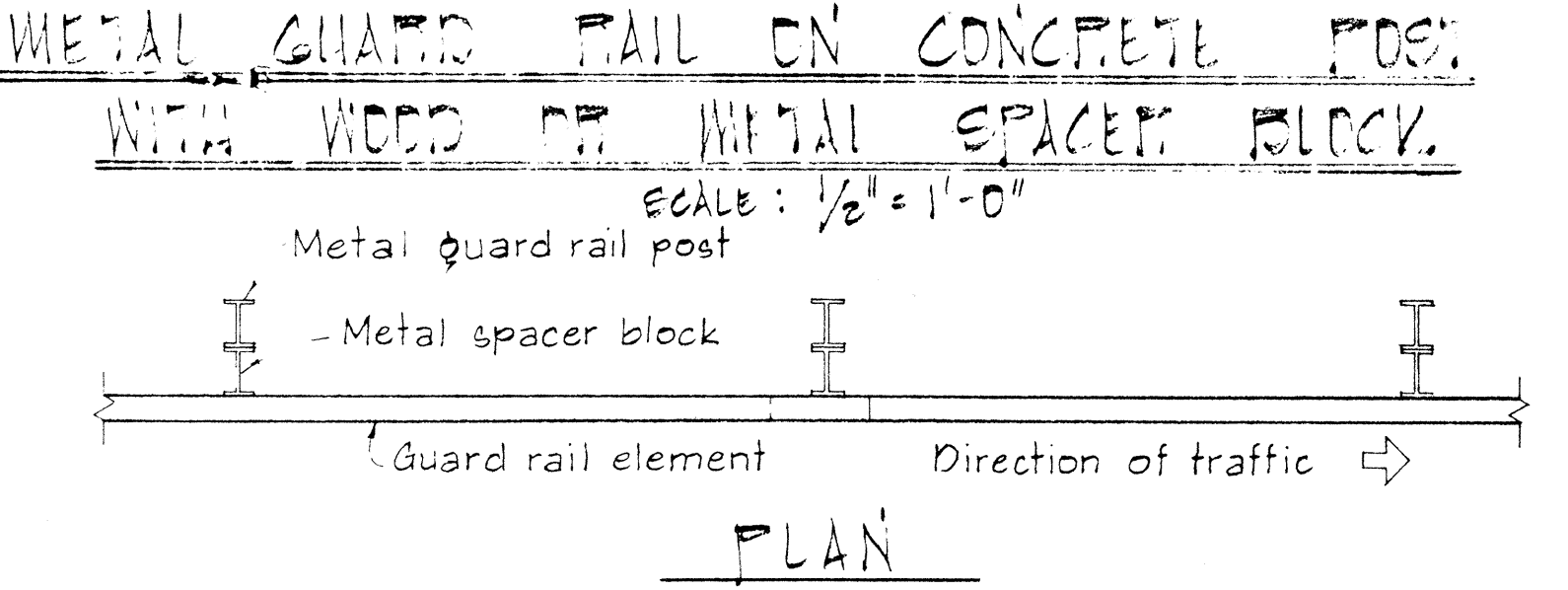
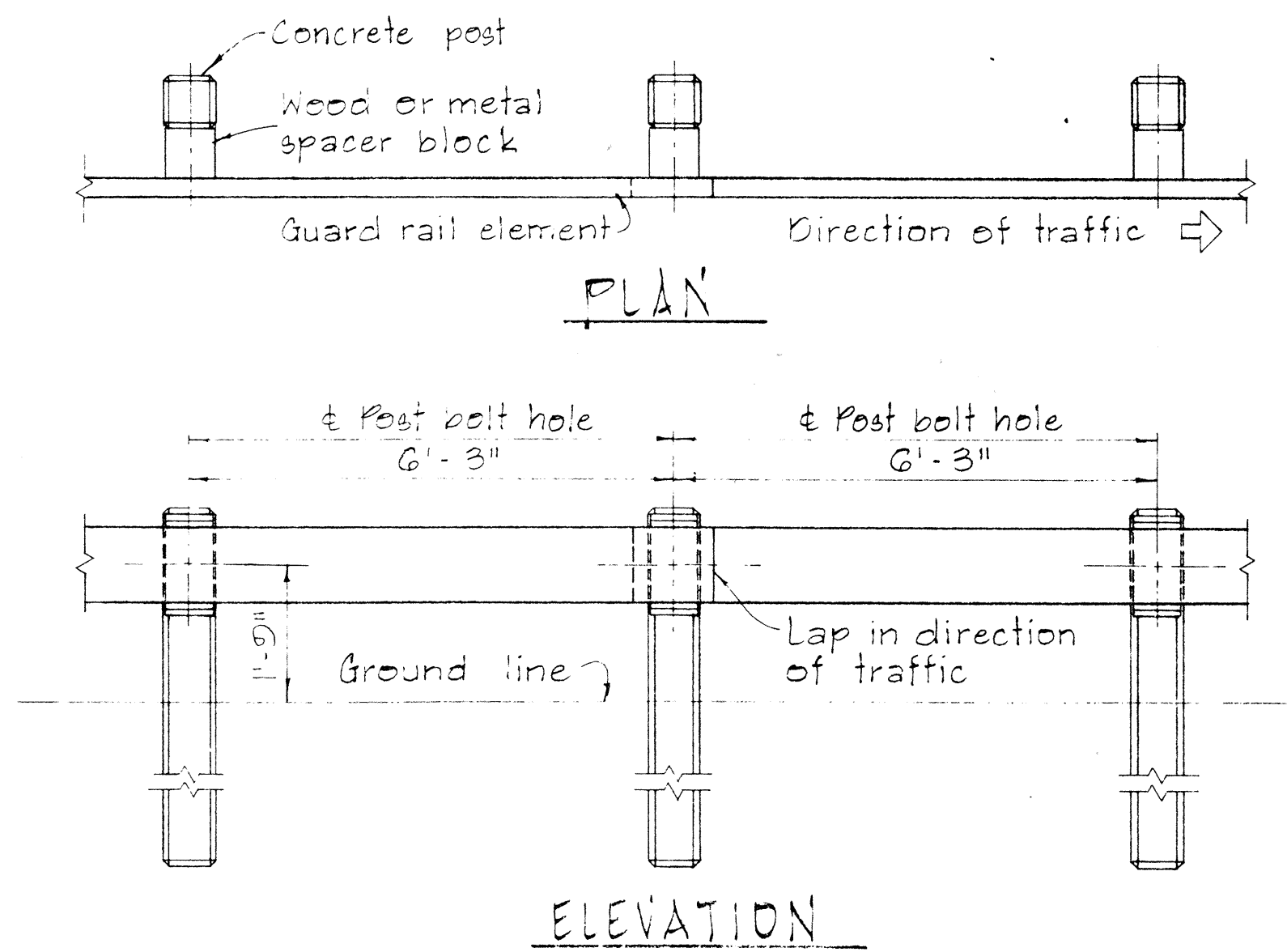
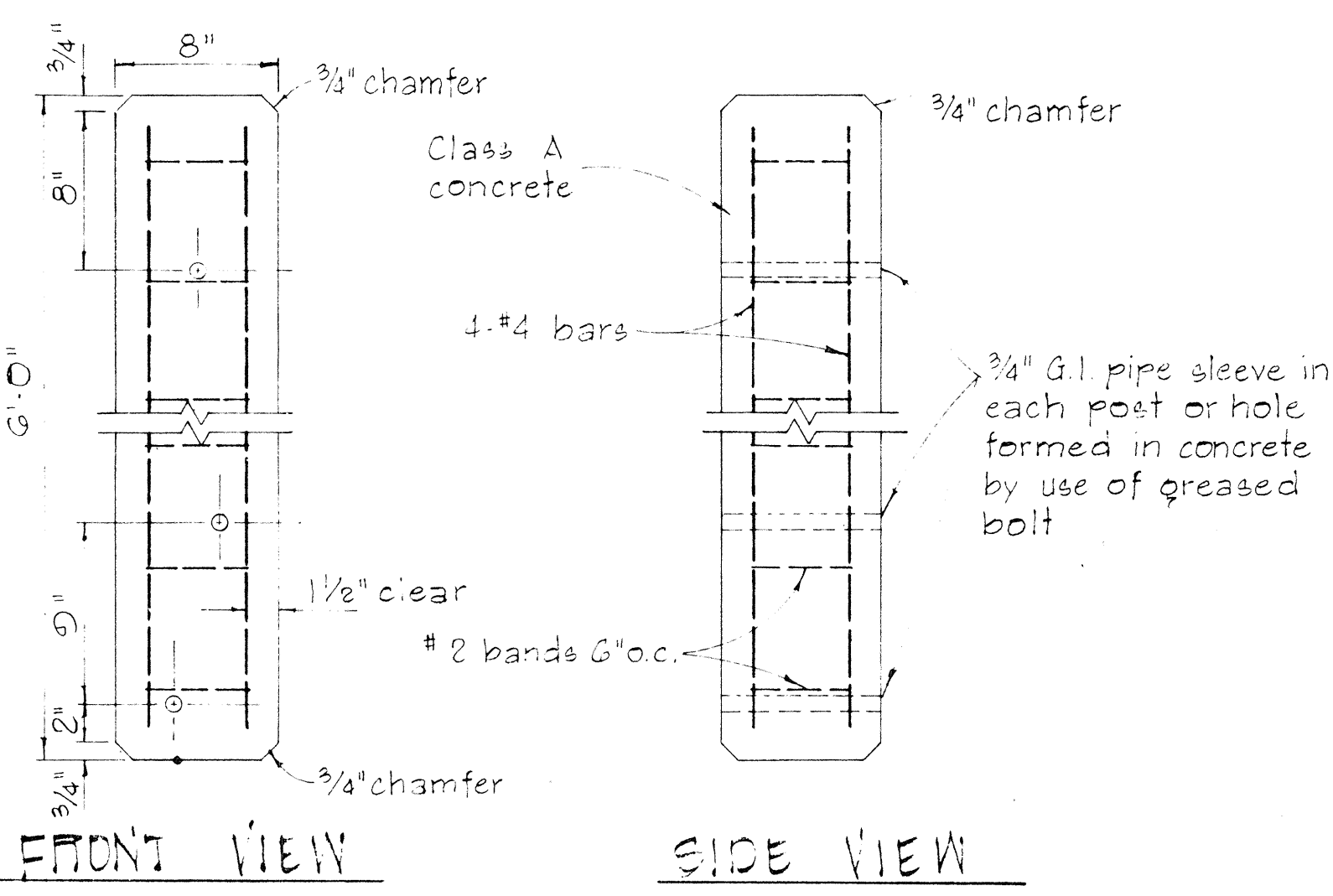
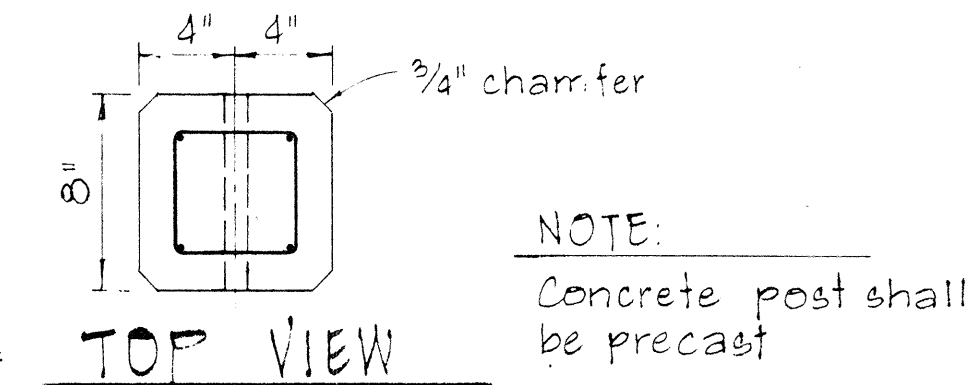
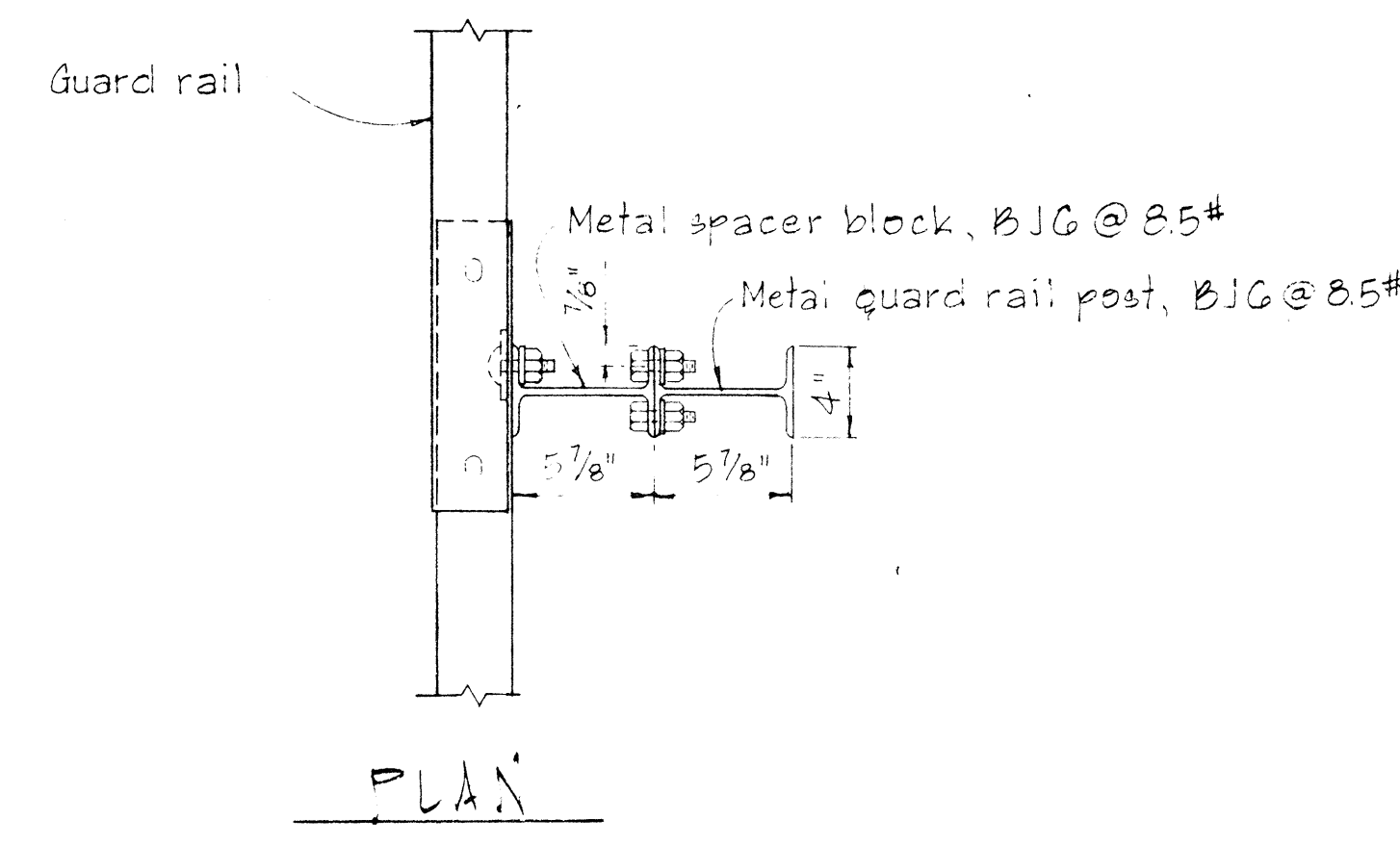
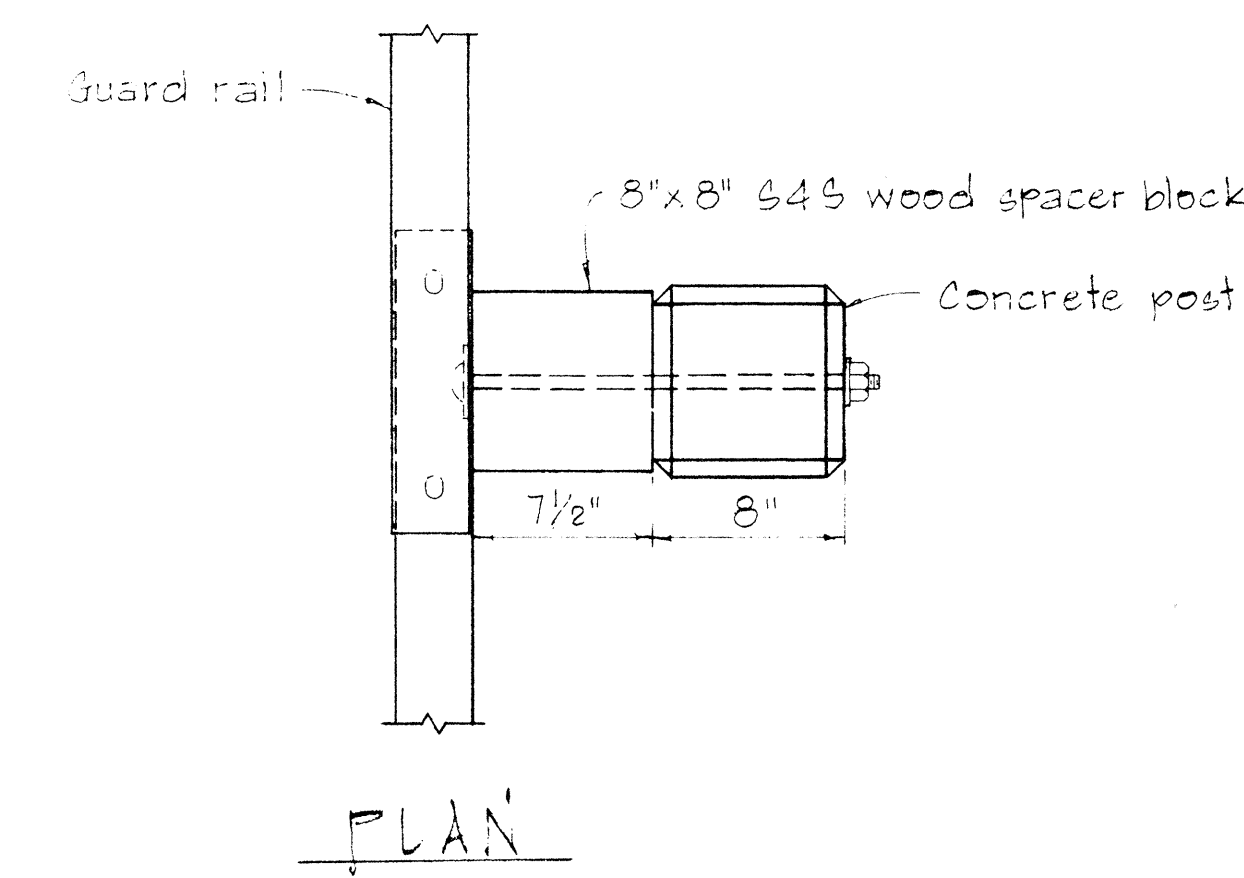
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY DETAILS,
GRADING & DRAINAGE PLAN

INTERSTATE ROUTE H-1
F.A.I. Project No. I-HI-1(150)16

SCALE: AS SHOWN DATE: NOV. 15, 1978
SHEET No. 10 OF 20 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(196)16	1975	227	236

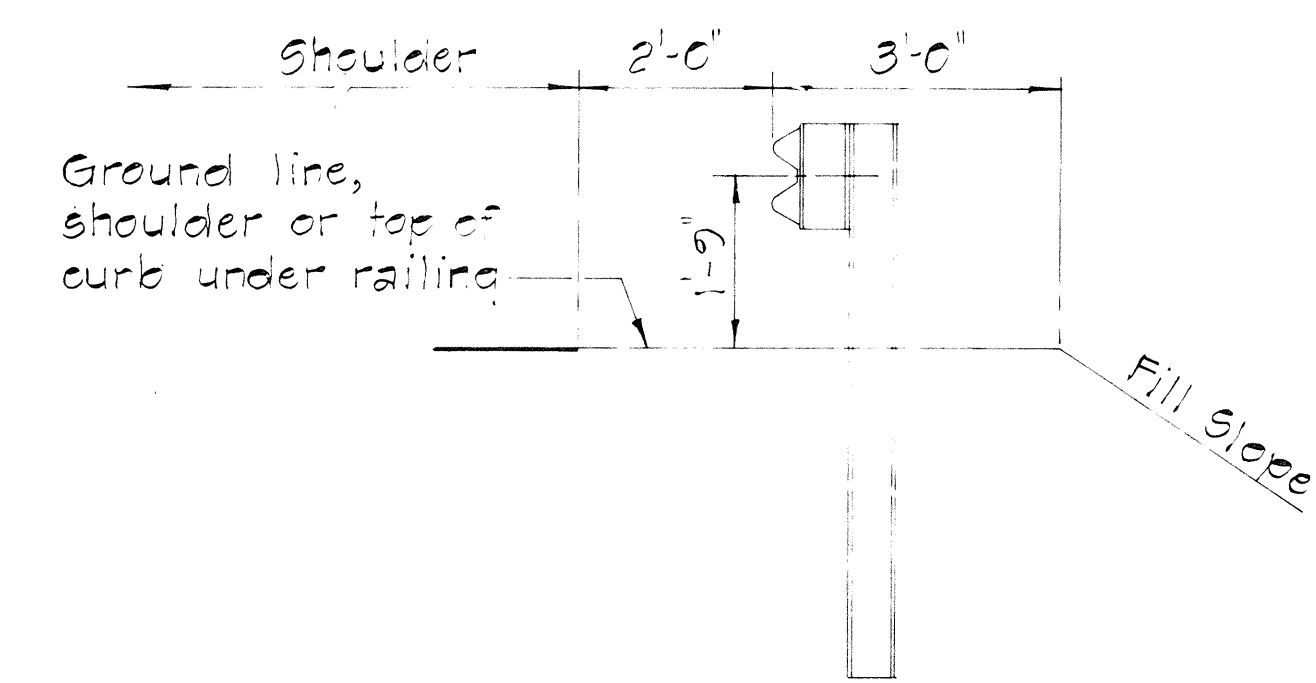


DETAIL OF CONCRETE POST

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

SINGLE METAL GUARD RAIL ON METAL POST WITH METAL SPACER BLOCK

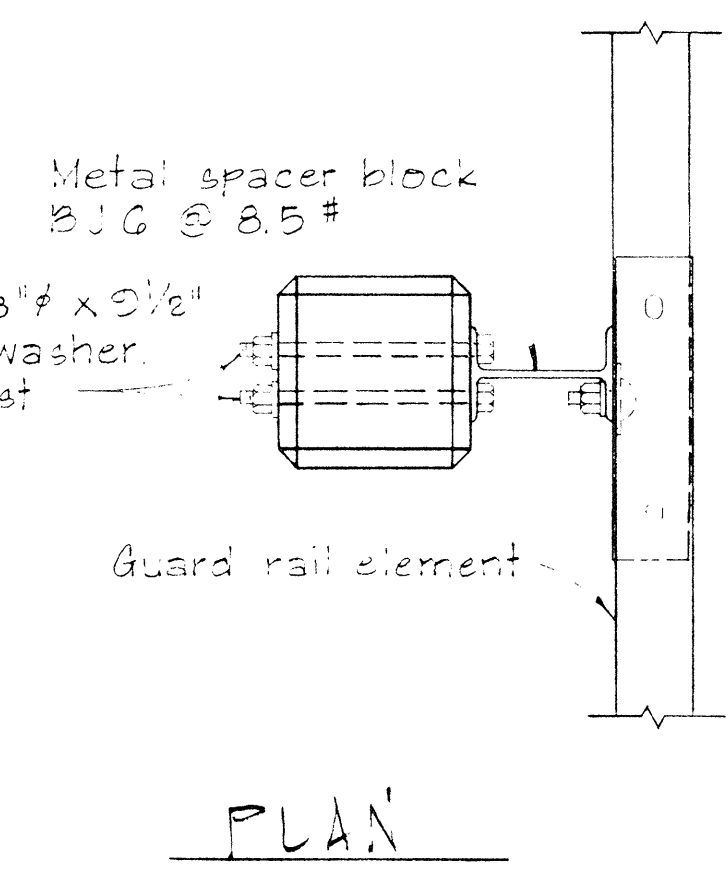
SCALE: 1 1/2" = 1'-0"



AT SHOULDER SECTION

TYPICAL METAL GUARD RAIL DETAIL

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



SINGLE METAL GUARD RAIL ON PRECAST CONCRETE POST WITH WOOD OR METAL SPACER BLOCK.

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

APPROVAL RECOMMENDED:
Richard Tanaka
TRAFFIC ENGINEER
12/29/69
DATE

APPROVED:
Richard J. Reinhold
ASSISTANT CHIEF, ENGINEERING
12-30-69
DATE

NO.	REVISION	APPROVED BY	DATE

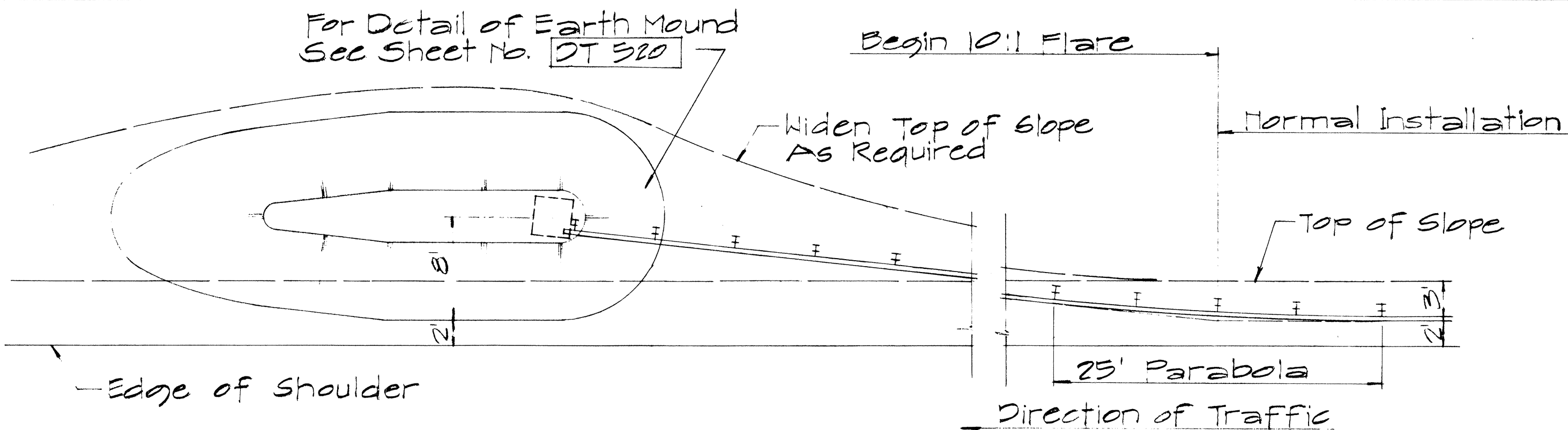
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION

STANDARD DETAILS
METAL GUARD RAIL
SCALE: AS SHOWN
NOV. 1968

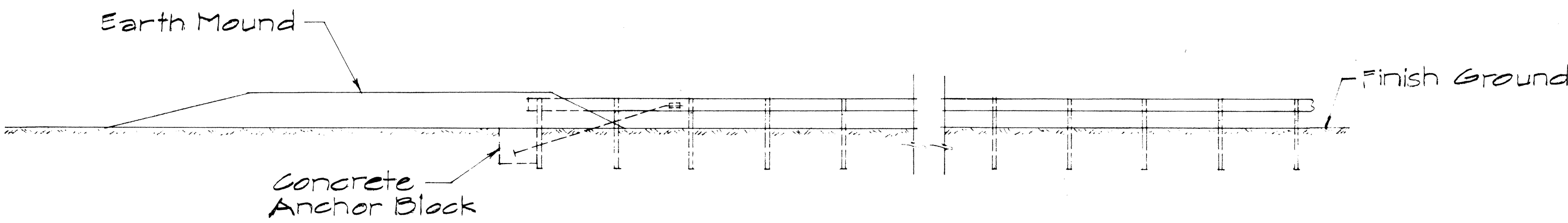
SHEET No. 11 OF 20 SHEETS
DT 500

DATE	
DESIGNED BY	
CHECKED BY	
NOTED BY	
ORIGINAL PLAN	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HI-1(156)	1975	229	236

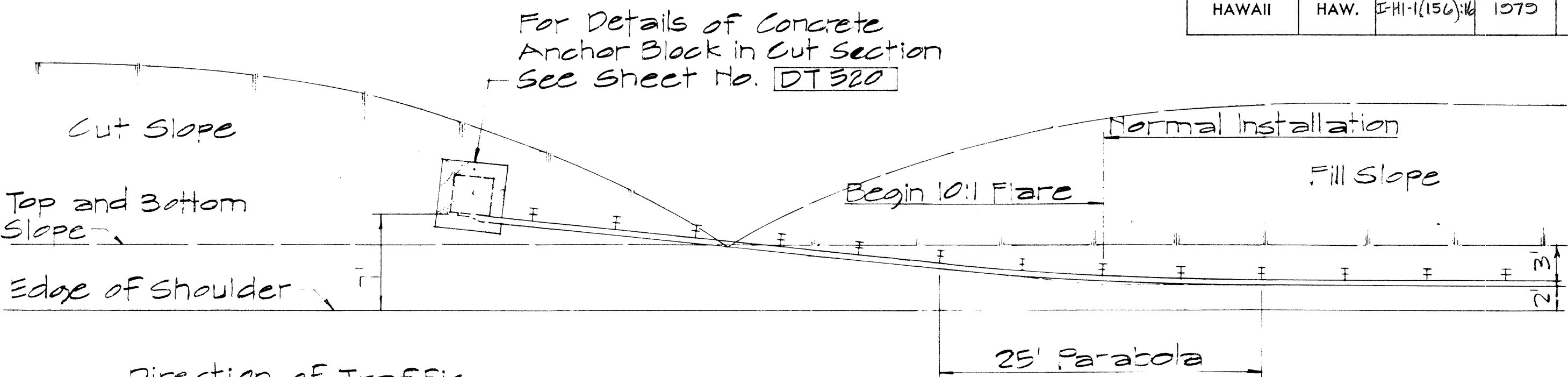


PLAN

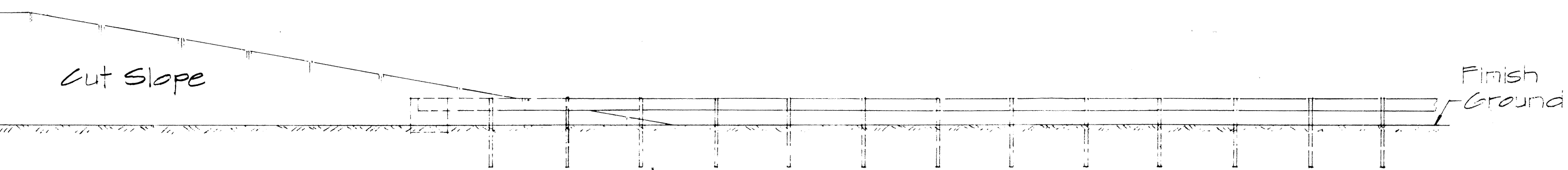


ELEVATION

TYPE "D" FLARE
Sc. 1/8" = 1'-0"

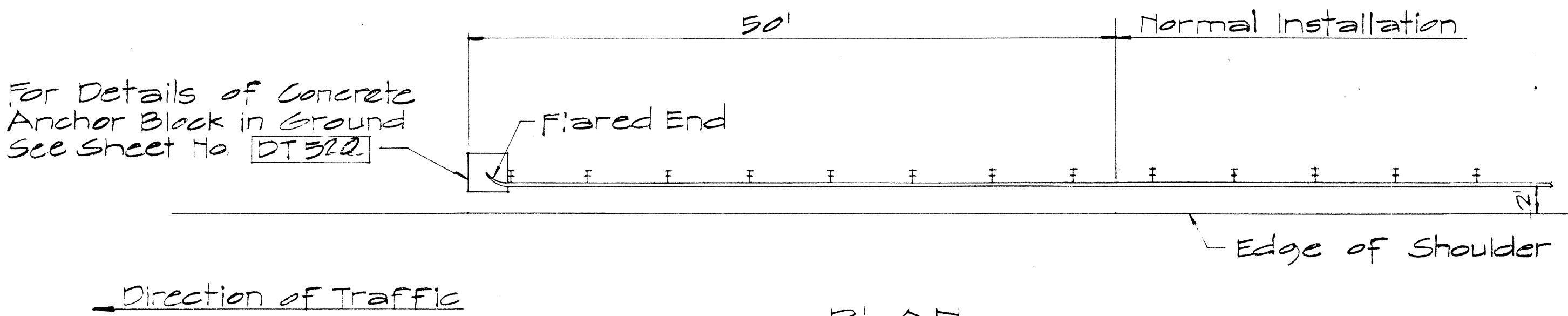


PLAN

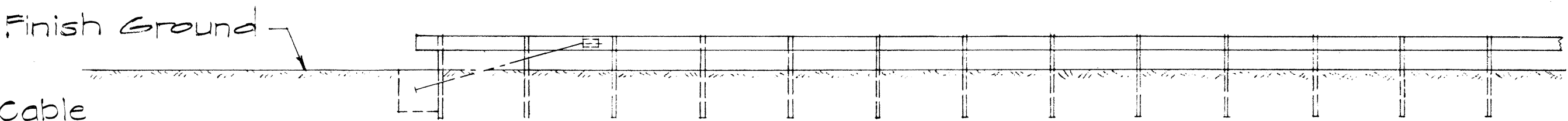


ELEVATION

TYPE "F" FLARE
Sc. 1/8" = 1'-0"



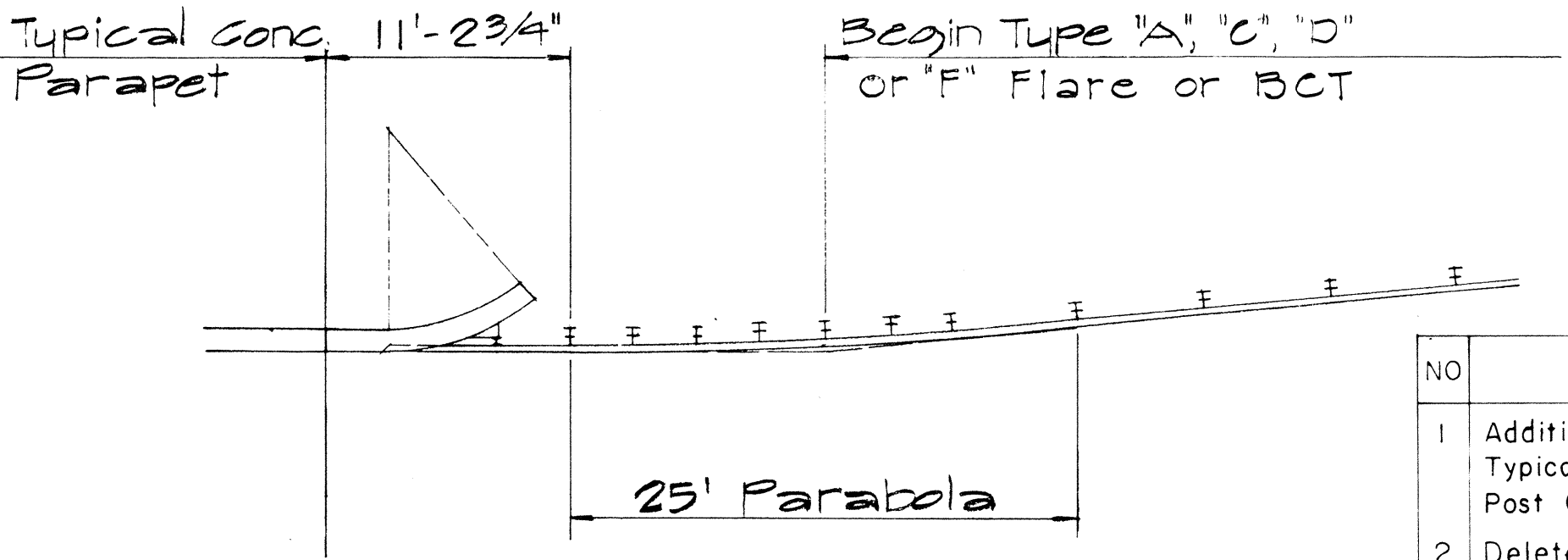
PLAN



ELEVATION

TYPE "G" FLARE
Sc. 1/8" = 1'-0"

NOTE:
For detail of Breakaway Cable Terminal (BCT) See Sheet No. DT 519



TYPICAL LAYOUT PLAN OF
END POST CONNECTION
Sc. 1/8" = 1'-0"

NO	REVISION	APPROVED BY	DATE
1	Additional Posts Added to Typical Layout Plan Of End Post Connection	H.C.	4-12-72
2	Delete Type "B" Flare and Type "E" Flare	H.C.	6-15-78

APPROVAL RECOMMENDED:
Eiichi Tanaka 12/29/69
TRAFFIC ENGINEER DATE

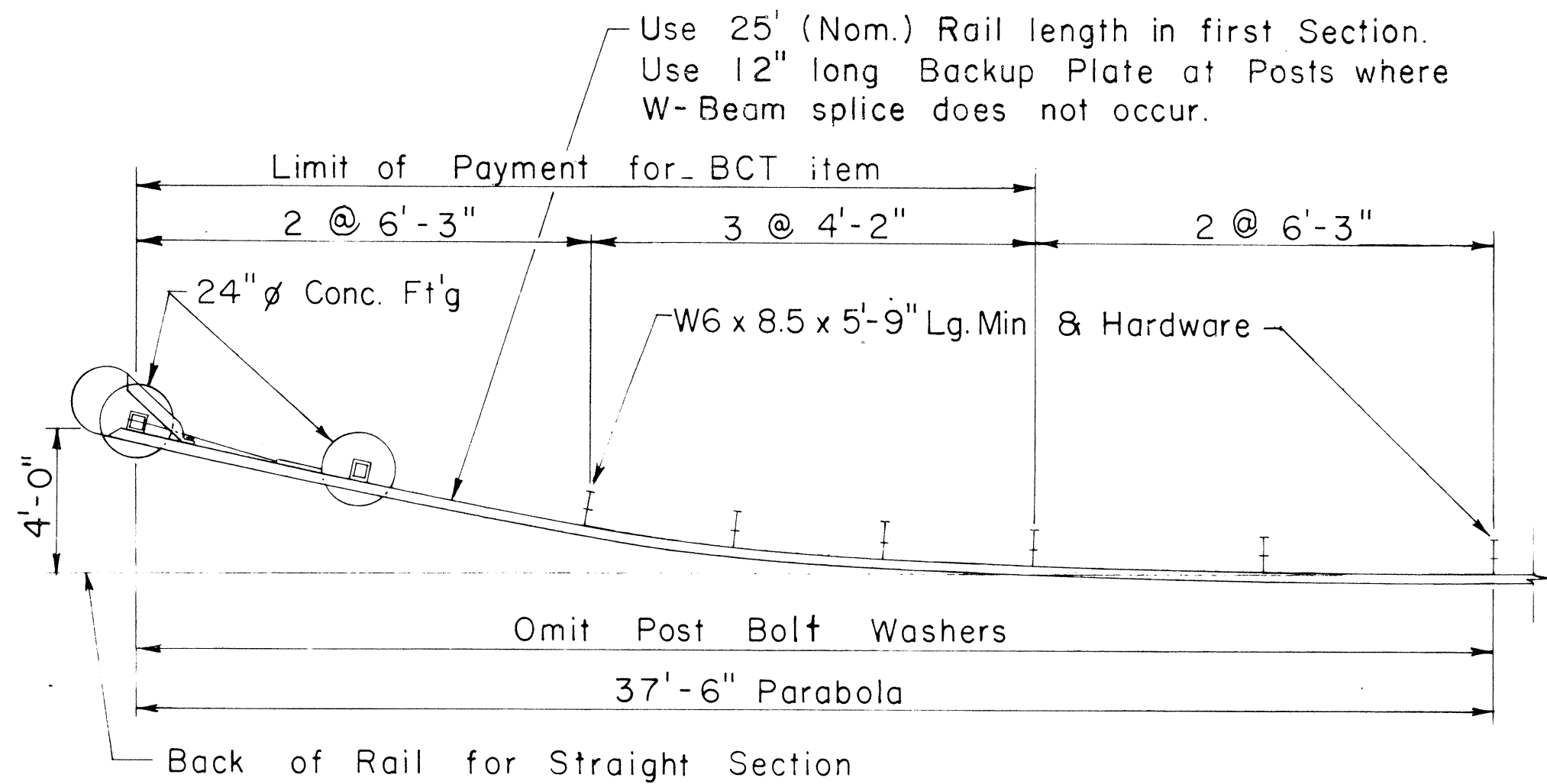
APPROVED:
W. J. Kal 12-30-69
ASSISTANT CHIEF, ENGINEERING DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION
STANDARD DETAILS
TRAILING END
FLARE - ONE & TWO
WAY ROADWAY
Scale: As Noted April 1969
SHEET No. 13 OF 20 SHEETS DT 517

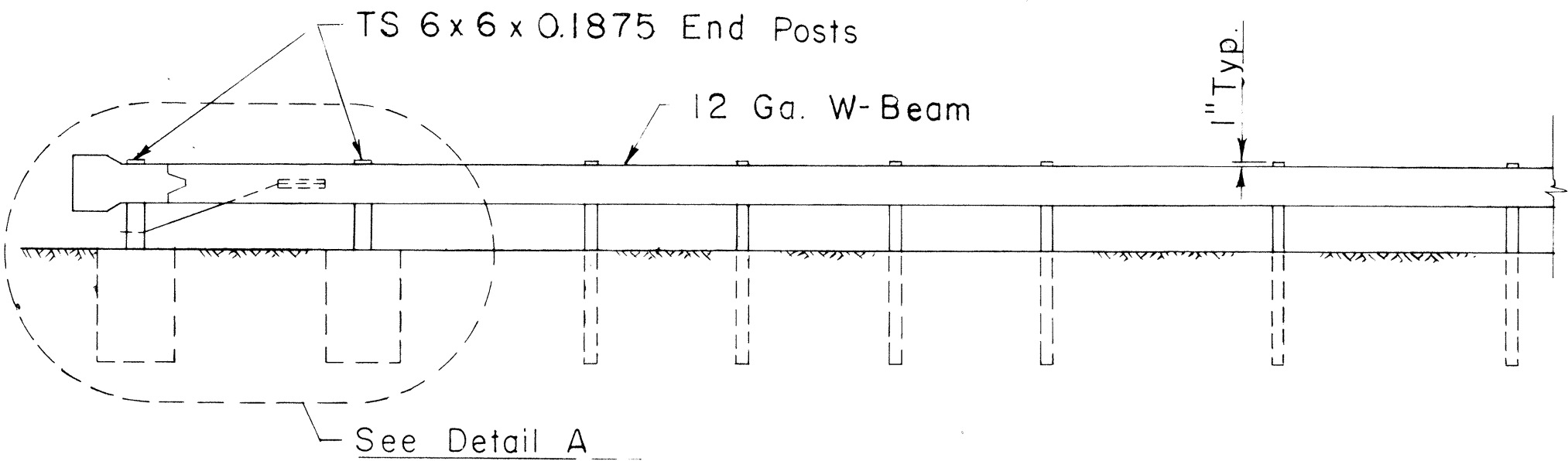
SURVEY PLOTTED BY	DATE
DRAWN BY	
TRACED BY	
CHECKED BY	
NOTED BY	
NO.	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-HI-1(150)-16	1979	230	236

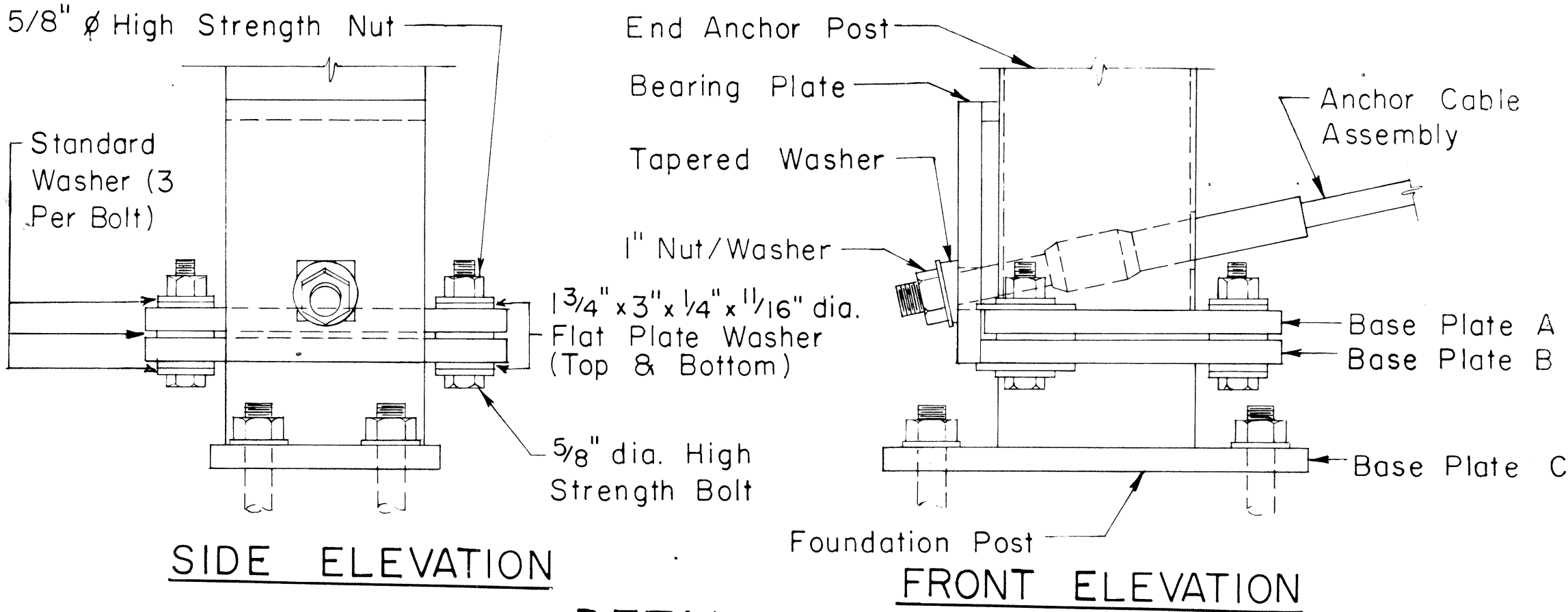
- NOTES:**
1. Anchor Plate and Anchor Cable Assembly (Standard Swaged Fitting and Stud). See Standard Detail Sheet No. DT 520.
 2. Other Anchor Cable Assemblies may be used. Minimum breaking strength of assembly should be 40,000 lbs.
 3. Second Terminal Post does not require holes to accomodate Anchor Cable.
 4. Slip Base Load shall be controlled with a Calibrated Torque Wrench - Torque 155 - 170 ft. lbs.
 5. Concrete shall be Class A.



PLAN
Scale: 1/4" = 1'-0"



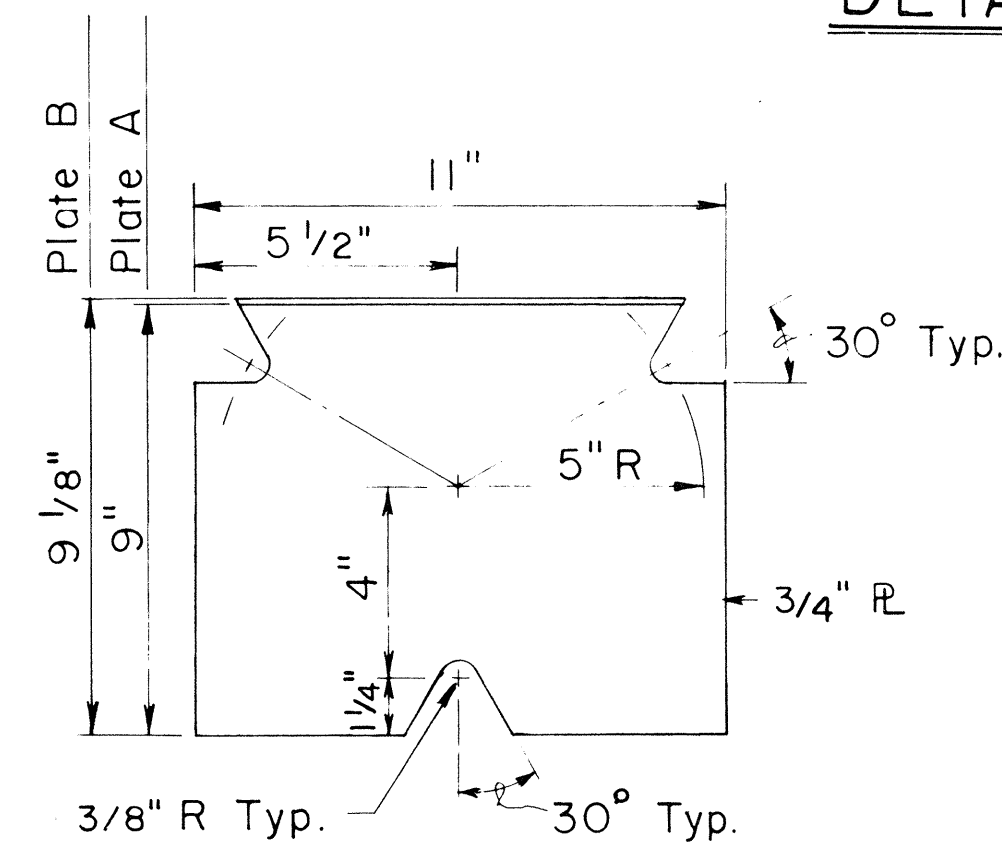
ELEVATION
Scale: 1/4" = 1'-0"



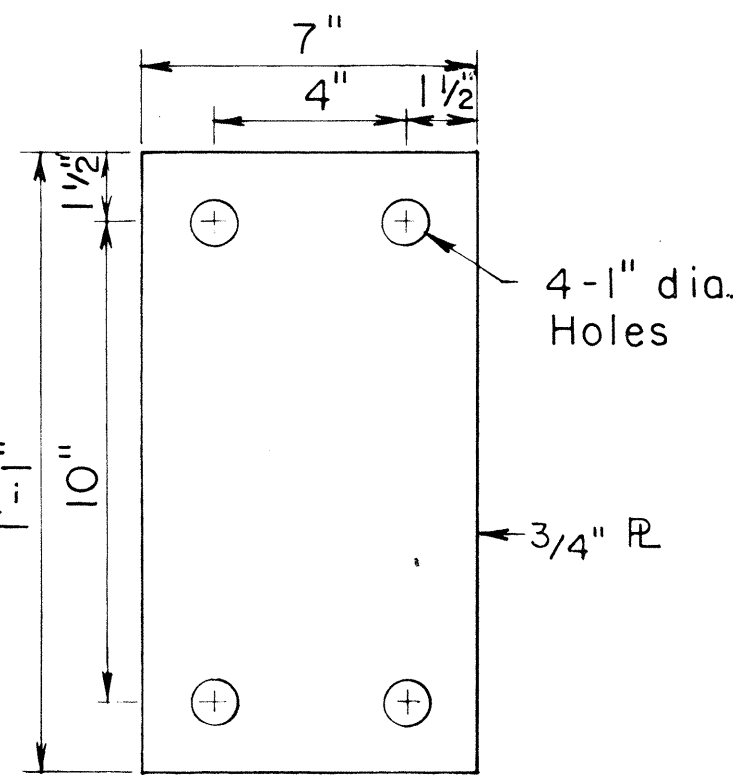
SIDE ELEVATION

DETAIL B

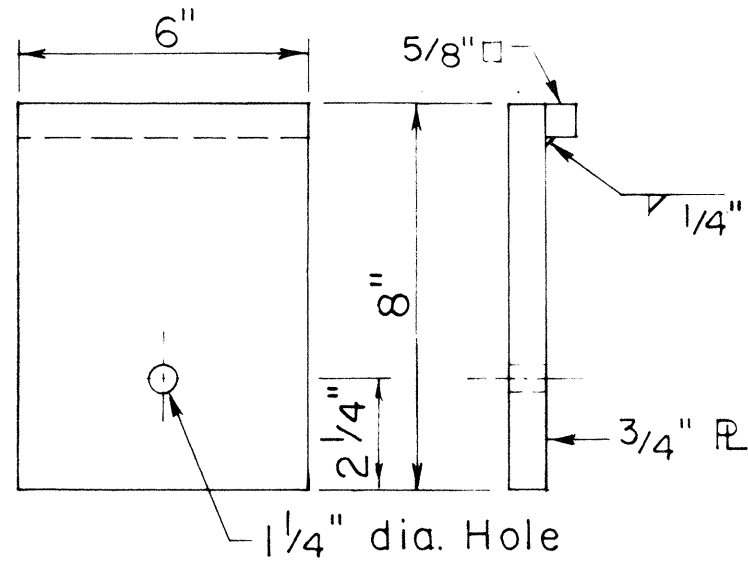
FRONT ELEVATION



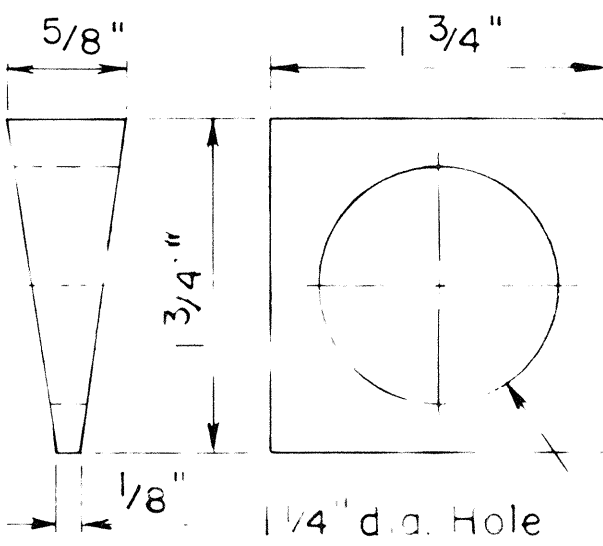
BASE PLATES A & B
Scale: 3" = 1'-0"



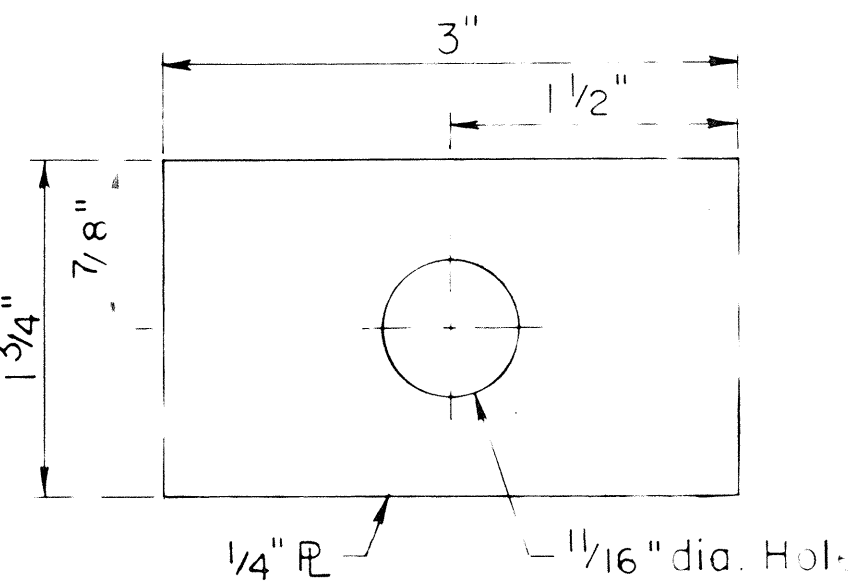
BASE PLATE C
Scale: 3" = 1'-0"



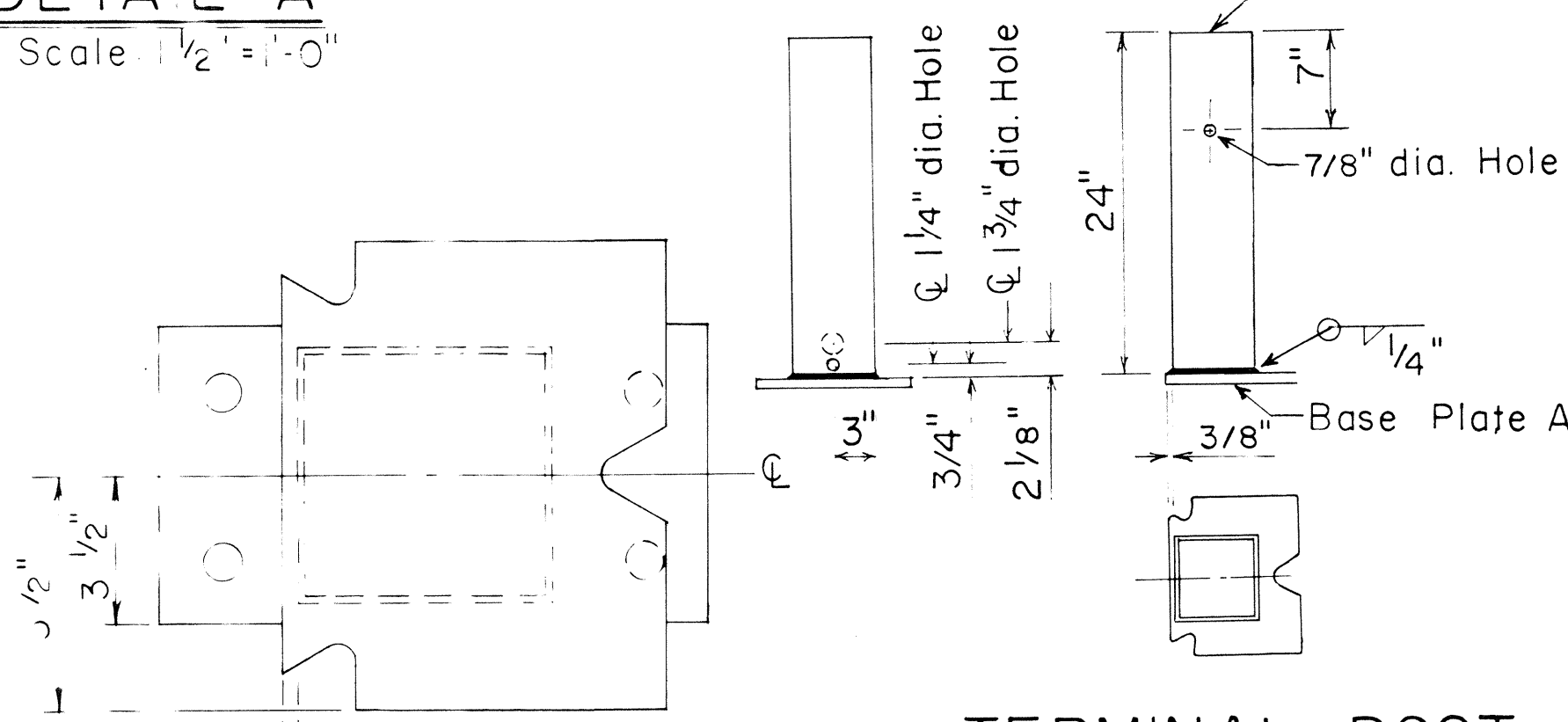
BEARING PLATE
Scale: 3" = 1'-0"



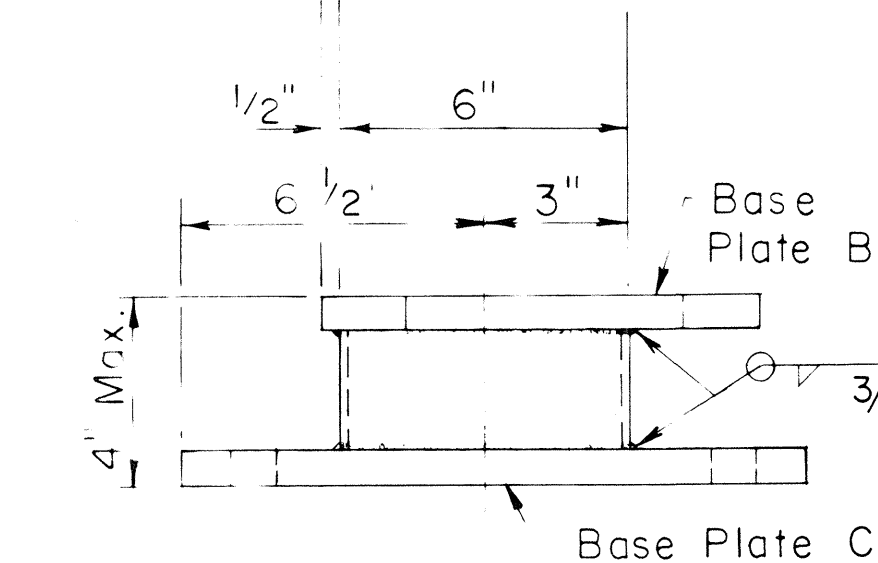
TAPERED WASHER
Scale: Full



FLAT PLATE WASHER
Scale: Full Size



FOUNDATION POST
Scale: 1" = 1'-0"



NO.	REVISION	APPROVED BY	DATE
1	Supersedes Sht. DT 519 Approved 12/30/69	H.T.	6/15/78

APPROVAL RECOMMENDED:

Eishi Tanaka
TRAFFIC ENGINEER
6/14/78
DATE

APPROVED:

Harbert Zaleishis
ASSISTANT CHIEF, ENGINEERING
6/15/78
DATE

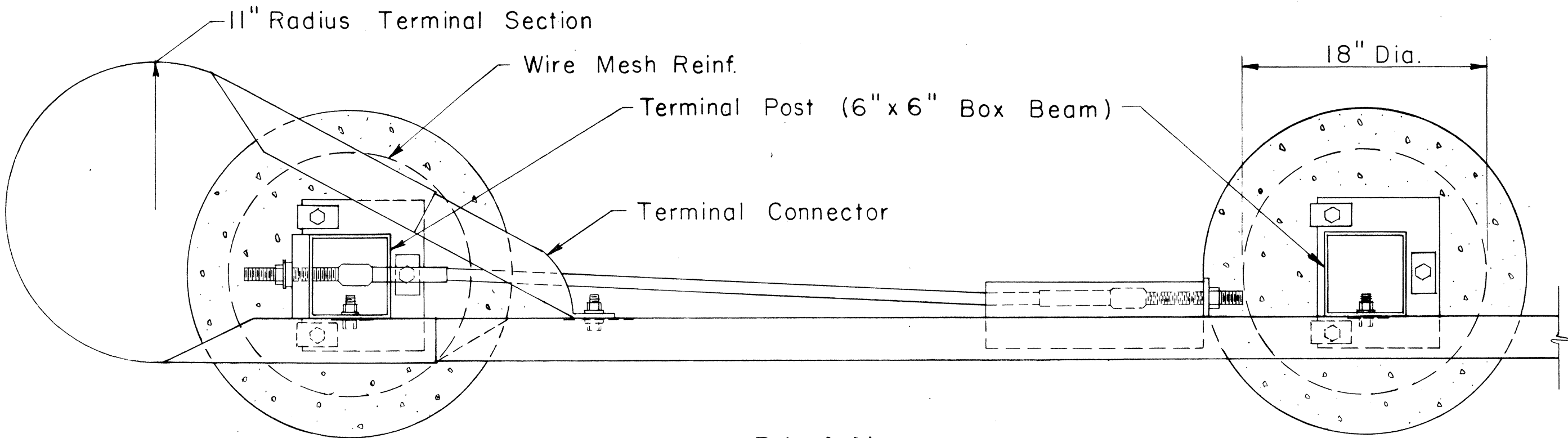
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION

STANDARD DETAIL

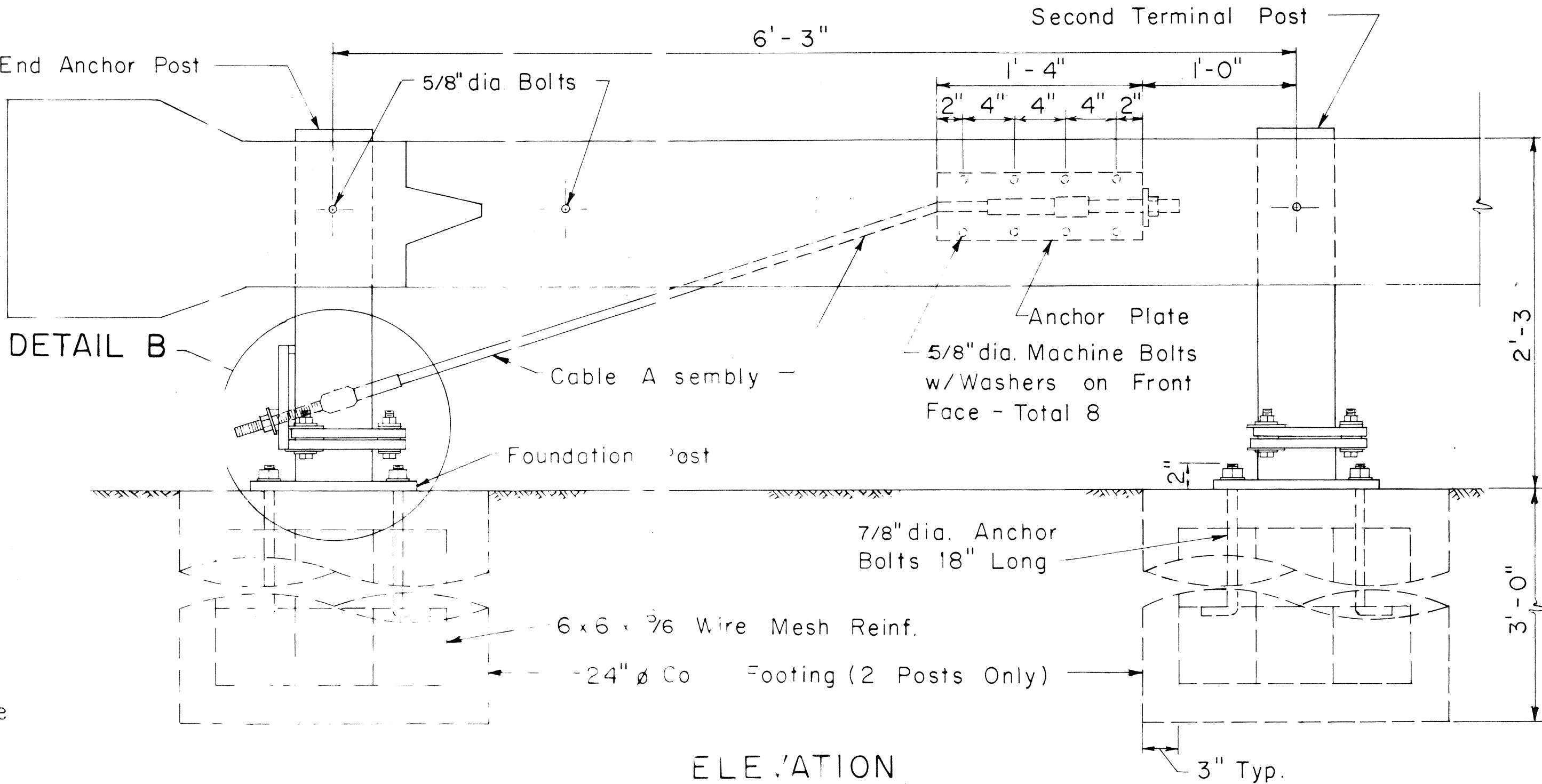
BREAKAWAY CABLE TERMINAL (BCT)

Scale: As Shown Date: June 1978

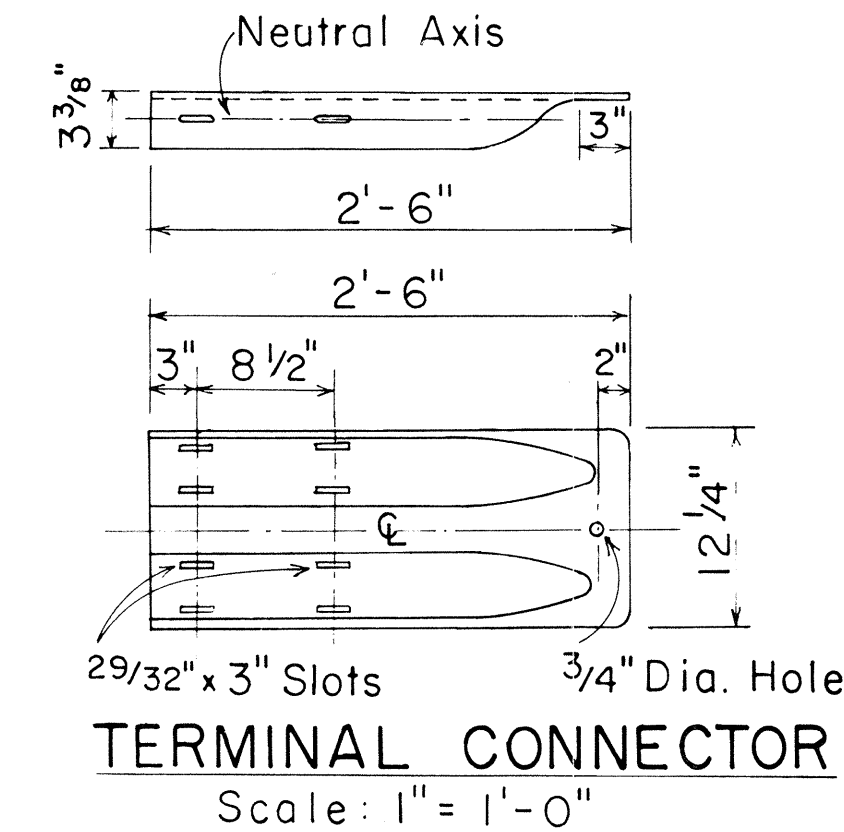
SHEET No. 14 OF 20 SHEETS DT 519



PLAN



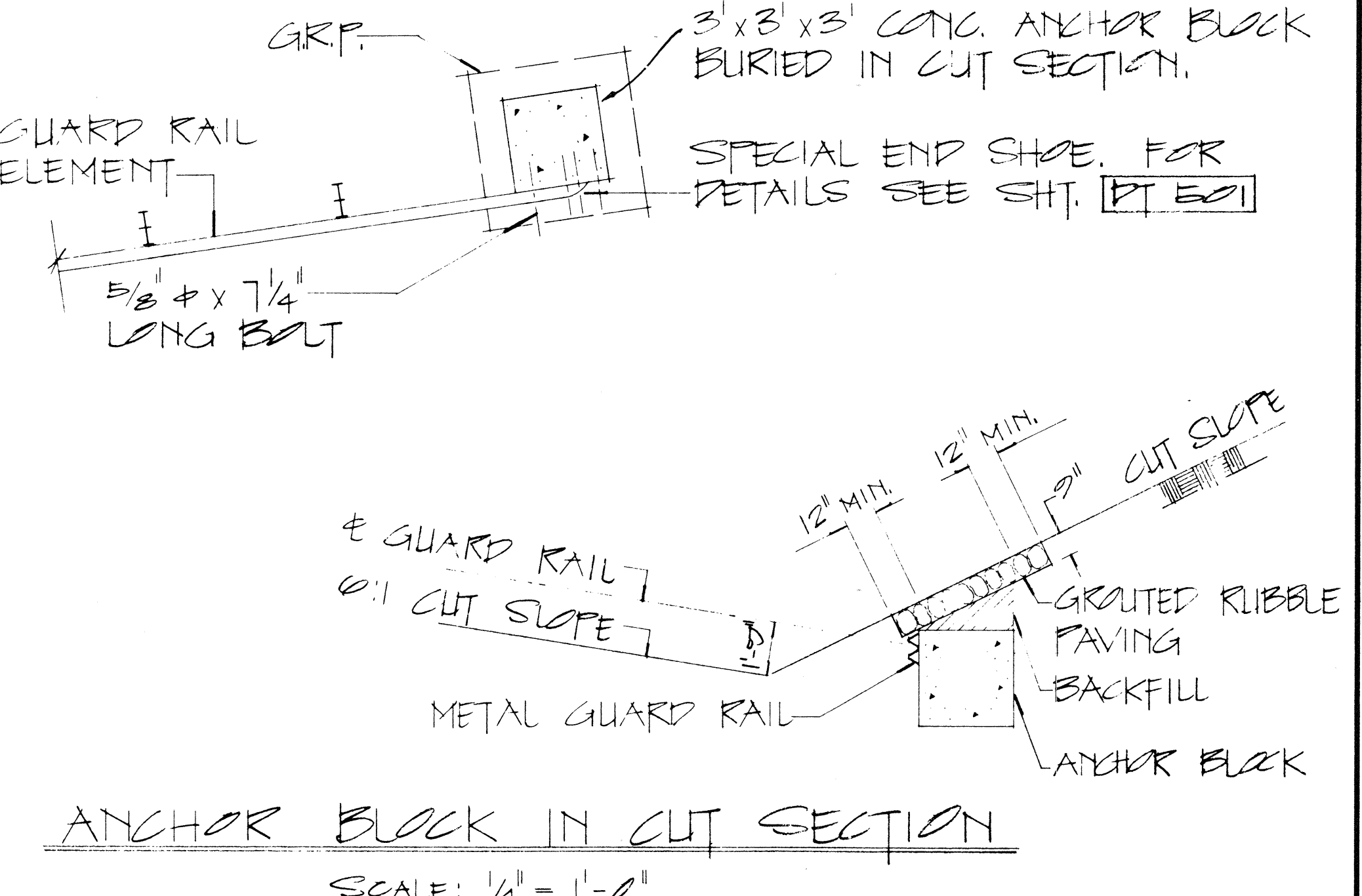
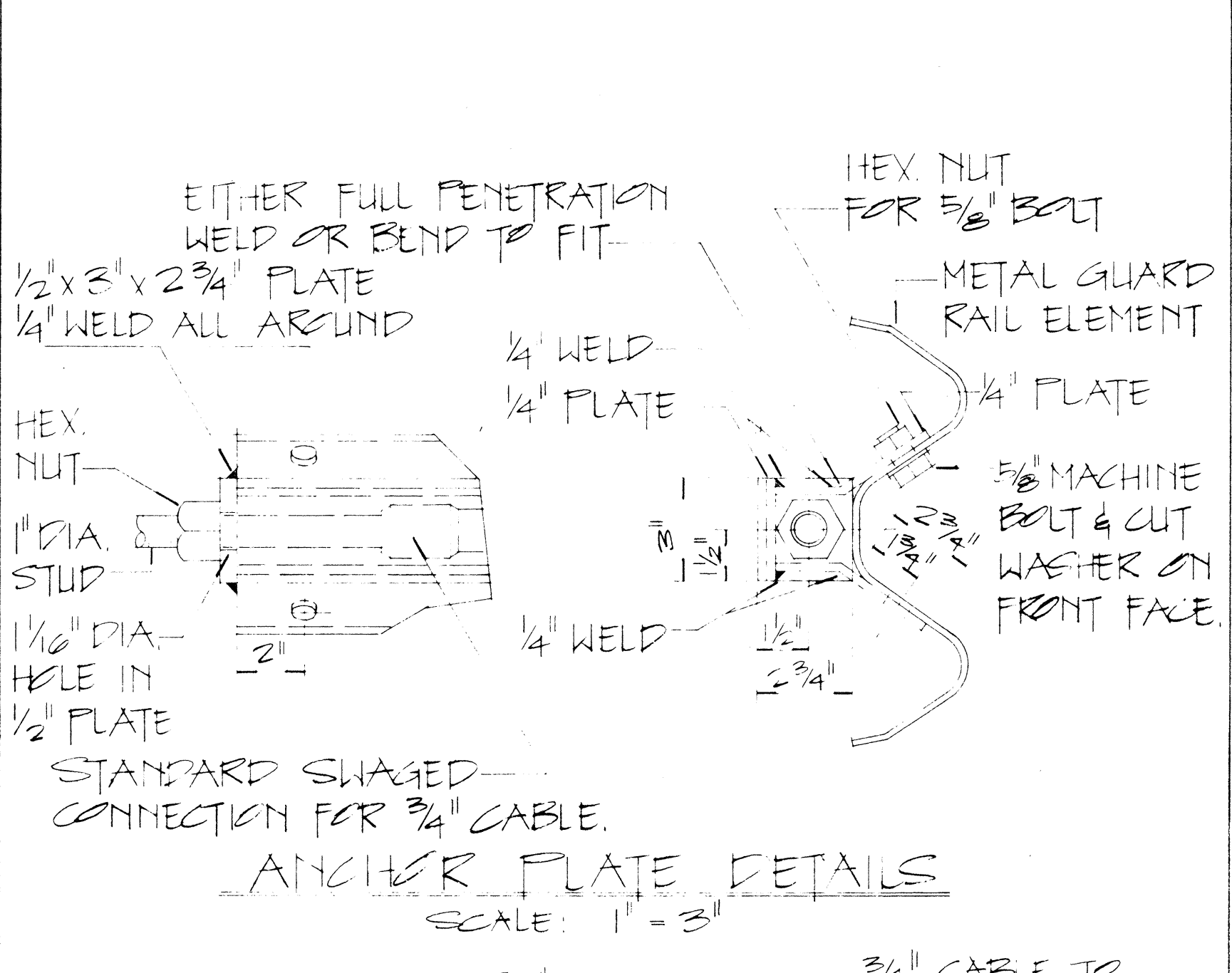
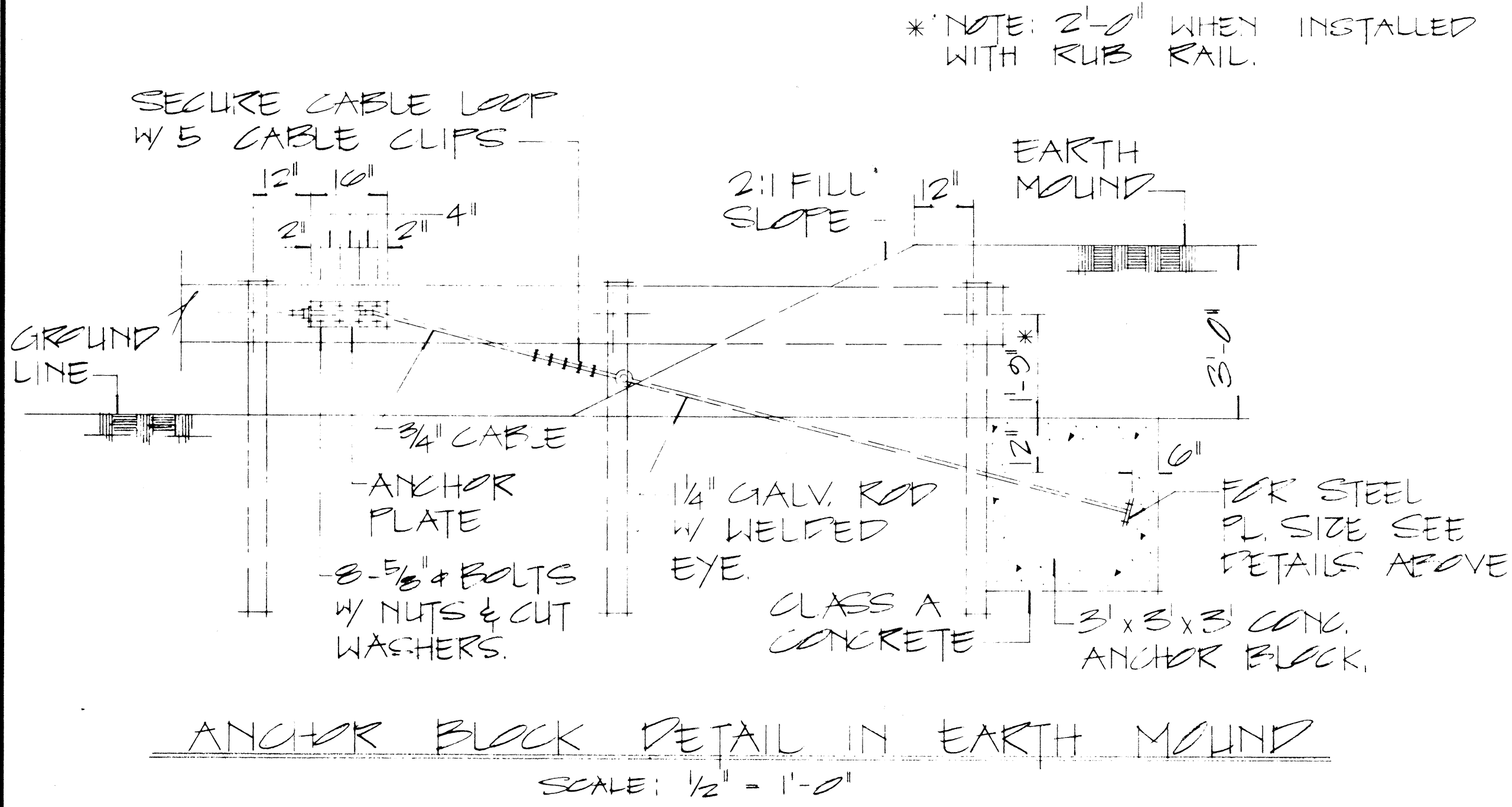
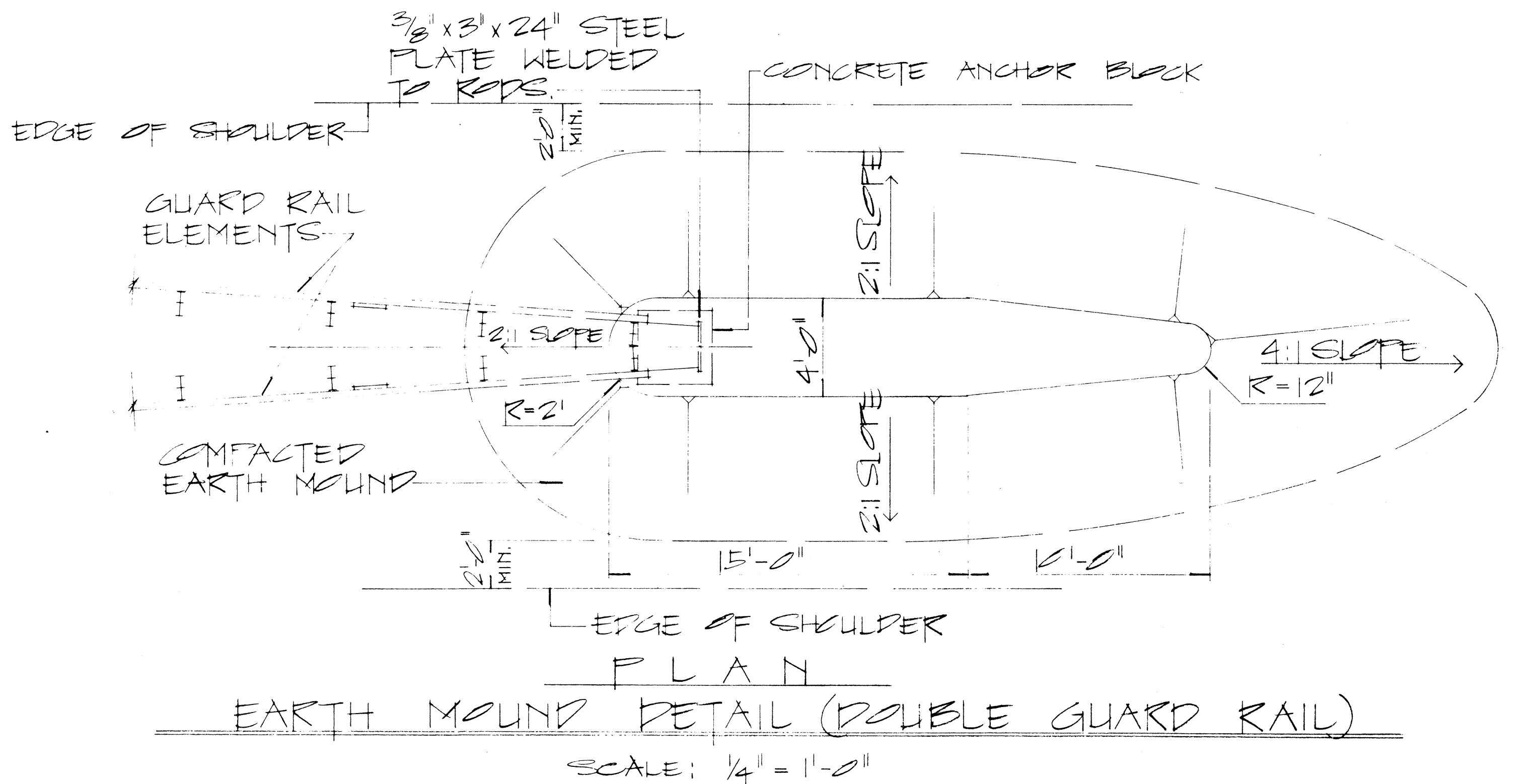
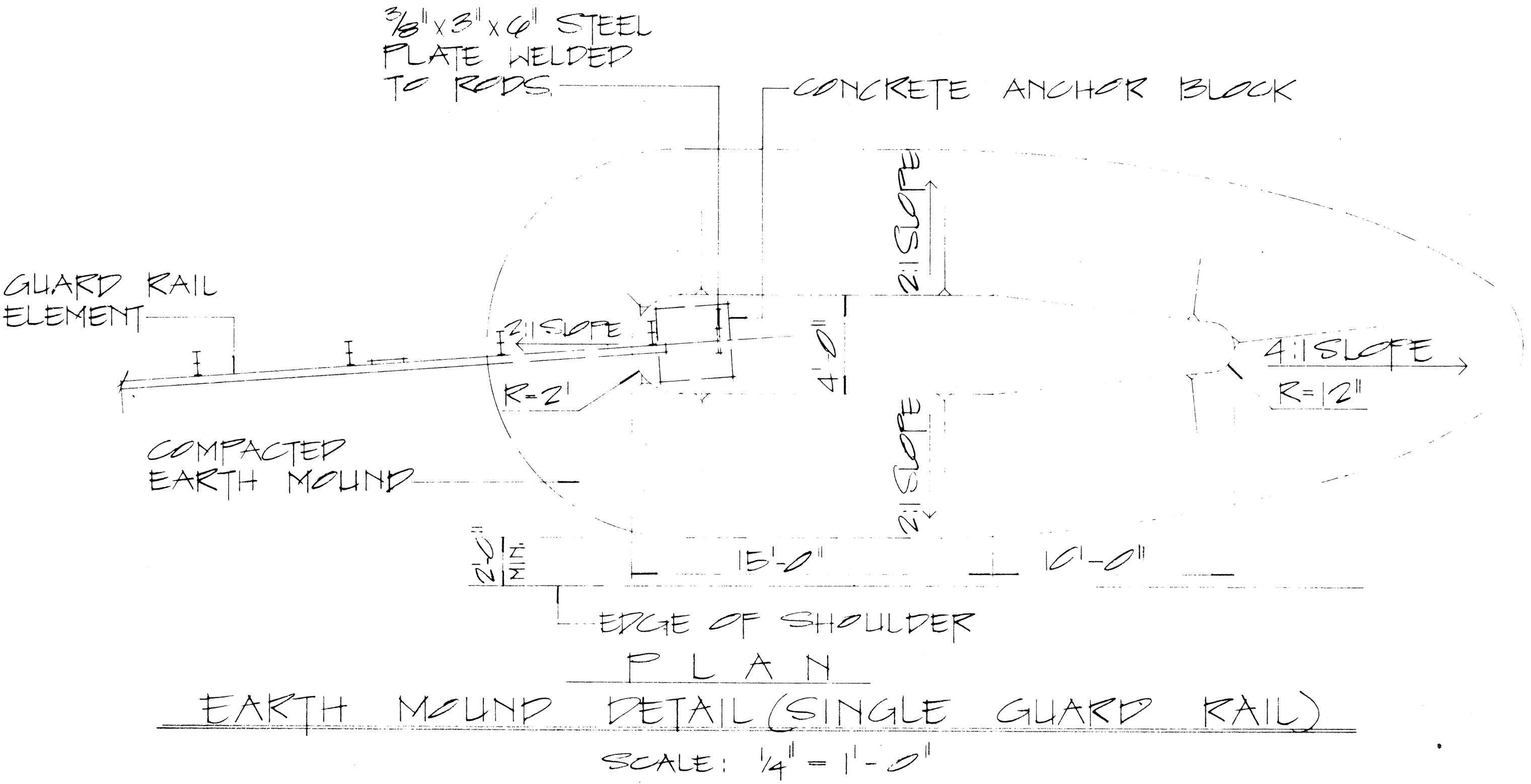
ELEVATION
DETAIL A
Scale: 1/2" = 1'-0"



TERMINAL CONNECTOR
Scale: 1" = 1'-0"

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

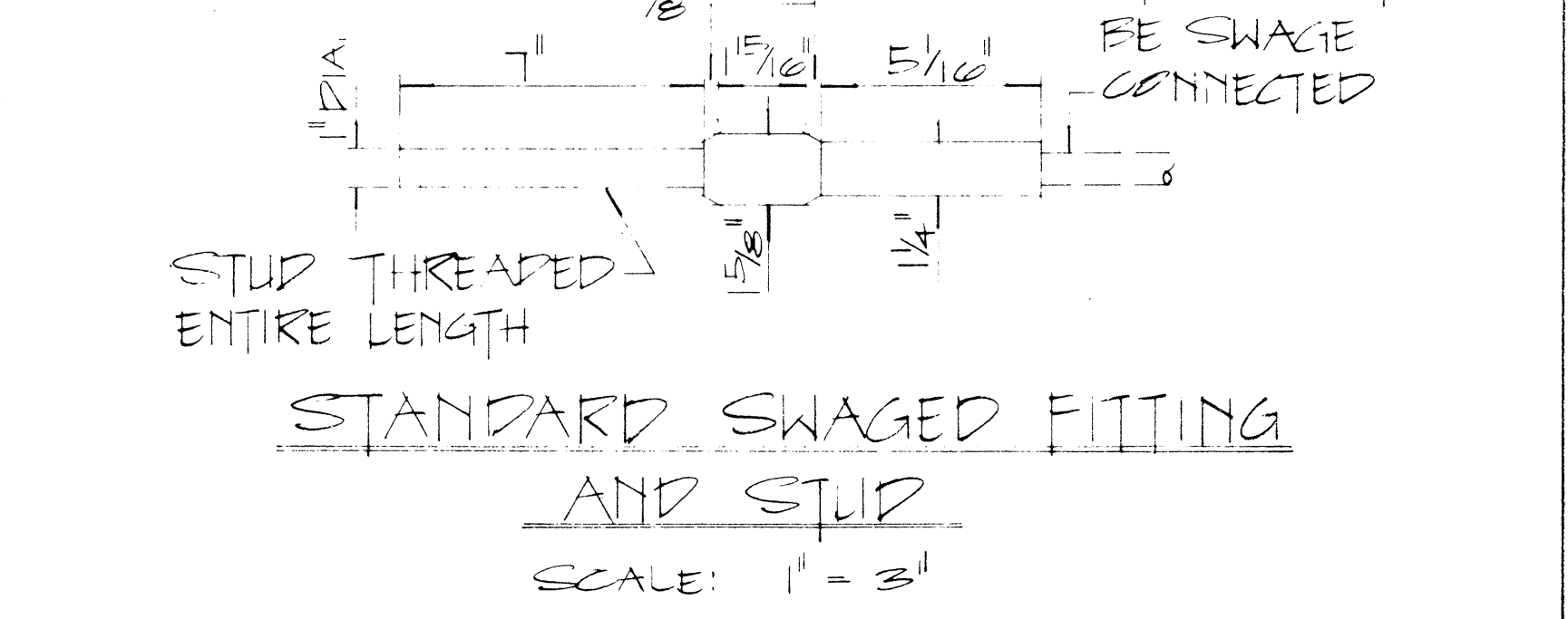
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(156)16	1970	231	236



NOTE:

1. GALVANIZED ANCHOR ROD, METAL GUARD RAIL AND POST BURIED IN GROUND SHALL BE COVERED WITH a Min. 20-Mil thickness of COAL TAR ENAMEL, conforming to AWWA Standard: C 203

2. CONCRETE, GRP, EXCAVATION, EARTH MOUND, ANCHOR RODS AND MISCELLANEOUS APPURTENANCES NECESSARY TO ANCHOR THE GUARD RAIL ENDS SHALL BE INCIDENTAL TO THE METAL GUARD RAIL.



APPROVAL RECOMMENDED:

Quincy Tanaka 12/29/69 DATE

TRAFFIC ENGINEER

APPROVED:

Quincy Tanaka 12-30-69 DATE

ASSISTANT CHIEF, ENGINEERING

NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION

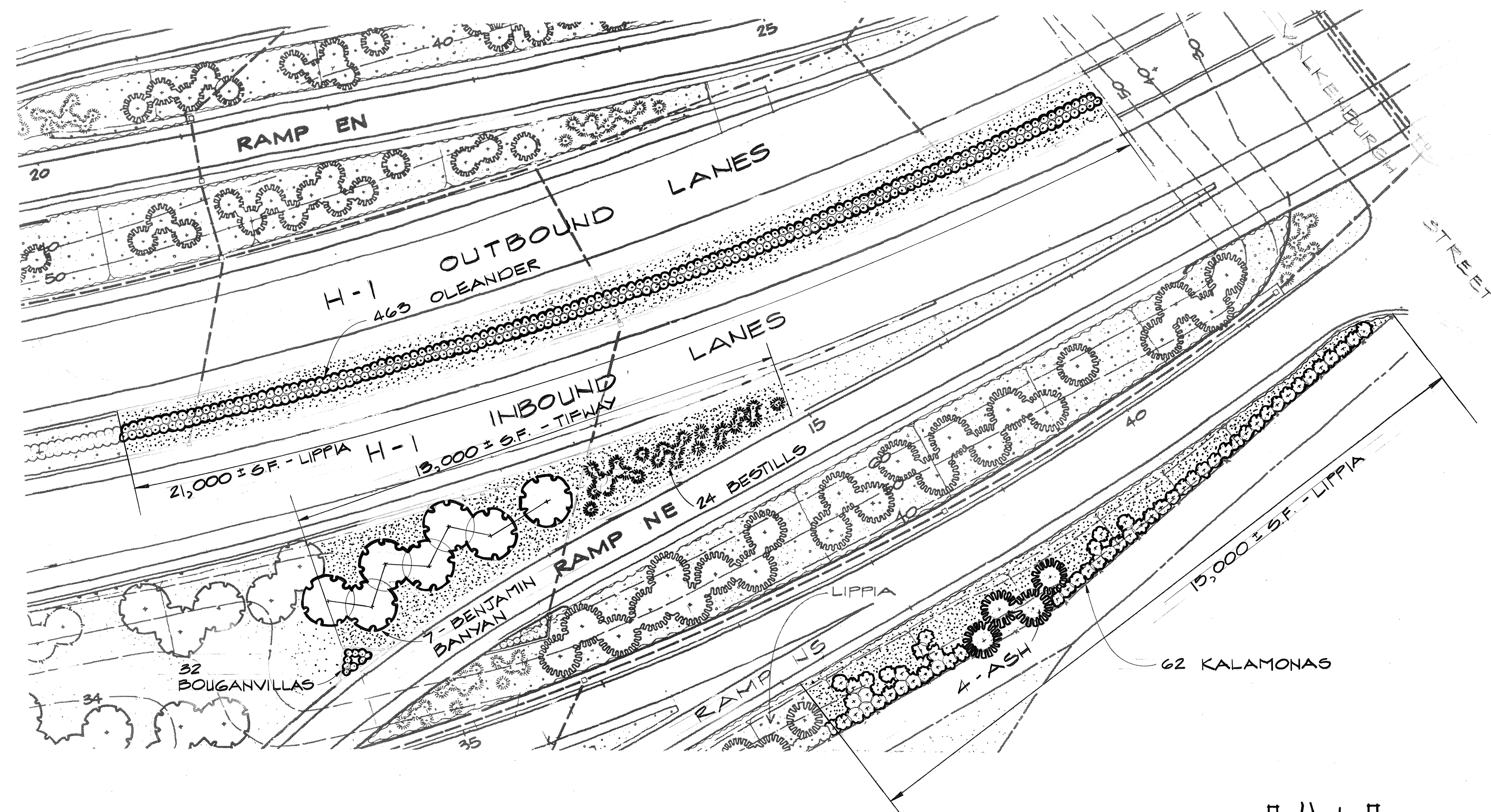
STANDARD DETAILS
EARTH MOUND AND ANCHOR BLOCK DETAILS

SCALE: AS SHOWN OCT 1969

SHEET No. 13 OF 20 SHEETS PT 520

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

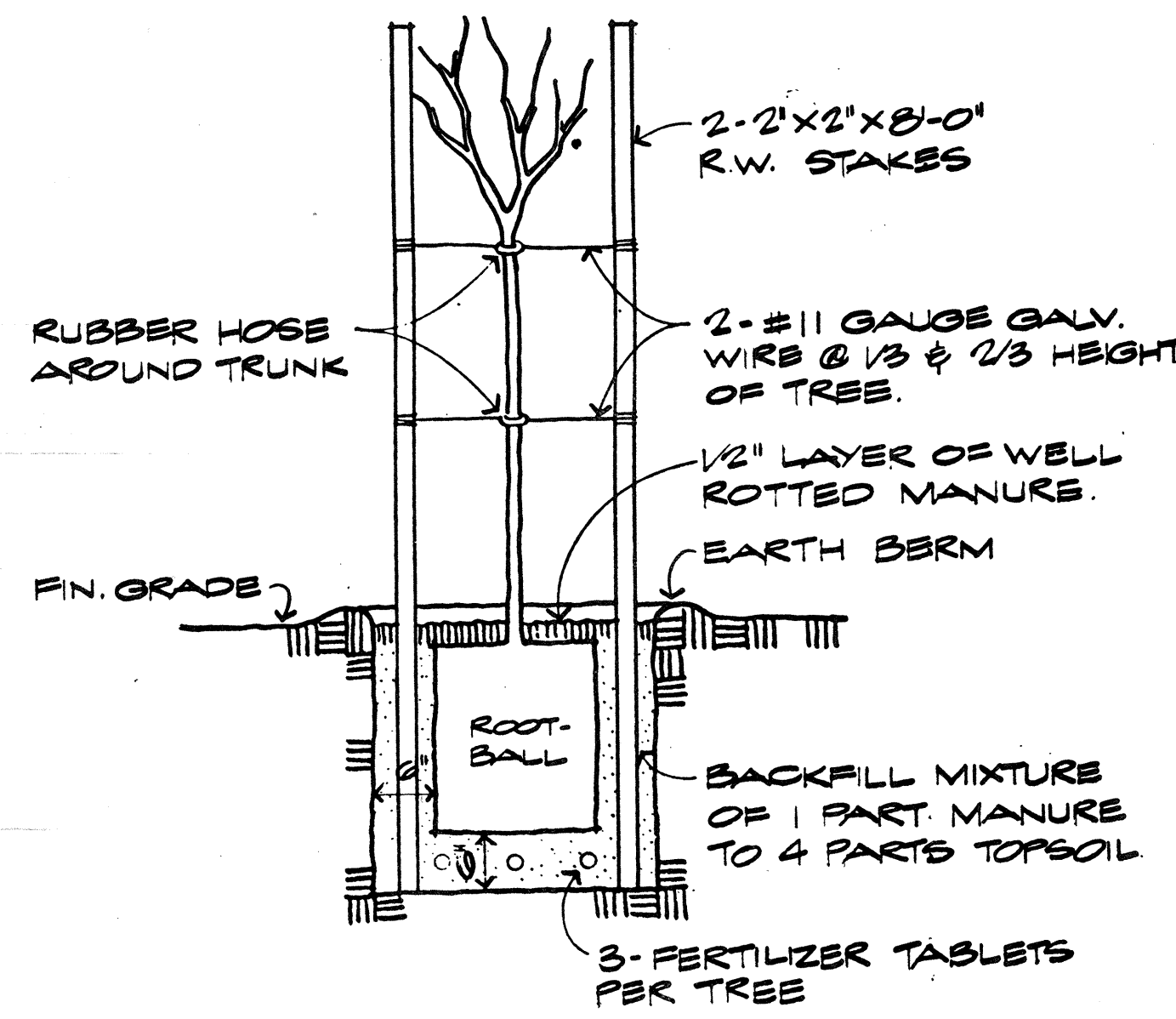
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(156)16	1979	232	236



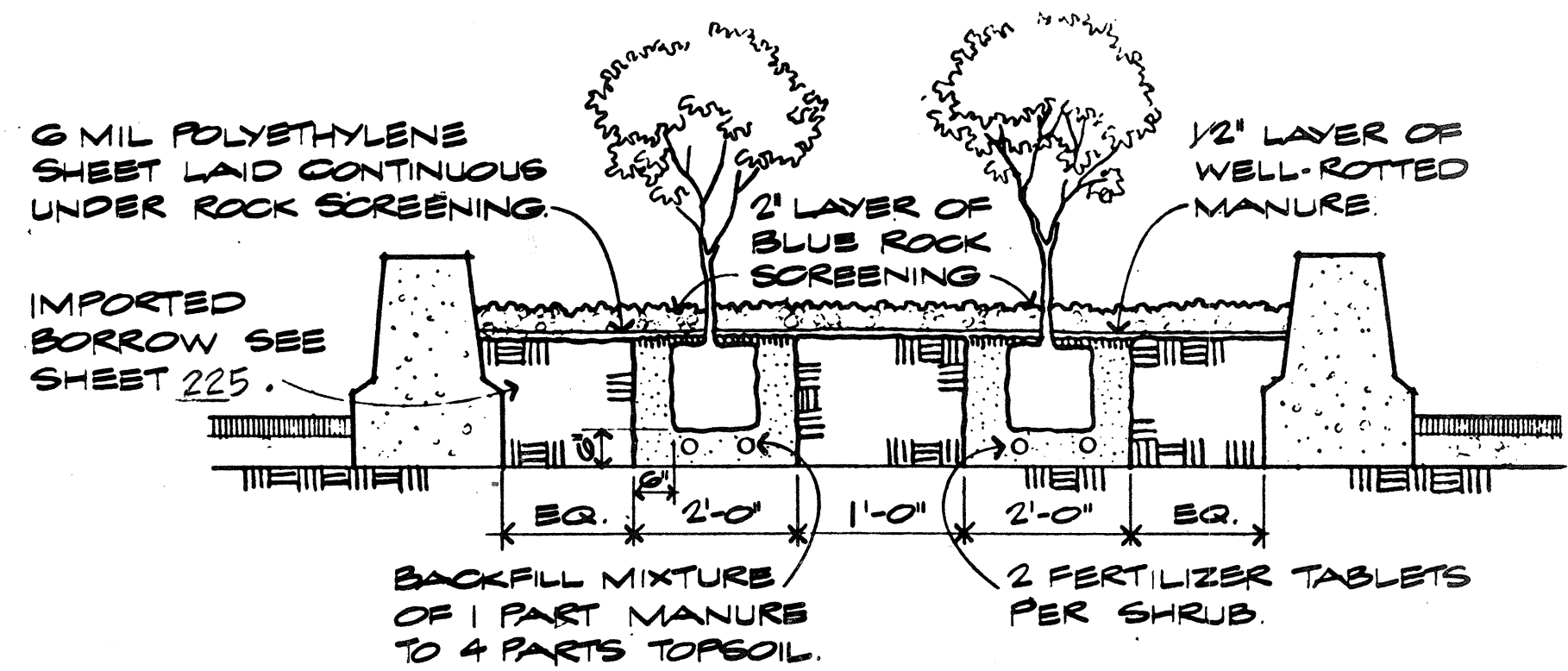
- NOTES TO CONTRACTOR:**
1. PRIOR TO EXCAVATION, ALL TREE PLANTING LOCATIONS SHALL BE STAKED-OUT BY THE CONTRACTOR FOR APPROVAL BY THE ENGINEER.
 2. MINIMUM CLEARANCE FROM EDGE OF PAVEMENT LINE SHALL BE 30 FEET FOR TREES AND 15 FEET FOR SHRUBS IN RELATIVELY FLAT TERRAIN. PLANTINGS MAY BE CLOSER THAN THE CLEARANCES MENTIONED ABOVE WHERE THERE ARE SLOPES, BARRIES, OR DEFLECTORS. DEVIATIONS FROM THIS REQUIREMENT SHALL BE APPROVED BY THE ENGINEER.
 3. MINIMUM CLEARANCE, FROM UNDERGROUND DRAINAGE, UTILITY STRUCTURES, AND WATER MAINS SHALL BE 8' FOR TREES (MEASURED TO TRUNK).
 4. USE FERTILIZER TABLETS WITH A 20-10-5 ANALYSIS IN ALL PLANTING POCKETS AT THE FOLLOWING RATES:
 5 G.C. STOCK 2 TABLETS
 10 G.C. STOCK 3 TABLETS
 25 G.C. STOCK 1 TABLET/ 1/2" OF CALIPER
 5. AREAS TO BE HYDRO-MULCHED W/ TIPWAY AND LIPPIA STOLONS SHALL BE SCARIFIED TO A DEPTH OF 6 INCHES AND BACKFILLED W/ 6" INCHES OF TOPSOIL.
 6. SLOPES SHALL BE COVERED WITH A 6" LAYER OF TOPSOIL AND HYDRO-MULCHED WITH LIPPIA OR TIPWAY AS INDICATED ON THE PLANS AS THE WORK PROGRESSES, UNLESS OTHERWISE DIRECTED BY THE ENGINEER. IN NO CASE SHALL EXPOSED SURFACE BE GREATER THAN 15 FEET IN HEIGHT. NOTE THAT THE HYDRO-MULCHED EROSION CONTROL PLANTING WILL ALSO BE THE FINAL PLANTING.

LANDSCAPE PLAN
SCALE: 1" = 50'

PLANT LIST				
	SYMBOL	QUANTITY	BOTANIC AND COMMON NAME	SIZE AND CONDITION
TREES		62 EACH	CASSIA GLAUCA (KALAMONAG)	10 G.C., 6'-2" HIGH, 3" SPD, 1 1/2" CAL.
		4 EACH	PRAXINUS UHOEI (ASH)	25 G.C., 12'-2" HIGH, 6" SPD, 2 1/2" CAL.
		24 EACH	THEVETIA NERIFOLIA (BESTILL)	10 G.C., 6'2" HIGH, 2' SPD, 1 1/2" CAL.
		7 EACH	FICUS BENJAMINA (BENJAMIN BANYAN)	25 G.C., 12'2" HIGH, 6' SPD, 5" CAL.
SHRUB		32 EACH	BOUGAINVILLEA SPECTABILIS VAR. MISS MANILA	5 G.C., 2'2" HIGH, 2' SPD, @ 3/4" O.C.
		463 EACH	NERIUM OLEANDER (WHITE OLEANDER)	5 G.C., 3'2" HIGH, 2' SPD, @ 3/4" O.C. DOUBLE ROW, STAGGERED.
G.C.		± 36,000 S.F.	LIPPIA REPENS (LIPPIA)	STOLONS, HYDROMULCHED
LAWN		± 13,000 S.F.	CYNODON DACTYLON VAR. TIFTON 419 (TIPWAY)	STOLONS, HYDROMULCHED



2 TYPICAL STAKING DETAIL
FOR 10 G.C. TREES



3 TYPICAL SHRUB PLANTING
DETAIL IN PLANTER WALLS

APPROVED FOR GRADING ONLY:

[Signature] 3/29/79
CHIEF, DIVISION OF ENGINEERING, DPW DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LANDSCAPE PLAN
AND DETAILS

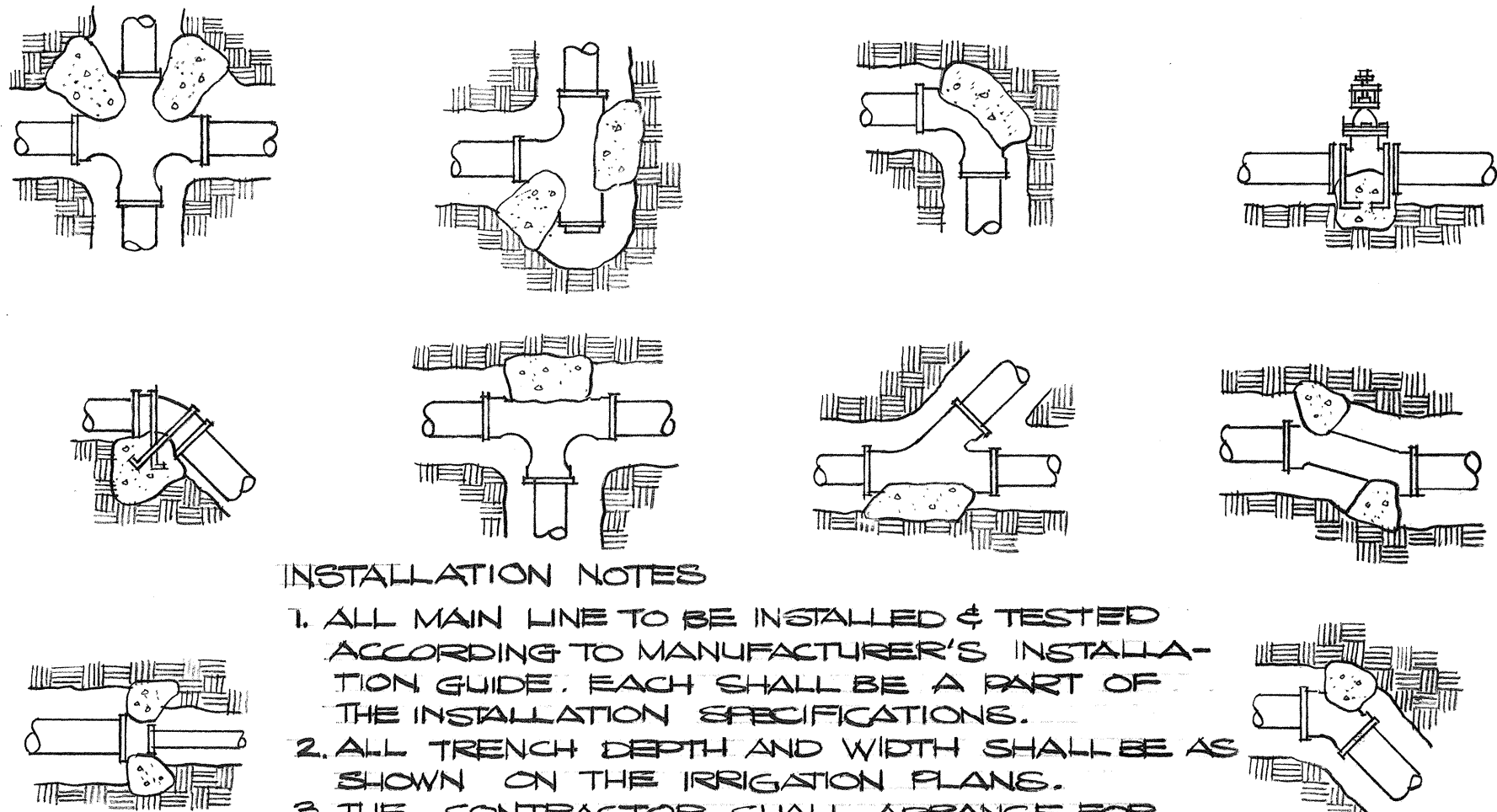
INTERSTATE ROUTE H-1
F.A.I. Project No. I-HI-1(156)16

SCALE: AS SHOWN DATE: NOV. 15, 1978
SHEET No. 16 OF 20 SHEETS

1	3-22-79	Added Grading Approval Block
NO.	DATE	REVISION

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

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(150)-16	1979	233	236



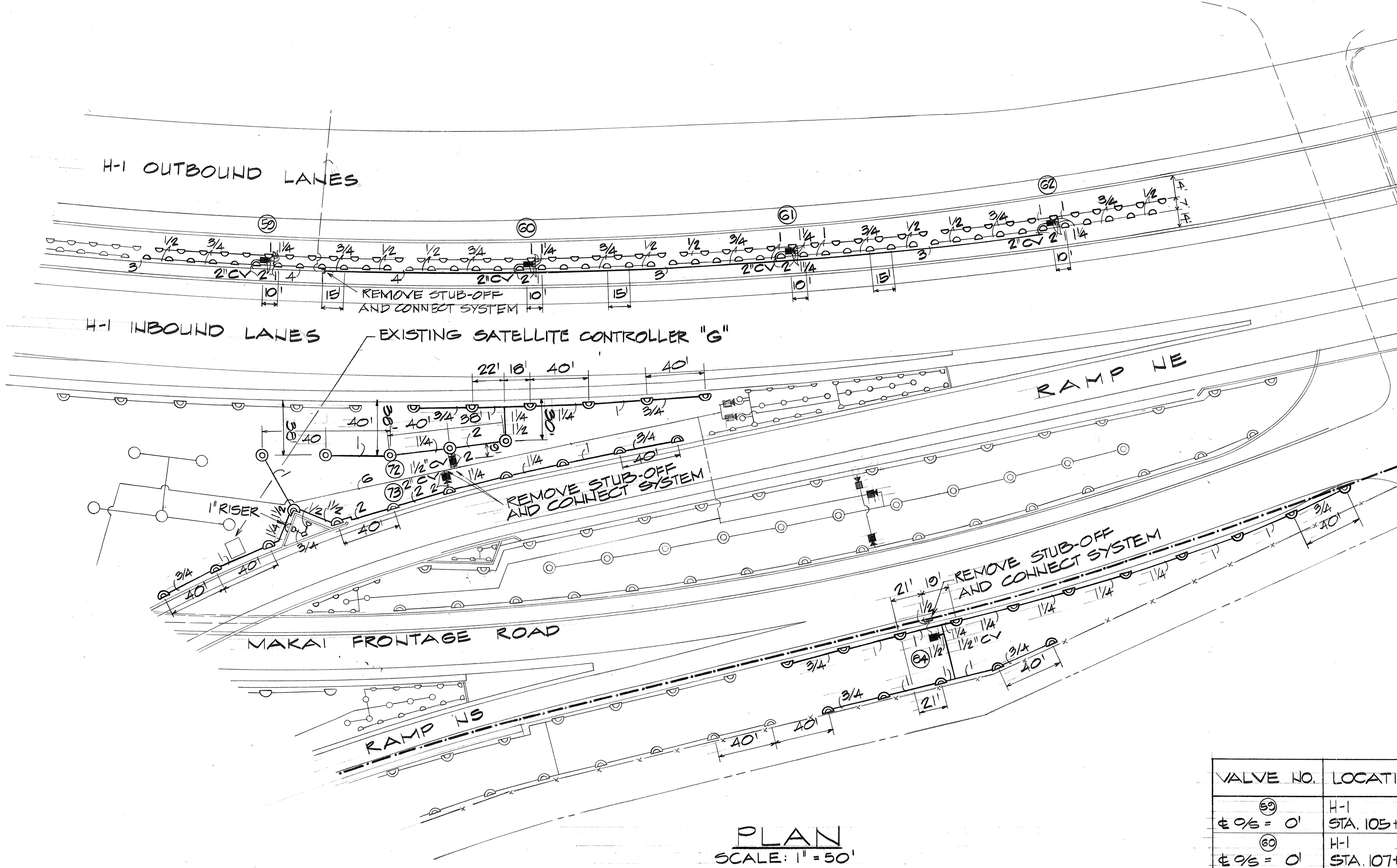
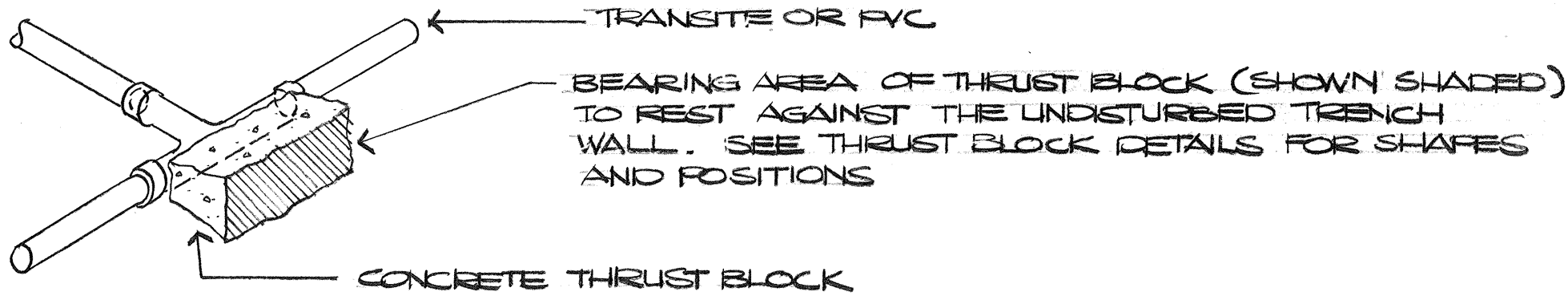
INSTALLATION NOTES

1. ALL MAIN LINE TO BE INSTALLED & TESTED ACCORDING TO MANUFACTURER'S INSTALLATION GUIDE. EACH SHALL BE A PART OF THE INSTALLATION SPECIFICATIONS.
2. ALL TRENCH DEPTH AND WIDTH SHALL BE AS SHOWN ON THE IRRIGATION PLANS.
3. THE CONTRACTOR SHALL ARRANGE FOR THE SERVICE OF THE MANUFACTURER'S QUALIFIED INSTRUCTOR.

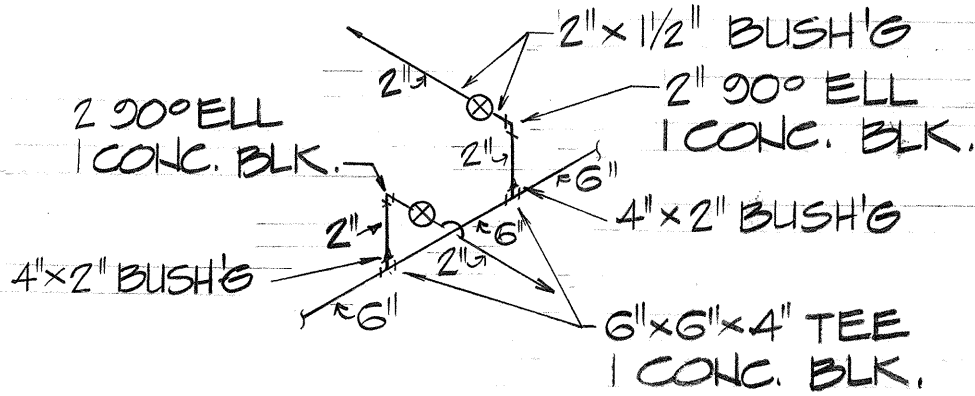
TYPICAL THRUST BLOCK DETAILS FOR TRANSITE OR PVC PIPE

NO SCALE

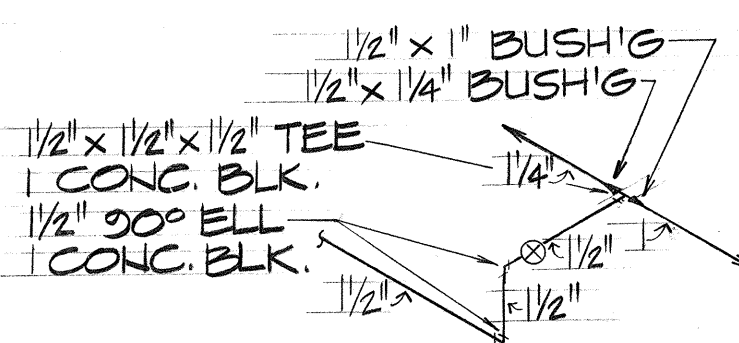
BEARING AREA REQUIRED FOR THRUST BLOCKS (SQ. FT.)							
PIPE SIZE	3"	2 1/2"	2"	1 1/2"	1 1/4"	4"	6"
TEES & CROSSES	1.00	0.50	0.50	0.50	0.50	1.25	3.00
90° BEND	1.25	0.75	0.50	0.50	0.50	2.00	4.00
45° BEND	0.75	0.50	0.50	0.50	0.50	1.00	2.25



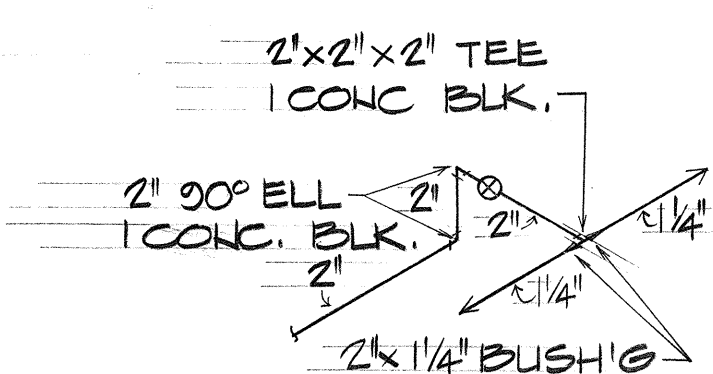
SATELLITE SYSTEM D
VALVE ⑬ - 2", ⑭ - 1 1/2"



SATELLITE SYSTEM E
VALVE ⑮ - 1 1/2"



SATELLITE SYSTEM G
VALVE ⑯ ⑰ ⑱ ⑲ - 2"



VALVE NO.	LOCATION
⑮	H-1 STA. 105+30
⑯ = 0'	H-1 STA. 107+18
⑰ = 0'	H-1 STA. 108+07
⑱ = 0'	H-1 STA. 110+76
⑲ = 25'	RAMP NE STA. 12+67
⑳ = 17'	RAMP NE STA. 12+55
㉑ = 54'	MAKAI FR. RD. STA. 38+66

APPROVED FOR GRADING ONLY:

[Signature] 3/29/79
CHIEF, DIVISION OF ENGINEERING, DPW DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SPRINKLER PLAN & DETAILS

INTERSTATE ROUTE H-1
F.A.I. Project No. I-HI-1(150)-16

SCALE: AS SHOWN DATE: NOV. 15, 1978

SHEET No. 17 OF 20 SHEETS

C0233

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

1	3-22-79	Added Grading Approval Block
NO.	DATE	REVISION

SPRINKLER SUMMARY

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-HI-1(154)16	1979	236	236

		ESTIMATED																QUANTITIES																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
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