

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	93A-07-98	2000	3	27

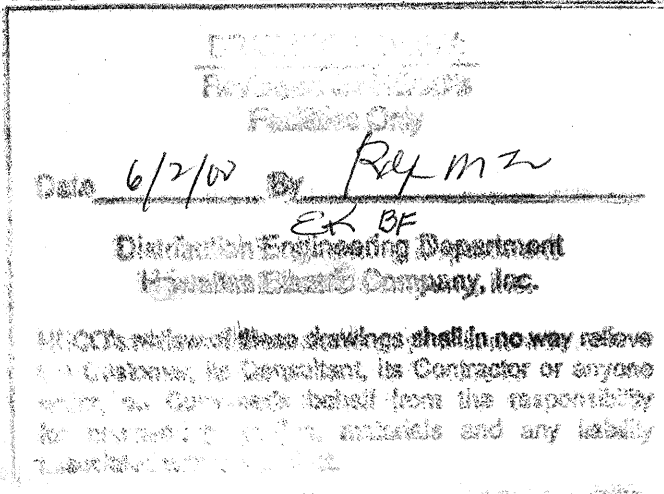
GENERAL CONSTRUCTION NOTES

- THE SCOPE OF WORK FOR THIS PROJECT CONSISTS OF INSTALLING NEW HIGHWAY LIGHTS, SERVICE EQUIPMENT AND DUCT LINES, AND REPLACING STREET LIGHT LUMINAIRES INSTALLED IN PHASE I WITH NEW TYPE OF LIGHT FIXTURES.
- THE CONTRACTOR IS REMINDED OF THE REQUIREMENTS OF SUBSECTION 108.01 - SUBLETTING OF CONTRACT, WHICH REQUIRES HIM TO PERFORM WORK AMOUNTING TO NOT LESS THAN 50 PERCENT OF THE TOTAL CONTRACT COST LESS DEDUCTIBLE ITEMS. NON-COMPLIANCE WITH THIS SUBSECTION MAY BE GROUNDS FOR REJECTION OF BID.
- THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE FOLLOWING SECTIONS OF THE SPECIAL PROVISIONS: SUBSECTION 107.13 - PUBLIC CONVENIENCE AND SAFETY; SUBSECTION 107.21 - CONTRACTOR'S RESPONSIBILITY FOR UTILITY PROPERTY AND SERVICES; AND SECTION 645 - TRAFFIC CONTROL.
- AT THE END OF EACH DAY'S WORK, THE CONTRACTOR SHALL REMOVE ALL EQUIPMENT AND OTHER OBSTRUCTIONS TO PERMIT FREE AND SAFE PASSAGE OF PUBLIC TRAFFIC.
- THE EXISTENCE AND LOCATION OF UNDERGROUND UTILITIES, MANHOLES, MONUMENTS AND STRUCTURES AS SHOWN ON THE PLANS ARE FROM THE LATEST AVAILABLE DATA BUT THE ACCURACY IS NOT GUARANTEED. THE ENCOUNTERING OF OTHER OBSTACLES DURING THE COURSE OF WORK IS POSSIBLE. THE CONTRACTOR SHALL BE HELD LIABLE FOR ANY DAMAGES INCURRED TO THE EXISTING FACILITIES AND/OR IMPROVEMENTS AS RESULT OF HIS OPERATIONS.
- EXISTING DRAINAGE SYSTEM WILL BE FUNCTIONAL AT ALL TIMES DURING CONSTRUCTION. THE CONTRACTOR IS TO FURNISH MATERIALS, EQUIPMENT, LABOR, TOOLS AND INCIDENTALS NECESSARY TO MAINTAIN FLOW. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO VARIOUS CONTRACT ITEMS.
- THE CONTRACTOR SHALL PROVIDE FOR ACCESS TO AND FROM ALL EXISTING SIDE STREETS AT ALL TIMES.
- LOCATION OF THE NEW UNDERGROUND DUCTLINES AND STRUCTURES IS SHOWN ON THE DRAWINGS. THE CONTRACTOR SHOULD ANTICIPATE MAKING PROVISIONS FOR DEWATERING OF TRENCHES BELOW WATER LINE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL NPDES AND DISCHARGE TO RECEIVING WATERS (SEE NPDES GENERAL NOTES). ALL TRENCHES SHALL BE DRY AND FREE OF WATER BEFORE DUCTS ARE INSTALLED.
- LAYER OF GRAVEL BED UNDER UNDERGROUND DUCT BANKS, WHICH ARE AT OR BELOW THE WATER TABLE, MAY FACILITATE DEWATERING OF THE TRENCHES DURING CONSTRUCTION/INSTALLATION OF THE UNDERGROUND UTILITY SYSTEM. THE GRAVEL MATERIAL WILL NOT BE MEASURED AND SHALL BE CONSIDERED INCIDENTAL TO THE VARIOUS UNDERGROUND SYSTEM ITEMS.
- THE CONTRACTOR SHALL SURVEY AND STAKE THE STATE HIGHWAY RIGHT-OF-WAY AND INSTALL ALL APPURTENANCES ASSOCIATED W/THE PROJECT WITHIN THE STATE RIGHT-OF-WAY.
- THE SITING FOR STREET LIGHTS MAY BE ADJUSTED NOT MORE THAN 10 FEET PARALLEL WITH ROADWAY TO AVOID CONFLICTS.
- STREET LIGHT STANDARDS AND POLES SHALL HAVE MINIMUM 2 FEET CLEARANCE FROM AERIAL TELEPHONE CABLES & LINES.
- STREET LIGHT STANDARDS AND POLES SHALL BE INSTALLED AT LEAST 3 FEET BEHIND METAL BARRIER RAILS.
- ALL EXISTING FACILITIES SHOWN ARE APPROXIMATE ONLY. CONTRACTOR SHALL VERIFY THEIR LOCATIONS AND SHALL MAKE ADJUSTMENTS TO ANY NEW OR EXISTING FACILITIES AS DIRECTED BY THE STATE'S RESIDENT ENGINEER.
- THE TERM "ENGINEER FOR THE UTILITY COMPANIES" SHALL ALSO MEAN HIS DELEGATED REPRESENTATIVE AND/OR THE UTILITIES' INSPECTOR OF RECORD.
- THE CONTRACTOR TO STAKEOUT ALL FACILITIES FOR VERIFICATION BY THE UTILITY INVOLVED AND/OR AFFECTED BEFORE PROCEEDING.
- ALL DUCTLINES TO BE INSTALLED IN CONCRETE SHALL BE INSPECTED AND APPROVED BY THE INSPECTOR BEFORE PLACING CONCRETE. NOTIFY INSPECTOR 48 HOURS BEFORE PLACING CONCRETE.
- THE MINIMUM DEPTH OF DUCTLINES FROM FINISH GRADE TO TOP OF CONCRETE ENCASEMENT OR COVER IS AS FOLLOWS:
 - WITHIN ROADWAY: 2'-0"
 - WITHIN SIDEWALK AREA: 1'-6"
 - ALL OTHERS: 1'-6"
- ALL COMPLETED DUCTLINES SHALL BE MANDREL TESTED BY THE CONTRACTOR IN THE PRESENCE OF THE INSPECTOR.
- DIRECT BURIED CONDUIT SHALL BE USED BEHIND METAL GUARDRAIL AND UNDER CONCRETE SIDEWALK. IN ALL OTHER INSTANCES USE CONCRETE ENCASED DUCT.

- THE CONTRACTOR SHALL GIVE HECO FORTY (40) WORKING DAYS NOTICE TO PROCEED WITH ITS PORTION OF THE WORK.
- THE CONTRACTOR SHALL IMMEDIATELY REPORT DAMAGES DISCOVERED OR CAUSED BY HIS WORK TO:
 - HTCO @ PH. NO.: 611
 - HECO @ PH. NO.: 543-7874
 - OCEANIC @ PH. NO.: 625-8437
 - CHRONICLE CABLEVISION @ PH. NO.: 395-1847
- THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION WHEN THE EXCAVATION AND CONSTRUCTION CROSSES OR IS IN CLOSE PROXIMITY TO UNDERGROUND ELECTRICAL FACILITIES AND SHALL MAINTAIN MINIMUM 13'-0" CLEARANCE FOR HIS EQUIPMENT WHILE WORKING CLOSE TO AND/OR UNDER OVERHEAD FACILITIES.
- WHEN TRENCH EXCAVATION IS ADJACENT TO OR UNDER EXISTING UTILITIES 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 POSSIBLE SLIDES, CAVE-INS AND SETTLEMENT, AND FOR PROPERLY SUPPORTING EXISTING STRUCTURES AND FACILITIES WITH BEAMS, STRUTS OR UNDERPINNING TO FULLY PROTECT IT FROM DAMAGE.
- THE CONTRACTOR IS TO STAKE OUT ALL TEMPORARY AND PERMANENT NEW POLE LOCATIONS SO AS NOT TO CONFLICT WITH ANY EXISTING OR PROPOSED UTILITY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COST INCURRED BY CONFLICTING UTILITIES.
- WHEN EXCAVATING NEAR UTILITY POLES, THE CONTRACTOR SHALL PROTECT, SUPPORT, SECURE AND TAKE ALL OTHER PRECAUTIONS TO PREVENT DAMAGE TO OR LEANING OF THESE POLES. THE CONTRACTOR IS RESPONSIBLE FOR ALL COSTS ASSOCIATED TO REPAIR OR STRAIGHTEN POLES.
- ALL NEW WOOD POLES SHALL BE CLASS-3 OR OF LARGER DIAMETERS.
- PROVIDE 2 FEET MINIMUM CLEARANCE BETWEEN UNDERGROUND DUCTS AND GUARDRAIL POSTS. IN INACCESSIBLE AREAS, THE CONTRACTOR HAS THE OPTIONS TO DISMANTLE AND REINSTALL GUARDRAIL FOR EQUIPMENT ACCESS OR PROVIDE CONCRETE ENCASED DUCT IN FRONT OF GUARDRAIL, BUT NOT WITHIN THE TRAVEL LANE.
- DRAWINGS INDICATE DIRECT BURIED CONDUIT BEHIND GUARDRAIL. HOWEVER, CONCRETE ENCASEMENT SHALL BE APPLIED WHEN CONDUIT CROSSES A GUARDRAIL, ESPECIALLY NEAR THE GUARDRAIL END TREATMENTS.
- NO MATERIAL AND/OR EQUIPMENT SHALL BE STOCKPILED OR OTHERWISE STORED WITHIN THE HIGHWAY RIGHT-OF-WAY, EXCEPT AT LOCATIONS DESIGNATED IN WRITING AND APPROVED BY THE DISTRICT ENGINEER.
- PRIOR TO COMMENCING TRENCH EXCAVATION WORK, THE CONTRACTOR SHALL TAKE A PROFILE ALONG THE CENTERLINE OF THE PROPOSED UTILITY TRENCH. THIS INFORMATION SHALL BE USED IN THE VERIFICATION OF RESTORING THE ROADWAY TO ITS ORIGINAL CONDITION. A COPY OF THE PROFILE SHALL BE SUBMITTED TO THE DISTRICT ENGINEER.
- THE CONTRACTOR SHALL PROVIDE ADEQUATE AND SAFE NON-SKID BRIDGING MATERIAL, INCLUDING SHORING, OVER TRENCHES IN PAVEMENT AREAS. THE BRIDGING SHALL BE ABLE TO SUPPORT ALL TYPES OF VEHICULAR TRAFFIC.
- UNLESS OTHERWISE NOTED, NO TRENCH SHALL BE OPENED MORE THAN 300 FEET IN ADVANCE OF INSTALLED AND TESTED DUCTLINE.
- WHERE PEDESTRIAN WALKWAYS EXIST, THEY SHALL BE MAINTAINED IN A SAFE AND PASSABLE CONDITION, OR OTHER FACILITIES FOR PEDESTRIANS SHALL BE PROVIDED. PASSAGES BETWEEN WALKWAYS AT INTERSECTIONS SHALL LIKEWISE BE PROVIDED. A MINIMUM CLEAR WIDTH OF 32 INCHES SHALL BE MAINTAINED FOR A DISTANCE OF 24 INCHES.
- THE CONTRACTOR SHALL NOTIFY THE STATE HIGHWAYS' HIGHWAY LIGHTING AND TRAFFIC SIGNAL SUPERVISOR (834-4581), THREE (3) WORKING DAYS PRIOR TO COMMENCING WORK ON THE HIGHWAY LIGHTING SYSTEM.
- THE CONTRACTOR SHALL NOTIFY OAHU TRANSIT SERVICES, INC. (OTS), ED SNIFFEN AT 848-4571, OR LOWELL TOM AT 848-4578, TWO WEEKS PRIOR TO COMMENCING ANY WORK. THE CONTRACTOR SHALL INFORM OTS OF THE LOCATIONS AND SCOPE OF WORK, PROPOSED CLOSURE OF ANY STREET OF TRAFFIC LANES, AND THE NEED TO RELOCATE ANY BUS STOP.
- MAKE ALL NECESSARY MODIFICATIONS, REPAIRS AND ADJUSTMENTS TO AVOID CONFLICT WITH EXISTING APPURTENANCES AND TO ACCOMMODATE THE INSTALLATION OF DUCTLINES AND POLE FOUNDATIONS.
- THE CONTRACTOR SHALL START CONSTRUCTION WORK FIRST AT THE AREA FROM HAKIMO ROAD TO HALEAKALA AVENUE AND COMPLETE THIS PORTION OF WORK BY MARCH 2001.

NPDES GENERAL NOTES

- DISCHARGES INTO RECEIVING WATERS (STREAMS, RIVERS, OCEAN CHANNELS, DRAINAGE SYSTEMS, ETC.) FROM DEWATERING AND/OR HYDROTESTING ACTIVITIES REQUIRE NPDES PERMIT(S) FROM THE DEPARTMENT OF HEALTH (DOH). IF THE CONTRACTOR OPTIONS TO DISCHARGE DEWATERING AND/OR HYDROTESTING EFFLUENT INTO RECEIVING WATERS, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOUR (4) SETS OF BEST MANAGEMENT PRACTICES (BMP'S) AND FOUR (4) COPIES OF THE QUALITY OF DISCHARGE TEST RESULTS. THE PLANS AND TEST RESULTS SHALL BE SUBMITTED NO LATER THAN THIRTY (30) CALENDAR DAYS AFTER THE AWARD OF THE CONTRACT.
- NO DEWATERING AND/OR HYDROTESTING ACTIVITIES WILL BE AUTHORIZED UNTIL THE RECEIPT OF THE NPDES PERMITS FROM DOH.
- PROGRESS PAYMENT WILL NOT BE AUTHORIZED UNTIL RECEIPT OF THE BMP'S AND THE QUALITY OF DISCHARGE TEST RESULTS.
- ANY CITATION (FINE) RECEIVED BY THE STATE FOR NON-COMPLIANCE OF THE NPDES PERMIT REQUIREMENTS SHALL BE DEDUCTED FROM THE PROGRESS PAYMENT.
- ALL SEWER CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH THE CITY'S STANDARD SPECIFICATIONS, SEPT. 1986, THE DEPARTMENT OF PUBLIC WORKS STANDARD DETAILS, SEPT. 1984, CURRENT CITY PRACTICES AND REVISED ORDINANCES OF HONOLULU, 1990 AS AMENDED, AND THE DESIGN STANDARDS OF THE DEPARTMENT OF WASTEWATER MANAGEMENT VOL. 1, JULY 1993.
- THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION SECTION, DEPARTMENT OF DESIGN AND CONSTRUCTION AT 527-5842 OR 523-4345 TO ARRANGE FOR INSPECTION SERVICES AND SUBMIT FOUR SETS OF APPROVED CONSTRUCTION PLANS SEVEN DAYS PRIOR TO COMMENCEMENT OF SEWER WORK. THE CONTRACTOR SHALL PAY FOR ALL INSPECTION COSTS.
- 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 LOCATION AND DEPTH OF THE FACILITIES AND EXERCISE PROPER CARE IN EXCAVATING THE AREA. THE CONTRACTOR SHALL BE RESPONSIBLE AND SHALL PAY FOR ALL DAMAGED UTILITIES.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING CONTINUOUS SEWER SERVICE TO ALL AFFECTED AREAS DURING CONSTRUCTION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY SEWAGE SPILLS CAUSED DURING CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE STATE DEPARTMENT OF HEALTH AND UTILIZE APPROPRIATE SAMPLING AND ANALYZING PROCEDURES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PUBLIC NOTIFICATION AND PRESS RELEASES.
- THE CONTRACTOR SHALL MAINTAIN A MINIMUM FIVE (5) FEET CLEAR WIDTH BETWEEN STREET LIGHTING POLES AND SEWER LINES.



APPROVED:

[Signature] 6/11/00
GTE HAWAIIAN TELEPHONE DATE

APPROVED:

[Signature] 6/2/00
CHIEF, WASTEWATER BRANCH, DPP DATE

APPROVED:

[Signature] 6/5/00
DIRECTOR, DEPARTMENT OF PLANNING AND PERMITTING CITY AND COUNTY OF HONOLULU (FOR EFFECT ON CITY SEWERS ONLY) DATE

GTE HAWAIIAN TELEPHONE GENERAL NOTES:

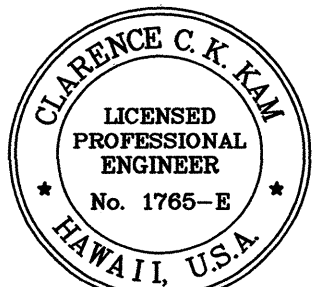
- THE LOCATION OF GTE HAWAIIAN TELEPHONE COMPANY'S EXISTING FACILITIES FAR APPROXIMATE ONLY. THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION AND SHALL MAINTAIN PROPER CLEARANCES WHENEVER CONSTRUCTION CROSSES OR IS IN CLOSE PROXIMITY OF GTE HAWAIIAN TELEPHONE COMPANY FACILITIES. THE CONTRACTOR SHALL VERIFY THEIR LOCATIONS AND SHALL BE LIABLE FOR ANY DAMAGES TO GET HAWAIIAN TELEPHONE COMPANY FACILITIES. ANY DAMAGES SHALL BE REPORTED IMMEDIATELY TO GET HAWAIIAN TELEPHONE COMPANY'S REPAIR SECTION AT 611 (24 HOURS) OR TO THE EXCAVATION PERMIT SECTION AT 840-1444 (NORMAL WORKING HOURS, MONDAY THROUGH FRIDAY, EXCEPT HOLIDAYS).
- FOR UNDERGROUND CABLE LOCATING AND MARKING, FIVE WORKING DAYS ADVANCE NOTICE IS REQUIRED. THREE WORKING DAYS ADVANCE NOTICE IS REQUIRED FOR ANY INSPECTIONS BY A DESIGNATED REPRESENTATIVE.
- THE CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS NOT TO DAMAGE ANY EXISTING CABLES OR CONDUITS. ANY WORK INVOLVING EXISTING GTE HAWAIIAN TELEPHONE COMPANY CABLES OR CONDUITS, SHALL BE DONE IN THE PRESENCE OF A GTE HAWAIIAN TEL INSPECTOR OR DESIGNATED REPRESENTATIVE.
- THE CONTRACTOR SHALL OBTAIN AN EXCAVATION PERMIT AND TONING REQUEST FROM GTE HAWAIIAN TELEPHONE COMPANY'S EXCAVATION PERMIT SECTION, LOCATED AT 3239 UALENA STREET, THIRD FLOOR, TWO WEEKS PRIOR TO THE START OF CONSTRUCTION. HOURS OF BUSINESS ARE 7:00 AM TO 10:30 AM AND 11:30 AM TO 3:00 PM. MONDAY THROUGH FRIDAY, EXCEPT HOLIDAYS.
- THE CONTRACTOR SHALL NOTIFY GTE HAWAIIAN TELEPHONE COMPANY'S INSPECTOR OR DESIGNATED REPRESENTATIVE A MIN. OF 72 HOURS PRIOR TO EXCAVATION, BRACING OR BACKFILLING OF GTE HAWAIIAN TELEPHONE COMPANY'S STRUCTURES OR FACILITIES.
- THE CONTRACTOR IS ADJACENT TO OR BENEATH GTE HAWAIIAN TELEPHONE COMPANY'S EXISTING STRUCTURES OR FACILITIES, THE CONTRACTOR SHALL:
 - SHEET AND/OR BRACE THE EXCAVATION TO PREVENT SLIDES, CAVE-INS OR SETTLEMENTS TO ENSURE NO MOVEMENT TO GET HAWAIIAN TELEPHONE COMPANY'S STRUCTURES OR FACILITIES.
 - PROTECT EXISTING STRUCTURES AND/OR FACILITIES WITH BEAMS, STRUTS OR UNDERPINNING WHILE EXCAVATING BENEATH THEM TO ENSURE NO MOVEMENT TO GTE HAWAIIAN TELEPHONE COMPANY'S STRUCTURES OR FACILITIES.

HECO SERVICE LOCATION

VOLTAGE/POLE #	SERVICE AT STREET LIGHT	STREET LIGHT SERVED	CONNECTED KVA
240V, 1Ø, 3W/JP241	M1-10	M1-1 TO 19	6
240V, 1Ø, 3W/JP223	M2-5	M2-1 TO 10	4
240V, 1Ø, 3W/JP206	M3-11	M3-1 TO 22	8
240V, 1Ø, 3W/JP82	M7-12	M7-1 TO 24	8
240V, 1Ø, 3W/JP52	M8-12	M8-1 TO 23	8
240V, 1Ø, 3W/JP27	M9-12	M9-1 TO 21	7

APPROVED:

HAWAIIAN ELECTRIC COMPANY, DATE



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

[Signature]

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GENERAL NOTES

FARRINGTON HIGHWAY LIGHTING IMPROVEMENTS

ALA HEMA ST TO PILIOKOE BRIDGE

PROJECT NO. 93A-07-98

SCALE: NONE

2000

SHEET No. 3 OF 27 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	93A-07-98	2000	4	27

WATER NOTES

1. UNLESS OTHERWISE SPECIFIED, ALL MATERIALS AND CONSTRUCTION OF WATER SYSTEM FACILITIES AND APPURTENANCES SHALL BE IN ACCORDANCE WITH THE CITY AND COUNTY OF HONOLULU BOARD OF WATER SUPPLY (BWS)'S "WATER SYSTEM STANDARDS", VOLUME 1, DATED 1985, THE "APPROVED MATERIAL LIST AND STANDARD DETAILS FOR WATER SYSTEM CONSTRUCTION "; VOLUME 2, DATED 1985, THE "WATER SYSTEM EXTERNAL CORROSION CONTROL STANDARDS", VOLUME 3, DATED 1991, AND ALL SUBSEQUENT AMENDMENTS AND ADDITIONS.
2. ALL PLANS APPROVED BY THE BOARD OF WATER SUPPLY ARE BASED SOLELY ON THE ADEQUACY OF THE WATER SUPPLY. ALL OTHER FEATURES OF THE WATER SYSTEM, SUCH AS LINES, GRADES, FITTINGS, DRAINAGE, ETC., AND OTHER FEATURES OF IMPROVEMENTS SHALL NOT BE THE RESPONSIBILITY OF THE BOARD OF WATER SUPPLY.
3. THE EXISTENCE AND LOCATION OF UNDERGROUND UTILITIES AND STRUCTURES AS SHOWN ON THE PLANS ARE FROM THE LATEST AVAILABLE DATA BUT IS NOT GUARANTEED AS TO THE ACCURACY OR THE ENCOUNTERING OF OTHER OBSTACLES DURING THE COURSE OF THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE AND PAY FOR ALL DAMAGES TO EXISTING UTILITIES. THE CONTRACTOR SHALL NOT ASSUME THAT WHERE NO UTILITIES ARE SHOWN, THAT NO EXIST.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL WATER LINES DURING CONSTRUCTION. THE CONTRACTOR SHALL BE ESPECIALLY CAREFUL WHEN EXCAVATION BEHIND WATER LINES, TEE, AND BENDS WHEREVER THERE IS A POSSIBILITY OF WATER LINE MOVEMENT DUE TO THE REMOVAL OF THE SUPPORTING EARTH BEYOND THE EXISTING REACTION BLOCKS. THE CONTRACTOR SHALL TAKE WHATEVER MEASURE NECESSARY TO PROTECT THE WATER LINES, SUCH AS CONSTRUCTING SPECIAL REACTION BLOCKS (WITH BWS APPROVAL) AND/OR MODIFYING HIS CONSTRUCTION METHOD.
5. RE-APPROVAL SHALL BE REQUIRED IF THIS PROJECT IS NOT UNDER CONSTRUCTION WITHIN A PERIOD OF TWO YEARS.
6. AT THE ELECTRICAL/SIGNAL DUCTLINE WATER CROSSINGS, ADJUST ALL ELECTRICAL/SIGNAL DUCTLINE ELEVATIONS TO MAINTAIN 6" VERTICAL CLEAR SEPARATION FROM ALL WATERLINES (12" CLEAR FOR ALL ELECTRICAL/SIGNAL DUCTLINE STRUCTURES LARGER THAN 16") AT NO COST TO THE BWS.
7. MAINTAIN 3'-0" MIN. HORIZONTAL CLEAR SEPARATION BETWEEN ALL WATERLINE SYSTEMS AND NEAREST ELECTRICAL/SIGNAL DUCTLINES PARALLELING THE WATER SYSTEM AT NO COST TO THE BWS.
8. THE CONTRACTOR SHALL NOTIFY BWS PLANNING AND ENGINEERING DIVISION, CONSTRUCTION SECTION, ONE WEEK PRIOR TO COMMENCING WORK ON THE WATER SYSTEM.
9. THE CONTRACTOR SHALL VERIFY ALL EXISTING SERVICE LATERAL LOCATIONS WHETHER SHOWN OR NOT SHOWN ON PLANS PRIOR TO COMMENCING WITH ANY OF THE WORK AND SHALL NOT ASSUME THAT WHERE NO SERVICES ARE SHOWN NONE EXIST.
10. PRIOR TO ANY EXCAVATING, THE CONTRACTOR SHALL VERIFY IN THE FIELD THE LOCATION OF EXISTING WATER MAINS AND APPURTENANCES.
11. MAINTAIN 3'-0" MIN. HORIZONTAL CLEAR SEPARATION BETWEEN STREET LIGHT/TRAFFIC SIGNAL STANDARDS (INCLUDING ANY MODULAR UNITS) AND THE NEAREST WATER SYSTEM (WATERLINES, VALVES, FIRE HYDRANTS, WMH'S, ETC.). THE CONTRACTOR SHALL FIELD VERIFY FOR ANY CONFLICTS AT EACH STREET LIGHT/TRAFFIC SIGNAL STANDARD LOCATION. WHERE CONFLICTS OCCUR, THE CONTRACTOR SHALL COORDINATE WITH THE PROJECT ENGINEER TO REVISE THE STREET LIGHT/TRAFFIC SIGNAL STANDARD TO PROVIDE THE REQUIRED CLEARANCES AT NO COST TO THE BWS.
12. ALL WORK ALONG FARRINGTON HIGHWAY FROM HAKIMO ROAD TO **HALEAKALA AVE.** SHALL BE COMPLETED BY MARCH 2001 TO AVOID CONFLICT DURING CONSTRUCTION FOR THE BWS'S PROJECT: THE FARRINGTON HIGHWAY WATER SYSTEM IMPROVEMENTS: 24", 12" AND 8" MAINS, HAKIMO ROAD TO **HALEAKALA AVE.** THE CONTRACTOR SHALL OBTAIN THE LATEST COPY OF THE WATER MAIN CONSTRUCTION PROJECT PLANS FROM BWS TO ASSIST HIM/HER IN PROVIDING ADEQUATE CLEARANCE BETWEEN NEW LIGHTING UTILITIES AND PROPOSED MAINS.

— e —	Existing Electrical Line
o jp	Existing Joint Pole
o pp	Existing Power Pole
o emh	Existing Electric Manhole
— t —	Existing Telephone Line
o tp	Existing Telephone Pole
o tmh	Existing Telephone Manhole
o TMH	New Telephone Manhole
— w-8 —	Existing 8" Water Line
o wmh	Existing Water Manhole
o av	Existing Water Air Valve
o wv	Existing Water Valve Box
wm	Existing Water Meter
o fh	Existing Fire Hydrant
o tsp	Existing Traffic Signal Pole
o tspb	Existing Traffic Signal Pullbox
— s-8 —	Existing Sewer Line
o smh	Existing Sewer Manhole
— g-6 —	Existing 6" Gas Line
o gmh	Existing Gas Manhole
o mon.	Existing Monument
— d-16 —	Existing 16" Drain Line
o sdmh	Existing Storm Drain Manhole
o gdi	Existing Grated Drop Inlet
cb	Existing Catch Basin
o	Existing Traffic Sign
o	Existing Highway Lighting Standard
P170	Existing Utility Company Wood Joint Pole to Remain, Joint Pole Number "170" Indicated.
P	Existing Utility Company Wood Joint Pole to be removed. Resupport Existing Utility Lines on New Light Poles

Meter No.	Additional Description	Pole No.
	M3 1	
Luminaire	N250 III	Type Distribution

ABBREVIATIONS

AERW	AT EDGE OF RIGHT-OF-WAY
HECO	HAWAIIAN ELECTRIC CO.
HTCO	HAWAIIAN TELEPHONE CO.
N250	250 WATT HIGH PRESSURE SODIUM STREET LIGHT
RSC	RIGID STEEL CONDUIT
ALT.	ALTERNATIVE

UTILITY SYMBOLS AND LEGEND

ALTERNATIVE I

	STREET LIGHT SYSTEM INSTALLED IN PHASE I: REMOVE BRACKET ARM AND LUMINAIRE, AND INSTALL 250 WATT ARMLESS TYPE LUMINAIRE.
	WOOD POLE STREET LIGHT SYSTEM INSTALLED IN PHASE I: REMOVE BRACKET ARM AND LUMINAIRE, AND INSTALL 250 WATT ARMLESS TYPE LUMINAIRE
	NEW ALUMINUM POLE WITH BREAKAWAY TRANSFORMER BASE ON GRADE WITH FOUNDATION, 250 WATT ARMLESS TYPE LUMINAIRE FOR PHASE II. DISREGARD DENOTATION OF "8"
	NEW WOOD POLE WITH 250 WATT ARMLESS TYPE LUMINAIRE FOR PHASE II. DISREGARD DENOTATION OF "8"
	NEW WOOD POLE WITH 250 WATT ARMLESS TYPE LUMINAIRE FOR PHASE II. RESUPPORT EXISTING UTILITY LINES ON NEW POLE. DISREGARD DENOTATION OF "8".

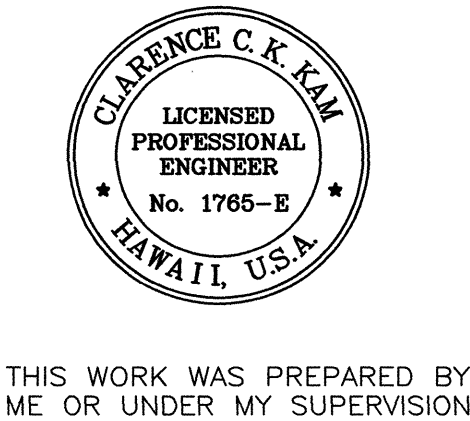
ALTERNATIVE II

	STREET LIGHT SYSTEM INSTALLED IN PHASE I: REPLACE LUMINAIRE WITH 250 WATT CUTOFF TYPE.
	WOOD POLE STREET LIGHT SYSTEM INSTALLED IN PHASE I: REPLACE LUMINAIRE WITH 250 WATT CUTOFF TYPE.
	NEW ALUMINUM POLE WITH BREAKAWAY TRANSFORMER BASE ON GRADE WITH FOUNDATION, 250 WATT CUTOFF TYPE LUMINAIRE FOR PHASE II. "8" DENOTES LENGTH IN FEET FOR BRACKET ARM
	NEW WOOD POLE WITH 250 WATT CUTOFF TYPE LUMINAIRE FOR PHASE II. "8" DENOTES LENGTH IN FEET FOR BRACKET ARM
	NEW WOOD POLE WITH 250 WATT CUTOFF TYPE LUMINAIRE FOR PHASE II. RESUPPORT EXISTING UTILITY LINES ON NEW POLE. "8" DENOTES LENGTH IN FEET FOR BRACKET ARM

	EXISTING STREET LIGHT SYSTEM
— SL —	NEW UNDERGROUND LIGHTING SYSTEM DUCT, 2" PVC CONCRETE ENCASED
--- SL ---	NEW UNDERGROUND LIGHTING SYSTEM DUCT, 2" PVC DIRECT BURIED
--- SL ---	NEW ABOVE GROUND LIGHTING SYSTEM AERIAL CABLE
← HECO	NEW ABOVE GROUND AERIAL CABLE FOR HECO SERVICE TO EXISTING UTILITY POLE, SEE SHEET 18 OR 22
	NEW PULLBOX, TYPE "B", (SEE STANDARD PLAN TE-41)
— E —	NEW ELECTRICAL LINE
	NEW REINFORCED CONCRETE JACKET FOR EXISTING SEWER PIPE. JACKET SHALL EXTEND EQUIDISTANT ON EITHER SIDE OF STREET LIGHT DUCTLINE CROSSING OR POLE FOUNDATION. "10" DENOTES MIN. LENGTH OF JACKET IN FEET, EXCLUDING THE WIDTH OF CONCRETE ENCASED DUCTLINE.
(A)	REFERENCES LOCATION OF JACKET. SEE STANDARD DETAIL DWG. S-5.
(B)	REFERENCES LOCATION OF JACKET FOR SEWER LINES LARGER THAN 12". OBTAIN WASTEWATER MANAGEMENT DETAILED REQUIREMENTS AND APPROVAL.
	PEDESTRIAN SIGNAL HEADS (HAND/MAN), (SEE STANDARD PLAN TE-38)
	TRAFFIC SIGNAL ASSEMBLY, (SEE STANDARD PLAN TE-38)
	PEDESTRIAN PUSHBUTTON, (SEE STANDARD PLAN TE-38)
	WOOD POLE ANCHOR AND GUY

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

APPROVED: Catherine R. Dunge 6/1/00
for CHIEF, PLANNING & ENGINEERING, BWS DATE



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

C. Kim

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
**GENERAL NOTES (CONTINUED),
UTILITY SYMBOLS, AND LEGEND**
FARRINGTON HIGHWAY LIGHTING IMPROVEMENTS
ALA HEMA ST TO PILIOKOE BRIDGE
PROJECT NO. 93A-07-98
SCALE: 1" = 50' 2000
SHEET No. 4 OF 27 SHEETS