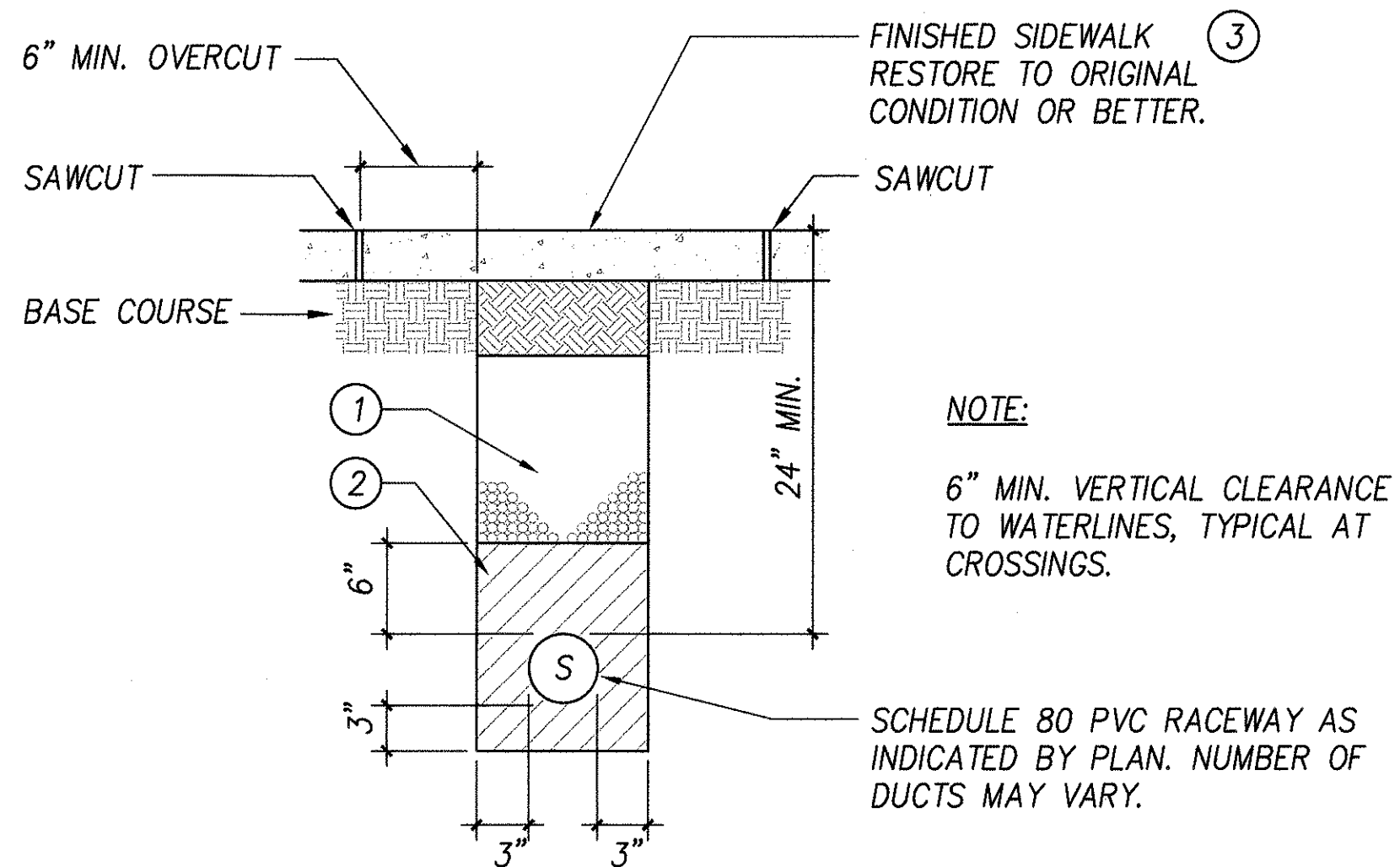
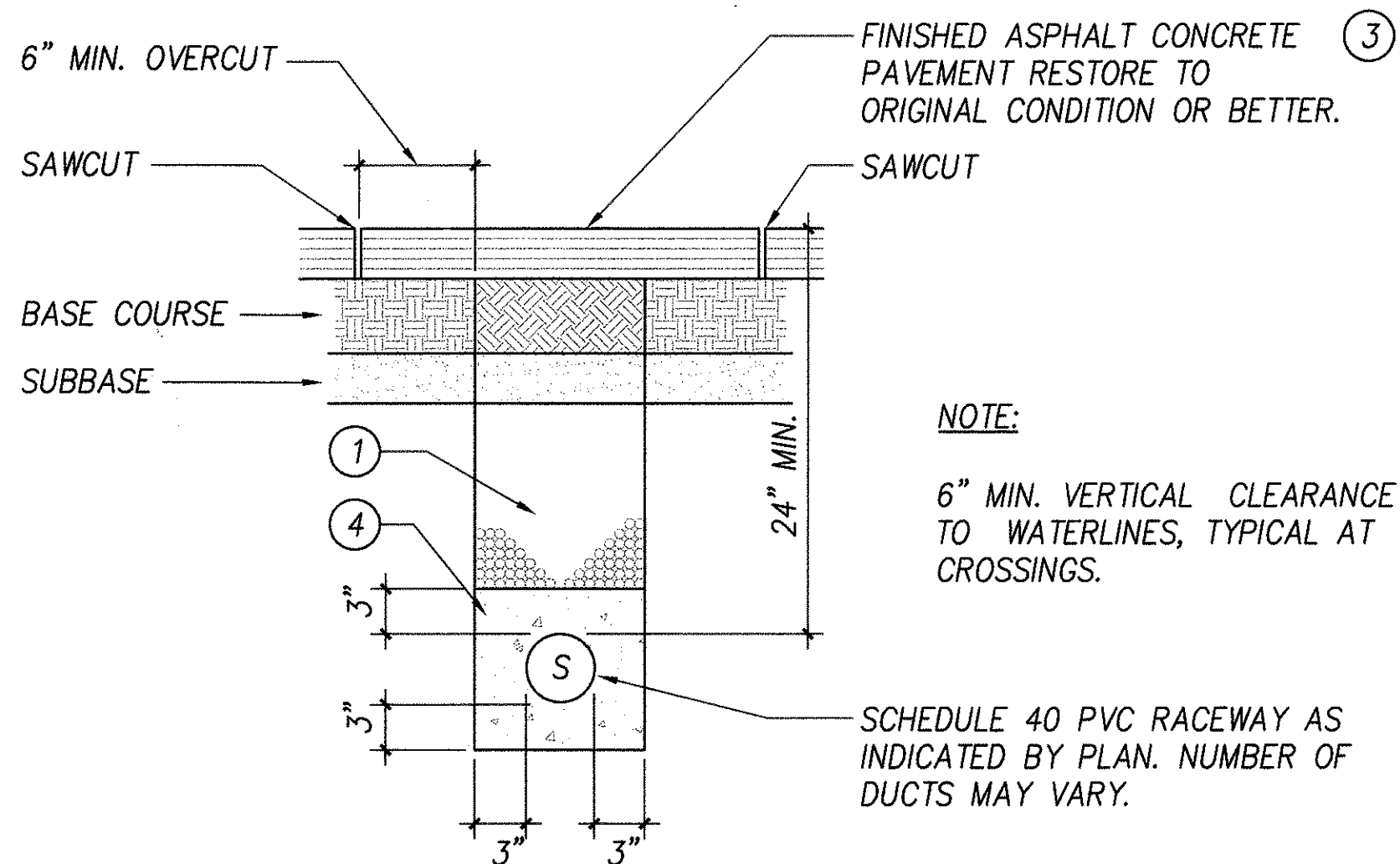


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-0300(95)	2004	95	128



DIRECT BURIED DUCT TYPE [A]



ENCASED DUCT TYPE [B]

(A) TYPICAL DUCT SECTIONS
E-1 NOT TO SCALE

NOTES:

- TYPE "A" BACKFILL - BEACH SAND, EARTH, OR EARTH AND GRAVEL. IF EARTH AND GRAVEL, THE MAXIMUM ROCK SIZE SHALL BE 1" AND THE MIXTURE SHALL NOT CONTAIN MORE THAN 50% BY VOLUME OF ROCK PARTICLES.
- TYPE "B" BACKFILL - BEACH SAND, EARTH, OR EARTH AND GRAVEL. IF EARTH AND GRAVEL, THE MIXTURE MUST PASS A 1/2" MESH SCREEN AND CONTAIN NOT MORE THAN 20% BY VOLUME OF ROCK PARTICLES.
- CONCRETE STRUCTURE/PAVEMENT SHALL BE EQUIVALENT OR BETTER THAN EXISTING IN THICKNESS AND QUALITY.
- PROVIDE 3" CONCRETE JACKET SCHEDULE 40 UNDER ROADWAY CONDITIONS.

TRAFFIC SIGNAL NOTES:

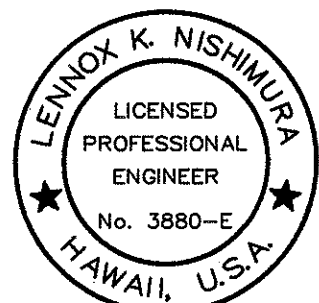
- THE LOCATIONS OF THE TRAFFIC SIGNAL STANDARDS, PEDESTRIAN PUSH BUTTONS, PULLBOXES, CONDUITS SHALL BE STAKED OUT IN THE FIELD BY THE CONTRACTOR AND APPROVAL OF THE LOCATIONS SHALL BE OBTAINED FROM THE ENGINEER PRIOR TO CONSTRUCTION AND INSTALLATION.
- ALL SPlicing SHALL BE DONE IN THE PULLBOXES.
- SHOULD ANY DEFECT BE ENCOUNTERED DURING THE WARRANTY PERIOD, THE MANUFACTURER WILL BE NOTIFIED AND HE SHALL PROMPTLY CORRECT SUCH DEFECT. SERVICE CALL (BY FACTORY QUALIFIED REPRESENTATIVE) DURING THE WARRANTY PERIOD FOR REPAIRS OR OTHER MAINTENANCE SHALL BE ANSWERED WITHIN 24 HOURS AND SHALL BE DONE AT NO EXPENSE TO THE STATE. ALL REPAIRS SHALL BE DONE AS SOON AS POSSIBLE.
- ALL TRAFFIC SIGNAL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAY", FEDERAL HIGHWAY ADMINISTRATION (1988) AND AMENDMENTS.
- ALL CONDUITS BETWEEN PULLBOXES AND TRAFFIC SIGNAL STANDARDS SHALL BE CONSIDERED INCIDENTAL TO VARIOUS CONTRACT ITEMS.
- AFTER INSTALLING ALL THE TRAFFIC SIGNAL CABLES, THE CONTRACTOR SHALL DUCT SEAL ALL CONDUITS IN THE PULLBOXES AND TRAFFIC SIGNAL STANDARDS. THE DUCT SEAL MATERIAL SHALL BE APPROVED BY THE TRAFFIC SIGNAL INSPECTOR/ENGINEER AND SHALL BE CONSIDERED INCIDENTAL TO THE DIRECT BURIED AND/OR CONCRETE ENCASED CONDUITS.
- CONNECTING INTO EXISTING TRAFFIC SIGNAL SYSTEM AND MARKING ALL NECESSARY ADJUSTMENTS SHALL NOT BE PAID FOR SEPARATELY, BUT CONSIDERED INCIDENTAL TO THE VARIOUS TRAFFIC SIGNAL CONTRACT ITEMS.
- THE CONTRACTOR SHALL NOTIFY THE TRAFFIC CONTROL BRANCH, DEPARTMENT OF TRANSPORTATION SERVICES, CITY & COUNTY OF HONOLULU, (PHONE NO. 523-4589) THREE (3) WORKING DAYS PRIOR TO COMMENCING ANY WORK ON THE TRAFFIC SIGNAL SYSTEM.
- THE DEPARTMENT OF TRANSPORTATION SERVICES, CITY & COUNTY OF HONOLULU, WILL ASSIST THE ENGINEER IN CONSTRUCTION INSPECTION FOR THE TRAFFIC SIGNAL SYSTEM.
- THE TRAFFIC SIGNAL SYSTEM SHALL BE KEPT OPERATIONAL DURING CONSTRUCTION. ANY RELOCATION REQUIRED SHALL BE APPROVED BY THE TRAFFIC CONTROL BRANCH, DEPARTMENT OF TRANSPORTATION SERVICES, AND PAID FOR BY THE CONTRACTOR.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGES TO THE EXISTING TRAFFIC SIGNAL FACILITIES, INCLUDING THE TRAFFIC SIGNAL INTERCONNECT SYSTEM. ANY AND ALL DAMAGES TO THESE FACILITIES SHALL BE REPAIRED BY THE CONTRACTOR AT HIS COST IN ACCORDANCE WITH THE REQUIREMENTS OF THE CITY AND COUNTY OF HONOLULU.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGES TO THE EXISTING TRAFFIC SIGNAL FIBER OPTIC CABLE SYSTEM. ANY AND ALL DAMAGES TO THESE FACILITIES SHALL BE REPAIRED BY THE CONTRACTOR AT HIS COST IN ACCORDANCE WITH THE REQUIREMENTS OF THE CITY AND COUNTY OF HONOLULU.

HIGHWAY LIGHTING NOTES:

- THE CONTRACTOR SHALL NOTIFY THE STATE HIGHWAYS, HIGHWAY LIGHTING AND TRAFFIC SUPERVISOR 72 HOURS IN ADVANCE BEFORE COMMENCING ANY WORK ON THE HIGHWAY LIGHTING SYSTEM. PHONE: 837-8056.
- THE CONTRACTOR SHALL HAVE ONE SET OF APPROVED PLANS AT THE JOB SITE AT ALL TIMES DURING THE CONSTRUCTION WORK AND RECORD ALL CHANGES WHICH OCCUR DURING CONSTRUCTION OF THE HIGHWAY LIGHTING SYSTEM.
- FINAL ACCEPTANCE AND INSPECTION WILL BE UNDERTAKEN ONLY AFTER ALL WORK HAS BEEN COMPLETED.
- THE CONTRACTOR SHALL MAINTAIN EXISTING CIRCUITING AND OPERATION OF THE LIGHTING SYSTEM DURING THE HOURS OF DARKNESS.
- THE CONTRACTOR SHALL LOCATE EXISTING BURIED UTILITY LINES IN THE VICINITY OF THE EXCAVATION WORK PRIOR TO COMMENCING EXCAVATION. AS A MINIMUM, AN ELECTRONIC MAGNETIC DEVICE FOR DETECTION OF BURIED LINES SHALL BE UTILIZED PRIOR TO EXCAVATION. TRENCHES SHALL BE EXCAVATED WITH CARE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGES TO EXISTING UTILITIES RESULTING FROM HIS NEGLIGENCE AND SHALL BEAR COST OF REPAIRS TO THE UTILITIES. METHOD OF REPAIR SHALL BE DETERMINED BY THE STATE.

ELECTRICAL SYMBOLS

SYMBOL		DESCRIPTION	REMARKS
EXIST	NEW		
		TRAFFIC LIGHT POLE	
		MAST ARM	
		TRAFFIC SIGNAL HEAD-RED, YELLOW, GREEN ARROW	
		TRAFFIC SIGNAL HEAD-RED, YELLOW, GREEN LEFT TURN ARROW	
		PUSH BUTTON	
		TRAFFIC LIGHT POLE, TYPE I	
		TRAFFIC SIGNAL HEAD-RED, YELLOW, GREEN, GREEN LEFT TURN ARROW	
		PEDESTRIAN SIGNAL	
		PULLBOX (TYPE AS INDICATED)	
		PEDESTRIAN PUSH BUTTON (ARROW DENOTES DIRECTION OF CROSSING)	
		PEDESTRIAN SIGNAL	
		UNDERGROUND TRAFFIC SIGNAL DUCTLINES AND CABLES	
		UNDERGROUND STREET LIGHT DUCTLINES	
		REMOVAL/DEMOLITION	
		DETAIL INDICATOR TOP HALF: DETAIL NUMBER BOTTOM HALF: SHEET ON WHICH SHOWN	
		NOTE INDICATOR, NOTE #1 INDICATED	
		INDICATES DUCT SECTION TYPE.	
		STREET LIGHT PULLBOX	
		TRAFFIC SIGNAL PULLBOX	



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Signature: Lennox K. Nishimura
Date: 8/27/04

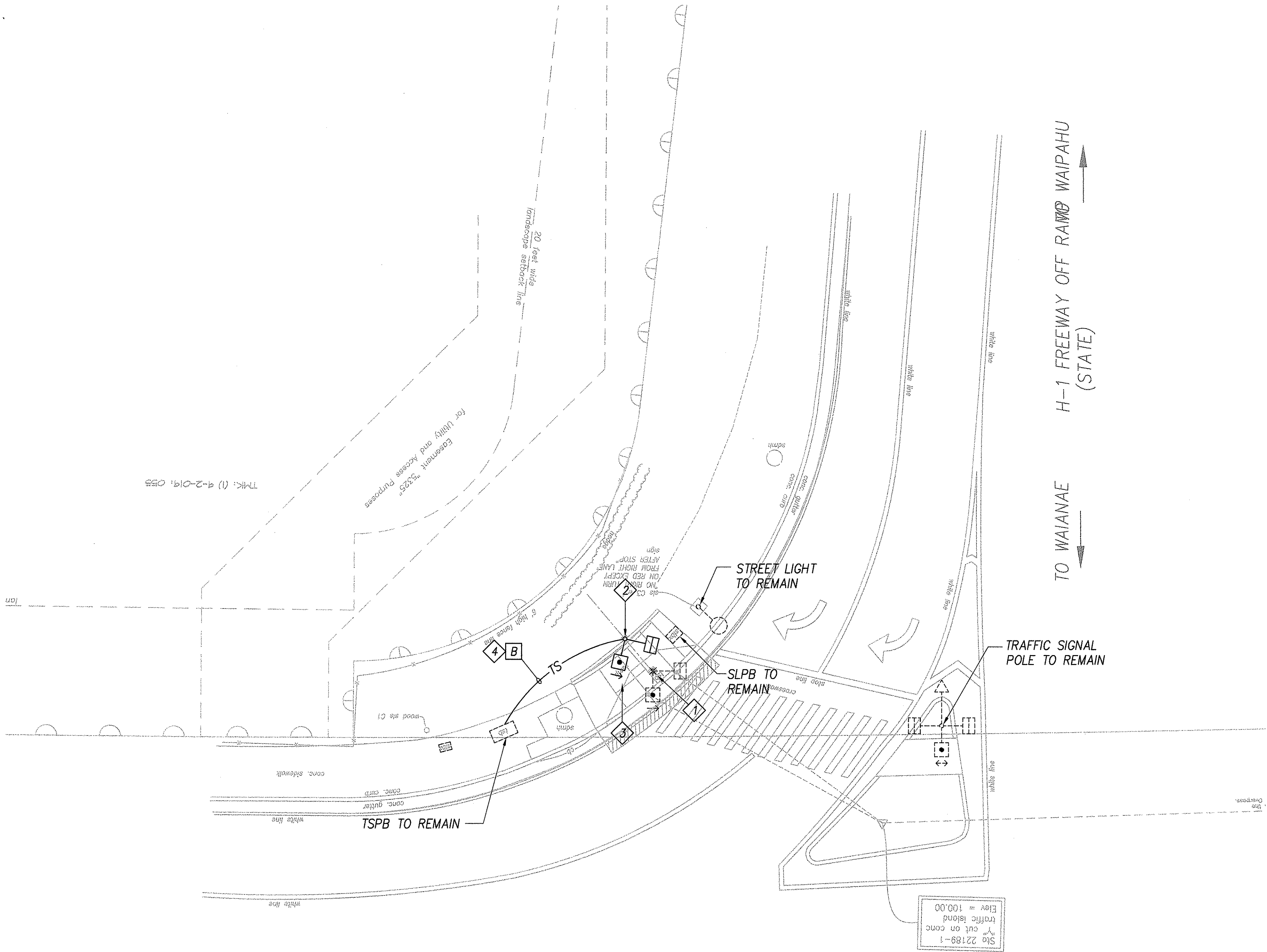
"OBSERVATION OF CONSTRUCTION" IS DEFINED IN CHAPTER 16-115, HAWAII ADMINISTRATIVE RULES ENTITLED "PROFESSIONAL ENGINEERS, ARCHITECTS, SURVEYORS AND LANDSCAPE ARCHITECTS".

DTS, C&C HONOLULU	DRAWING REVIEWED
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION ELECTRICAL NOTES AND SYMBOL LIST Pedestrian Facilities & ADA Compliance at Various Locations on Oahu, Unit 4 Fed. Aid Proj. No. CMAQ-0300(95) NONE Date: August 2004 SHEET No. E-1 OF 34 SHEETS	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-0300(95)	2004	96	128

NOTES:

- REMOVE EXISTING SIGNAL POLE TO BE RELOCATED. DEMOLISH CONCRETE FOUNDATION TO 12" BELOW GRADE.
- PROVIDE NEW TYPE "1" CONCRETE BASE FOR RELOCATED SIGNAL POLE. INSTALL SIGNAL POLE WITH PEDESTRIAN SIGNAL. SEE 1
E-31
- REMOVE EXISTING PEDESTRIAN PUSH BUTTON AND REPLACE WITH NEW PUSH BUTTON. RECONNECT PUSH BUTTON CIRCUIT TO NEW PUSH BUTTON. PLUG ANY HOLES IN EXISTING POLE. SEE 1
E-29
- SAWCUT AND TRENCH TO INSTALL NEW CONDUIT. 1-2"C WITH 1-2/C#14, 1-4/C#14



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

B:\26\04-9-36 X:\060\060106\060106 S01 FT. BARRETTE_H-1 OFF RAMP.dwg

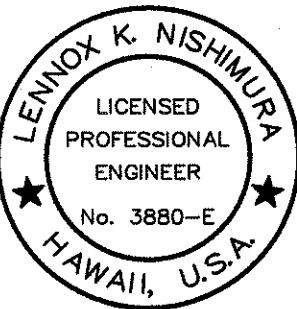
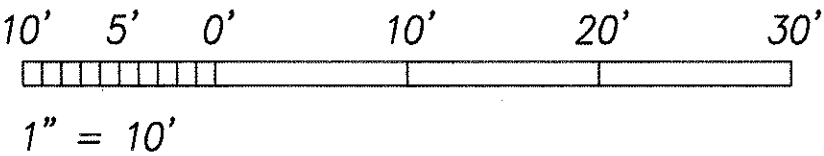
TO MAKAKILO

FT. BARRETTE RD.
(STATE)

TO BARBERS POINT

TRAFFIC SIGNAL PLAN - FT. BARRETTE RD. & H-1 OFF RAMP
INTERS. ID NO. 901-22189
SCALE: 1" = 10'-0"

GRAPHIC SCALE



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SIGNATURE DATE

"OBSERVATION OF CONSTRUCTION" IS DEFINED IN CHAPTER 16-115, HAWAII ADMINISTRATIVE RULES ENTITLED "PROFESSIONAL ENGINEERS, ARCHITECTS, SURVEYORS AND LANDSCAPE ARCHITECTS".

DTS, C&C HONOLULU DRAWING REVIEWED

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

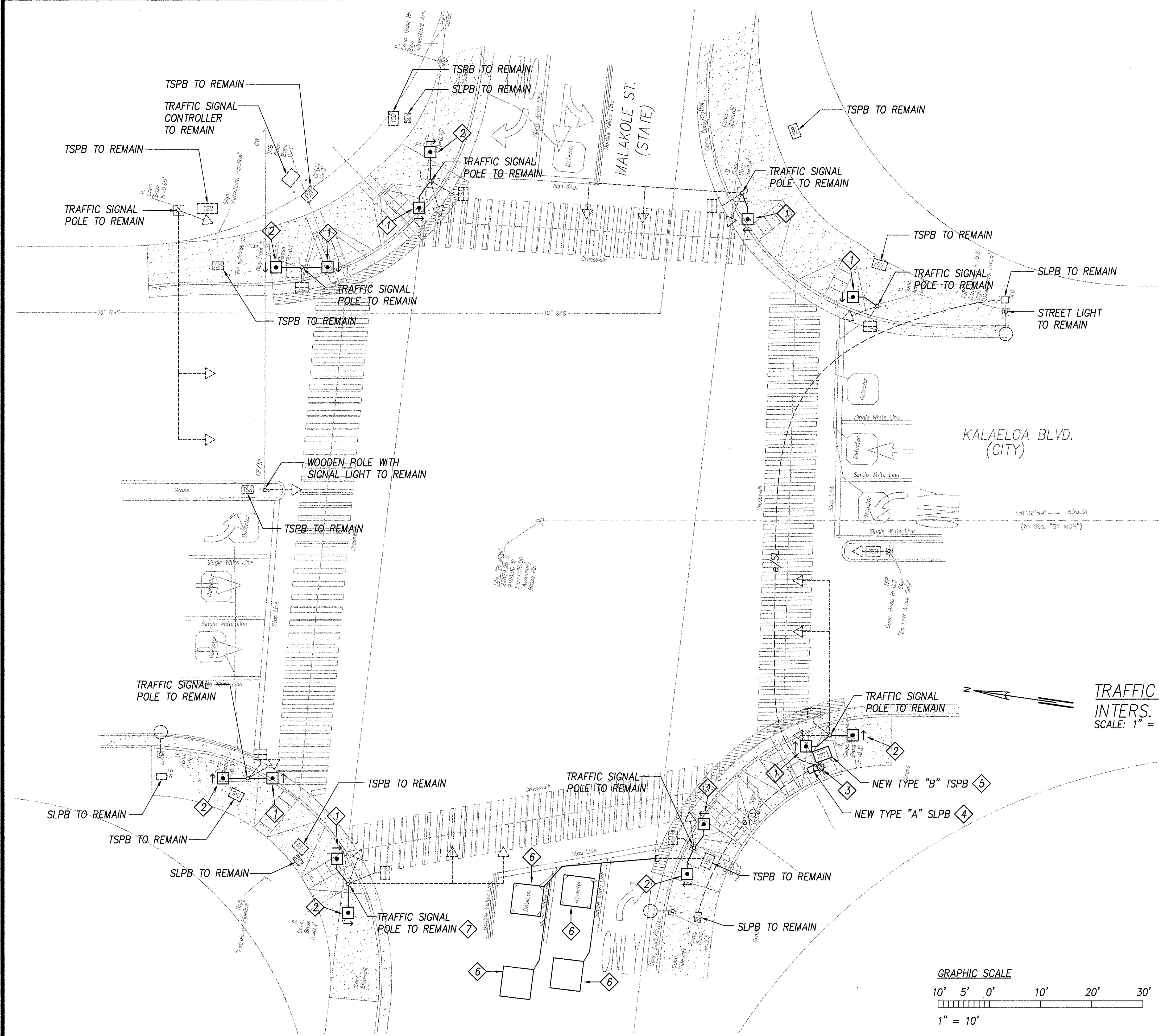
FT. BARRETTE RD.
& H-1 OFF RAMP

Pedestrian Facilities & ADA Compliance
at Various Locations on Oahu, Unit 4
Fed. Aid Proj. No. CMAQ-0300(95)

Date: August 2004

SHEET No. E-2 OF 34 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-0300(95)	2004	101	128



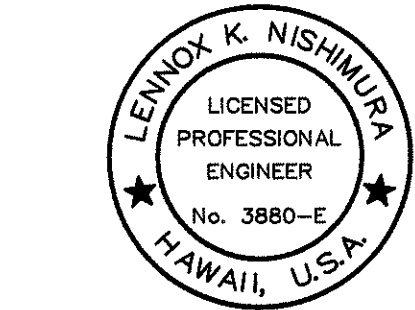
NOTES:

- 1 REMOVE EXISTING PEDESTRIAN PUSH BUTTON AND REPLACE WITH NEW PUSH BUTTON. RECONNECT PUSH BUTTON CIRCUIT TO NEW PUSH BUTTON. PLUG ANY HOLES IN EXISTING POLE. SEE 1 E-29
- 2 PROVIDE NEW PEDESTRIAN PUSH BUTTON ON EXISTING POLE. CONNECT TO EXISTING PUSH BUTTON CIRCUIT. SEE 1 E-29
- 3 REMOVE EXISTING SLPB. MAINTAIN EXISTING CIRCUITING AND DUCTLINES UNLESS OTHERWISE NOTED.
- 4 INTERCEPT EXISTING DUCTLINES AND CIRCUITING WITH NEW SLPB. INSTALL FLUSH WITH FINISHED GRADE.
- 5 REMOVE EXISTING TSPB AND REPLACE IN PLACE WITH NEW TSPB FLUSH WITH FINISHED GRADE. MAINTAIN EXISTING CIRCUITING AND DUCTLINES UNLESS OTHERWISE NOTED.
- 6 ABANDON EXISTING VEHICLE DETECTOR LOOP IN PLACE. PROVIDE NEW VEHICLE DETECTOR LOOP.
- 7 PROVIDE NEW MICROWAVE DETECTOR ON EXISTING TRAFFIC SIGNAL POLE. PROVIDE NEW CONDUCTORS IN EXISTING CONDUITS FROM MICROWAVE DETECTOR TO TRAFFIC SIGNAL CONTROLLER. SEE 1 E-34

TRAFFIC SIGNAL PLAN - KALAELOA BLVD. & MALAKOLE ST.
INTERS. ID NO. 95-30289
SCALE: 1" = 10'-0"

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

ORIGINAL PLAN	NO.
NOTE BOOK	



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Lennox K. Nishimura 8/27/04
SIGNATURE DATE

"OBSERVATION OF CONSTRUCTION" IS DEFINED IN CHAPTER 16-115, HAWAII ADMINISTRATIVE RULES ENTITLED "PROFESSIONAL ENGINEERS, ARCHITECTS, SURVEYORS AND LANDSCAPE ARCHITECTS".

DTS, C&C HONOLULU	DRAWING REVIEWED
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

KALAELOA BLVD. & MALAKOLE ST.

Pedestrian Facilities & ADA Compliance at Various Locations on Oahu, Unit 4

Fed. Aid Proj. No. CMAQ-0300(95)

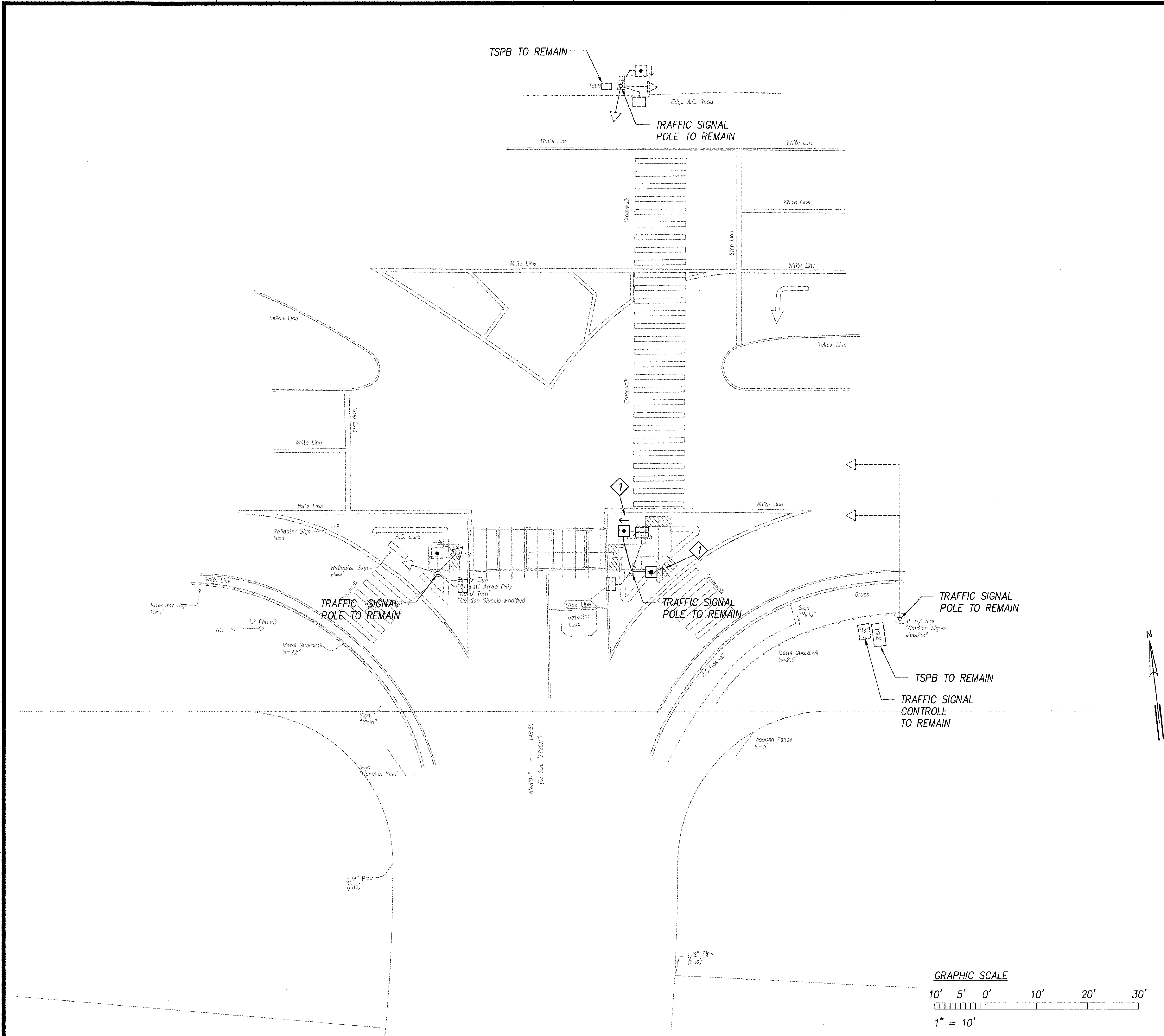
Date: August 2004

SHEET No. E-7 OF 34 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-0300(95)	2004	103	128

NOTE:
1 REMOVE EXISTING PEDESTRIAN PUSH BUTTON AND REPLACE WITH NEW PUSH BUTTON. RECONNECT PUSH BUTTON CIRCUIT TO NEW PUSH BUTTON. PLUG ANY HOLES IN EXISTING POLE. SEE

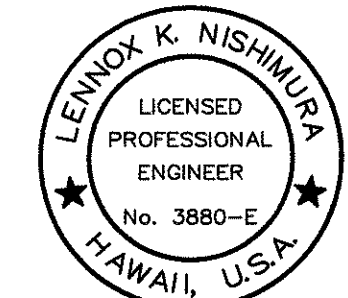
1
E-29



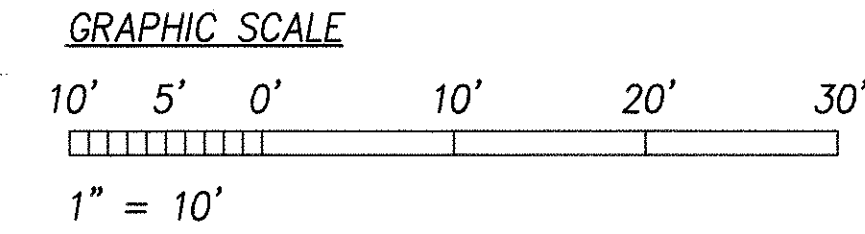
TRAFFIC SIGNAL PLAN - FARRINGTON HWY.
& LAALOA ST.
INTERS. ID NO. 93-40689
SCALE: 1" = 10'-0"

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	
DESIGNED BY		
CHECKED BY		

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Signature: *Lennox K. Nishimura* DATE: *8/27/04*
"OBSERVATION OF CONSTRUCTION" IS DEFINED IN CHAPTER 18-115, HAWAII ADMINISTRATIVE RULES ENTITLED "PROFESSIONAL ENGINEERS, ARCHITECTS, SURVEYORS AND LANDSCAPE ARCHITECTS".



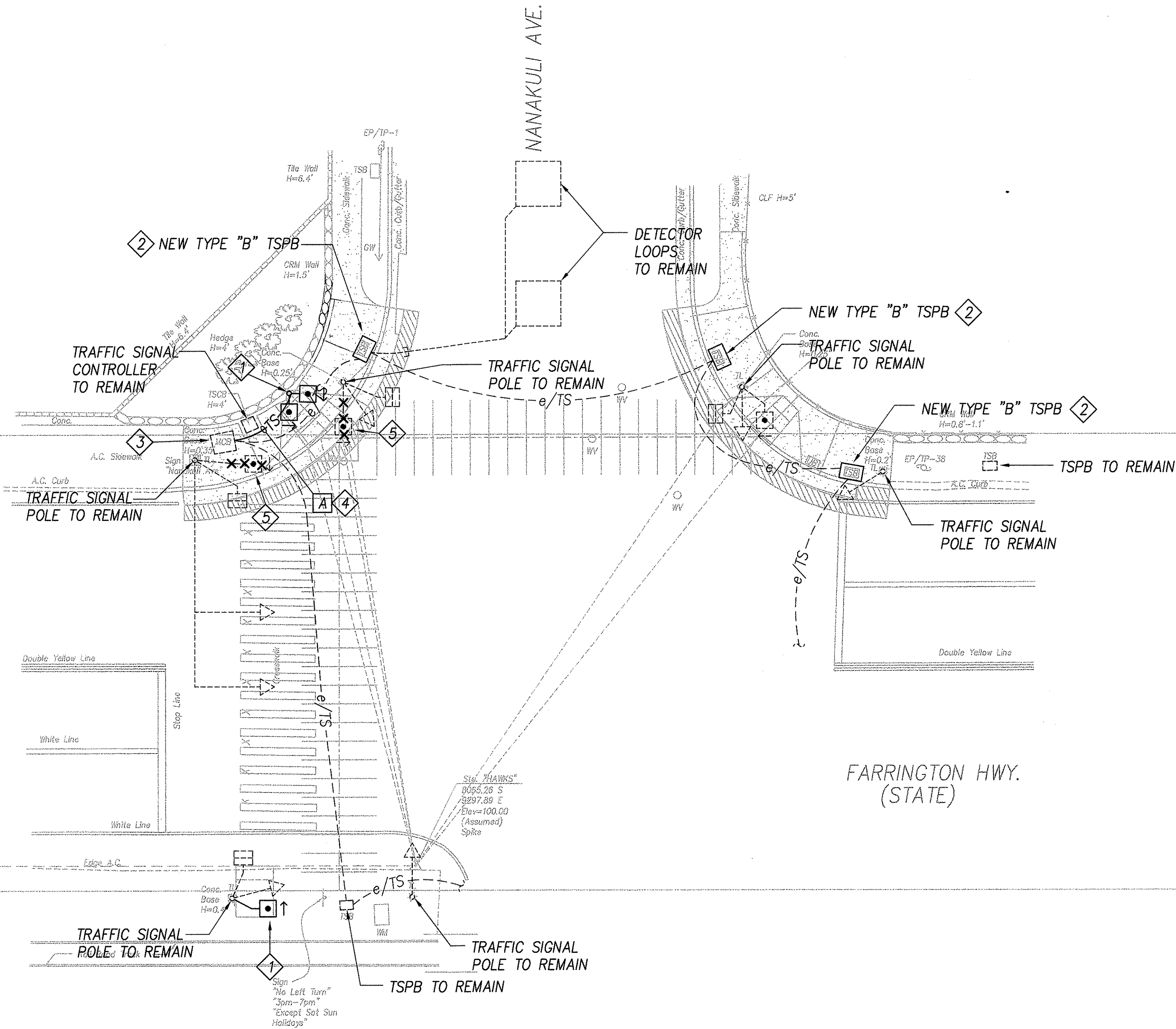
DTS, C&C HONOLULU	DRAWING REVIEWED
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
**FARRINGTON HWY.
& LAALOA ST.**
*Pedestrian Facilities & ADA Compliance
at Various Locations on Oahu, Unit 4*
Fed. Aid Proj. No. CMAQ-0300(95)
Date: August 2004
SHEET No. E-9 OF 34 SHEETS

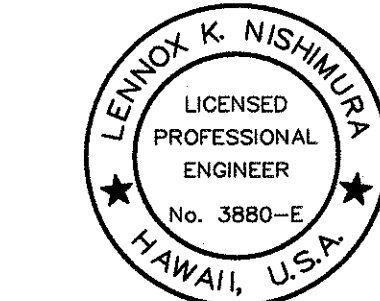
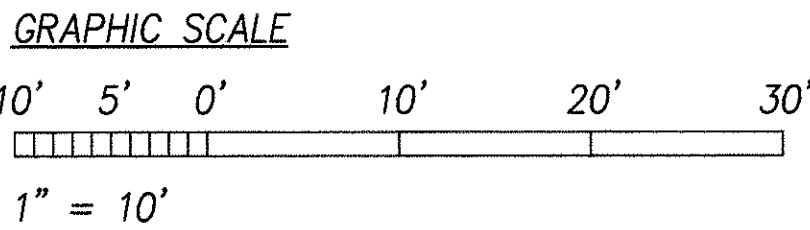
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-0300(95)	2004	104	128

NOTES:

- PROVIDE NEW PEDESTRIAN PUSH BUTTON PEDESTAL WITH PUSH BUTTONS, SEE 2
E-29 BUTTON CIRCUITS.
- REMOVE EXISTING TSPB AND REPLACE IN PLACE WITH NEW TSPB FLUSH WITH FINISHED GRADE. MAINTAIN EXISTING CIRCUITING AND DUCTLINES UNLESS OTHERWISE NOTED.
- ADJUST EXISTING TSPB FRAME AND COVER TO BE FLUSH WITH NEW FINISHED GRADE, SEE 1
E-29
- TRENCH TO INSTALL NEW CONDUIT. 1-2"C WITH 2-2/C#14
- REMOVE EXISTING PEDESTRIAN PUSH BUTTON FROM EXISTING POLE. PLUG ANY HOLES IN EXISTING POLE.
- PROVIDE NEW PEDESTRIAN PUSH BUTTON IN EXISTING POLE. CONNECT TO EXISTING PUSH BUTTON CIRCUIT. SEE 1
E-29



TRAFFIC SIGNAL PLAN - FARRINGTON HWY. & NANAKULI AVE.
 INTERS. ID NO. 93-41189
 SCALE: 1" = 10'-0"



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Lennox K. Nishimura 8/27/04
 SIGNATURE DATE

"OBSERVATION OF CONSTRUCTION" IS DEFINED IN CHAPTER 16-115, HAWAII ADMINISTRATIVE RULES ENTITLED "PROFESSIONAL ENGINEERS, ARCHITECTS, SURVEYORS AND LANDSCAPE ARCHITECTS".

DTS, C&C HONOLULU DRAWING REVIEWED

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION
FARRINGTON HWY. &
NANAKULI AVE.

Pedestrian Facilities & ADA Compliance
at Various Locations on Oahu, Unit 4
 Fed. Aid Proj. No. CMAQ-0300(95)

Date: August 2004

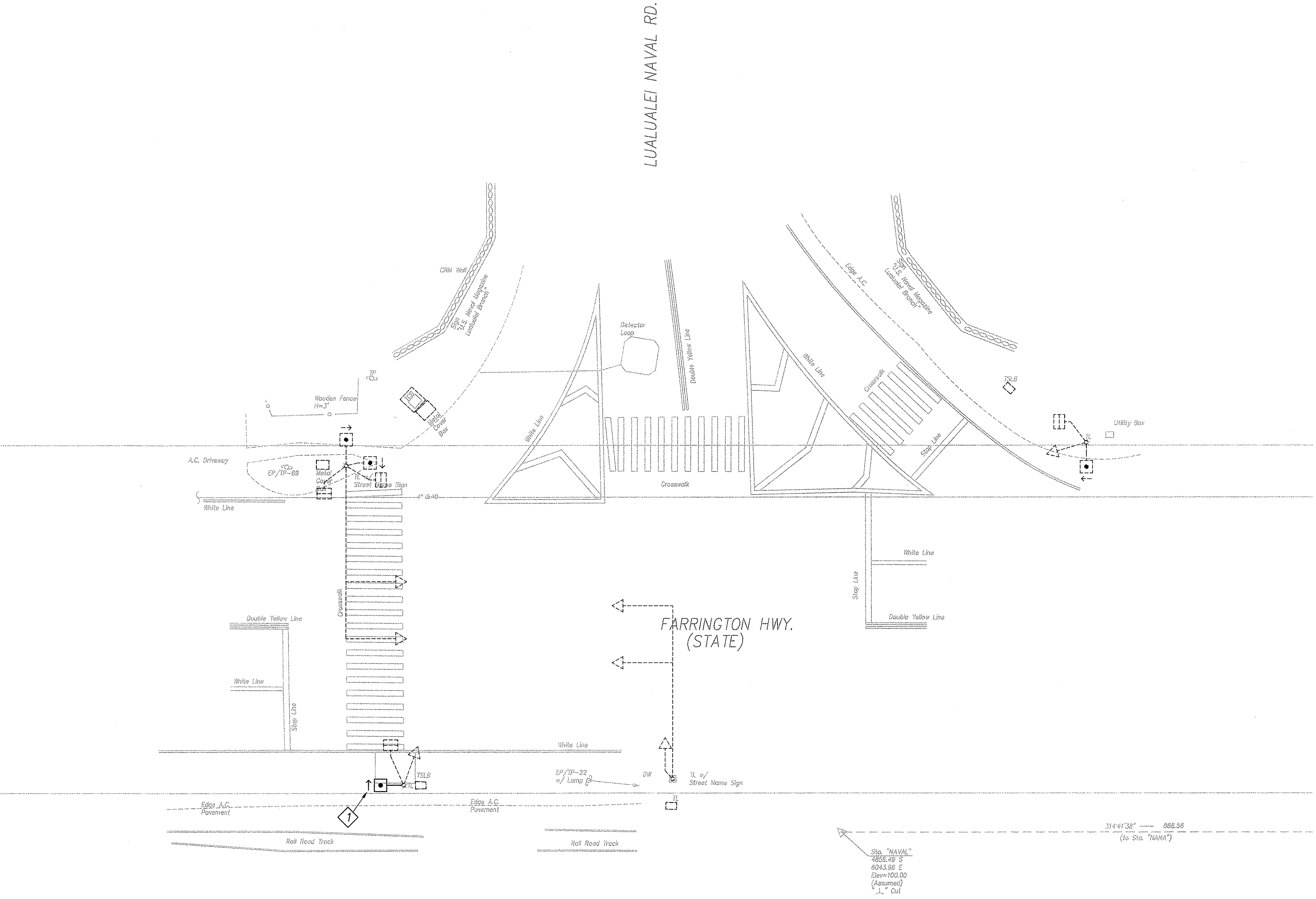
SHEET No.E-10 OF 34 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-0300(95)	2004	108	128

NOTE:

1 REMOVE EXISTING PEDESTRIAN PUSH BUTTON AND REPLACE WITH NEW PUSH BUTTON. RECONNECT PUSH BUTTON CIRCUIT TO NEW PUSH BUTTON. PLUG ANY HOLES IN EXISTING POLE. SEE

1
E-29

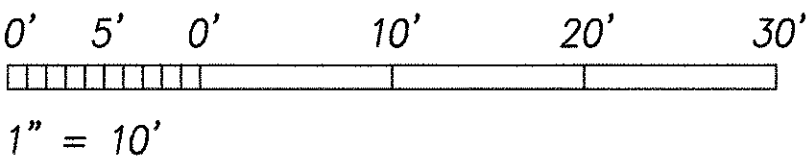


ORIGINAL PLAN	DATE
SURVEY PLOTTED BY	
DESIGNED BY	
TRACED BY	
NOTE BOOK	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	

8/26/04-9-34 Y:\060\060.106\060.106 S01 FARR LUALUALEI NAVAL.dwg

TRAFFIC SIGNAL PLAN - FARRINGTON HWY. & LUALUALEI NAVAL RD.
INTERS. ID NO. 93-41689
SCALE: 1" = 10'-0"

GRAPHIC SCALE



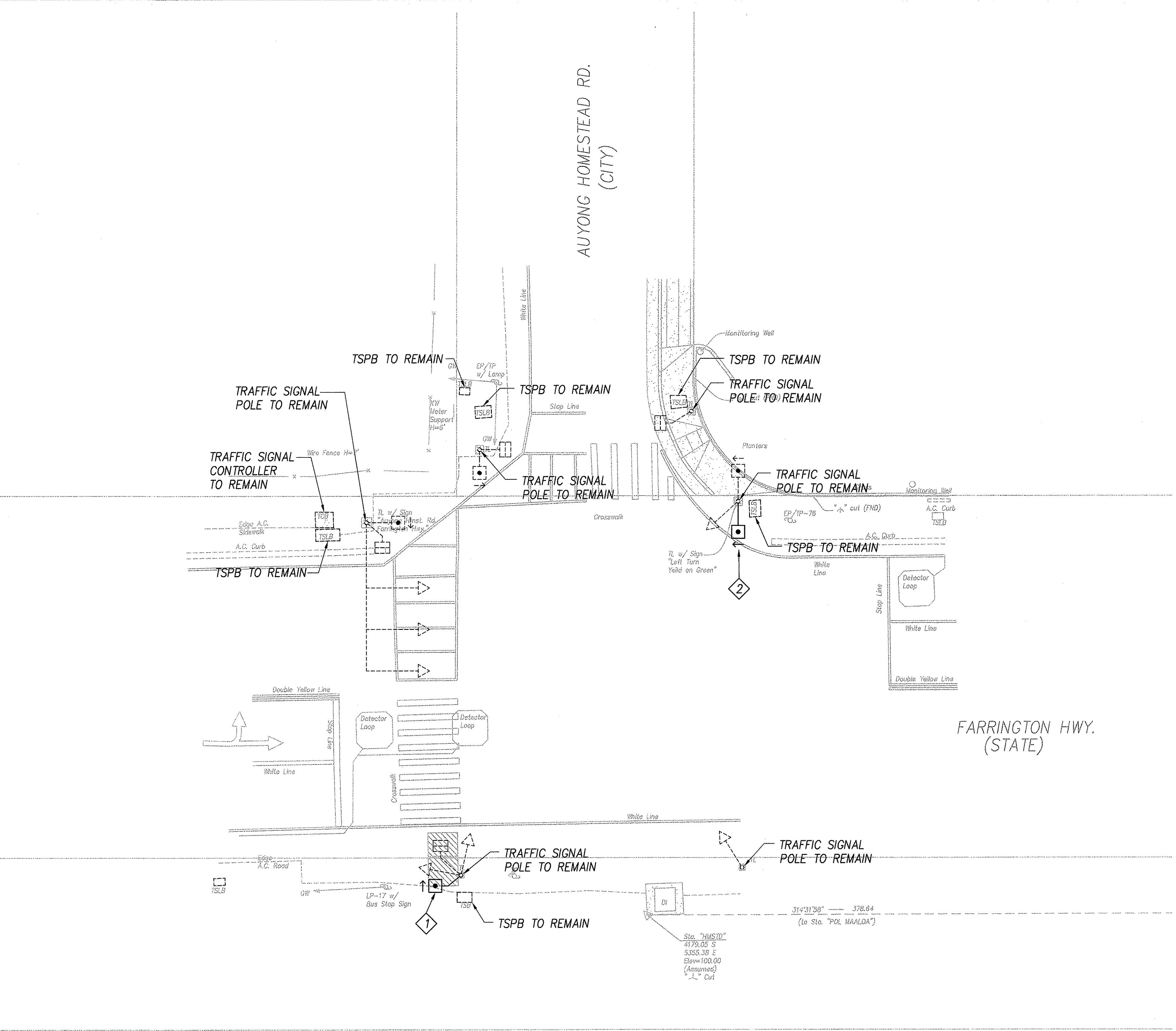
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.
Signature: *Lennox K. Nishimura* DATE: 8/27/04
"OBSERVATION OF CONSTRUCTION" IS DEFINED IN CHAPTER 16-115, HAWAII ADMINISTRATIVE RULES ENTITLED "PROFESSIONAL ENGINEERS, ARCHITECTS, SURVEYORS AND LANDSCAPE ARCHITECTS".

DTS, C&C HONOLULU	DRAWING REVIEWED
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION FARRINGTON HWY. & LUALUALEI NAVAL RD. Pedestrian Facilities & ADA Compliance at Various Locations on Oahu, Unit 4 Fed. Aid Proj. No. CMAQ-0300(95) Date: August 2004	
SHEET No.E-14 OF 34 SHEETS	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-0300(95)	2004	109	128

NOTES:

- 1 REMOVE EXISTING PEDESTRIAN PUSH BUTTON AND REPLACE WITH NEW PUSH BUTTON. RECONNECT PUSH BUTTON CIRCUIT TO NEW PUSH BUTTON. PLUG ANY HOLES IN EXISTING POLE. SEE 1 E-29
- 2 PROVIDE NEW PEDESTRIAN PUSH BUTTON ON EXISTING SIGNAL POLE. CONNECT PUSH BUTTON TO EXISTING CIRCUIT. SEE 1 E-29



TRAFFIC SIGNAL PLAN - FARRINGTON HWY. & AUYONG HOMESTEAD RD.
INTERS. ID NO. 93-41889
SCALE: 1" = 10'-0"



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Signature: *Lennox K. Nishiwara* DATE: 8/27/04

"OBSERVATION OF CONSTRUCTION" IS DEFINED IN CHAPTER 16-115, HAWAII ADMINISTRATIVE RULES ENTITLED "PROFESSIONAL ENGINEERS, ARCHITECTS, SURVEYORS AND LANDSCAPE ARCHITECTS".

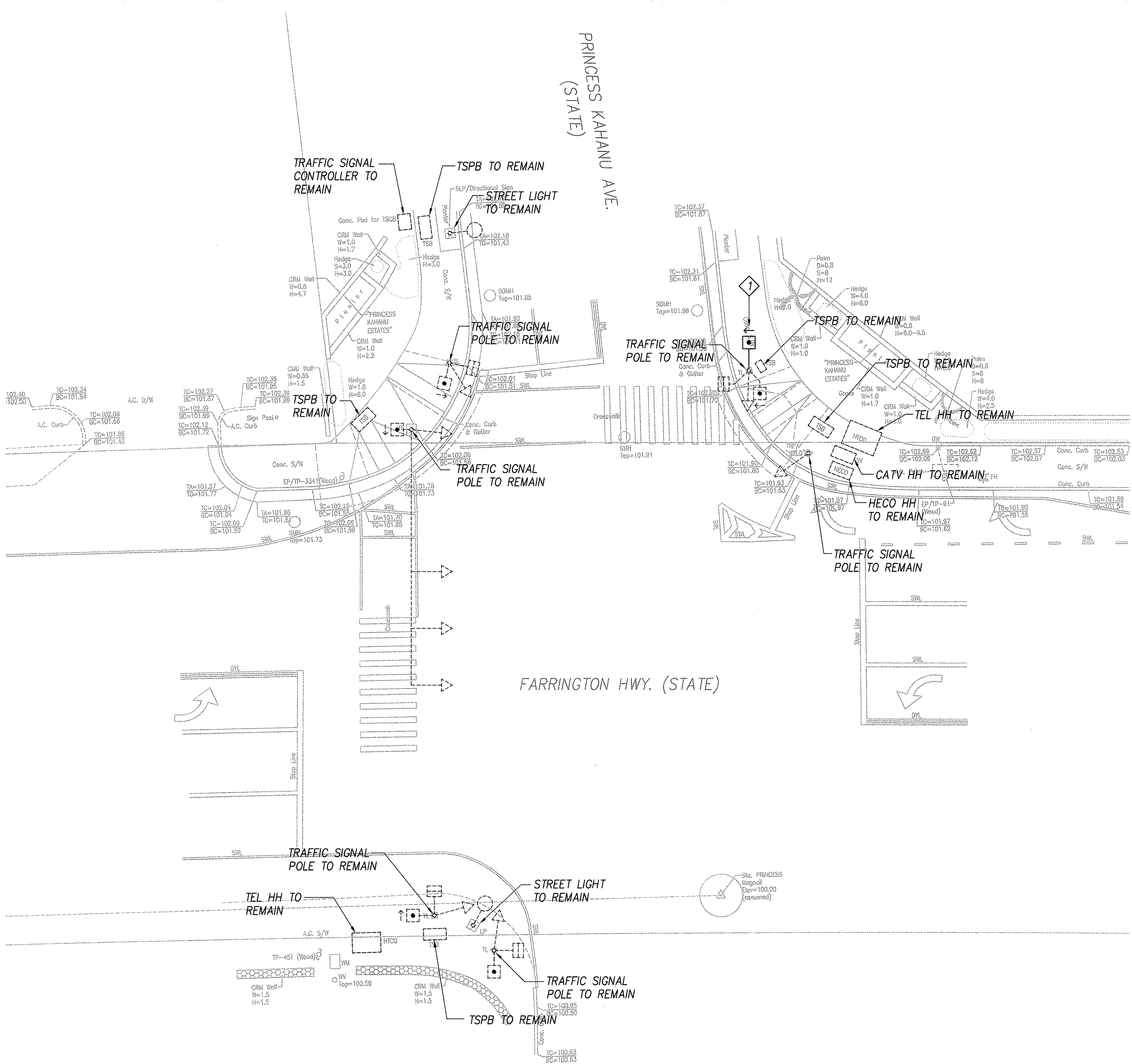
DTS, C&C HONOLULU	DRAWING REVIEWED
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION FARRINGTON HWY. & AUYONG HOMESTEAD RD. Pedestrian Facilities & ADA Compliance at Various Locations on Oahu, Unit 4 Fed. Aid Proj. No. CMAQ-0300(95) Date: August 2004 SHEET No.E-15 OF 34 SHEETS	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-0300(95)	2004	110	128

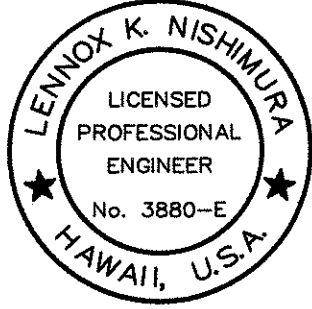
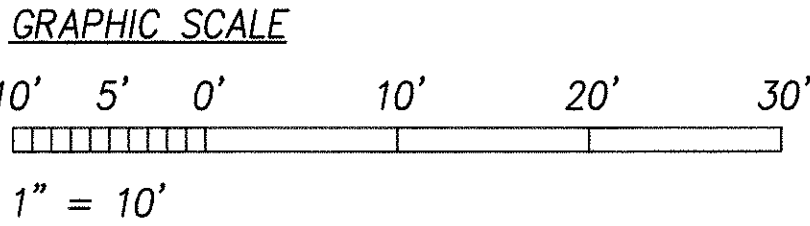
NOTE:

1 PROVIDE NEW PEDESTRIAN PUSH BUTTON ON EXISTING POLE. CONNECT TO EXISTING PUSH BUTTON CURCUIT. SEE

1
E-29



TRAFFIC SIGNAL PLAN - FARRINGTON HWY. & PRINCESS KAHANU AVE.
INTERS. ID NO. 93-42489 & 93-42589
SCALE: 1" = 10'-0"



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Signature: Leinnox K. Nishimura
DATE: 8/27/04

"OBSERVATION OF CONSTRUCTION" IS DEFINED IN CHAPTER 16-115, HAWAII ADMINISTRATIVE RULES ENTITLED "PROFESSIONAL ENGINEERS, ARCHITECTS, SURVEYORS AND LANDSCAPE ARCHITECTS."

DTS, C&C HONOLULU DRAWING REVIEWED

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
FARRINGTON HWY. &
PRINCESS KAHANU AVE.

Pedestrian Facilities & ADA Compliance
at Various Locations on Oahu, Unit 4
Fed. Aid Proj. No. CMAQ-0300(95)

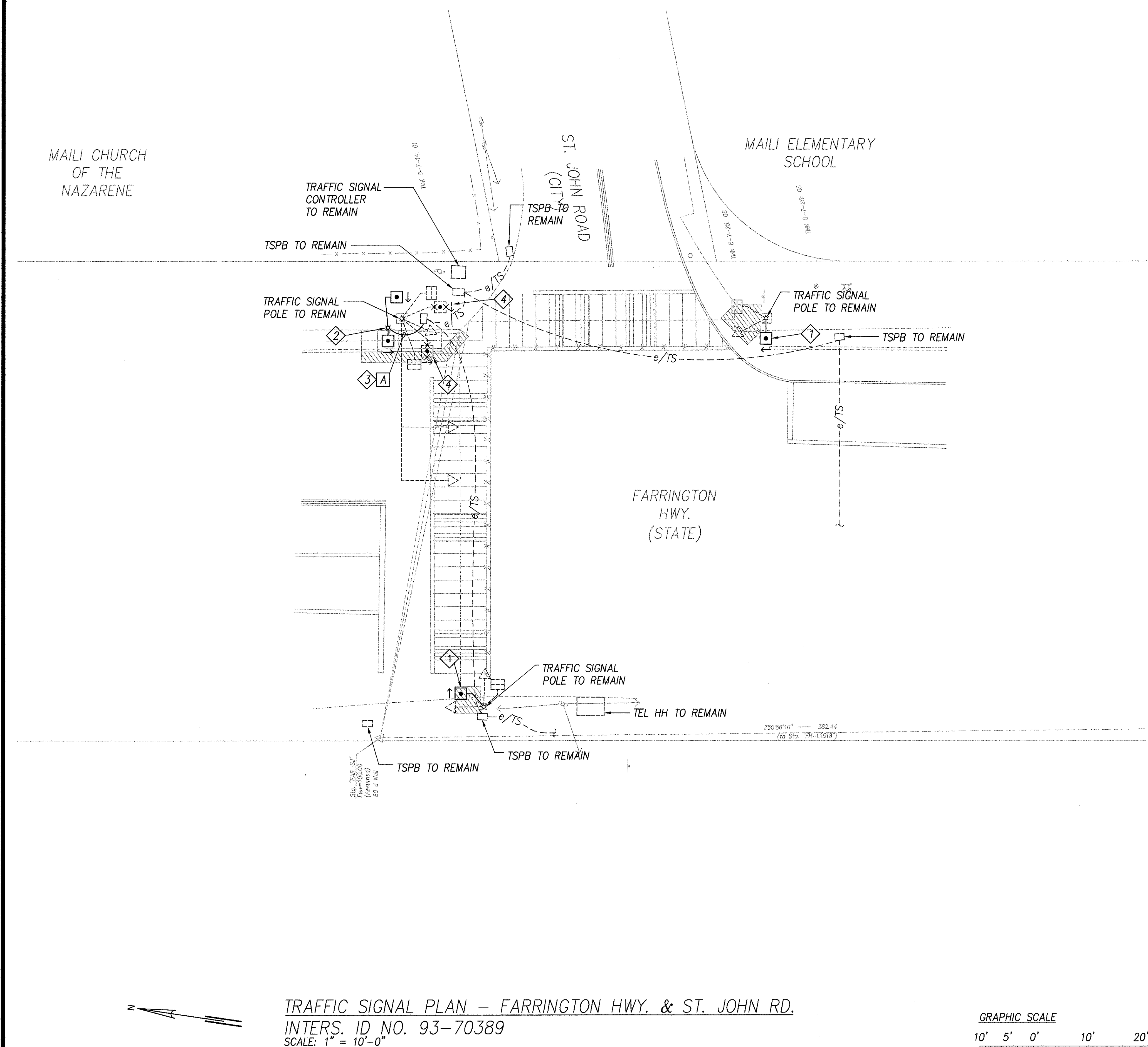
Date: August 2004

SHEET No.E-16 OF 34 SHEETS

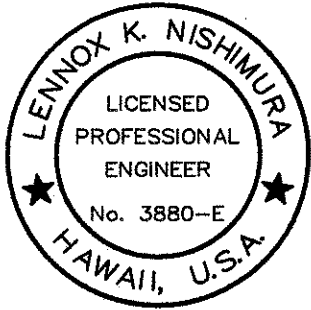
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-0300(95)	2004	112	128

NOTES:

- 1 REMOVE EXISTING PEDESTRIAN PUSH BUTTON AND REPLACE WITH NEW PUSH BUTTON. RECONNECT PUSH BUTTON CIRCUIT TO NEW PUSH BUTTON. PLUG ANY HOLES IN EXISTING POLE. SEE 1
E-29
- 2 PROVIDE NEW PUSH BUTTON PEDESTAL WITH PUSH BUTTONS. CONNECT PUSH BUTTONS TO EXISTING CIRCUITS, SEE 2
E-29
- 3 TRENCH TO INSTALL NEW CONDUIT. 1-2" C WITH 2-2/C#14.
- 4 REMOVE EXISTING PEDESTRIAN PUSH BUTTON AND ASSOCIATED WIRING. PLUG ANY HOLES IN EXISTING POLE.



TRAFFIC SIGNAL PLAN - FARRINGTON HWY. & ST. JOHN RD.
INTERS. ID NO. 93-70389
SCALE: 1" = 10'-0"



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

Signature: *Leinnox K. Nishimura* DATE: *8/2/04*
SIGNATURE DATE

"OBSERVATION OF CONSTRUCTION" IS DEFINED IN CHAPTER 16-115, HAWAII ADMINISTRATIVE RULES ENTITLED "PROFESSIONAL ENGINEERS, ARCHITECTS, SURVEYORS AND LANDSCAPE ARCHITECTS".

DTS, C&C HONOLULU DRAWING REVIEWED

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
FARRINGTON HWY. &
ST. JOHN RD.

Pedestrian Facilities & ADA Compliance
at Various Locations on Oahu, Unit 4
Fed. Aid Proj. No. CMAQ-0300(95)

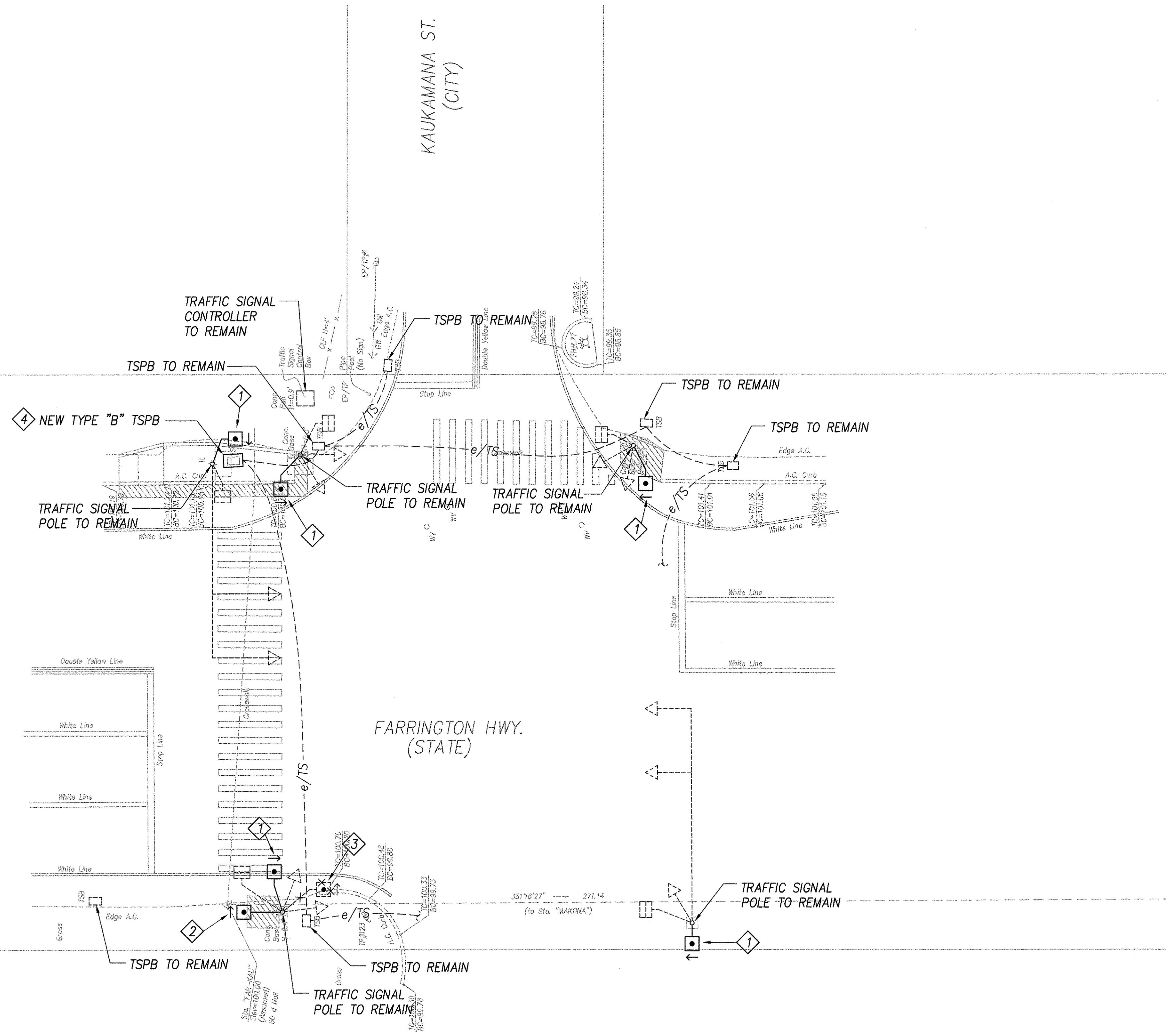
Date: August 2004

SHEET No. E-18 OF 34 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-0300(95)	2004	113	128

NOTES:

- 1 REMOVE EXISTING PEDESTRIAN PUSH BUTTON AND REPLACE WITH NEW PUSH BUTTON. RECONNECT PUSH BUTTON CIRCUIT TO NEW PUSH BUTTON. PLUG ANY HOLES IN EXISTING POLE. SEE 1 E-29
- 2 PROVIDE NEW PUSH BUTTON ON EXISTING POLE. CONNECT PUSH BUTTON TO EXISTING CIRCUIT. SEE 1 E-29
- 3 REMOVE EXISTING PEDESTRIAN PUSH BUTTON AND ASSOCIATED WIRING. PLUG ANY HOLES IN EXISTING POLE.
- 4 REMOVE EXISTING TSPB AND REPLACE IN PLACE WITH NEW TSPB FLUSH WITH FINISHED GRADE. MAINTAIN EXISTING CIRCUITING AND DUCTLINES UNLESS OTHERWISE NOTED.

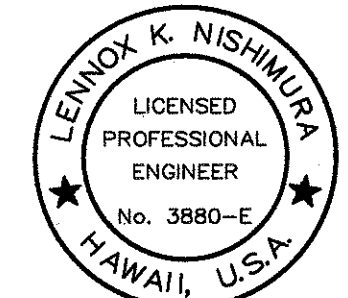
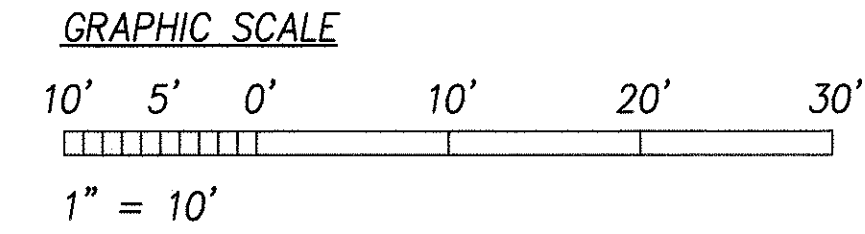


ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	
	DESIGNED BY	
	CHECKED BY	
	DATE	

8/26/04-9-33 Y:\060\060108\060108 S01 FARR_KAUKAMANA.dwg



TRAFFIC SIGNAL PLAN - FARRINGTON HWY. & KAUKAMANA ST.
INTER. ID NO. 93-72089
SCALE: 1" = 10'-0"



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.
Signature: Lennox K. Nishimura
Date: 8/27/04
"OBSERVATION OF CONSTRUCTION" IS DEFINED IN CHAPTER 16-115, HAWAII ADMINISTRATIVE RULES ENTITLED "PROFESSIONAL ENGINEERS, ARCHITECTS, SURVEYORS AND LANDSCAPE ARCHITECTS".

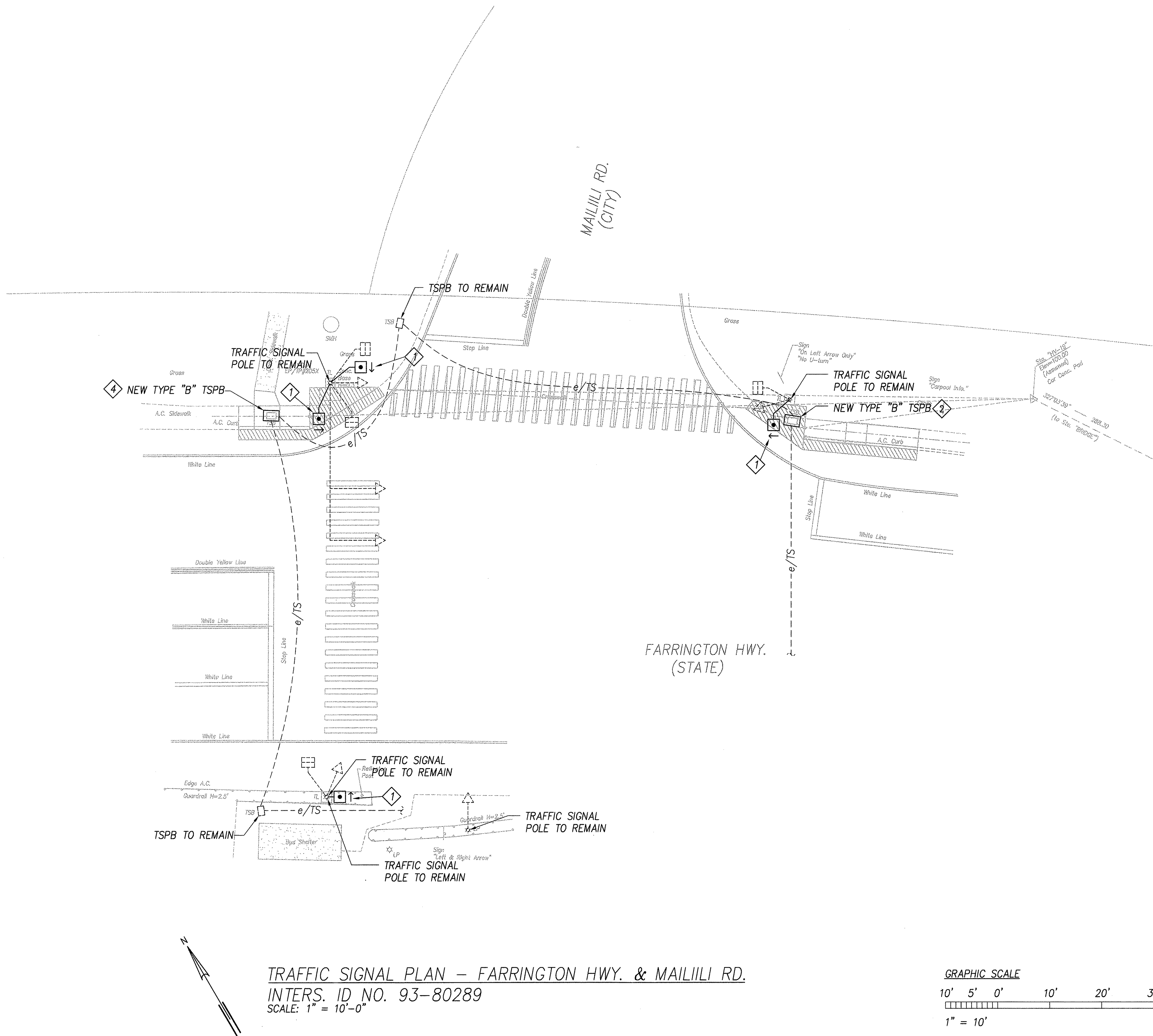
DTS, C&C HONOLULU	DRAWING REVIEWED
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
FARRINGTON HWY. &
KAUKAMANA ST.
Pedestrian Facilities & ADA Compliance
at Various Locations on Oahu, Unit 4
Fed. Aid Proj. No. CMAQ-0300(95)
Date: August 2004
SHEET No. E-19 OF 34 SHEETS

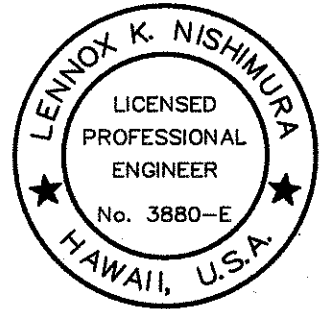
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-0300(95)	2004	114	128

NOTES:

- 1 REMOVE EXISTING PEDESTRIAN PUSH BUTTON AND REPLACE WITH NEW PUSH BUTTON. RECONNECT PUSH BUTTON CIRCUIT TO NEW PUSH BUTTON. PLUG ANY HOLES IN EXISTING POLE. SEE 1 E-29
- 2 REMOVE EXISTING TSPB AND REPLACE IN PLACE WITH NEW TSPB FLUSH WITH FINISHED GRADE. MAINTAIN EXISTING CIRCUITING AND DUCTLINES UNLESS OTHERWISE NOTED.



TRAFFIC SIGNAL PLAN - FARRINGTON HWY. & MAILILI RD.
INTER. ID NO. 93-80289
SCALE: 1" = 10'-0"



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

Signature: *Lennox K. Nishimura* Date: *8/21/04*

"OBSERVATION OF CONSTRUCTION" IS DEFINED IN CHAPTER 16-115, HAWAII ADMINISTRATIVE RULES ENTITLED "PROFESSIONAL ENGINEERS, ARCHITECTS, SURVEYORS AND LANDSCAPE ARCHITECTS".

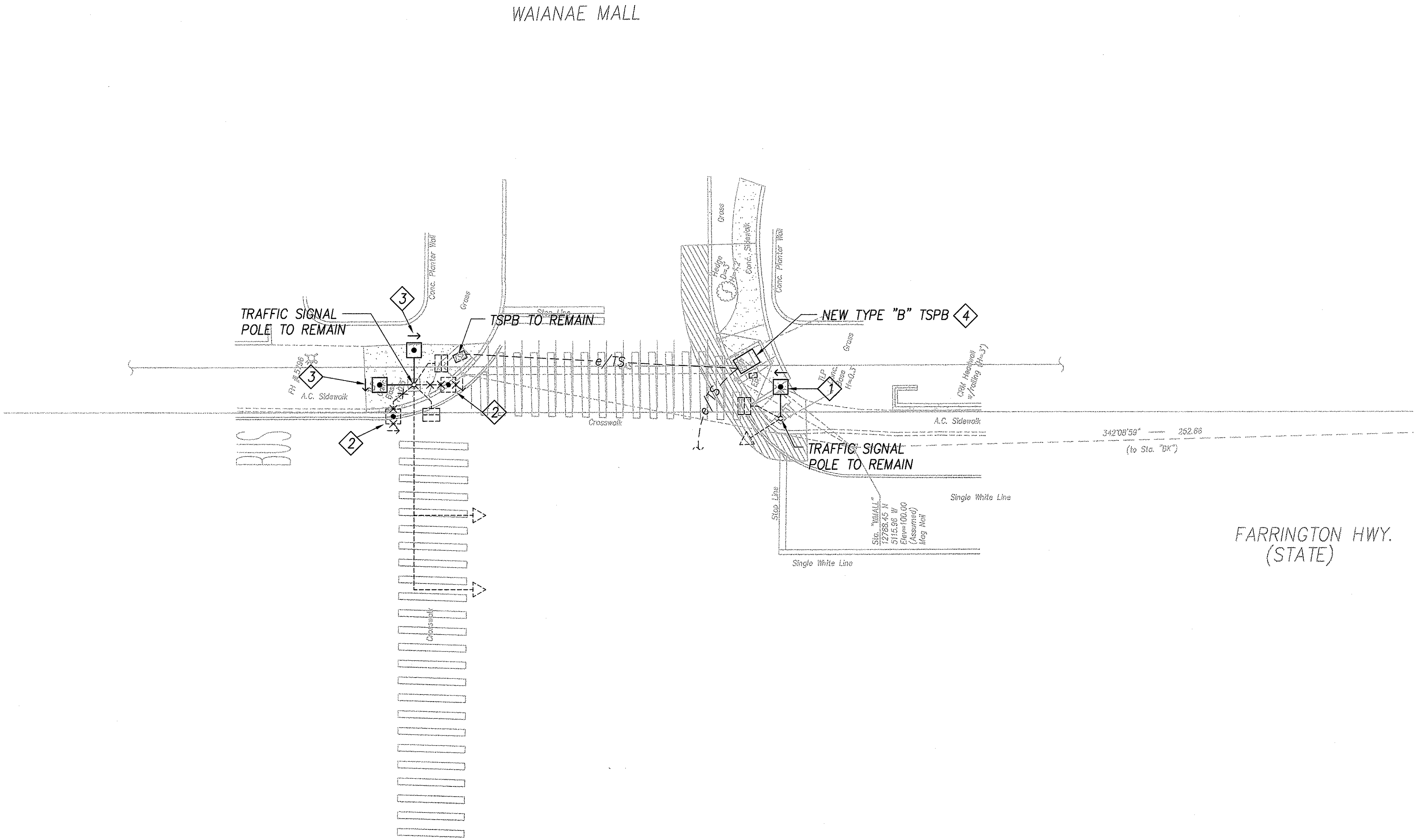
DTS, C&C HONOLULU	DRAWING REVIEWED
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
**FARRINGTON HWY.
& MAILILI RD.**
*Pedestrian Facilities & ADA Compliance
at Various Locations on Oahu, Unit 4
Fed. Aid Proj. No. CMAQ-0300(95)*
Date: August 2004
SHEET No.E-20 OF 34 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-0300(95)	2004	116	128

NOTES:

- 1 REMOVE EXISTING PEDESTRIAN PUSH BUTTON AND REPLACE WITH NEW PUSH BUTTON. RECONNECT PUSH BUTTON CIRCUIT TO NEW PUSH BUTTON. PLUG ANY HOLES IN EXISTING POLE. SEE 1 E-29
- 2 REMOVE EXISTING PEDESTRIAN PUSH BUTTON. PLUG ANY HOLES IN EXISTING POLE.
- 3 PROVIDE NEW PEDESTRIAN PUSH BUTTON ON EXISTING POLE. CONNECT PUSH BUTTON TO EXISTING PUSH BUTTON CIRCUIT. SEE 1 E-29
- 4 REMOVE EXISTING TSPB AND REPLACE IN PLACE WITH NEW TSPB FLUSH WITH FINISHED GRADE. MAINTAIN EXISTING CIRCUITS AND DUCTLINES UNLESS OTHERWISE NOTED.
- 5 ADJUST EXISTING ELECTRICAL PULLBOX TO BE FLUSH WITH FINISHED GRADE.

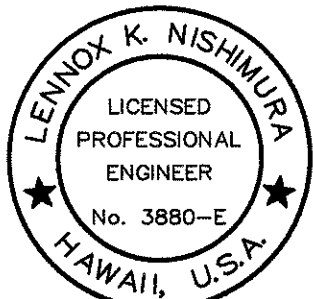
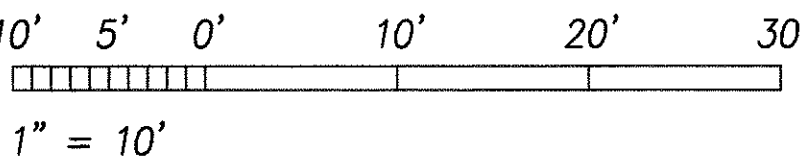


TRAFFIC SIGNAL PLAN - FARRINGTON HWY. & WAIANAE MALL
INTERS. ID NO. 93-81889
SCALE: 1" = 10'-0"

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

8/26/04-9-36 Y:\060\060106\060106 501 FARR_WAIAANAE MALL.dwg

GRAPHIC SCALE



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

Signature: Lennox K. Nishimura DATE: 8/27/04

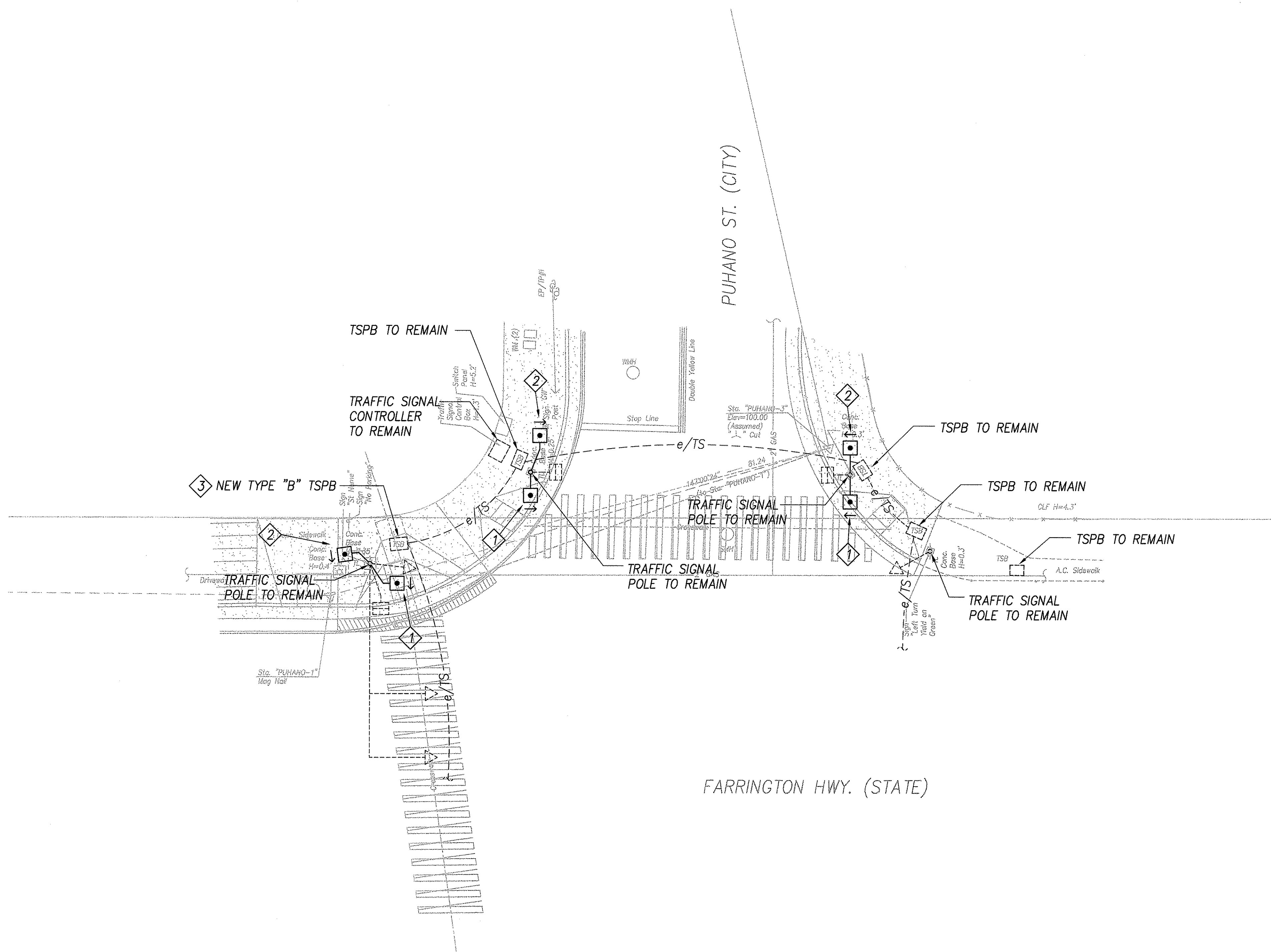
"OBSERVATION OF CONSTRUCTION" IS DEFINED IN CHAPTER 16-115, HAWAII ADMINISTRATIVE RULES ENTITLED "PROFESSIONAL ENGINEERS, ARCHITECTS, SURVEYORS AND LANDSCAPE ARCHITECTS".

DTS, C&C HONOLULU	DRAWING REVIEWED
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION FARRINGTON HWY. & WAIANAE MALL Pedestrian Facilities & ADA Compliance at Various Locations on Oahu, Unit 4 Fed. Aid Proj. No. CMAQ-0300(95) Date: August 2004 SHEET No.E-22 OF 34 SHEETS	

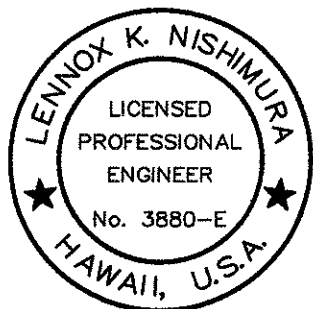
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-0300(95)	2004	117	128

NOTES:

- 1 REMOVE EXISTING PEDESTRIAN PUSH BUTTON AND REPLACE WITH NEW PUSH BUTTON. RECONNECT PUSH BUTTON CIRCUIT TO NEW PUSH BUTTON. PLUG ANY HOLES IN EXISTING POLE. SEE $\frac{1}{E-29}$
- 2 PROVIDE NEW PUSH BUTTON ON EXISTING POLE. CONNECT PUSH BUTTON TO EXISTING CIRCUIT. SEE $\frac{1}{E-29}$
- 3 REMOVE EXISTING TSPB AND REPLACE IN PLACE WITH NEW TSPB FLUSH WITH FINISHED GRADE. MAINTAIN EXISTING CIRCUITING AND DUCTLINES UNLESS OTHERWISE NOTED.



TRAFFIC SIGNAL PLAN - FARRINGTON HWY. & PUHANO ST.
INTERS. ID NO. 93-82489
SCALE: 1" = 10'-0"



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

SIGNATURE: *Lennox K. Nishimura* DATE: *8/26/04*

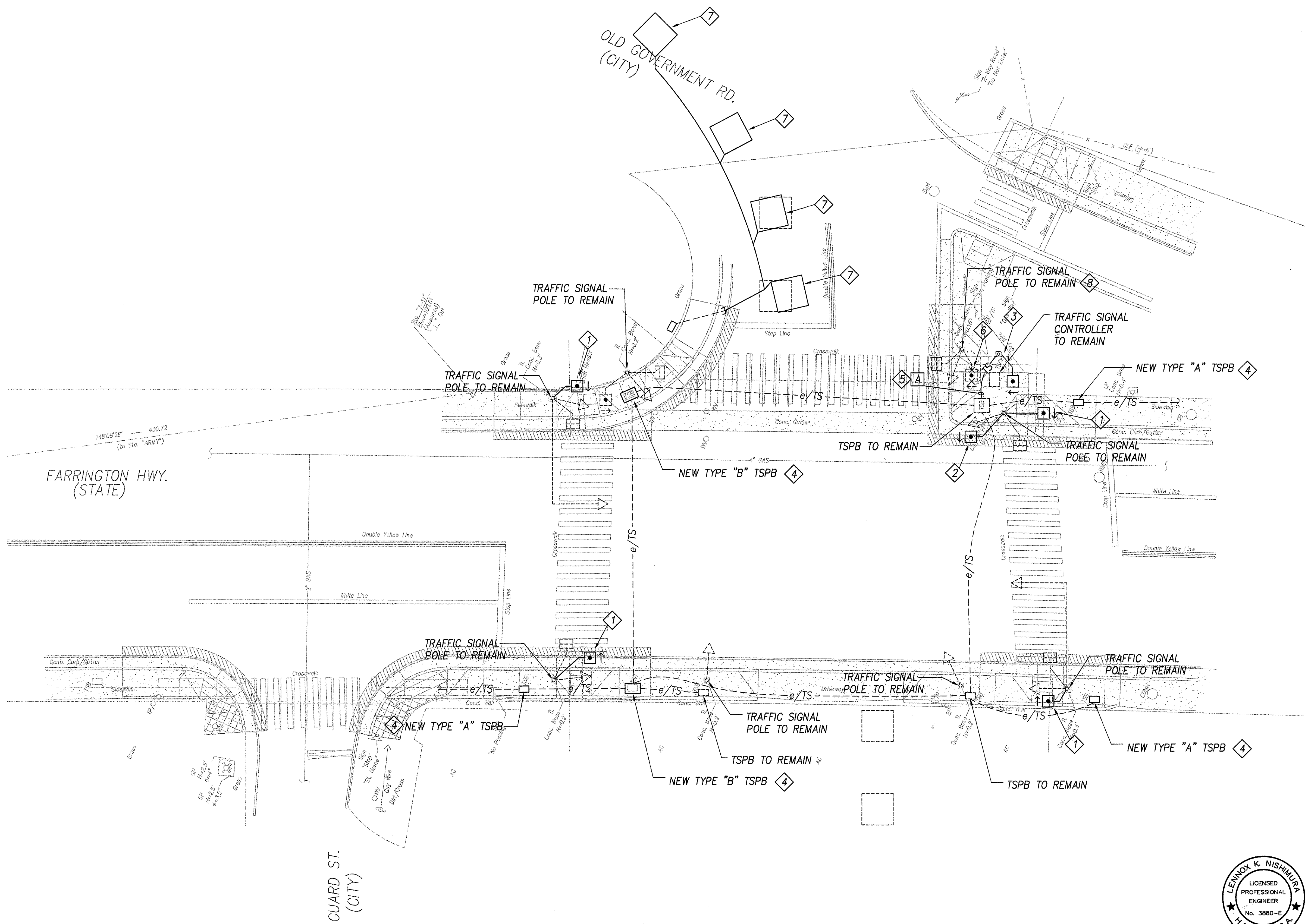
"OBSERVATION OF CONSTRUCTION" IS DEFINED IN CHAPTER 16-115, HAWAII ADMINISTRATIVE RULES ENTITLED "PROFESSIONAL ENGINEERS, ARCHITECTS, SURVEYORS AND LANDSCAPE ARCHITECTS".

DTS, C&C HONOLULU	DRAWING REVIEWED
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION FARRINGTON HWY. & PUHANO ST. Pedestrian Facilities & ADA Compliance at Various Locations on Oahu, Unit 4 Fed. Aid Proj. No. CMAQ-0300(95) Date: August 2004 SHEET No. E-23 OF 34 SHEETS	

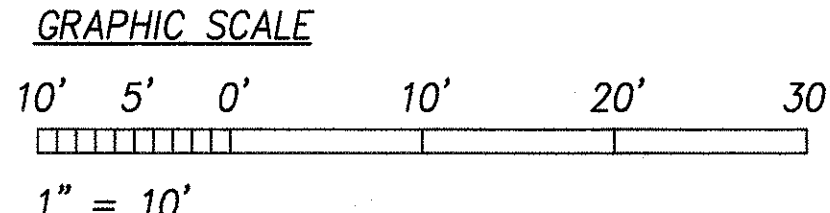
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-0300(95)	2004	120	128

NOTES:

- 1 REMOVE EXISTING PEDESTRIAN PUSH BUTTON AND REPLACE WITH NEW PUSH BUTTON. RECONNECT PUSH BUTTON CIRCUIT TO NEW PUSH BUTTON. PLUG ANY HOLES IN EXISTING POLE. SEE 1 E-30
- 2 PROVIDE NEW PEDESTRIAN PUSH BUTTON ON EXISTING POLE. CONNECT PUSH BUTTON TO EXISTING CIRCUIT. SEE 1 E-30
- 3 PROVIDE NEW PUSH BUTTON PEDESTAL WITH PUSH BUTTON, SEE 2, CONNECT PUSH BUTTON TO EXISTING CIRCUIT. SEE 2 E-30
- 4 REMOVE EXISTING TSPB AND REPLACE IN PLACE WITH NEW TSPB FLUSH WITH FINISHED GRADE. MAINTAIN EXISTING CIRCUIT AND DUCTLINES UNLESS OTHERWISE NOTED.
- 5 TRENCH TO INSTALL NEW CONDUIT. 1-2" C WITH 1-2/C#14
- 6 REMOVE EXISTING PEDESTRIAN PUSH BUTTON AND ASSOCIATED WIRING. PLUG ANT HOLES IN EXISTING POLE.
- 7 ABANDON EXISTING VEHICLE DETECTOR LOOP IN PLACE. PROVIDE NEW VEHICLE DETECTOR LOOP.
- 8 PROVIDE NEW MICROWAVE DETECTOR ON EXISTING TRAFFIC SIGNAL POLE. PROVIDE NEW CONDUCTORS IN EXISTING CONDUITS FROM MICROWAVE DETECTOR TO TRAFFIC SIGNAL CONTROLLER. SEE 1 E-34



TRAFFIC SIGNAL PLAN - FARRINGTON HWY.,
GUARD ST. & OLD GOVERNMENT RD.
INTERS. ID NO. 93-72089
SCALE: 1" = 10'-0"



LENNOX K. NISHIMURA
LICENSED PROFESSIONAL ENGINEER
No. 3880-E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

Signature: *Lennox K. Nishimura* Date: *8/27/04*

"OBSERVATION OF CONSTRUCTION" IS DEFINED IN CHAPTER 16-115, HAWAII ADMINISTRATIVE RULES ENTITLED "PROFESSIONAL ENGINEERS, ARCHITECTS, SURVEYORS AND LANDSCAPE ARCHITECTS".

DTS, C&C HONOLULU DRAWING REVIEWED

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

FARRINGTON HWY., GUARD ST. &
OLD GOVERNMENT RD.

Pedestrian Facilities & ADA Compliance
at Various Locations on Oahu, Unit 4
Fed. Aid Proj. No. CMAQ-0300(95)

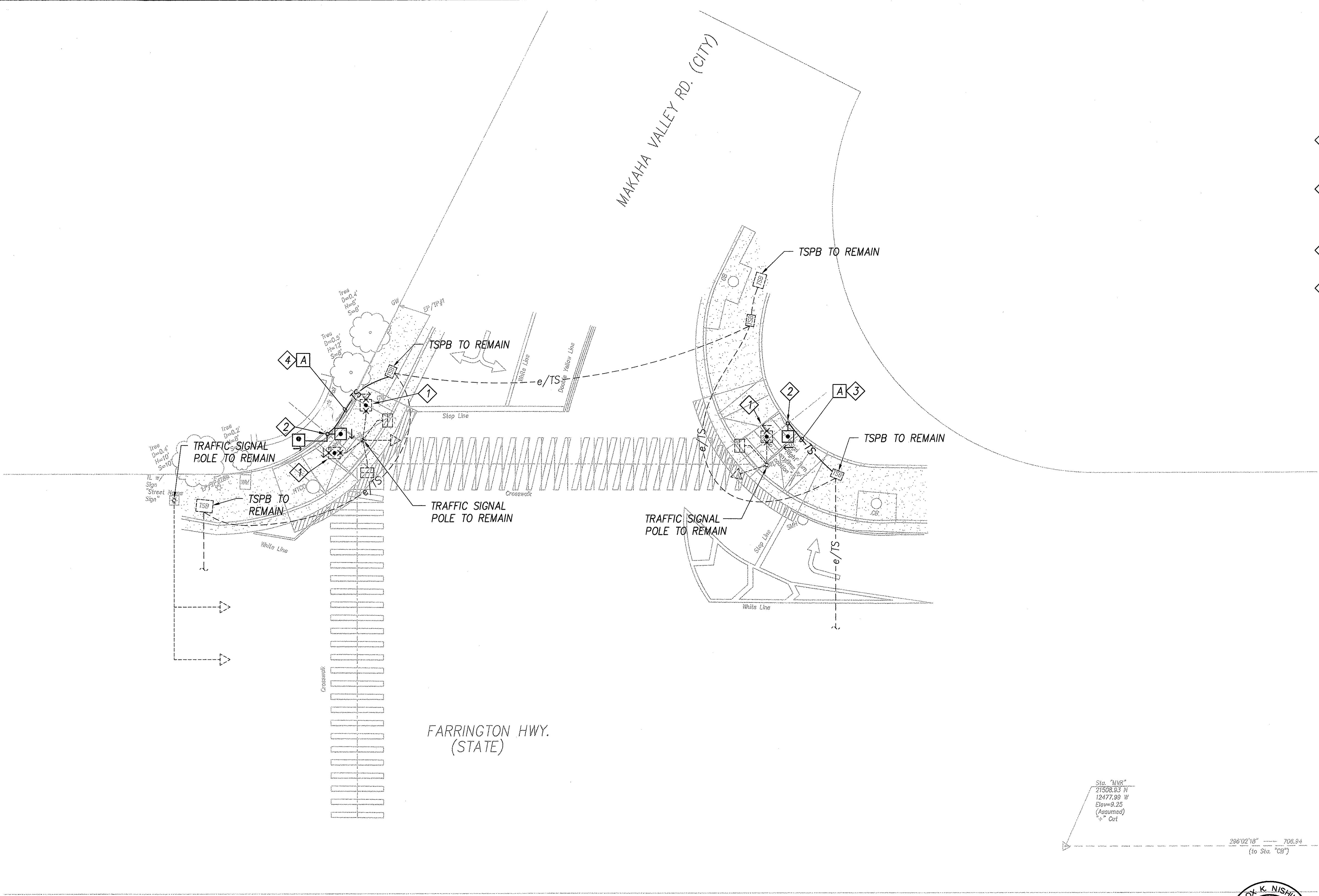
Date: August 2004

SHEET No.E-26 OF 34 SHEETS

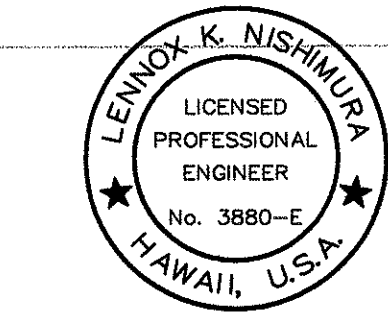
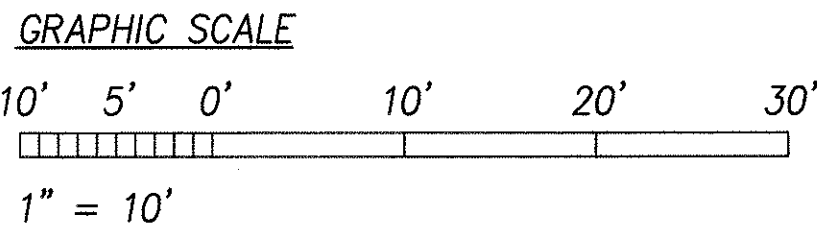
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-0300(95)	2004	121	128

NOTES:

- 1 REMOVE EXISTING PEDESTRIAN PUSH BUTTON AND ASSOCIATED WIRING. PLUG ANY HOLES IN EXISTING POLE.
- 2 PROVIDE NEW PEDESTRIAN PUSH BUTTON PEDESTAL WITH PUSH BUTTONS, SEE 2
E-29 CONNECT PUSH BUTTONS TO EXISTING CIRCUITS.
- 3 SAWCUT AND TRENCH TO INSTALL CONDUIT. 1-2"C WITH 1-2/C#14
- 4 SAWCUT AND TRENCH TO INSTALL CONDUIT 1-2"C WITH 2-2/C#14



TRAFFIC SIGNAL PLAN - FARRINGTON HWY. & MAKAHA VALLEY RD.
INTERS. ID NO. 93-91589
SCALE: 1" = 10'-0"



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

Lennox K. Nishimura 8/27/04
SIGNATURE DATE

"OBSERVATION OF CONSTRUCTION" IS DEFINED IN CHAPTER 16-115, HAWAII ADMINISTRATIVE RULES ENTITLED "PROFESSIONAL ENGINEERS, ARCHITECTS, SURVEYORS AND LANDSCAPE ARCHITECTS".

DTS, C&C HONOLULU	DRAWING REVIEWED
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

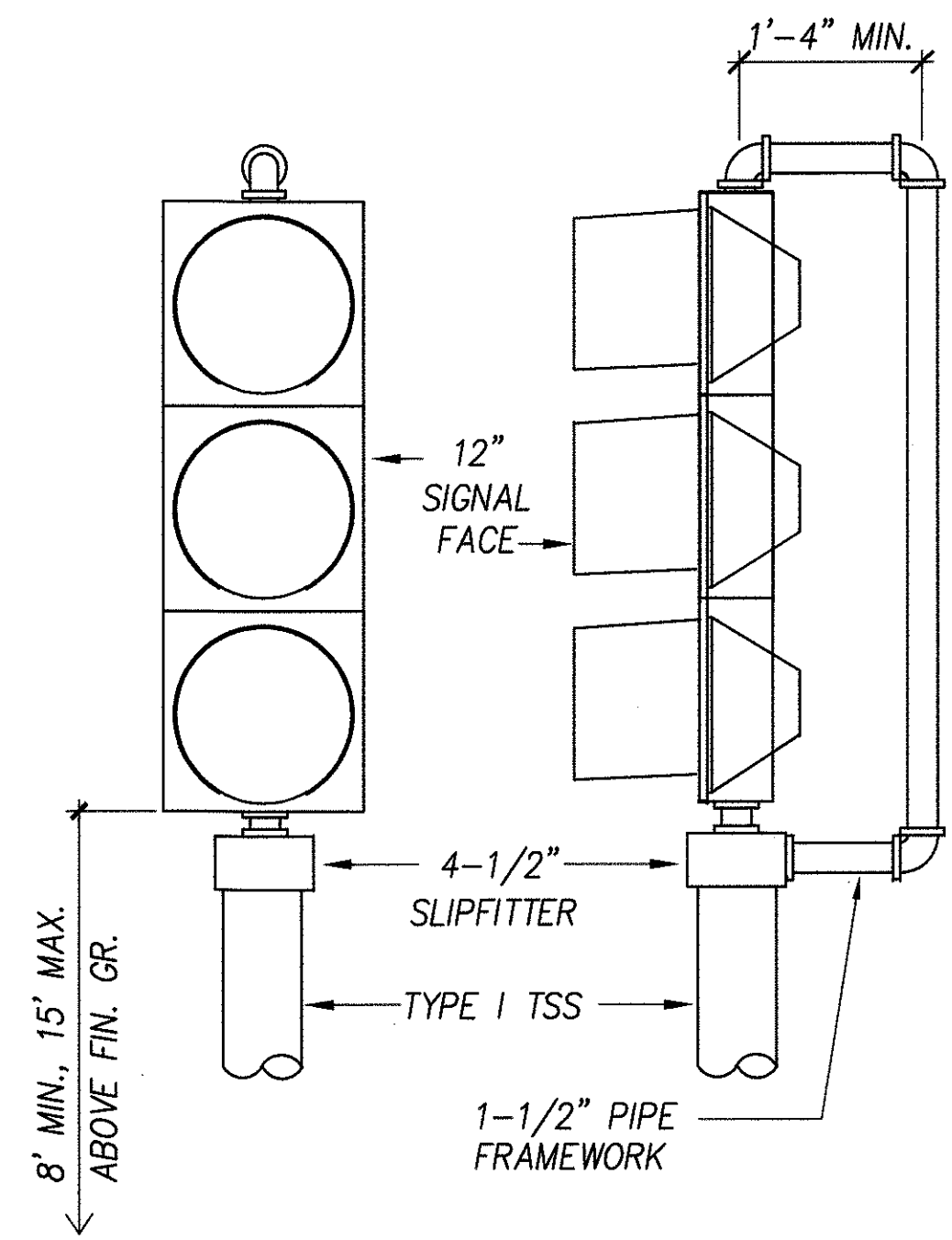
**FARRINGTON HWY. &
MAKAHA VALLEY RD.**

*Pedestrian Facilities & ADA Compliance
at Various Locations on Oahu, Unit 4
Fed. Aid Proj. No. CMAQ-0300(95)*

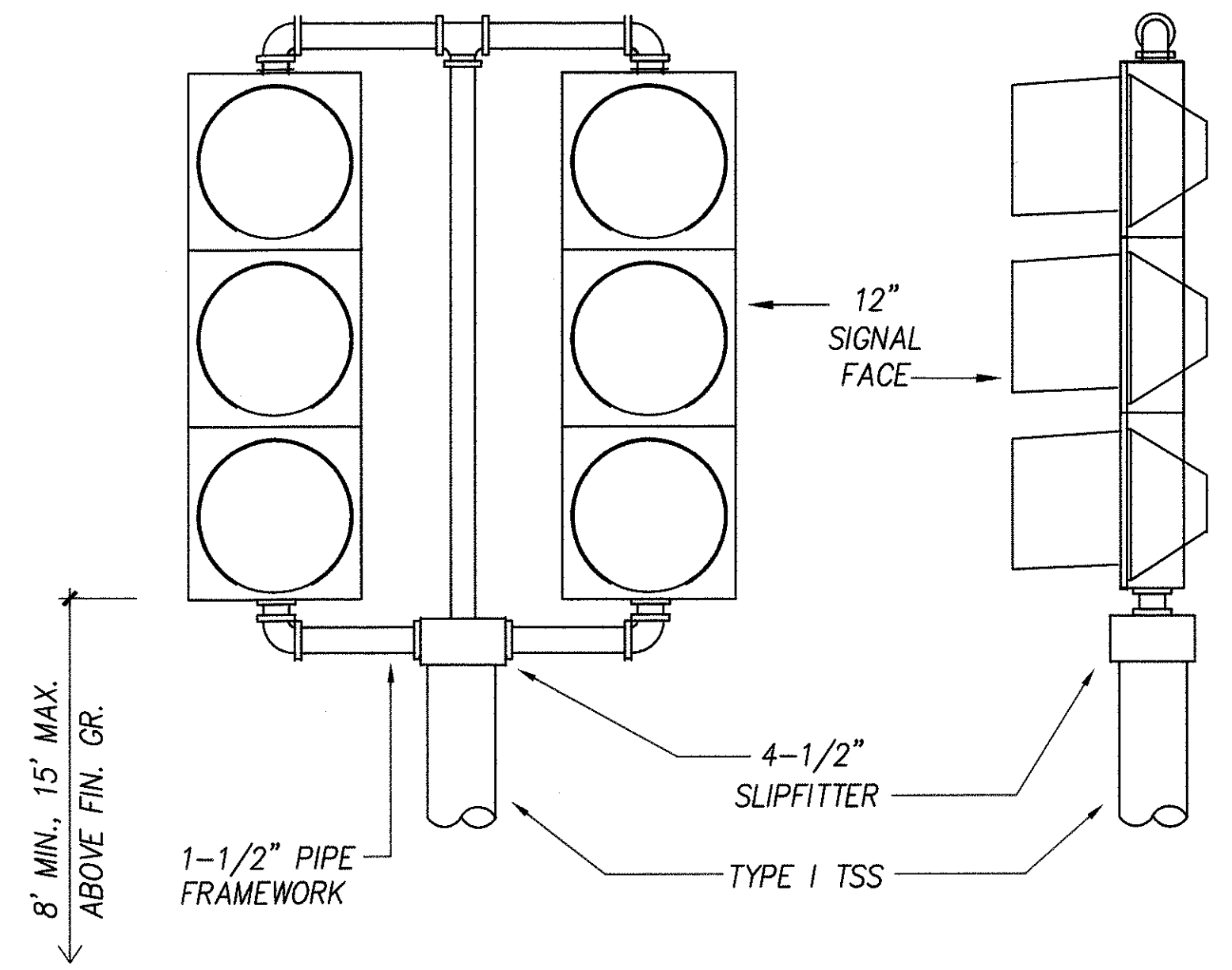
Date: August 2004

SHEET No.E-27 OF 34 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-0300(95)	2004	124	128

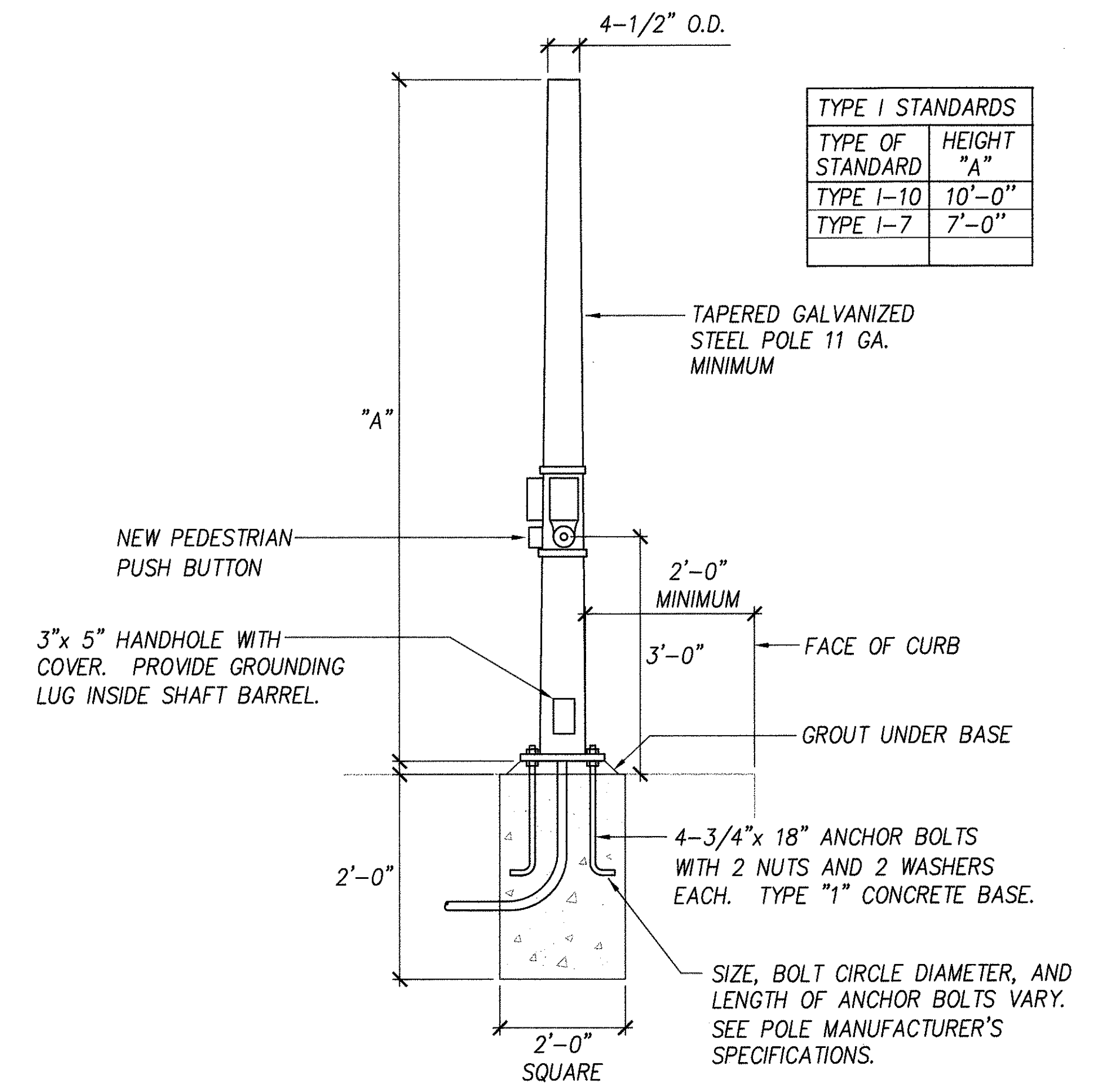


VEHICULAR SIGNAL
TOP OF POLE -
ONE WAY MOUNTING
(TP-1W)



VEHICULAR SIGNAL
TOP OF POLE -
TWO WAY MOUNTING
(TP-2W)

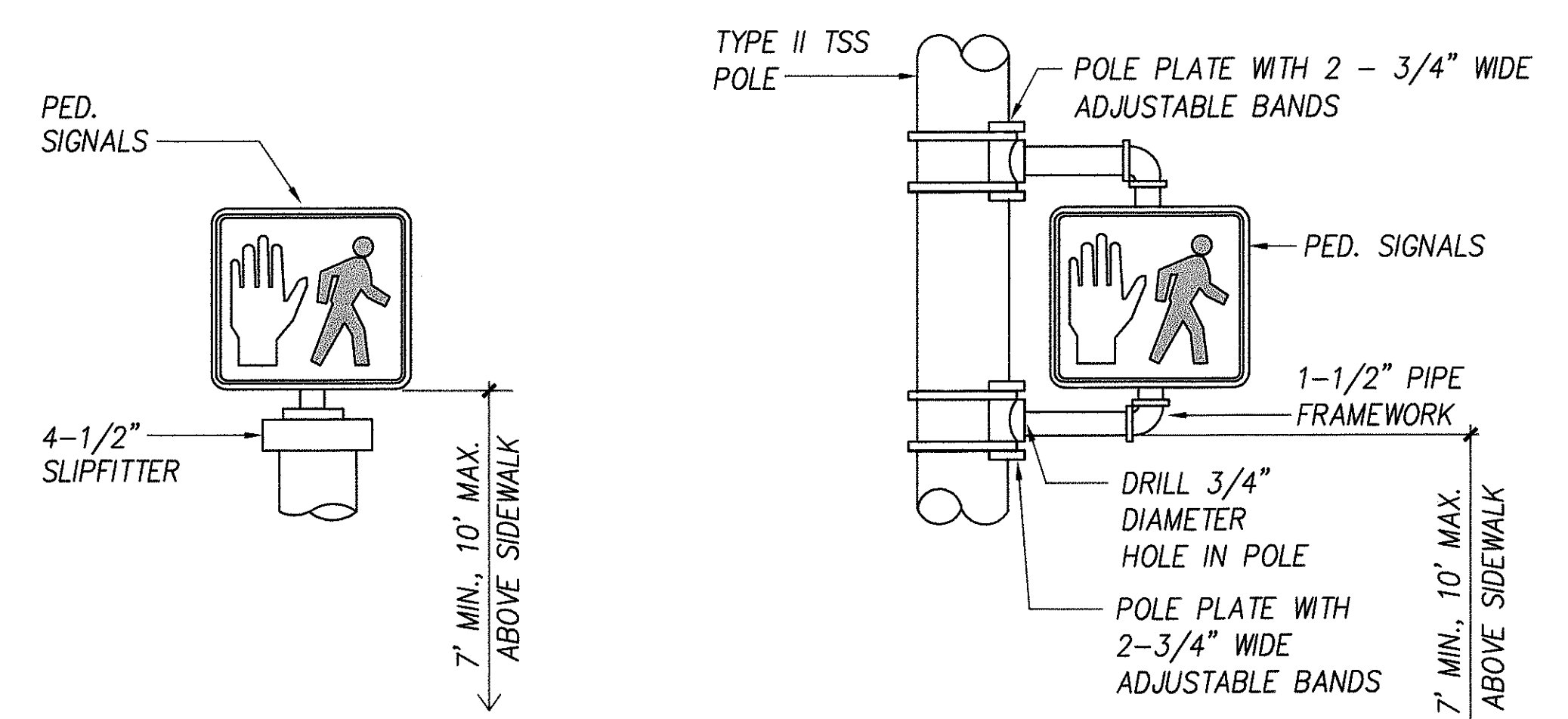
VEHICULAR SIGNAL MOUNTINGS



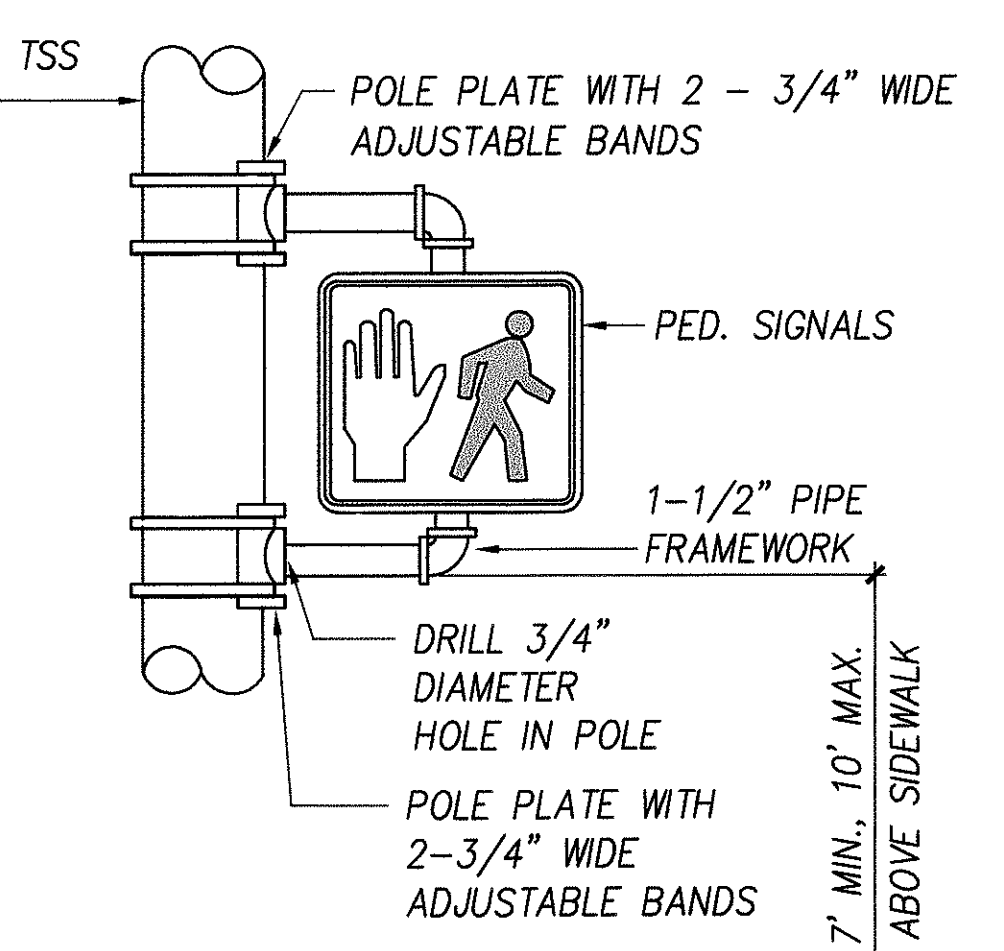
TYPE I STANDARDS	
TYPE OF STANDARD	HEIGHT "A"
TYPE I-10	10'-0"
TYPE I-7	7'-0"

- NOTES:
- STANDARDS SHALL BE DESIGNED IN ACCORDANCE WITH STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS.
 - CONCRETE SHALL BE CLASS "B".
 - TYPE "1" CONCRETE BASE SHALL BE USED FOR TYPE I, TRAFFIC SIGNAL STANDARDS.
 - CONDUIT BEND IS INCIDENTAL TO CONCRETE BASE.
 - SUBMIT SHOP DRAWINGS FOR APPROVAL.

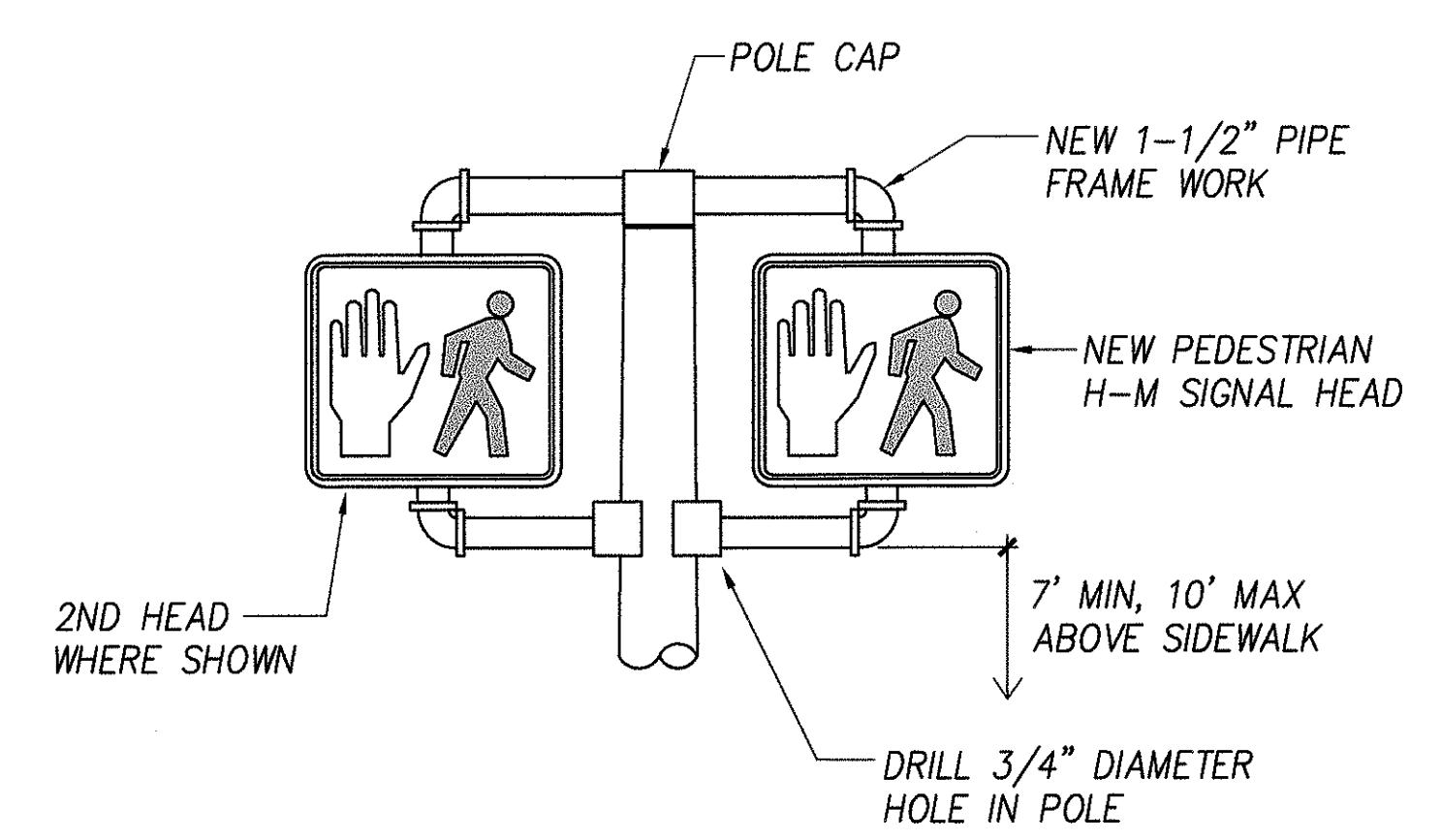
1 SIGNAL POLE WITH PUSH BUTTON
E-30 NOT TO SCALE



TOP OF POLE-ONE WAY
(TP-1W)



BRACKET MOUNT-ONE WAY
(B-1W)



BRACKET MOUNT - TWO WAY
(B-2W)

PEDESTRIAN SIGNAL MOUNTING

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

8/26/04-9-32 Y:\060\060108\060108.DOC.dwg

LENNOX K. NISHIMURA
LICENSED PROFESSIONAL ENGINEER
No. 3880-E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

Signature: *Lennox K. Nishimura* DATE: 8/27/04

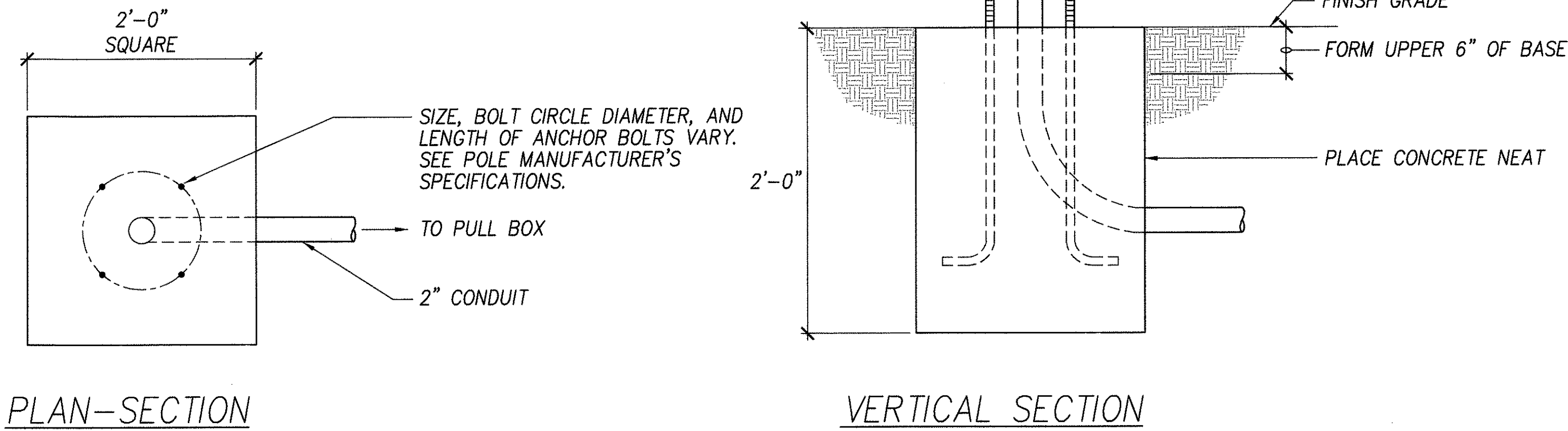
"OBSERVATION OF CONSTRUCTION" IS DEFINED IN CHAPTER 16-115, HAWAII ADMINISTRATIVE RULES ENTITLED "PROFESSIONAL ENGINEERS, ARCHITECTS, SURVEYORS AND LANDSCAPE ARCHITECTS".

DTS, C&C HONOLULU DRAWING REVIEWED

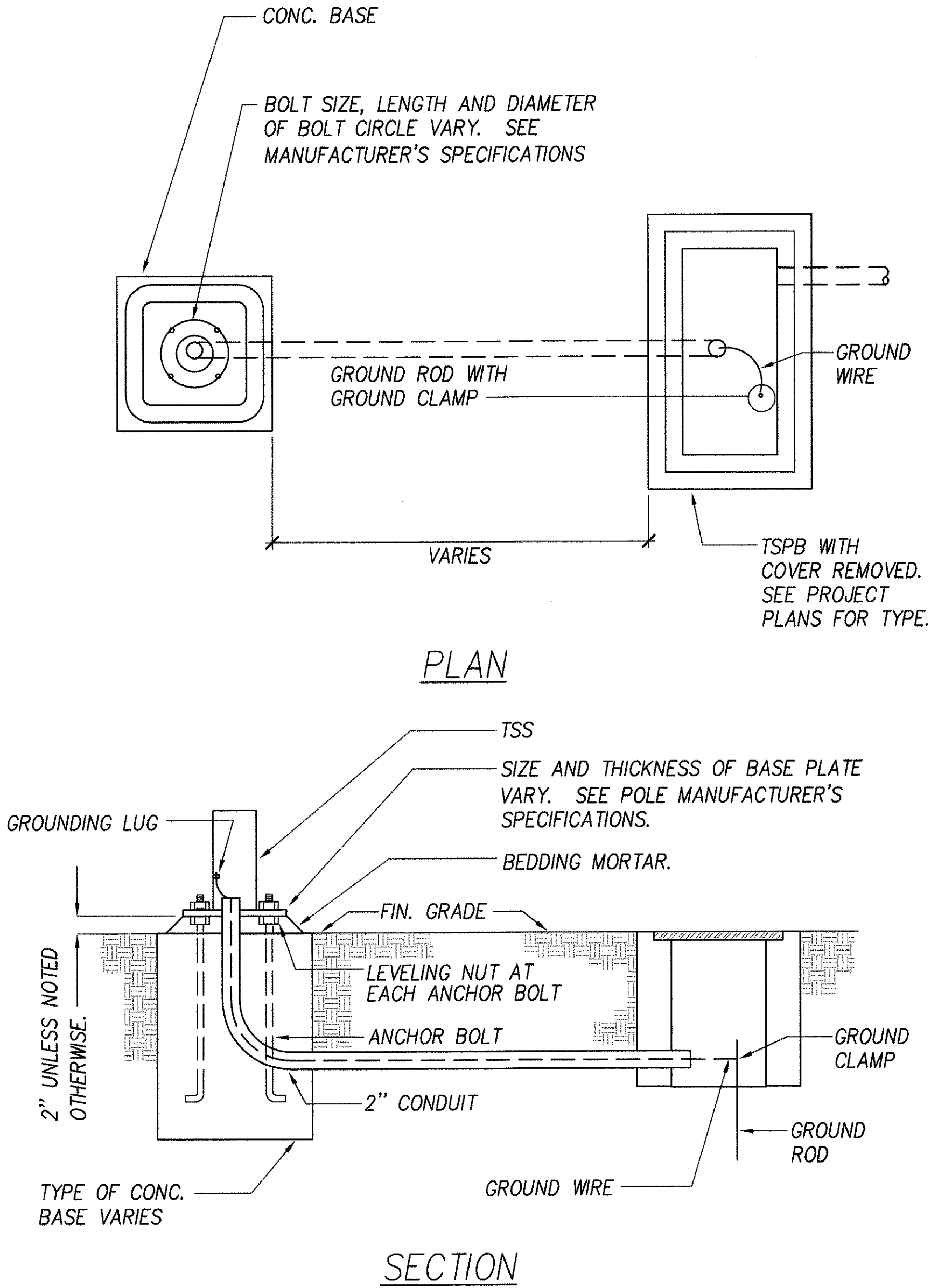
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
TRAFFIC SIGNAL
MISCELLANEOUS DETAILS - 1
Pedestrian Facilities & ADA Compliance
at Various Locations on Oahu, Unit 4
Fed. Aid Proj. No. CMAQ-0300(95)
NONE Date: August 2004
SHEET No.E-30 OF 34 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-0300(95)	2004	125	128

- NOTES:
- CONCRETE SHALL BE CLASS "B".
 - TYPE "1" CONCRETE BASE SHALL BE USED FOR TYPE I, TRAFFIC SIGNAL STANDARDS.
 - CONDUIT BEND IS INCIDENTAL TO CONCRETE BASE.



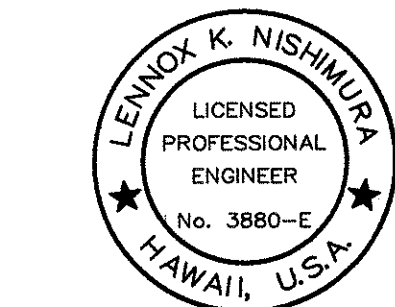
1 TYPE "1" CONCRETE BASE
E-31 NOT TO SCALE



2 TYPICAL STANDARD AND PEDESTAL INSTALLATION
E-31 NOT TO SCALE

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

8/26/04-9:32 Y:\060106\060106 D04.dwg



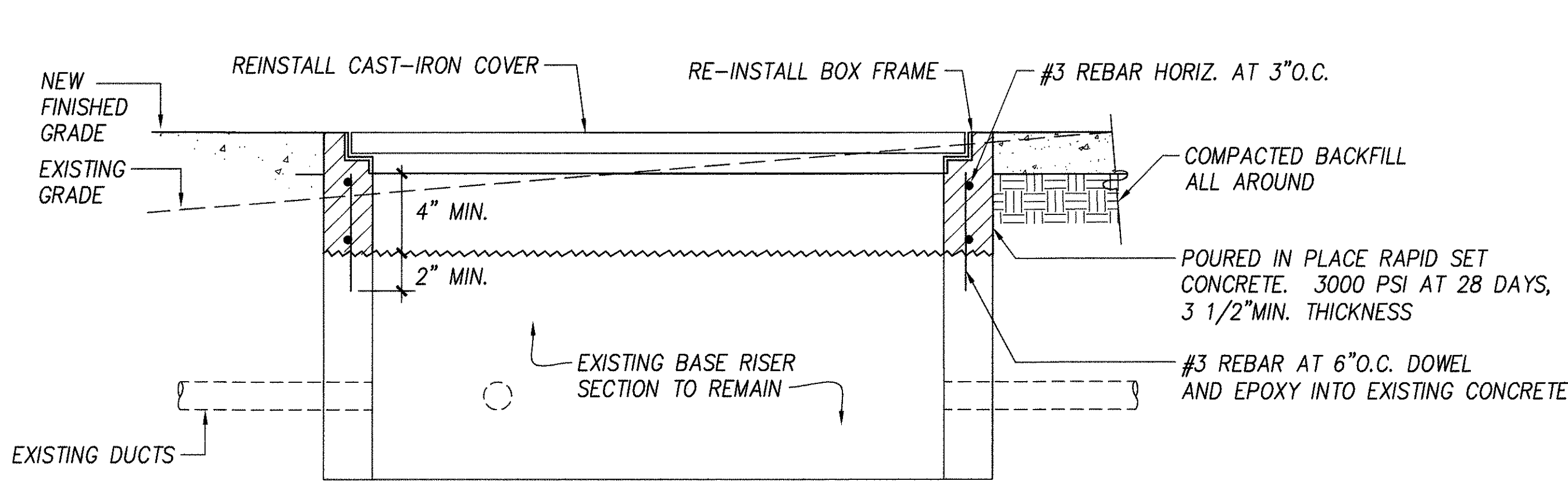
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

Signature: *Lennox K. Nishimura* 8/27/04
DATE

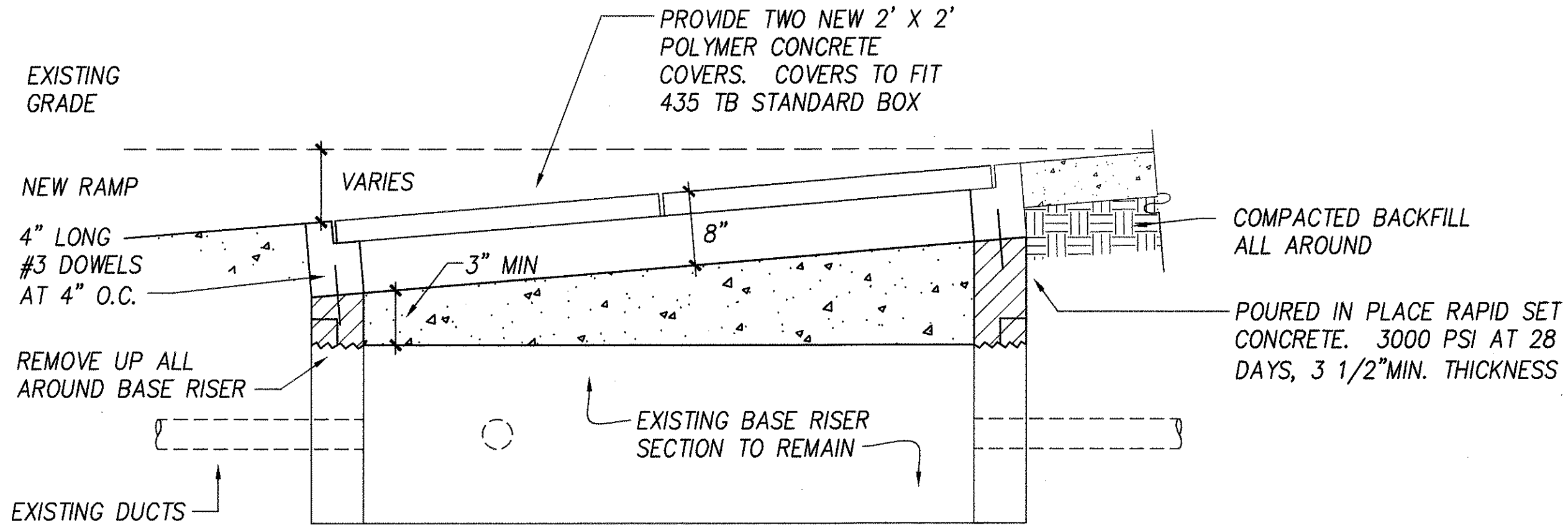
"OBSERVATION OF CONSTRUCTION" IS DEFINED IN CHAPTER 16-115, HAWAII ADMINISTRATIVE RULES ENTITLED "PROFESSIONAL ENGINEERS, ARCHITECTS, SURVEYORS AND LANDSCAPE ARCHITECTS".

DTS, C&C HONOLULU	DRAWING REVIEWED
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION TRAFFIC SIGNAL MISCELLANEOUS DETAILS - 2 <i>Pedestrian Facilities & ADA Compliance at Various Locations on Oahu, Unit 4</i> <i>Fed. Aid Proj. No. CMAQ-0300(95)</i> NONE Date: August 2004 SHEET No. E-31 OF 34 SHEETS	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-0300(95)	2004	126	128



1 TRAFFIC SIGNAL/STREET LIGHT BOX ADJUSTMENT
E-32 NOT TO SCALE



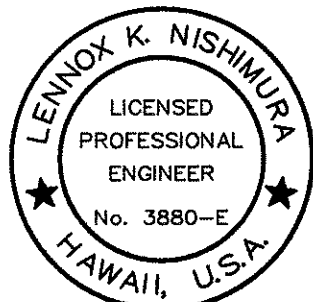
2 TRAFFIC SIGNAL/STREET LIGHT BOX ADJUSTMENT
E-32 NOT TO SCALE

NOTE:

- COORDINATE WORK WITH VERIZON.

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

8/26/04-9-32 Y:\060\060.06\060.06 D05.dwg



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Signature: *Lennox K. Nishimura* Date: *8/27/04*

"OBSERVATION OF CONSTRUCTION" IS DEFINED IN CHAPTER 16-115, HAWAII ADMINISTRATIVE RULES ENTITLED "PROFESSIONAL ENGINEERS, ARCHITECTS, SURVEYORS AND LANDSCAPE ARCHITECTS".

DTS, C&C HONOLULU	DRAWING REVIEWED
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

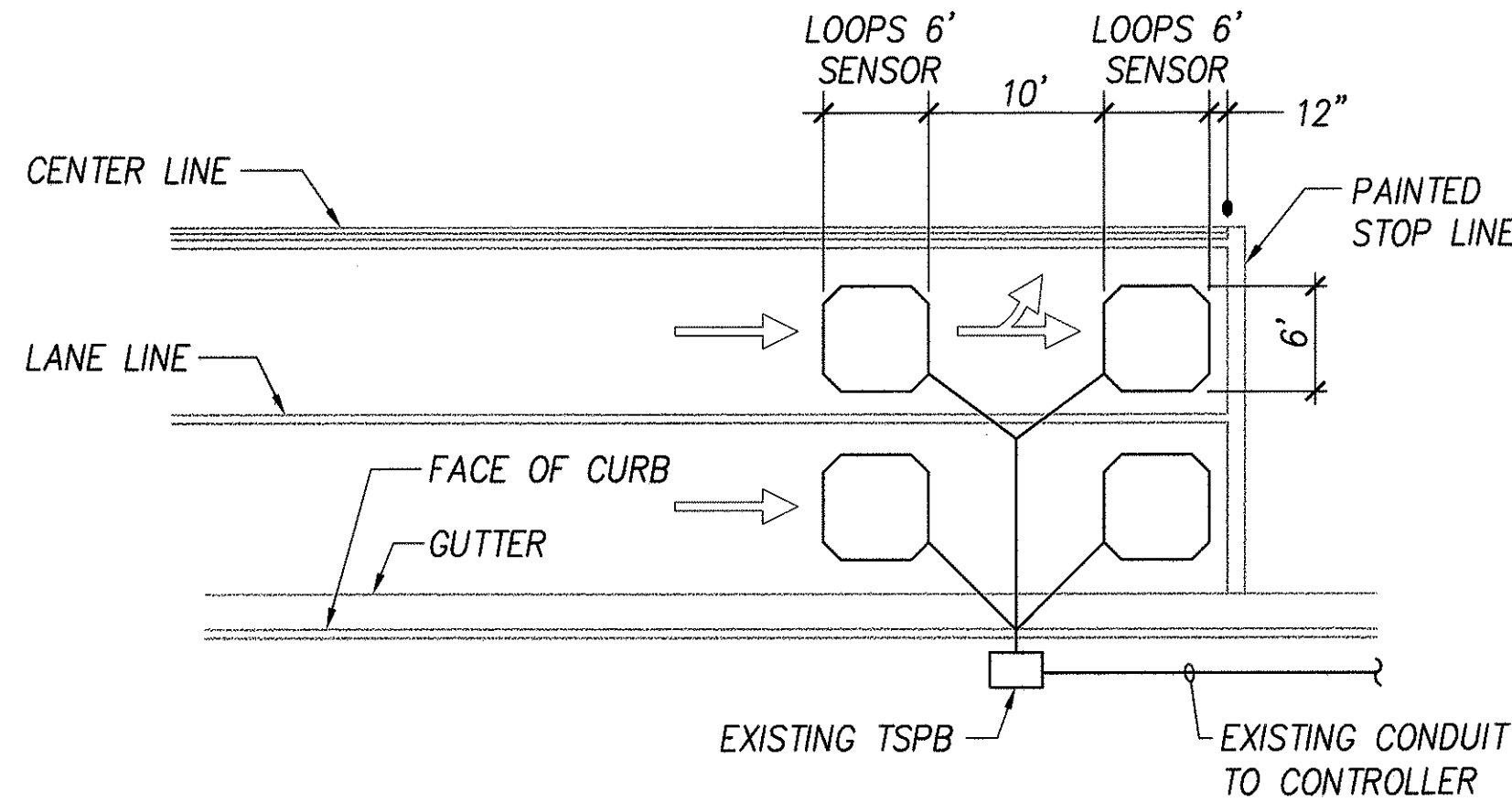
**PULLBOX ADJUSTMENT
DETAILS**

*Pedestrian Facilities & ADA Compliance
at Various Locations on Oahu, Unit 4
Fed. Aid Proj. No. CMAQ-0300(95)*

Date: August 2004

SHEET No.E-32 OF 34 SHEETS

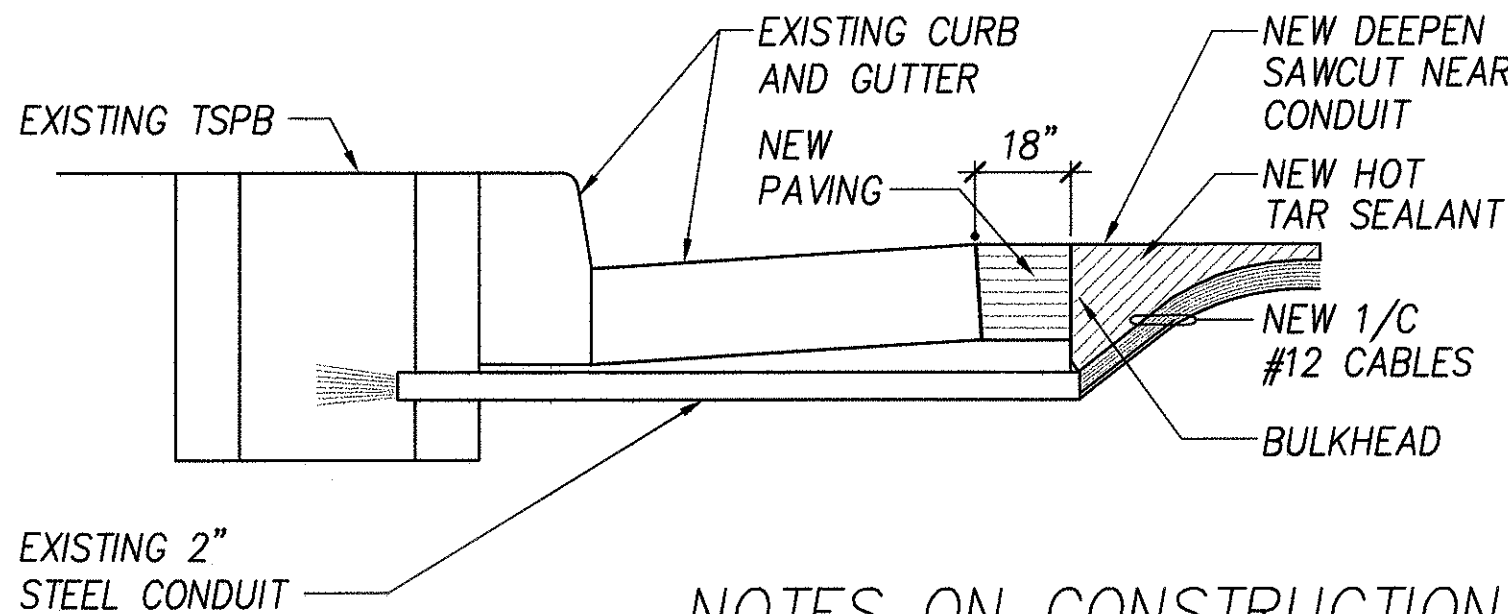
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-0300(95)	2004	127	128



NOTES:

- CENTER SENSOR LOOPS IN LANES.
- COLLECTOR CABLES SHALL BE TWISTED 2 TURNS PER FOOT.
- NUMBER OF LOOPS AND LOCATIONS VARY. SEE PROJECT PLANS.
- NUMBER AND LOCATIONS OF COLLECTOR SAWCUTS MAY BE VARIED IN THE FIELD TO SUIT.
- COORDINATE FINAL LOCATION OF SENSORS WITH CIVIL STRIPING PLAN.

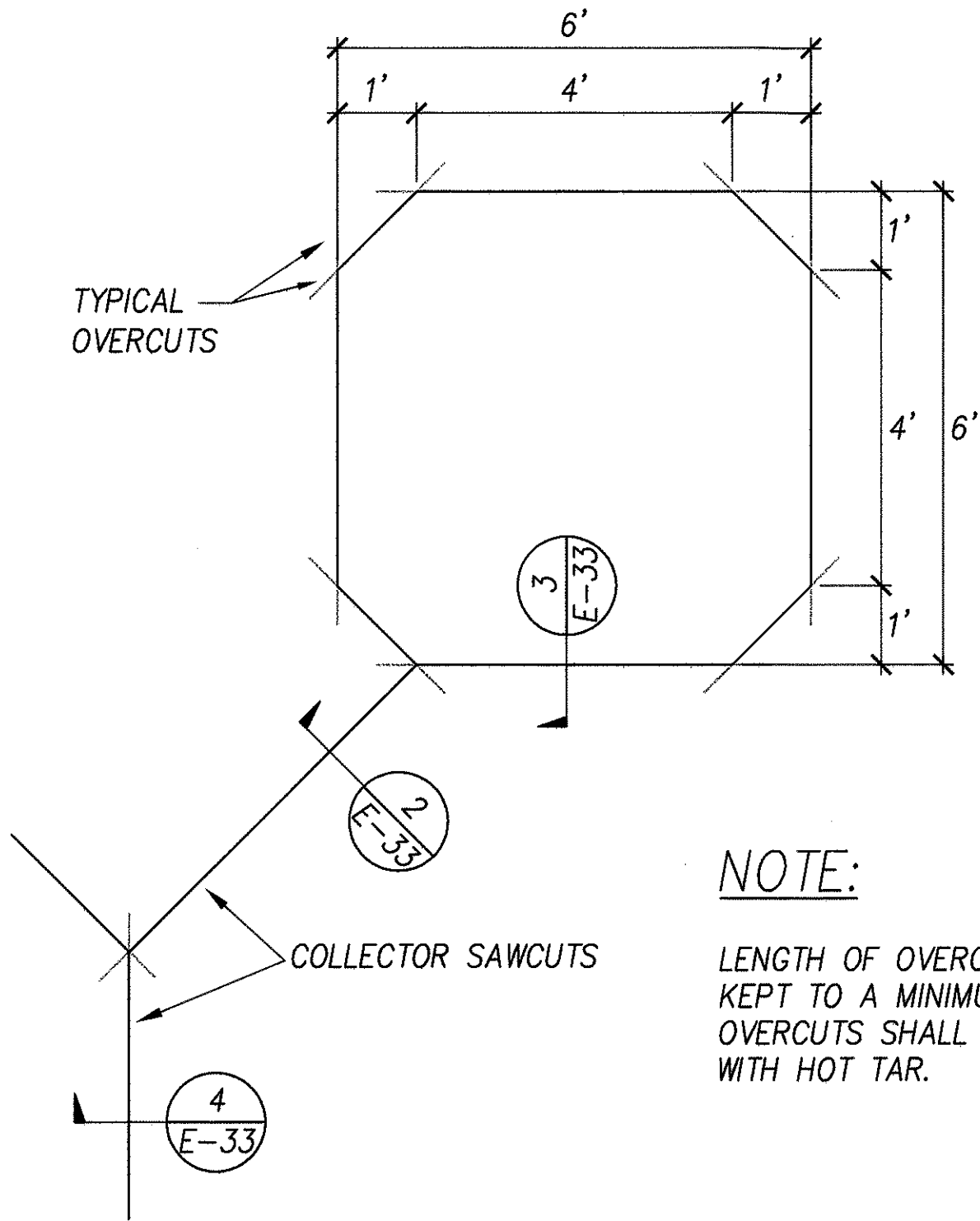
1 TYPICAL SENSOR LOOP LAYOUT
E-33 NOT TO SCALE



NOTES ON CONSTRUCTION AT END OF SAWCUT

- SEAL ROADWAY END OF CONDUIT AFTER INSTALLATION OF CONDUCTORS
- INSTALL BULKHEAD ACROSS CONDUIT TRENCH.
- PLACE HOT TAR IN SAWCUT.
- BACKFILL OVER CONDUIT WITH NEW PAVING.
- RECONSTRUCT CURB AND GUTTER AS REQUIRED.

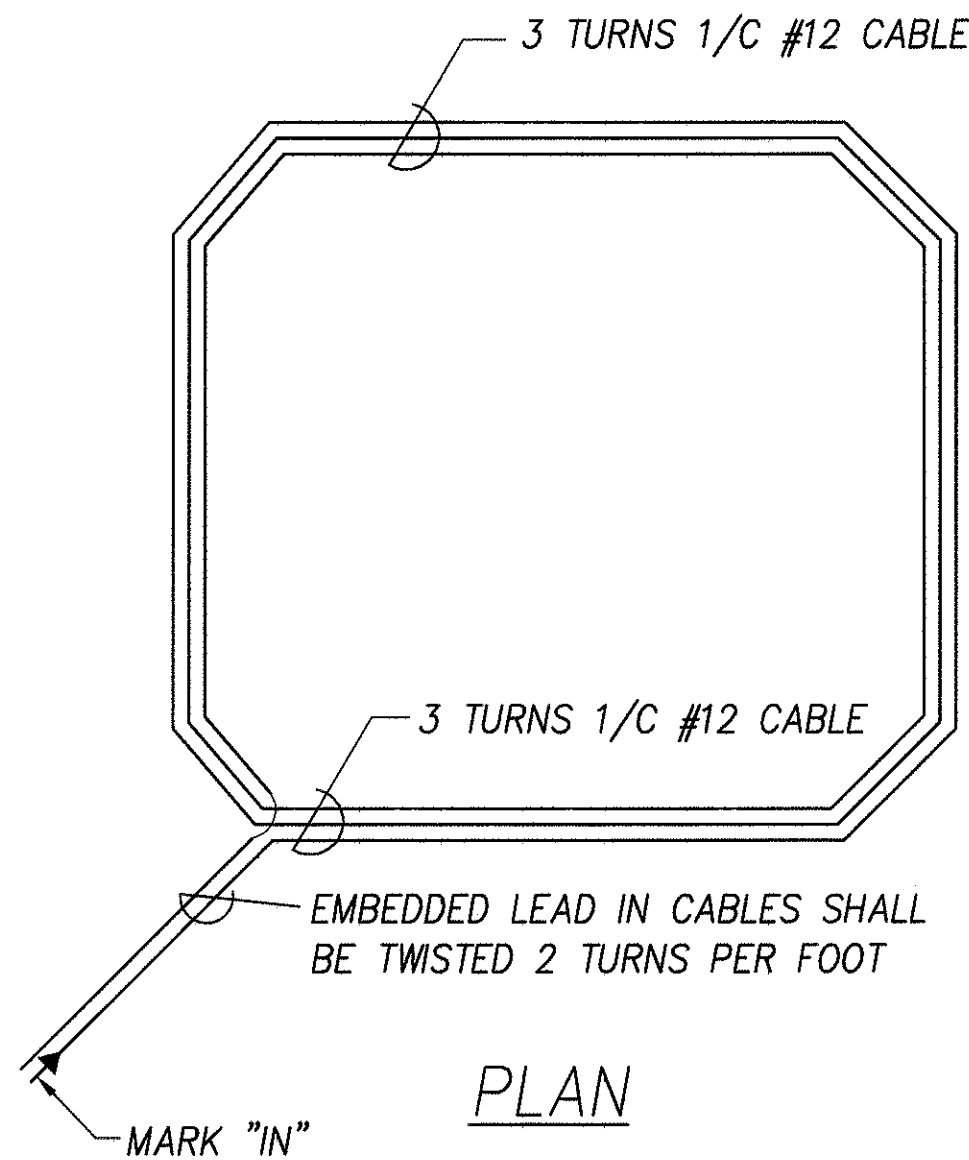
DETAIL OF SENSOR LOOP INSTALLATION AT EDGE OF ROADWAY



NOTE:

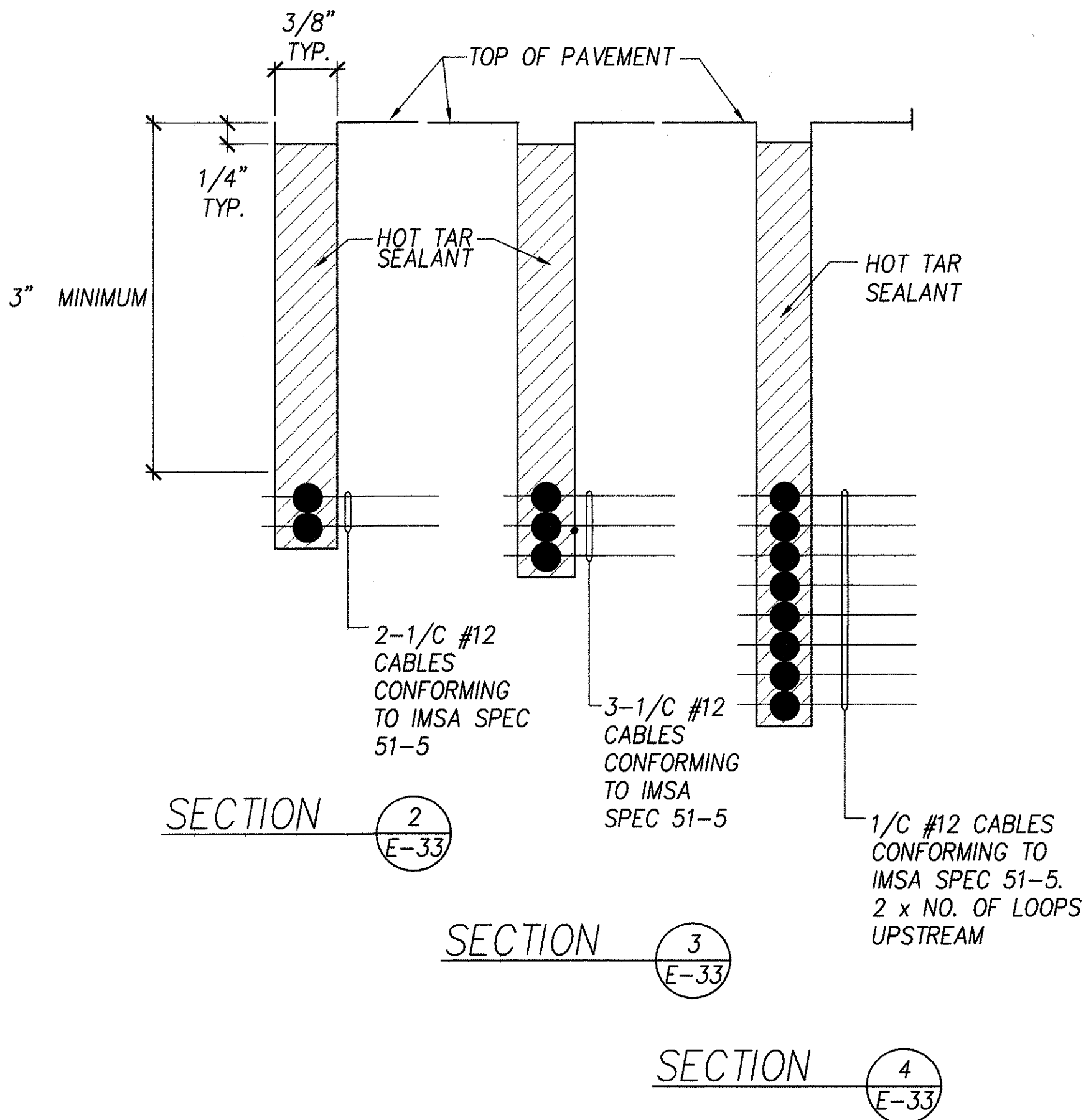
LENGTH OF OVERCUTS SHALL BE KEPT TO A MINIMUM. ALL OVERCUTS SHALL BE BACKFILLED WITH HOT TAR.

TYPICAL SENSOR LOOP SAWCUT DETAIL



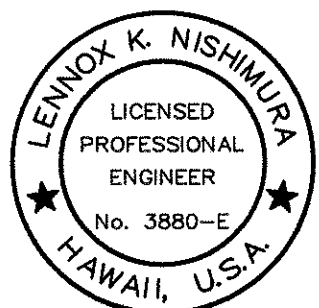
PLAN

TYPICAL SENSOR LOOP WIRING DIAGRAM
NOT TO SCALE



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

8/26/04-9-32 Y:\060\060\060\060\060\060.dwg



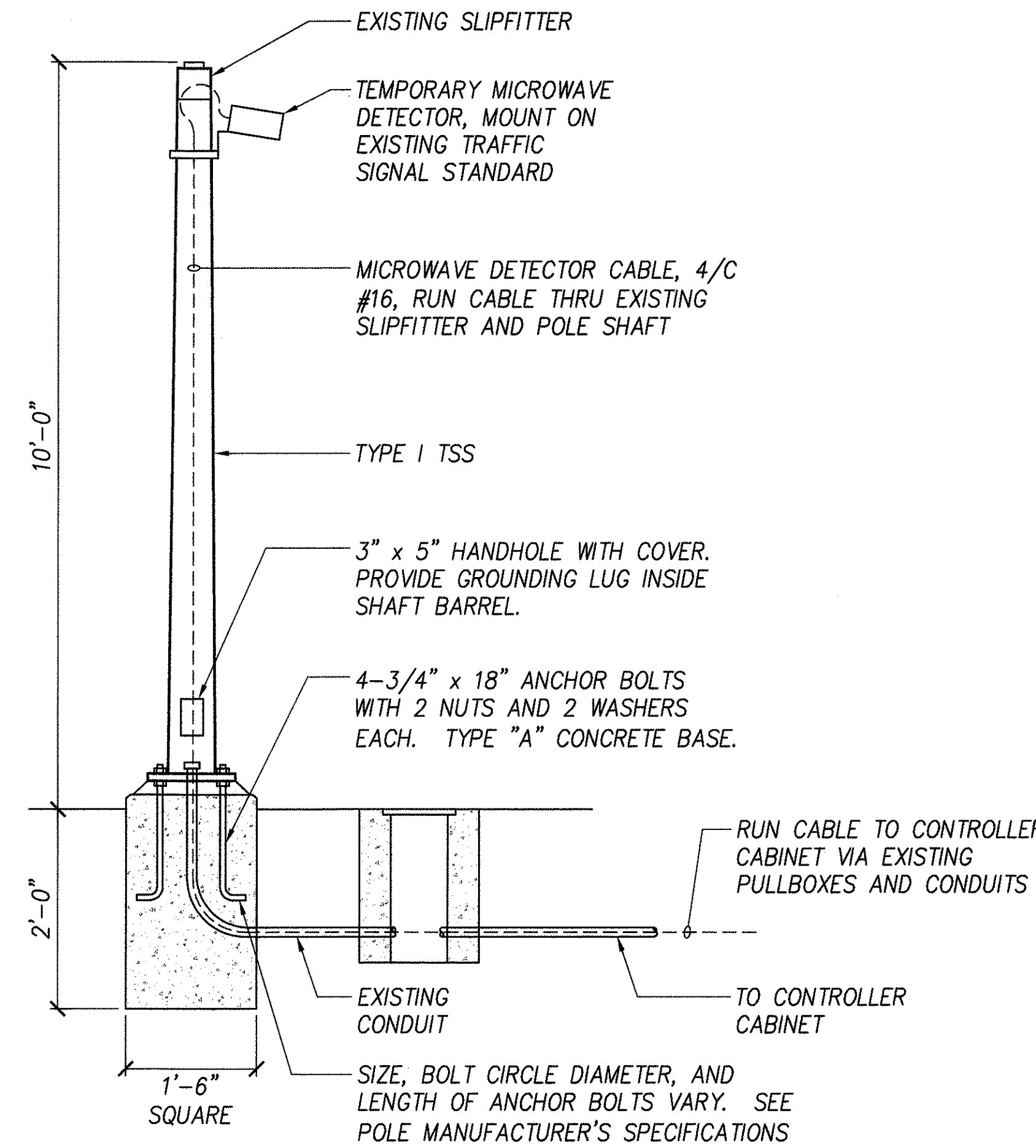
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

Signature: Lennox K. Nishimura
Date: 8/27/04

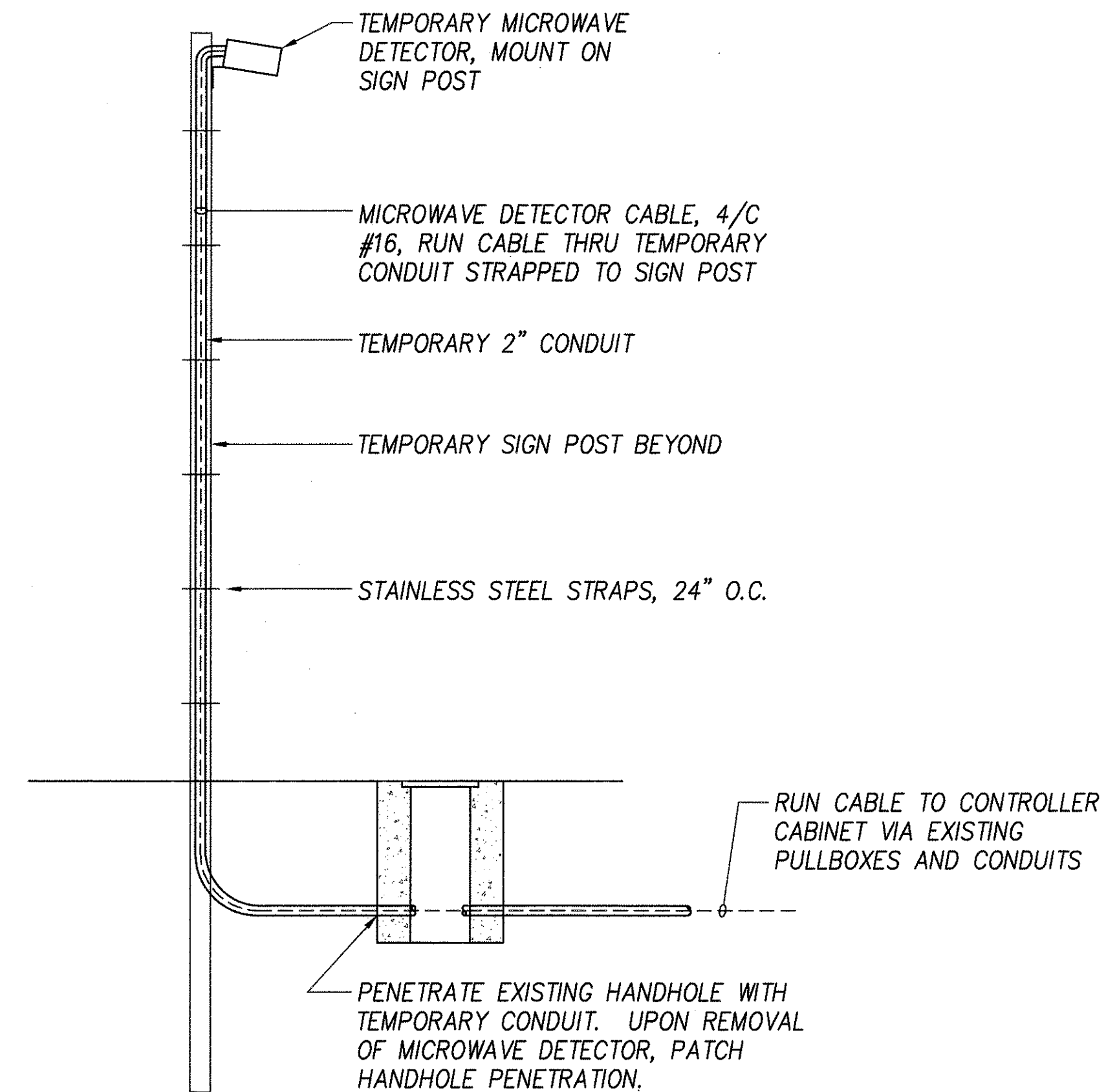
"OBSERVATION OF CONSTRUCTION" IS DEFINED IN CHAPTER 16-115, HAWAII ADMINISTRATIVE RULES ENTITLED "PROFESSIONAL ENGINEERS, ARCHITECTS, SURVEYORS AND LANDSCAPE ARCHITECTS".

DTS, C&C HONOLULU	DRAWING REVIEWED
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
DETECTOR LOOP DETAILS	
Pedestrian Facilities & ADA Compliance at Various Locations on Oahu, Unit 4	
Fed. Aid Proj. No. CMAQ-0300(95)	
NONE	Date: August 2004
SHEET No.E-33 OF 34 SHEETS	

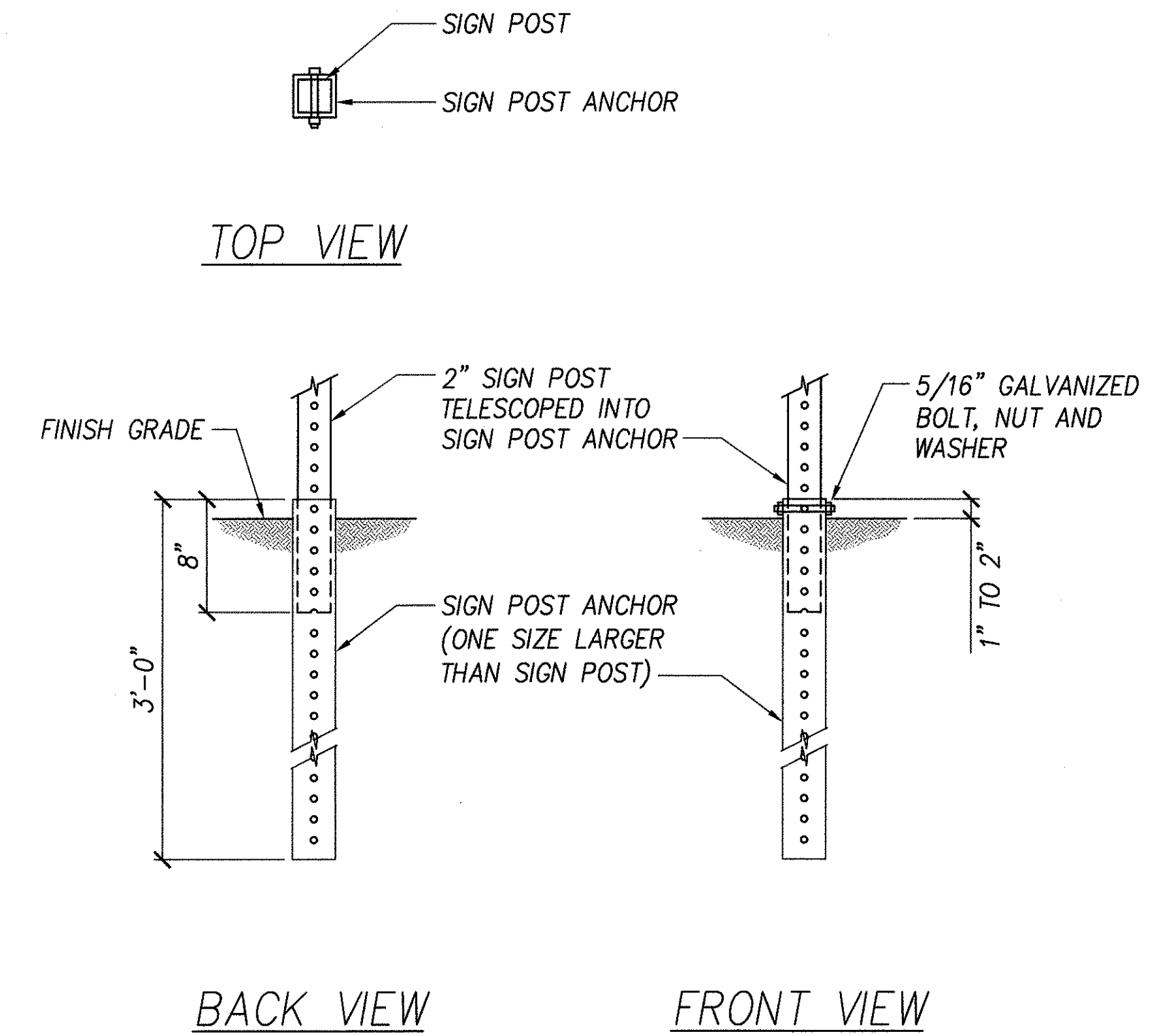
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-0300(95)	2004	128	128



AT EXISTING TRAFFIC SIGNAL STANDARD



AT TEMP SIGN POST



2 TEMPORARY SIGN POST DETAIL
E-34 NOT TO SCALE

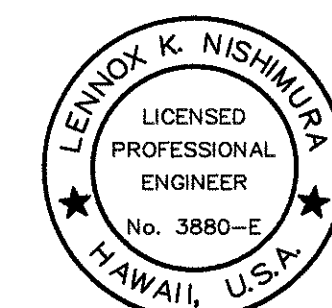
NOTES:

- STANDARDS SHALL BE DESIGNED IN ACCORDANCE WITH STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS.
- CONCRETE SHALL BE CLASS "B".
- TYPE "A" CONCRETE BASE SHALL BE USED FOR TYPE I-10, TRAFFIC SIGNAL STANDARDS.
- CONDUIT BEND IS INCIDENTAL TO CONCRETE BASE.

1 TEMPORARY MICROWAVE DETECTOR DETAIL
E-34 NOT TO SCALE

NOTES:

- MICROWAVE DETECTOR SHALL BE OPERATIONAL BEFORE EXISTING LOOP DETECTORS ARE DEACTIVATED.
- REMOVE MICROWAVE DETECTOR AND ALL ASSOCIATED CABLES AFTER NEW LOOP DETECTORS ARE INSTALLED AND OPERATIONAL.



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

Signature: *Lennox K. Nishimura* Date: 8/27/04

"OBSERVATION OF CONSTRUCTION" IS DEFINED IN CHAPTER 16-115, HAWAII ADMINISTRATIVE RULES ENTITLED "PROFESSIONAL ENGINEERS, ARCHITECTS, SURVEYORS AND LANDSCAPE ARCHITECTS".

DTS, C&C HONOLULU		DRAWING REVIEWED	
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION			
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SHEET No. E-34 OF 34 SHEETS			