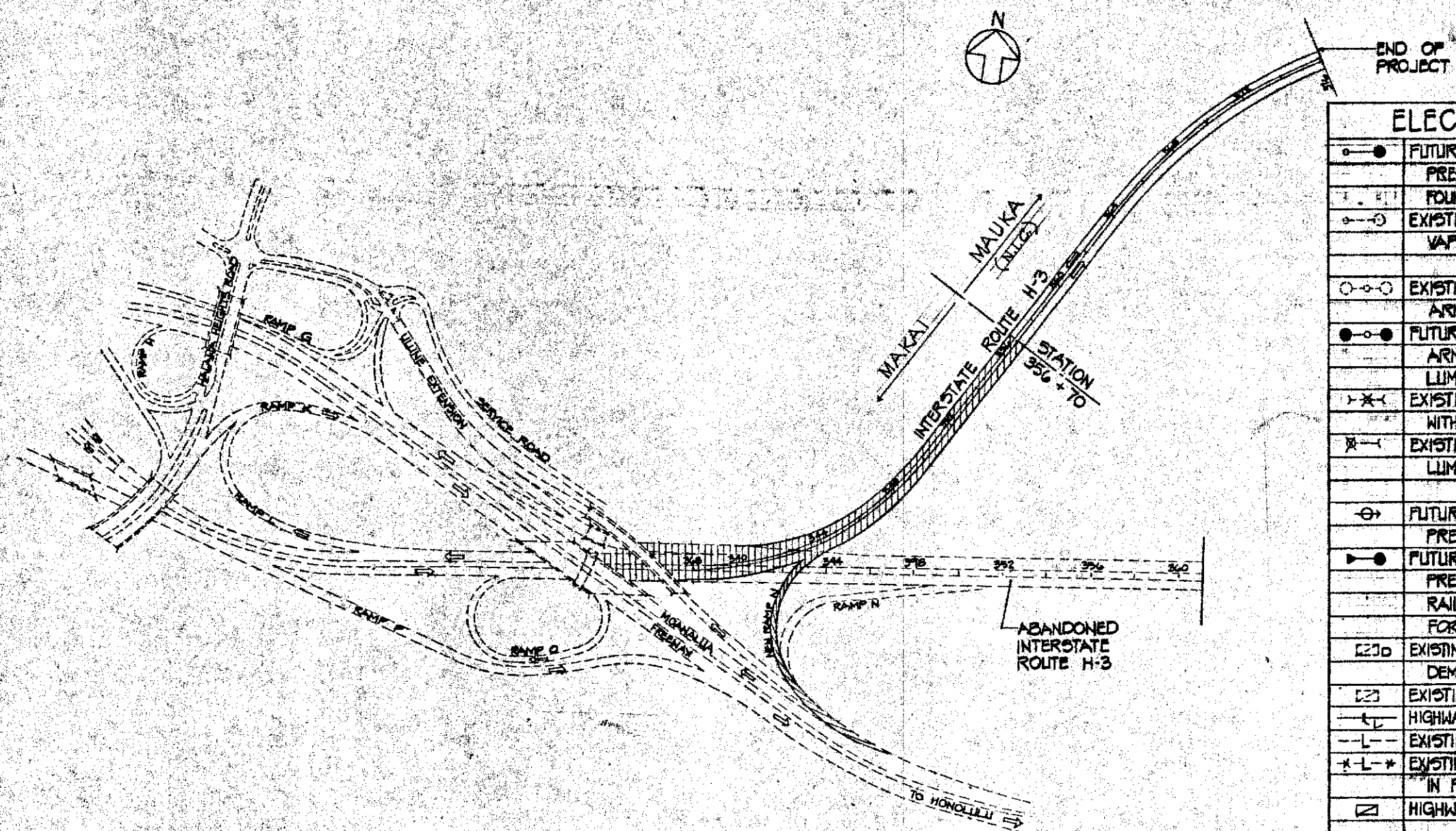
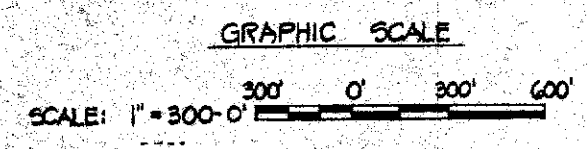


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(54)	1989	56	137



LOCATION PLAN
SCALE: 1" = 300'-0"



ELECTRICAL SYMBOLS	
	FUTURE HIGHWAY LIGHTING STANDARD W/150W HIGH PRESSURE SODIUM LAMP LUMINAIRE + CONCRETE FOUNDATION, 480V BALLAST
	EXISTING HIGHWAY LIGHTING STANDARD, MERCURY VAPOR LAMP
	EXISTING HIGHWAY LIGHTING STANDARD, DOUBLE ARMS, MERCURY VAPOR LAMPS
	FUTURE HIGHWAY LIGHTING STANDARD, DOUBLE ARMS W/250W HIGH PRESSURE SODIUM LAMP LUMINAIRE + CONCRETE FOUNDATION, 480V BALLAST
	EXISTING HIGHWAY LIGHTING STANDARD, DOUBLE ARMS WITHOUT LUMINAIRES TO BE REMOVED + SALVAGED
	EXISTING HIGHWAY LIGHTING STANDARD, WITHOUT LUMINAIRE TO BE REMOVED + SALVAGED
	FUTURE RAIL MOUNTED LIGHT FIXTURE, 50W HIGH PRESSURE SODIUM, SEE DET 1/E4
	FUTURE HIGHWAY LIGHTING STANDARD, W/150W HIGH PRESSURE SODIUM LAMP LUMINAIRE MOUNTED ON RAIL, 480V BALLAST, SEE STRUCTURAL DWG FOR MOUNTING DETAIL
	EXISTING HIGHWAY LIGHTING SYSTEM PULLBOX TO BE DEMOLISHED
	EXISTING HIGHWAY LIGHTING SYSTEM PULLBOX
	HIGHWAY LIGHTING SYSTEM CONDUIT
	EXISTING HIGHWAY LIGHTING SYSTEM CONDUIT
	EXISTING WIRES TO BE REMOVED (ABANDON CONDUIT IN PLACE)
	HIGHWAY LIGHTING SYSTEM PULLBOX SEE DET 2/E1
	EXISTING POWER POLE
	ELECTRIC MANHOLE
	TELEPHONE MANHOLE
	UNDERGROUND ELECTRIC LINES
	UNDERGROUND TELEPHONE LINES
	AVIATION GAS LINES
	HONOLULU GAS LINES
	EXISTING OVERHEAD ELECTRIC LINES

DATE	BY	DATE	BY
DESIGNED BY	DATE	BY	DATE
DRAWN BY	DATE	BY	DATE
CHECKED BY	DATE	BY	DATE
NOTED BY	DATE	BY	DATE
APPROVED BY	DATE	BY	DATE

REDUCED PLAN
(HALF SIZE)
3 INCHES ON ORIGINAL PLAN



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
Melvin S. Masuda

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LOCATION PLAN B
ELECTRICAL SYMBOLS
INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1 (54)
SCALE: AS NOTED DATE: SEPT. 1988
SHEET NO. 21 OF 7 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-H3-1(54)	1989	57	157

MATCH LINE 'A' THIS SHEET

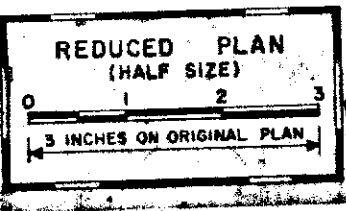
STA 33+64
O/S 15' RT
RELOCATE EXST ST LT POLE PROVIDE NEW CONC FOUNDATION

NOTE:
1. EXST HIGHWAY LIGHTING STANDARDS SHALL BE REMOVED & SALVAGED WITHIN 45 DAYS AFTER THE ISSUANCE OF THE NOTICE TO PROCEED.

MATCH LINE 'A' SEE SHT E3

GUARD RAIL MOUNTED SEE S/ES

FUTURE POWER CENTER
5 KVA 480V-120/240V
SEE DET 2/EA



REDUCED PLAN (HALF SIZE)

0 1 2 3
3 INCHES ON ORIGINAL PLAN

0 1 2 3

3 INCHES ON ORIGINAL PLAN

0 1 2 3

3 INCHES ON ORIGINAL PLAN

0 1 2 3

3 INCHES ON ORIGINAL PLAN

0 1 2 3

3 INCHES ON ORIGINAL PLAN

0 1 2 3

3 INCHES ON ORIGINAL PLAN

0 1 2 3

3 INCHES ON ORIGINAL PLAN

0 1 2 3

3 INCHES ON ORIGINAL PLAN

0 1 2 3

3 INCHES ON ORIGINAL PLAN

0 1 2 3

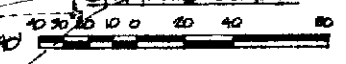
SURVEY PLOTTED BY	DATE
DRAWN BY	
DESIGNED BY	
CHECKED BY	
NOTE BOOK	
NO.	

MOANALUA FREEWAY

LIGHTING PLAN
SCALE: 1"=40'

ADD STA & O/S DATA FOR LIGHTING STD REV LOCATIONS OF PULLBOXES.	REVISION
DATE	

GRAPHIC SCALE



THIS WORK WAS PREPARED BY
ME UNDER MY SUPERVISION
M. Masuda

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LIGHTING PLAN
PART I

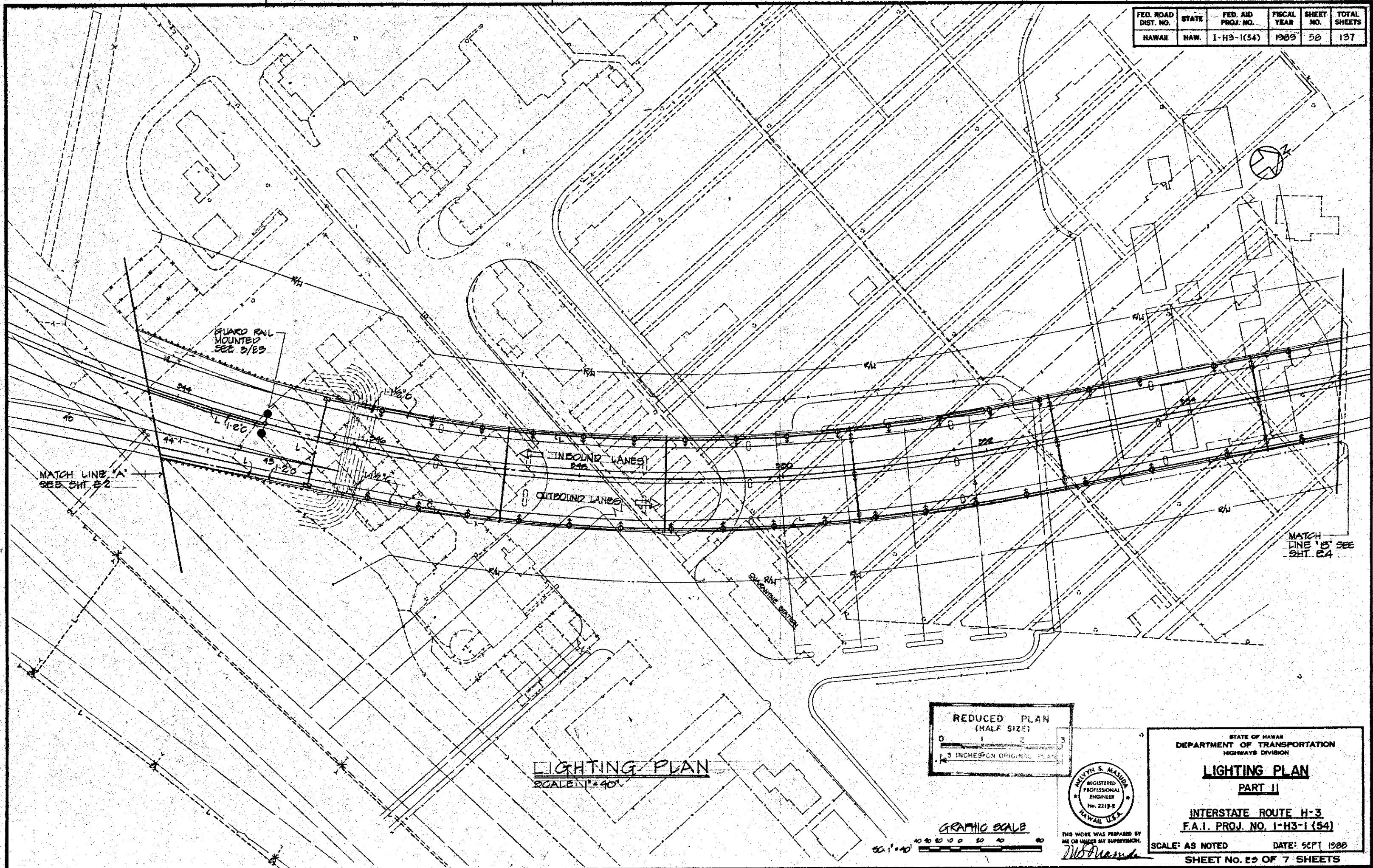
INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. 1-H3-1 (54)

SCALE: AS NOTED DATE: SEPT. 1989
SHEET NO. 52 OF 7 SHEETS

ADD 57

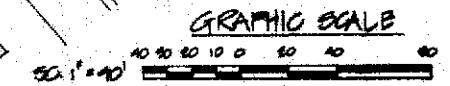
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(54)	1980	58	137

DESIGNED BY	DATE
DRAWN BY	
CHECKED BY	
NOTED BY	
DATE	



LIGHTING PLAN
SCALE: 1" = 40'

REDUCED PLAN
(HALF SIZE)
0 1 2 3
3 INCHES ON ORIGINAL PLAN

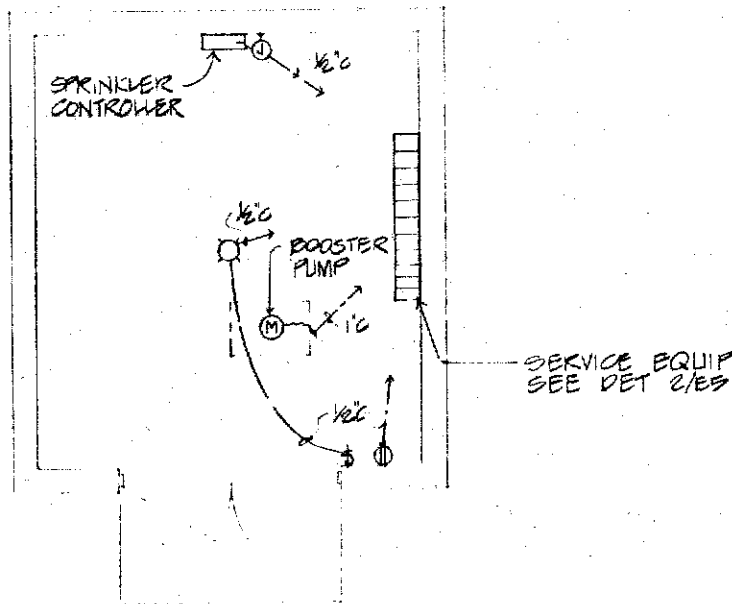


THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
M. Masuda

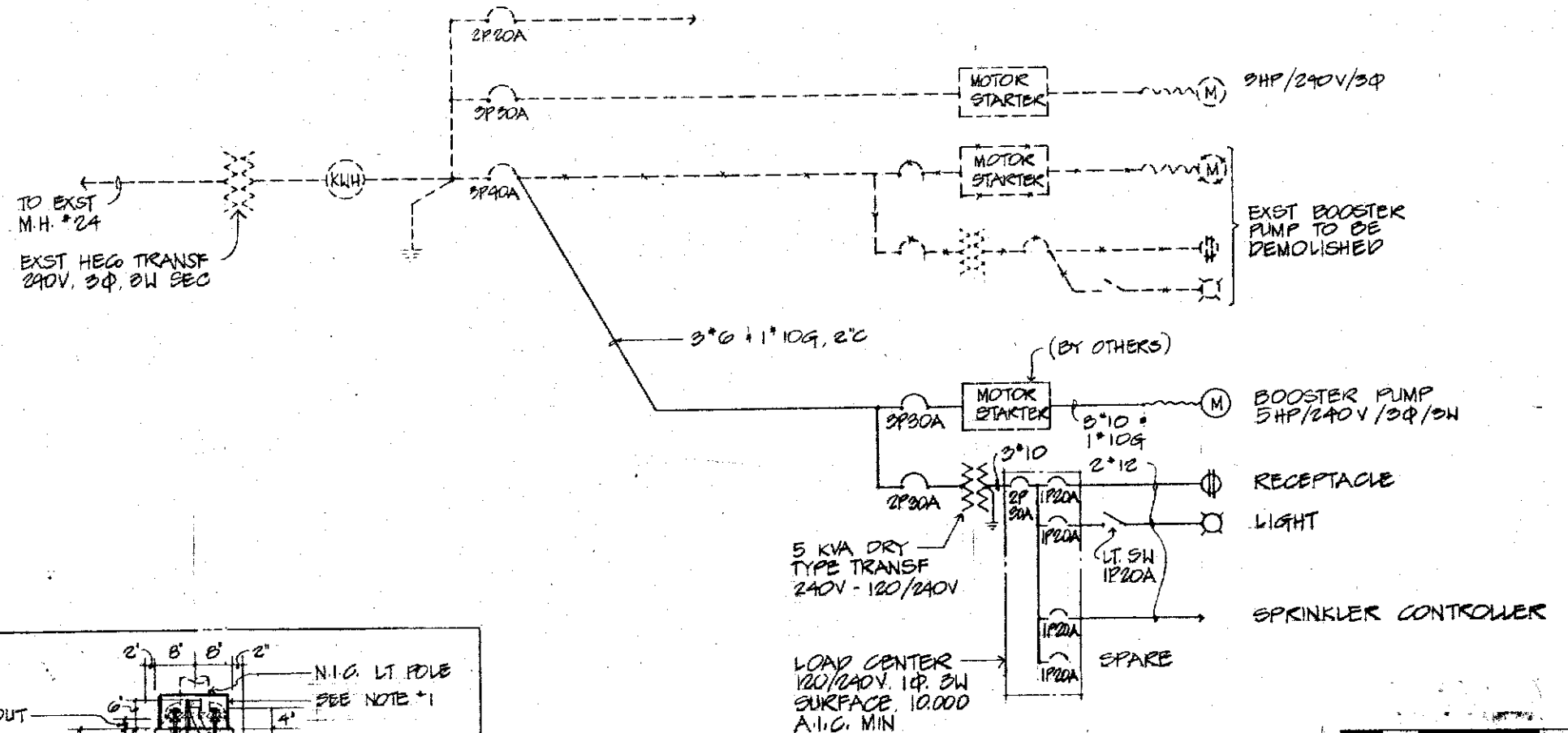
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
LIGHTING PLAN
PART II
INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1 (54)
SCALE: AS NOTED
DATE: SEPT 1980
SHEET No. 58 OF 7 SHEETS

58



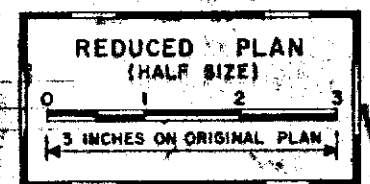


1 BOOSTER PUMP HOUSE ELECTRICAL PLAN
SCALE: 3/8" = 1'-0"



ONE-LINE DIAGRAM

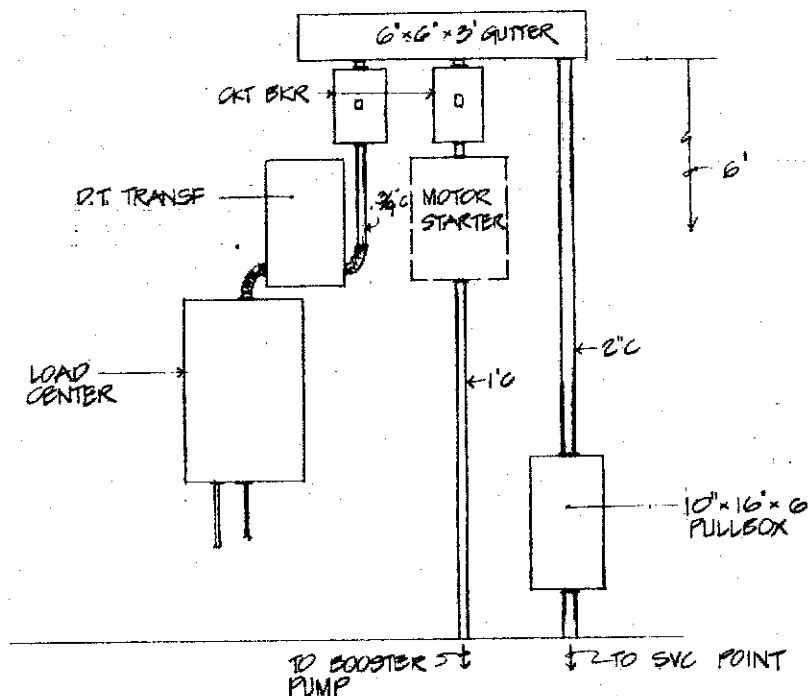
DASHED LINES DENOTE EXISTING.
SOLID LINES DENOTE NEW WORK.



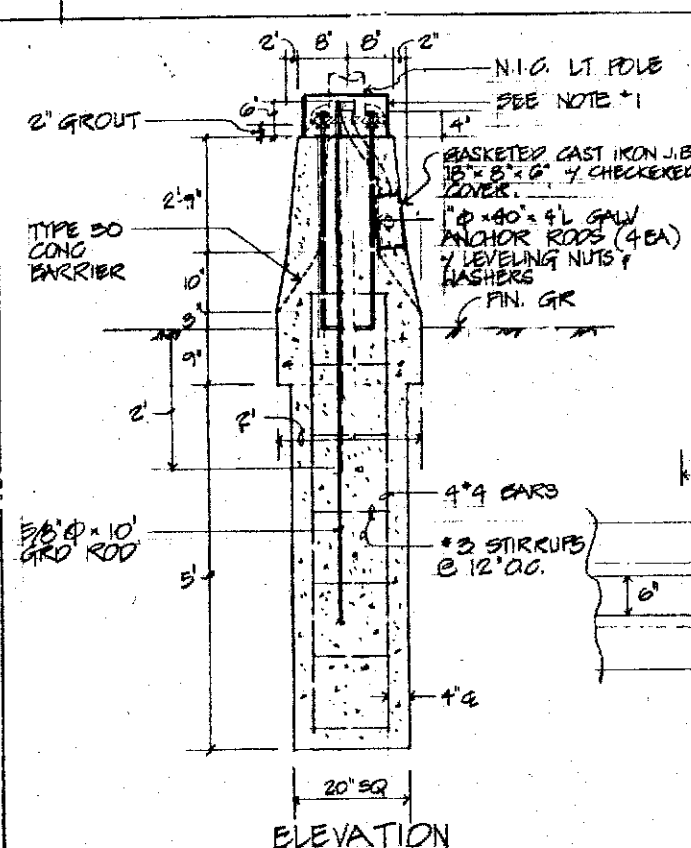
NOTES:
1. PROVIDE TERMITE TREATED PLYWOOD BOX (12" x 8" x 6" H) OVER ANCHOR BOLTS & CONDUITS. ALSO APPLY BITUMEN COATING ON EXPOSED ANCHOR BOLTS & NUTS.

2. SEE SHEET TE-56 FOR REINFORCING BARS REQUIREMENTS.

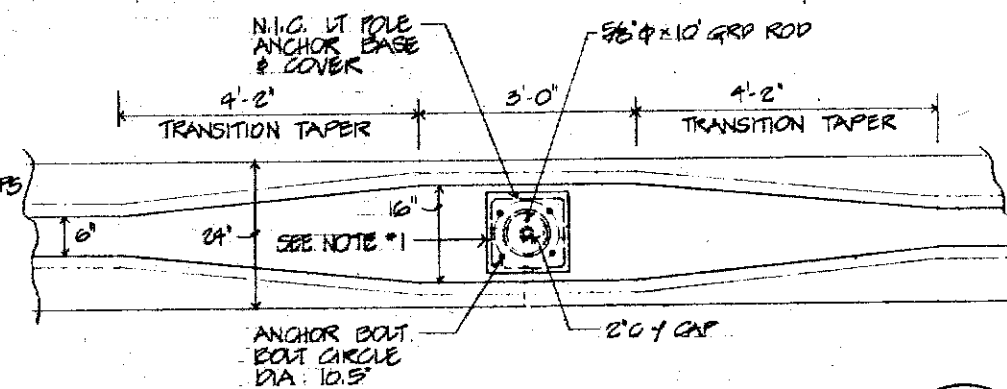
REV	TYPE 30 BARRIER DIMENSION
1	DATE
2	REVISION



2 SERVICE EQUIPMENT ELEVATION
NOT TO SCALE



3 LIGHT POLE MT'G DETAIL @ CONC BARRIER
NOT TO SCALE



THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION.
Melvin S. Masada

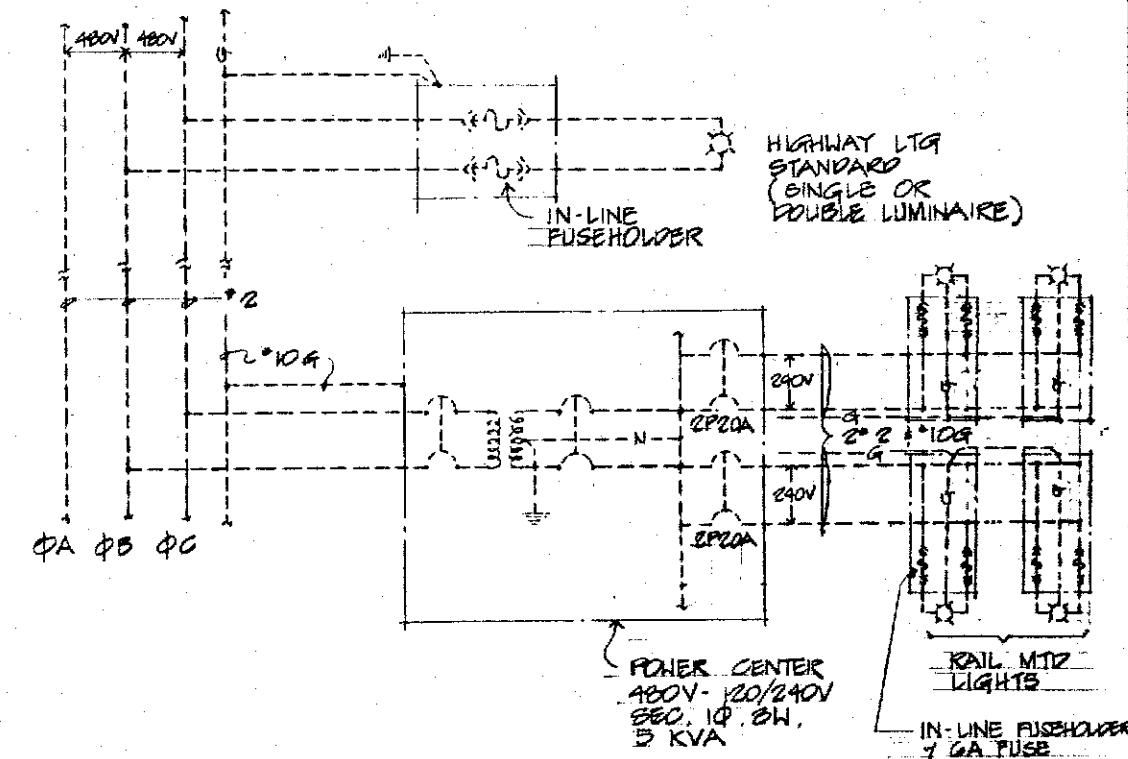
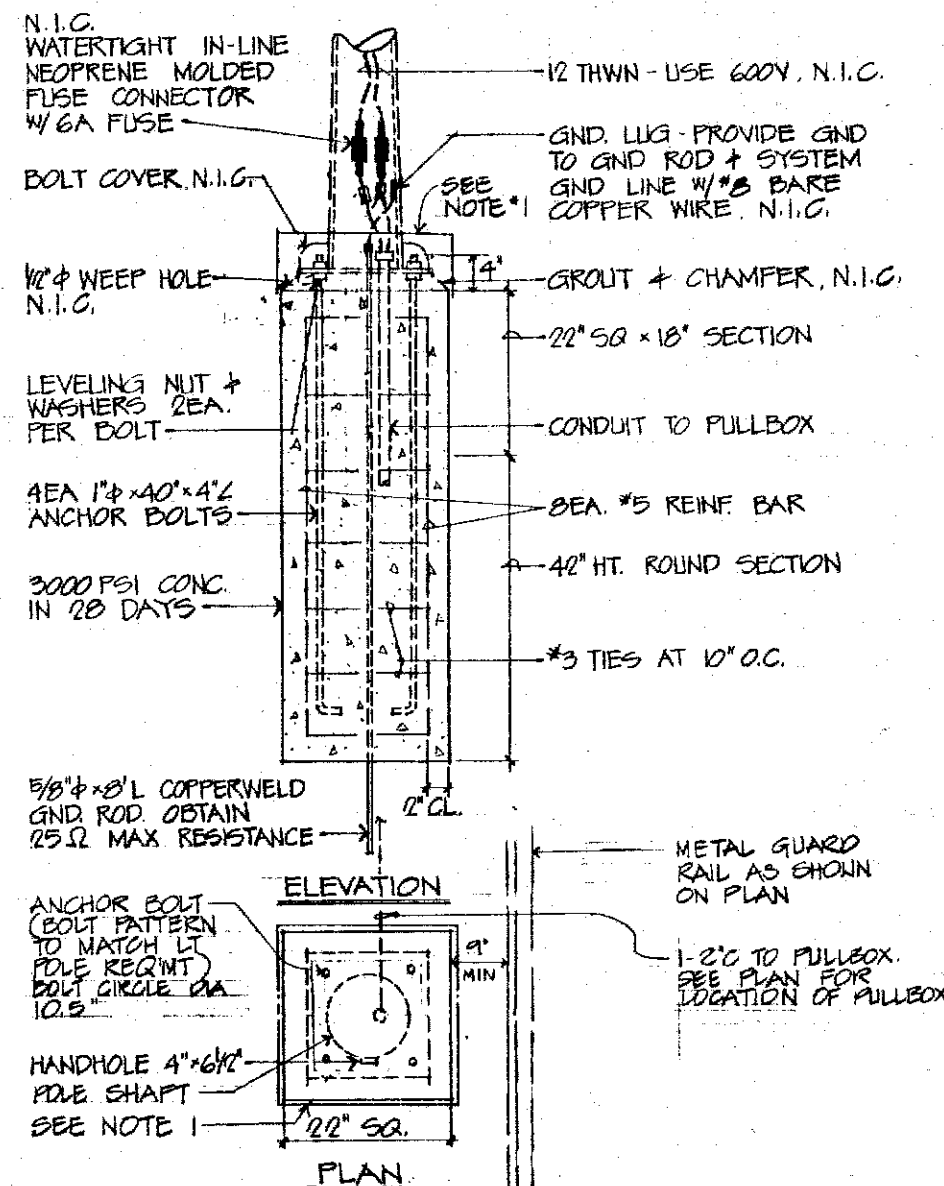
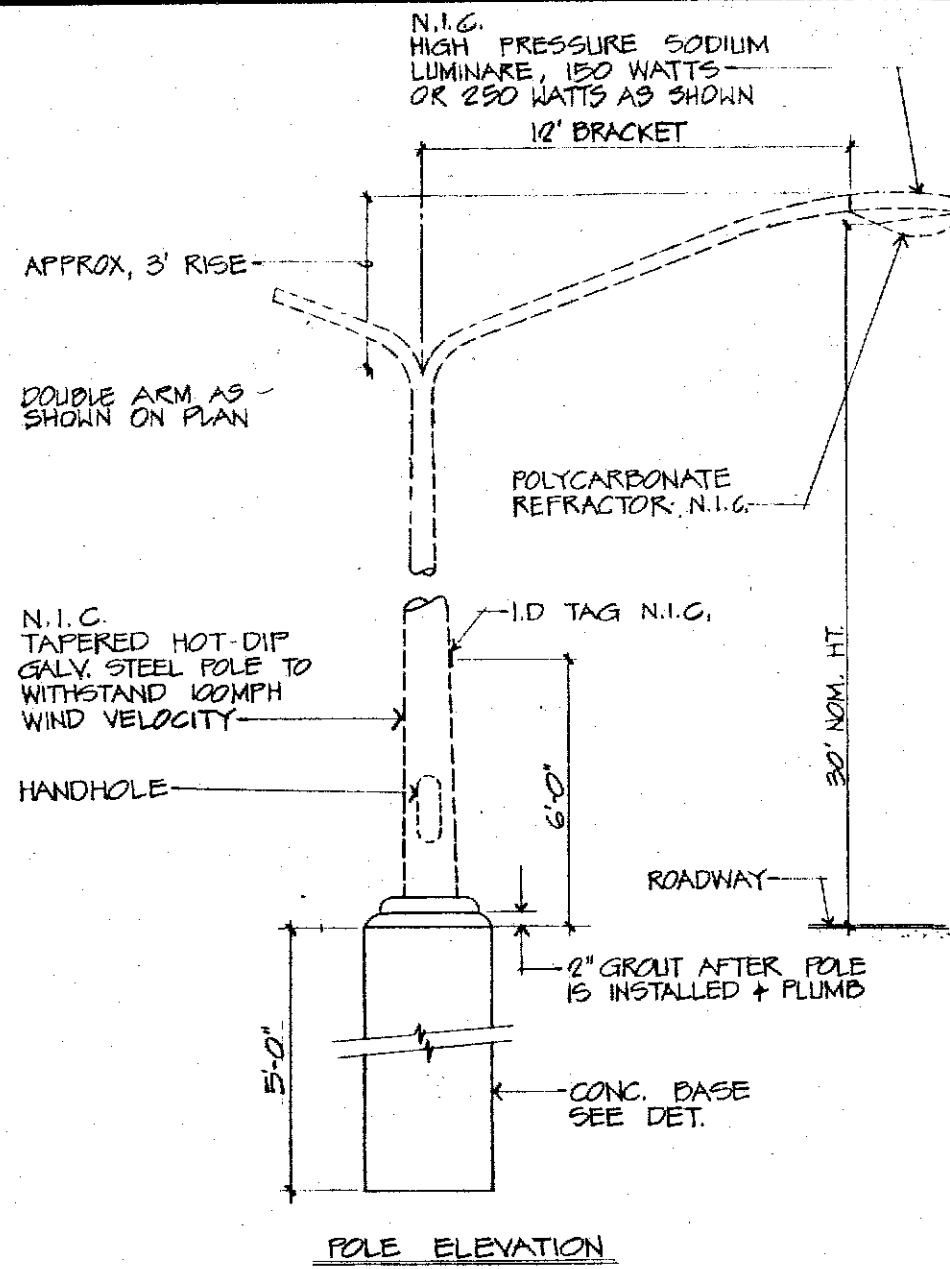
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**BOOSTER PUMP HOUSE
ELECTRICAL PLAN & DIAG.**

INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. 1 H3 1 (54)

SCALE: AS NOTED DATE: SEPT. 1989
SHEET NO. 25 OF 7 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-H3-1(54)	1989	61	137



ONE-LINE DIAGRAM
(FOR INFORMATION ONLY)
DASHED LINES DENOTE FUTURE WORK

HIGHWAY LIGHT POLE STANDARD DETAIL

E1 & E2

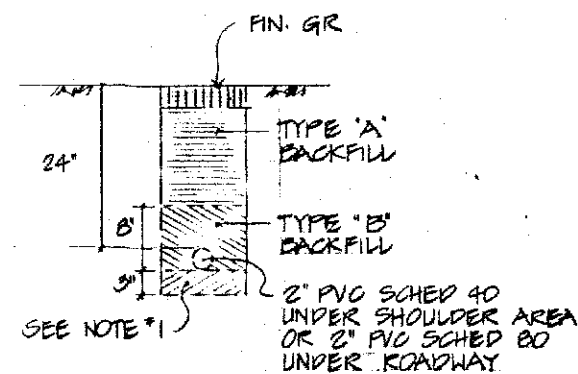
NOTES:
1. PROVIDE TERMITE TREATED PLYWOOD BOX (24" SQ x 8" H) OVER ANCHOR BOLTS & CONDUIT. ALSO APPLY BITUMEN COATING ON EXPOSED ANCHOR BOLTS & NUTS.

BACKFILL DATA

TYPE 'A' BACKFILL: BEACH SAND, EARTH OR EARTH & GRAVEL. IF EARTH & GRAVEL USED MAXIMUM ROCK SIZE SHALL BE 1" & MIXTURE SHALL CONTAIN NOT MORE THAN 50% BY VOLUME OF ROCK PARTICLES.

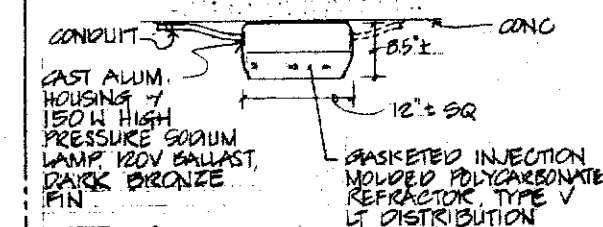
TYPE 'B' BACKFILL: SAME AS 'A' EXCEPT THAT IF EARTH & GRAVEL USED MIXTURE MUST PASS 1/2" MESH SCREEN & CONTAIN NOT MORE THAN 20% BY VOLUME OF ROCK PARTICLES.

NOTE *1: IF THE NORMAL MATERIAL IN BOTTOM OF TRENCH IS NOT TYPE 'B' AN ADDITIONAL 3" SHALL BE EXCAVATED & TYPE 'B' BACKFILL SHALL BE PROVIDED.

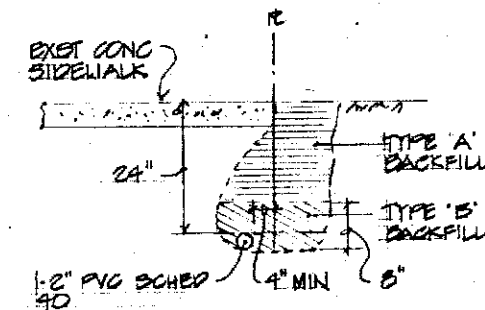


TYPICAL LIGHTING DUCT SECTION

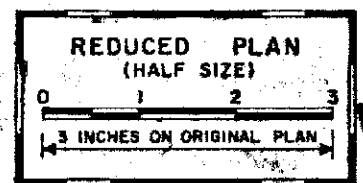
NOTES: 1. USE PVC SCHED 80 FOR CONDUITS INSTALLED IN A STRUCTURE.
2. PROVIDE PULLWIRES IN ALL EMPTY CONDUITS.



STREET LIGHT LUMINAIRE DETAIL



DUCT SECTION (A)



DATE	REVISION
1/22/89	REVISE LIGHT POLE STANDARD ADD STREET LIGHT LUMINAIRE DETAIL



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
M. Masuda

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**HIGHWAY LIGHT
POLE STANDARD DETAIL**

INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. 1-H3-1 (54)

SCALE: NONE DATE: SEPT 1988
SHEET NO. 66 OF 7 SHEETS

ADD 61

Hand-drawn technical drawing of a rectangular frame assembly, labeled "1A".

The drawing includes a top view and a side view.

Top View Dimensions:

- Overall width: 2'-0"
- Overall height: 1'-11 1/2"
- Inner square opening dimensions: 1'-11 1/2" by 1'-11 1/2"
- Frame thickness (indicated by arrows): 1/2"

Side View Dimensions:

- Overall height: 1'-3 3/4"
- Width: 5 1/2"
- Internal vertical dimension: 1'-11 1/2"

Notes:

- CAST IRON OR 3/8" ROLLED STEEL PLATE 7 NON-SLIP ABRASIVE SURFACING

PLAN

SIDE VIEW

SECTION 'A-A'

SECTION "B-B"

STREET LIGHT FULLBOX DETAILS

N.T.S.

- 21 -

REDUCED PLAN
(HALF SIZE)

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

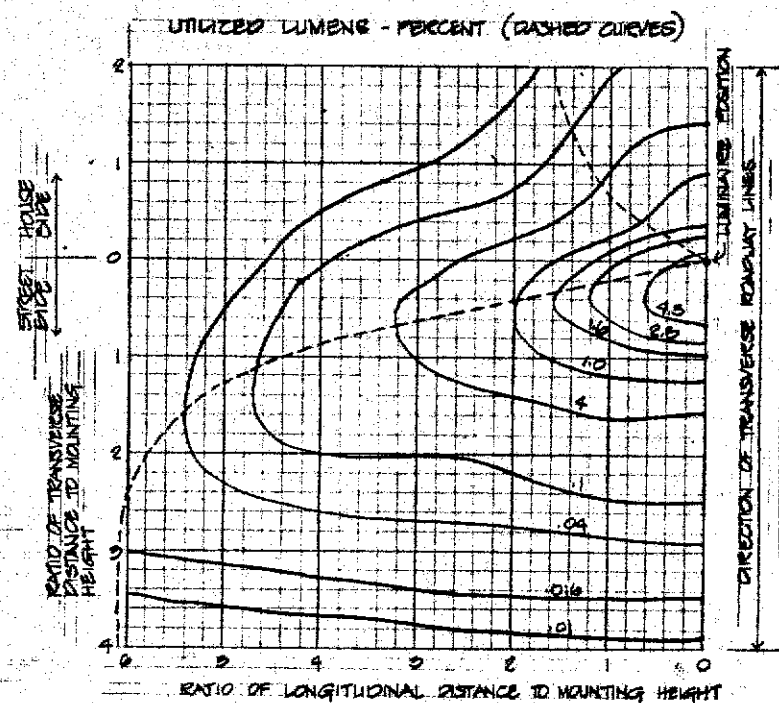
MISCELLANEOUS
DETAILS

INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1 (54)

SCALE: NONE DATE: SEPT. 1988
SHEET NO. E7 OF 7 SHEETS



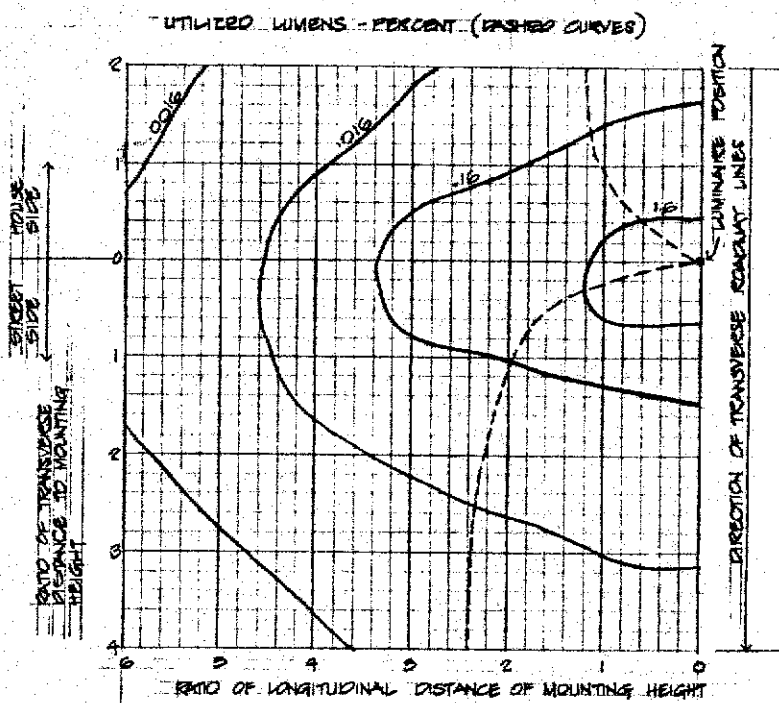
THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION.
Dr. [Signature]



DATA

LAMP: 250W HIGH PRESSURE SODIUM
LUMEN: 28500
MTG HT: 30 FT
ANSI I.E.S. TYPE: MEDIUM NON CUT-OFF TYPE III

ISOFOOTCANDLE : UTILIZATION CURVES
(FOR INFORMATION ONLY)

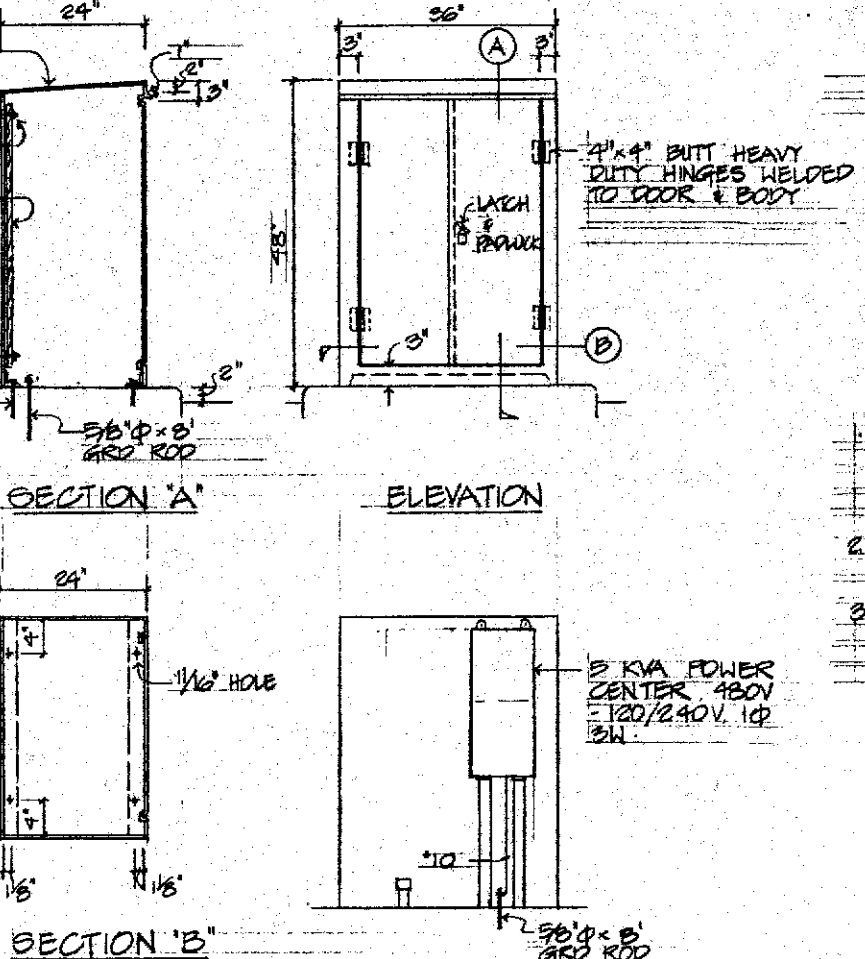


(FOR INFORMATION ONLY)

DATA

LAMP: 150 W HIGH PRESSURE SODIUM
LUMEN: 16,000
MTG HT: 30 FT
ANSI I.E.S. TYPE: MEDIUM CUTOFF TYPE II

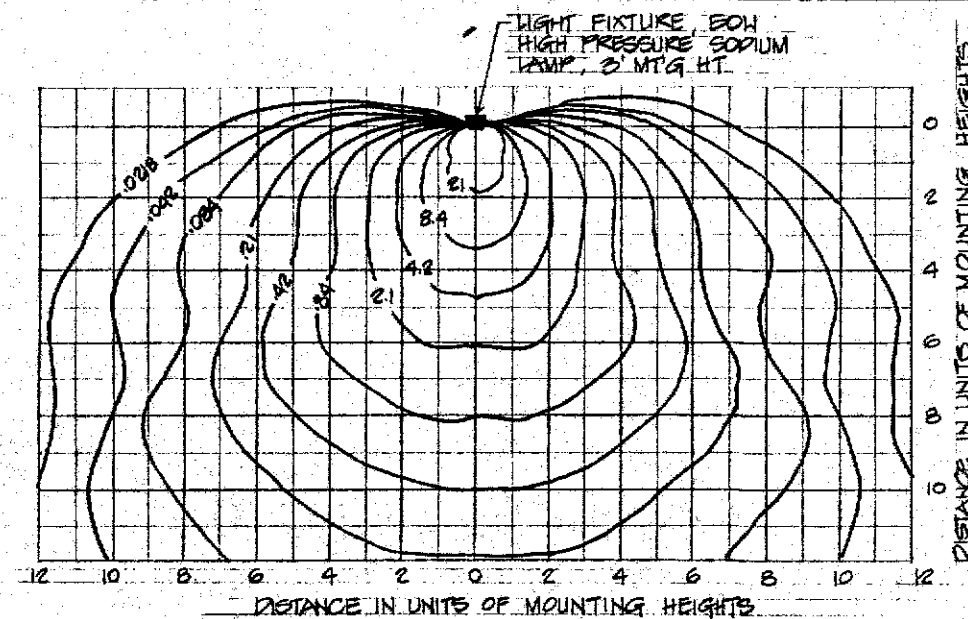
80 FOOT CANDLE : UTILIZATION CURVES



EQUIP. ELEV.

SERVICE EQUIPMENT ENCLOSURE DET. (N.T.C.)

NOT TO SCALE (FOR INFORMATION ONLY)



150 FOOT CANDLE CHART
(LIGHT FIXTURE MOUNTED ON RAIL)
FOR INFORMATION ONLY

ORIGINAL PLAN	SURVEY DRAWN BY _____	ED BY _____	DATE _____
NOTE BOOK	TRACED BY _____		
	DESIGNED BY _____		
	QUANTITIES BY _____		
	CHECKED BY _____		