

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | NH-083-1 (43)      | 2001        | ADD.99    | 121          |

CONSTRUCTION NOTES:

1. VERIFY AND CHECK ALL DIMENSIONS AND DETAIL SHOWN ON THE DRAWINGS PRIOR TO THE START OF CONSTRUCTION. ANY DISCREPANCY SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ENGINEER FOR CLARIFICATION.
2. THE CONTRACTOR SHALL NOTIFY ALL UTILITIES AND AGENCIES AND OBTAIN EXCAVATION CLEARANCE FOR ANY EXCAVATION WORK A MINIMUM OF 72 HOURS PRIOR TO START OF ANY EXCAVATION WORK AND HAVE THEM LOCATE THEIR RESPECTIVE LINES AFFECTED. THE CONTRACTOR SHALL BE HELD RESPONSIBLE AND SHALL PAY FOR ALL DAMAGES TO AND FOR THE MAINTENANCE AND PROTECTION OF EXISTING UTILITIES AND STRUCTURES.
3. THE CONTRACTOR, AT HIS OWN EXPENSE, SHALL KEEP THE PROJECT AND ITS SURROUNDING AREAS FREE FROM DUST NUISANCE. THE WORK SHALL BE IN CONFORMANCE WITH THE AIR POLLUTION STANDARDS AND REGULATIONS OF THE STATE DEPARTMENT OF HEALTH. THE CITY MAY REQUIRE SUPPLEMENTARY MEASURES AS NECESSARY.
4. NO CONTRACTOR SHALL PERFORM ANY TRENCHING OPERATION SO AS TO CAUSE FALLING ROCK, SOIL OR DEBRIS IN ANY FORM TO FALL, SLIDE OR FLOW ONTO ADJOINING PROPERTIES, STREETS OR NATURAL WATERCOURSES. SHOULD SUCH VIOLATIONS OCCUR, THE COSTS INCURRED FOR ANY REMEDIAL ACTION BY CHIEF ENGINEER SHALL BE PAYABLE BY THE CONTRACTOR.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONFORMITY WITH THE APPLICABLE PROVISIONS OF CHAPTER 54, WATER QUALITY STANDARDS, AND CHAPTER 55, WATER POLLUTION CONTROL, OF TITLE 11, ADMINISTRATIVE RULES OF THE STATE DEPARTMENT OF HEALTH.
6. RE-APPROVAL SHALL BE REQUIRED IF THIS WORK IS NOT UNDER CONSTRUCTION WITHIN A PERIOD OF TWO YEARS.
7. THE UNDERGROUND PIPES, CABLES, OR DUCTLINES KNOWN TO EXIST BY THE ENGINEER FROM HIS RESEARCH OF RECORDS ARE INDICATED ON THE PLANS. THE CONTRACTOR SHALL VERIFY THE LOCATIONS AND DEPTHS OF THE FACILITIES AND EXERCISE PROPER CARE IN EXCAVATING IN THE AREA. WHEREVER CONNECTIONS OF NEW UTILITIES TO EXISTING UTILITIES ARE LINES AT THE PROPOSED CONNECTIONS TO VERIFY THEIR LOCATIONS AND DEPTHS PRIOR TO EXCAVATION FOR THE NEW LINES.
8. ALL EXISTING UTILITIES WHETHER OR NOT SHOWN ON THE PLANS SHALL BE PROTECTED AT ALL TIMES BY THE CONTRACTOR DURING CONSTRUCTION AND ANY DAMAGE TO THEM SHALL BE REPAIRED AND PAID FOR BY THE CONTRACTOR.
9. WHEN TRENCH EXCAVATION IS ADJACENT TO OR UNDER EXISTING STRUCTURES OR FACILITIES, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPERLY SHEETING AND BRACING THE EXCAVATION AND STABILIZING THE EXISTING GROUND TO RENDER IT SAFE AND SECURE FROM THE POSSIBLE SLIDES, CAVE-INS AND FOR PROPERLY SUPPORTING EXISTING STRUCTURES AND FACILITIES WITH BEAMS, STRUTS OR UNDERPINNING TO FULLY PROTECT THEM FROM DAMAGE.
10. BACKFILL UNDER EXISTING STRUCTURES OR FACILITIES SHALL BE SANDY AND GRANULAR MATERIAL COMPLETELY PLACED AS THE PIPE IS LAID AND TESTED. THE BACKFILL MATERIAL SHALL RAMMED WITH PROPER TOOLS UNTIL COMPACTED TO 90% OF ITS MAXIMUM DENSITY.

11. ALL ABANDONED PIPE OPENINGS SHALL BE PLUGGED WITH CLASS "C" CONCRETE TO A DEPTH OF ONE AND ONE-HALF TIMES THE PIPE DIAMETER.
12. ALL WORK CALLED FOR ON THE PLANS AND NOT ITEMIZED IN THE PROPOSAL AND ALL WORK NOT CALLED FOR BUT REQUIRED FOR THE CONSTRUCTION OF THIS PROJECT SHALL BE CONSIDERED INCIDENTAL TO UNCLASSIFIED TRENCH EXCAVATION.
13. THE CONTRACTOR SHALL RESTORE TO THEIR ORIGINAL CONDITION ALL IMPROVEMENTS DAMAGED A RESULT OF THE CONSTRUCTION, INCLUDING PAVEMENTS, EMBANKMENTS, CURBS, SIGNS, LANDSCAPING, STRUCTURES, UTILITIES, WALLS FENCES, ETC. UNLESS PROVIDED FOR SPECIFICALLY IN THE PROPOSAL. DEMOLITION AND RESTORATION OF EXISTING ITEMS SHALL BE INCIDENTAL AND INCLUDED WITHIN THE AMOUNT PAID FOR UNCLASSIFIED TRENCH EXCAVATION.
14. THE CONTRACTOR SHALL OBSERVE AND COMPLY WITH ALL FEDERAL, STATE AND LOCAL LAWS IN DISPOSING OF WATER FROM THE WATER MAIN FOLLOWING TESTING, DISINFECTION, ETC.
15. THE CONTRACTOR'S ATTENTION DIRECTED TO CHAPTER 42 "VEHICULAR NOISE CONTROL FOR OAHU" AND CHAPTER 43 "COMMUNITY NOISE CONTROL FOR OAHU", ADMINISTRATIVE RULES, DEPARTMENT OF HEALTH, STATE OF HAWAII, IN WHICH ALLOWABLE NOISE LEVELS HAVE BEEN SET. IF THE CONSTRUCTION ACTIVITIES FOR THIS PROJECT WILL EXCEED THE ALLOWABLE NOISE LEVELS, THE CONTRACTOR WILL BE REQUIRED TO OBTAIN A PERMIT FROM THE DIRECTOR OF THE DEPARTMENT OF HEALTH. THE CONTRACTOR SHALL OBTAIN A COPY OF CHAPTER 42 & 43 AND BECOME FAMILIAR WITH THE NOISE LEVEL RESTRICTIONS AND THE PROCEDURES FOR OBTAINING A PERMIT FOR CONSTRUCTION ACTIVITIES.
16. DURING NON-WORKING HOURS, THE TRENCHES SHALL BE COVERED WITH NON-SKID STEEL PLATES AND ALL LANES MAINTAINED OPEN FOR TRAFFIC.
17. THE CONTRACTOR SHALL PROVIDE ACCESS TO AND FROM DRIVEWAYS AND TO PUBLIC STREETS AT ALL TIMES.
18. NO STOCKPILING OF MATERIAL WILL BE PERMITTED ON KAMEHAMEHA HIGHWAY AND INTERSECTING STREETS.

SCOPE OF WORK

1. SALVAGE AND RELOCATE STREET LIGHTING BRACKET ARM ASSEMBLY, AND NEW STREET LIGHTING LUMINAIRE. NEW POLE TO BE PROVIDED AND INSTALLED BY HAWAIIAN ELECTRIC COMPANY AND GTE HAWAIIAN TEL. LUMINAIRE ASSEMBLY BY CONTRACTOR.
2. EXISTING POLE MOUNTED UTILITIES: ELECTRICAL, TELEPHONE AND CATV TO BE RELOCATED BY RESPECTIVE UTILITY COMPANY. (HAWAIIAN ELECTRIC CO, GTE HAWAIIAN TEL., OCEANIC CABLEVISION)

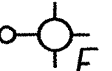
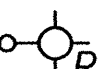
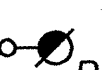
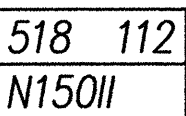
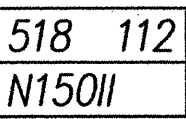
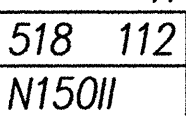
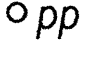
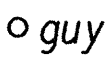
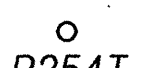
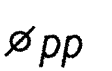
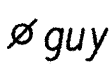
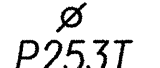
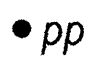
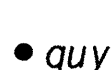
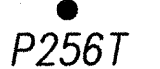
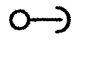
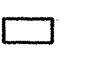
Board of Water Supply (BWS) Note

PROVIDE MINIMUM OF 3'-0" CLEARANCE BETWEEN EDGE OF WATER LINE AND UTILITY POLES.

APPROVED:

*Catherine R. Dungea* 9/14/00  
for Chief, Planning and Engineering, BWS  
(For Construction Within City R/W Only) Date

LEGEND

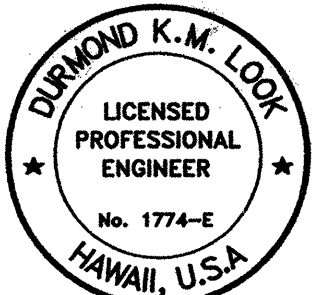
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-  RELOCATE EXISTING HIGHWAY POLE WITH NEW LUMINAIRE. (POLE BY HECO, LUMINAIRE BY CONTRACTOR)
-  RELOCATED HIGHWAY POLE AND NEW LUMINAIRE. (POLE BY HECO, LUMINAIRE BY CONTRACTOR)
-  EXISTING HIGHWAY LUMINAIRE I.D. TAG TO REMAIN
-  RELOCATE EXISTING HIGHWAY LUMINAIRE I.D. TAG (BY CONTRACTOR)
-  RELOCATED HIGHWAY LUMINAIRE I.D. TAG (BY CONTRACTOR)
-  EXISTING POWER POLE TO REMAIN
-  EXISTING GUY POLE TO REMAIN
-  EXISTING TELEPHONE POLE TO REMAIN
-  RELOCATE EXISTING POWER POLE (BY HECO)
-  RELOCATE GUY POLE (BY HECO)
-  RELOCATE EXISTING TELEPHONE POLE TO (BY HECO)
-  RELOCATED POWER POLE (BY HECO)
-  RELOCATED GUY POLE (BY HECO)
-  RELOCATED TELEPHONE POLE (BY HECO)
-  EXISTING POWER/TELEPHONE POLE WITH ANCHOR AND GUY
-  NEW 2'x4' ELECTRIC PULLBOX (EPB)
-  NEW UNDERGROUND DUCTLINE

DRAWING REVIEW

Reviewed for HECO's Facilities Only

Date 8-28-00 By *W. L. Calnel*  
Engineering Department  
Hawaiian Electric Company, Inc.

HECO's review of these drawings shall in no way relieve the Customer, its Consultant, its Contractor or anyone acting on the Customer's behalf from the responsibility for engineering, design, materials and any other liability associated with this project.



APPROVED BY:

HAWAIIAN ELECTRIC CO. DATE

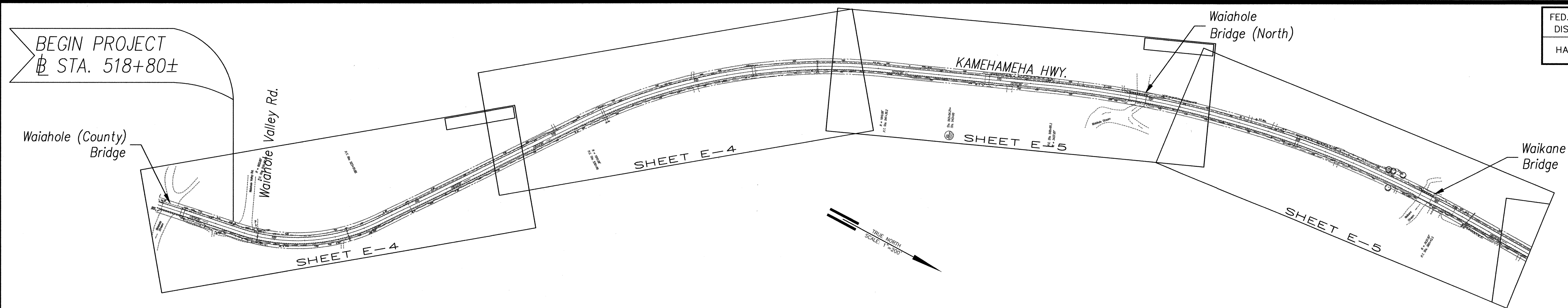
*Wayne L. Calnel* 8-30-00  
GTE HAWAIIAN TEL DATE

*Robert L. Porter* 8-29-00  
OCEANIC CABLEVISION DATE

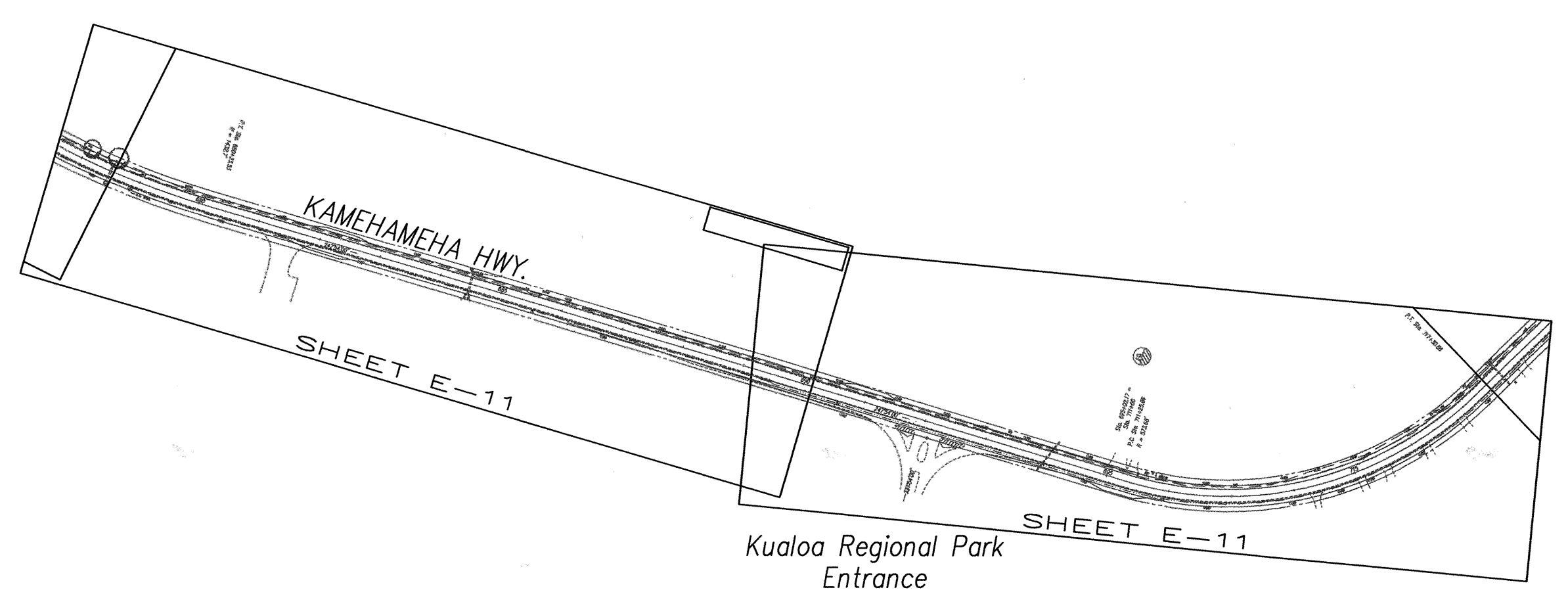
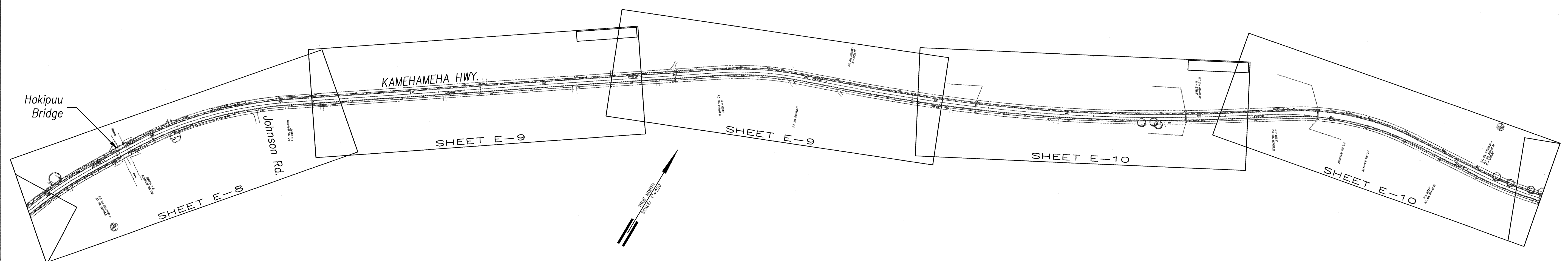
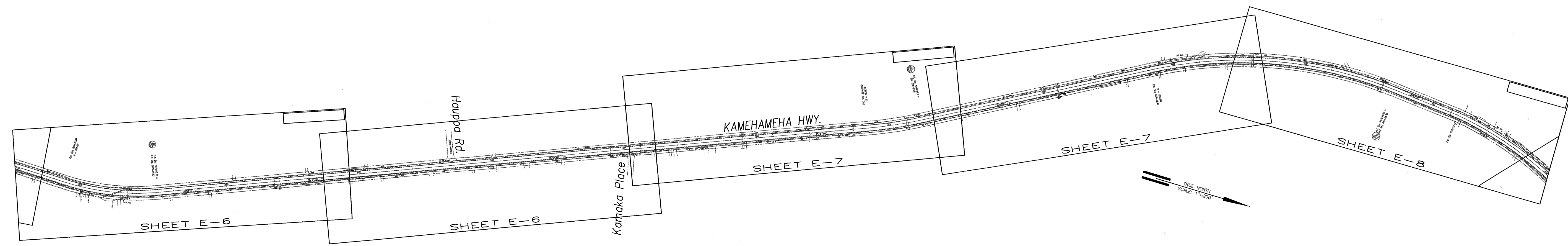
This work was prepared by me or under my supervision. Construction of this project will be under my supervision.

|        |                                   |
|--------|-----------------------------------|
| 2/4/02 | Revised Legend Per Addendum No. 2 |
| DATE   | REVISION                          |

|                                                                                                                       |                      |
|-----------------------------------------------------------------------------------------------------------------------|----------------------|
| STATE OF HAWAII<br>DEPARTMENT OF TRANSPORTATION<br>HIGHWAYS DIVISION                                                  |                      |
| <b>CONSTRUCTION NOTES</b><br><b>ELECTRICAL LEGEND</b>                                                                 |                      |
| KAMEHAMEHA HIGHWAY RESURFACING<br>Waiahole Valley Road to Crouching Lion Inn<br>Federal Aid Project No. NH-083-1 (43) |                      |
| Scale: As Shown                                                                                                       | Date: August 1, 2000 |
| SHEET No. E-1 OF 20 SHEETS                                                                                            |                      |



| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | NH-083-1 (43)      | 2001        | 100       | 121          |



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

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

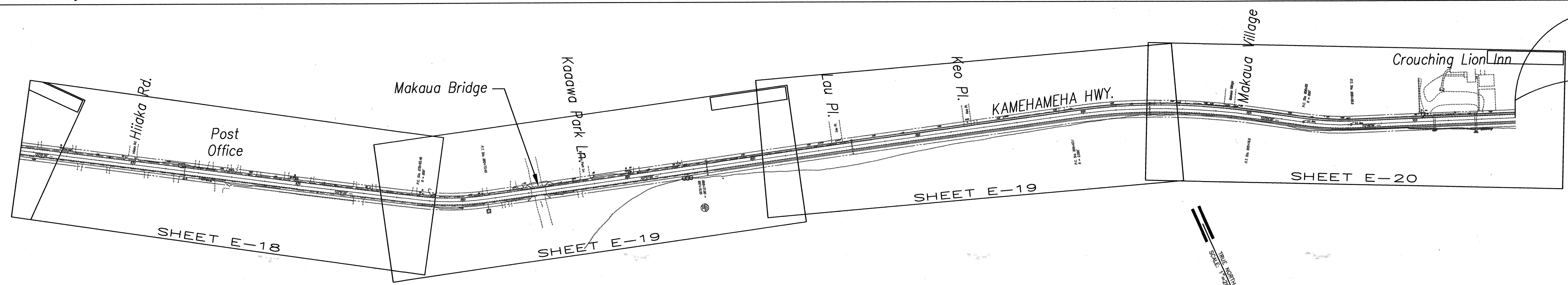
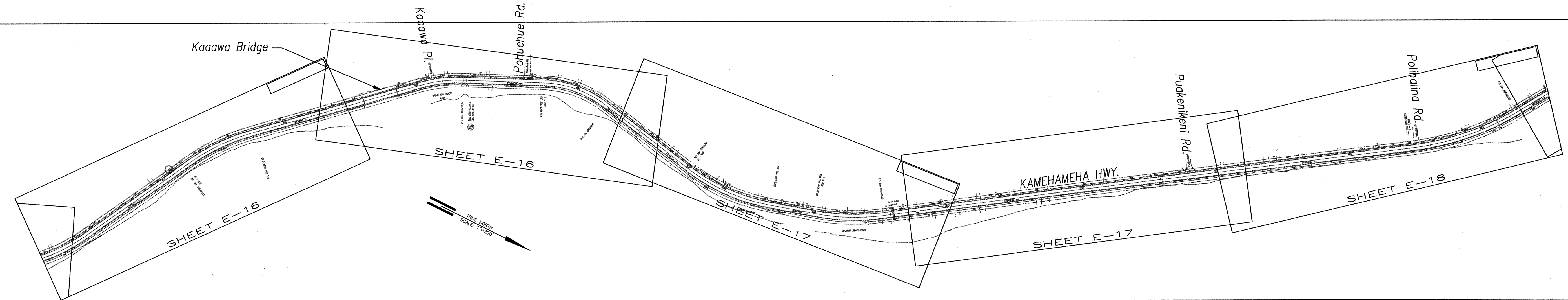
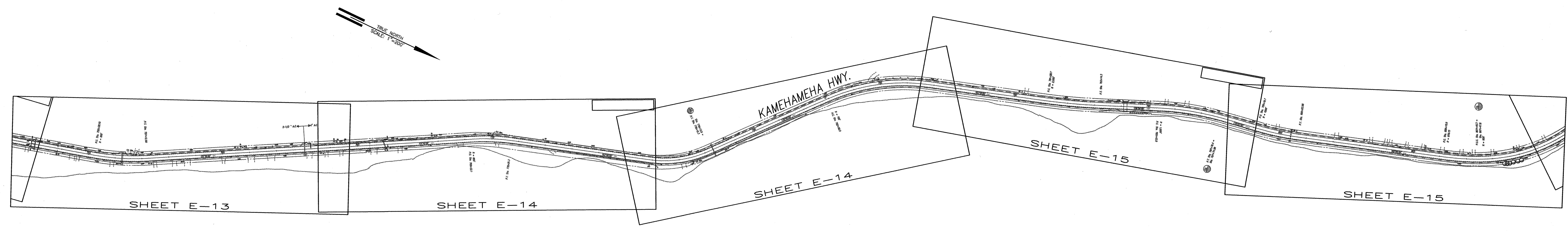
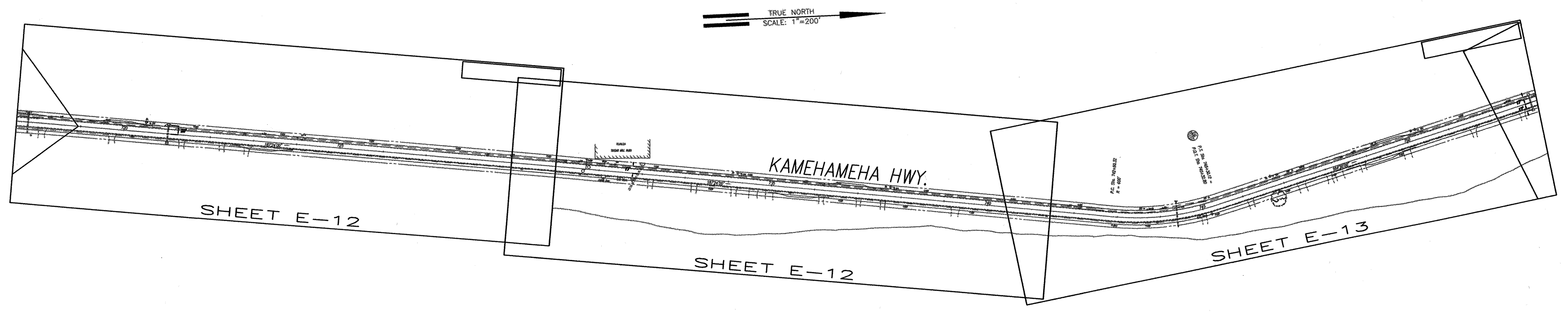
**ELECTRICAL GENERAL PLAN-1**  
**(B STA. 518+00 TO B STA. 718+00)**

**KAMEHAMEHA HIGHWAY RESURFACING**  
**Waiahole Valley Road to Crouching Lion Inn**  
**Federal Aid Project No. NH-083-1 (43)**

Scale: 1" = 200'      Date: August 1, 2000

SHEET No. E-2 OF 20 SHEETS

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | NH-083-1 (43)      | 2001        | 101       | 121          |



END PROJECT  
@ STA. 913+00±

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**ELECTRICAL GENERAL PLAN-2**  
(@ STA. 718+00 TO @ STA. 913+00)

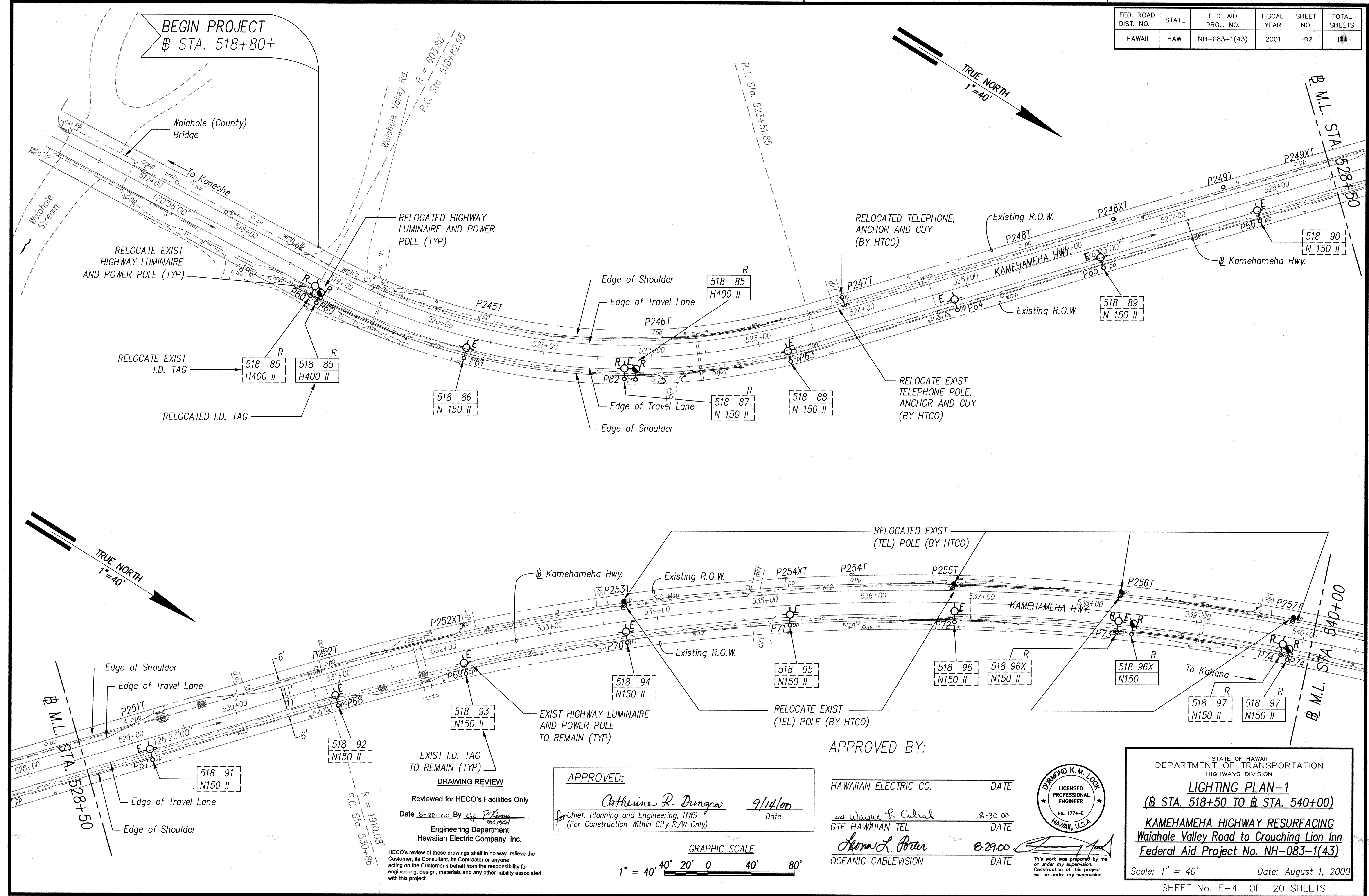
**KAMEHAMEHA HIGHWAY RESURFACING**  
Waiahole Valley Road to Crouching Lion Inn  
Federal Aid Project No. NH-083-1 (43)

Scale: 1" = 200'      Date: August 1, 2000

SHEET No. E-3 OF 20 SHEETS

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

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | NH-083-1(43)       | 2001        | 102       | 121          |



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

APPROVED BY:

HAWAIIAN ELECTRIC CO. DATE

Wayne R. Cabral 8-30-00 DATE

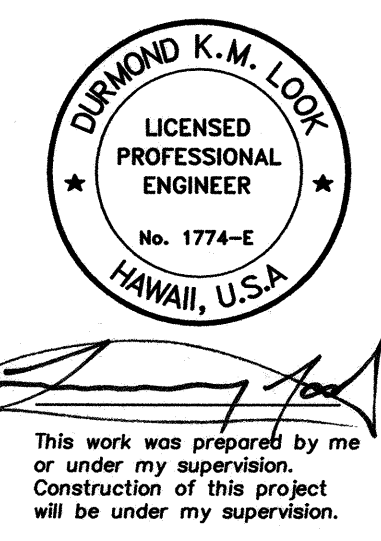
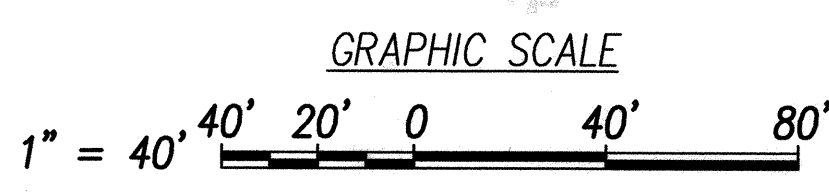
GTE HAWAIIAN TEL 8-29-00 DATE

OCEANIC CABLEVISION

APPROVED:

Catherine R. Dungca 9/14/00 Date

for Chief, Planning and Engineering, BWS (For Construction Within City R/W Only)



STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**LIGHTING PLAN-1**  
(# STA. 518+50 TO # STA. 540+00)

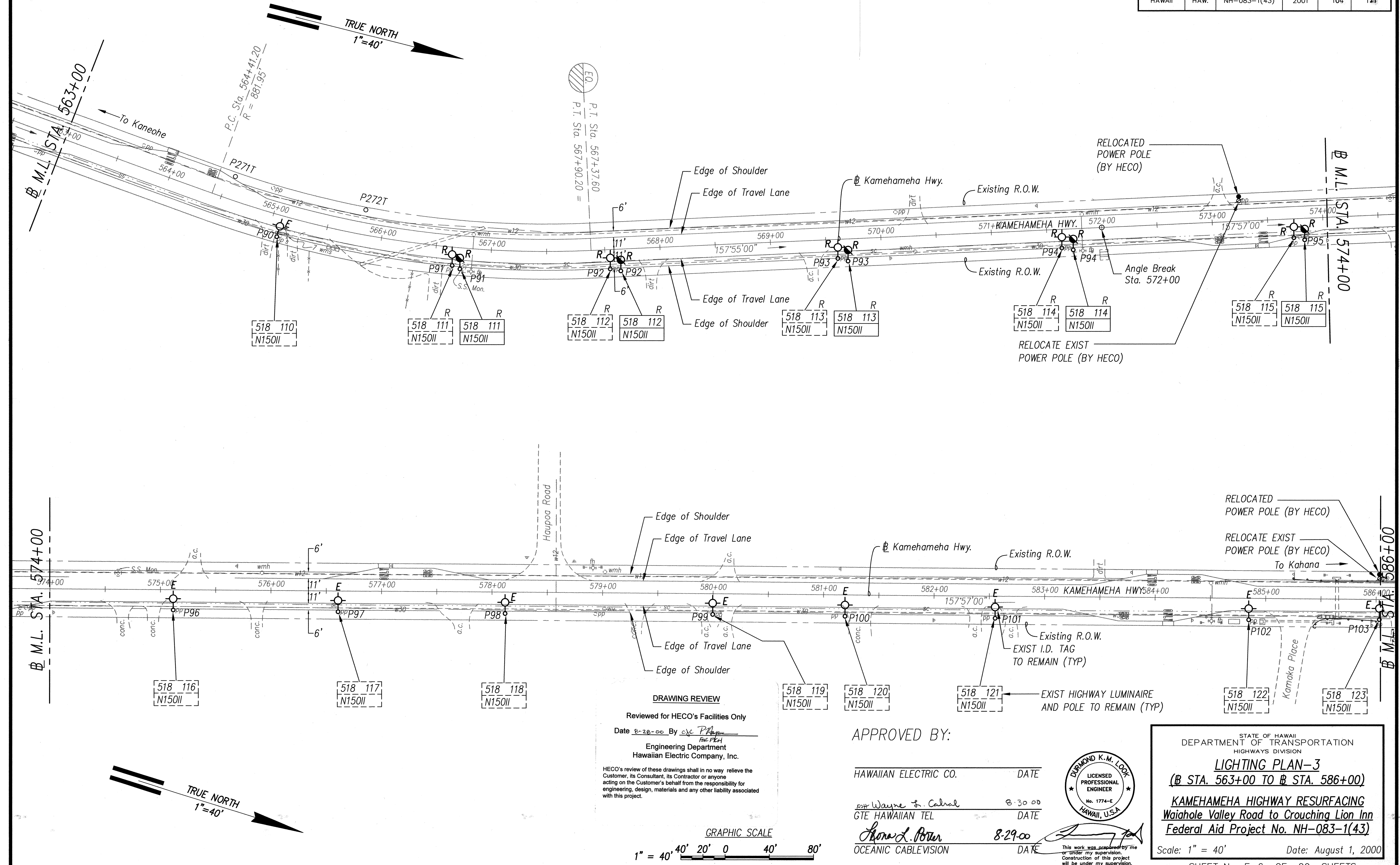
**KAMEHAMEHA HIGHWAY RESURFACING**  
Waiahole Valley Road to Crouching Lion Inn  
Federal Aid Project No. NH-083-1(43)

Scale: 1" = 40' Date: August 1, 2000

SHEET No. E-4 OF 20 SHEETS



| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | NH-083-1(43)       | 2001        | 104       | 121          |



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

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

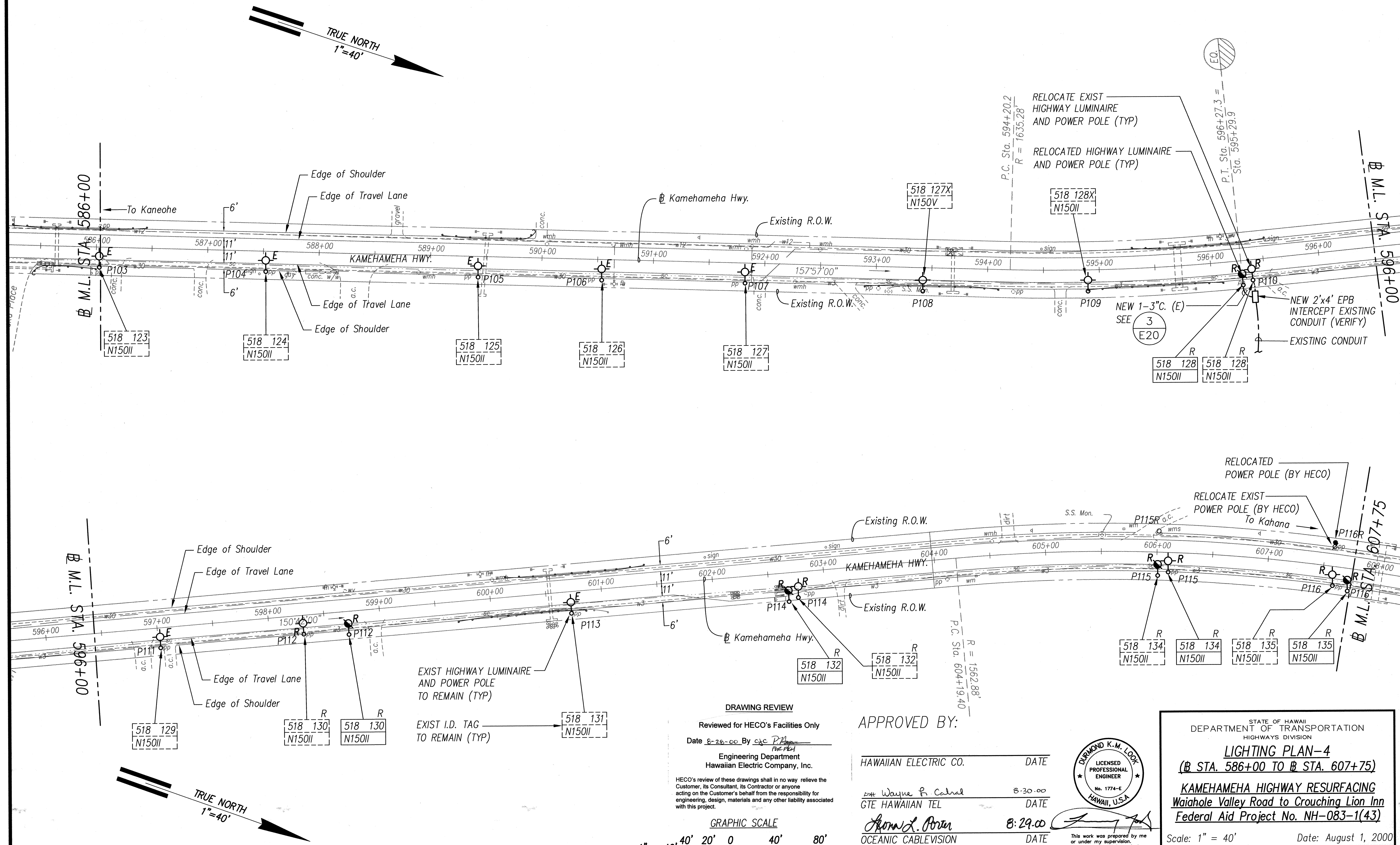
**LIGHTING PLAN-3**  
**(B STA. 563+00 TO B STA. 586+00)**

**KAMEHAMEHA HIGHWAY RESURFACING**  
**Waiahole Valley Road to Crouching Lion Inn**  
**Federal Aid Project No. NH-083-1(43)**

Scale: 1" = 40' Date: August 1, 2000

SHEET No. E-6 OF 20 SHEETS

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | NH-083-1(43)       | 2001        | 105       | 121          |



|                   |       |
|-------------------|-------|
| DATE              | _____ |
| SURVEY PLOTTED BY | _____ |
| DRAWN BY          | _____ |
| TRACED BY         | _____ |
| CHECKED BY        | _____ |
| NOTE BOOK         | _____ |
| No.               | _____ |

#### DRAWING REVIEW

Reviewed for HECO's Facilities Only

Date 8-26-00 By *[Signature]*

Engineering Department  
Hawaiian Electric Company, Inc.

HECO's review of these drawings shall in no way relieve the Customer, its Consultant, its Contractor or anyone acting on the Customer's behalf from the responsibility for engineering, design, materials and any other liability associated with this project.

GRAPHIC SCALE

1" = 40' 0' 20' 0' 40' 80'

APPROVED BY:

HAWAIIAN ELECTRIC CO. DATE

*Wayne F. Cahal* 8:30:00  
GTE HAWAIIAN TEL DATE

*Don L. Porter* 8:29:00  
OCEANIC CABLEVISION DATE



This work was prepared by me or under my supervision. Construction of this project will be under my supervision.

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

#### LIGHTING PLAN-4

(# STA. 586+00 TO # STA. 607+75)

KAMEHAMEHA HIGHWAY RESURFACING

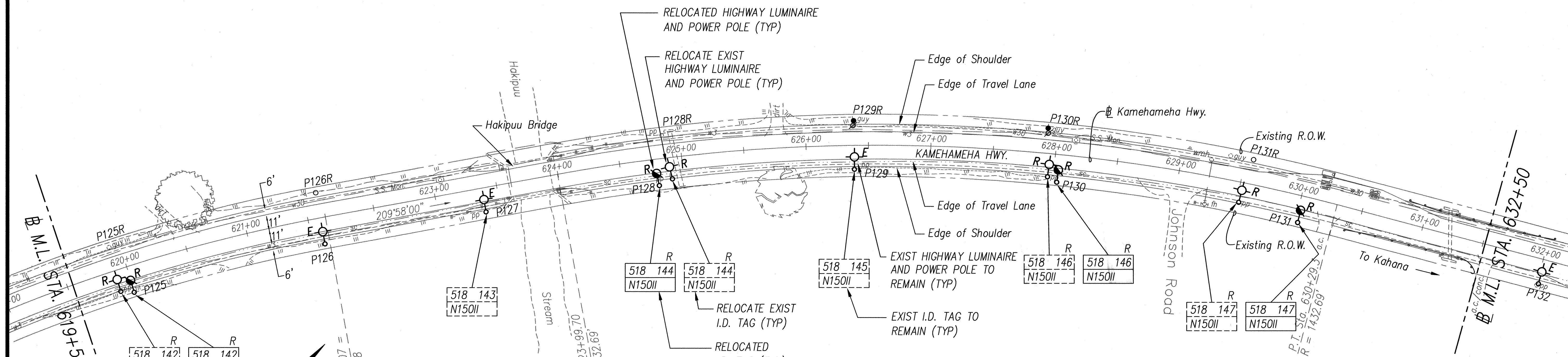
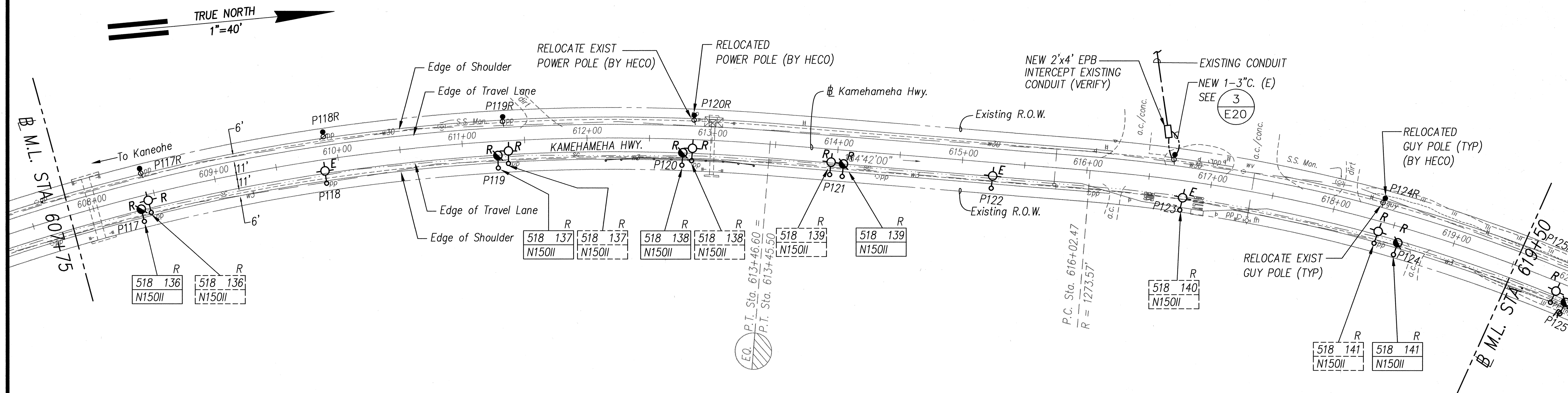
Waiahole Valley Road to Crouching Lion Inn

Federal Aid Project No. NH-083-1(43)

Scale: 1" = 40' Date: August 1, 2000

SHEET No. E-7 OF 20 SHEETS

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | NH-083-1(43)       | 2001        | 106       | 121          |

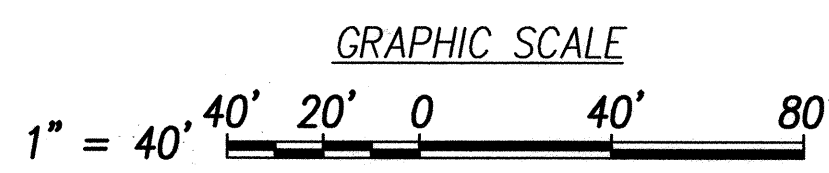


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|-------------------|-------|
| DATE              | _____ |
| SURVEY PLOTTED BY | _____ |
| DRAWN BY          | _____ |
| DESIGNED BY       | _____ |
| CHECKED BY        | _____ |
| ORIGINAL PLAN     | _____ |
| NOTE BOOK         | _____ |
| No.               | _____ |

**DRAWING REVIEW**  
Reviewed for HECO's Facilities Only  
Date 8-26-00 By *Joe Phil*  
Engineering Department  
Hawaiian Electric Company, Inc.

HECO's review of these drawings shall in no way relieve the Customer, its Consultant, its Contractor or anyone acting on the Customer's behalf from the responsibility for engineering, design, materials and any other liability associated with this project.

**APPROVED:**  
*Catherine R. Dungea* 9/14/00  
for Chief, Planning and Engineering, BWS  
(For Construction Within City R/W Only)



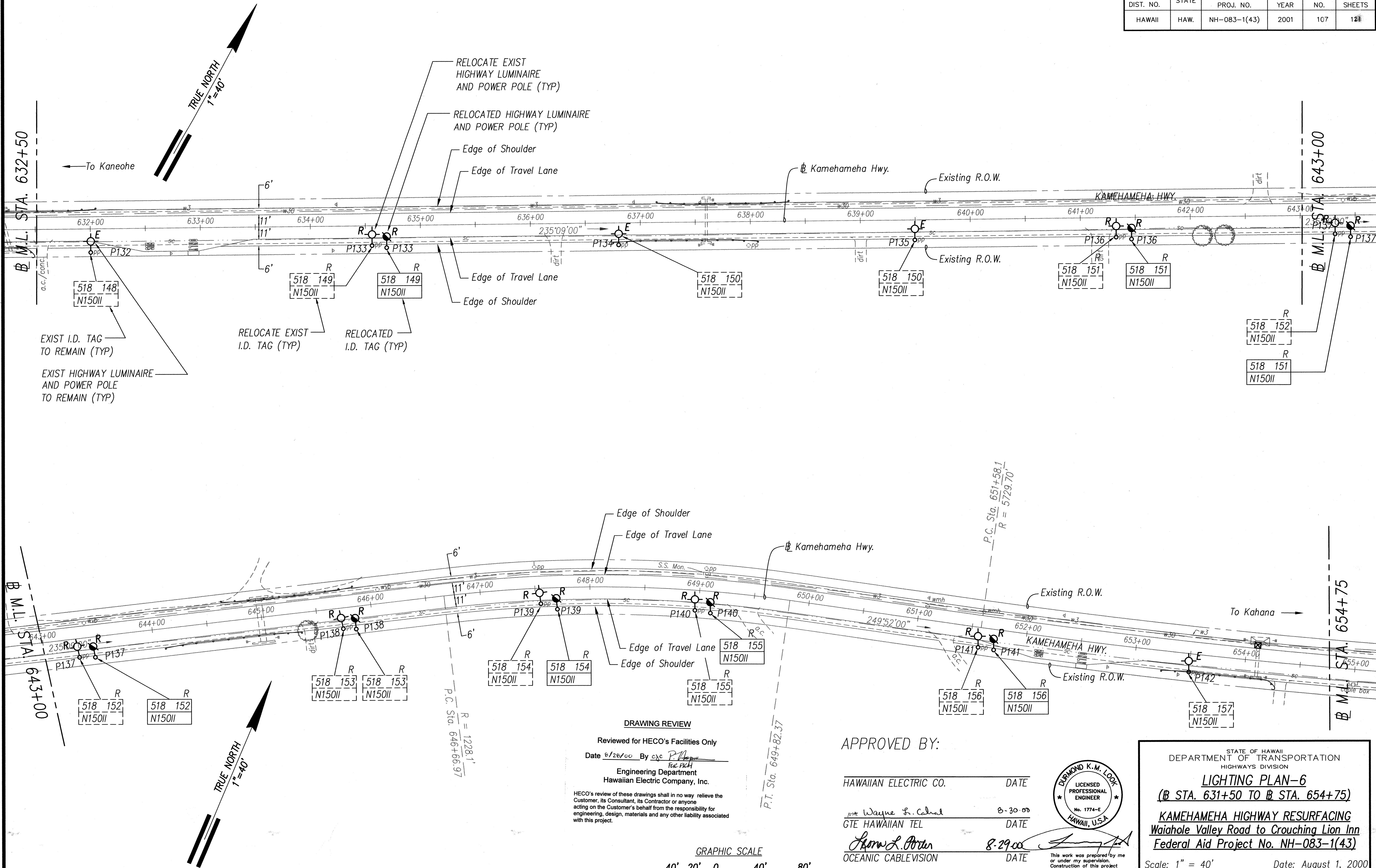
**APPROVED BY:**  
HAWAIIAN ELECTRIC CO. DATE  
*Wayne F. Cabral* 8-30-00  
GTE HAWAIIAN TEL DATE  
*Arora L. Pora* 8-29-00  
OCEANIC CABLEVISION DATE



This work was prepared by me or under my supervision. Construction of this project will be under my supervision.

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
**LIGHTING PLAN-5**  
(B STA. 607+75 TO B STA. 631+50)  
**KAMEHAMEHA HIGHWAY RESURFACING**  
Waiahole Valley Road to Crouching Lion Inn  
Federal Aid Project No. NH-083-1(43)  
Scale: 1" = 40' Date: August 1, 2000  
SHEET No. E-8 OF 20 SHEETS

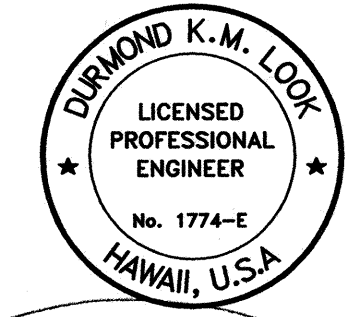
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | NH-083-1(43)       | 2001        | 107       | 121          |



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

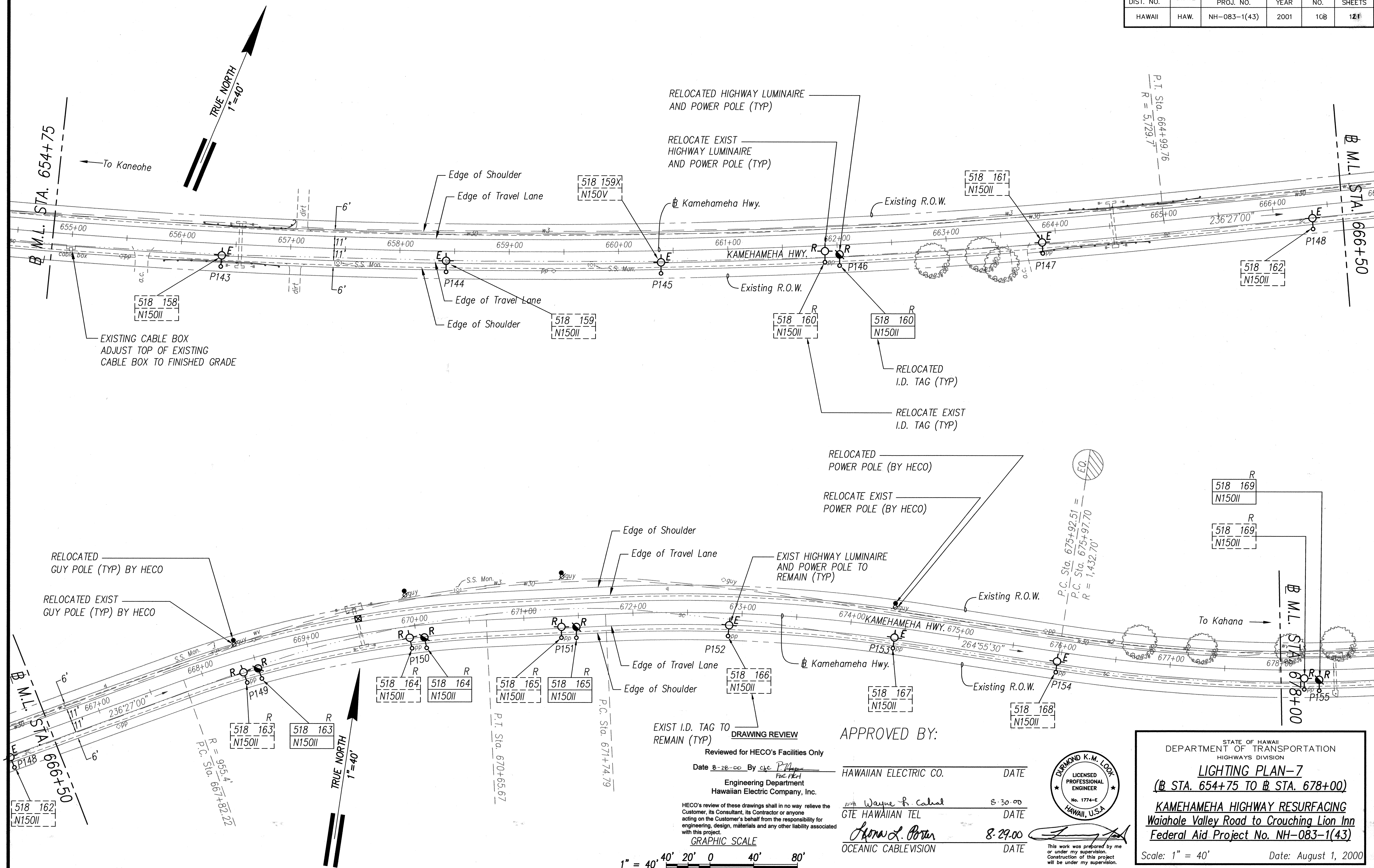
**DRAWING REVIEW**  
Reviewed for HECO's Facilities Only  
Date 8/28/00 By *P. H. H.*  
Engineering Department  
Hawaiian Electric Company, Inc.  
HECO's review of these drawings shall in no way relieve the Customer, its Consultant, its Contractor or anyone acting on the Customer's behalf from the responsibility for engineering, design, materials and any other liability associated with this project.

**APPROVED BY:**  
HAWAIIAN ELECTRIC CO. DATE  
Wayne S. Cebal 8-30-00  
GTE HAWAIIAN TEL DATE  
*Shawn L. Porter* 8-29-00  
OCEANIC CABLEVISION DATE



STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
**LIGHTING PLAN-6**  
**(B STA. 631+50 TO B STA. 654+75)**  
**KAMEHAMEHA HIGHWAY RESURFACING**  
**Waiahole Valley Road to Crouching Lion Inn**  
**Federal Aid Project No. NH-083-1(43)**  
Scale: 1" = 40' Date: August 1, 2000  
SHEET No. E-9 OF 20 SHEETS

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | NH-083-1(43)       | 2001        | 108       | 121          |



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

APPROVED BY:

Reviewed for HECO's Facilities Only

Date 8-28-00 By *[Signature]* HAWAIIAN ELECTRIC CO. DATE

Engineering Department  
Hawaiian Electric Company, Inc.

W. Wayne F. Calhoun 8-30-00  
GTE HAWAIIAN TEL DATE

*[Signature]* 8-29-00  
OCEANIC CABLEVISION DATE

HECO's review of these drawings shall in no way relieve the Customer, its Consultant, its Contractor or anyone acting on the Customer's behalf from the responsibility for engineering, design, materials and any other liability associated with this project.

GRAPHIC SCALE  
1" = 40' 0' 20' 0' 40' 80'



STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

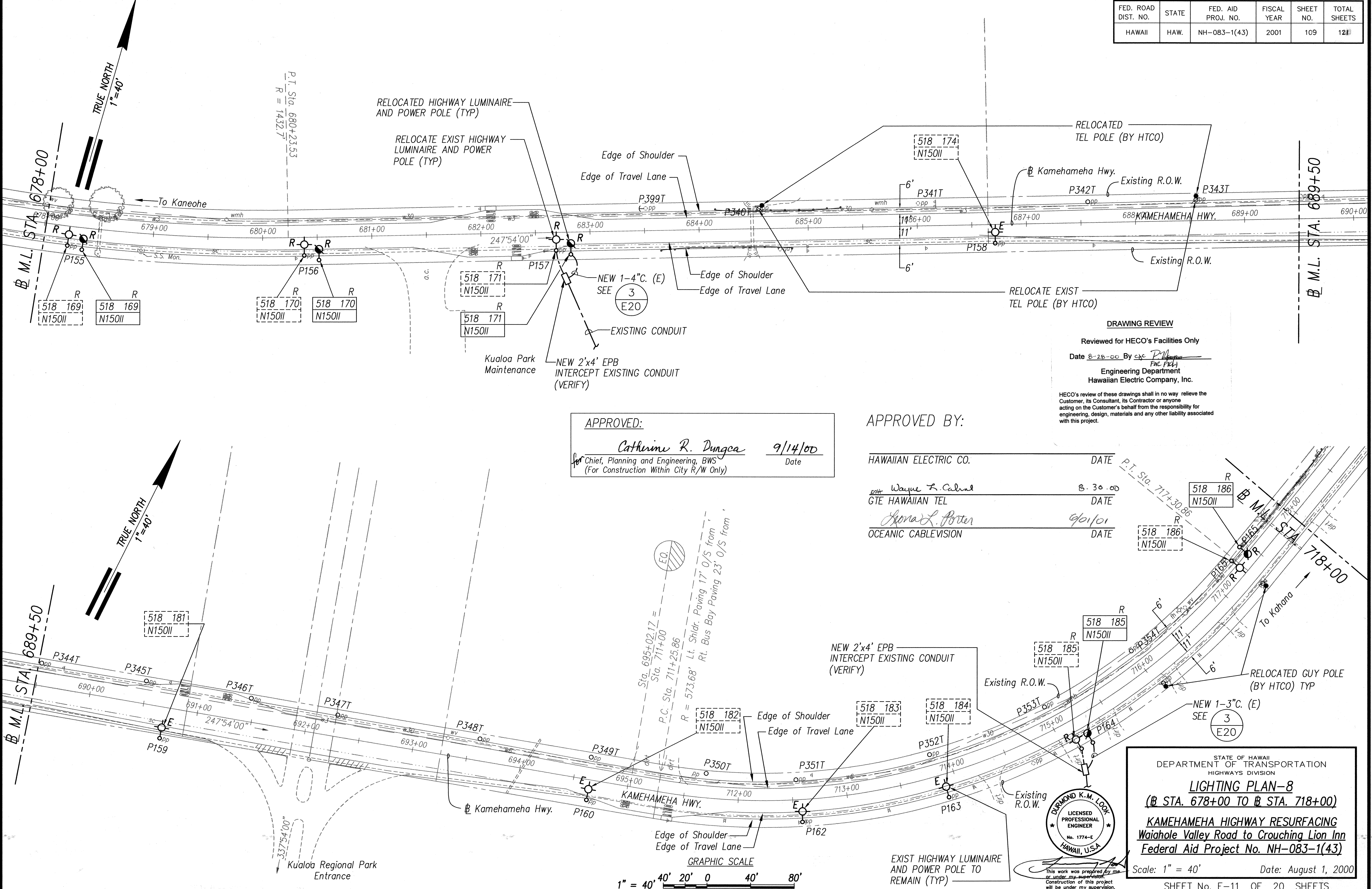
**LIGHTING PLAN-7**  
(B STA. 654+75 TO B STA. 678+00)

**KAMEHAMEHA HIGHWAY RESURFACING**  
Waiahole Valley Road to Crouching Lion Inn  
Federal Aid Project No. NH-083-1(43)

Scale: 1" = 40' Date: August 1, 2000

SHEET No. E-10 OF 20 SHEETS

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | NH-083-1(43)       | 2001        | 109       | 121          |



**DRAWING REVIEW**  
Reviewed for HECO's Facilities Only  
Date 8-28-00 By *[Signature]*  
Engineering Department  
Hawaiian Electric Company, Inc.  
HECO's review of these drawings shall in no way relieve the Customer, its Consultant, its Contractor or anyone acting on the Customer's behalf from the responsibility for engineering, design, materials and any other liability associated with this project.

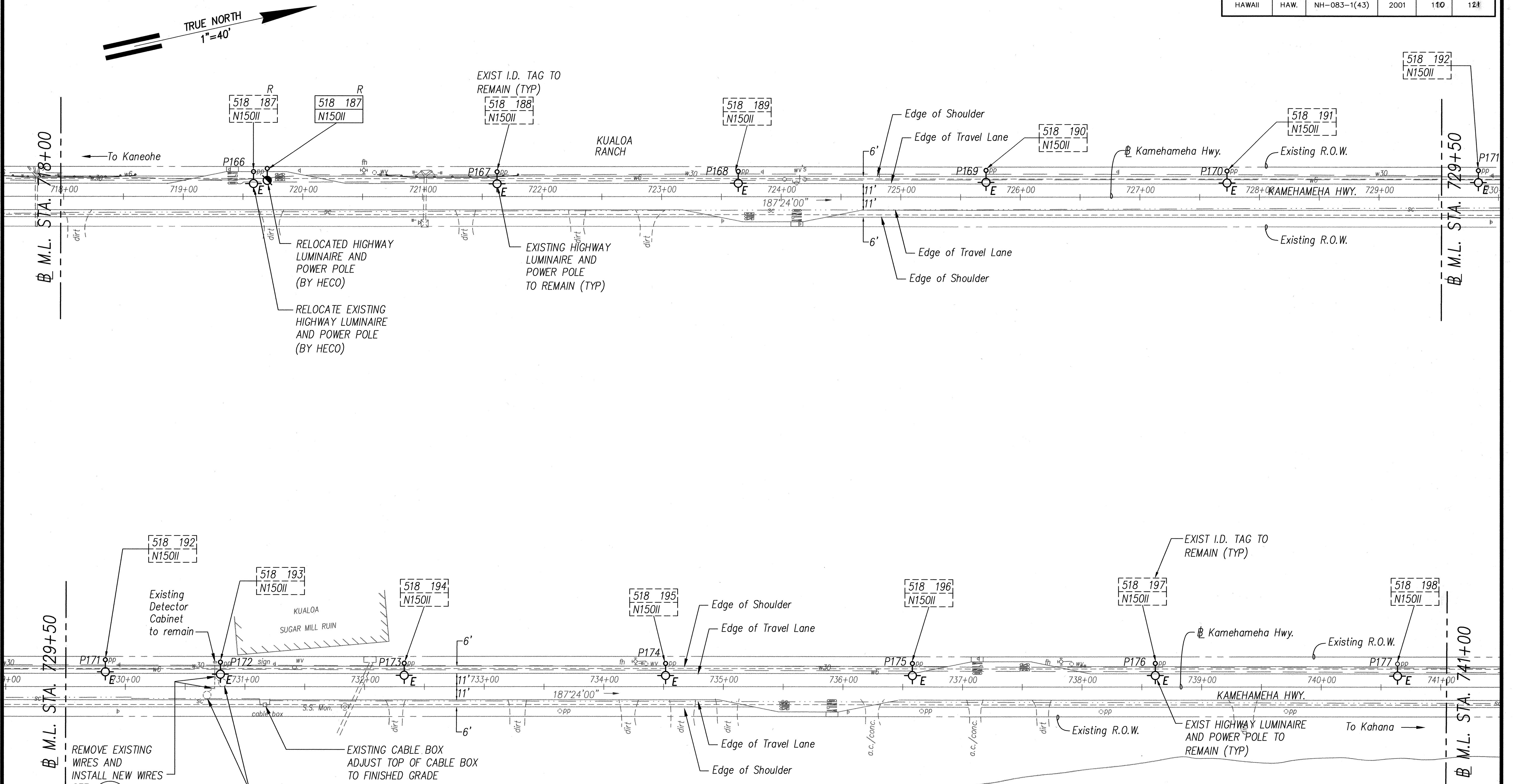
**APPROVED:**  
*Catherine R. Dunga* 9/14/00  
Chief, Planning and Engineering, BWS  
(For Construction Within City R/W Only)

**APPROVED BY:**  
HAWAIIAN ELECTRIC CO. DATE 8-30-00  
Wayne L. Calne GTE HAWAIIAN TEL DATE 9/1/01  
Ronald L. Porter OCEANIC CABLEVISION DATE

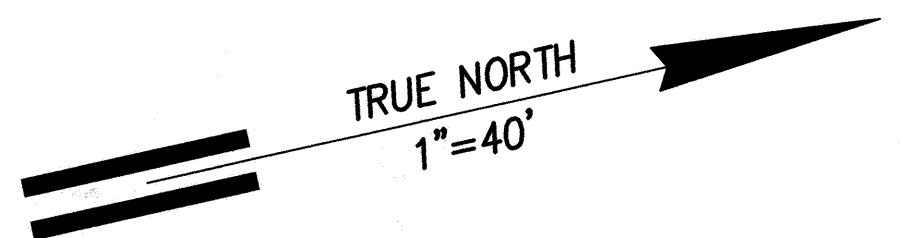
STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
**LIGHTING PLAN-8**  
(# STA. 678+00 TO # STA. 718+00)  
**KAMEHAMEHA HIGHWAY RESURFACING**  
Waiahole Valley Road to Crouching Lion Inn  
Federal Aid Project No. NH-083-1(43)  
Scale: 1" = 40' Date: August 1, 2000  
SHEET No. E-11 OF 20 SHEETS

|                   |       |
|-------------------|-------|
| DATE              | _____ |
| SURVEY PLOTTED BY | _____ |
| DESIGNED BY       | _____ |
| TRACED BY         | _____ |
| QUANTITIES BY     | _____ |
| CHECKED BY        | _____ |
| ORIGINAL PLAN     | _____ |
| NOTE BOOK         | _____ |
| No.               | _____ |

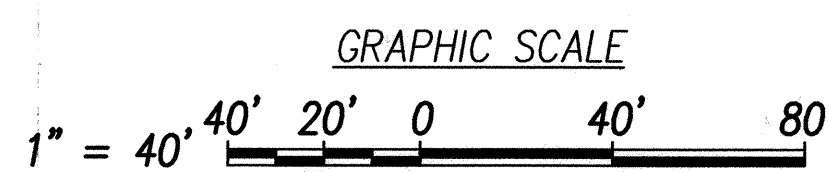
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | NH-083-1(43)       | 2001        | 110       | 121          |



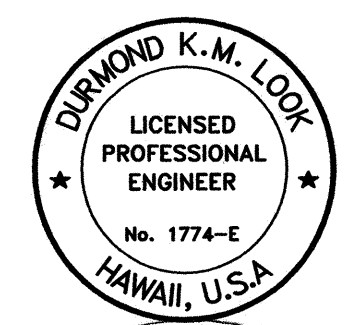
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|-------------------|------|
| SURVEY PLOTTED BY | DATE |
| DRAWN BY          |      |
| TRACED BY         |      |
| CHECKED BY        |      |
| ORIGINAL PLAN     |      |
| NOTE BOOK         |      |
| No.               |      |



**DRAWING REVIEW**  
Reviewed for HECO's Facilities Only  
Date 8-28-00 By *gpc* *P. Hagan*  
Engineering Department  
Hawaiian Electric Company, Inc.  
HECO's review of these drawings shall in no way relieve the Customer, its Consultant, its Contractor or anyone acting on the Customer's behalf from the responsibility for engineering, design, materials and any other liability associated with this project.

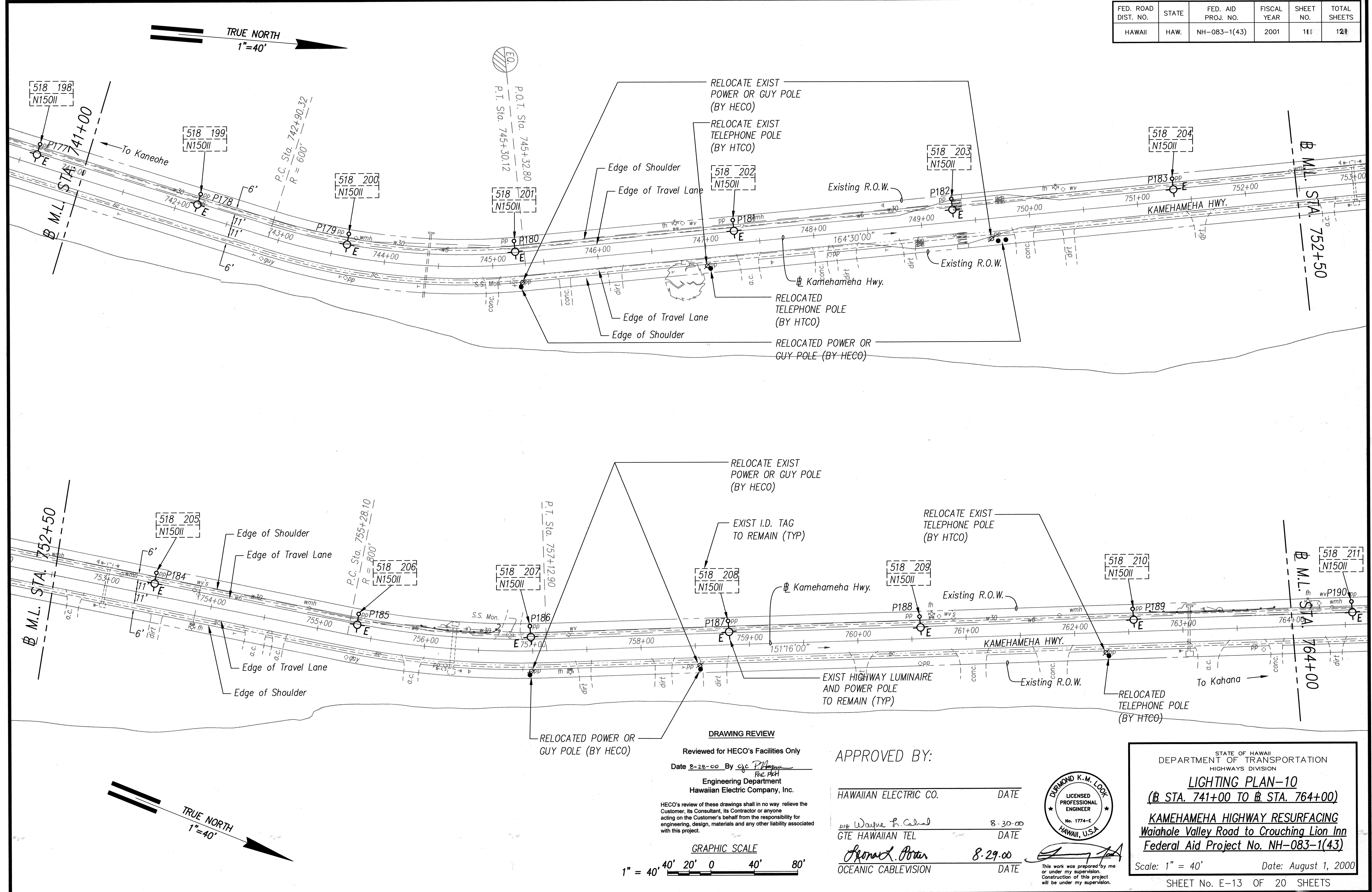


**APPROVED BY:**  
HAWAIIAN ELECTRIC CO. DATE  
*Wayne L. Cabral* 8-30-00  
GTE HAWAIIAN TEL DATE  
*Shonax P. Posen* 8-29-00  
OCEANIC CABLEVISION DATE



STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
**LIGHTING PLAN-9**  
**(# STA. 718+00 TO # STA. 741+00)**  
**KAMEHAMEHA HIGHWAY RESURFACING**  
**Waiahole Valley Road to Crouching Lion Inn**  
**Federal Aid Project No. NH-083-1(43)**  
Scale: 1" = 40' Date: August 1, 2000  
SHEET No. E-12 OF 20 SHEETS

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | NH-083-1(43)       | 2001        | 11        | 12           |



|                   |       |
|-------------------|-------|
| DATE              | _____ |
| SURVEY PLOTTED BY | _____ |
| DRAWN BY          | _____ |
| TRACED BY         | _____ |
| DESIGNED BY       | _____ |
| QUANITIES BY      | _____ |
| CHECKED BY        | _____ |
| ORIGINAL PLAN     | _____ |
| NOTE BOOK         | _____ |
| No.               | _____ |

**DRAWING REVIEW**  
Reviewed for HECO's Facilities Only  
Date 8-28-00 By *cjc P.H.*  
*PEL P.H.*  
Engineering Department  
Hawaiian Electric Company, Inc.

HECO's review of these drawings shall in no way relieve the Customer, its Consultant, its Contractor or anyone acting on the Customer's behalf from the responsibility for engineering, design, materials and any other liability associated with this project.

GRAPHIC SCALE

1" = 40' 40' 20' 0 40' 80'

APPROVED BY:

HAWAIIAN ELECTRIC CO. DATE \_\_\_\_\_  
*Wayne L. Cabral* 8-30-00  
GTE HAWAIIAN TEL DATE \_\_\_\_\_  
*James L. Porter* 8-29-00  
OCEANIC CABLEVISION DATE \_\_\_\_\_



This work was prepared by me or under my supervision. Construction of this project will be under my supervision.

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
**LIGHTING PLAN-10**  
**(# STA. 741+00 TO # STA. 764+00)**  
**KAMEHAMEHA HIGHWAY RESURFACING**  
**Waiahole Valley Road to Crouching Lion Inn**  
**Federal Aid Project No. NH-083-1(43)**  
Scale: 1" = 40' Date: August 1, 2000  
SHEET No. E-13 OF 20 SHEETS



| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | NH-083-1(43)       | 2001        | 113       | 121          |

**TRUE NORTH**  
1"=40'

**TRUE NORTH**  
1"=40'

**DRAWING REVIEW**  
Reviewed for HECO's Facilities Only  
Date 8-26-00 By *[Signature]*  
Engineering Department  
Hawaiian Electric Company, Inc.

**APPROVED BY:**  
HAWAIIAN ELECTRIC CO. DATE  
Wayne S. Cabral 8-30-00  
GTE HAWAIIAN TEL DATE  
Ronald A. Brown 8-29-00  
OCEANIC CABLEVISION DATE

**GRAPHIC SCALE**  
1" = 40' 40' 20' 0 40' 80'

**STATE OF HAWAII**  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
**LIGHTING PLAN-12**  
(# STA. 787+00 TO # STA. 810+00)  
**KAMEHAMEHA HIGHWAY RESURFACING**  
Waiahole Valley Road to Crouching Lion Inn  
Federal Aid Project No. NH-083-1(43)  
Scale: 1" = 40' Date: August 1, 2000  
SHEET No. E-15 OF 20 SHEETS

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | NH-083-1(43)       | 2001        | 113       | 121          |

TRUE NORTH  
1"=40'

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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | NH-083-1(43)       | 2001        | 113       | 121          |

TRUE NORTH  
1"=40'

Edge of Shoulder  
Edge of Travel Lane  
Existing R.O.W.

KAMEHAMEHA HWY.

P.C. Sta. 791+28.7  
R = 2,000'

P.T. Sta. 793+14.3

P.C. Sta. 795+42.8  
R = 1,000'

P.T. Sta. 797+74.98  
Sta. 797+76.4 =

To Kaneohe

To Kahana

Pacific Ocean

EXIST I.D. TAG TO REMAIN (TYP)

EXIST HIGHWAY LUMINAIRE AND POWER POLE TO REMAIN (TYP)

DRAWING REVIEW  
Reviewed for HECO's Facilities Only  
Date 8-26-00 By *[Signature]*  
Engineering Department  
Hawaiian Electric Company, Inc.

HECO's review of these drawings shall in no way relieve the Customer, its Consultant, its Contractor or anyone acting on the Customer's behalf from the responsibility for engineering, design, materials and any other liability associated with this project.

GRAPHIC SCALE  
1" = 40' 40' 20' 0 40' 80'

APPROVED BY:

HAWAIIAN ELECTRIC CO. DATE

Wayne S. Cabral 8-30-00  
GTE HAWAIIAN TEL DATE

Donna A. Brown 8-29-00  
OCEANIC CABLEVISION DATE

Licensed Professional Engineer  
No. 1774-E  
HAWAII, U.S.A.

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
LIGHTING PLAN-12  
(B STA. 787+00 TO B STA. 810+00)  
KAMEHAMEHA HIGHWAY RESURFACING  
Waiahole Valley Road to Crouching Lion Inn  
Federal Aid Project No. NH-083-1(43)  
Scale: 1" = 40' Date: August 1, 2000  
SHEET No. E-15 OF 20 SHEETS

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | NH-083-1(43)       | 2001        | 113       | 121          |

TRUE NORTH  
1"=40'

Edge of Shoulder  
Edge of Travel Lane  
Existing R.O.W.

KAMEHAMEHA HWY.

P.C. Sta. 791+28.7  
R = 2,000'

P.T. Sta. 793+14.3

P.C. Sta. 795+42.8  
R = 1,000'

P.T. Sta. 797+74.98

P.C. Sta. 799+19.7  
R = 1,000'

P.T. Sta. 800+63.98

P.C. Sta. 806+15.9  
R = 970.15

P.C.C. Sta. 807+45.7 = Sta. 807+47.8  
R = 600'

EXIST I.D. TAG TO REMAIN (TYP)

EXIST HIGHWAY LUMINAIRE AND POWER POLE TO REMAIN (TYP)

Pacific Ocean

TO Kaneohe

TO Kahana

DRAWING REVIEW

Reviewed for HECO's Facilities Only

Date 8-26-00 By *[Signature]*  
For P.H.  
Engineering Department  
Hawaiian Electric Company, Inc.

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GRAPHIC SCALE

1" = 40' 40' 20' 0 40' 80'

APPROVED BY:

HAWAIIAN ELECTRIC CO. DATE

*[Signature]* 8-30-00  
GTE HAWAIIAN TEL DATE

*[Signature]* 8-29-00  
OCEANIC CABLEVISION DATE

LICENSED PROFESSIONAL ENGINEER  
No. 1774-E  
HAWAII, U.S.A.

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**LIGHTING PLAN-12**  
(# STA. 787+00 TO # STA. 810+00)

**KAMEHAMEHA HIGHWAY RESURFACING**  
**Waiahole Valley Road to Crouching Lion Inn**  
**Federal Aid Project No. NH-083-1(43)**

Scale: 1" = 40' Date: August 1, 2000

SHEET No. E-15 OF 20 SHEETS

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | NH-083-1(43)       | 2001        | 113       | 121          |

TRUE NORTH  
1"=40'

Edge of Shoulder  
Edge of Travel Lane  
Existing R.O.W.

KAMEHAMEHA HWY.

P.C. Sta. 791+28.7  
R = 2,000'

P.T. Sta. 793+14.3

P.C. Sta. 795+42.8  
R = 1,000'

P.T. Sta. 797+74.98

P.C. Sta. 799+19.7  
R = 1,000'

P.T. Sta. 800+63.98

P.C. Sta. 806+15.9  
R = 970.15

P.C.C. Sta. 807+45.7 = Sta. 807+47.8  
R = 600'

EXIST I.D. TAG TO REMAIN (TYP)

EXIST HIGHWAY LUMINAIRE AND POWER POLE TO REMAIN (TYP)

Pacific Ocean

TO Kaneohe

TO Kahana

DRAWING REVIEW

Reviewed for HECO's Facilities Only

Date 8-26-00 By *[Signature]*  
For P.H.  
Engineering Department  
Hawaiian Electric Company, Inc.

HECO's review of these drawings shall in no way relieve the Customer, its Consultant, its Contractor or anyone acting on the Customer's behalf from the responsibility for engineering, design, materials and any other liability associated with this project.

GRAPHIC SCALE

1" = 40' 40' 20' 0 40' 80'

APPROVED BY:

HAWAIIAN ELECTRIC CO. DATE

*[Signature]* 8-30-00  
GTE HAWAIIAN TEL DATE

*[Signature]* 8-29-00  
OCEANIC CABLEVISION DATE

LICENSED PROFESSIONAL ENGINEER  
No. 1774-E  
HAWAII, U.S.A.

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**LIGHTING PLAN-12**  
(# STA. 787+00 TO # STA. 810+00)

**KAMEHAMEHA HIGHWAY RESURFACING**  
**Waiahole Valley Road to Crouching Lion Inn**  
**Federal Aid Project No. NH-083-1(43)**

Scale: 1" = 40' Date: August 1, 2000

SHEET No. E-15 OF 20 SHEETS

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | NH-083-1(43)       | 2001        | 113       | 121          |

TRUE NORTH  
1"=40'

Edge of Shoulder  
Edge of Travel Lane  
Existing R.O.W.

KAMEHAMEHA HWY.

P.C. Sta. 791+28.7  
R = 2,000'

P.T. Sta. 793+14.3

P.C. Sta. 795+42.8  
R = 1,000'

P.T. Sta. 797+74.98  
Sta. 797+76.4 =

To Kaneohe

To Kahana

Pacific Ocean

EXIST I.D. TAG TO REMAIN (TYP)

EXIST HIGHWAY LUMINAIRE AND POWER POLE TO REMAIN (TYP)

DRAWING REVIEW  
Reviewed for HECO's Facilities Only  
Date 8-26-00 By *[Signature]*  
Engineering Department  
Hawaiian Electric Company, Inc.

HECO's review of these drawings shall in no way relieve the Customer, its Consultant, its Contractor or anyone acting on the Customer's behalf from the responsibility for engineering, design, materials and any other liability associated with this project.

GRAPHIC SCALE  
1" = 40' 40' 20' 0 40' 80'

APPROVED BY:

HAWAIIAN ELECTRIC CO. DATE

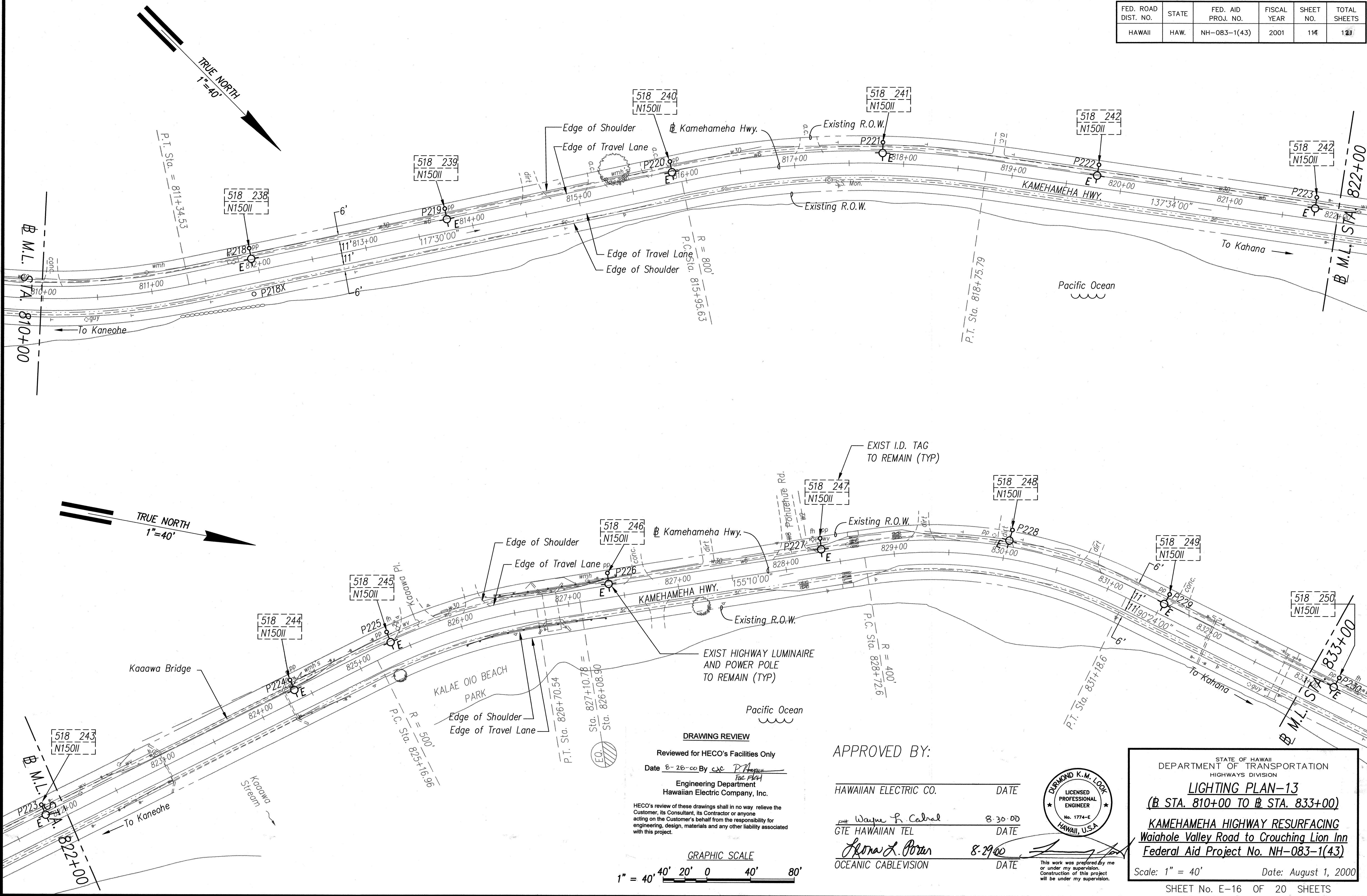
Wayne S. Cabral 8-30-00  
GTE HAWAIIAN TEL DATE

Donna A. Brown 8-29-00  
OCEANIC CABLEVISION DATE

Licensed Professional Engineer  
No. 1774-E  
HAWAII, U.S.A.

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
LIGHTING PLAN-12  
(B STA. 787+00 TO B STA. 810+00)  
KAMEHAMEHA HIGHWAY RESURFACING  
Waiahole Valley Road to Crouching Lion Inn  
Federal Aid Project No. NH-083-1(43)  
Scale: 1" = 40' Date: August 1, 2000  
SHEET No. E-15 OF 20 SHEETS

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | NH-083-1(43)       | 2001        | 114       | 121          |

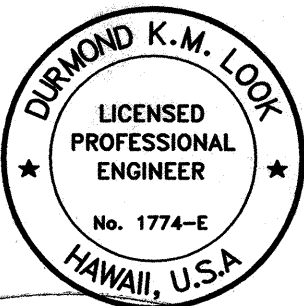


|                   |      |
|-------------------|------|
| SURVEY PLOTTED BY | DATE |
| DRAWN BY          |      |
| DESIGNED BY       |      |
| QUANTITIES BY     |      |
| CHECKED BY        |      |

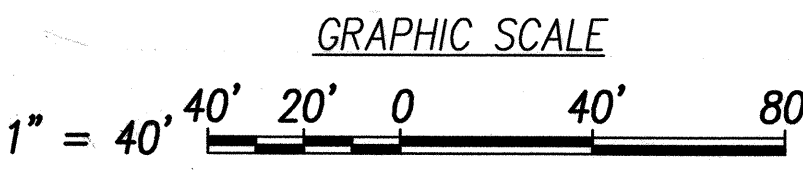
**DRAWING REVIEW**  
Reviewed for HECO's Facilities Only  
Date 8-28-00 By *cxc P. Hagan*  
Engineering Department  
Hawaiian Electric Company, Inc.

HECO's review of these drawings shall in no way relieve the Customer, its Consultant, its Contractor or anyone acting on the Customer's behalf from the responsibility for engineering, design, materials and any other liability associated with this project.

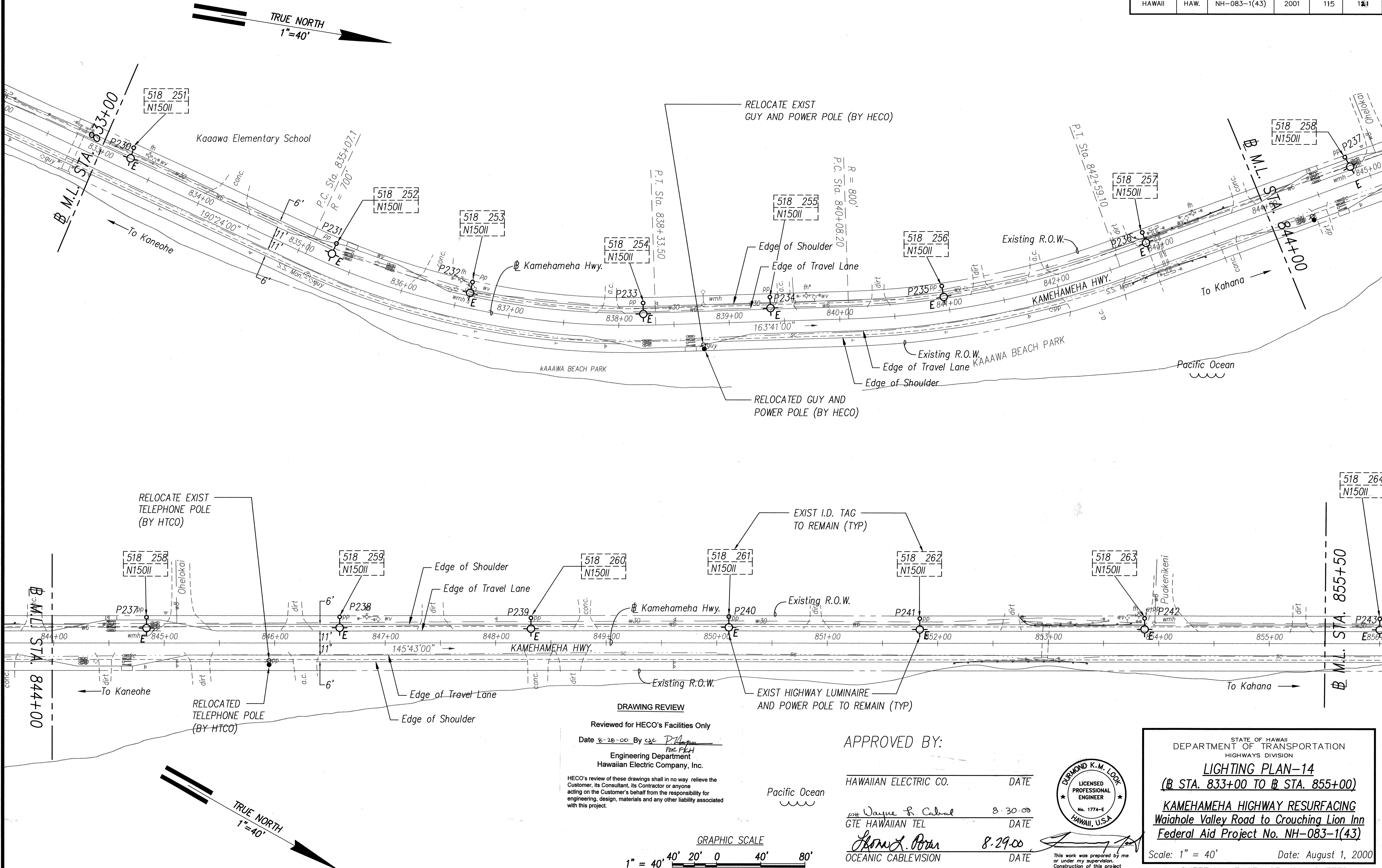
**APPROVED BY:**  
HAWAIIAN ELECTRIC CO. DATE  
*Wayne B. Cabral* 8-30-00  
GTE HAWAIIAN TEL DATE  
*Donna L. Poran* 8-29-00  
OCEANIC CABLEVISION DATE



STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
**LIGHTING PLAN-13**  
**(B STA. 810+00 TO B STA. 833+00)**  
**KAMEHAMEHA HIGHWAY RESURFACING**  
**Waiahole Valley Road to Crouching Lion Inn**  
**Federal Aid Project No. NH-083-1(43)**  
Scale: 1" = 40' Date: August 1, 2000  
SHEET No. E-16 OF 20 SHEETS



| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | NH-083-1(43)       | 2001        | 115       | 121          |



|                   |         |
|-------------------|---------|
| DATE              | 8-29-00 |
| SURVEY PLOTTED BY | DR      |
| ORIGINAL PLAN     | DR      |
| DESIGNED BY       | DR      |
| QUANTITIES BY     | DR      |
| CHECKED BY        | DR      |

**DRAWING REVIEW**

Reviewed for HECO's Facilities Only

Date 8-29-00 By *[Signature]*

Engineering Department  
Hawaiian Electric Company, Inc.

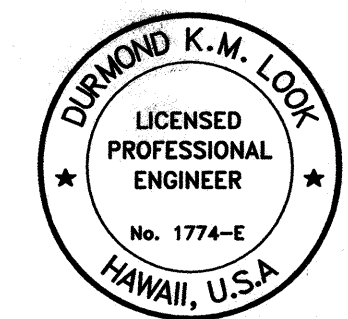
HECO's review of these drawings shall in no way relieve the Customer, its Consultant, its Contractor or anyone acting on the Customer's behalf from the responsibility for engineering, design, materials and any other liability associated with this project.

**APPROVED BY:**

HAWAIIAN ELECTRIC CO. DATE 8-30-00

*[Signature]* DATE 8-29-00

OCEANIC CABLEVISION DATE



STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**LIGHTING PLAN-14**  
**(# STA. 833+00 TO # STA. 855+00)**

**KAMEHAMEHA HIGHWAY RESURFACING**  
**Waiahole Valley Road to Crouching Lion Inn**  
**Federal Aid Project No. NH-083-1(43)**

Scale: 1" = 40' Date: August 1, 2000

SHEET No. E-17 OF 20 SHEETS

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | NH-083-1(43)       | 2001        | 116       | 121          |

**TRUE NORTH**  
1" = 40'

**TRUE NORTH**  
1" = 40'

**GRAPHIC SCALE**  
1" = 40' 20' 0 40' 80'

**DRAWING REVIEW**  
Reviewed for HECO's Facilities Only  
Date 8-28-00 By *P. Nguyen*  
Engineering Department  
Hawaiian Electric Company, Inc.

**APPROVED BY:**  
HAWAIIAN ELECTRIC CO. DATE  
Wayne R. Cabral 8-30-00  
GTE HAWAIIAN TEL DATE  
Ronald L. Porter 8-29-00  
OCEANIC CABLEVISION DATE

**STATE OF HAWAII**  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
**LIGHTING PLAN-15**  
(B STA. 855+00 TO B STA. 878+00)  
**KAMEHAMEHA HIGHWAY RESURFACING**  
Waiahole Valley Road to Crouching Lion Inn  
Federal Aid Project No. NH-083-1(43)  
Scale: 1" = 40' Date: August 1, 2000  
SHEET No. E-18 OF 20 SHEETS

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | NH-083-1(43)       | 2001        | 116       | 121          |

**TRUE NORTH**  
1" = 40'

**Edge of Shoulder**  
**Edge of Travel Lane**  
**Existing R.O.W.**

**Kamehameha Hwy.**

**Pacific Ocean**

**Swazy Beach Park**

**RELOCATE EXIST GUY AND POWER POLE (BY HECO)**  
**RELOCATED GUY AND POWER POLE (BY HECO)**

**RELOCATE EXIST I.D. TAG (TYP)**  
**RELOCATE EXIST I.D. TAG**  
**RELOCATE EXIST POWER POLE (BY HECO)**  
**RELOCATE EXIST HIGHWAY LUMINAIRE AND POWER POLE**  
**RELOCATED HIGHWAY LUMINAIRE AND POWER POLE**

**EXIST I.D. TAG TO REMAIN (TYP)**  
**EXIST HIGHWAY LUMINAIRE AND POWER POLE TO REMAIN (TYP)**

**7 ELEVEN**

**Hiika Rd.**

**P.C. Sta. 862+38.75 R = 1,000'**  
**P.C. Sta. 878+65.46 R = 800'**

**Stationing: 855+00 to 878+00**

**Direction: To Kaneohe, To Kahana**

**DRAWING REVIEW**  
Reviewed for HECO's Facilities Only  
Date 8-28-00 By *P. Nguyen*  
Engineering Department  
Hawaiian Electric Company, Inc.

**HECO's review of these drawings shall in no way relieve the Customer, its Consultant, its Contractor or anyone acting on the Customer's behalf from the responsibility for engineering, design, materials and any other liability associated with this project.**

**GRAPHIC SCALE**  
1" = 40' 0' 20' 0' 40' 80'

**APPROVED BY:**  
**HAWAIIAN ELECTRIC CO.** DATE *8-30-00*  
*Wayne R. Cabral*  
GTE HAWAIIAN TEL DATE *8-29-00*  
*Donald L. Porter*  
OCEANIC CABLEVISION DATE

**STATE OF HAWAII**  
**DEPARTMENT OF TRANSPORTATION**  
**HIGHWAYS DIVISION**  
**LIGHTING PLAN-15**  
**(B STA. 855+00 TO B STA. 878+00)**  
**KAMEHAMEHA HIGHWAY RESURFACING**  
**Waiahole Valley Road to Crouching Lion Inn**  
**Federal Aid Project No. NH-083-1(43)**  
Scale: 1" = 40' Date: August 1, 2000  
SHEET No. E-18 OF 20 SHEETS

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | NH-083-1(43)       | 2001        | 116       | 121          |

**TRUE NORTH**  
1" = 40'

**TRUE NORTH**  
1" = 40'

**GRAPHIC SCALE**  
1" = 40' 20' 0 40' 80'

**DRAWING REVIEW**  
Reviewed for HECO's Facilities Only  
Date 8-28-00 By *P. J. [Signature]*  
Engineering Department  
Hawaiian Electric Company, Inc.

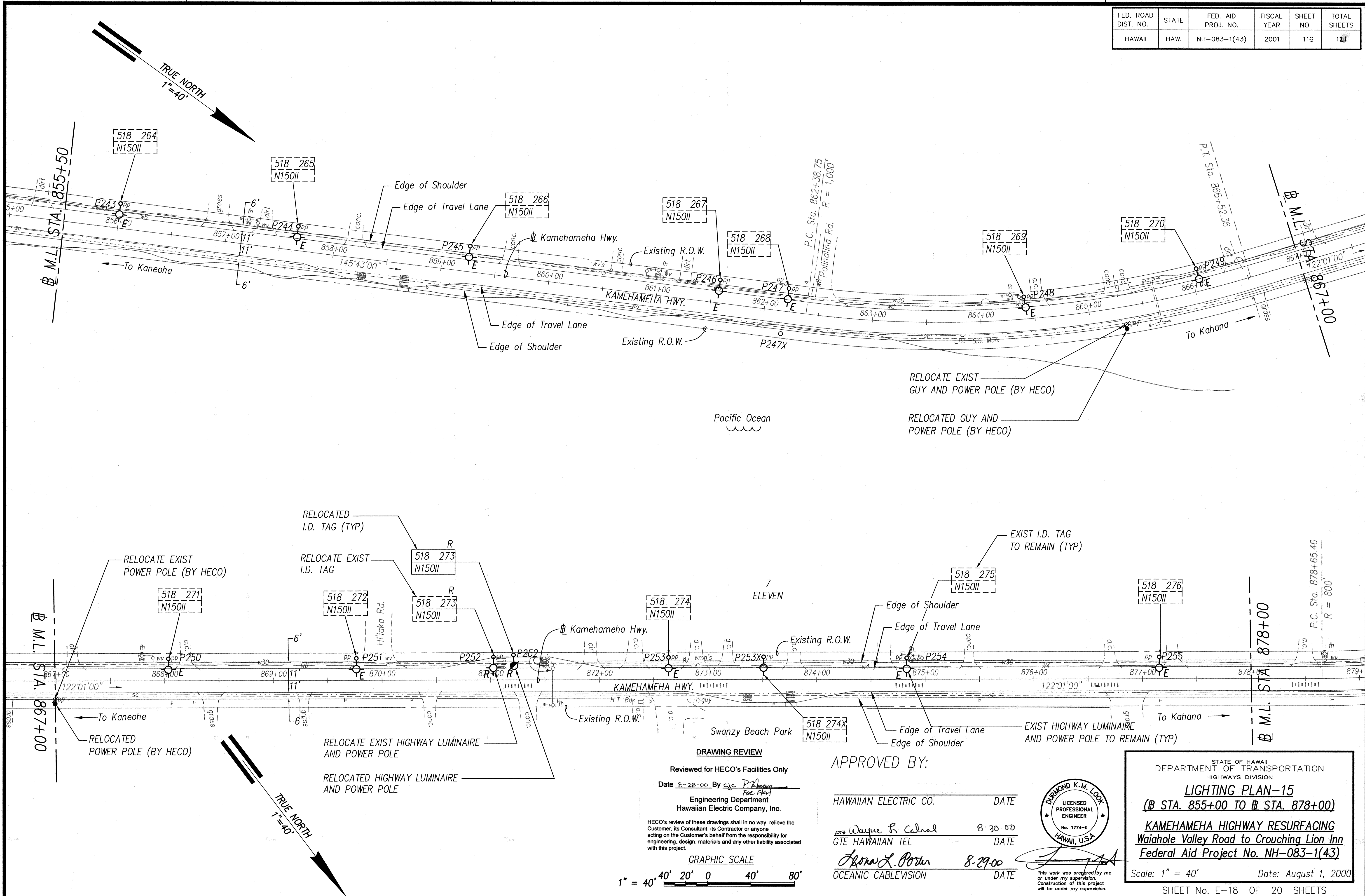
**HECO'S REVIEW**  
HECO's review of these drawings shall in no way relieve the Customer, its Consultant, its Contractor or anyone acting on the Customer's behalf from the responsibility for engineering, design, materials and any other liability associated with this project.

**APPROVED BY:**  
HAWAIIAN ELECTRIC CO. DATE  
Wayne R. Cabral 8-30-00  
GTE HAWAIIAN TEL DATE  
Ronald L. Porter 8-29-00  
OCEANIC CABLEVISION DATE

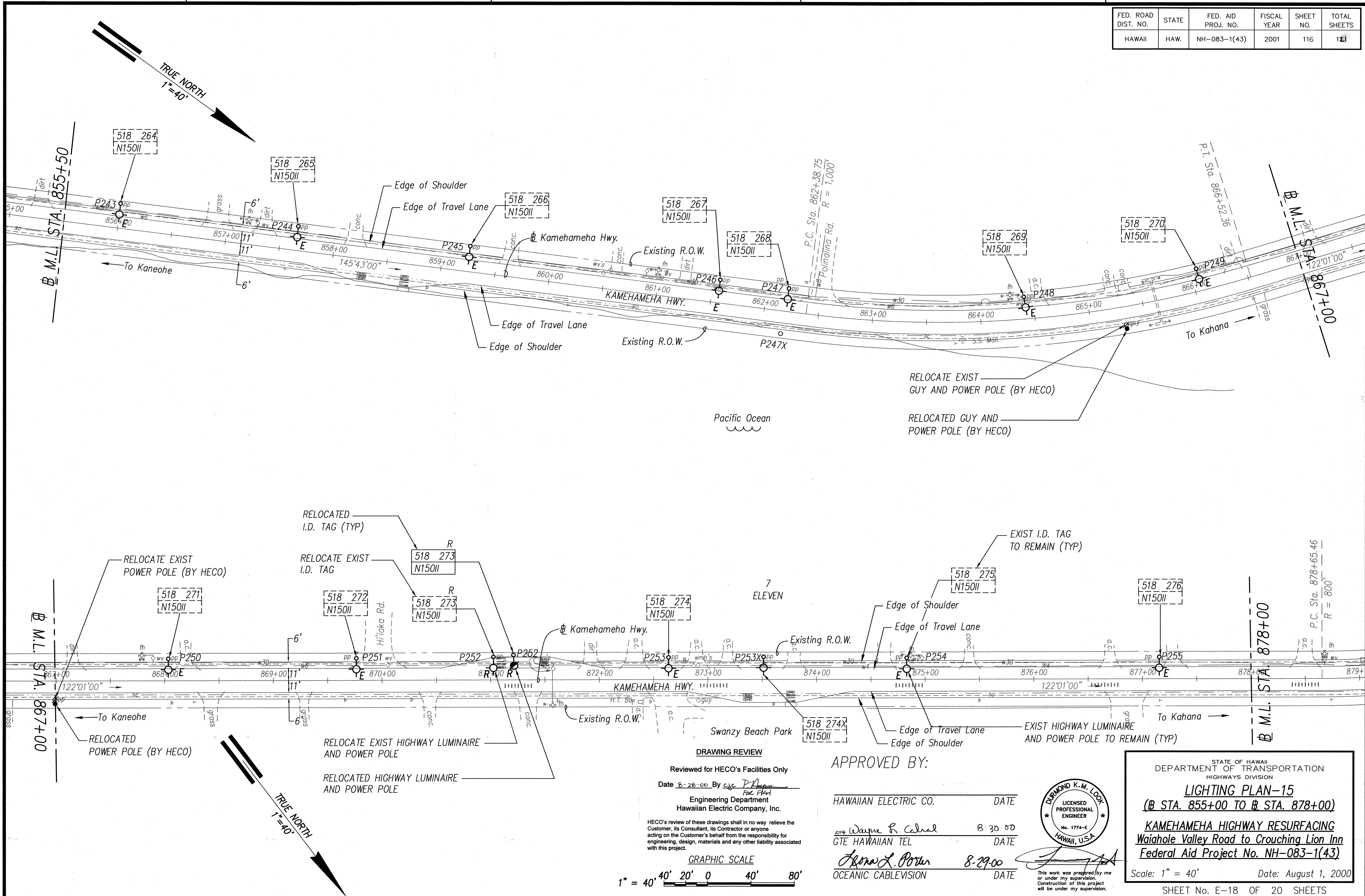
**STATE OF HAWAII**  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
**LIGHTING PLAN-15**  
(B STA. 855+00 TO B STA. 878+00)  
**KAMEHAMEHA HIGHWAY RESURFACING**  
Waiahole Valley Road to Crouching Lion Inn  
Federal Aid Project No. NH-083-1(43)  
Scale: 1" = 40' Date: August 1, 2000  
SHEET No. E-18 OF 20 SHEETS

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | NH-083-1(43)       | 2001        | 116       | 121          |

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | NH-083-1(43)       | 2001        | 116       | 121          |



| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | NH-083-1(43)       | 2001        | 116       | 121          |

[illegible]

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | NH-083-1(43)       | 2001        | 116       | 121          |

The drawing illustrates the proposed lighting plan for the Kamehameha Highway resurfacing project, covering the segment from station 855+00 to 878+00. It details the locations of existing and planned infrastructure, including power poles, guy wires, highway luminaires, and travel lanes. The plan also shows the Pacific Ocean, Swazy Beach Park, and various utility lines. Key features include the relocation of existing power poles and guy wires by HECO, and the relocation of highway luminaires and power poles. The plan is oriented with True North at 40 degrees.

DRAWING REVIEW  
Reviewed for HECO's Facilities Only  
Date 8-28-00 By cjc P. J. [Signature]  
Engineering Department  
Hawaiian Electric Company, Inc.

HECO's review of these drawings shall in no way relieve the Customer, its Consultant, its Contractor or anyone acting on the Customer's behalf from the responsibility for engineering, design, materials and any other liability associated with this project.

GRAPHIC SCALE

1" = 40' 0' 20' 0' 40' 80'

APPROVED BY:

HAWAIIAN ELECTRIC CO. DATE

Wayne R. Cabral 8-30-00  
GTE HAWAIIAN TEL DATE

Kenneth L. Porter 8-29-00  
OCEANIC CABLEVISION DATE

This work was prepared by me or under my supervision. Construction of this project will be under my supervision.

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

LIGHTING PLAN-15  
(B STA. 855+00 TO B STA. 878+00)

KAMEHAMEHA HIGHWAY RESURFACING  
Waiahole Valley Road to Crouching Lion Inn  
Federal Aid Project No. NH-083-1(43)

Scale: 1" = 40' Date: August 1, 2000

SHEET No. E-18 OF 20 SHEETS

[illegible]

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | NH-083-1(43)       | 2001        | 116       | 121          |

The drawing illustrates the proposed lighting plan for the Kamehameha Highway project. It covers the segment from station 855+00 to 878+00. Key elements shown include:

- Infrastructure Relocation:** Existing power poles and highway luminaires are identified, and their new locations after relocation are marked. Notes specify "RELOCATE EXIST GUY AND POWER POLE (BY HECO)" and "RELOCATED HIGHWAY LUMINAIRE AND POWER POLE".
- Right-of-Way and Road Features:** The drawing delineates the "Edge of Shoulder", "Edge of Travel Lane", and "Existing R.O.W.". It also shows the "Kamehameha Hwy." and "Polihali Rd.".
- Utility Structures:** Various utility structures are labeled with codes such as P243, P244, P245, P246, P247, P248, P249, P250, P251, P252, P253, P254, and P255. Some are noted as "EXIST I.D. TAG TO REMAIN (TYP)".
- Geographic Context:** The "Pacific Ocean" and "Swazy Beach Park" are indicated relative to the highway alignment.
- Orientation and Scale:** True North is indicated by arrows pointing towards the top-left and bottom-right corners. A graphic scale at the bottom indicates distances up to 80 feet.

DRAWING REVIEW  
Reviewed for HECO's Facilities Only  
Date 8-28-00 By cjc P. Nguyen  
For Plot  
Engineering Department  
Hawaiian Electric Company, Inc.

HECO's review of these drawings shall in no way relieve the Customer, its Consultant, its Contractor or anyone acting on the Customer's behalf from the responsibility for engineering, design, materials and any other liability associated with this project.

GRAPHIC SCALE

1" = 40' 0' 20' 0' 40' 80'

APPROVED BY:

HAWAIIAN ELECTRIC CO. DATE

Wayne R. Cabral 8-30-00  
GTE HAWAIIAN TEL DATE

Kenneth L. Porter 8-29-00  
OCEANIC CABLEVISION DATE

This work was prepared by me or under my supervision. Construction of this project will be under my supervision.

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

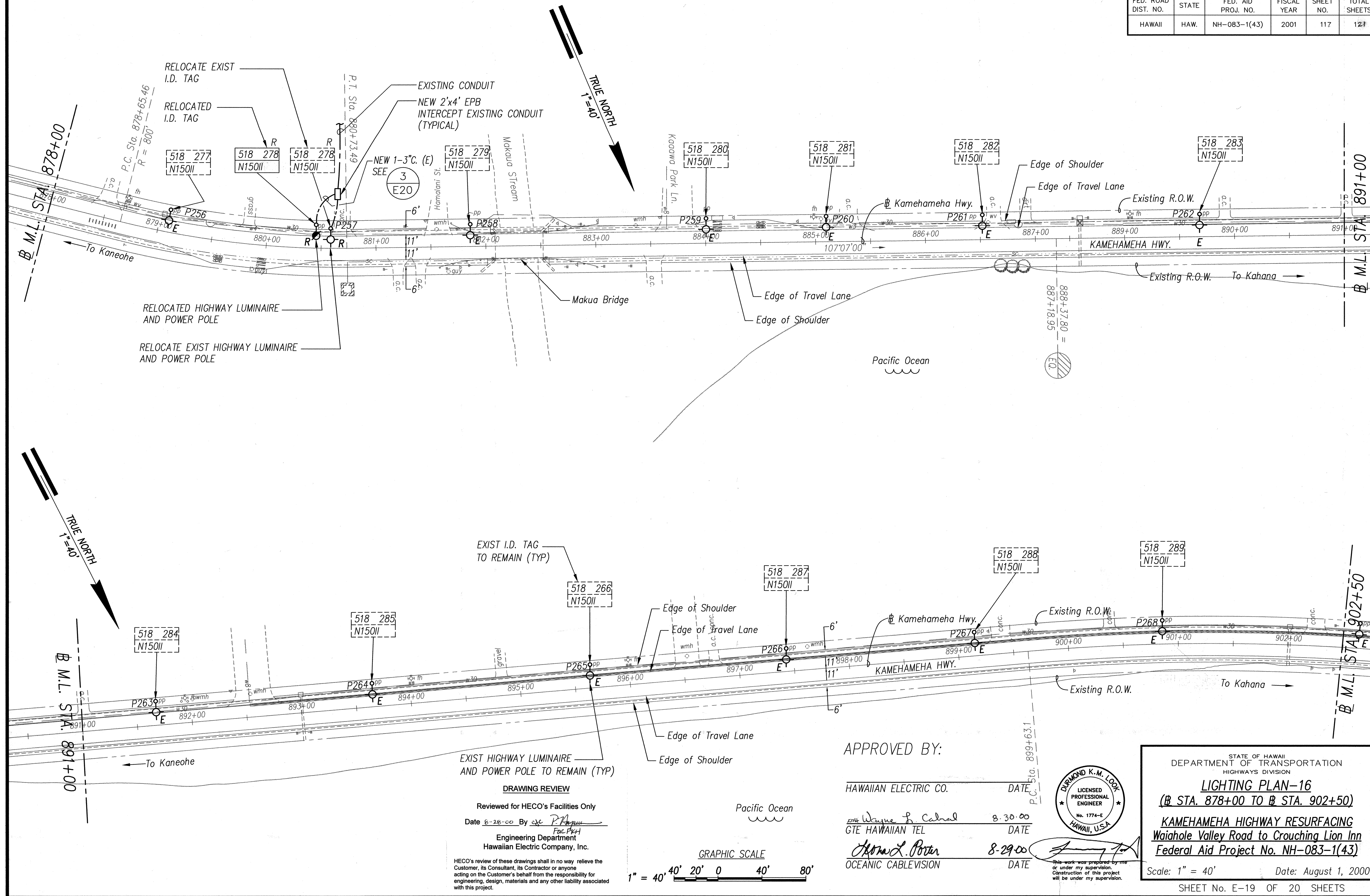
LIGHTING PLAN-15  
(B STA. 855+00 TO B STA. 878+00)

KAMEHAMEHA HIGHWAY RESURFACING  
Waiahole Valley Road to Crouching Lion Inn  
Federal Aid Project No. NH-083-1(43)

Scale: 1" = 40' Date: August 1, 2000

SHEET No. E-18 OF 20 SHEETS

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | NH-083-1(43)       | 2001        | 117       | 121          |



| DATE | SURVEY PLOTTED BY |
|------|-------------------|
|      |                   |
| DATE | DESIGNED BY       |
|      |                   |
| DATE | CHECKED BY        |
|      |                   |

#### DRAWING REVIEW

Reviewed for HECO's Facilities Only

Date 8-28-00 By *[Signature]*

Engineering Department  
Hawaiian Electric Company, Inc.

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#### GRAPHIC SCALE

1" = 40' 0' 20' 0' 40' 80'

APPROVED BY:

HAWAIIAN ELECTRIC CO.

*[Signature]*  
GTE HAWAIIAN TEL

*[Signature]*  
OCEANIC CABLEVISION

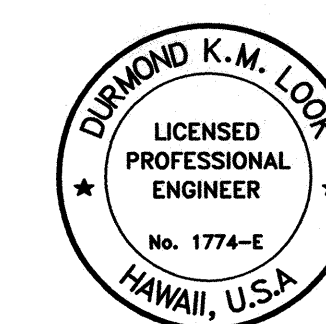
DATE

8-30-00

DATE

8-29-00

DATE



This work was prepared by me or under my supervision. Construction of this project will be under my supervision.

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

#### LIGHTING PLAN-16

(B STA. 878+00 TO B STA. 902+50)

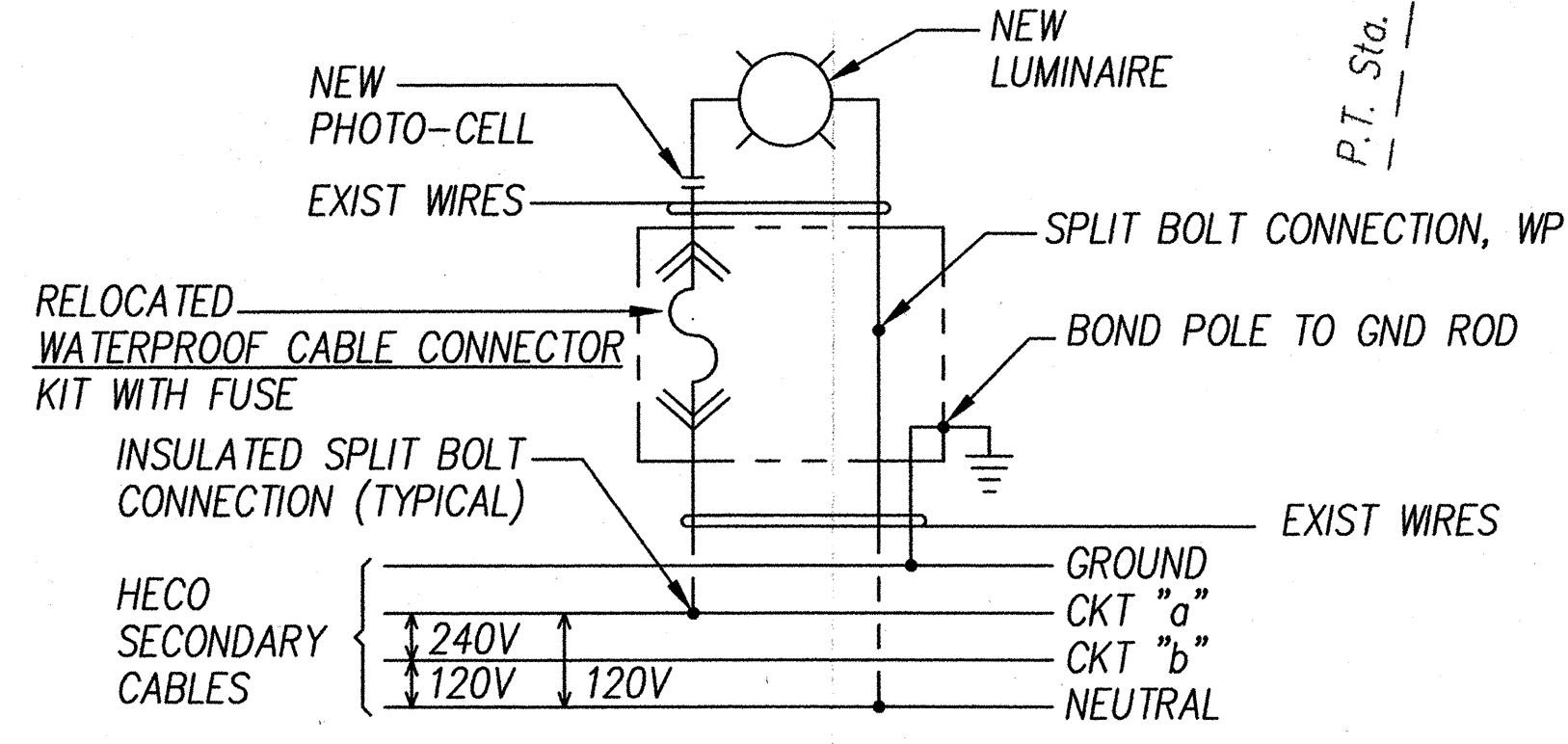
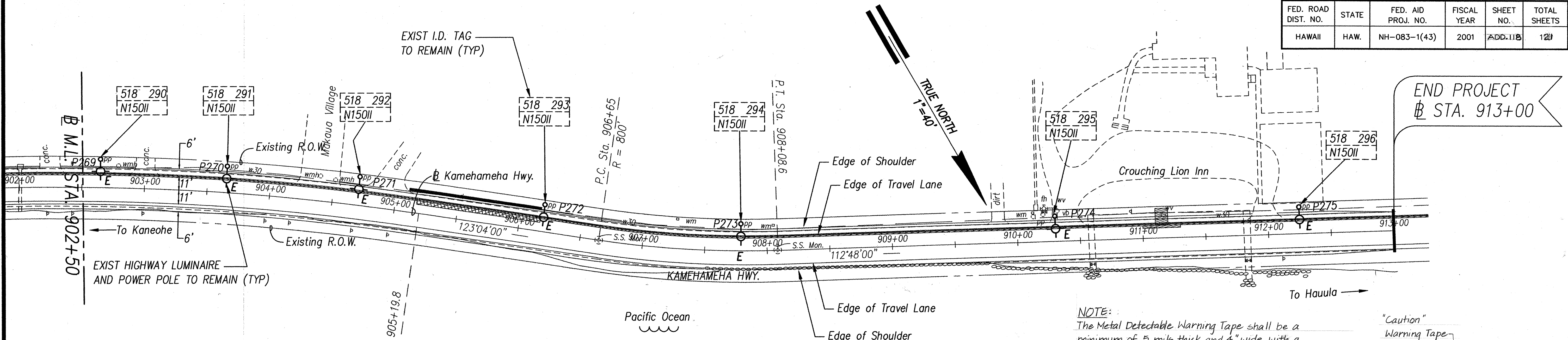
KAMEHAMEHA HIGHWAY RESURFACING  
Waiahole Valley Road to Crouching Lion Inn  
Federal Aid Project No. NH-083-1(43)

Scale: 1" = 40'

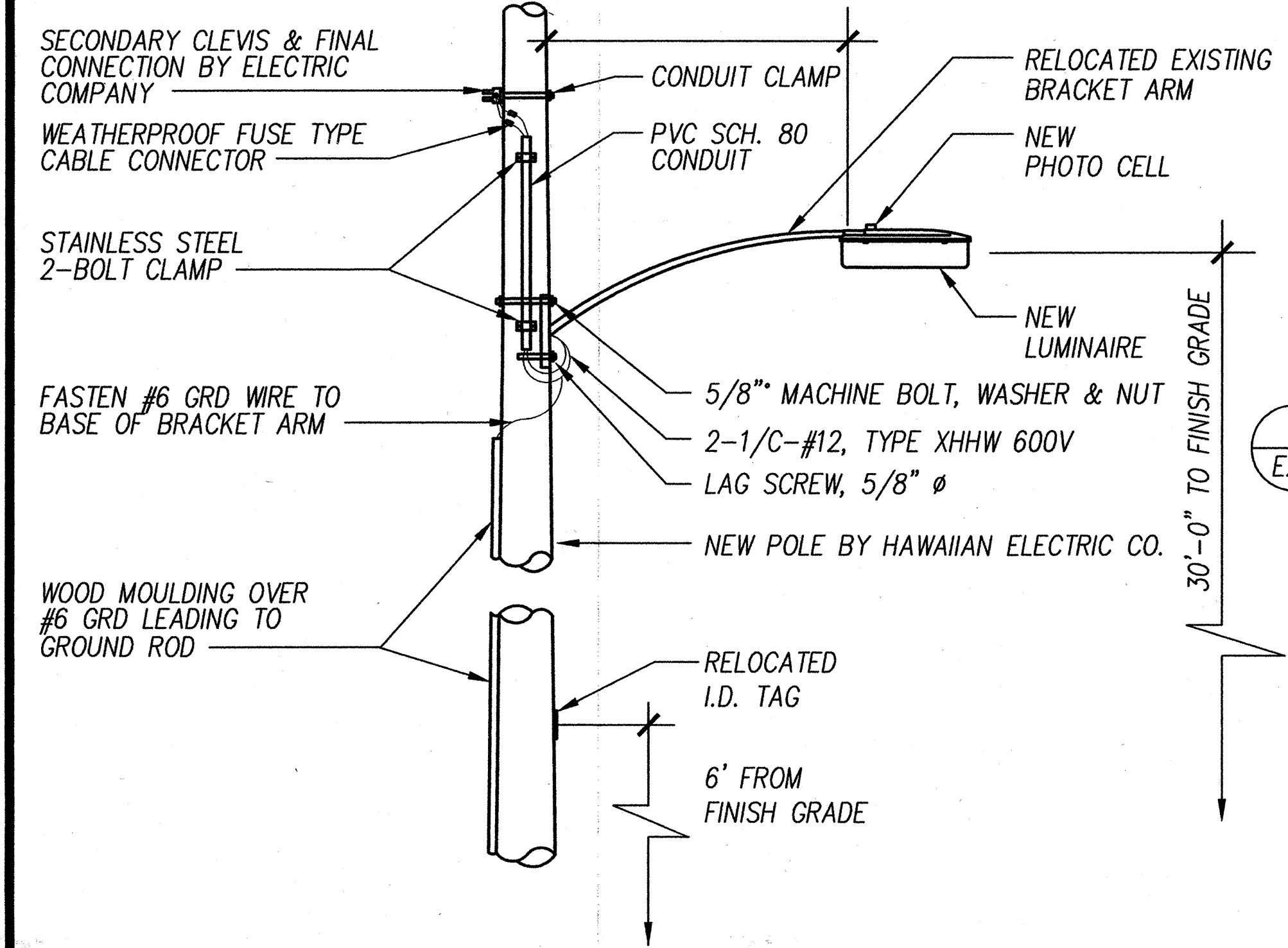
Date: August 1, 2000

SHEET No. E-19 OF 20 SHEETS

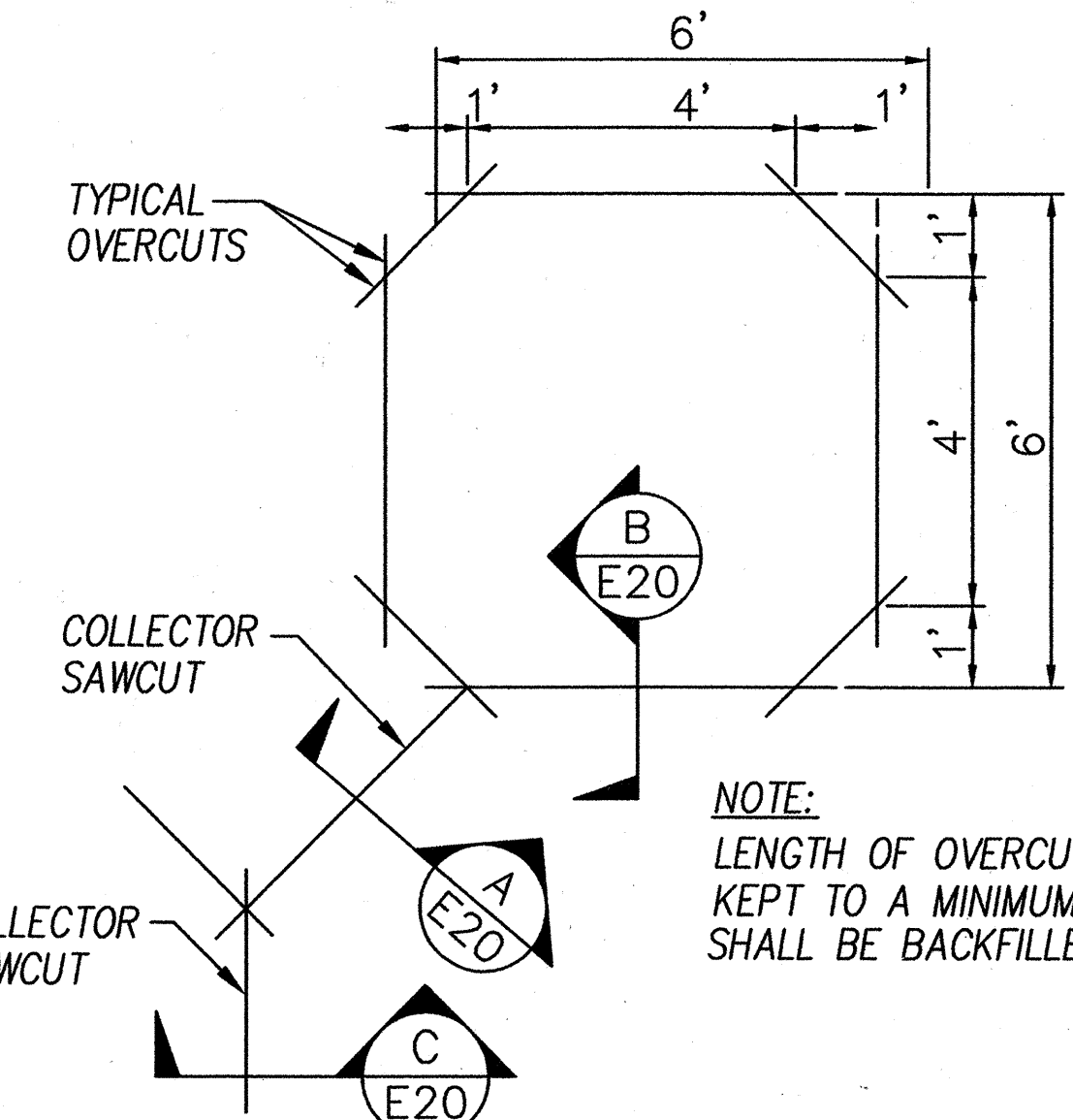
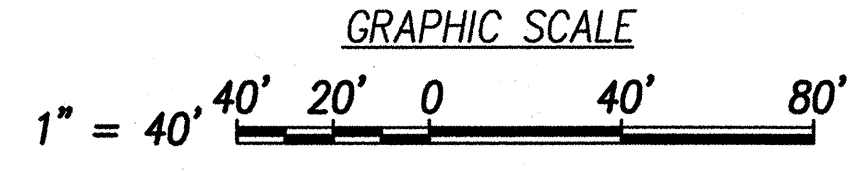
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | NH-083-1(43)       | 2001        | ADD.118   | 121          |



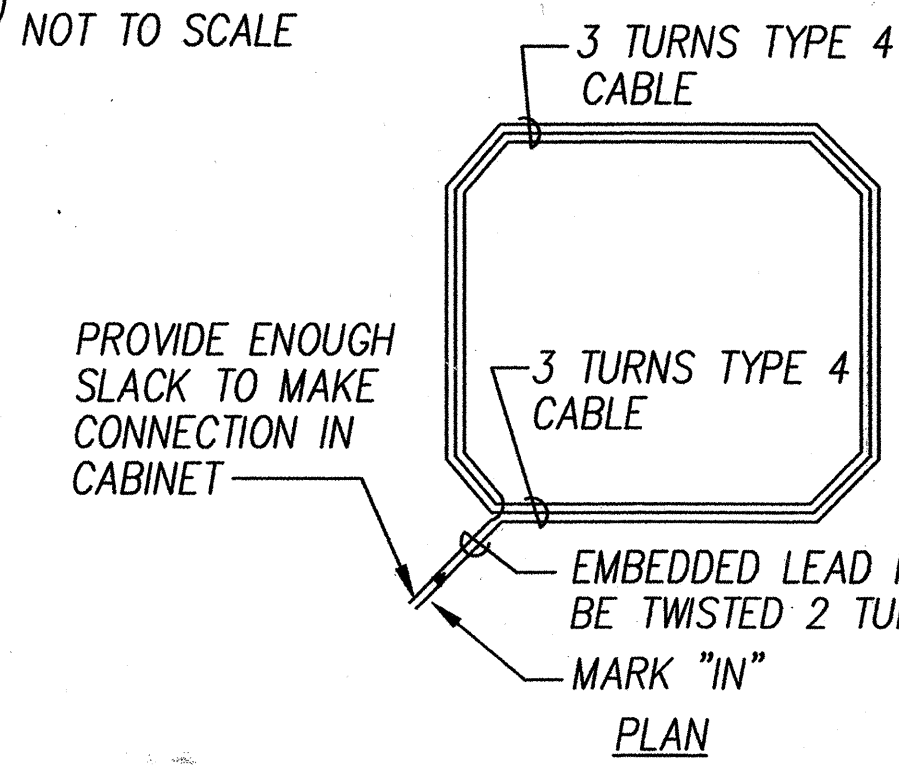
TYP. HIGHWAY LUMINAIRE CONNECTION DIAGRAM  
NOT TO SCALE



WOOD POLE STREET LIGHT MOUNTING DETAIL  
NOT TO SCALE



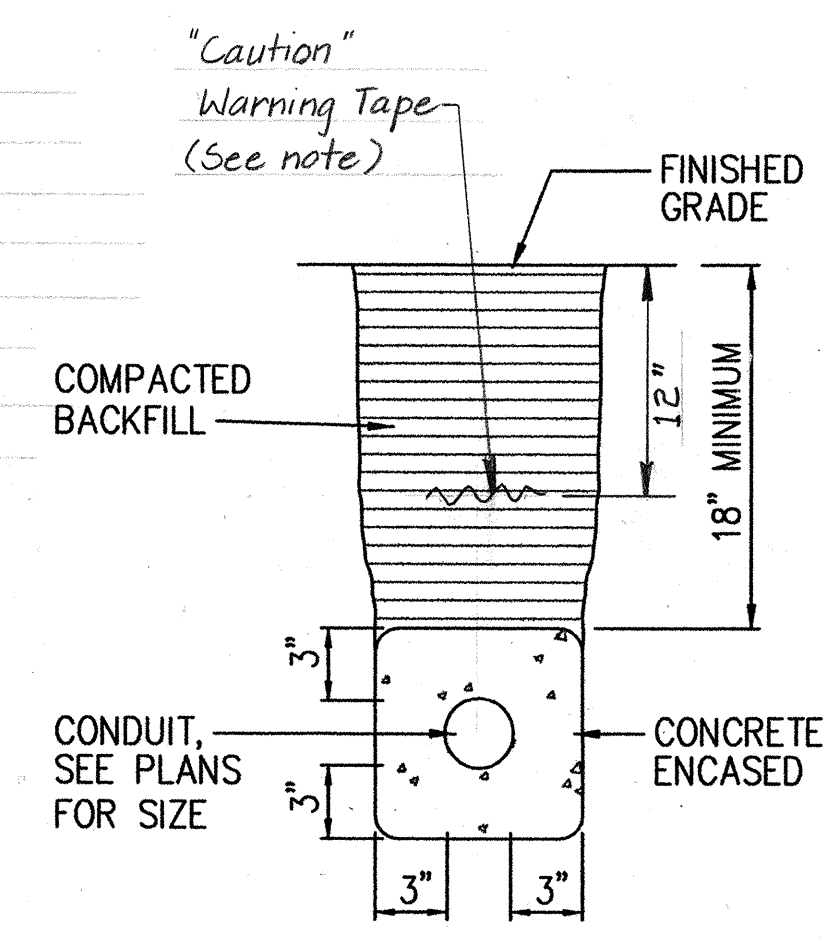
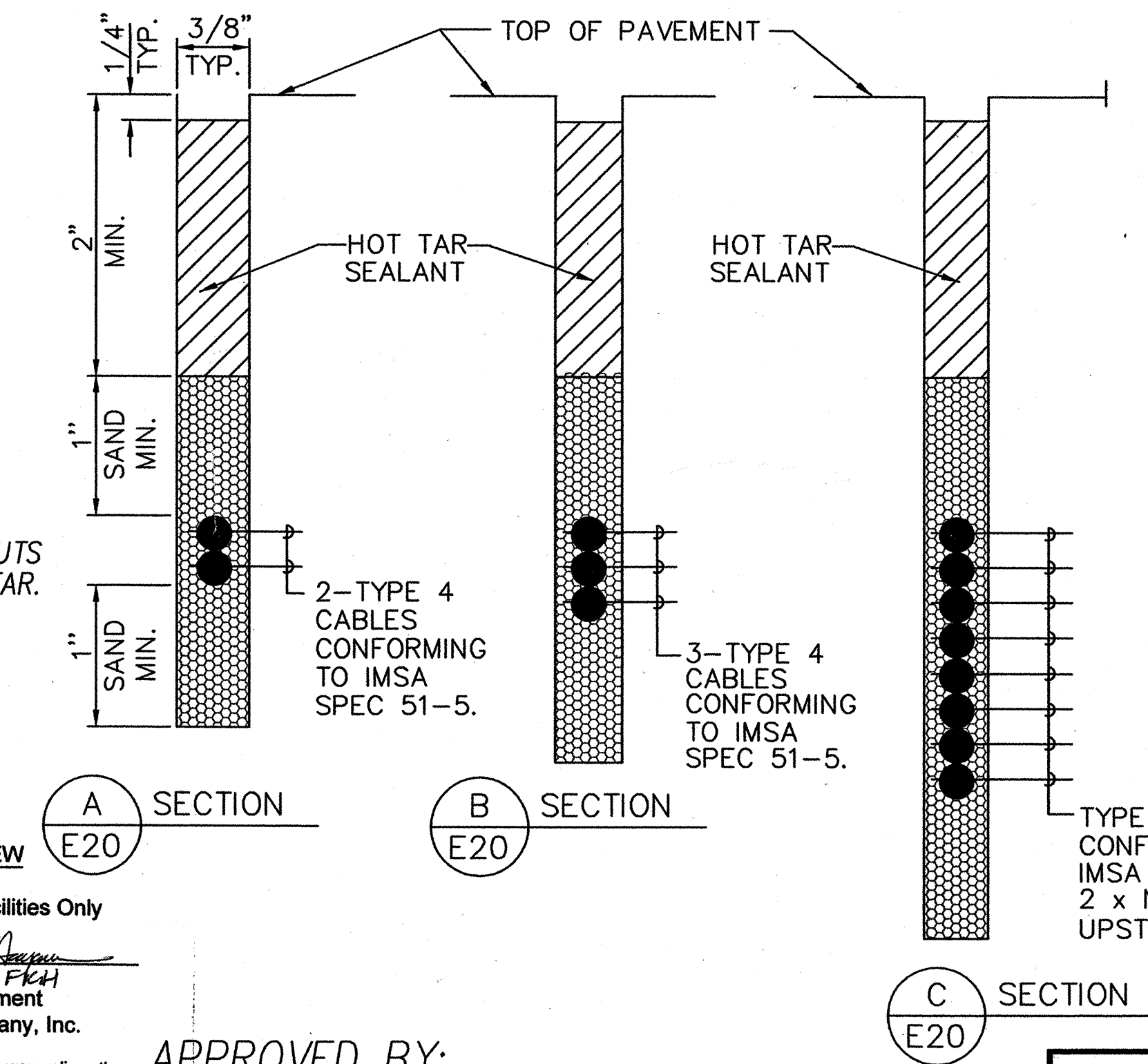
1 TYPICAL SENSOR LOOP SAWCUT DETAIL  
NOT TO SCALE



2 TYPICAL SENSOR LOOP WIRING DIAGRAM  
NOT TO SCALE

|        |                                                       |
|--------|-------------------------------------------------------|
| 2/4/02 | Added Warning Tape to Duct Section Per Addendum No. 2 |
| DATE   | REVISION                                              |

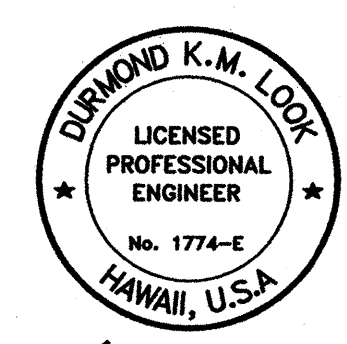
NOTE:  
The Metal Detectable Warning Tape shall be a minimum of 5 mils thick and 4" wide with a Continuous Metallic Backing and Corrosion Resistant 1± mil thick Foil Core. The message on the tape shall read, "Caution - State Traffic Signal and/or Hwy Lighting Buried Below," utilizing 2-inch Series "C" Black Lettering. The message will be repeated with a 36-inch spacing.



3 DUCT SECTION  
NOT TO SCALE

DRAWING REVIEW  
Reviewed for HECO's Facilities Only  
Date 8-28-00 By *[Signature]*  
Engineering Department  
Hawaiian Electric Company, Inc.  
HECO's review of these drawings shall in no way relieve the Customer, its Consultant, its Contractor or anyone acting on the Customer's behalf from the responsibility for engineering, design, materials and any other liability associated with this project.

APPROVED BY:  
HAWAIIAN ELECTRIC CO. DATE  
*Wayne R. Cabral* 8-30-00  
GTE HAWAIIAN TEL DATE  
*Donald P. Poon* 8-29-00  
OCEANIC CABLEVISION DATE



STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
LIGHTING PLAN-17  
(B STA. 902+50 TO B STA. 913+00)  
DETAILS AND DIAGRAMS  
KAMEHAMEHA HIGHWAY RESURFACING  
Waiahole Valley Road to Crouching Lion Inn  
Federal Aid Project No. NH-083-1(43)  
Scale: 1" = 40' Date: August 1, 2000