

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	FAU MG-0900(16)	1982	2	32

LEGEND

- 12" RY↑ TRAFFIC SIGNAL HEAD
- 12" RY→ STANDARD TRAFFIC SIGNAL HEAD
- STANDARD TRAFFIC AND PEDESTRIAN SIGNAL HEADS MOUNTED ON TYPE I SIGNAL STANDARD, HEIGHT = 10'
- 12" RY← TRAFFIC SIGNAL HEAD
- 12" RY↔/↔ 4-SECTION DUAL INDICATION TRAFFIC SIGNAL HEAD
- TRAFFIC SIGNAL HEADS MOUNTED ON TYPE II SIGNAL STANDARD, ARM SPREAD SHOWN 20' AND DISTANCE BETWEEN SIGNAL HEADS SHOWN IS 12'
- TYPE "B" PULLBOX
- TYPE "B" PULLBOX W/ MODIFIED COVER
- TYPE "A" PULLBOX
- LOOP DETECTOR, SERIES-PARALLEL CONNECTED
- LOOP DETECTOR, SERIES CONNECTED
- EXISTING TRAFFIC SIGNAL SYSTEM
- EXISTING PULLBOX
- EXISTING UNDERGROUND UTILITY LINES, SIZES INDICATED
W = WATER SP = SPRINKLER SYSTEM
S = SEWER
D = STORM DRAIN
T = TELEPHONE
- WV WATER VALVE
- WMH WATER MANHOLE
- PH FIRE HYDRANT
- SMH SEWER MANHOLE
- SDMH STORM DRAIN MANHOLE
- CB CATCH BASIN
- PP POWER POLE
- R/W RIGHT OF WAY
- NEW A.C. PAVEMENT
- EXIST. PAVEMENT ARROW TO BE REMOVED
- EXIST. PAVEMENT ARROW TO BE REPAINTED
- NEW PAVEMENT ARROW
- NEW TRAFFIC SIGNAL STANDARD
- EXIST. CROSSWALK MARKINGS TO BE REMOVED
- EXIST. CROSSWALK MARKINGS TO BE REMARKED W/ PAV'T. MARKING TAPE
- EXIST. STRIPING
- EXIST. STRIPING TO BE RESTRIPE
- EXIST. STOP BAR TO BE REMARKED W/ PAV'T. MARKING TAPE
- EXIST. CURB
- EXIST. STRIPING OR CURB TO BE REMOVED
- STREET LIGHT

CONSTRUCTION NOTES

1. LOCATIONS OF EXISTING UNDERGROUND STRUCTURES AND UTILITIES SUCH AS PIPELINES, CONDUITS, CABLES, ETC., SHOWN ON PLANS ARE APPROXIMATE ONLY. IT IS NOT THE INTENT OF THESE PLANS TO SHOW THE EXACT LOCATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE LOCATIONS OF ALL EXISTING UTILITIES WITH THE RESPECTIVE OWNERS. EXISTING UTILITIES DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED BY THE CONTRACTOR AT HIS OWN COST.
2. THE LOCATIONS OF THE TRAFFIC SIGNAL STANDARDS, TRAFFIC SIGNAL STANDARDS WITH MAST-ARM, PEDESTRIAN PUSH BUTTONS, TRAFFIC CONTROLLERS, PULLBOXES, CONDUITS AND LOOP DETECTORS SHALL BE STAKED OUT IN THE FIELD BY THE CONTRACTOR AND APPROVAL OF THE LOCATIONS OBTAINED FROM THE ENGINEER PRIOR TO CONSTRUCTION AND INSTALLATION.
3. ALL TRAFFIC SIGNAL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS", FEDERAL HIGHWAY ADMINISTRATION (1978) AND AMENDMENTS.
4. LOCATIONS OF TRAFFIC MARKINGS AND MARKERS (LANE LINES, STOP LINES, CROSSWALK, ETC.) SHOWN ON THE PLANS SHALL BE VERIFIED BY THE CONTRACTOR WITH THE ENGINEER PRIOR TO THE INSTALLATION OF THE TRAFFIC SIGNAL SYSTEM.
5. REMOVAL OF PAVEMENT MARKINGS AND STRIPINGS SHALL BE DONE BY THE CONTRACTOR.
6. THE EXISTING TRAFFIC SIGNAL SYSTEM AT EACH INTERSECTION SHALL REMAIN IN OPERATION UNTIL THE NEW TRAFFIC SIGNAL SYSTEM BECOMES OPERATIONAL, AFTER WHICH THE EXISTING TRAFFIC SIGNAL SYSTEM SHALL BE TURNED OFF AND REMOVED. ALL TRAFFIC SIGNAL COMPONENTS SHALL BE STORED WITHIN THE PROJECT LIMITS WHERE DIRECTED BY THE ENGINEER. EXISTING DUCTLINES NOT USED FOR THE SIGNAL SYSTEM SHALL BE ABANDONED IN PLACE.
7. MAINTENANCE OF TRAFFIC THROUGH THE CONSTRUCTION AREA SHALL BE IN ACCORDANCE WITH PART VI OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS", FEDERAL HIGHWAY ADMINISTRATION (1978) AND AS SPECIFIED IN THE SPECIAL PROVISIONS. THE CONTRACTOR SHALL FURNISH AND MAINTAIN ADEQUATE BARRICADES, BLINKERS, CONSTRUCTION SIGNS, ETC. FOR THE SAFETY OF THE MOTORING PUBLIC. COST SHALL BE INCIDENTAL TO OTHER ITEMS OF WORK.
8. REMOVAL OF EXISTING SIGNS SHALL ALSO INCLUDE THE REMOVAL OF POSTS AND FOUNDATIONS UNLESS OTHERWISE NOTED. ALL SIGN MATERIALS REMOVED BY THE CONTRACTOR SHALL BE CONSIDERED INCIDENTAL TO OTHER ITEMS OF WORK.
9. TRAFFIC SIGNAL FOUNDATIONS SHALL BE REMOVED AT LEAST 9" BELOW FINISHED GRADE AND THE IMMEDIATE AREA RESTORED TO MATCH THE ADJACENT SURFACE. EXISTING PULLBOXES WITHIN NEW PAVED AREAS SHALL BE COMPLETELY REMOVED AND THE GROUND SHALL BE BACKFILLED WITH BASE COURSE MATERIAL AND COMPACTED BEFORE PAVING TO MATCH ADJACENT PAVEMENT SECTION.
10. RELOCATION OF EXISTING SIGNS AND POSTS SHALL BE CONSIDERED INCIDENTAL TO OTHER ITEMS OF WORK.
11. EXISTING LOOP DETECTORS, CONDUITS AND PULLBOXES ARE TO BE ABANDONED IN PLACE UNLESS OTHERWISE NOTED ON PLAN OR SPECIFIED HEREIN.
12. ALL NEW CROSSWALKS AND STOP BARS SHALL BE INSTALLED WITH PAVEMENT MARKING TAPE. EXISTING CROSSWALKS AND STOP BARS TO REMAIN SHALL BE REMARKED WITH PAVEMENT MARKING TAPE.
13. ALL EXISTING CHANNELIZING LINES, SOLID LANE LINES, AND CENTERLINES TO REMAIN SHALL BE RESTRIPE AS SHOWN ON PLAN. MISSING PAVEMENT MARKERS SHALL BE REPLACED. COST FOR REPLACING MARKERS SHALL BE INCIDENTAL TO ITEM NO. 629.1010, PAVEMENT STRIPING. ALL EXISTING PAVEMENT ARROWS TO REMAIN SHALL BE REPAINTED.

TRAFFIC SIGNAL NOTES

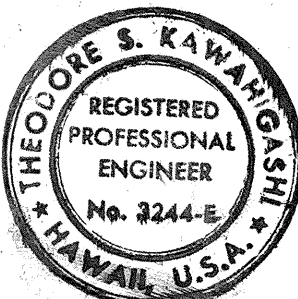
1. ALL TRAFFIC SIGNAL CONTROLLER EQUIPMENT SHALL BE COMPLETELY WIRED IN THE CABINET AND SHALL CONTROL THE TRAFFIC SIGNALS AS CALLED FOR ON THE PLANS.
2. SIGNAL INDICATIONS DURING CLEARANCE INTERVAL:

a. IF A SIGNAL IS G OR →G AND WILL REMAIN G OR →G DURING THE NEXT PHASE, IT SHALL BE G OR →G DURING THE CLEARANCE INTERVAL.

b. IF A SIGNAL IS G OR →G AND WILL BECOME R OR EXTINGUISHED DURING THE NEXT PHASE, IT SHALL BE Y OR ↯ DURING THE CLEARANCE INTERVAL.

c. IF A SIGNAL IS R AND WILL REMAIN R OR BECOMES G DURING THE NEXT PHASE, IT SHALL REMAIN R DURING THE CLEARANCE INTERVAL.
3. EACH CONTROLLER FURNISHED SHALL BE A 2-8 PHASE CONTROLLER. A COORDINATION UNIT SHALL BE FURNISHED AND WIRED IN THE CABINET IF REQUIRED BY THE MASTER CONTROLLER USED ON THIS PROJECT.
4. A MASTER CONTROLLER AND CABINET SHALL BE FURNISHED. CABINET FOR MASTER CONTROLLER SHALL BE BASE MOUNTED AND OF SUFFICIENT SIZE TO ACCOMODATE THE MASTER CONTROLLER AND ANY AUXILIARY EQUIPMENT ASSOCIATED WITH THE MASTER CONTROLLER.
5. THE LOOP AMPLIFIER UNITS FURNISHED FOR THIS PROJECT SHALL BE CAPABLE OF OPERATING THE LOOP DETECTOR CONFIGURATIONS SHOWN ON THE PLANS.
6. MINIMUM CONTROLLER CABINET SIZE SHALL BE 40" HIGH, 24" WIDE AND 14" DEEP.
7. CONTRACTOR SHALL FURNISH 50-AMP. CIRCUIT BREAKERS.
8. A SOLID #8 BARE COPPER WIRE SHALL BE PULLED WITH THE TRAFFIC CONTROL CABLE FOR EQUIPMENT GROUND. COST SHALL BE INCIDENTAL TO THE INSTALLATION OF THE CONTROL CABLE.
9. THE LOCAL CONTROLLER CABINET SHALL HOUSE THE LOOP DETECTOR AMPLIFIER FOR THE SAMPLE LOOPS AS WELL AS THE COMMUNICATIONS EQUIPMENT TO TRANSMIT DETECTOR INPUT TO THE MASTER CONTROLLER.
10. INTERCONNECTION BETWEEN THE MASTER CONTROLLER LOCATED AT THE INTERSECTION OF KAAHUMANU AVENUE AND KANE STREET/KAHULUI BEACH ROAD AND ALL LOCAL CONTROLLERS SHALL BE ACCOMPLISHED BY USE OF AN EXISTING HAWAIIAN TELEPHONE COMPANY 12-WIRE (6-TWISTED PAIR) VOICE-GRADE TELEPHONE LINE AND FREQUENCY SHIFT KEYING, TIME-DIVISION MULTIPLEX TELEMETRY SYSTEM.
11. CONTRACTOR SHALL FURNISH AND PULL THE 12C-WIRE (6-TWISTED PAIR) BETWEEN THE CONTROLLER AND THE HAWAIIAN TELEPHONE COMPANY CABLE AT EACH LOCATION. HAWAIIAN TELEPHONE COMPANY WILL PROVIDE THE CONNECTION AT THE POLE. CONTRACTOR SHALL PROVIDE AT LEAST 10 FEET OF SLACK AT THE POLE.
12. SYSTEM SAMPLING LOOPS SHALL BE WIRED INDIVIDUALLY BY LANE.

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



THIS WORK WAS PREPARED BY ME
OR UNDER MY SUPERVISION
Theodore S. Kawahiga
Signature

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LEGEND AND NOTES

KAAHUMANU AVENUE
TRAFFIC SIGNAL
IMPROVEMENTS
FAU PROJECT NO. MG-0900(16)

NO SCALE DATE: 4-27-82

SHEET No. 1 OF 1 SHEETS