



STATE OF HAWAII  
DEPARTMENT OF HAWAIIAN HOME LANDS  
91-5420 Kapolei Parkway,  
Kapolei, HI. 96707

# PLANS

FOR

FURNISHING LABOR AND MATERIALS FOR

## **NANAKULI VALLEY TRAFFIC CALMING PHASE 1**

CITY AND COUNTY OF HONOLULU, ISLAND OF OAHU, HAWAII,

IFB No.: IFB-22-HHL-016

AUGUST 2021



FILE	POCKET	FOLDER	NO.
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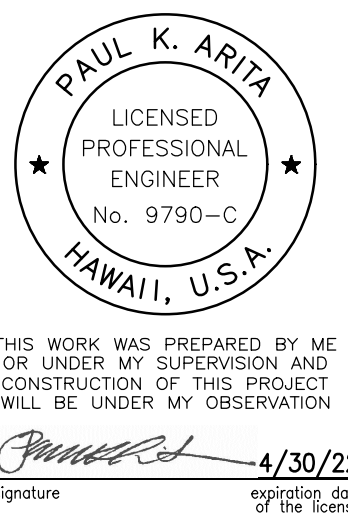
INDEX TO DRAWINGS		
SHEET	DRAWING	DESCRIPTION
1	T-001	TITLE SHEET
2	C-001	INDEX, LEGEND, AND ABBREVIATIONS
3	C-002	CONSTRUCTION NOTES - 1
4	C-003	CONSTRUCTION NOTES - 2
5	C-004	CONSTRUCTION NOTES - 3
6	C-005	CONSTRUCTION NOTES - 4
7	C-006	CONSTRUCTION NOTES - 5
8	C-007	CONSTRUCTION NOTES - 6
9	C-008	CONSTRUCTION NOTES - 7
10	C-009	GENERAL SITE PLAN
INTERSECTION SIGNING AND STRIPING PLANS		
11	C-010	NANAKULI AVENUE AND PUA AVENUE
12	C-011	NANAKULI AVENUE AND LEPEKA AVENUE
13	C-012	NANAKULI AVENUE AND PILILAAU AVENUE
14	C-013	NANAKULI AVENUE AND ILIMAPAPA PLACE
15	C-014	NANAKULI AVENUE MIDBLOCK CROSSING (BETWEEN LAUNONI PL. AND MAIAPOLUA PL.)
16	C-015	HALEAKALA AVENUE AND MANO AVENUE
17	C-016	HALEAKALA AVENUE AND PILILAAU AVENUE
18	C-017	HALEAKALA AVENUE AND OPUHE STREET
19	C-018	HALEAKALA AVENUE AND MOKIAWE STREET
20	C-019	MANO AVENUE MIDBLOCK CROSSING (BETWEEN HALEAKALA AVE. AND NANAKULI AVE.)
SIGNING IMPROVEMENTS AT VARIOUS LOCATIONS		
21	C-020	SIGNING IMPROVEMENTS AT VARIOUS LOCATIONS - 1
22	C-021	SIGNING IMPROVEMENTS AT VARIOUS LOCATIONS - 2
23	C-022	SIGNING IMPROVEMENTS AT VARIOUS LOCATIONS - 3
24	C-023	SIGNING IMPROVEMENTS AT VARIOUS LOCATIONS - 4
25	C-024	SIGNAGE AND STRIPING DETAIL - 1
26	C-025	SIGNAGE AND STRIPING DETAIL - 2

LEGEND

EXISTING	NEW
CATV BX	CABLE TELEVISION BOX
CB	CATCH BASIN
DI	DRAIN INLET
DMH	DRAIN MANHOLE
EBX	ELECTRIC BOX
EHH	ELECTRIC HANDHOLE
EMH	ELECTRIC MANHOLE
EP	ELECTRICAL POLE
EPB	ELECTRICAL PULLBOX
FO	FIBER OPTIC
FH	FIRE HYDRANT
GR	GUARD RAIL
GA	GUY ANCHOR
GW	GUY WIRE
HECO	HECO BOX
HVPP	HIGH VOLTAGE POWER POLE (100' Metal Pipe)
HB	HOSE BIBB
LP	LIGHT POLE
MB	MAIL BOX
OH	OVERHEAD
OH	OVERHEAD ELECTRICAL LINE
PP	POWER POLE
SMH	SEWER MANHOLE
SCMH	SIGNAL CORPS MANHOLE
SL	STREET LIGHT
SLCAB	STREET LIGHT CABINET
SLHH	STREET LIGHT HANDHOLE
SL	STREET LIGHT POLE
SLPB	STREET LIGHT PULLBOX
SL	STREET LIGHT STANDARD
SWL	SWALE
TBX/TEBX	TELEPHONE BOX
THH	TELEPHONE HANDHOLE
TUG	TELEPHONE LINE
TMH	TELEPHONE MANHOLE
TP	TELEPHONE POLE
TPB	TELEPHONE PULLBOX
T	TRAFFIC SIGN
TSCAB	TRAFFIC SIGNAL CABINET
TSHH	TRAFFIC SIGNAL HANDHOLE
TSP	TRAFFIC SIGNAL POLE
TSPB	TRAFFIC SIGNAL PULLBOX
TS	TRAFFIC SIGNAL STANDARD
W12	TREE
UBX	UTILITY BOX
WMH	WATER MANHOLE
WM	WATER METER
WV	WATER VALVE
WLP	WOOD LIGHT POLE
WPP	WOOD POWER POLE

ABBREVIATIONS

DELTA AND	O.C.	ON CENTER
A.C.	O.D.	OUTSIDE DIAMETER
ADJ.	OH	OVERHEAD
AZ	O/S	OFFSET
BASELINE	PAV'T	PAVEMENT
BOTTOM CURB	PB	PULLBOX
BOTTOM CURB RAMP	PC	POINT OF CURVATURE
BOTTOM CURB WALKWAY	PE	PLAIN END
BEGIN	PED	PEDESTRIAN
BLOCK	PI	POINT OF INTERSECTION
BOTTOM	PL	PLACE
BOTTOM OF WALL	P.L.	PROPERTY LINE
CATV OH	POC	POINT OF CURVATURE
CATV UG	PP	POWER POLE
CB	PT	POINT OF TANGENCY
CBMH	PVC	POLYVINYL CHLORIDE
Ch	R	RADIUS
CL	RD.	ROAD
CLR.	REFL.	REFLECTOR
CONC.	REINF.	REINFORCED OR REINFORCEMENT
CONN.	REQ'D	REQUIRED
CONT	RP	RADIUS POINT
CY	RT.	RIGHT
Ø, D	R.O.W. OR R/W	RIGHT-OF-WAY
DBL.	S	SLOPE
DET.	SCH	SCHEDULE
DMH	SF	SQUARE FOOT
DWY. OR D/W	SL	STREET LIGHT
EXIST.	SLCAB	STREET LIGHT CABINET
EHH	SLHH	STREET LIGHT HANDHOLE
ELEC.	SLP	STREET LIGHT POLE
ELEV. OR EL	SLPB	STREET LIGHT PULLBOX
EMH	SMH	SEWER MANHOLE
E.P.	SP	SIGN POST
EPB	S.S.	STAINLESS STEEL
ESW	ST.	STREET
EXIST.	STA.	STATION
FFE	STD	STANDARD
FH	STRUCT.	STRUCTURE
FIN	SVC.	SERVICE
FM	S/W	SIDEWALK
FO	SWL	SWALE
FT	T	TANGENT
GA	TC	TOP CURB
GND	TEL	TELEPHONE
GRD.	TEMP	TEMPORARY
GW	THH	TELEPHONE HANDHOLE
HB	THK.	THICK
HT.	TMH	TELEPHONE MANHOLE
HORIZ, H	TPB	TELEPHONE PULLBOX
HP	TRAV.	TRAVERSE
JB	TS	TRAFFIC SIGNAL
IN	TSCAB	TRAFFIC SIGNAL CABINET
INV	TS/FO	TRAFFIC SIGNAL/ FIBER OPTIC
LAT.	TSHH	TRAFFIC SIGNAL HANDHOLE
LB	TSP	TRAFFIC SIGNAL POLE
LEN	TSPB	TRAFFIC SIGNAL PULLBOX
LF	TW	TOP OF WALL
LP	TP	TELEPHONE POLE
LP	T/P	TOP OF PIPE
LT.	T/V	TOP OF VALVE
MAX	TYP	TYPICAL
MB	UG	UNDERGROUND
MH	VERT	VERTICAL
MIN	W	WIDE
MON	W/	WITH
NO.	WLP	WATER LINE
		WOOD LIGHT POLE
		WATER METER
		WATER MANHOLE
		WOOD POWER POLE
		WATER VALVE



CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION. HAWAII, PROFESSIONAL ENGINEER, ARCHITECT, SURVEYOR AND LANDSCAPE ARCHITECT.

REVISION	DATE	BRIEF	MADE BY	APPROVED
AUSTIN, TSUTSUMI & ASSOCIATES, INC. ENGINEERS, SURVEYORS • HONOLULU, HAWAII				
DEPARTMENT OF HAWAIIAN HOME LANDS NANAKULI TRAFFIC CALMING MEASURES, PHASE I NANAKULI, OAHU, HAWAII				
INDEX, LEGEND, AND ABBREVIATIONS				
DESIGNED BY: GJ/SN	DRAWN BY: DO	CHECKED BY: PA		
APPROVED		SUBMITTED BY		
DATE		FIRM MEMBER		DATE
FILE	POCKET	FOLDER	NO.	

C-001

SHEET 2 OF 26



GENERAL CONSTRUCTION NOTES

- ALL APPLICABLE CONSTRUCTION WORK SHALL BE DONE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, SEPTEMBER 1986, AND STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION, SEPTEMBER 1984, AS AMENDED, OF THE DEPARTMENT OF PUBLIC WORKS, CITY AND COUNTY OF HONOLULU, THE REVISED ORDINANCES OF HONOLULU, 1990, AS AMENDED, AND THE COUNTIES OF KAUAI, MAUI, AND HAWAII.
- WHEN 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 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.
- ANY PAVEMENT OUTSIDE THE CONTRACT ZONE LIMITS DAMAGED AS A RESULT OF CONSTRUCTION OPERATIONS SHALL BE RESTORED TO ITS ORIGINAL, OR BETTER, CONDITION. SUCH RESTORATION SHALL BE TO THE SATISFACTION OF THE ENGINEER, AT CONTRACTOR'S EXPENSE
- THE CONTRACTOR SHALL NOTIFY ALL AGENCIES TO VERIFY THE ACTUAL LOCATION OF ALL UTILITIES IN THE PROJECT AREA PRIOR TO EXCAVATING. THE CONTRACTOR SHALL COORDINATE ALL WORK.
- 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 AND INCLUDED IN THE VARIOUS BID ITEMS.
- THE CONTRACTOR SHALL RESTORE TO ITS ORIGINAL CONDITION ALL IMPROVEMENTS DAMAGED AS A RESULT OF 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 TO VARIOUS CONTRACT ITEMS.
- THE UNDERGROUND PIPES, CABLES OR DUCTLINES KNOWN TO EXIST BY THE ENGINEER FROM HIS SEARCH 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 SHOWN ON THE PLANS, THE CONTRACTOR SHALL EXPOSE THE EXISTING LINES AT THE PROPOSED CONNECTIONS TO VERIFY THEIR LOCATIONS AND DEPTHS PRIOR TO EXCAVATION FOR THE NEW LINES.
- THE EXISTING IMPROVEMENTS ON THE PREMISES, AND IN ADJACENT AREAS, THAT ARE NOT TO BE REMOVED, SHALL BE PRESERVED AND PROTECTED. ANY AND ALL DAMAGES RESULTING FROM THE CONTRACTOR'S CONSTRUCTION OPERATIONS SHALL BE REPLACED AND REPAIRED TO ORIGINAL CONDITION, TO THE SATISFACTION OF THE OWNER AND PAID FOR BY THE CONTRACTOR.
- NO CONTRACTOR SHALL PERFORM ANY CONSTRUCTION OPERATION SO AS TO CAUSE FALLING ROCKS, SOIL OR DEBRIS IN ANY FORM TO FALL, SLIDE OR FLOW INTO EXISTING CITY DRAINAGE SYSTEMS, OR ADJOINING PROPERTIES, STREETS OR NATURAL WATERCOURSES. SHOULD SUCH VIOLATIONS OCCUR, THE CONTRACTOR MAY BE CITED AND THE CONTRACTOR SHALL IMMEDIATELY MAKE ALL REMEDIAL ACTIONS NECESSARY.
- THE CONTRACTOR SHALL KEEP THE PROJECT AREA AND SURROUNDING AREA FREE FROM DUST NUISANCE. THE WORK SHALL BE IN CONFORMANCE WITH THE AIR POLLUTION CONTROL STANDARDS AND REGULATIONS OF THE STATE DEPARTMENT OF HEALTH. THE CITY AND COUNTY OF HONOLULU SHALL REQUIRE SUPPLEMENTARY MEASURES AS NECESSARY.
- THE GENERAL CONTRACTOR/DEVELOPER/OWNER OF THE PROJECT SHALL BE RESPONSIBLE FOR CONFORMANCE WITH APPLICABLE PROVISIONS OF THE HAWAII ADMINISTRATIVE RULES, TITLE 11, CHAPTER 54, "WATER QUALITY STANDARDS," AND TITLE 11, CHAPTER 55, "WATER POLLUTION CONTROL", AS WELL AS CHAPTER 14 OF THE REVISED ORDINANCES OF HONOLULU, AS AMENDED. BEST MANAGEMENT PRACTICES SHALL BE EMPLOYED AT ALL TIMES DURING CONSTRUCTION.

THE GENERAL CONTRACTOR/DEVELOPER/OWNER OF THE PROJECT SHALL OBTAIN NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT COVERAGE(S) FOR THE FOLLOWING:

- STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITIES THAT DISTURB ONE (1) ACRE OR MORE, AND
- DISCHARGES OF HYDROTESTING EFFLUENT, DEWATERING EFFLUENT, AND WELL DRILLING EFFLUENT TO STATE WATERS.

IN ACCORDANCE WITH STATE LAW, ALL DISCHARGES RELATED TO PROJECT CONSTRUCTION OR OPERATIONS ARE REQUIRED TO COMPLY WITH STATE WATER QUALITY STANDARDS (HAWAII ADMINISTRATIVE RULES, CHAPTER 11-54). BEST MANAGEMENT PRACTICES SHALL BE USED TO MINIMIZE OR PREVENT THE DISCHARGE OF SEDIMENT, DEBRIS, AND OTHER POLLUTANTS TO STATE WATERS. PERMIT COVERAGE IS AVAILABLE FROM THE DEPARTMENT OF HEALTH, CLEAN WATER BRANCH AT [HTTP://HEALTH.HAWAII.GOV/CWB](http://health.hawaii.gov/cwb). THE OWNER/DEVELOPER/CONTRACTOR IS RESPONSIBLE FOR OBTAINING OTHER FEDERAL, STATE, OR LOCAL AUTHORIZATIONS AS REQUIRED BY LAW.

GENERAL CONSTRUCTION NOTES (CONT'D.)

- UNLESS RELOCATION IS CALLED FOR ON THE PLANS, EXISTING UTILITIES SHALL REMAIN IN SERVICE AND IN PLACE. IF RELOCATION OF EXISTING UTILITIES IS REQUIRED FOR THE CONTRACTOR'S CONVENIENCE, INTERRUPTION OF SERVICE SHALL BE KEPT TO A MINIMUM AND SHALL BE DONE AT THE CONTRACTOR'S EXPENSE AND ONLY WITH THE APPROVAL OF THE ENGINEER.
- THE EXISTENCE AND LOCATION OF UNDERGROUND UTILITIES, APPURTENANCES AND STRUCTURES SHOWN ARE BASED ON AVAILABLE RECORDS, VERIFIED WHENEVER POSSIBLE BY FIELD SURVEYS. NO GUARANTEE IS MADE ON THE ACCURACY OR COMPLETENESS OF SAID INFORMATION. THE CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY THE LOCATION AND INVERTS OF ALL EXISTING UTILITIES WHETHER OR NOT SHOWN ON THE PLANS, AND SHALL PROTECT SUCH UTILITIES AT ALL TIMES. DAMAGE TO EXISTING UTILITIES AS A RESULT OF CONSTRUCTION ACTIVITIES SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE. INJURY TO PERSONNEL RESULTING FROM CONTACT WITH THE EXISTING UTILITIES SHALL BE THE CONTRACTOR'S RESPONSIBILITY.
- ALL CONSTRUCTION WORK WITHIN THE ROADWAY SHALL BE DONE BETWEEN THE HOURS OF 8:30 AM TO 3:30 PM, MONDAY THROUGH FRIDAY. CONSTRUCTION WORK MUST BE CLEAR FROM ROADWAY BY 3:30 PM.
- EXISTING PAVEMENT AND PAVEMENT MARKINGS THAT ARE DAMAGED BY THE CONTRACTOR'S CONSTRUCTION OPERATIONS SHALL BE RESTORED TO THE SATISFACTION OF THE ENGINEER AND PAID FOR BY THE CONTRACTOR.
- THE CONTRACTOR SHALL FURNISH ALL LABOR, EQUIPMENT AND SERVICES TO PROPERLY PERFORM AND FULLY COMPLETE ALL WORK SHOWN ON CONTRACT, DRAWINGS AND SPECIFICATIONS.
- ALL DIMENSIONS AND DETAILS SHOWN ON THE DRAWINGS SHALL BE CHECKED AND VERIFIED PRIOR TO THE START OF CONSTRUCTION, AND ANY DISCREPANCIES SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ENGINEER FOR CLARIFICATION.
- PURSUANT TO CHAPTER 6E, HRS, IN THE EVENT ANY ARTIFACTS OR HUMAN REMAINS ARE UNCOVERED DURING CONSTRUCTION OPERATIONS, THE CONTRACTOR SHALL IMMEDIATELY SUSPEND WORK AND NOTIFY THE HONOLULU POLICE DEPARTMENT, THE STATE DEPARTMENT OF LAND AND NATURAL RESOURCES-HISTORIC PRESERVATION DIVISION (692-8015). IN ADDITION, FOR NON-CITY PROJECTS, THE CONTRACTOR SHALL INFORM THE CIVIL ENGINEERING BRANCH, DEPARTMENT ON PLANNING AND PERMITTING (768-8084); AND FOR CITY PROJECTS, NOTIFY THE RESPONSIBLE CITY AGENCY.
- THE CONTRACTOR SHALL PROVIDE, INSTALL AND MAINTAIN ALL NECESSARY SIGNS, LIGHTS, FLARES, BARRICADES, MARKERS, CONES AND OTHER PROTECTIVE FACILITIES AND SHALL TAKE ALL NECESSARY PRECAUTIONS FOR THE PROTECTION AND FOR THE CONVENIENCE AND SAFETY OF PUBLIC TRAFFIC. ALL SUCH PROTECTIVE FACILITIES AND PRECAUTIONS TO BE TAKEN SHALL CONFORM WITH THE "ADMINISTRATIVE RULES OF HAWAII GOVERNING THE USE OF TRAFFIC CONTROL DEVICES AT WORK SITES ON OR ADJACENT TO PUBLIC STREETS AND HIGHWAYS" ADOPTED BY THE DIRECTOR OF TRANSPORTATION, AND THE CURRENT U.S. FEDERAL HIGHWAY ADMINISTRATION'S "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, PART VI - TRAFFIC CONTROL FOR STREET AND HIGHWAY CONSTRUCTION AND MAINTENANCE OPERATIONS".
- THE CONTRACTOR SHALL APPLY AND PAY FOR ALL NECESSARY CONSTRUCTION PERMITS.
- THE CONTRACTOR SHALL PROVIDE ACCESS TO AND FROM DRIVEWAYS AND PUBLIC STREETS AT ALL TIMES.
- THE CONTRACTOR SHALL OBSERVE AND COMPLY WITH ALL FEDERAL, STATE AND LOCAL LAWS REQUIRED FOR THE PROTECTION OF PUBLIC HEALTH AND SAFETY AND ENVIRONMENTAL QUALITY.
- 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.
- CONFINED SPACE:

FOR ENTRY BY CITY PERSONNEL, INCLUDING INSPECTORS, INTO A PERMIT REQUIRED CONFINED SPACE AS DEFINED IN 29 CFR PART 1910.146(b), THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING:

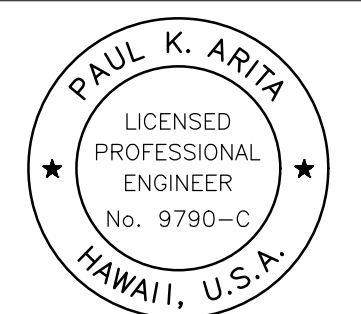
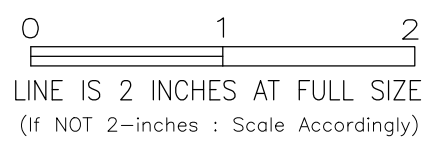
- ALL SAFETY EQUIPMENT REQUIRED BY THE CONFINED SPACE REGULATIONS APPLICABLE TO ALL PARTIES OTHER THAN THE CONSTRUCTION INDUSTRY, TO INCLUDE BUT NOT LIMITED TO, THE FOLLOWING:
  - FULL BODY HARNESSES FOR UP TO TWO PERSONNEL.
  - LIFELINE AND ASSOCIATED CLIPS.
  - INGRESS/EGRESS AND FALL PROTECTION EQUIPMENT.
  - TWO-WAY RADIOS (WALKIE-TALKIES) IF OUT OF LINE-OF-SIGHT.
  - EMERGENCY (ESCAPE) RESPIRATOR (10 MINUTE DURATION).
  - CELLULAR TELEPHONE TO CALL FOR EMERGENCY ASSISTANCE.
  - CONTINUOUS GAS DETECTOR (CALIBRATED) TO MEASURE OXYGEN, HYDROGEN SULFIDE, CARBON MONOXIDE AND FLAMMABLES (CAPABLE OF MONITORING AT A DISTANCE AT LEAST 20-FEET AWAY).
  - PERSONAL MULTI-GAS DETECTOR TO BE CARRIED BY INSPECTOR.
- CONTINUOUS FORCED AIR VENTILATION ADEQUATE TO PROVIDE SAFE ENTRY CONDITIONS.
- ONE ATTENDANT/RESCUE PERSONNEL TOPSIDE (TWO, IF CONDITIONS WARRANT IT).

GENERAL CONSTRUCTION NOTES (CONT'D.)

- FOR PROJECTS ABUTTING STATE HIGHWAYS' RIGHT-OF WAY, THE OWNER OR AUTHORIZED REPRESENTATIVE SHALL NOTIFY THE STATE DEPARTMENT OF TRANSPORTATION, HIGHWAYS DIVISION, OAHU DISTRICT, DRAINAGE DISCHARGE UNIT AT 831-6793 FOR ASSESSMENT OF STATE HIGHWAYS PERMIT REQUIREMENTS.
- THE CONTRACTOR SHALL BECOME FAMILIAR WITH AND SHALL MEET THE LATEST REQUIREMENTS OF THE CITY DEPARTMENT OF TRANSPORTATION SERVICES (DTS). THE CONTRACTOR SHALL SUBMIT A TRAFFIC CONTROL PLAN TO THE CITY (DTS) BEFORE APPLYING FOR A STREET USAGE PERMIT. THE TRAFFIC CONTROL PLAN SHALL MEET ALL DTS REQUIREMENTS INCLUDING PREPARATION BY, OR UNDER THE SUPERVISION OF, A LICENSED PROFESSIONAL ENGINEER.
- DURING NON-WORKING HOURS NO CONSTRUCTION EQUIPMENT SHALL BE PARKED WITHIN THE ROAD RIGHT-OF-WAY IN SUCH A MANNER THAT THE EQUIPMENT WILL OBSTRUCT THE NORMAL MOVEMENT AND SIGHT DISTANCE OF THE DRIVING MOTORIST.
- EXCEPT DURING ACTUAL WORKING HOURS, ALL SIGNS WHICH DO NOT PERTAIN TO THE CONSTRUCTION ACTIVITY, SUCH AS "ROAD WORK" AND "FLAGGER AHEAD" SHALL BE COVERED OR LAID DOWN. HOWEVER, ALL SIGNS NECESSARY FOR THE SAFETY OF THE PUBLIC SHALL BE MAINTAINED.
- THE CONTRACTOR SHALL EMPLOY A HAWAII LICENSED PROFESSIONAL LAND SURVEYOR TO PERFORM ALL CONSTRUCTION STAKEOUTS, THE COST OF WHICH SHALL BE BORNE BY THE CONTRACTOR.
- THE CONTRACTOR SHALL MAKE OWN ARRANGEMENTS FOR, AND PAY FOR ALL TEMPORARY UTILITIES REQUIRED FOR THE WORK.
- EXISTING DRAINAGE SYSTEM WILL BE FUNCTIONAL AT ALL TIMES DURING CONSTRUCTION. CONTRACTOR IS TO FURNISH MATERIALS, EQUIPMENT, LABOR, TOOLS AND INCIDENTALS NECESSARY TO ACCOMPLISH MAINTENANCE OF FLOW, THE COST OF WHICH SHALL BE CONSIDERED INCIDENTAL TO THE VARIOUS CONTRACT ITEMS, AND WILL NOT BE PAID FOR SEPARATELY.
- WHENEVER THE CENTER OF A STREET SURVEY MONUMENT IS LESS THAN THREE (3) FEET AWAY FROM THE EDGE OF TRENCH, THE CONTRACTOR SHALL RETAIN A LICENSED LAND SURVEYOR TO REFERENCE THE LOCATION OF SAID STREET MONUMENT. ALL REFERENCING WORK SHALL BE SUBMITTED TO THE DEPARTMENT DESIGN AND CONSTRUCTION, DIVISION OF LAND SURVEY AND ACQUISITION, FOR REVIEW AND APPROVAL BEFORE COMMENCEMENT OF CONSTRUCTION ADJACENT TO STREET MONUMENTS.
- STREET MONUMENTS THAT ARE DISTURBED SHALL BE RESTORED UNDER THE LICENSED LAND SURVEYOR'S DIRECTION. ANY NEW DATA SUCH AS ELEVATIONS SHALL BE CERTIFIED BY THE SURVEYOR AND SUBMITTED TO THE DEPARTMENT OF PLANNING AND PERMITTING.
- THE CONTRACTOR SHALL RELOCATE EXISTING IRRIGATION SYSTEM INCLUDING IRRIGATION PIPE AND CONTROL VALVES WITHIN LANDSCAPE PLANT AREA.
- CONTRACTOR SHALL NOT STOCKPILE MATERIALS OR EQUIPMENT WITHIN KNOWN HISTORIC PERIOD RESOURCES AREAS AS LISTED ON THE NATIONAL REGISTER OF HISTORIC PLACES.
- TEMPORARY PEDESTRIAN ROUTES SHALL BE MAINTAINED IN SAFE, PASSABLE AND ACCESSIBLE CONDITION COMPLYING WITH ADAAG 206 AND 402.
- CONTRACTOR SHALL NOTIFY THE ENGINEER BEFORE COMMENCEMENT OF WORK ON ANY SITE WITH TREES IN CLOSE PROXIMITY (15 FT).
- ALL CONSTRUCTION WORK SHALL BE DONE IN ACCORDANCE WITH THE "HAWAII STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND PUBLIC WORKS CONSTRUCTION 2005" AS AMENDED, AND THE "STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION", DATED SEPTEMBER 1984, AS AMENDED, OF THE DEPARTMENT OF PUBLIC WORKS, CITY AND COUNTIES OF THE STATE OF HAWAII, THE "STATE OF HAWAII, DEPARTMENT OF TRANSPORTATION STANDARD PLANS" 2008, THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICE FOR STREETS AND HIGHWAYS", 2009, AND THE CONSTRUCTION DRAWINGS, DETAILS & SPECIFICATIONS PREPARED FOR THIS PROJECT.
- THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, AND SHALL BE RESPONSIBLE FOR THE REPAIR OR REPLACEMENT OF SAME IN THE EVENT OF DAMAGES DUE TO HIS CONSTRUCTION PRACTICES.

GENERAL CONSTRUCTION NOTES (CONT'D.)

- WHEREVER CROSSINGS OR CONNECTIONS OF NEW UTILITIES TO EXISTING UTILITIES ARE SHOWN ON THE PLANS, THE CONTRACTOR SHALL EXPOSE THE EXISTING LINES TO VERIFY THEIR LOCATIONS AND DEPTHS PRIOR TO EXCAVATION FOR THE NEW LINES. THE CONTRACTOR SHALL PROTECT EXISTING UTILITIES AND SHALL BE RESPONSIBLE FOR DAMAGES TO THE FACILITIES WHETHER SHOWN OR NOT ON THE PLANS.
- NO CONSTRUCTION EQUIPMENT SHALL BE PARKED WITHIN THE ROAD RIGHT-OF-WAY IN SUCH A MANNER THAT THE EQUIPMENT WILL OBSTRUCT THE NORMAL MOVEMENT AND SIGHT DISTANCE OF THE DRIVING MOTORIST, EXCEPT DURING ACTUAL WORKING HOURS.
- THE CONTRACTOR SHALL HAVE AN ARCHAEOLOGICAL MONITOR PRESENT DURING GROUND DISTURBING ACTIVITIES. THE ARCHAEOLOGICAL MONITOR SHALL INSPECT THE EXPOSED SOIL AND THE STRATIGRAPHIC PROFILE OF ANY EXCAVATED TRENCHES IN AN EFFORT TO IDENTIFY ANY PREVIOUSLY UNDISCOVERED AND UNDISTURBED HISTORIC SITES OR REMAINS. SHOULD HISTORIC SITES SUCH AS WALLS, PLATFORMS, PAVEMENTS AND MOUNDS, OR REMAINS SUCH AS ARTIFACTS, BURIALS, CONCENTRATION OF CHARCOAL OR SHELLS BE ENCOUNTERED DURING CONSTRUCTION WORK, WORK SHALL CEASE IN THE IMMEDIATE VICINITY OF THE FIND AND THE FIND SHALL BE PROTECTED FROM FURTHER DAMAGE. THE CONTRACTOR SHALL IMMEDIATELY CONTACT THE STATE HISTORIC PRESERVATION DIVISION ((808) 692-8015), WHICH WILL ASSESS THE SIGNIFICANCE OF THE FIND AND RECOMMEND AN APPROPRIATE MITIGATION MEASURE, IF NECESSARY. A 3-METER / 10-FOOT WIDE BUFFER ZONE EXISTS AROUND ALL SITES IN PRESERVATION DURING CONSTRUCTION. IT IS HIGHLY IMPORTANT THAT THE PRESERVED SITES REMAIN UNDISTURBED.
- THE CONTRACTOR SHALL PROCURE AND PAY FOR ALL LICENSES AND PERMITS AND SHALL GIVE ALL NOTICES NECESSARY AND INCIDENTAL TO THE DUE AND LAWFUL PROSECUTION OF THE WORK.
- THE CONTRACTOR SHALL RESTORE ALL EXISTING FACILITIES INCLUDING BUT NOT LIMITED TO PAVEMENT, DRAINAGE FACILITIES, CURBS, GUTTERS, SIGNS, LANDSCAPING, IRRIGATION SYSTEMS, ETC., REMOVED OR DAMAGED AS A RESULT OF HIS OPERATION USING MATERIALS AND WORKMANSHIP IN ACCORDANCE WITH "HAWAII STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND PUBLIC WORKS CONSTRUCTION", 2005 AS AMENDED, "STANDARD DETAILS", SEPTEMBER 1984 FOR PUBLIC WORKS CONSTRUCTION OF THE DEPARTMENT OF PUBLIC WORKS, COUNTY OF MAUI, AS AMENDED.
- THE CONTRACTOR SHALL REMOVE AND DISPOSE ALL SILT AND DEBRIS DEPOSITED IN DRAINAGE FACILITIES, ROADWAYS AND OTHER AREAS RESULTING FROM HIS WORK. THE COST INCURRED FOR ANY NECESSARY REMEDIAL ACTION ORDERED BY THE DIRECTOR OF PUBLIC WORKS SHALL BE PAID BY THE CONTRACTOR.
- CONSTRUCTION DEBRIS AND WASTES SHALL BE DEPOSITED AT AN APPROPRIATE SITE. THE CONTRACTOR SHALL INFORM THE DIRECTOR OF PUBLIC WORKS OF THE LOCATION OF THE DISPOSAL SITES. THE DISPOSAL SITE MUST FULFILL THE REQUIREMENTS OF THE GRADING ORDINANCE. THE CONTRACTOR SHALL MINIMIZE ITS CONSTRUCTION DEBRIS AND SOLID WASTES.
- CONTRACTOR SHALL PROVIDE VEHICULAR AND PEDESTRIAN ACCESS ROUTES AT ALL TIMES TO ALL EXISTING FACILITIES.



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.  
*Signature* 4/30/22  
signature expiration date of the license

CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.  
HAWAII ADMINISTRATIVE RULES, DEPARTMENT OF PUBLIC WORKS, CITY AND COUNTIES OF THE STATE OF HAWAII, THE "STATE OF HAWAII, DEPARTMENT OF TRANSPORTATION STANDARD PLANS" 2008, THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICE FOR STREETS AND HIGHWAYS", 2009, AND THE CONSTRUCTION DRAWINGS, DETAILS & SPECIFICATIONS PREPARED FOR THIS PROJECT.

REVISION	DATE	BRIEF	MADE BY	APPROVED
<b>AUSTIN, TSUTSUMI &amp; ASSOCIATES, INC.</b> ENGINEERS, SURVEYORS • HONOLULU, HAWAII				
DEPARTMENT OF HAWAIIAN HOME LANDS <b>NANAKULI TRAFFIC CALMING MEASURES, PHASE I</b> NANAKULI, OAHU, HAWAII <b>CONSTRUCTION NOTES - 1</b>				
DESIGNED BY: GJ/SN	DRAWN BY: DO	CHECKED BY: PA		
APPROVED		SUBMITTED BY		
DATE		FIRM MEMBER		DATE

C-002

SHEET 3 OF 26

FILE	POCKET	FOLDER	NO.



NOTES FOR CONSTRUCTION WITHIN STATE RIGHT-OF-WAY

1. THE CONTRACTOR SHALL OBTAIN A PERMIT TO PERFORM WORK UPON STATE HIGHWAYS FROM THE OAHU DISTRICT ENGINEER, STATE HIGHWAYS, AT 727 KAKOI STREET, PRIOR TO COMMENCEMENT OF WORK WITHIN THE STATE'S HIGHWAY RIGHT-OF-WAY.
2. CONSTRUCTION AND RESTORATION OF ALL EXISTING HIGHWAY FACILITIES WITHIN THE STATE'S RIGHT-OF-WAY, INCLUDING THE LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC, SHALL BE IN ACCORDANCE WITH THE CURRENT HAWAII STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, AND THE SPECIFICATIONS FOR INSTALLATION OF MISCELLANEOUS IMPROVEMENTS WITHIN STATE HIGHWAYS, OF THE STATE HIGHWAYS DIVISION.
3. WORK MAY BE PERFORMED ONLY BETWEEN THE HOURS OF 8:30 A.M. AND 3:00 P.M., MONDAY THROUGH FRIDAY, EXCEPT STATE HOLIDAYS, UNLESS WHEN OTHERWISE APPROVED IN WRITING BY THE DISTRICT ENGINEER.

DURING WORK HOURS, ONLY ONE LANE OF TRAFFIC SHALL BE CLOSED, UNLESS OTHERWISE APPROVED IN WRITING BY THE DISTRICT ENGINEER.

AT CERTAIN LOCATIONS, "NO LANE CLOSURE" WILL BE ALLOWED DURING THE "BACK TO SCHOOL JAM", THANKSGIVING WEEKEND, CHRISTMAS/NEW YEAR PERIOD AND AT OTHER TIMES AS DIRECTED BY THE HIGHWAYS DIVISION.

4. THE CONTRACTOR SHALL PROVIDE, INSTALL, AND MAINTAIN ALL NECESSARY SIGNS, LIGHTS, FLARES, BARRICADES, MARKERS, CONES, AND OTHER PROTECTIVE FACILITIES, AND SHALL TAKE ALL NECESSARY PRECAUTIONS FOR THE PROTECTION, CONVENIENCE, AND SAFETY OF PUBLIC TRAFFIC. ALL SUCH PROTECTIVE FACILITIES AND PRECAUTIONS TO BE TAKEN SHALL CONFORM WITH THE "ADMINISTRATIVE RULES OF HAWAII GOVERNING THE USE OF TRAFFIC CONTROL DEVICES AT WORK SITES ON OR ADJACENT TO PUBLIC STREETS AND HIGHWAYS", ADOPTED BY THE DIRECTOR OF TRANSPORTATION, AND THE "U.S. FEDERAL HIGHWAY ADMINISTRATION MUTCD-MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, PART VI-TEMPORARY TRAFFIC CONTROL".

LANE CLOSURES SHALL CONFORM TO THE TRAFFIC CONTROL PLAN INCORPORATED INTO THESE CONSTRUCTION PLANS AND MUST BE APPROVED BY THE DIVISION PRIOR TO THE ISSUANCE OF THE PERMIT.

5. THE MINIMUM PAVEMENT STRUCTURE SHALL CONSIST OF:
- a. RESIDENTIAL DRIVEWAYS, ON MINOR HIGHWAYS:  
(1) 2-1/2" ASPHALT CONCRETE (MIX IV), 6" AGGREGATE BASE COURSE AND 12" SUBBASE, OR 2-1/2" ASPHALT CONCRETE AND 6" ASPHALT CONCRETE BASE COURSE.
- (2) 6" OF CLASS "A" CONCRETE REINFORCED WITH 6"x6"-W2.9 x W2.9 WIRE MESH ON 12" AGGREGATE SUBBASE, IF DEEMED NECESSARY BY THE ENGINEER.
- b. COMMERCIAL DRIVEWAYS AND SIDEROADS ON MINOR HIGHWAYS:
- (1) 2-1/2" ASPHALT CONCRETE (MIX IV), 6" ASPHALT CONCRETE BASE COURSE AND 12" SUBBASE, OR 4" ASPHALT CONCRETE (MIX IV) AND 8" ASPHALT CONCRETE BASE COURSE.
- (2) 8" OF CLASS "A" CONCRETE REINFORCED WITH 6"x6" - W2.9 x W2.9 WIRE MESH ON 12" AGGREGATE SUBBASE, IF DEEMED NECESSARY BY THE ENGINEER.
- c. CHANNELIZED INTERSECTIONS ON MAJOR HIGHWAYS:  
4" ASPHALT CONCRETE (MIX IV), 8" ASPHALT CONCRETE BASE COURSE AND 12" AGGREGATE SUBBASE, OR 4" ASPHALT CONCRETE (MIX IV) AND 12" ASPHALT CONCRETE BASE COURSE.
6. 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.
7. COMPACTION TESTS SHALL BE TAKEN IN ACCORDANCE WITH THE SPECIFICATIONS FOR INSTALLATION OF MISCELLANEOUS IMPROVEMENTS WITHIN STATE HIGHWAYS, AS FOLLOWS:
- a. SUBBASE: ONE (1) COMPACTION TEST PER LIFT PER 200 LINEAL FEET OF ROADWAY.
- b. BASE COURSE: ONE (1) COMPACTION TEST PER LIFT PER 200 LINEAL FEET OF ROADWAY.
- c. ONE (1) COMPACTION TEST PER LIFT PER 300 LINEAL FEET OF TRENCH.
- d. A COPY OF THE TEST RESULTS SHALL BE SUBMITTED TO THE DISTRICT ENGINEER.

NOTES FOR CONSTRUCTION WITHIN STATE RIGHT-OF-WAY (CONT.)

8. EXISTING DRAINAGE SYSTEMS SHALL BE FUNCTIONAL AT ALL TIMES.
9. THE CONTRACTOR SHALL EXERCISE CARE TO MINIMIZE DAMAGES TO EXISTING HIGHWAY IMPROVEMENTS. ALL DAMAGES SHALL BE REPAIRED BY THE CONTRACTOR, AT HIS EXPENSE, TO THE SATISFACTION OF THE DISTRICT ENGINEER.
10. APPROVAL OF PERMIT CONSTRUCTION PLANS SHALL BE VALID FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF NOTIFICATION OF APPROVAL TO THE APPLICANT. IN THE EVENT CONSTRUCTION DOES NOT COMMENCE WITHIN THIS ONE-YEAR PERIOD, THE APPLICANT WILL BE REQUIRED TO RESUBMIT THE CONSTRUCTION PLANS FOR THE DIVISION'S REVIEW AND RE-APPROVAL.
11. ALL REGULATORY, GUIDE, AND CONSTRUCTION SIGNS AND BARRICADES SHALL HAVE A HIGH-INTENSITY TYPE III OR IV RETROREFLECTIVE BACKGROUND.
12. THE CONTRACTOR SHALL INFORM THE STATE HIGHWAY'S PERMIT OFFICE (831-6712) AT LEAST TWO (2) DAYS PRIOR TO CLOSING ANY LANES.
13. DRIVEWAYS SHALL BE KEPT OPEN UNLESS THE OWNERS OF THE PROPERTIES USING THESE RIGHTS-OF-WAY ARE OTHERWISE PROVIDED FOR SATISFACTORILY.
14. 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. ALL WALKWAYS SHALL CONFORM TO ADA REQUIREMENTS.
15. THE CONTRACTOR SHALL REFERENCE, TO THE SATISFACTION OF THE DISTRICT ENGINEER, ALL EXISTING TRAFFIC SIGNS, POSTS, AND PAVEMENT MARKINGS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. THE CONTRACTOR SHALL REPLACE OR REPAIR ALL TRAFFIC SIGNS, POSTS, AND PAVEMENT MARKINGS DISTURBED BY HIS ACTIVITIES, AT HIS EXPENSE, UNLESS DIRECTED BY THE DISTRICT ENGINEER OR HIS REPRESENTATIVE.
16. THE CONTRACTOR SHALL EXERCISE CARE WHEN PERFORMING WORK IN OR ADJACENT TO THE STATE HIGHWAY RIGHT-OF-WAY. DAMAGES TO THE EXISTING FACILITIES SHALL BE IMMEDIATELY REPORTED TO THE RESPECTIVE UTILITY COMPANIES, AND/OR CITY OR STATE AGENCIES. THE REPAIR WORK SHALL BE DONE AT THE CONTRACTOR'S EXPENSE.
17. HIGHWAY LIGHTS SHALL BE KEPT OPERATIONAL DURING CONSTRUCTION. SHOULD WORK BE NECESSARY, THE CONTRACTOR SHALL NOTIFY THE STATE HIGHWAYS' HIGHWAY LIGHTING SUPERVISOR (837-8056), THREE (3) WORKING DAYS PRIOR TO COMMENCING WORK.
18. THE CONTRACTOR SHALL NOTIFY THE CITY DEPARTMENT OF TRANSPORTATION SERVICES, TRAFFIC SIGNAL ENGINEER (768-8388), THREE (3) DAYS PRIOR TO ANY SIGNALIZED INTERSECTION WORK.
19. TRAFFIC SIGNALS SHALL BE KEPT OPERATIONAL DURING CONSTRUCTION. OPERATIONAL MICROWAVE OR OTHER APPROVED DETECTION DEVICES INSTALLED THREE (3) WORKING DAYS PRIOR TO ANY SIGNALIZED INTERSECTION EXCAVATION WORK. ALL WORK SHALL BE DONE IN ACCORDANCE TO THE REQUIREMENTS OF THE DEPARTMENT OF TRANSPORTATION SERVICES, CITY AND COUNTY OF HONOLULU, AND PAID FOR BY THE CONTRACTOR.
20. THE CONTRACTOR SHALL NOTIFY OAHU TRANSIT SERVICES, INC. (OTS), AT 848-4578, TWO WEEKS PRIOR TO COMMENCING ANY WORK. THE CONTRACTOR SHALL INFORM OTS OF THE LOCATION AND SCOPE OF WORK, PROPOSED CLOSURE OF ANY STREET OR TRAFFIC LANES, AND THE NEED TO RELOCATE ANY BUSY STOP.
21. THE PERMIT TO PERFORM WORK UPON STATE HIGHWAY MAY BE REVOKED BECAUSE OF DEFAULT IN ANY OF THE FOLLOWING, BUT NOT LIMITED TO, CONDITIONS:
- a. WORK PERFORMED BEFORE OF AFTER PERMITTED HOURS.
- b. FAILURE TO MAINTAIN ROADWAY SURFACES IN A SMOOTH AND SAFE CONDITION.
- c. FAILURE TO CLEAN UP CONSTRUCTION DEBRIS GENERATED FROM PROJECT WORK.
- d. FAILURE TO PROVIDE PROPER TRAFFIC CONTROL.
- e. FAILURE TO REPLACE DAMAGED PAVEMENT MARKINGS AND SIGNS.
- f. FAILURE TO MAINTAIN HIGHWAY LIGHTS AND/OR TRAFFIC SIGNAL SYSTEMS.
- g. FAILURE TO ADDRESS PUBLIC COMPLAINTS TO THE SATISFACTION OF THE DISTRICT ENGINEER.

NOTES FOR CONSTRUCTION WITHIN STATE RIGHT-OF-WAY (CONT.)

22. PLASTIC MARKING TAPE. PROVIDE PLASTIC MARKING TAPE THAT IS ACID AND ALKALI RESISTANT POLYETHYLENE FILM 6 INCHES WIDE WITH MINIMUM THICKNESS OF 0.004 INCH. PROVIDE TAPE WITH MINIMUM STRENGTH OF 1750 PSI LENGTHWISE AND 1500 INTEGRAL WIRES, FOIL BACKING OR OTHER PSI CROSSWISE. MANUFACTURE TAPE WITH A METAL DETECTOR WHEN THE TAPE IS BURIED UP MEANS TO ENABLE DETECTION BY TO 3 FEET DEEP. MANUFACTURE TAPE SPECIFICALLY FOR MARKING AND LOCATING UNDERGROUND UTILITIES. PROVIDE THE METALLIC CORE OF THE TAPE ENCASED IN A PROTECTIVE JACKET OR PROVIDED WITH OTHER MEANS TO PROTECT IT FROM CORROSION. CONFORM TO THE FOLLOWING TAPE COLOR AND BEAR A CONTINUOUS PRINTED INSCRIPTION DESCRIBING THE SPECIFIC UTILITY.
- RED : ELECTRIC  
YELLOW : GAS, OIL DANGEROUS MATERIALS  
ORANGE : TELEPHONE, TELEGRAPH, TELEVISION, POLICE, AND FIRE COMMUNICATIONS  
BLUE : WATER SYSTEMS  
GREEN : SEWER SYSTEMS
23. THE CONTRACTOR SHALL PROVIDE THE DISTRICT ENGINEER WITH AS-BUILT PLANS UPON COMPLETION OF THE WORK DONE IN THE STATE RIGHT-OF-WAY. THIS SHALL BE DONE PRIOR TO THE DEPARTMENT'S RELEASE OF THE PERFORMANCE BOND.

TRAFFIC NOTES FOR WORK ON CITY & COUNTY STREETS

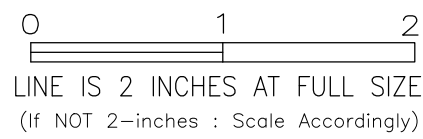
1. A PERMIT SHALL BE OBTAINED FROM THE DEPARTMENT OF TRANSPORTATION SERVICES BEFORE WORK ON ANY PORTION OF A PUBLIC STREET OR HIGHWAY MAY BEGIN. CONSTRUCTION TRAFFIC CONTROL PLANS APPROVED BY THE DEPARTMENT OF TRANSPORTATION SERVICES AND/OR THE DEPARTMENT OF PLANNING AND PERMITTING MUST BE PROVIDED WHEN APPLYING FOR THE PERMIT.
2. THE CONTRACTOR SHALL PROVIDE, INSTALL AND MAINTAIN ALL NECESSARY SIGNS AND OTHER PROTECTIVE FACILITIES, WHICH SHALL CONFORM WITH THE "HAWAII ADMINISTRATION RULES GOVERNING THE USE OF TRAFFIC CONTROL DEVICES AT WORK SITES ON OR ADJACENT TO PUBLIC STREETS AND HIGHWAYS" ADOPTED BY THE DIRECTOR OF TRANSPORTATION, AND THE CURRENT U.S. FEDERAL HIGHWAY ADMINISTRATION'S "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, PART VI - TRAFFIC CONTROLS FOR STREET AND HIGHWAY CONSTRUCTION AND MAINTENANCE OPERATIONS."
3. WORK ON ANY CITY STREET AREA MAY BE PERFORMED ONLY BETWEEN THE HOURS OF 8:30 A.M. TO 3:30 P.M., MONDAY THROUGH FRIDAY, UNLESS OTHERWISE PERMITTED BY THE DEPARTMENT OF TRANSPORTATION SERVICES.
4. DURING WORKING HOURS, THE CONTRACTOR SHALL PROVIDE FOR THROUGH TRAFFIC. DURING NON-WORKING HOURS, ALL TRENCHES SHALL BE COVERED WITH A SAFE NON-SKID BRIDGING MATERIAL AND ALL LANES SHALL BE OPEN TO TRAFFIC.
5. AS REQUIRED BY THE DEPARTMENT OF TRANSPORTATION SERVICES, THE CONTRACTOR SHALL PROVIDE OFF-DUTY POLICE OFFICERS TO CONTROL THE FLOW OF TRAFFIC.
6. WHERE PEDESTRIAN WALKWAYS EXIST, THEY SHALL BE MAINTAINED IN PASSABLE CONDITION OR OTHER FACILITIES FOR PEDESTRIANS SHALL BE PROVIDED. PASSAGE BETWEEN WALKWAYS AT INTERSECTIONS SHALL BE PROVIDED.
7. DRIVEWAYS SHALL BE KEPT OPEN UNLESS THE OWNERS OF THE PROPERTY USING THESE RIGHTS-OF-WAY ARE OTHERWISE PROVIDED FOR SATISFACTORILY.
8. THE CONTRACTOR SHALL REFERENCE TO THE APPROVAL OF THE DEPARTMENT OF TRANSPORTATION SERVICES AND THE DEPARTMENT OF PLANNING AND PERMITTING. ALL EXISTING TRAFFIC SIGNS, POSTS AND PAVEMENT MARKINGS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. THE CONTRACTOR SHALL REPLACE OR REPAIR ALL TRAFFIC SIGN, POSTS AND PAVEMENT MARKINGS DISTURBED BY HIS/HER ACTIVITIES.
9. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PLANNING AND PERMITTING AT 768-8084 ONE (1) WEEK PRIOR TO ANY WORK TO BE DONE ON SIGNS, POST AND PAVEMENT MARKINGS.
10. NO EQUIPMENT SHALL BE STORED WITHIN STREET RIGHTS-OF-WAY EXCEPT AT LOCATIONS DESIGNATED IN WRITING AND APPROVED BY THE DEPARTMENT OF TRANSPORTATION SERVICES.

TRAFFIC NOTES FOR WORK ON CITY & COUNTY STREETS (CONT.)

11. THE DEPARTMENT OF HAWAIIAN HOME LANDS SHALL ENSURE THAT THE CONTRACTOR INSTALLS THE CONSTRUCTION TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH THE MUTCD AND THE HAWAII ADMINISTRATION RULES AS SPECIFIED IN THE TRAFFIC NOTE #2.
12. THE CONTRACTOR SHALL BECOME FAMILIAR WITH AND SHALL MEET THE LATEST REQUIREMENTS OF THE CITY DEPARTMENT OF TRANSPORTATION SERVICES (DTS). THE CONTRACTOR SHALL SUBMIT A TRAFFIC CONTROL PLAN TO THE CITY DEPARTMENT OF PLANNING AND PERMITTING (DPP), TRAFFIC REVIEW BRANCH FOR REVIEW AND APPROVAL BEFORE APPLYING FOR A STREET USAGE PERMIT. THE TRAFFIC CONTROL PLAN SHALL MEET ALL DTS AND DPP REQUIREMENTS INCLUDING PREPARATION BY, OR UNDER THE SUPERVISION OF, A LICENSED PROFESSIONAL ENGINEER.

APPROVED:

CHIEF, TRAFFIC REVIEW BRANCH, DATE  
DEPARTMENT OF PLANNING AND PERMITTING,  
CITY & COUNTY OF HONOLULU  
(FOR WORK WITHIN CITY MAINTAINED ROAD ONLY)



PAUL K. ARIM

LICENSED PROFESSIONAL ENGINEER

No. 9790-C

HAWAII, U.S.A.

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

4/30/22

signature expiration date of the license

CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION AS REQUIRED BY RULES 101-10-1, HAWAII ADMINISTRATIVE RULES, DEPARTMENT OF COMMERCE AND CONSUMER AFFAIRS, OFFICE OF HAWAII PROFESSIONAL ENGINEERS, ARCHITECTS, SURVEYORS AND LANDSCAPE ARCHITECTS.

REVISION	DATE	BRIEF	MADE BY	APPROVED
<div><div>AUSTIN, TSUTSUMI &amp; ASSOCIATES, INC.</div><div>ENGINEERS, SURVEYORS • HONOLULU, HAWAII</div></div>				
DEPARTMENT OF HAWAIIAN HOME LANDS NANAKULI TRAFFIC CALMING MEASURES, PHASE I NANAKULI, OAHU, HAWAII CONSTRUCTION NOTES - 2				
DESIGNED BY: CJ/SN		DRAWN BY: DO		CHECKED BY: PA
APPROVED		SUBMITTED BY		
DATE		FIRM MEMBER		DATE

FILE	POCKET	FOLDER	NO.

SIGNS AND MARKING NOTES

- ALL TRAFFIC SIGN AND PAVEMENT MARKING INSTALLATIONS SHALL BE DONE IN ACCORDANCE WITH "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS," 2009 EDITION, AS AMENDED, THE LATEST SPECIFICATIONS FROM THE TRAFFIC REVIEW BRANCH, DEPARTMENT OF PLANNING AND PERMITTING, AND AS SHOWN ON THE PLANS.
- CONTRACTOR SHALL NOTIFY AND COORDINATE WORK WITH THE CIVIL ENGINEERING BRANCH, DEPARTMENT OF PLANNING AND PERMITTING, ONE (1) WEEK IN ADVANCE OF COMMENCING WORK AT 768-8084.
- CONTRACTOR SHALL SUBMIT MATERIAL BROCHURES FOR ALL SIGNS AND PAINT MATERIALS TO THE CIVIL ENGINEERING BRANCH, DEPARTMENT OF PLANNING AND PERMITTING.
- THE SIGNING AND/OR STRIPING CONTRACTOR SHALL KEEP ONE (1) SET OF APPROVED PLANS AT THE PROJECT SITE AT ALL TIMES DURING CONSTRUCTION WORK.
- CONTRACTOR SHALL PAINT TEMPORARY GUIDELINES AND OUTLINE OF ARROWS, LEGENDS, AND CROSSWALKS WITH A TWO INCH (2") WIDE BRUSHED LINE ON THE DAY THE ROADWAY IS OPENED TO TRAFFIC. THESE MARKINGS MUST BE APPROVED BY THE INSPECTOR FROM THE CIVIL ENGINEERING BRANCH, DEPARTMENT OF PLANNING PERMITTING.
- CONTRACTOR SHALL NOTIFY THE CIVIL ENGINEERING BRANCH, DEPARTMENT OF PLANNING AND PERMITTING AT 768-8084, (3) DAYS IN ADVANCE OF FINAL INSPECTION.
- CONTRACTOR SHALL MEET WITH THE INSPECTOR FROM THE CIVIL ENGINEERING BRANCH, DEPARTMENT OF PLANNING AND PERMITTING DURING THE FINAL INSPECTION.
- WITHIN TEN (10) DAYS FOLLOWING NOTIFICATION OF AWARD OF CONTRACT, THE CONTRACTOR SHALL SUBMIT TO THE DEPARTMENT OF PLANNING AND PERMITTING (PHONE: 768-8084) FOR APPROVAL, A LIST OF ANY SIGNING AND PAVEMENT MARKING MATERIAL WHICH HE PROPOSES TO INSTALL. THE LIST SHALL BE COMPLETE AS TO THE NAME OF MANUFACTURER, CATALOG NUMBER, AND SHALL BE SUPPLEMENTED WITH MATERIAL BROCHURES.
- UPON FINAL INSPECTION OF THE PROJECT, THE CONTRACTOR SHALL SUBMIT A LETTER OF CERTIFICATION FOR ALL TRAFFIC SIGNING AND PAVEMENT MARKING MATERIALS INSTALLED.
- SIGNS SHALL BE ATTACHED TO BRACKETS WITH 5/16" ZINC PLATED STEEL BOLTS, NUTS AND WASHERS. SIGNS 48" WIDE OR LARGER THAN 10 SQ. FT. IN AREA SHALL BE MOUNTED ON TWO - 2" GALV. PIPE POST. THE SIGN SHALL BE INSTALLED WITH AT LEAST (1) ONE FOOT CLEARANCE FROM THE SIGN EDGE TO THE CURB FACE.
- ALL TRAFFIC SIGNS SHALL BE REFLECTORIZED.
- RAISED PAVEMENT MARKERS SHALL BE INSTALLED IN ACCORDANCE WITH THE DEPARTMENT OF PLANNING AND PERMITTING STANDARDS.
- LOCATION OF "STOP" SIGN:
  - INSTALL "STOP" SIGN AT CURB TANGENT POINT.
  - INSTALL "STOP" SIGN ON METAL STREET LIGHT STANDARD IF A STANDARD IS LOCATED WITHIN 10 FEET OF CURB RETURN.
  - INSTALL "STOP" SIGN IN FRONT OF UTILITY POLE IF A POLE IS LOCATED WITHIN 10 FEET OF CURB RETURN.
- PAVEMENT WORD AND SYMBOL MARKINGS SHALL BE IN ACCORDANCE WITH THE DEPARTMENT OF PLANNING AND PERMITTING STANDARDS.
- THE CONTRACTOR SHALL USE THERMOPLASTIC MATERIAL, APPROVED BY THE CIVIL ENGINEERING BRANCH, DEPARTMENT OF PLANNING AND PERMITTING, FOR ALL CROSSWALKS, STOP BARS, PAVEMENT ARROWS, CENTER LINES, LANE LINES, ARC LINES, CHANNELIZED TRAFFIC ISLANDS, AND LEGENDS.

DEPARTMENT OF TRANSPORTATION SERVICES (DTS)  
TRANSPORTATION MOBILITY DIVISION (TMD) NOTES  
CONSTRUCTION NOTE DATED SEPTEMBER 2020

CONSTRUCTION OF THIS PROJECT SHALL NOT AFFECT TRANSIT OPERATIONS. BUS ROUTES AND BUS STOPS SHALL REMAIN OPEN AND ACCESSIBLE AT ALL TIMES. ANY WORK AFFECTING BUS OPERATIONS, ROUTES, OR STOPS MUST BE SUBMITTED TO DTS-TMD NO LESS THAN 30 DAYS PRIOR TO THE START DATE.

POINT TO CONTACT INFORMATION (NOTIFICATION IS REQUIRED TO ALL PHONE NOS. & EMAILS):

DTS-TMD  
808-768-8371 OR 808-768-8396  
THEBUSSTOP@HONOLULU.GOV  
HANDIVAN@HONOLULU.GOV

OAHU TRANSIT SERVICES BUS OPERATIONS  
808-768-9520  
808-768-9523  
JOHN.DONOVAN@THEBUS.ORG  
SEAN-BENNETT.PAIO@THEBUS.ORG

OAHU TRANSIT SERVICES PARA-TRANSIT OPERATIONS  
808-768-9802  
808-768-9851  
TRACIE.COELHO@THEBUS.ORG

CONTRACTOR'S RESPONSIBILITY FOR EXISTING LINES, PIPES AND SERVICES

- INFORMATION REGARDING THE SITE OF THE WORK GIVEN ON THE DRAWINGS OR SPECIFICATIONS HAS BEEN OBTAINED BY THE ENGINEER AND IS BELIEVED TO BE REASONABLY CORRECT; HOWEVER, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ALL SUCH INFORMATION. THE CONTRACTOR SHALL TONE THE AREA TO BE EXCAVATED TO ASCERTAIN THE LOCATION OF UNCHARTED UTILITIES.
- ANY UTILITIES THAT THE CONTRACTOR ENCOUNTERS DURING THE PROGRESS OF THE WORK, SUCH AS BUT NOT LIMITED TO TELEPHONE DUCTS, ELECTRIC DUCTS, WATER LINES, SEWER LINES, ELECTRIC LINES AND DRAINAGE PIPES, WHETHER SHOWN OR NOT ON THE CONTRACT PLANS, SHALL NOT BE DISTURBED OR DAMAGED UNLESS OTHERWISE INSTRUCTED IN THE PLANS AND SPECIFICATIONS.
- IN THE EVENT THE UTILITIES ARE DAMAGED OR DISTURBED BY THE CONTRACTOR, THE CONTRACTOR SHALL BE HELD LIABLE FOR THE DAMAGED OR DISTURBED UTILITIES.
- THE CONTRACTOR SHALL REPAIR THE DAMAGED OR DISTURBED UTILITIES TO THE EXISTING CONDITION AT NO COST TO THE OWNER. ANY DAMAGE CLAIMS DUE TO THE DISRUPTION OF SERVICE CAUSED BY THE UTILITIES BEING DAMAGED SHALL BE PAID BY THE CONTRACTOR, WHO SHALL SAVE HARMLESS THE OWNER AND ENGINEER FROM ALL SUITS, ACTIONS OR CLAIMS OF ANY CHARACTER BROUGHT ON ACCOUNT OF SUCH DAMAGES.
- IN THE EVENT UTILITIES WHICH WERE NOT SHOWN ON THE PLANS AND SPECIFICATIONS ARE DAMAGED OR DISTURBED BY THE CONTRACTOR, THE CONTRACTOR SHALL BE HELD LIABLE. THE CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES AND EXPOSE ALL UTILITY LINES PRIOR TO ANY EXCAVATION AND/OR INSTALLATION OF LINES.

PUBLIC HEALTH, SAFETY AND CONVENIENCE

- THE CONTRACTOR SHALL OBSERVE AND COMPLY WITH ALL FEDERAL, STATE AND LOCAL LAWS REQUIRED FOR THE PROTECTION OF PUBLIC HEALTH, SAFETY AND ENVIRONMENTAL QUALITY.
- THE CONTRACTOR, AT HIS OWN EXPENSE, SHALL KEEP THE PROJECT AND 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 COUNTY OF MAUI MAY REQUIRE SUPPLEMENTARY MEASURES AS NECESSARY.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CLEANING AND REMOVAL OF ALL SILT AND DEBRIS DEPOSITED AND ACCUMULATED WITHIN DOWNSTREAM WATERWAYS, DITCHES AND DRAIN PIPES AND ON PUBLIC AND PRIVATE ROADWAYS GENERATED BY HIS WORK. THE CONTRACTOR AGREES TO REIMBURSE THE COUNTY OF MAUI FOR ALL COSTS EXPENDED IN PERFORMANCE OF THE ABOVE WORK IF REQUIRED FOR PUBLIC HEALTH AND SAFETY, OR MADE NECESSARY BY NON-PERFORMANCE BY THE CONTRACTOR.
- THE CONTRACTOR SHALL PROVIDE, INSTALL AND MAINTAIN ALL NECESSARY SIGNS, LIGHTS, FLARES, BARRICADES, MARKERS, CONES AND OTHER PROTECTIVE FACILITIES AND SHALL TAKE ALL NECESSARY PRECAUTIONS FOR THE PROTECTION, CONVENIENCE AND SAFETY OF THE PUBLIC.
- THE CONTRACTOR SHALL PROVIDE A NOISE POLLUTION CONTROL PLAN WHEN APPLYING FOR A CONSTRUCTION PERMIT.
- TEMPORARY PEDESTRIAN ROUTES SHALL BE MAINTAINED IN SAFE, PASSABLE AND ACCESSIBLE CONDITION COMPLYING WITH ADAAG 402.1.

SOLID WASTE CONSTRUCTION NOTES

- UNLESS OTHERWISE SPECIFIED, THE CONTRACTOR IS RESPONSIBLE FOR THE PROPER HANDLING, STORAGE AND/OR DISPOSAL OF ALL WASTE GENERATED BY THE CONSTRUCTION INCLUDING GRUBBING AND EXCESS EXCAVATED MATERIAL. ANY MATERIAL BROUGHT TO THE COUNTY LANDFILLS WILL BE SUBJECTED TO THE INSTITUTED TIPPING FEE SYSTEM, WITH NO EXCEPTIONS OR EXEMPTIONS.

PERMANENT EROSION CONTROL MEASURES

- THE CONTRACTOR SHALL GRASS ALL EXPOSED AREAS THAT HAVE BEEN CONSTRUCTED TO FINAL GRADES WITHIN A PERIOD OF 30 CALENDAR DAYS. ALL COSTS FOR MAINTAINING AND WATERING PERMANENT EROSION CONTROL MEASURES WILL BE BORNE BY THE CONTRACTOR.

NOTES FOR ENVIRONMENTAL PROTECTION

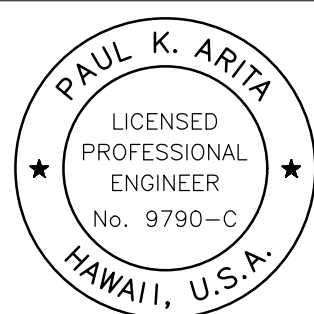
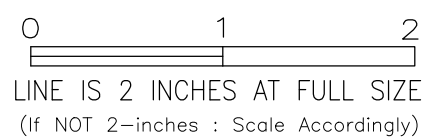
- ENVIRONMENTAL PROTECTION NOTES PERTAINING TO AIR AND WATER POLLUTION SHALL BE ADMINISTERED AND MONITORED BY THE DEPARTMENT OF HEALTH.
- THE CONTRACTOR, AT HIS OWN EXPENSE, SHALL PROVIDE EFFECTIVE MEASURES FOR THE CONTROL OF FUGITIVE DUST EMISSIONS FROM THE PROJECT AND SURROUNDING AREAS CAUSED BY HIS OPERATIONS, THESE MEASURES SHALL MEET THE REQUIREMENTS OF STATE ADMINISTRATIVE RULES, DEPARTMENT OF HEALTH, AIR POLLUTION CONTROL (11-60.1).
- ALL GRADING OPERATIONS SHALL BE PERFORMED IN CONFORMANCE WITH THE APPLICABLE PROVISIONS OF THE GRADING ORDINANCE TO PREVENT VIOLATION OF THE STATE ADMINISTRATIVE RULES, DEPARTMENT OF HEALTH, WATER POLLUTION CONTROL AND WATER QUALITY STANDARDS (11-54, 11-55) DUE TO EROSION AND RUNOFF TO STATE WATERS.
- GRUB MATERIAL, DEMOLITION WASTES, AND CONSTRUCTION WASTES SHALL BE DISPOSED OF AT AN AUTHORIZED SITE HAVING A DEPARTMENT OF HEALTH SOLID WASTE MANAGEMENT PERMIT. OPEN BURNING IS PROHIBITED.
- PERMITS REQUIRED:
  - A NPDES PERMIT MAY BE REQUIRED FROM THE CLEAN WATER BRANCH OF THE DEPARTMENT OF HEALTH FOR STORM WATER DISCHARGE AND HYDROTESTING.
  - A DEWATERING PERMIT MAY BE REQUIRED TO BE OBTAINED FROM THE CLEAN WATER BRANCH OF THE DEPARTMENT OF HEALTH IF DISCHARGING INTO STATE WATERS.
  - PERMIT MUST BE OBTAINED PRIOR TO START OF CONSTRUCTION.
- ENVIRONMENTAL PROTECTION NOTES PERTAINING TO AIR AND WATER POLLUTION SHALL BE ADMINISTERED AND MONITORED BY THE DEPARTMENT OF HEALTH.

EROSION SEDIMENT CONTROL NOTES FOR  
MINOR DEVELOPMENT PROJECTS:

- USE BEST MANAGEMENT PRACTICES (BMPS) TO PREVENT AND REDUCE THE DISCHARGE OF POLLUTANTS FROM THE PROJECT SITE ONTO OFF-SITE STREETS, STORM DRAINS, STREAMS AND THE OCEAN. POTENTIAL POLLUTANTS INCLUDE BUT ARE NOT LIMITED TO SOIL, OIL PRODUCTS, PAINT, SOLVENTS, CONSTRUCTION DEMOLITION WASTE, TRASH, PORTABLE TOILETS, AC MATERIALS, CONCRETE, AND ANY OTHER LIQUID, PAVING OR WASHOUT MATERIAL THAT COULD BE DETRIMENTAL IF RELEASED TO THE ENVIRONMENT.
- ANY EXPOSED SOIL FROM THIS ACTIVITY MUST BE PERMANENTLY OR TEMPORARILY STABILIZED IMMEDIATELY USING VEGETATION, GRAVEL, PAVERS, ROLLED EROSION CONTROL PRODUCTS, OR AN EQUIVALENT METHOD UNLESS ACTIVE WORK IS SCHEDULED WITHIN 14 DAYS.
- ALL CONSTRUCTION WASTE AND WASHOUT WATER MUST BE PROPERLY CONTAINED AND DISPOSED OF.
- SEDIMENT TRACKED OFF SITE MUST BE SWEEPED OR VACUUMED DAILY.
- DUST FROM THE PROJECT SITE SHALL NOT BE TRANSPORTED OR DISCHARGED TO OFF-SITE AREAS. THE WORK MUST BE IN CONFORMANCE WITH AIR POLLUTION CONTROL STANDARDS CONTAINED IN THE HAWAII ADMINISTRATIVE RULES: TITLE 11 CHAPTER 60.1, "AIR POLLUTION CONTROL."

APPROVED:


CHIEF, TRAFFIC REVIEW BRANCH, DATE  
DEPARTMENT OF PLANNING AND PERMITTING,  
CITY & COUNTY OF HONOLULU  
(FOR WORK WITHIN CITY MAINTAINED ROAD ONLY)



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

Signature: [Signature] 4/30/22  
signature expiration date of the license

CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION AS REQUIRED BY RULES 11-15-1, 11-15-2, 11-15-3, 11-15-4, 11-15-5, 11-15-6, 11-15-7, 11-15-8, 11-15-9, 11-15-10, 11-15-11, 11-15-12, 11-15-13, 11-15-14, 11-15-15, 11-15-16, 11-15-17, 11-15-18, 11-15-19, 11-15-20, 11-15-21, 11-15-22, 11-15-23, 11-15-24, 11-15-25, 11-15-26, 11-15-27, 11-15-28, 11-15-29, 11-15-30, 11-15-31, 11-15-32, 11-15-33, 11-15-34, 11-15-35, 11-15-36, 11-15-37, 11-15-38, 11-15-39, 11-15-40, 11-15-41, 11-15-42, 11-15-43, 11-15-44, 11-15-45, 11-15-46, 11-15-47, 11-15-48, 11-15-49, 11-15-50, 11-15-51, 11-15-52, 11-15-53, 11-15-54, 11-15-55, 11-15-56, 11-15-57, 11-15-58, 11-15-59, 11-15-60, 11-15-61, 11-15-62, 11-15-63, 11-15-64, 11-15-65, 11-15-66, 11-15-67, 11-15-68, 11-15-69, 11-15-70, 11-15-71, 11-15-72, 11-15-73, 11-15-74, 11-15-75, 11-15-76, 11-15-77, 11-15-78, 11-15-79, 11-15-80, 11-15-81, 11-15-82, 11-15-83, 11-15-84, 11-15-85, 11-15-86, 11-15-87, 11-15-88, 11-15-89, 11-15-90, 11-15-91, 11-15-92, 11-15-93, 11-15-94, 11-15-95, 11-15-96, 11-15-97, 11-15-98, 11-15-99, 11-15-100

REVISION	DATE	BRIEF	MADE BY	APPROVED
<div><div> <b>AUSTIN, TSUTSUMI &amp; ASSOCIATES, INC.</b> ENGINEERS, SURVEYORS • HONOLULU, HAWAII</div></div>				
DEPARTMENT OF HAWAIIAN HOME LANDS NANAKULI TRAFFIC CALMING MEASURES, PHASE I NANAKULI, OAHU, HAWAII <b>CONSTRUCTION NOTES - 3</b>				
DESIGNED BY: CJ/SN		DRAWN BY: DO		CHECKED BY: PA
APPROVED		SUBMITTED BY		
DATE		FIRM MEMBER		DATE
FILE	POCKET	FOLDER	NO.	

C-004

SHEET 5 OF 26



1. ALL SEWER CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH THE CITY'S "STANDARD SPECIFICATIONS," SEPT. 1986, THE DEPARTMENT OF ENVIRONMENTAL SERVICES "WASTEWATER SYSTEM DESIGN STANDARDS," JULY 2017, AND "WASTEWATER SYSTEM STANDARD DETAILS," JULY 2017, CURRENT CITY PRACTICES AND REVISED ORDINANCES OF HONOLULU, 1990 AS AMENDED.
2. IN THE EVENT THAT ANY CHANGE IN ALIGNMENT OR GRADE FOR THE PROPOSED SEWERS ARE REQUIRED DUE TO UNFORESEEN CONFLICT WITH OTHER UTILITIES, THE ENGINEER IN CHARGE OR THE MAKER OF THE PLANS SHALL BE RESPONSIBLE FOR THE REQUIRED CHANGES WHICH ARE TO BE PRESENTED TO THE DEPARTMENT OF PLANNING AND PERMITTING (DPP) FOR APPROVAL.
3. CRUSHED ROCK CRADLE IS PERMITTED WHERE SOIL IS STABLE. IN AREAS OF UNSTABLE SOIL, THE MAKER OF THE PLANS AND THE CONSTRUCTION ENGINEER WILL DETERMINE THE PIPE SUPPORT REQUIRED.
4. 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, INCLUDING AND AFFECTING SEWER LINES. IN THE PRESENCE OF THE WASTEWATER INSPECTOR AND EXERCISE PROPER CARE IN EXCAVATING THE AREA. THE CONTRACTOR SHALL BE RESPONSIBLE AND SHALL PAY FOR ALL DAMAGED UTILITIES.
5. SEWER LATERALS SHALL BE CLEAR OF AND NOT CONFLICTING WITH ANY OTHER UTILITY. MINIMUM HORIZONTAL AND VERTICAL CLEARANCES SHALL BE STRICTLY OBSERVED AND FOLLOWED.
6. SLOPE FOR SEWER LATERALS SHALL BE A MINIMUM OF 2.00%.
7. BUILDING PLUMBING FACILITIES SHALL BE CONTROLLED BY SEWER LATERAL INVERTS.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING CONTINUOUS SEWER SERVICE TO ALL AFFECTED AREAS DURING CONSTRUCTION.
9. THE CONSULTING ENGINEER SHALL SUBMIT TO THE WASTEWATER BRANCH, DPP "AS-BUILT" TRACINGS AND ELECTRONIC FILES OF THE CONSTRUCTION PLANS AS ACTUALLY CONSTRUCTED , SHOWING ALL CHANGES FROM THE ORIGINAL PLANS.
10. 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 NOTIFICATIONS AND PRESS RELEASES.
11. THE CONTRACTOR SHALL INSTALL "RAINSTOPPER" MANHOLE INSERTS IN ALL SEWER MANHOLES WITH TYPE "SA" FRAME AND COVER.
12. THE CONTRACTOR SHALL OBTAIN APPROVAL FOR ADVANCE SEWER RISER AGREEMENT AT THE DPP AND OBTAIN BUILDING PERMIT FOR PLUMBING WORK BEFORE ANY ADVANCE RISER IS MADE.
13. ALL SEWER PIPE JOINTS WITHIN EASEMENTS SHALL BE WRAPPED WITH GEOTEXTILE ROOT BARRIER
14. S4C PIPE CRADLE SEALS SHALL BE INSTALLED 10 FEET FROM ALL SEWER MANHOLES TO PREVENT SOIL MIGRATION.
15. GEOTEXTILE FABRIC TO ENVELOPE THE PIPE CRADLE AND SELECT BACKFILL MATERIAL SHALL BE PROVIDED WHERE WATER OR UNSTABLE SOIL CONDITIONS ARE ENCOUNTERED.
16. CONFINED SPACE  
FOR ENTRY BY CITY PERSONNEL, INCLUDING INSPECTORS, INTO A PERMIT REQUIRED CONFINED SPACE AS DEFINED IN 29 CFR PART 1910.146(b), THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING:
  - I. ALL SAFETY EQUIPMENT REQUIRED BY THE CONFINED SPACE REGULATIONS APPLICABLE TO ALL PARTIES OTHER THAN THE CONSTRUCTION INDUSTRY, TO INCLUDE, BUT NOT LIMITED TO, THE FOLLOWING:
    - a. FULL BODY HARNESSSES FOR UP TO TWO PERSONNEL.
    - b. LIFELINE AND ASSOCIATED CLIPS.
    - c. INGRESS/EGRESS AND FALL PROTECTION EQUIPMENT.
    - d. TWO-WAY RADIOS (WALKIE-TALKIES) IF OUT OF LINE-OF-SIGHT.
    - e. EMERGENCY (ESCAPE) RESPIRATOR (10 MINUTE DURATION).
    - f. CELLULAR TELEPHONE TO CALL FOR EMERGENCY ASSISTANCE.
    - g. CONTINUOUS GAS DETECTOR (CALIBRATED) TO MEASURE OXYGEN, HYDROGEN SULFIDE, CARBON MONOXIDE AND FLAMMABLES (CAPABLE OF MONITORING AT A DISTANCE AT LEAST 20- FEET AWAY).
    - h. PERSONAL MULTI-GAS DETECTOR TO BE CARRIED BY INSPECTOR.
  - II. CONTINUOUS FORCED AIR VENTILATION ADEQUATE TO PROVIDE SAFE ENTRY CONDITIONS.
  - III. ONE ATTENDANT/RESCUE PERSONNEL TOPSIDE (TWO, IF CONDITIONS WARRANT IT).
17. WHEN CONNECTING TO A LIVE SEWER LINE, THE CONTRACTOR SHALL ABIDE BY ALL CONDITIONS THAT THE STATE DEPARTMENT OF HEALTH SETS FORTH TO MITIGATE ANY WASTEWATER SPILL THAT MAY OCCUR. THE CONTRACTOR SHALL INFORM THE CITY INSPECTOR FIVE (5) WORKING DAYS PRIOR TO THE ACTUAL CONNECTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY FINES AND PENALTIES DUE TO ANY SPILLS RESULTING FROM THE CONNECTION.
18. NO RUNGS SHALL BE INSTALLED INSIDE NEW SEWER MANHOLES.

19. FOR SEWER MANHOLE ADJUSTMENTS UPWARD LESS THAN 3", SEE STD. DETAIL S-28. FOR SMH ADJUSTMENTS UPWARD GREATER THAN 3" OR FOR ANY ADJUSTMENTS DOWNWARD, RECONSTRUCT SMH TOP FROM BELOW THE CONE SECTION.
20. IF THE CONTRACTOR ENCOUNTERS FLOW MONITORING DEVICES, SUCH AS SPECIAL SEWER MANHOLE COVERS EMBEDDED WITH SOLAR PANELS, CONTACT COLLECTION SYSTEMS MAINTENANCE (CSM), ENV AT 768-7272 TO COORDINATE TEMPORARY REMOVAL.
21. THE CONTRACTOR SHALL MAINTAIN VISIBILITY AND MAINTENANCE ACCESS TO LIVE SEWER MANHOLE LOCATIONS AT ALL TIMES, INCLUDING DURING NON-WORK HOURS AND PAVING OPERATIONS.
22. THE CONTRACTOR SHALL USE A MANHOLE DEBRIS CATCHING DEVICE WHEN PERFORMING MANHOLE HEIGHT ADJUSTMENT WORK AND REMOVE ANY CONSTRUCTION DEBRIS THAT HAS FALLEN INTO THE MANHOLE. DISPOSAL OF CONSTRUCTION DEBRIS IN THE SEWER SYSTEM IS STRICTLY PROHIBITED.
23. FOR PRECAST SEWER MANHOLES, THE CONSULTING ENGINEER SHALL SUBMIT FOUR (4) SETS OF SHOP DRAWINGS TO THE WASTEWATER BRANCH, DPP FOR APPROVAL. AFTER THE SHOP DRAWINGS ARE APPROVED, THE MANUFACTURER SHALL NOTIFY THE CONSTRUCTION MANAGEMENT BRANCH, WASTEWATER ENGINEERING AND CONSTRUCTION DIVISION, ENV, AT 768-8785, 768-8769, OR 768-8755 TO ARRANGE FOR INSPECTION SERVICES FOR CONCRETE POURS MADE AT ITS PLANT SEVEN (7) DAYS PRIOR TO POUR.

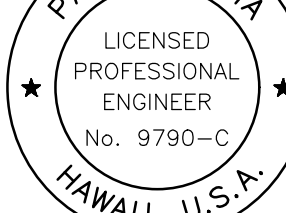
1. PRIOR TO THE EXCAVATION OF THE DUCTLINE, THE CONTRACTOR SHALL REQUEST THAT SPECTRUM LOCATE EXISTING DUCTLINE WHEREVER REQUIRED.
2. THE CONTRACTOR SHALL TAKE NECESSARY PRECAUTION NOT TO DAMAGE EXISTING CABLES OR DUCTS. ANY WORK INVOLVING EXISTING CABLES OR DUCTS SHALL BE DONE IN THE PRESENCE OF THE SPECTRUM INSPECTOR OR REPRESENTATIVE. TEMPORARY CABLE AND DUCT SUPPORTS SHALL BE PROVIDED WHEREVER NECESSARY.


3. 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'S "WATER SYSTEM STANDARDS", DATED 2002, 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.
3. THE CONTRACTOR SHALL NOTIFY BWS CAPITAL PROJECTS DIVISION, CONSTRUCTION SECTION IN WRITING ONE WEEK PRIOR TO COMMENCING WORK TO BE DONE ON THE WATER SYSTEM.
4. 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 NONE EXIST.
5. RE-APPROVAL SHALL BE REQUIRED IF THIS PROJECT IS NOT UNDER CONSTRUCTION WITHIN A PERIOD OF TWO (2) YEARS.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL WATER LINES DURING CONSTRUCTION. THE CONTRACTOR SHALL BE ESPECIALLY CAREFUL WHEN EXCAVATING BEHIND WATER LINES, TEES, 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 MEASURES NECESSARY TO PROTECT THE WATER LINES, SUCH AS CONSTRUCTING SPECIAL REACTION BLOCKS (WITH BWS APPROVAL) AND/OR MODIFYING HIS CONSTRUCTION METHOD.
7. PRIOR TO ANY EXCAVATING, THE CONTRACTOR SHALL VERIFY IN THE FIELD THE LOCATION OF EXISTING WATER MAINS AND APPURTENANCES.
8. THE CONTRACTOR SHALL ADJUST ALL MANHOLE FRAMES/VALVE BOXES/METER BOXES WITHIN THE PROJECT LIMITS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR "REFERENCING" THESE MANHOLES/VALVE BOXES/METER BOXES TO FACILITATE THE ADJUSTMENTS.
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. ANY ADJUSTMENTS TO THE EXISTING WATER SYSTEM REQUIRED DURING CONSTRUCTION TO MEET REQUIREMENTS OF BWS STANDARDS, WHETHER SHOWN ON PLANS OR NOT, SHALL BE DONE BY THE CONTRACTOR AT NO COST TO THE BOARD.

1. THE CONTRACTOR SHALL PROCURE AND PAY FOR ALL LICENSES AND PERMITS AND SHALL GIVE ALL NOTICES NECESSARY AND INCIDENT TO THE DUE AND LAWFUL PROSECUTION OF THE WORK.
2. THE CONTRACTOR SHALL OBTAIN AN EXCAVATION PERMIT AND TONING REQUEST FROM HAWAIIAN TELCOM'S EXCAVATION PERMIT SECTION, LOCATED AT 1177 BISHOP STREET, TWO WEEKS PRIOR TO THE START OF CONSTRUCTION. HOURS OF BUSINESS ARE 8:00 A.M. TO 11:00 A.M. AND 12:00 P.M. TO 3:30 P.M. MONDAY THROUGH FRIDAY, EXCEPT HOLIDAYS.
3. PRIOR TO THE EXCAVATION OF THE DUCTLINE, THE CONTRACTOR SHALL REQUEST HAWAIIAN TELCOM TO LOCATE EXISTING DUCTLINE WHEREVER REQUIRED. FOR UNDERGROUND CABLE LOCATING AND MARKING, FIVE (5) WORKING DAYS ADVANCE NOTICE IS REQUIRED. THREE (3) WORKING DAYS ADVANCE NOTICE IS REQUIRED FOR ANY INSPECTION BY A DESIGNATED REPRESENTATIVE.
4. THE LOCATIONS OF EXISTING UTILITIES ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION AND SHALL MAINTAIN PROPER CLEARANCES WHENEVER CONSTRUCTION CROSSES OR IS IN CLOSE PROXIMITY OF HAWAIIAN TELCOM FACILITIES. THE CONTRACTOR SHALL VERIFY THEIR LOCATIONS AND SHALL BE LIABLE FOR ANY DAMAGES TO HAWAIIAN TELCOM FACILITIES. ANY DAMAGES SHALL BE REPORTED IMMEDIATELY TO HAWAIIAN TELCOM'S REPAIR SECTION AT #611 (24 HOURS) OR TO THE EXCAVATION PERMIT SECTION AT 546-7746 (NORMAL WORKING HOURS, MONDAY THROUGH FRIDAY, EXCEPT HOLIDAYS). AS A RESULT OF HIS OPERATIONS, ADJUSTMENTS TO THE NEW DUCTLINE ALIGNMENT, IF REQUIRED, SHALL BE MADE TO PROVIDE THE REQUIRED CLEARANCES.
5. THE CONTRACTOR SHALL TAKE NECESSARY PRECAUTION NOT TO DAMAGE EXISTING CABLES OR DUCTS. A HAWAIIAN TELCOM INSPECTOR OR DESIGNATED REPRESENTATIVE IS REQUIRED TO BE AT ANY JOB SITE WHENEVER THERE WILL BE A BREAKAGE INTO OR ENTRY INTO ANY STRUCTURE THAT CONTAINS HAWAIIAN TELCOM FACILITIES. TEMPORARY CABLE AND DUCT SUPPORTS SHALL BE PROVIDED WHEREVER NECESSARY.
6. THE CONTRACTOR SHALL NOTIFY HAWAIIAN TELCOM'S INSPECTOR OR DESIGNATED REPRESENTATIVE A MINIMUM OF 72 HOURS PRIOR TO EXCAVATION, BRACING, OR BACKFILLING OF HAWAIIAN TELCOM'S STRUCTURES OR FACILITIES.
7. ALL APPLICABLE CONSTRUCTION WORK SHALL BE DONE IN ACCORDANCE WITH THE "HAWAIIAN TELCOM STANDARD SPECIFICATIONS FOR PLACING TELEPHONE SYSTEMS" DATED JANUARY 2007, ALL SUBSEQUENT AMENDMENTS AND ADDITIONS, AND ALL OTHER PERTINENT STANDARDS FOR TELEPHONE CONSTRUCTION. CONTRACTOR SHALL FAMILIARIZE THE PERSONNEL BY OBTAINING APPLICABLE SPECIFICATIONS.
8. WHEN EXCAVATION IS ADJACENT TO OR BENEATH HAWAIIAN TELCOM'S EXISTING STRUCTURES OR FACILITIES, THE CONTRACTOR SHALL:
  - A) SHEET AND/OR BRACE THE EXCAVATION TO PREVENT SLIDES, CAVE-INS, OR SETTLEMENTS TO ENSURE NO MOVEMENT TO HAWAIIAN TELCOM'S STRUCTURES OR FACILITIES.
  - B) PROTECT EXISTING STRUCTURES AND/OR FACILITIES WITH BEAMS, STRUTS, OR UNDERPINNING WHILE EXCAVATING BENEATH THEM TO ENSURE NO MOVEMENT TO HAWAIIAN TELCOM'S STRUCTURES OR FACILITIES.
9. THE CONTRACTOR SHALL BRACE ALL POLES OR LIGHT STANDARDS NEAR THE NEW DUCTLINE, MANHOLE, OR HANDHOLE DURING HIS OPERATIONS.
10. THE CONTRACTOR SHALL SAW-CUT A.C. PAVEMENT AND CONCRETE GUTTER WHEREVER NEW MANHOLES, HANDHOLES, OR DUCTLINES ARE TO BE PLACED AND SHALL RESTORE TO EXISTING CONDITION OR BETTER.
11. THE CONTRACTOR SHALL COMPLY WITH THE POLICY ADOPTED BY THE DEPARTMENT OF PLANNING AND PERMITTING, CITY AND COUNTY OF HONOLULU, CONCERNING THE REPLACEMENT OF CONCRETE SIDEWALKS AFTER EXCAVATION WORK.

12. THE UNDERGROUND PIPES, CABLES, OR DUCTLINES KNOWN TO EXIST BY THE ENGINEER FROM HIS SEARCH 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 SHOWN ON THE PLANS, THE CONTRACTOR SHALL EXPOSE THE EXISTING LINES AT THE PROPOSED CONNECTIONS TO VERIFY THEIR LOCATIONS AND DEPTHS PRIOR TO EXCAVATION FOR THE NEW LINES.
13. WHEREVER CONNECTIONS TO EXISTING UTILITIES ARE SHOWN ON THE PLANS, THE CONTRACTOR SHALL EXPOSE THE EXISTING LINES PRIOR TO EXCAVATION OF THE MAIN TRENCHES TO VERIFY THEIR LOCATIONS AND DEPTHS.
14. THE CONTRACTOR, AT HIS OWN EXPENSE, SHALL KEEP THE PROJECT AND SURROUNDING AREA FREE FROM DUST NUISANCE. THE COST FOR SUPPLEMENTARY MEASURES, WHICH WILL BE REQUIRED BY THE CITY AND COUNTY, SHALL BE BORNE BY THE CONTRACTOR.
15. THE CONTRACTOR SHALL PUMP ALL MANHOLES DRY DURING FINAL INSPECTION.
16. THE CONTRACTOR SHALL NOTIFY HAWAIIAN TELECOM INSPECTOR 24 HOURS PRIOR TO THE POURING OF CONCRETE OR BACKFILLING.
17. WHEN CONNECTING TO MANHOLE WALLS, ALL EXISTING REINFORCING BARS SHALL BE LEFT INTACT. DUCTS SHALL BE ADJUSTED IN THE FIELD IN ORDER TO CLEAR REINFORCING.
18. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LAYING OUT ALL REQUIRED LINES AND GRADES AND SHALL PRESERVE ALL BENCH MARKS AND WORKING POINTS NECESSARY TO LAY OUT THE WORK CORRECTLY. THE NEW DUCTLINE SHALL BE ADJUSTED BY THE CONTRACTOR TO SUIT THE EXISTING CONDITIONS AND THE DETAILS AS DESCRIBED IN THE PLANS.
19. MINIMUM CONCRETE STRENGTH SHALL BE:  
FOR DUCTLINE 2500 PSI AT 28 DAYS  
FOR MANHOLE 3000 PSI AT 28 DAYS OR AS SPECIFIED IN DESIGN NOTE.
20. BENDS IN THE DUCT ALIGNMENT, DUE TO CHANGES IN GRADE SHALL HAVE A MINIMUM RADIUS OF 25 FEET. ALL 90 DEGREE C-BENDS AT A POLE OR AT THE BUILDING FLOOR SLAB PENETRATION, SHALL HAVE A BEND RADIUS OF TEN TIMES THE DIAMETER OF THE DUCT OR GREATER.
21. AFTER DUCTLINE HAS BEEN COMPLETED, A MANDREL WITH A SQUARE FRONT NOT LESS THAN 12" LONG AND HAVING A DIAMETER OF  $\frac{1}{4}$ " LESS THAN THE INSIDE DIAMETER OF THE DUCT, SHALL BE PULLED THROUGH EACH DUCT AFTER WHICH A BRUSH WITH STIFF BRISTLES SHALL BE PULLED THROUGH TO MAKE CERTAIN THAT NO PARTICLES OF EARTH, SAND, OR GRAVEL HAVE BEEN LEFT INSIDE. DUCTS SHALL BE COMPLETELY DRY AND CLEAN.
22. ALL DUCTS AND CONDUITS SHALL HAVE AN 1800# POLYESTER MULE-TAPE (NEPTCO, WP1800P, HAWAIIAN TELECOM MATERIAL CODE NO. 571154) INSTALLED THROUGHOUT ITS ENTIRE LENGTH. ALL DUCTS SHALL BE CAPPED TO PREVENT ENTRY OF FOREIGN MATERIAL DURING CONSTRUCTION AND AT THE COMPLETION OF INSTALLATION.

MANAGER AND CHIEF ENGINEER, BWS (FOR WORK AFFECTING BWS FACILITIES IN CITY/STATE R/W AND BWS EASEMENTS ONLY)	DATE
--	------

	<b>REVISION</b>	<b>DATE</b>	<b>BRIEF</b>
			<b>MAY BE</b>
			<b>APPROVED</b>



## AUSTIN, TSUTSUMI & ASSOCIATES, INC.

ENGINEERS, SURVEYORS

HONOLULU, HAWAII

DEPARTMENT OF HAWAIIAN HOME LANDS

# NANAKULI TRAFFIC CALMING

# MEASURES, PHASE I

NANAKULI, OAHU, HAWAII

## CONSTRUCTION NOTES - 4

DESIGNED BY **GU/SN**

DRAWN BY **DO**

CHECKED BY **PA**

**APPROVED**

**SUBMITTED BY**

DATE

FIRM MEMBER

DATE

DATE

CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION AS SET FORTH IN SECTION 110-113-2, HAWAII ADMINISTRATIVE RULES, CONTAINED IN HAWAII PROFESSIONAL ENGINEERS, ARCHITECTS, SURVEYORS AND LANDSCAPE ARCHITECTS.



HAWAIIAN ELECTRIC COMPANY NOTES

1. LOCATION OF HAWAIIAN ELECTRIC FACILITIES

THE LOCATION OF HAWAIIAN ELECTRIC'S OVERHEAD AND UNDERGROUND FACILITIES SHOWN ON THE PLANS ARE FROM EXISTING RECORDS WITH VARYING DEGREES OF ACCURACY AND ARE NOT GUARANTEED AS SHOWN. THE CONTRACTOR SHALL VERIFY IN THE FIELD THE LOCATIONS OF THE FACILITIES AND SHALL EXERCISE PROPER CARE IN EXCAVATING AND WORKING IN THE AREA. WHEREVER CONNECTIONS OF NEW UTILITIES TO EXISTING UTILITIES AND UTILITY CROSSINGS ARE SHOWN, THE CONTRACTOR SHALL EXPOSE THE EXISTING LINES AT THE PROPOSED CONNECTIONS AND CROSSINGS TO VERIFY THE DEPTHS PRIOR TO EXCAVATION FOR THE NEW LINES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGES TO HAWAIIAN ELECTRIC'S FACILITIES WHETHER SHOWN OR NOT SHOWN ON THE PLANS.

2. COMPLIANCE WITH HAWAII OCCUPATIONAL SAFETY AND HEALTH LAWS

THE CONTRACTOR SHALL COMPLY WITH THE STATE OF HAWAII'S OCCUPATIONAL SAFETY AND HEALTH LAWS AND REGULATIONS, INCLUDING WITHOUT LIMITATION, THOSE RELATED TO WORKING ON OR NEAR EXPOSED OR ENERGIZED ELECTRICAL LINES AND EQUIPMENT.

3. EXCAVATION CLEARANCE

THE CONTRACTOR SHALL OBTAIN AN EXCAVATION CLEARANCE FROM HAWAIIAN ELECTRIC'S PLANNING AND DESIGN SECTION OF THE CUSTOMER INSTALLATIONS DEPARTMENT (543-5654) LOCATED AT 820 WARD AVENUE, 4TH FLOOR, A MINIMUM OF TEN (10) WORKING DAYS PRIOR TO STARTING CONSTRUCTION.

4. CAUTION!!! ELECTRICAL HAZARD!!!

EXISTING HAWAIIAN ELECTRIC OVERHEAD AND UNDERGROUND LINES ARE ENERGIZED AND WILL REMAIN ENERGIZED DURING CONSTRUCTION UNLESS PRIOR SPECIAL ARRANGEMENTS HAVE BEEN MADE WITH HAWAIIAN ELECTRIC. ONLY HAWAIIAN ELECTRIC PERSONNEL ARE TO HANDLE THESE ENERGIZED LINES AND ERECT TEMPORARY GUARDS TO PROTECT THESE LINES FROM DAMAGE. THE CONTRACTOR SHALL WORK CAUTIOUSLY AT ALL TIMES TO AVOID ACCIDENTS AND DAMAGE TO EXISTING HAWAIIAN ELECTRIC FACILITIES, WHICH CAN RESULT IN ELECTROCUTION.

5. OVERHEAD LINES

STATE LAW (OSHA) REQUIRES THAT A WORKER AND THE LONGEST OBJECT HE OR SHE MAY CONTACT CANNOT COME CLOSER THAN A SPECIFIED MINIMUM RADIAL CLEARANCE WHEN WORKING CLOSE TO OR UNDER ANY OVERHEAD LINES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO BE INFORMED OF AND COMPLY WITH THE LAW.

AT ANY TIME SHOULD THE CONTRACTOR ANTICIPATE THAT THE WORK WILL RESULT IN THE NEED TO ENCROACH WITHIN THE MINIMUM REQUIRED CLEARANCE AS STATED IN THE LAW, THE CONTRACTOR SHALL NOTIFY HAWAIIAN ELECTRIC AT LEAST THREE (3) MONTHS PRIOR TO THE PLANNED ENCROACHMENT SO THAT, IF FEASIBLE, THE NECESSARY PROTECTIONS (E.G. RELOCATE OR DE-ENERGIZE HAWAIIAN ELECTRIC LINES) CAN BE INVESTIGATED. HAWAIIAN ELECTRIC MAY ALSO BE ABLE TO BLANKET ITS DISTRIBUTION (12KV AND BELOW) LINES TO PROVIDE A VISUAL AID IN PREVENTING ACCIDENTAL CONTACT. HAWAIIAN ELECTRIC'S COST OF SAFEGUARDING OR IDENTIFYING ITS LINES WILL BE CHARGED TO THE CONTRACTOR.

CONTACT HAWAIIAN ELECTRIC'S CUSTOMER INSTALLATIONS DEPARTMENT AT 543-7846 FOR ASSISTANCE IN IDENTIFYING AND SAFEGUARDING OVERHEAD POWER LINES.

6. POLE BRACING

CONTRACTOR SHALL NOT EXCAVATE WITHIN 10 FEET FROM HAWAIIAN ELECTRIC'S UTILITY POLES OR ANY ANCHOR SYSTEM SUPPORTING THE UTILITY POLE. IF CONTRACTOR MUST EXCAVATE CLOSER THAN 10 FEET FROM A UTILITY POLE OR ITS ANCHOR SYSTEM, CONTRACTOR WILL BE RESPONSIBLE FOR PROTECTING, SUPPORTING, SECURING AND TAKING ALL PRECAUTIONS TO PREVENT DAMAGE TO OR LEANING OF EXISTING POLES. BEFORE COMMENCING SUCH EXCAVATION, CONTRACTOR MUST SUBMIT ITS BRACING CALCULATIONS AND DRAWINGS, PREPARED AND STAMPED BY A LICENSED STRUCTURAL ENGINEER, TO HAWAIIAN ELECTRIC'S CUSTOMER INSTALLATIONS DEPARTMENT (543-7846) FOR REVIEW. HAWAIIAN ELECTRIC REQUIRES A MINIMUM OF TEN (10) WORKING DAYS TO CONDUCT THE REVIEW OF CONTRACTOR'S SUBMITTAL. CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN, INSTALLATION, AND REMOVAL OF THE TEMPORARY POLE BRACING SYSTEM, AS WELL AS ALL COSTS INCURRED BY HAWAIIAN ELECTRIC TO REVIEW CONTRACTOR'S DRAWINGS AND TO REPAIR OR STRAIGHTEN POLES IMPACTED BY CONTRACTOR'S ACTIVITIES, INCLUDING RESPONSE AND RESTORATION COSTS INCURRED BY HAWAIIAN ELECTRIC ARISING OUT OF OR RELATED TO OUTAGES CAUSED BY CONTRACTOR'S FAILURE TO MEET THE FOREGOING REQUIREMENTS. HAWAIIAN ELECTRIC'S REVIEW AND APPROVAL OF ANY CONTRACTOR SUBMITTALS INCLUDING ITS WORK PROCEDURE SHALL NOT RELIEVE CONTRACTOR FROM ANY LIABILITY RESULTING FROM CONTRACTOR'S EXCAVATION NEAR OR AROUND HAWAIIAN ELECTRIC'S UTILITY POLES.

HAWAIIAN ELECTRIC COMPANY NOTES (CONT.)

7. UNDERGROUND LINES

THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION WHENEVER CONSTRUCTION CROSSES OR IS IN CLOSE PROXIMITY OF UNDERGROUND LINES. HAWAIIAN ELECTRIC'S EXISTING ELECTRICAL CABLES ARE ENERGIZED AND WILL REMAIN ENERGIZED DURING CONSTRUCTION. ONLY HAWAIIAN ELECTRIC PERSONNEL ARE TO BREAK INTO EXISTING HAWAIIAN ELECTRIC FACILITIES, HANDLE THESE CABLES, AND ERECT TEMPORARY GUARDS TO PROTECT THESE CABLES FROM DAMAGE. THE COST OF HAWAIIAN ELECTRIC'S ASSISTANCE IN PROVIDING PROPER SUPPORT AND PROTECTION OF ITS UNDERGROUND LINES WILL BE CHARGED TO THE CONTRACTOR. FOR ASSISTANCE/COORDINATION IN PROVIDING PROPER SUPPORT AND PROTECTION OF THESE LINES, THE CONTRACTOR SHALL CALL HAWAIIAN ELECTRIC'S CUSTOMER INSTALLATIONS DEPARTMENT AT 543-7846 A MINIMUM OF TEN (10) WORKING DAYS IN ADVANCE.

SPECIAL PRECAUTIONS ARE REQUIRED WHEN EXCAVATING NEAR HAWAIIAN ELECTRIC'S 138KV OR 46KV UNDERGROUND LINES (SEE HAWAIIAN ELECTRIC INSTRUCTIONS TO CONSULTANTS/CONTRACTORS ON "EXCAVATION NEAR HAWAIIAN ELECTRIC'S UNDERGROUND 138KV AND/OR 46KV LINES" FOR DETAILED REQUIREMENTS).

FOR VERIFICATION OF UNDERGROUND LINES, THE CONTRACTOR SHALL CALL THE HAWAII ONE CALL CENTER AT 866-423-7287 MINIMUM OF FIVE (5) WORKING DAYS IN ADVANCE.

8. UNDERGROUND FUEL PIPELINES

THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION WHENEVER CONSTRUCTION CROSSES OR IS IN CLOSE PROXIMITY OF HAWAIIAN ELECTRIC'S UNDERGROUND FUEL OIL PIPELINES. SPECIAL PRECAUTIONS ARE REQUIRED WHEN EXCAVATING NEAR HAWAIIAN ELECTRIC'S UNDERGROUND FUEL OIL PIPELINES (SEE HAWAIIAN ELECTRIC'S SPECIFIC FUEL PIPELINE "GUIDELINES" TO CONSULTANTS/CONTRACTORS ON EXCAVATION NEAR HAWAIIAN ELECTRIC'S UNDERGROUND FUEL PIPELINES FOR DETAILED REQUIREMENTS).

9. EXCAVATIONS

WHEN TRENCH EXCAVATION IS ADJACENT TO OR BENEATH HAWAIIAN ELECTRIC'S EXISTING STRUCTURES OR FACILITIES, THE CONTRACTOR IS RESPONSIBLE FOR:

- a. ARRANGING FOR HAWAIIAN ELECTRIC STANDBY PERSONNEL TO OBSERVE WORK AT CONTRACTOR'S COST.
- b. SHEETING, BRACING, OR OTHERWISE SUPPORTING THE EXCAVATION AND STABILIZING THE EXISTING GROUND TO RENDER IT SAFE AND SECURE AND TO PREVENT POSSIBLE SLIDES, CAVE-INS, AND SETTLEMENTS.
- c. PROPERLY SUPPORTING EXISTING STRUCTURES OR FACILITIES WITH BEAMS, STRUTS, UNDER-PINNINGS, OR OTHER NECESSARY METHODS TO FULLY PROTECT IT FROM DAMAGE.
- d. BACKFILLING WITH PROPER BACKFILL MATERIAL INCLUDING SPECIAL THERMAL BACKFILL WHERE EXISTING (REFER TO ENGINEERING DEPARTMENT FOR THERMAL BACKFILL SPECIFICATIONS).

10. RELOCATIONS OF HAWAIIAN ELECTRIC FACILITIES

ANY WORK REQUIRED TO RELOCATE OR MODIFY HAWAIIAN ELECTRIC FACILITIES SHALL BE DONE BY HAWAIIAN ELECTRIC, OR BY THE CONTRACTOR UNDER HAWAIIAN ELECTRIC'S SUPERVISION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COORDINATION, AND SHALL PROVIDE NECESSARY SUPPORT FOR HAWAIIAN ELECTRIC'S WORK, WHICH MAY INCLUDE, BUT NOT BE LIMITED TO, STAKING OF POLE/ANCHOR LOCATIONS, IDENTIFYING RIGHT OF WAY AND PROPERTY LINES, EXCAVATION AND BACKFILL, PERMITS AND TRAFFIC CONTROL, BARRICADING, AND RESTORATION OF PAVEMENT, SIDEWALKS, AND OTHER FACILITIES.

ALL COSTS ASSOCIATED WITH ANY RELOCATION OR MODIFICATION (EITHER TEMPORARY OR PERMANENT) FOR THE CONVENIENCE OF THE CONTRACTOR, OR TO ENABLE THE CONTRACTOR TO PERFORM HIS WORK IN A SAFE AND EXPEDITIOUS MANNER IN FULFILLING HIS CONTRACT OBLIGATIONS SHALL BE BORNE BY THE CONTRACTOR.

11. CONFLICTS

ANY REDESIGN OR RELOCATION OF HAWAIIAN ELECTRIC'S FACILITIES NOT SHOWN ON THE PLANS MAY BE CAUSE FOR LENGTHY DELAYS. THE CONTRACTOR ACKNOWLEDGES THAT HAWAIIAN ELECTRIC IS NOT RESPONSIBLE FOR ANY DELAY OR DAMAGE THAT MAY ARISE AS A RESULT OF ANY CONFLICTS DISCOVERED OR IDENTIFIED WITH RESPECT TO THE LOCATION OR CONSTRUCTION OF HAWAIIAN ELECTRIC'S ELECTRICAL FACILITIES IN THE FIELD, REGARDLESS OF WHETHER THE CONTRACTOR HAS MET THE REQUESTED MINIMUM ADVANCE NOTICES. IN ORDER TO MINIMIZE ANY DELAY OR IMPACT ARISING FROM SUCH CONFLICTS, HAWAIIAN ELECTRIC SHOULD BE NOTIFIED IMMEDIATELY UPON DISCOVERY OR IDENTIFICATION OF SUCH CONFLICT.

HAWAIIAN ELECTRIC COMPANY NOTES (CONT.)

12. DAMAGE TO HAWAIIAN ELECTRIC FACILITIES

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL HAWAIIAN ELECTRIC SURFACE AND SUBSURFACE UTILITIES AND SHALL BE RESPONSIBLE FOR ANY DAMAGES TO HAWAIIAN ELECTRIC'S FACILITIES AS A RESULT OF HIS OPERATIONS. THE CONTRACTOR SHALL IMMEDIATELY REPORT SUCH DAMAGES OR ANY HAZARDOUS CONDITIONS RELATED TO HAWAIIAN ELECTRIC'S LINES TO HAWAIIAN ELECTRIC'S TROUBLE DISPATCHER AT 548-7961. REPAIR WORK SHALL BE DONE BY HAWAIIAN ELECTRIC OR BY THE CONTRACTOR UNDER HAWAIIAN ELECTRIC'S SUPERVISION. COSTS FOR DAMAGES TO HAWAIIAN ELECTRIC'S FACILITIES SHALL BE BORNE BY THE CONTRACTOR.

IN CASE OF DAMAGE OR SUSPECTED DAMAGE TO HAWAIIAN ELECTRIC'S FUEL PIPELINE, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY HAWAIIAN ELECTRIC'S SECURITY COMMAND CENTER AT 543-7685 (A 24-HOUR NUMBER) SO HAWAIIAN ELECTRIC PERSONNEL CAN SECURE THE DAMAGED SECTION AND REPORT ANY OIL SPILLS TO THE PROPER AUTHORITIES. ALL COSTS ASSOCIATED WITH THE DAMAGE, REPAIR, AND OIL SPILL CLEANUP SHALL BE BORNE BY THE CONTRACTOR.

13. HAWAIIAN ELECTRIC STAND-BY PERSONNEL

THE CONTRACTOR MAY REQUEST HAWAIIAN ELECTRIC TO PROVIDE AN INSPECTOR TO STAND-BY DURING CONSTRUCTION NEAR HAWAIIAN ELECTRIC'S FACILITIES. THE COST OF SUCH INSPECTION WILL BE CHARGED TO THE CONTRACTOR.

THE CONTRACTOR SHALL CALL HAWAIIAN ELECTRIC'S CUSTOMER INSTALLATIONS DEPARTMENT AT 543-7846 A MINIMUM OF TWO (2) MONTHS IN ADVANCE TO ARRANGE FOR HAWAIIAN ELECTRIC STAND-BY PERSONNEL.

14. CLEARANCES

THE FOLLOWING CLEARANCES SHALL BE MAINTAINED BETWEEN HAWAIIAN ELECTRIC'S DUCTLINE AND ALL ADJACENT STRUCTURES (CHARTED AND UNCHARTED) IN THE TRENCH:

GUIDELINES FOR MINIMUM HORIZONTAL (PARALLEL) CLEARANCES BETWEEN HAWAIIAN ELECTRIC AND OTHER UNDERGROUND UTILITIES				
UNDERGROUND UTILITY	HAWAIIAN ELECTRIC DIRECT BURIED CABLE	HAWAIIAN ELECTRIC DIRECT BURIED IN CONDUIT (NO CONCRETE ENCASEMENT)	HAWAIIAN ELECTRIC 3" (MINIMUM) CONCRETE ENCASEMENT	APPLICABLE NOTES:
HAWAIIAN ELECTRIC DB CONDUITS	12"		0"	
HAWAIIAN ELECTRIC 3" ENCASEMENT	0"	0"	0"	
TELEPHONE/CATV DB	12"	12"	6"	
TELEPHONE/CATV DB DUCTS	12"	12"	6"	
TELEPHONE/CATV 3" ENCASEMENT	0"	0"	0"	5
TRAFFIC SIGNAL	12"	12"	12"	
WATER DB (BWS OWNED)	36"	36"	36"	1,4
CUSTOMER OWNED WATER SERVICE LATERALS	12"	12"	12"	
WATER (CONCRETE JACKETED) (BWS OWNED)	36"	36"	36"	1,4
GAS DB	12"	12"	12"	1
GAS (CONCRETE JACKETED)	12"	12"	12"	1
SEWER DB	36"	36"	36"	1,2
SEWER (CONCRETE JACKETED)	36"	36"	36"	1,2
DRAIN	12"	12"	12"	1
FUEL PIPELINES				3
NOTES:				
1. WHERE SPACE IS AVAILABLE, PARALLEL CLEARANCE TO OTHER UTILITIES, OR FOREIGN STRUCTURES OTHER THAN COMMUNICATION OR TRAFFIC SIGNAL SHALL BE 36".				
2. IF 36" CLEARANCE CANNOT BE MET: - IF CLEARANCE IS LESS THAN 12", JACKET SEWER LINE WITH REINFORCED CONCRETE (PER HAWAIIAN ELECTRIC'S STD. 30-1030) FOR A DISTANCE OF 5' PLUS PIPE DIAMETER. - IF CLEARANCE IS BETWEEN 12" AND 36", JACKET SEWER LINE WITH PLAIN CONCRETE				
3. ALL FUEL PIPELINE CROSSINGS SHALL BE REVIEWED AND APPROVED BY THE COMPANY THAT OWNS AND MAINTAINS IT.				
4. 5 FEET CLEAR TO WATER MAINS 16" AND LARGER.				
5. FOR SITUATIONS WITH 0" MINIMUM SEPARATION, A 6" SEPARATION IS RECOMMENDED.				
6. CLEARANCES MEASURED FROM OUTER EDGES OR DIAMETERS OF UTILITIES, WHENEVER CONCRETE JACKETS ARE INVOLVED, CLEARANCE SHALL BE TOTAL CLEAR DISTANCE BETWEEN THE CONCRETE JACKET AND UTILITY CONCERNED.				

HAWAIIAN ELECTRIC COMPANY NOTES (CONT.)

14. CLEARANCES (CONT.)

GUIDELINES FOR MINIMUM VERTICAL (CROSSING) CLEARANCES HAWAIIAN ELECTRIC AND OTHER UNDERGROUND UTILITIES				
UNDERGROUND UTILITY	HAWAIIAN ELECTRIC DIRECT BURIED CABLE	HAWAIIAN ELECTRIC DIRECT BURIED IN CONDUIT (NO CONCRETE ENCASEMENT)	HAWAIIAN ELECTRIC 3" (MINIMUM) CONCRETE ENCASEMENT	APPLICABLE NOTES:
HAWAIIAN ELECTRIC DB CONDUITS	6"		0"	
HAWAIIAN ELECTRIC 3" ENCASEMENT	0"	0"	0"	
TELEPHONE/CATV DB	12"	12"	6"	
TELEPHONE/CATV DB DUCTS	12"	12"	6"	
TELEPHONE/CATV 3" ENCASEMENT	0"	0"	0"	4
TRAFFIC SIGNAL	12"	12"	6"	
WATER DB (BWS OWNED)	12"	12"	12"	5
CUSTOMER OWNED WATER SERVICE LATERALS	6"	6"	6"	
WATER (CONCRETE JACKETED) (BWS OWNED)	12"	12"	12"	5
GAS DB	12"	12"	12"	
GAS (CONCRETE JACKETED)	12"	12"	12"	
SEWER DB	24"	24"	24"	1
SEWER (CONCRETE JACKETED)	24"	24"	24"	1
DRAIN	12"	12"	6"	
FUEL PIPELINES				2
1. IF CLEARANCE CANNOT BE MET: - IF CLEARANCE IS LESS THAN 12", JACKET SEWER LINE WITH REINFORCED CONCRETE (PER HAWAIIAN ELECTRIC'S STD. 30-1030) FOR A DISTANCE OF 5' PLUS PIPE DIAMETER. - IF CLEARANCE IS BETWEEN 12" AND 24", JACKET SEWER LINE WITH PLAIN CONCRETE.				
2. ALL FUEL PIPELINE CROSSINGS SHALL BE REVIEWED AND APPROVED BY THE COMPANY THAT OWNS AND MAINTAINS IT.				
3. FOR SITUATIONS WITH 0" MINIMUM SEPARATION, A 6" SEPARATION IS RECOMMENDED.				
4. CLEARANCES MEASURED FROM OUTER EDGES OR DIAMETERS OF UTILITIES, WHENEVER CONCRETE JACKETS ARE INVOLVED, CLEARANCE SHALL BE TOTAL CLEAR DISTANCE BETWEEN THE CONCRETE JACKET AND UTILITY CONCERNED.				
5. 36" CLEARANCE IS REQUIRED FOR TRENCHLESS INSTALLATION WORK.				

THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER & HAWAIIAN ELECTRIC OF ANY HEAT SOURCES (POWER CABLE DUCT BANK, STEAMLINE, ETC.) ENCOUNTERED THAT ARE NOT PROPERLY IDENTIFIED ON THE DRAWING.

15. INDEMNITY

THE CONTRACTOR SHALL INDEMNIFY, DEFEND AND HOLD HARMLESS HAWAIIAN ELECTRIC FROM AND AGAINST ALL LOSSES, DAMAGES, CLAIMS, AND ACTIONS, INCLUDING BUT NOT LIMITED TO REASONABLE ATTORNEY'S FEES AND COSTS BASED UPON OR ARISING OUT OF DAMAGE TO PROPERTY OR INJURIES TO PERSONS, OR OTHER TORTIOUS ACTS CAUSED OR CONTRIBUTED TO BY CONTRACTOR OR ANYONE ACTING UNDER ITS DIRECTION OR CONTROL OR ON ITS BEHALF; PROVIDED CONTRACTOR'S INDEMNITY SHALL NOT BE APPLICABLE TO ANY LIABILITY BASED UPON THE SOLE NEGLIGENCE OF HAWAIIAN ELECTRIC.

<div><div><div>PAUL K. ARIM</div><div>LICENSED PROFESSIONAL ENGINEER</div><div>No. 9790-C</div><div>HAWAII, U.S.A.</div></div><div><div>THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.</div><div><div><div><div>Signature</div><div>4/30/22</div><div>signature date of the license</div></div></div></div><div><div>CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION. THIS PROJECT WILL BE UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.</div><div><div>DESIGNED BY: CJ/SN</div><div>DRAWN BY: DO</div><div>CHECKED BY: PA</div></div><div><div>APPROVED</div><div>SUBMITTED BY</div></div><div><div>DATE</div><div>FIRM MEMBER</div><div>DATE</div></div></div></div></div>	<div><div>REVISION</div><div>DATE</div><div>BRIEF</div><div>MADE BY</div><div>APPROVED</div></div>	<div><div>AUSTIN, TSUTSUMI &amp; ASSOCIATES, INC.</div><div>ENGINEERS, SURVEYORS</div><div>HONOLULU, HAWAII</div></div> <div><div>DEPARTMENT OF HAWAIIAN HOME LANDS</div><div>NANAKULI TRAFFIC CALMING MEASURES, PHASE I</div><div>NANAKULI, OAHU, HAWAII</div><div>CONSTRUCTION NOTES - 5</div></div> <div><div>FILE</div><div>POCKET</div><div>FOLDER</div><div>NO.</div></div>	



MECHANICAL/ELECTRICAL DIVISION NOTES:

1. THE CONTRACTOR SHALL NOTIFY THE JOINT POLE COMMITTEE TWO (2) WEEKS IN ADVANCE OF ANY RELOCATION OF UTILITY POLE(S) THAT MAY BE NECESSARY.
2. THE CONTRACTOR SHALL NOTIFY THE MECHANICAL/ELECTRICAL DIVISION, AND DEPARTMENT OF DESIGN AND CONSTRUCTION, THREE (3) WORKING DAYS PRIOR TO COMMENCING WORK ON THE STREET LIGHTING SYSTEM (PHONE: 768-8431).
3. THE STREET LIGHTING SYSTEM SHALL BE KEPT OPERATIONAL DURING CONSTRUCTION. ANY RELOCATION REQUIRED SHALL BE APPROVED BY THE MECHANICAL/ELECTRICAL DIVISION AND PAID FOR BY THE CONTRACTOR.
4. THE LOCATIONS OF THE EXISTING UNDERGROUND STREET LIGHT FACILITIES SHOWN ON THE PLANS ARE FROM EXISTING PLANS AND ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL EXERCISE CAUTION WHEN CONSTRUCTION CROSSES OR IS IN CLOSE PROXIMITY TO THE EXISTING STREET LIGHT FACILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGES TO THE EXISTING STREET LIGHTING FACILITIES. 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.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGES TO THE CITY'S EXISTING COMMUNICATIONS 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.

DRAINAGE NOTES

1. THE CONTRACTOR SHALL PROVIDE AT LEAST SIX(6) INCHES OF VERTICAL CLEARANCE BETWEEN EXISTING DRAIN LINES AND ANY NEWLY CONSTRUCTED TRENCHWORK OR TRAFFIC SIGNAL FOUNDATIONS. ANY DAMAGE INFLICTED UPON EXISTING UTILITY LINES BY THE CONTRACTOR SHALL BE REPAIRED BY THE CONTRACTOR AT NO COST TO THE CITY.

CONSTRUCTION NOTES FOR GAS FACILITIES

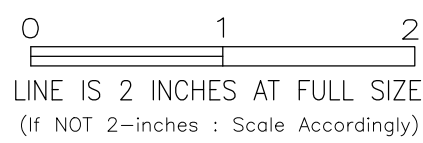
1. HAWAI'I GAS PIPELINES IN THE PROJECT AREA ARE PLASTIC COATED AND CATHODICALLY PROTECTED. THE CONTRACTOR SHALL BE EXTREMELY CAREFUL WHEN WORKING NEAR THESE GAS PIPELINES.
2. WRITTEN CLEARANCES MUST BE OBTAINED FROM HAWAI'I GAS, MAPS AND RECORDS DEPARTMENT, 515 KAMAKEE STREET, AT LEAST FIVE (5) WORKING DAYS PRIOR TO STARTING EXCAVATION NEAR THESE GAS PIPELINES.
3. SINCE GAS LINE LOCATIONS ON FIELD MAPS ARE APPROXIMATE, THE CONTRACTOR, AFTER OBTAINING WRITTEN CLEARANCE, SHALL CALL HAWAI ONE CALL CENTER A MINIMUM OF FIVE (5) WORKING DAYS BEFORE STARTING EXCAVATION TO ARRANGE FOR FIELD LOCATION OF THE EXISTING GAS PIPELINES. THE TELEPHONE NUMBER IS 811 OR 1-866-423-7287.
4. THE CONTRACTOR SHALL EXCAVATE AND BACKFILL AROUND GAS PIPELINES IN THE PRESENCE OF A REPRESENTATIVE OF HAWAI'I GAS. ALL BACKFILL WITHIN SIX INCHES OF ANY GAS PIPELINE SHALL BE SELECT CUSHION MATERIAL APPROVED BY HAWAI'I GAS.
5. FOR RELOCATION OF ANY GAS PIPELINE, THE CONTRACTOR SHALL NOTIFY HAWAI'I GAS FIVE (5) WORKING DAYS BEFORE STARTING WORK. THE TELEPHONE NUMBER IS 594-5574. THE CONTRACTOR SHALL PROVIDE THE NECESSARY EXCAVATION AND BACKFILL, OBTAIN TRAFFIC PERMITS, AND RESTORE PAVEMENT, SIDEWALKS, AND OTHER FACILITIES. ANY RELOCATION OF GAS FACILITIES SHALL BE DONE BY HAWAI'I GAS AND PAID FOR BY THE CONTRACTOR.
6. THE CONTRACTOR SHALL NOTIFY HAWAI'I GAS IMMEDIATELY AFTER ANY DAMAGE HAS BEEN CAUSED TO EXISTING GAS PIPELINES, COATINGS, OR ITS CATHODIC PROTECTION DEVICES. THE TELEPHONE NUMBER IS 535-5933, 24 HOURS A DAY. THE CONTRACTOR SHALL BE LIABLE FOR ANY DAMAGE TO HAWAI'I GAS FACILITIES. REPAIR WORK ON SUCH DAMAGE SHALL BE DONE BY HAWAI'I GAS WITH PAYMENT FOR THIS WORK TO BE BORNE BY THE CONTRACTOR.
7. MINIMUM VERTICAL AND HORIZONTAL CLEARANCE BETWEEN THE GAS PIPELINES AND OTHER PIPELINES, CONDUITS, DUCTLINES, OR OTHER FACILITIES SHALL BE 12 INCHES. ADEQUATE SUPPORT AND PROTECTION FOR GAS PIPELINES EXPOSED IN THE TRENCH SHALL BE PROVIDED BY THE CONTRACTOR AND APPROVED BY HAWAI'I GAS.
8. THE CONTRACTOR SHALL WORK IN AN EXPEDITIOUS MANNER IN ORDER TO KEEP THE UNCOVERED GAS PIPELINES EXPOSED FOR AS SHORT A PERIOD OF TIME AS POSSIBLE.

TRAFFIC SIGNAL AND TECHNOLOGY DIVISION NOTES

1. THE CONTRACTOR SHALL NOTIFY THE TRAFFIC SIGNALS AND TECHNOLOGY DIVISION, DEPARTMENT OF TRANSPORTATION SERVICES, THREE (3) WORKING DAYS PRIOR TO COMMENCING WORK ON THE TRAFFIC SIGNAL SYSTEM (PHONE: 768-8387).
2. THE TRAFFIC SIGNAL SYSTEM SHALL BE KEPT OPERATIONAL DURING CONSTRUCTION. ANY RELOCATION REQUIRED SHALL BE APPROVED BY THE TRAFFIC SIGNALS AND TECHNOLOGY DIVISION, DEPARTMENT OF TRANSPORTATION SERVICES, AND PAID FOR BY THE CONTRACTOR.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGES TO THE EXISTING TRAFFIC SIGNAL FACILITIES, INCLUDING BUT NOT LIMITED TO THE TRAFFIC SIGNAL FIBER OPTIC CABLE SYSTEM, AND INTERCONNECT SYSTEM. ANY AND ALL DAMAGES TO THE FACILITIES SHALL BE REPAIRED BY THE CONTRACTOR AT THEIR COST IN ACCORDANCE WITH THE REQUIREMENTS OF THE TRAFFIC SIGNALS AND TECHNOLOGY DIVISION, DEPARTMENT OF TRANSPORTATION SERVICES.

APPROVED:

CHIEF, TRAFFIC REVIEW BRANCH, DATE  
DEPARTMENT OF PLANNING AND PERMITTING,  
CITY & COUNTY OF HONOLULU  
(FOR WORK WITHIN CITY MAINTAINED ROAD ONLY)



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.  
Signature: [Signature] 4/30/22  
signature expiration date of the license

CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION AS REQUIRED BY SECTION 10-115-2, HAWAII ADMINISTRATIVE RULES. DEPARTMENT OF COMMERCE AND CONSUMER AFFAIRS, OFFICE OF HAWAII PROFESSIONAL ENGINEERS, ARCHITECTS, SURVEYORS AND LANDSCAPE ARCHITECTS.

REVISION	DATE	BRIEF	MADE BY	APPROVED
<div> <b>AUSTIN, TSUTSUMI &amp; ASSOCIATES, INC.</b> ENGINEERS, SURVEYORS • HONOLULU, HAWAII</div>				
DEPARTMENT OF HAWAIIAN HOME LANDS NANAKULI TRAFFIC CALMING MEASURES, PHASE I NANAKULI, OAHU, HAWAII <b>CONSTRUCTION NOTES – 6</b>				
DESIGNED BY: CJ/SN		DRAWN BY: DO		CHECKED BY: PA
APPROVED SUBMITTED BY				
DATE FIRM MEMBER DATE				

C-007

SHEET 8 OF 26

FILE	POCKET	FOLDER	NO.

SPECTRUM GENERAL NOTES:

1. THE CONTRACTOR SHALL PROCURE AND PAY FOR ALL LICENSES AND PERMITS AND SHALL GIVE ALL NOTICES NECESSARY AND INCIDENT TO THE DUE AND LAWFULL PROSECUTION OF THE WORK.
2. THE LOCATIONS OF EXISTING UTILITIES ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL VERIFY THEIR LOCATIONS AND SHALL BE RESPONSIBLE FOR ANY DAMAGES TO THESE UTILITIES AS A RESULT OF HIS OPERATIONS. ADJUSTMENTS TO THE NEW DUCTLINE ALIGNMENT, IF REQUIRED, SHALL BE MADE TO PROVIDE THE REQUIRED CLEARANCES.
3. THE CONTRACTOR SHALL BRACE ALL POLES OR LIGHT STANDARDS NEAR THE NEW DUCTLINE, MANHOLE OR HANDHOLE DURING ITS OPERATIONS.
4. THE CONTRACTOR SHALL SAW-CUT A.C. PAVEMENT, CONCRETE GUTTER, AND CONCRETE SIDEWALK WHEREVER NEW MANHOLES, HANDHOLES, PULLBOXES OR DUCTLINES ARE TO BE PLACED AND SHALL RESTORE TO EXISTING CONDITION OR BETTER.
5. THE UNDERGROUND PIPES, CABLES, OR DUCTLINES KNOWN TO EXIST BY THE ENGINEER FROM HIS SEARCH 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 AREAS. WHEREVER CONNECTIONS OF NEW UTILITIES TO EXISTING UTILITIES ARE SHOWN ON THE PLANS, THE CONTRACTOR SHALL EXPOSE THE EXISTING LINES AT THE PROPOSED CONNECTIONS TO VERIFY THEIR LOCATIONS AND DEPTHS PRIOR TO EXCAVATION FOR THE NEW LINES.
6. THE CONTRACTOR, AT HIS OWN EXPENSE, SHALL KEEP THE PROJECT AND SURROUNDING AREA FREE FROM DUST NUISANCE. THE COST FOR SUPPLEMENTARY MEASURES, WHICH WILL BE REQUIRED BY THE CITY AND COUNTY, SHALL BE BORNE BY THE CONTRACTOR.
7. PRIOR TO THE EXCAVATION OF THE DUCTLINE, THE CONTRACTOR SHALL REQUEST THAT OCEANIC CABLE COMPANY TO LOCATE EXISTING DUCTLINE WHEREVER REQUIRED.
8. THE CONTRACTOR SHALL TAKE NECESSARY PRECAUTION NOT TO DAMAGE EXISTING CABLES OR DUCTS. ANY WORK INVOLVING EXISTING CABLES OR DUCTS SHALL BE DONE IN THE PRESENCE OF THE OCEANIC CABLE COMPANY INSPECTOR OR HIS REPRESENTATIVE. TEMPORARY CABLE AND DUCT SUPPORT SHALL BE PROVIDED WHEREVER NECESSARY.
9. THE CONTRACTOR SHALL NOTIFY THE OCEANIC CABLE COMPANY INSPECTOR 72 HOURS PRIOR TO THE START OF WORK ON CATV INFRASTRUCTURE, POURING CONCRETE, OR BACKFILLING. OCEANIC'S INSPECTOR(S): PERRY SAMUELU AT 387-2496 OR PAUL CASPILLO AT 479-1637.
10. WHEREVER CONNECTIONS TO EXISTING UTILITIES ARE SHOWN ON THE PLANS, THE CONTRACTOR SHALL EXPOSE THE EXISTING LINES PRIOR TO EXCAVATION OF THE MAIN TRENCHES TO VERIFY THEIR LOCATIONS AND DEPTHS.
11. CONTRACTOR SHALL PROVIDE ALL MATERIALS AND FURNISH ALL LABOR AND EQUIPMENT NECESSARY TO INSTALL THE DUCTLINE IN PLACE COMPLETE.
12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LAYING OUT ALL REQUIRED LINES AND GRADES AND SHALL PRESERVE ALL BENCH MARKS AND WORKING POINTS NECESSARY TO LAY OUT THE WORK CORRECTLY. THE NEW DUCTLINE SHALL BE ADJUSTED BY THE CONTRACTOR TO SUIT THE EXISTING CONDITIONS AND THE DETAILS AS DESCRIBED IN THE PLANS.
13. THE CONTRACTOR, AT HIS OWN EXPENSE, SHALL KEEP THE PROJECT AREA FREE FROM DUST NUISANCE. THE WORK SHALL BE IN CONFORMANCE WITH THE AIR POLLUTION CONTROL STANDARDS AND REGULATIONS OF THE STATE OF HAWAII, DEPARTMENT OF HEALTH.
14. THE LOCATION OF CATV FACILITIES SHOWN ON PLANS ARE FROM EXISTING RECORDS WITH VARYING DEGREES OF ACCURACY AS TO ITS ACTUAL FIXED LOCATION. THE CONTRACTOR SHALL USE EXTREME CAUTION WHEN WORKING IN CLOSE PROXIMITY OF CATV FACILITIES.
15. THE CONTRACTOR SHALL OBTAIN EXCAVATION PERMIT CLEARANCE FROM OCEANIC'S ENGINEERING SECTION LOCATED AT 200 AKAMAINUI ST., MILILANI TECH PARK.
16. FOR ANY FIELD ASSISTANCE OR VERIFICATION OF CATV FACILITIES, THE CONTRACTOR SHALL CALL OCEANIC CABLE AT 625-2100 AND ASK FOR THE OSP ENGINEERING DEPARTMENT.
17. ANY WORK REQUIRED TO RELOCATE CATV FACILITIES SHALL BE DONE BY OCEANIC CABLE AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COORDINATION REQUIREMENTS AND ASSOCIATED COSTS.
18. ANY DAMAGE TO OCEANIC'S FACILITIES SHALL BE REPORTED TO OTWC'S TOC DEPARTMENT AT 625-8169.
19. THE CONTRACTOR SHALL TUNNEL UNDER EXISTING CONCRETE CURB AND GUTTER AS NECESSARY TO EXTEND CONDUIT INTO EXISTING CATV PULLBOX AND INTO THE PROPOSED POWER SUPPLY PULLBOX.

SPECTRUM GENERAL NOTES (CONT.):

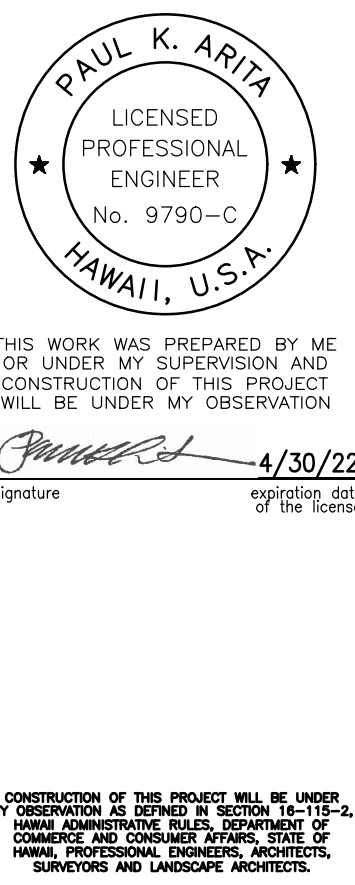
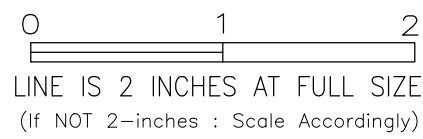
20. ALL EXISTING IMPROVEMENTS THAT ARE DISTURBED DURING THE CONSTRUCTION PHASE SHALL BE RESTORED TO ITS ORIGINAL OR BETTER CONDITION AT NO COST TO THE CITY IN ACCORDANCE WITH CITY'S STANDARDS.
21. AT LOCATIONS WHERE EXISTING CATV PULLBOX REPLACEMENT IS PROPOSED, THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTION NOT TO DAMAGE THE EXISTING CABLES IN THE PULLBOX. ALL DAMAGES TO EXISTING CABLES SHALL BE REPAIRED BY OCEANIC CABLE AND PAID FOR BY THE CONTRACTOR.
22. COORDINATE ALL PENETRATION OF TELEPHONE PULLBOXES WITH HAWAIIAN TEL INSPECTOR.
23. SMOOTH FINISH INSIDE WALL OF EXISTING PULLBOXES AND HANDHOLES TO ITS ORIGINAL CONDITION OR BETTER.
24. ALL NEW CONCRETE ENCASED CONDUIT SHALL BE PVC PIPE-SCHEDULE 40. ALL NEW DIRECT-BURIED CONDUIT SHALL BE PVC PIPE-SCHEDULE 80. USE OF ANY OTHER MATERIAL TYPE (GTS, ETC.) SHALL BE LIMITED TO MATCHING EXISTING FACILITIES. CONNECTION OF DISSIMILAR MATERIALS TO REQUIRE APPROVAL FROM OTWC INSPECTOR AND ENGINEERING DEPT.
25. THE CONTRACTOR SHALL PLACE POLY CORD THROUGH OUT PROJECT, AND SECURE IN MANHOLES, HANDHOLES, AND PULLBOXES.
26. FOR 3" CONDUITS OR LARGER, THE CONTRACTOR SHALL INSTALL NEPTCO WP1800 MULETAPE OR APPROVED EQUAL IN ALL DUCTLINES, LEAVE MULETAPE IN PLACE FOR FUTURE USE AS A PULL OR FISH LINE, UNLESS OTHERWISE NOTED. REFERENCE GTE MATERIAL CODE NO. 571154. ALL DUCTS SHALL BE CAPPED TO PREVENT ENTRY OF FOREIGN MATERIAL DURING CONSTRUCTION AND AT COMPLETION OF INSTALLATION. ENDBELLS ARE REQUIRED FOR CONDUITS 2" AND LARGER.
27. PENETRATION INTO PULLBOXES IF NECESSARY TO BE FROM FACTORY INSTALLED OPENING OR FROM BRICKS POSITION. PENETRATION FROM PULLBOX WALLS IS NOT ACCEPTABLE.
28. BENDS IN THE DUCT ALIGNMENT, DUE TO CHANGES IN GRADE SHALL HAVE A MINIMUM RADIUS OF 20- FEET. ALL 90-DEGREE C-BENDS AT A POLE OR AT THE BUILDING FLOOR SLAB PENETRATION, SHALL HAVE A BEND RADIUS OF 10 TIMES THE DIAMETER OF THE DUCT OR GREATER.
29. MINIMUM LENGTH OF CONDUIT USED SHALL NOT BE LESS THAN 5- FEET IN LENGTH. USE OF PARTIAL CONDUIT SECTIONS ALLOWABLE IS AT OTWC INSPECTOR(S) DISCRETION.
30. ALL CONDUITS SHALL ENTER THROUGH THE END "SHORT WALL" OF THE PULL-BOX. ENTRY SHALL BE AT 90 DEGREES (PERPENDICULAR) TO WALL FACE WITH BENDS NO LESS THAN 12" FROM EXTERIOR WALL.
31. A MINIMUM OF (2) PRECAST SECTIONS MUST BE USED ON ALL 2X4 OR 2X6 PULLBOXES.
32. ALL NEW CONSTRUCTION SHALL UTILIZE CONCRETE PRECAST BASE UNLESS OTHERWISE APPROVED OR SPECIFIED BY OTWC INSPECTOR(S).
33. WHEN THREE (3) OR MORE 4" CONDUITS ENTER ONE END WALL OF ANY PULLBOX, ONLY BRICK BASES WILL BE ALLOWED UNLESS OTHERWISE INSTRUCTED/APPROVED BY OTWC INSPECTOR(S).
34. TWO MINIMUM LAYERS OF BRICKS TO BE USED LOWER THAN THE LOWEST DUCT ENTERING THE PULLBOX. TOP LAYER OF BRICK TO BE FLUSH WITH TOP OF CONDUIT OR HIGHER.
35. FOR UPGRADE/REPAIRS TO EXISTING PULL-BOXES, BRICKS MAY BE USED AND SHALL ALWAYS BE AT LEAST TWO LAYERS LOWER THAN THE LOWEST DUCT ENTERING THE PULLBOX.
36. AT NO TIME SHALL CEMENT MORTAR, WOOD, OR ANY OTHER MATERIAL BE USED BETWEEN PRECAST SECTIONS.
37. LEVELING OR RAISING OF BOXES TO GRADE MUST BE DONE:
  - A. PRE-CAST BASE(S) - USING GRAVEL LAYER UNDER BASE (TYPE 3B OR EQUIVALENT APPROVED BY OTWC INSPECTOR)
  - B. BRICK BASE(S) - ADJUSTMENTS TO BRICKWORK SECTION. THE PERMANENT INSTALLATION OF WOODEN WEDGES TO ACCOMPLISH THIS PURPOSE WILL NOT BE ACCEPTED.
38. 5/8" x 8' COPPER GROUND RODS SHALL BE PLACED IN ALL PULLBOXES UNLESS OTHERWISE DIRECTED BY OCEANIC TIME WARNER CABLE. GROUND RODS WILL BE PLACED IN THE CORNER 3" TO 4" FROM THE WALL AND AWAY FROM ANY CONDUIT WITH NO MORE THAN 8" STICKING UP ABOVE GROUND.
39. TRENCHING TO BE BY HAND DIGGING NEAR AND ACROSS EXISTING UTILITY LINES.

SPECTRUM GENERAL NOTES (CONT.):


40. MINIMUM CLEARANCE BETWEEN STREET LIGHT STAND AND FIRE HYDRANTS SHALL BE THREE FEET.
41. UNDERGROUND UTILITIES SHOWN HEREON IS FOR INFORMATION ONLY. NO GUARANTEE IS MADE ON THE ACCURACY OR COMPLETENESS OF SAID INSTALLATION.
42. FOR UNDERGROUND CABLE LOCATING AND MARKING, FIVE WORKING DAYS ADVANCE NOTICE IS REQUIRED. THREE WORKING DAYS ADVANCE NOTICE IS REQUIRED FOR ANY INSPECTION BY A DESIGNATE REPRESENTATIVE. CONTRACTOR SHALL TAKE NECESSARY PRECAUTION NOT TO DAMAGE ANY EXISTING CABLES OR DUCTS. OCEANIC'S INSPECTOR OR DESIGNATED REPRESENTATIVE IS REQUIRED TO BE AT ANY JOB SITE WHENEVER THERE WILL BE A BREAKAGE INTO OR ENTRY INTO ANY STRUCTURE THAT CONTAIN OCEANIC'S FACILITIES.
43. CONCRETE STRENGTH SHALL BE 3,000 PSI IN 28 DAYS.
44. CURING AND BACKFILLING. MAINTAIN CONCRETE IN A MOIST CONDITION FOR 24 HOURS MINIMUM FOR 3,000 PSI AND 48 HOURS MINIMUM FOR 2,500 PSI BEFORE COMPACTED. BACKFILLING: 72 HOURS MINIMUM BEFORE PERMITTING MOTOR TRAFFIC LOAD ON DUCTLINE. CURING METHOD SHALL MEET OCEANIC TWC INSPECTOR'S APPROVAL.
45. INSTALL 8-MIL. THICK ORANGE COLOR WARNING TAPE 4-INCH WIDE ENTIRE LENGTH OF TRENCH WHEN PLACING CATV CONDUITS. TAPE SHOULD READ "CAUTION BURIED CABLE LINE BELOW". MANUFACTURED BY HARRIS INDUSTRIES, INC. CATALOG NUMBER UT-43 OR EQUIVALENT TAPE. TAPE TO BE INSTALLED 12-INCHES BELOW GRADE.
46. AFTER DUCTLINE HAS BEEN COMPLETED, A MANDREL WITH A SQUARE FRONT NOT LESS THAN 12-INCH LONG AND HAVING A DIAMETER OF 1/4-INCH LESS THAN THE INSIDE DIAMETER OF DUCT, SHALL BE PULLED THROUGH EACH DUCT AFTER WHICH A BRUSH WITH STIFF BRISTLES SHALL BE PULLED THROUGH TO MAKE CERTAIN THAT NO PARTICLES OF EARTH, SAND, OR GRAVEL HAVE BEEN LEFT INSIDE. DUCTS SHALL BE COMPLETELY DRY AND CLEAN.
47. METALLIC ENTRANCE CONDUITS SHALL BE GROUNDED.
48. ALL CONDUITS WITHIN A BUILDING SHALL:
  - A. BE INSTALLED IN THE SHORTEST AND STRAIGHTEST POSSIBLE RUN.
  - B. HAVE NO SECTION LONGER THAN 100- FEET NOR CONTAIN MORE THAN TWO 90-DEGREE BENDS. AN APPROVED SIZED JUNCTION BOX OR GUTTER BOX SHALL BE PLACED IF THIS IS EXCEEDED.
  - C. ALL BENDS SHALL BE LONG SWEEP-RADIUS BENDS BUT THE INSIDE RADIUS OF THE BEND MUST NEVER BE LESS THAN TEN TIMES THE DIAMETER OF THE CONDUIT.
49. ALL CONSTRUCTION MUST BE INSPECTED AND APPROVED BY OCEANIC PRIOR TO THE INSTALLATION OF ANY OF ITS FACILITIES AND THE ENERGIZING OF ITS SYSTEM.
50. CONTRACTOR AND/OR CUSTOMER SHALL PROVIDE OCEANIC WITH SUFFICIENT INSTALLATION TIME IN THEIR OCCUPANCY TIME TABLE.

APPROVED:

CHIEF, TRAFFIC REVIEW BRANCH, DATE  
DEPARTMENT OF PLANNING AND PERMITTING,  
CITY & COUNTY OF HONOLULU  
(FOR WORK WITHIN CITY MAINTAINED ROAD ONLY)



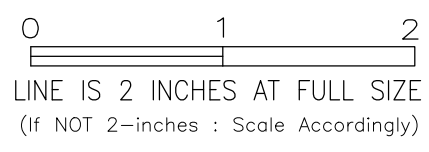
CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION AS SHOWN BY SIGNATURE AND DATE OF OBSERVATION. I AM A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, SURVEYOR AND LANDSCAPE ARCHITECT.

REVISION	DATE	BRIEF	MADE BY	APPROVED
<div><div> <b>AUSTIN, TSUTSUMI &amp; ASSOCIATES, INC.</b> ENGINEERS, SURVEYORS • HONOLULU, HAWAII</div><div>DEPARTMENT OF HAWAIIAN HOME LANDS <b>NANAKULI TRAFFIC CALMING MEASURES, PHASE I</b> NANAKULI, OAHU, HAWAII <b>CONSTRUCTION NOTES - 7</b></div></div>				
DESIGNED BY: GJ/SN	DRAWN BY: DO	CHECKED BY: PA		
APPROVED		SUBMITTED BY		
DATE		FIRM MEMBER		DATE

C-008

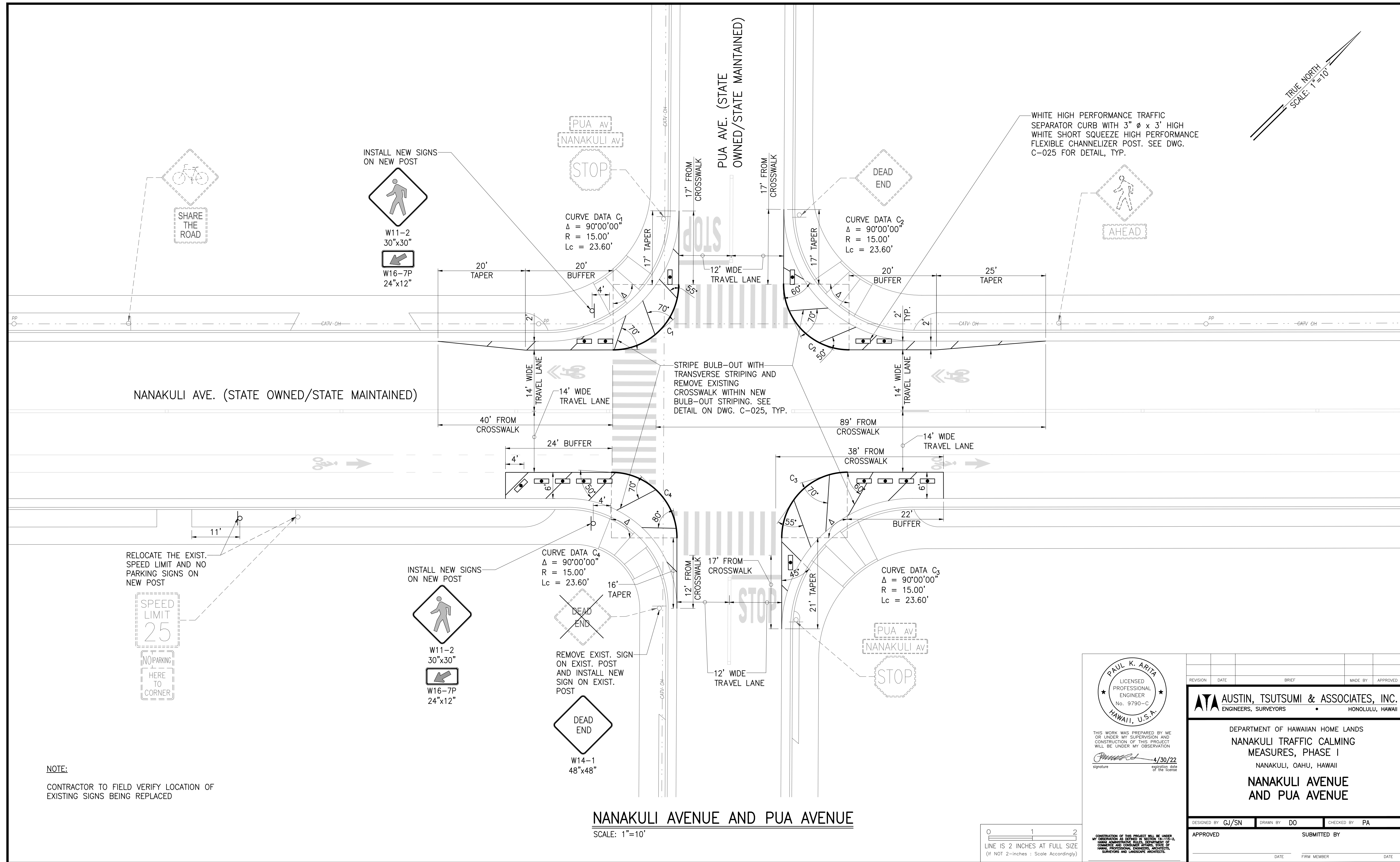
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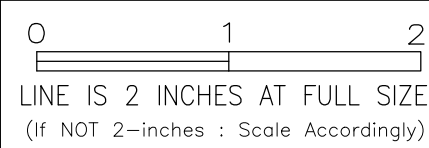
SHEET 10 OF 26

FILE	POCKET	FOLDER	NO.




NOTE:  
CONTRACTOR TO FIELD VERIFY LOCATION OF  
EXISTING SIGNS BEING REPLACED

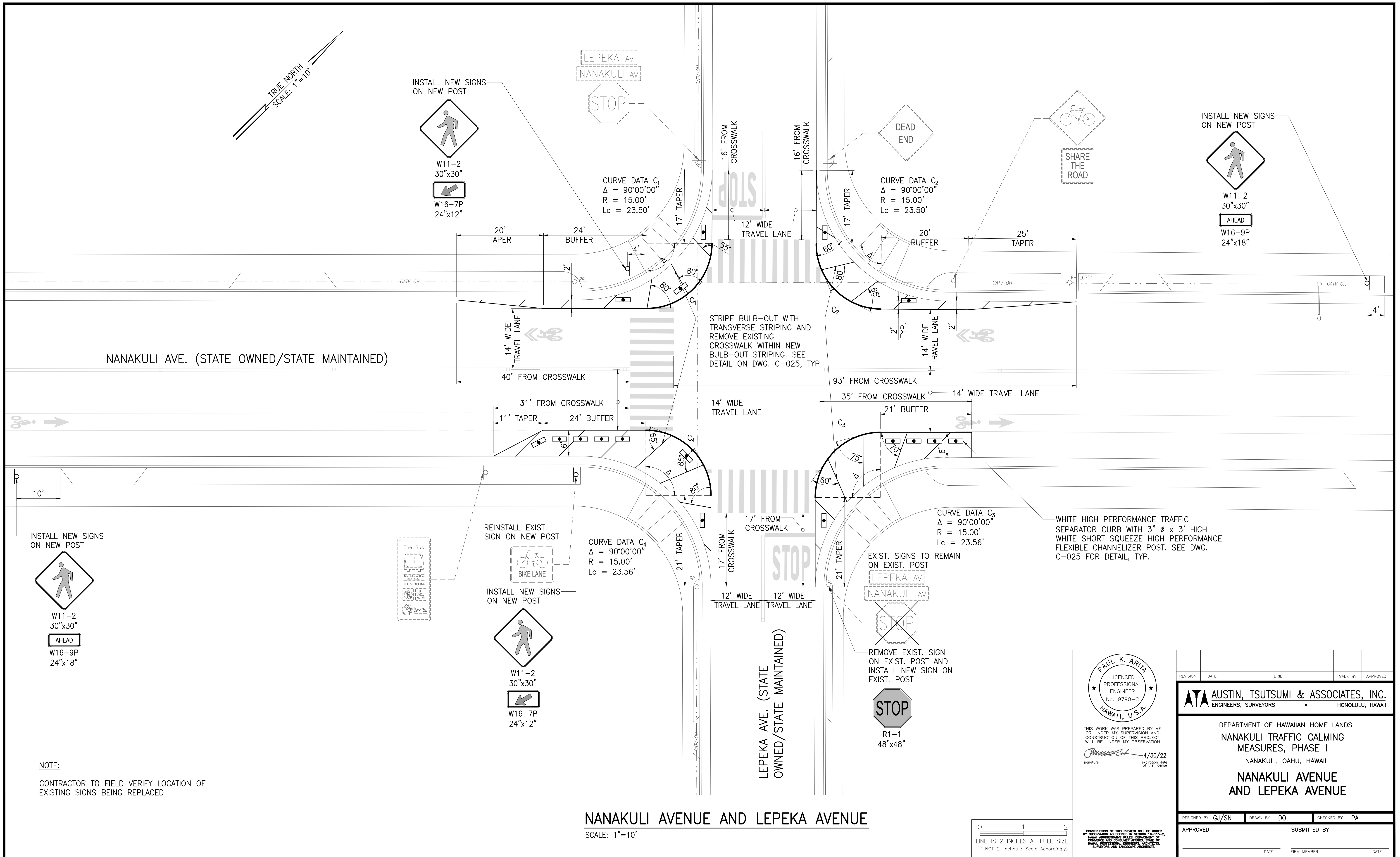
NANAKULI AVENUE AND PUA AVENUE  
SCALE: 1"=10'



PAUL K. ARIM  
LICENSED  
PROFESSIONAL  
ENGINEER  
No. 9790-C  
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]* 4/30/22  
signature expiration date  
of the license

REVISION	DATE	BRIEF	MADE BY	APPROVED
<div><div></div><div><div>AUSTIN, TSUTSUMI &amp; ASSOCIATES, INC.</div><div>ENGINEERS, SURVEYORS • HONOLULU, HAWAII</div></div></div>				
<div>DEPARTMENT OF HAWAIIAN HOME LANDS</div> <div>NANAKULI TRAFFIC CALMING</div> <div>MEASURES, PHASE I</div> <div>NANAKULI, OAHU, HAWAII</div> <div>NANAKULI AVENUE</div> <div>AND PUA AVENUE</div>				
DESIGNED BY: GJ/SN		DRAWN BY: DO	CHECKED BY: PA	
APPROVED		SUBMITTED BY		
		DATE	FIRM MEMBER	DATE
FILE	POCKET	FOLDER	NO.	

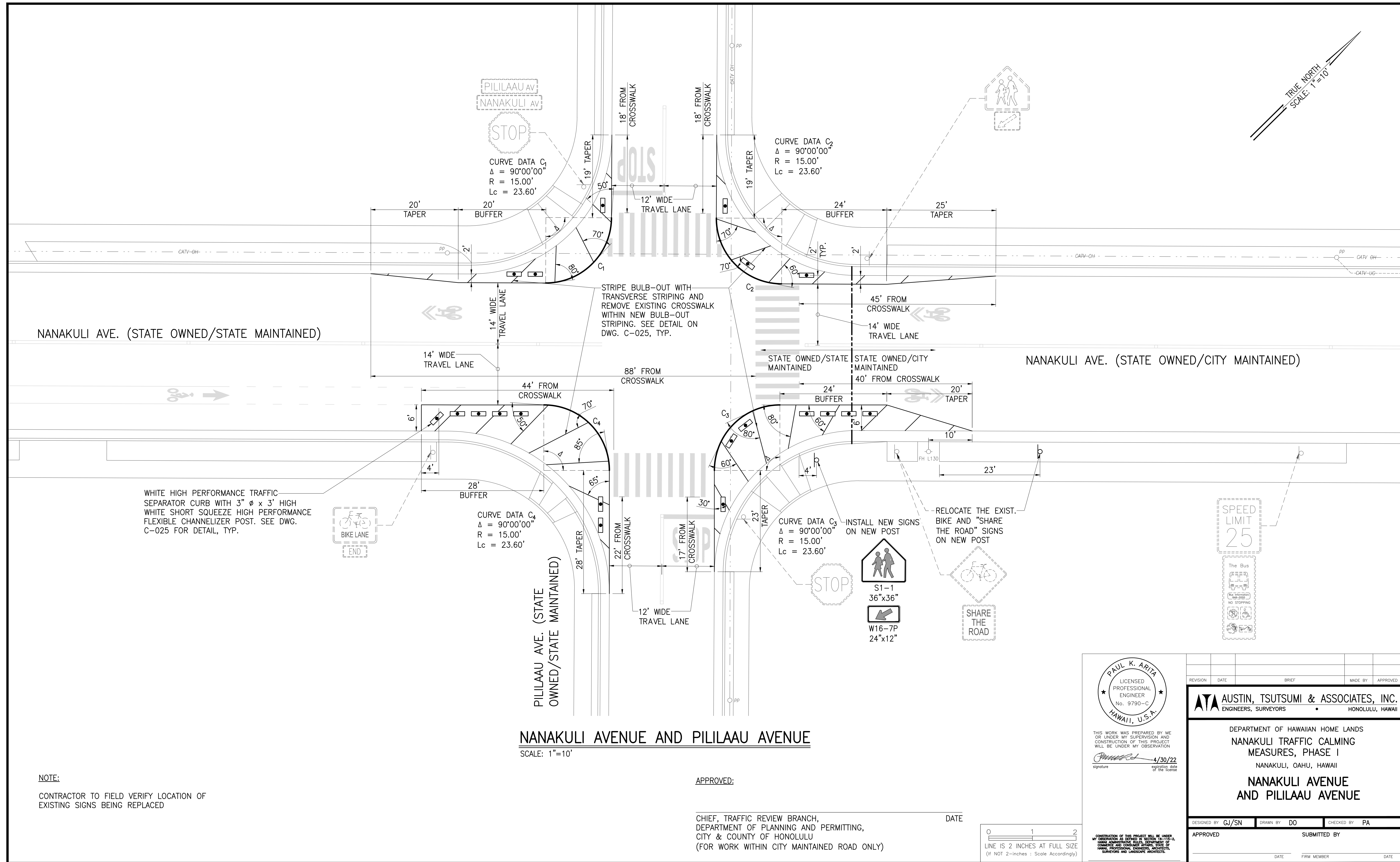




C-011

SHEET 12 OF 26

FILE	POCKET	FOLDER	NO.



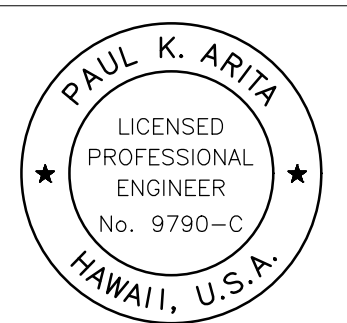
NOTE:  
CONTRACTOR TO FIELD VERIFY LOCATION OF  
EXISTING SIGNS BEING REPLACED

APPROVED:

CHIEF, TRAFFIC REVIEW BRANCH,  
DEPARTMENT OF PLANNING AND PERMITTING,  
CITY & COUNTY OF HONOLULU  
(FOR WORK WITHIN CITY MAINTAINED ROAD ONLY)

DATE

0 1 2  
LINE IS 2 INCHES AT FULL SIZE  
(IF NOT 2-INCHES : Scale Accordingly)

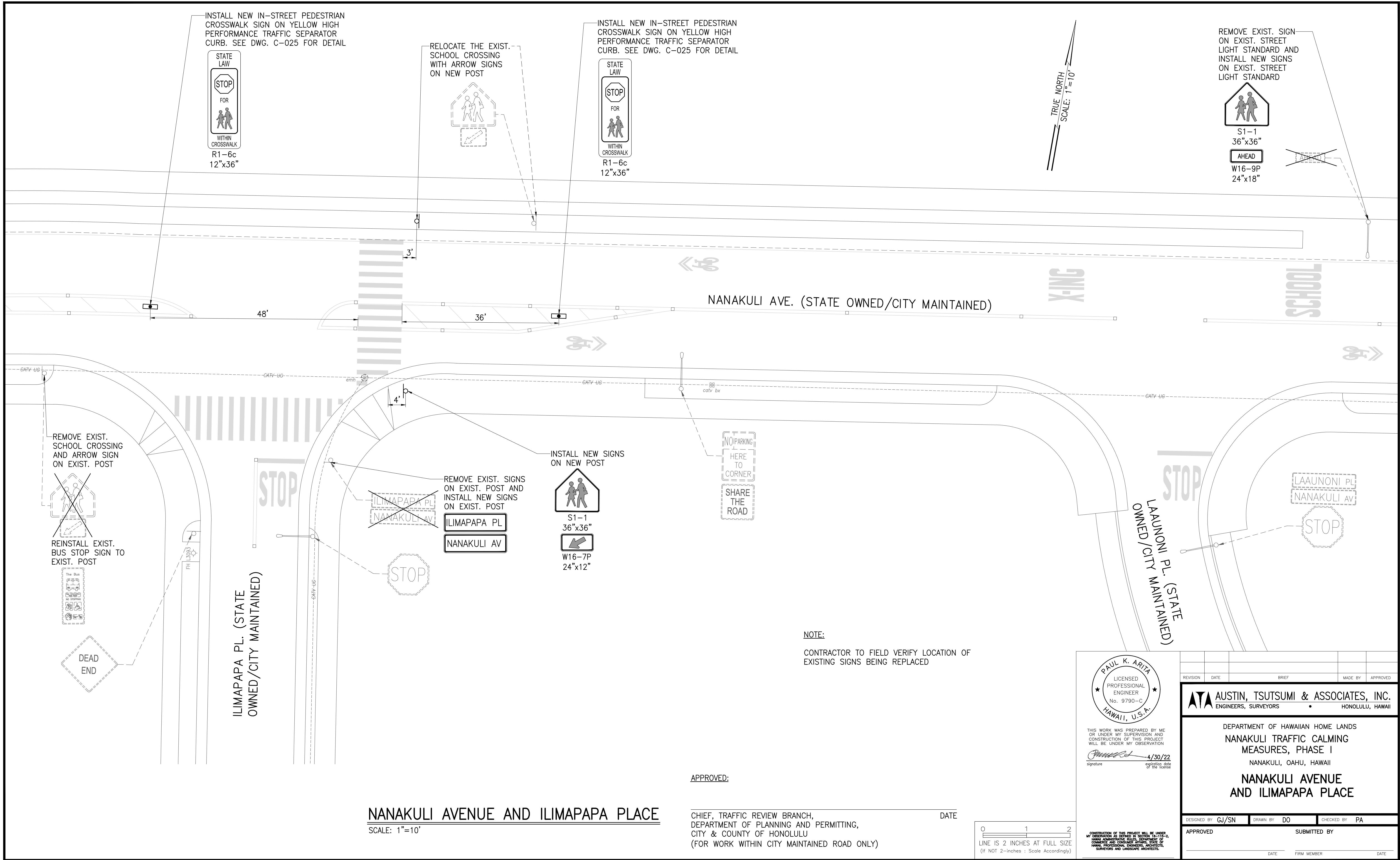


THIS WORK WAS PREPARED BY ME  
OR UNDER MY SUPERVISION AND  
CONSTRUCTION OF THIS PROJECT  
WILL BE UNDER MY OBSERVATION  
*Paul K. Arim* 4/30/22  
signature expiration date of the license

CONSTRUCTION OF THIS PROJECT WILL BE UNDER  
MY OBSERVATION AS REQUIRED BY SECTION 100-15-1,  
HAWAII ADMINISTRATIVE RULES, DEPARTMENT OF  
COMMERCE AND CONSUMER AFFAIRS, OFFICE OF  
HAWAII PROFESSIONAL SURVEYORS, ARCHITECTS,  
SURVEYORS AND LANDSCAPE ARCHITECTS.

REVISION	DATE	BRIEF	MADE BY	APPROVED
<b>AUSTIN, TSUTSUMI &amp; ASSOCIATES, INC.</b> ENGINEERS, SURVEYORS • HONOLULU, HAWAII				
DEPARTMENT OF HAWAIIAN HOME LANDS NANAKULI TRAFFIC CALMING MEASURES, PHASE I NANAKULI, OAHU, HAWAII <b>NANAKULI AVENUE AND PILILAAU AVENUE</b>				
DESIGNED BY: CJ/SN	DRAWN BY: DO	CHECKED BY: PA		
APPROVED		SUBMITTED BY		
DATE		FIRM MEMBER		DATE
FILE	POCKET	FOLDER	NO.	





C-013

SHEET 14 OF 26

FILE	POCKET	FOLDER	NO.

PAUL K. ARIM  
LICENSED PROFESSIONAL ENGINEER  
No. 9790-C  
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

4/30/22  
expiration date of the license

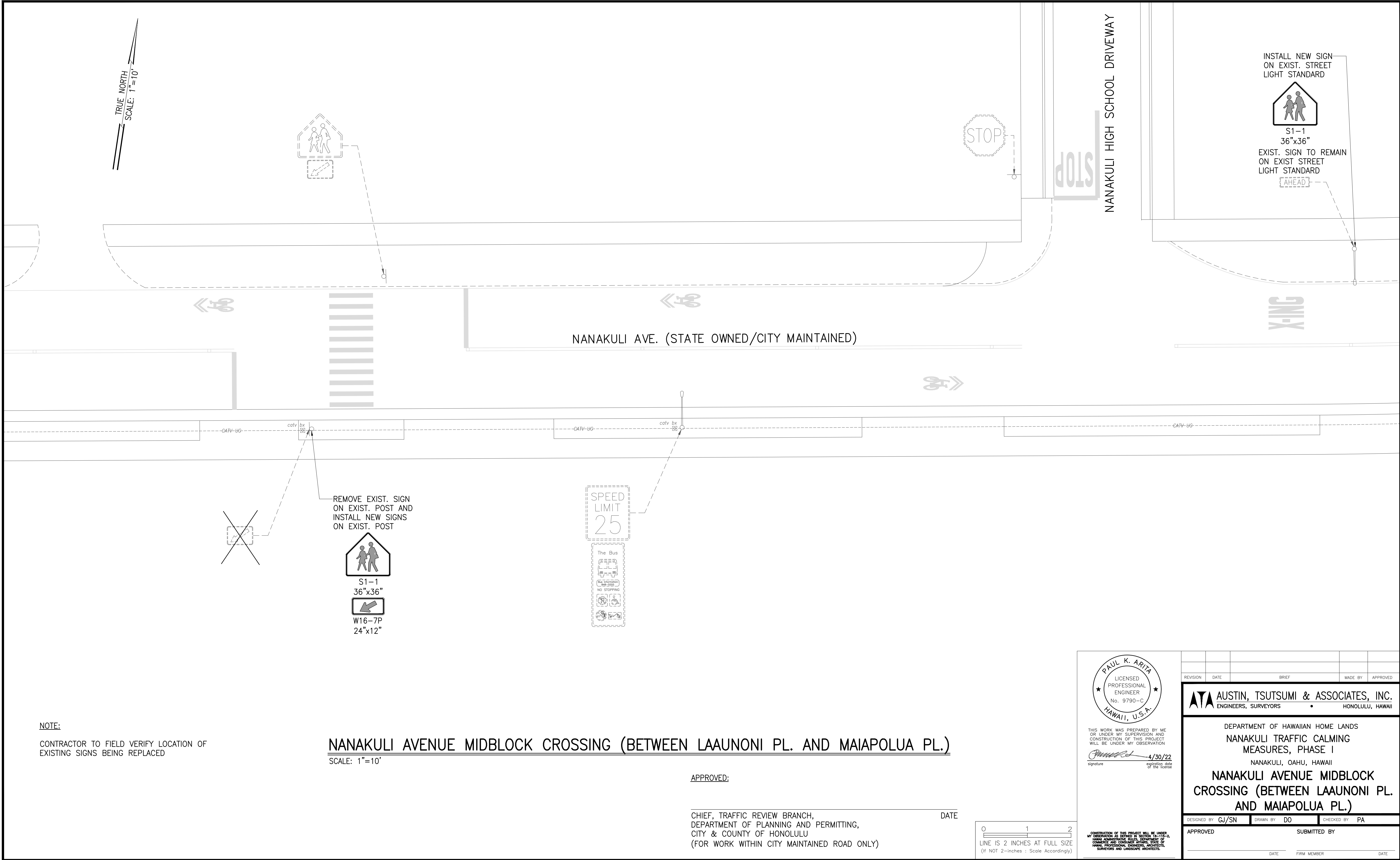
REVISION	DATE	BRIEF	MADE BY	APPROVED
<b>AUSTIN, TSUTSUMI &amp; ASSOCIATES, INC.</b> ENGINEERS, SURVEYORS • HONOLULU, HAWAII				
DEPARTMENT OF HAWAIIAN HOME LANDS NANAKULI TRAFFIC CALMING MEASURES, PHASE I NANAKULI, OAHU, HAWAII <b>NANAKULI AVENUE AND ILIMAPAPA PLACE</b>				
DESIGNED BY: CJ/SN	DRAWN BY: DO	CHECKED BY: PA		
APPROVED		SUBMITTED BY		
DATE		FIRM MEMBER		

APPROVED:

CHIEF, TRAFFIC REVIEW BRANCH,  
DEPARTMENT OF PLANNING AND PERMITTING,  
CITY & COUNTY OF HONOLULU  
(FOR WORK WITHIN CITY MAINTAINED ROAD ONLY)

DATE



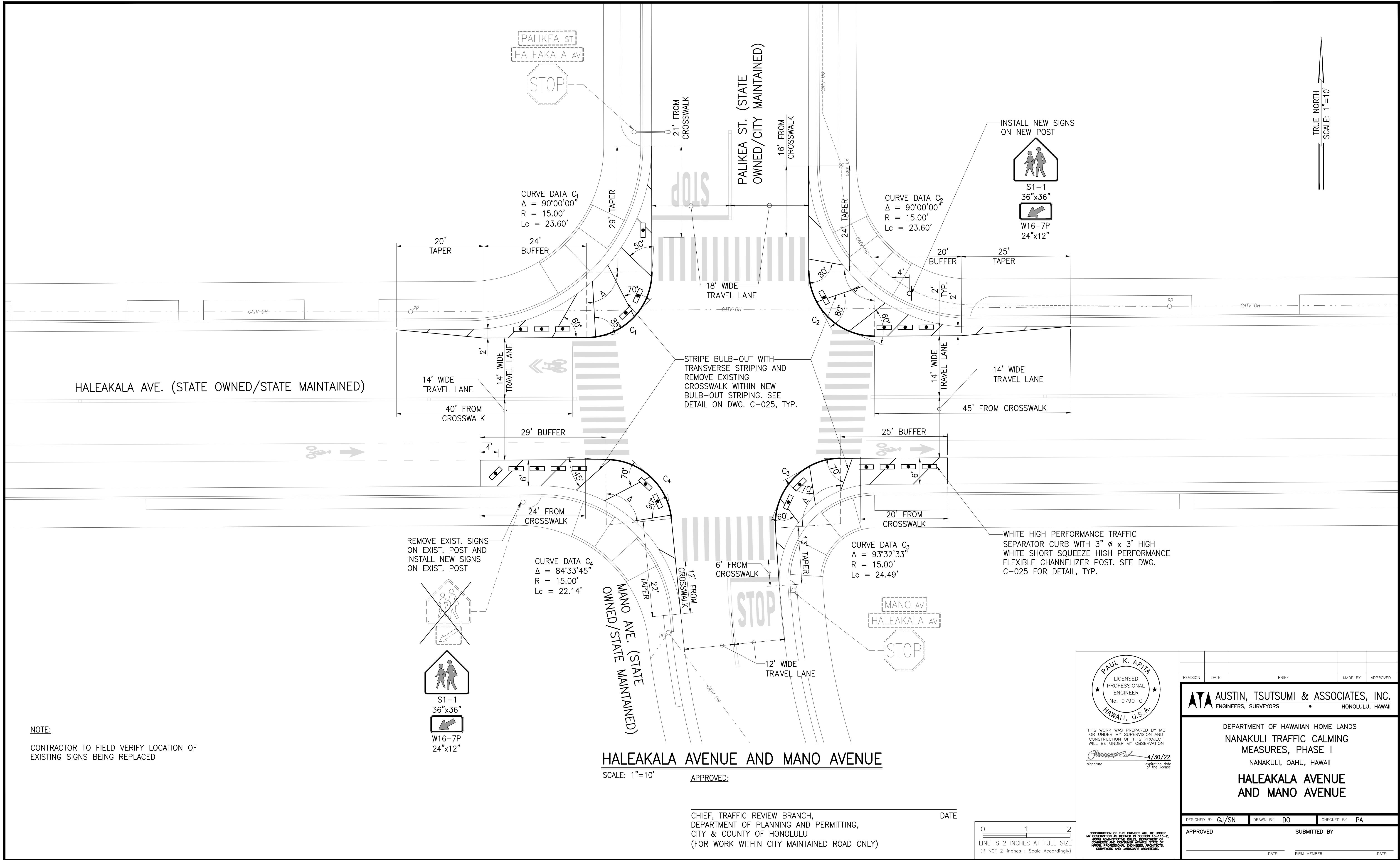


C-014

SHEET 15 OF 26

FILE	POCKET	FOLDER	NO.





NOTE:  
CONTRACTOR TO FIELD VERIFY LOCATION OF  
EXISTING SIGNS BEING REPLACED

HALEAKALA AVENUE AND MANO AVENUE  
SCALE: 1"=10'      APPROVED:

CHIEF, TRAFFIC REVIEW BRANCH,  
DEPARTMENT OF PLANNING AND PERMITTING,  
CITY & COUNTY OF HONOLULU  
(FOR WORK WITHIN CITY MAINTAINED ROAD ONLY)      DATE



PAUL K. ARIM  
LICENSED  
PROFESSIONAL  
ENGINEER  
No. 9790-C  
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]* 4/30/22  
signature      expiration date of license

REVISION	DATE	BRIEF	MADE BY	APPROVED

**AUSTIN, TSUTSUMI & ASSOCIATES, INC.**  
ENGINEERS, SURVEYORS      HONOLULU, HAWAII

DEPARTMENT OF HAWAIIAN HOME LANDS  
NANAKULI TRAFFIC CALMING  
MEASURES, PHASE I  
NANAKULI, OAHU, HAWAII

**HALEAKALA AVENUE  
AND MANO AVENUE**

DESIGNED BY: CJ/SN	DRAWN BY: DO	CHECKED BY: PA
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APPROVED	SUBMITTED BY	
DATE	FIRM MEMBER	DATE

FILE	POCKET	FOLDER	NO.
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C-015

SHEET 16 OF 26

TRUE NORTH  
SCALE: 1"=10'

WHITE HIGH PERFORMANCE TRAFFIC  
SEPARATOR CURB WITH 3" Ø x 3' HIGH  
WHITE SHORT SQUEEZE HIGH PERFORMANCE  
FLEXIBLE CHANNELIZER POST. SEE DWG.  
C-025 FOR DETAIL, TYP.

←←←

STRIPE BULB-OUT WITH  
TRANSVERSE STRIPING AND  
REMOVE EXISTING  
CROSSWALK WITHIN NEW  
BULB-OUT STRIPING. SEE  
DETAIL ON DWG. C-025, TYP.

CURVE DATA C<sub>2</sub>  
Δ = 112°00'00"  
R = 30.00'  
Lc = 58.70'

CURVE DATA C<sub>1</sub>  
Δ = 68°00'00"  
R = 15.00'  
Lc = 17.80'

PILILAAU AVE. (STATE  
OWNED/STATE MAINTAINED)

HALEAKALA AVE. (STATE OWNED/STATE MAINTAINED)

EXIST. SIGNS TO REMAIN  
ON EXIST. POST

INSTALL NEW SIGNS ON  
NEW POST

S1-1  
36"x36"  
W16-7P  
24"x12"

STOP  
R1-1  
48"x48"

REMOVE EXIST. SIGN ON  
EXIST. POST AND INSTALL  
NEW SIGN ON EXIST. POST

REMOVE EXIST. SIGNS  
AND EXIST. POST

SHARE  
THE  
ROAD

BIKE LANE

NOTE:

CONTRACTOR TO FIELD VERIFY LOCATION OF  
EXISTING SIGNS BEING REPLACED

HALEAKALA AVENUE AND PILILAAU AVENUE

SCALE: 1"=10'

0 1 2  
LINE IS 2 INCHES AT FULL SIZE  
(If NOT 2-inches : Scale Accordingly)

PAUL K. ARIM  
LICENSED  
PROFESSIONAL  
ENGINEER  
No. 9790-C  
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 4/30/22  
expiration date of the license

REVISION	DATE	BRIEF	MADE BY	APPROVED
ATA AUSTIN, TSUTSUMI & ASSOCIATES, INC. ENGINEERS, SURVEYORS • HONOLULU, HAWAII				

DEPARTMENT OF HAWAIIAN HOME LANDS  
NANAKULI TRAFFIC CALMING  
MEASURES, PHASE I  
NANAKULI, OAHU, HAWAII  
HALEAKALA AVENUE  
AND PILILAAU AVENUE

DESIGNED BY: CJ/SN DRAWN BY: DO CHECKED BY: PA

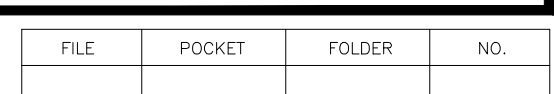
APPROVED SUBMITTED BY

DATE FIRM MEMBER DATE

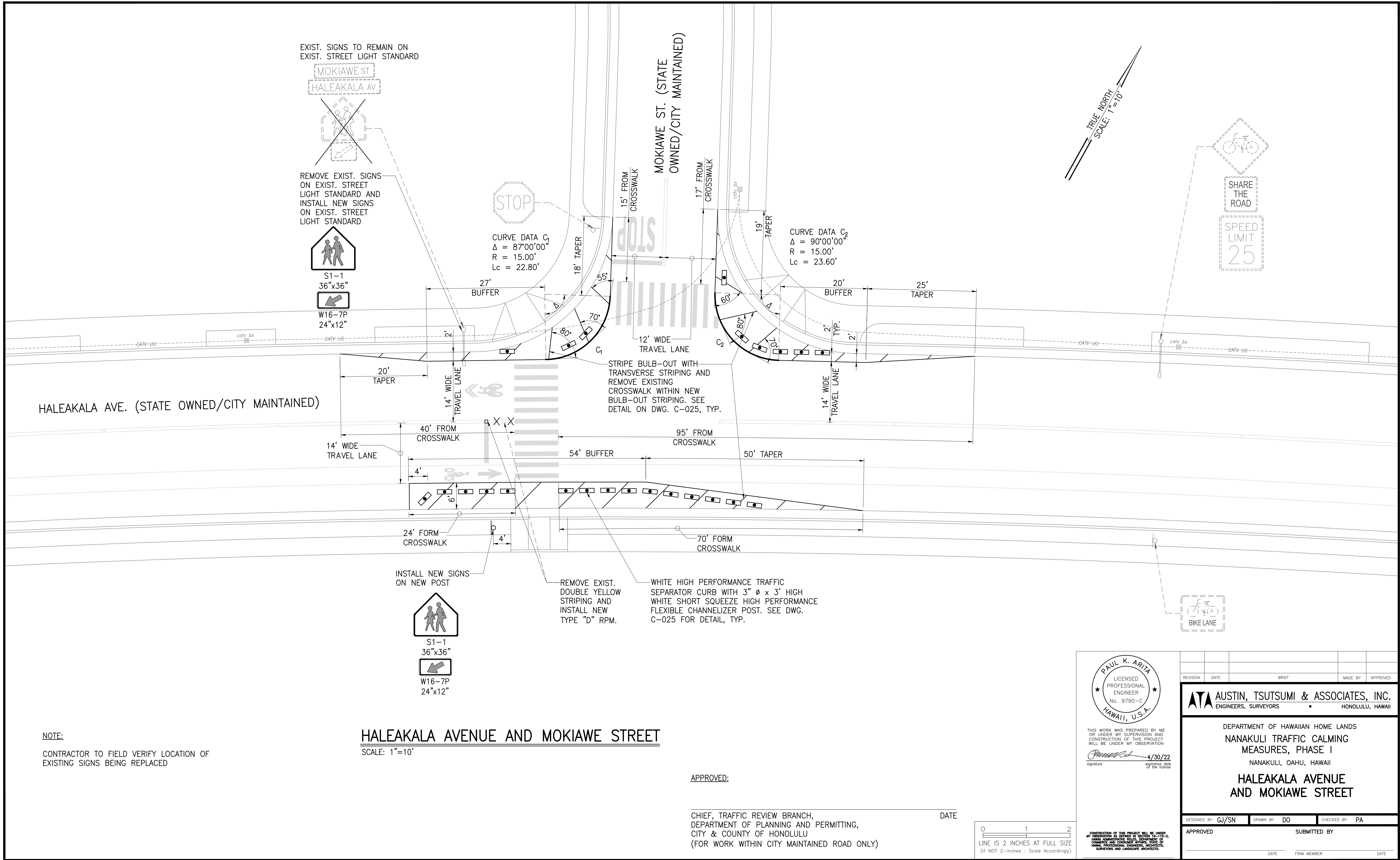
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C-016

SHEET 17 OF 26





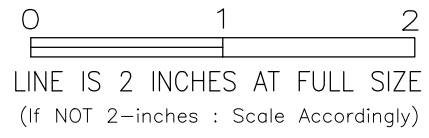


NOTE:  
CONTRACTOR TO FIELD VERIFY LOCATION OF  
EXISTING SIGNS BEING REPLACED

**HALEAKALA AVENUE AND MOKIAWE STREET**  
SCALE: 1"=10'

APPROVED:

CHIEF, TRAFFIC REVIEW BRANCH,  
DEPARTMENT OF PLANNING AND PERMITTING,  
CITY & COUNTY OF HONOLULU  
(FOR WORK WITHIN CITY MAINTAINED ROAD ONLY)

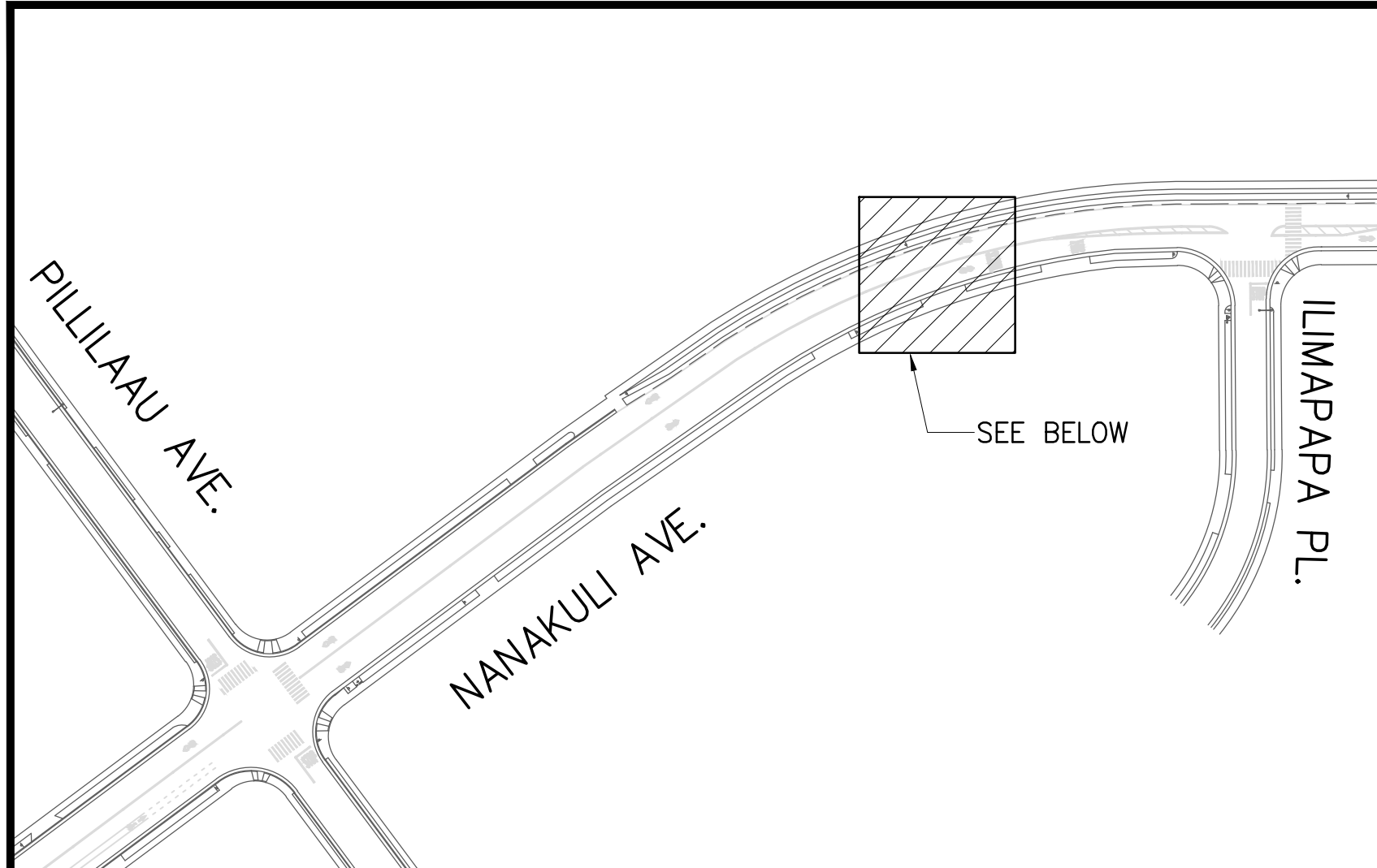


PAUL K. ARIM  
LICENSED  
PROFESSIONAL  
ENGINEER  
No. 9790-C  
HAWAII, U.S.A.

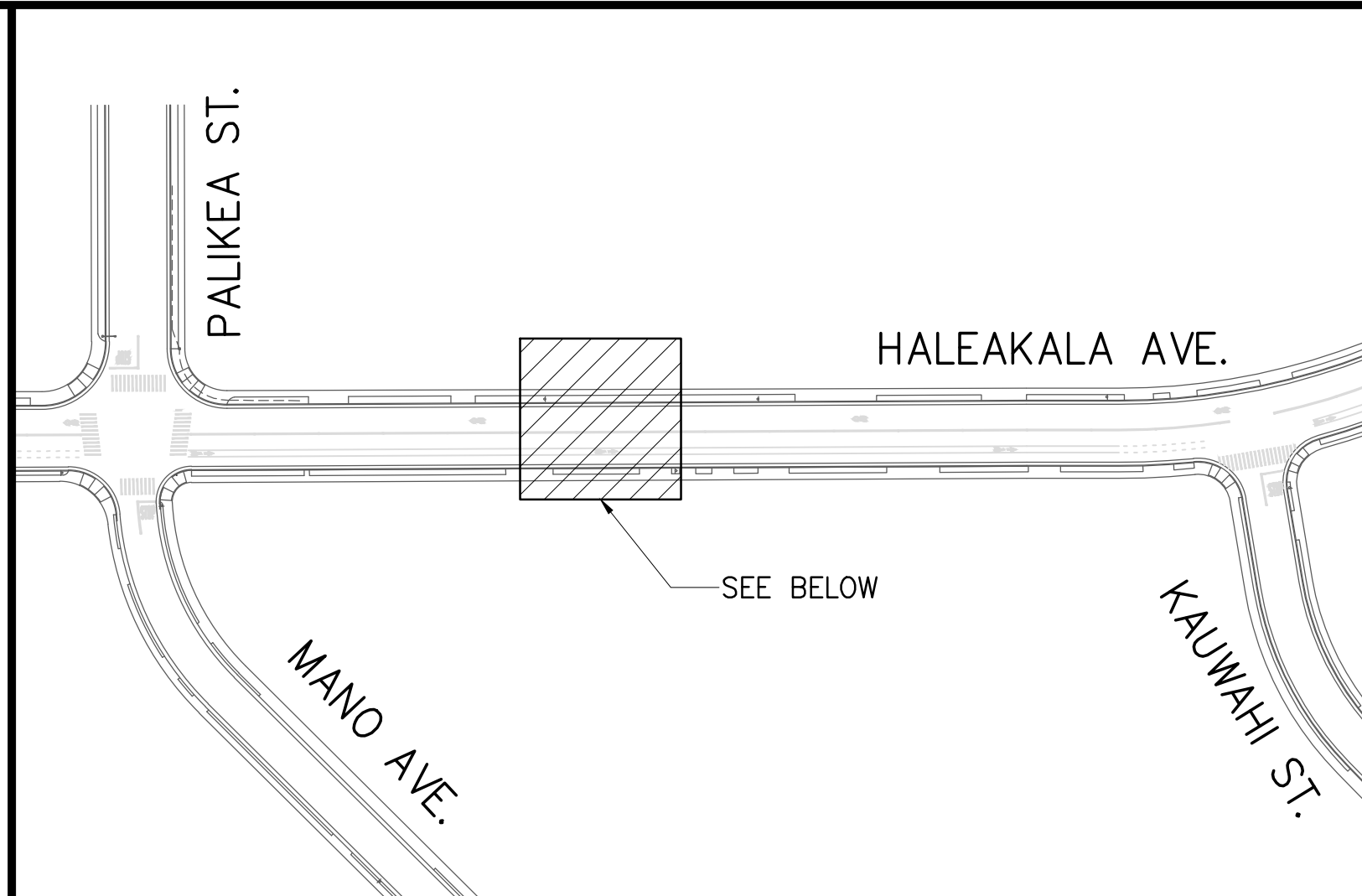
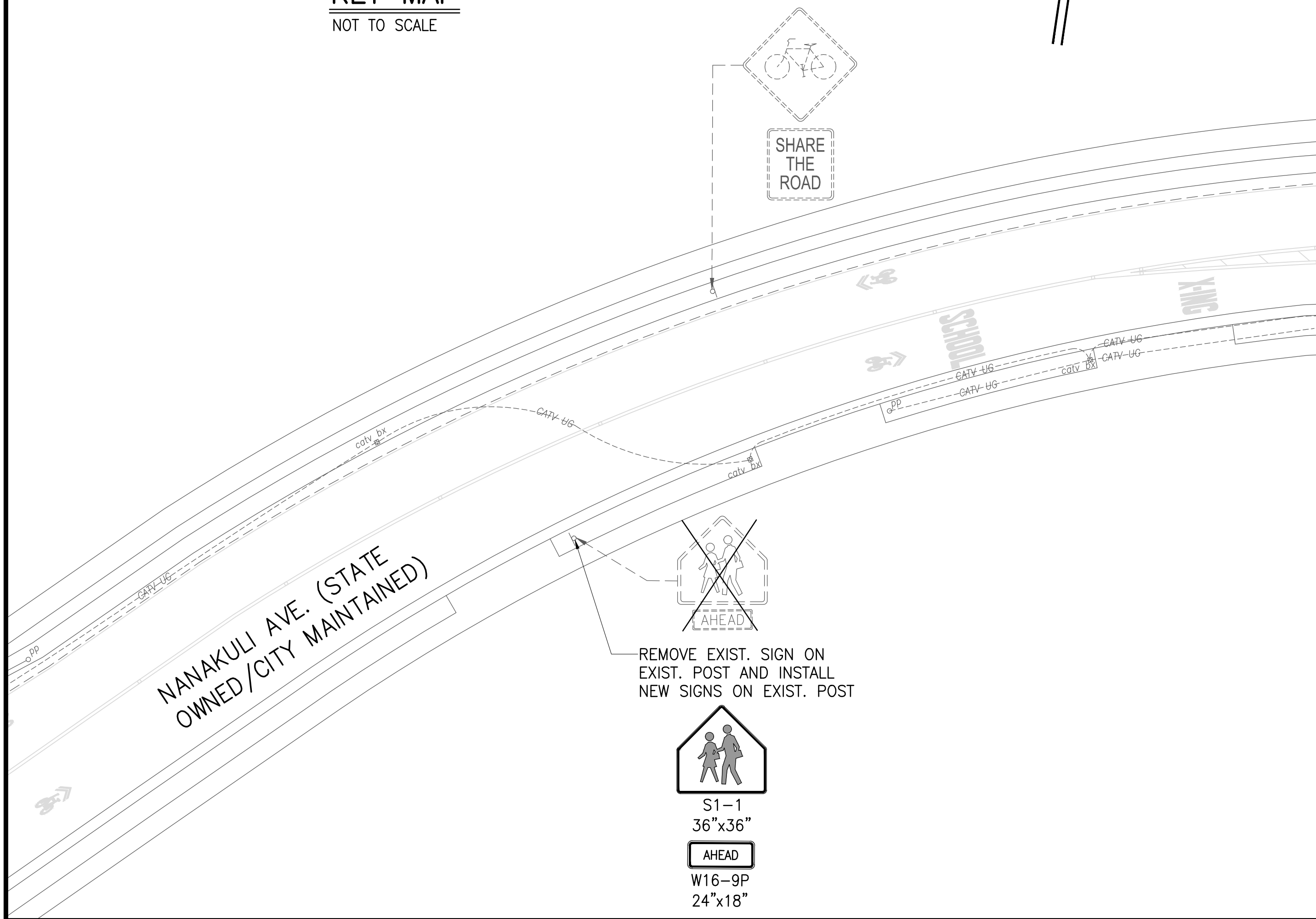
THIS WORK WAS PREPARED BY ME  
OR UNDER MY SUPERVISION AND  
CONSTRUCTION OF THIS PROJECT  
WILL BE UNDER MY OBSERVATION  
  
signature  
4/30/22  
expiration date of the license

REVISION	DATE	BRIEF	MADE BY	APPROVED
<div><div>AUSTIN, TSUTSUMI &amp; ASSOCIATES, INC. ENGINEERS, SURVEYORS • HONOLULU, HAWAII</div><div>DEPARTMENT OF HAWAIIAN HOME LANDS NANAKULI TRAFFIC CALMING MEASURES, PHASE I NANAKULI, OAHU, HAWAII <b>HALEAKALA AVENUE AND MOKIAWE STREET</b></div></div>				
DESIGNED BY: CJ/SN		DRAWN BY: DO		CHECKED BY: PA
APPROVED		SUBMITTED BY		
DATE		FIRM MEMBER		DATE
FILE	POCKET	FOLDER	NO.	

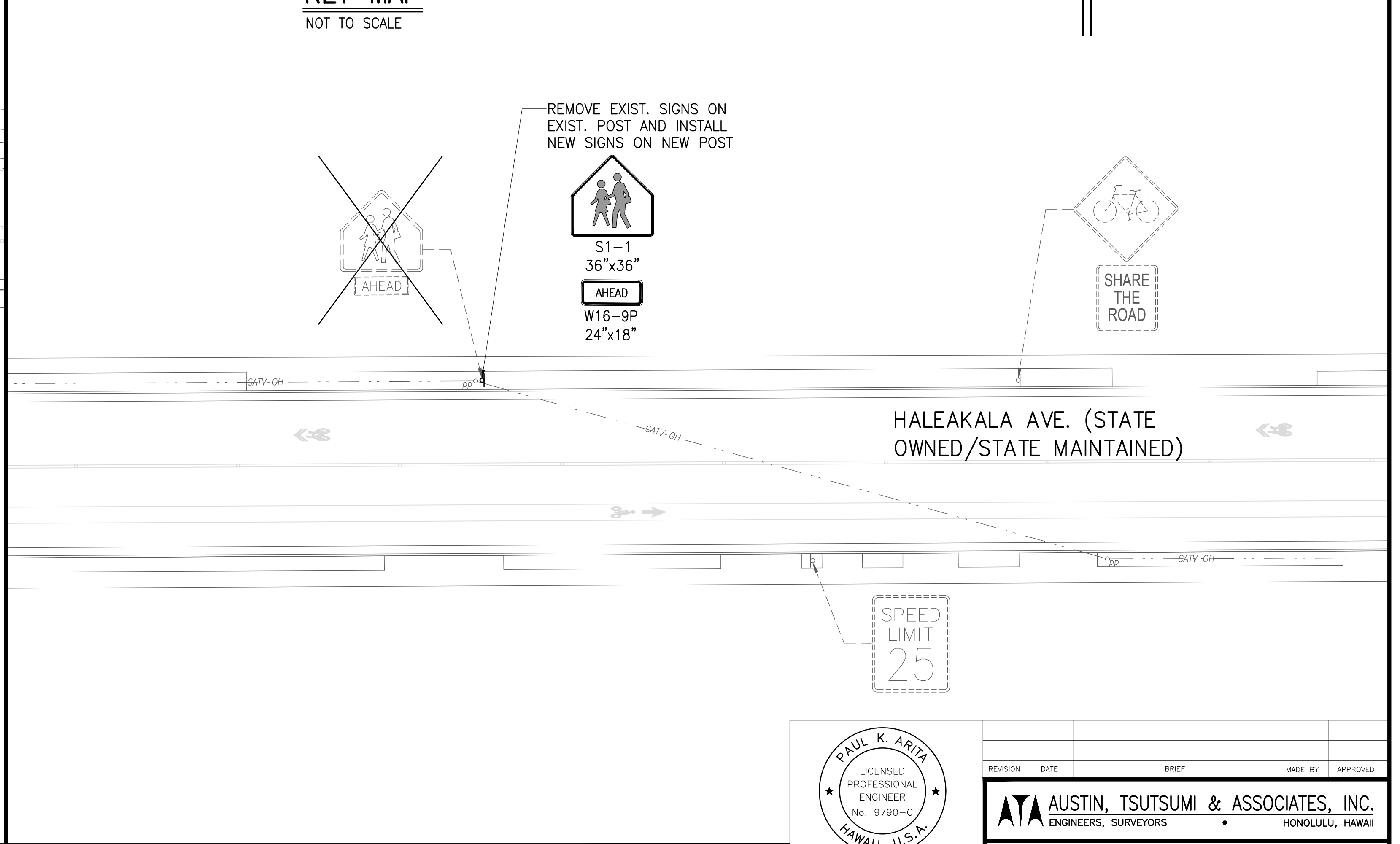




KEY MAP  
NOT TO SCALE



KEY MAP  
NOT TO SCALE



### SIGNING IMPROVEMENTS AT VARIOUS LOCATIONS - 1

SCALE: 1"=20'

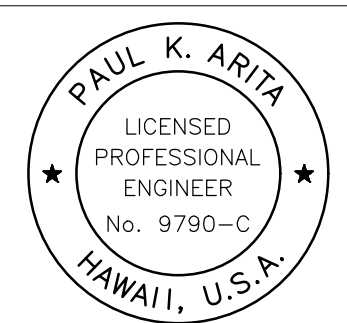
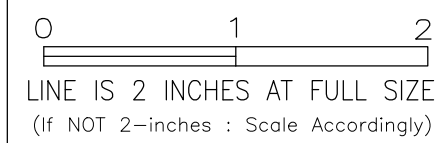
NOTE:

CONTRACTOR TO FIELD VERIFY LOCATION OF EXISTING SIGNS BEING REPLACED

APPROVED:

CHIEF, TRAFFIC REVIEW BRANCH,  
DEPARTMENT OF PLANNING AND PERMITTING,  
CITY & COUNTY OF HONOLULU  
(FOR WORK WITHIN CITY MAINTAINED ROAD ONLY)

DATE



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.  
*Paul K. Arim* 4/30/22  
signature expiration date of the license

CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION AS DENIED IN SECTION 10-15-1, HAWAIIAN ADMINISTRATIVE RULES, DEPARTMENT OF LAND AND NATURAL RESOURCES, STATE OF HAWAII. PROFESSIONAL ENGINEER, ARCHITECT, SURVEYOR AND LANDSCAPE ARCHITECT.

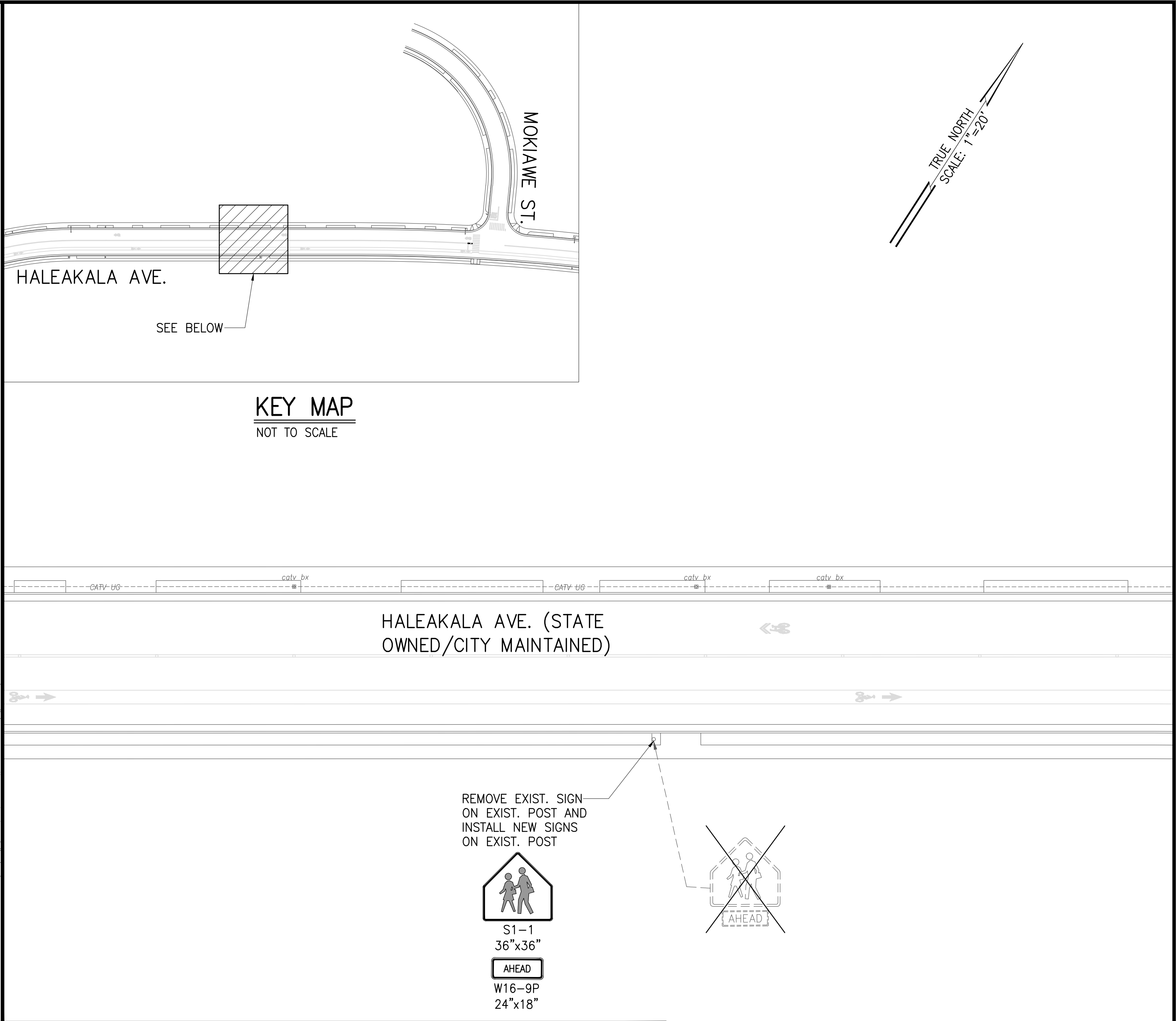
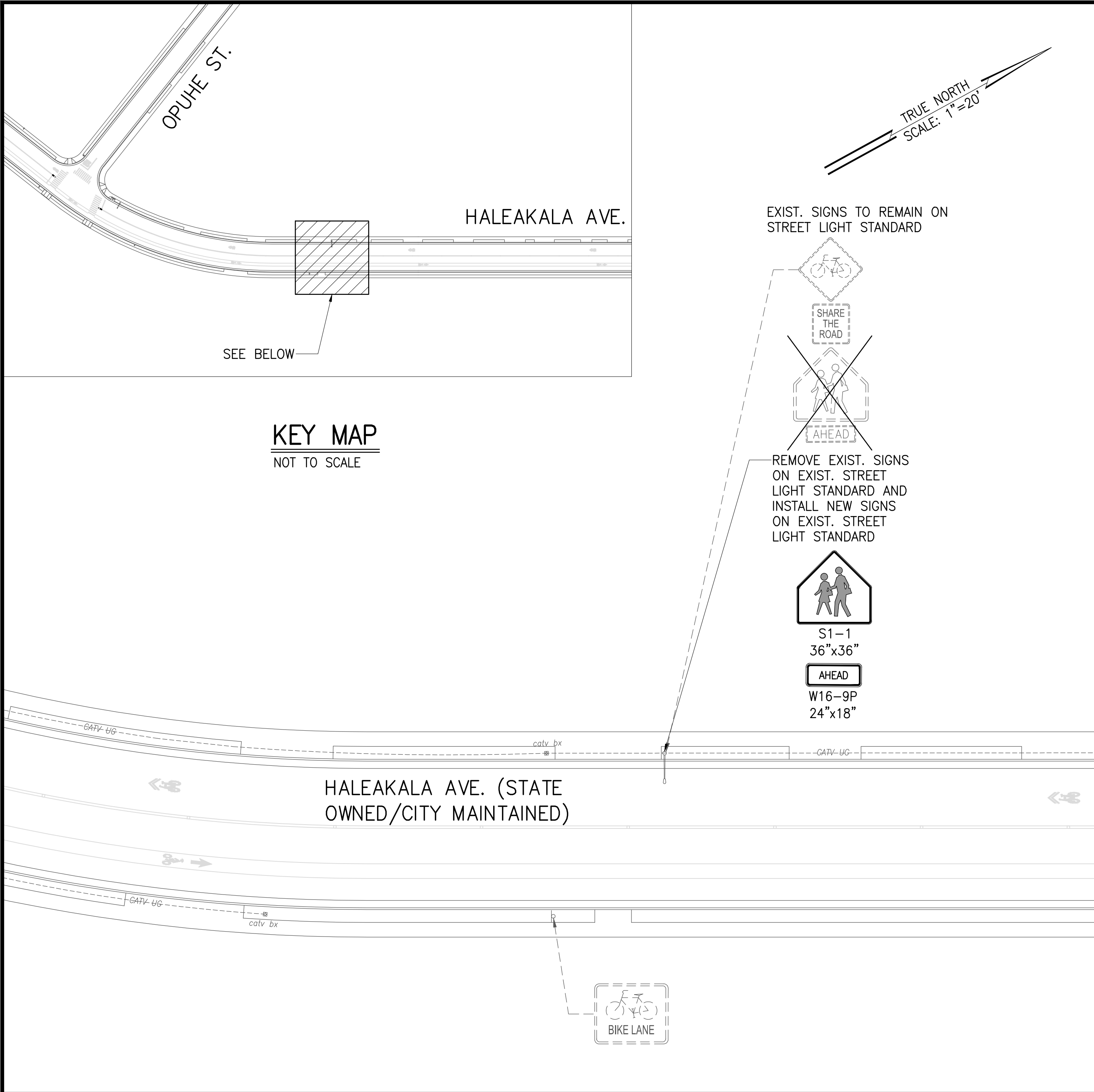
REVISION	DATE	BRIEF	MADE BY	APPROVED
<b>AUSTIN, TSUTSUMI &amp; ASSOCIATES, INC.</b> ENGINEERS, SURVEYORS • HONOLULU, HAWAII				
DEPARTMENT OF HAWAIIAN HOME LANDS NANAKULI TRAFFIC CALMING MEASURES, PHASE I NANAKULI, OAHU, HAWAII				
<b>SIGNING IMPROVEMENTS AT VARIOUS LOCATIONS - 1</b>				
DESIGNED BY: CJ/SN	DRAWN BY: DO	CHECKED BY: PA		
APPROVED		SUBMITTED BY		
DATE		FIRM MEMBER		DATE
FILE	POCKET	FOLDER	NO.	

C-020

SHEET 21 OF 26



FILE	POCKET	FOLDER	NO.



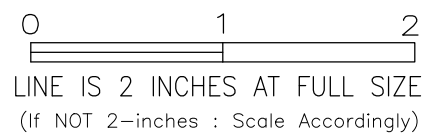
**SIGNING IMPROVEMENTS AT VARIOUS LOCATIONS – 3**  
SCALE: 1"=20'

**NOTE:**  
CONTRACTOR TO FIELD VERIFY LOCATION OF  
EXISTING SIGNS BEING REPLACED

APPROVED:

CHIEF, TRAFFIC REVIEW BRANCH,  
DEPARTMENT OF PLANNING AND PERMITTING,  
CITY & COUNTY OF HONOLULU  
(FOR WORK WITHIN CITY MAINTAINED ROAD ONLY)

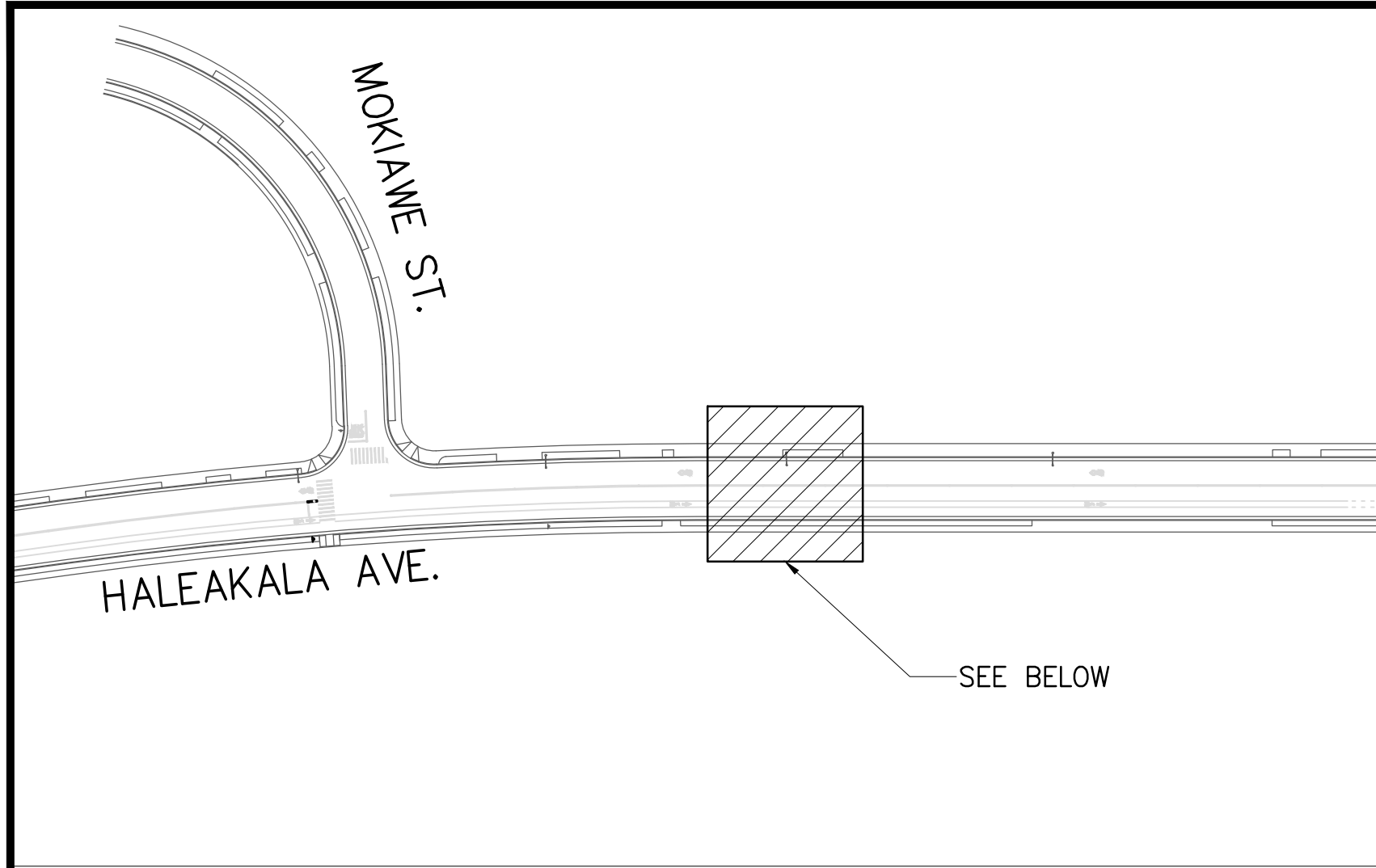
DATE



THIS WORK WAS PREPARED BY ME  
OR UNDER MY SUPERVISION AND  
CONSTRUCTION OF THIS PROJECT  
WILL BE UNDER MY OBSERVATION  
*Paul K. Arim* 4/30/22  
signature expiration date of the license

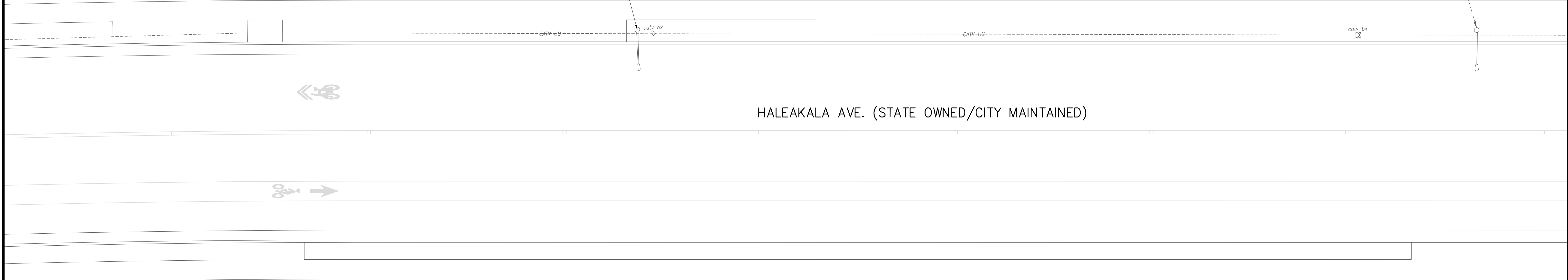
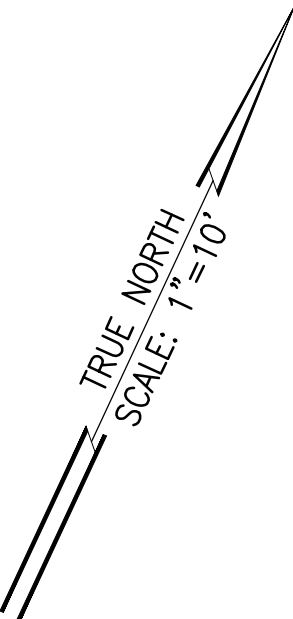
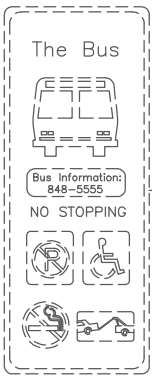
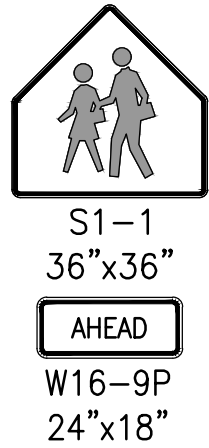
CONSTRUCTION OF THIS PROJECT WILL BE UNDER  
MY OBSERVATION AS SHOWN IN SECTION 101-15-1  
HAWAIIAN ADMINISTRATIVE RULES, DEPARTMENT OF  
TRANSPORTATION, PROFESSIONAL ENGINEERS, ARCHITECTS,  
SURVEYORS AND LANDSCAPE ARCHITECTS

REVISION	DATE	BRIEF	MADE BY	APPROVED
<b>AUSTIN, TSUTSUMI &amp; ASSOCIATES, INC.</b> ENGINEERS, SURVEYORS • HONOLULU, HAWAII				
DEPARTMENT OF HAWAIIAN HOME LANDS NANAKULI TRAFFIC CALMING MEASURES, PHASE I NANAKULI, OAHU, HAWAII				
<b>SIGNING IMPROVEMENTS AT VARIOUS LOCATIONS – 3</b>				
DESIGNED BY: CJ/SN	DRAWN BY: DO	CHECKED BY: PA		
APPROVED		SUBMITTED BY		
DATE		FIRM MEMBER	DATE	



KEY MAP  
NOT TO SCALE

INSTALL NEW SIGNS  
ON EXIST. STREET  
LIGHT STANDARD



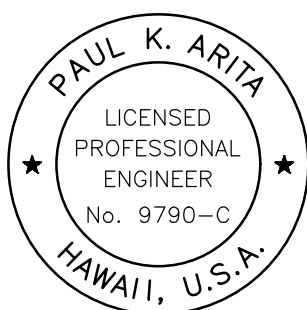
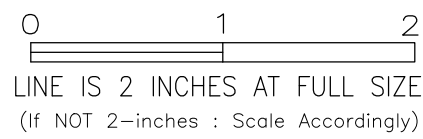
NOTE:  
CONTRACTOR TO FIELD VERIFY LOCATION OF  
EXISTING SIGNS BEING REPLACED

SIGNING IMPROVEMENTS IN VARIOUS LOCATIONS – 4  
SCALE: 1"=10'

APPROVED:

CHIEF, TRAFFIC REVIEW BRANCH,  
DEPARTMENT OF PLANNING AND PERMITTING,  
CITY & COUNTY OF HONOLULU  
(FOR WORK WITHIN CITY MAINTAINED ROAD ONLY)

DATE



THIS WORK WAS PREPARED BY ME  
OR UNDER MY SUPERVISION AND  
CONSTRUCTION OF THIS PROJECT  
WILL BE UNDER MY OBSERVATION  
*Paul K. Arim* 4/30/22  
signature expiration date of the license

CONSTRUCTION OF THIS PROJECT WILL BE UNDER  
MY OBSERVATION AS DENIED IN SECTION 10-15-1  
HAWAII ADMINISTRATIVE RULES, DEPARTMENT OF  
COMMERCE AND CONSUMER AFFAIRS, TITLE OF  
HAWAII, PROFESSIONAL ENGINEERS, ARCHITECTS,  
SURVEYORS AND LANDSCAPE ARCHITECTS.

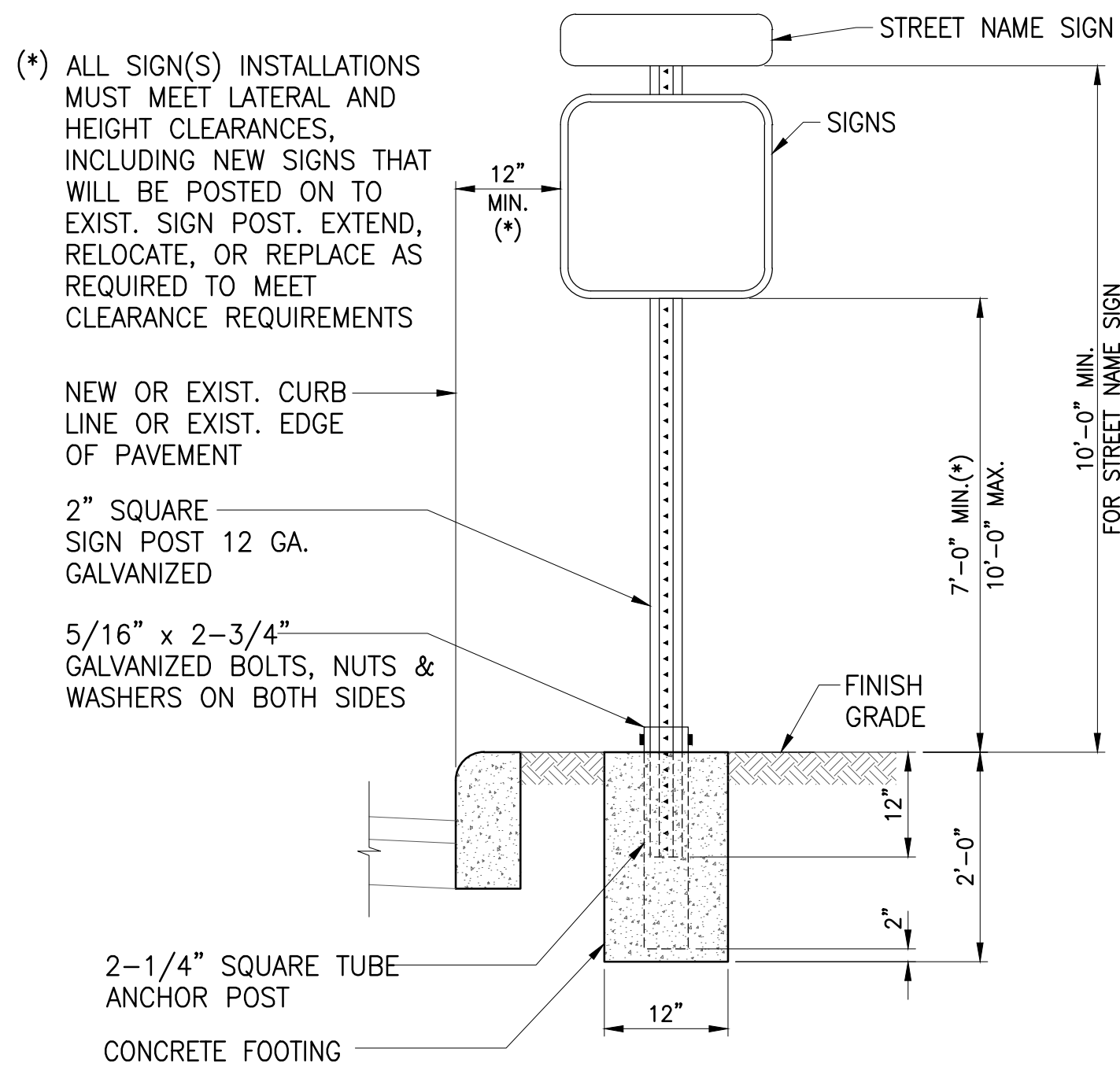
REVISION	DATE	BRIEF	MADE BY	APPROVED
<b>AUSTIN, TSUTSUMI &amp; ASSOCIATES, INC.</b> ENGINEERS, SURVEYORS • HONOLULU, HAWAII				
DEPARTMENT OF HAWAIIAN HOME LANDS NANAKULI TRAFFIC CALMING MEASURES, PHASE I NANAKULI, OAHU, HAWAII				
SIGNING IMPROVEMENTS IN VARIOUS LOCATIONS – 4				
DESIGNED BY: CJ/SN	DRAWN BY: DO	CHECKED BY: PA		
APPROVED		SUBMITTED BY		
DATE		FIRM MEMBER		DATE

C-023

SHEET 24 OF 26

FILE	POCKET	FOLDER	NO.



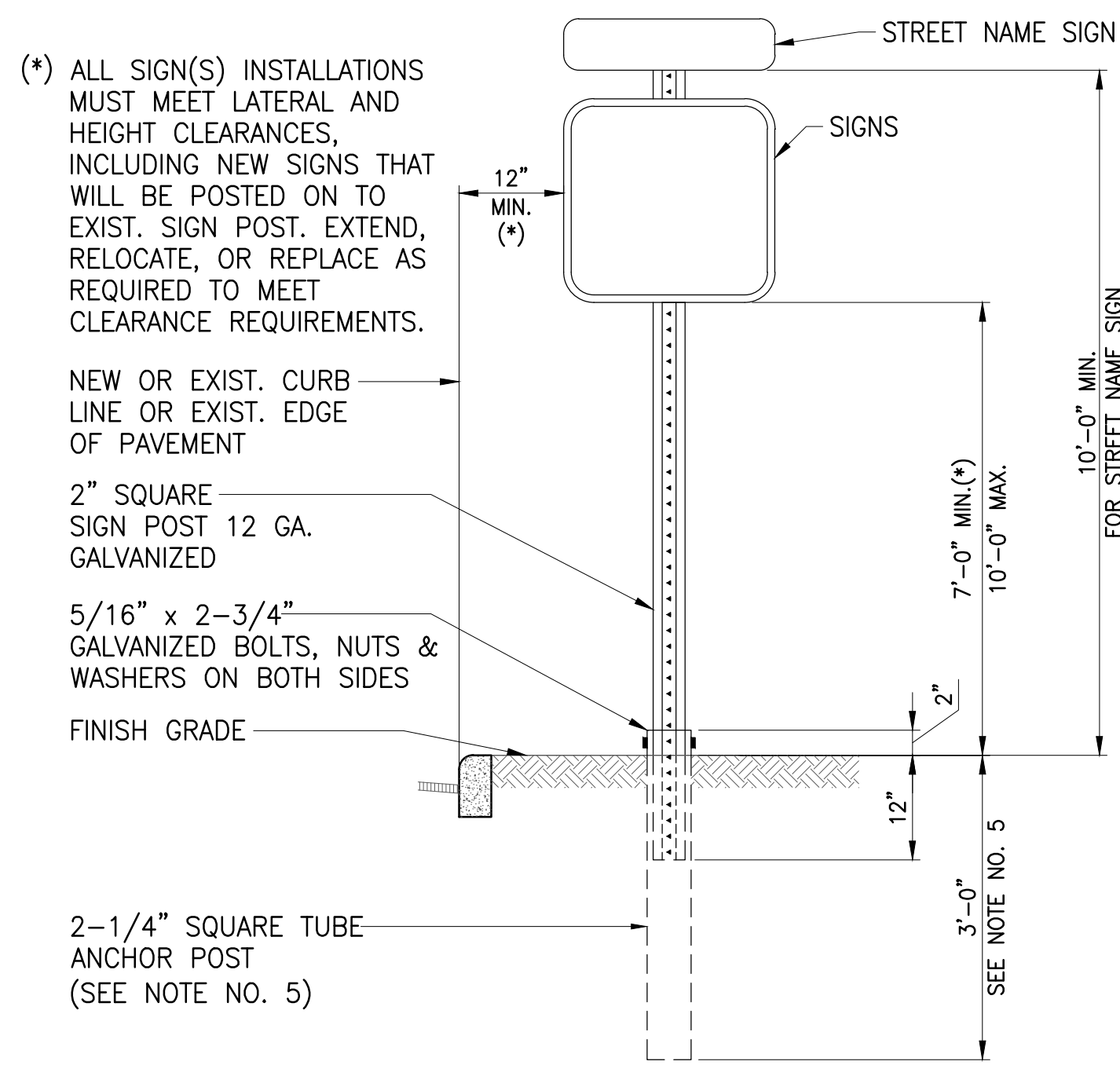


ANCHOR POST NOTES:

1. INSTALLATION OF NEW OR RELOCATED SIGN POST WITH CONCRETE FOOTING SHALL BE APPROVED BY THE OFFICER-IN-CHARGE.
2. KEEP INSIDE OF 2-1/4" ANCHOR POST FREE FROM IMPEDIMENTS THAT MAY PREVENT PROPER SEATING OF 2" SIGN POST.
3. SQUARE TUBING SIGN POST SHALL BE TELESCOPING TYPE WITH 7/16" DIA. HOLES AT 1" O.C. ON FOUR SIDES.
4. USE 5/16" x 2-3/4" BOLTS TO SECURE THE SQUARE TUBING POST ONTO THE 2-1/4" SQUARE TUBE ANCHOR POST.

INSTALLATION OF NEW OR RELOCATED  
SIGN POST WITH CONCRETE FOOTING

NOT TO SCALE



ANCHOR POST NOTES:

1. KEEP INSIDE OF 2-1/4" ANCHOR POST FREE FROM IMPEDIMENTS THAT MAY PREVENT PROPER SEATING OF 2" SIGN POST.
2. SQUARE TUBING SIGN POST SHALL BE TELESCOPING TYPE WITH 7/16" DIA. HOLES AT 1" O.C. ON FOUR SIDES.
3. USE 5/16" x 2-3/4" BOLTS TO SECURE THE SQUARE TUBING POST ONTO THE 2-1/4" SQUARE TUBE ANCHOR POST.
4. MINIMUM BURY DEPTH FOR THE 2-1/4" ANCHOR POST SHALL BE AS FOLLOWS:  
4'-0" MIN. AT POOR SOIL CONDITIONS  
2'-6" MIN. AT ROCKY CONDITIONS.

INSTALLATION OF NEW OR  
RELOCATED SIGN POST WITH ANCHOR  
POST, WITHOUT CONCRETE FOOTING

NOT TO SCALE

APPROVED:

CHIEF, TRAFFIC REVIEW BRANCH,  
DEPARTMENT OF PLANNING AND PERMITTING,  
CITY & COUNTY OF HONOLULU  
(FOR WORK WITHIN CITY MAINTAINED ROAD ONLY)

DATE

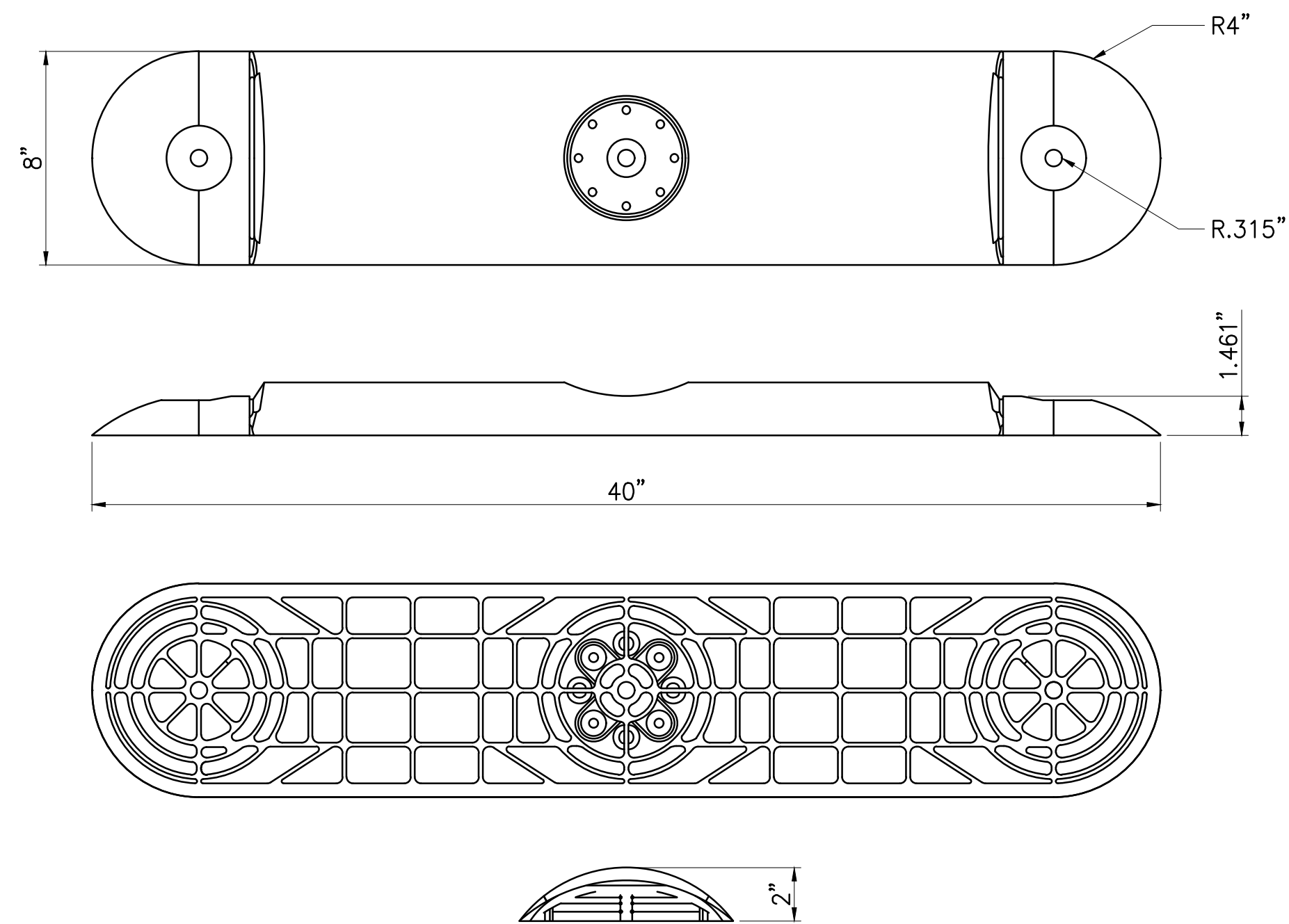
0 1 2  
LINE IS 2 INCHES AT FULL SIZE  
(If NOT 2--inches : Scale Accordingly)

<p>THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION</p> <p><i>Paul K. Arim</i> 4/30/22 signature expiration date of the license</p> <p>CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION AS REQUIRED BY SECTION 100-15-1, HAWAII ADMINISTRATIVE RULES, DEPARTMENT OF COMMERCE AND CONSUMER AFFAIRS, OFFICE OF HAWAII, PROFESSIONAL ENGINEERS, ARCHITECTS, SURVEYORS AND LANDSCAPE ARCHITECTS.</p>	REVISION	DATE	BRIEF	MADE BY	APPROVED
	<p>AUSTIN, TSUTSUMI &amp; ASSOCIATES, INC. ENGINEERS, SURVEYORS • HONOLULU, HAWAII</p>				
	DEPARTMENT OF HAWAIIAN HOME LANDS NANAKULI TRAFFIC CALMING MEASURES, PHASE I NANAKULI, OAHU, HAWAII <b>SIGNAGE AND STRIPING DETAIL - 1</b>				
	DESIGNED BY: CJ/SN    DRAWN BY: DO    CHECKED BY: PA				
APPROVED		SUBMITTED BY			
DATE		FIRM MEMBER		DATE	

C-024

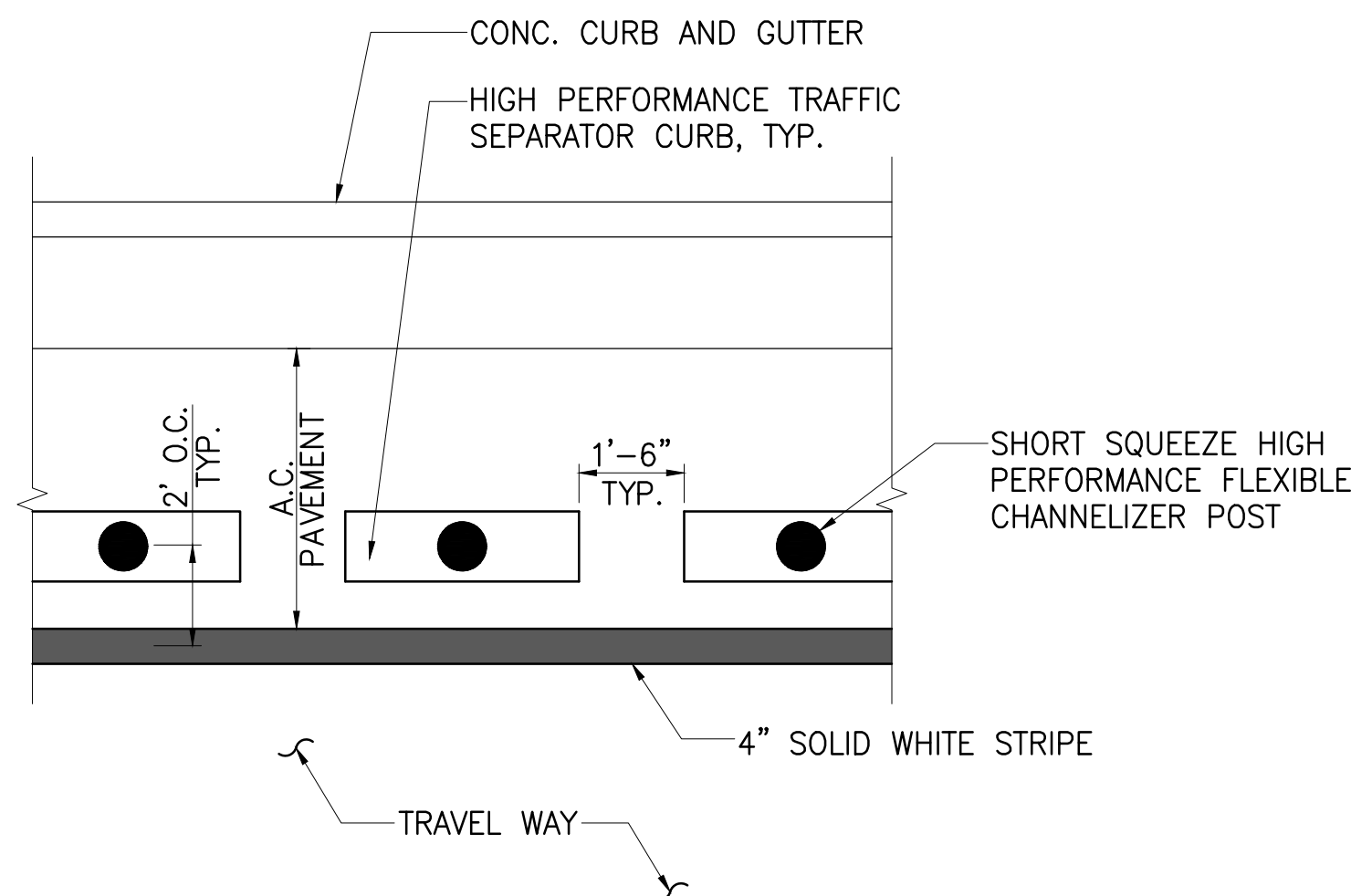
SHEET 25 OF 26

FILE	POCKET	FOLDER	NO.

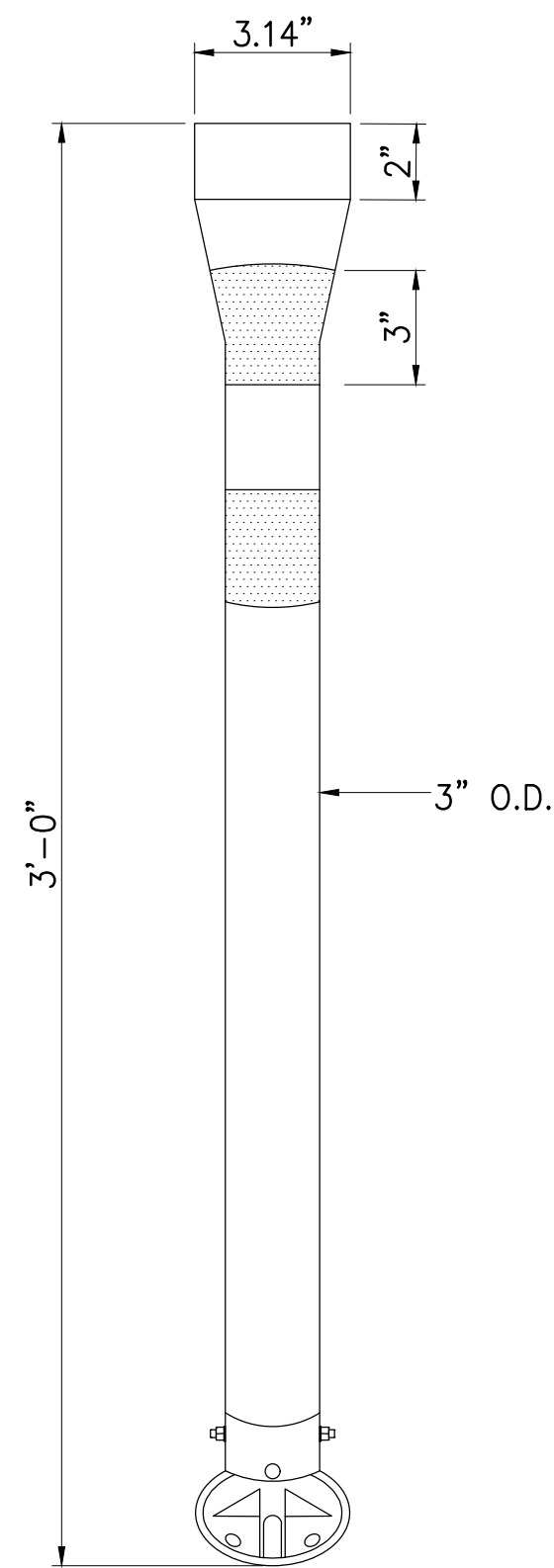


**HIGH PERFORMANCE TRAFFIC SEPARATOR CURB DETAIL**  
NOT TO SCALE

- NOTES:
1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS.

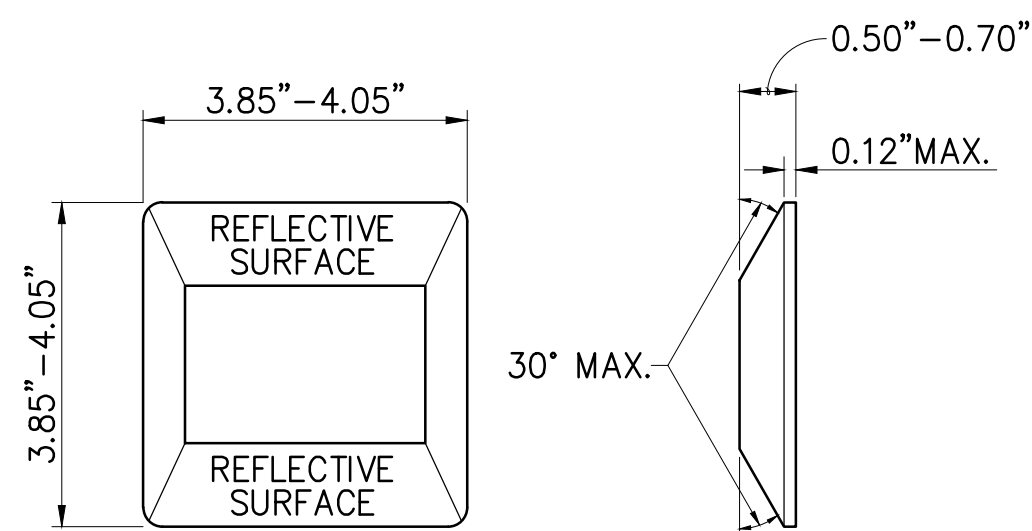


**TYPICAL HIGH PERFORMANCE TRAFFIC SEPARATOR CURB WITH SHORT SQUEEZE HIGH PERFORMANCE FLEXIBLE CHANNELIZER POST AND A.C. PAVEMENT DIMENSIONS**  
NOT TO SCALE



**SHORT SQUEEZE HIGH PERFORMANCE FLEXIBLE CHANNELIZER POST**  
NOT TO SCALE

- NOTES:
1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS.



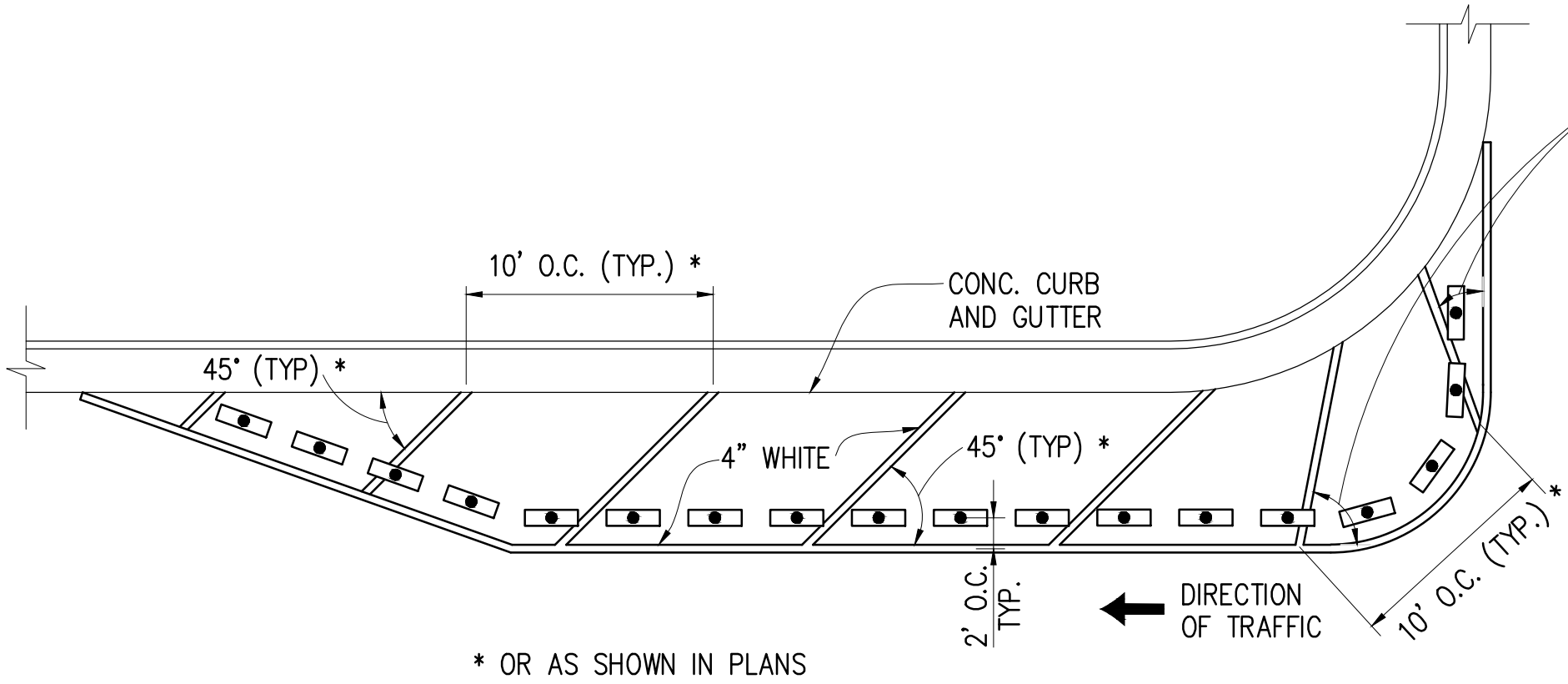
**TYPE "D"  
TWO-WAY YELLOW REFLECTIVE MARKER**

**STANDARD RAISED PAVEMENT MARKER DETAILS**  
NOT TO SCALE

APPROVED:

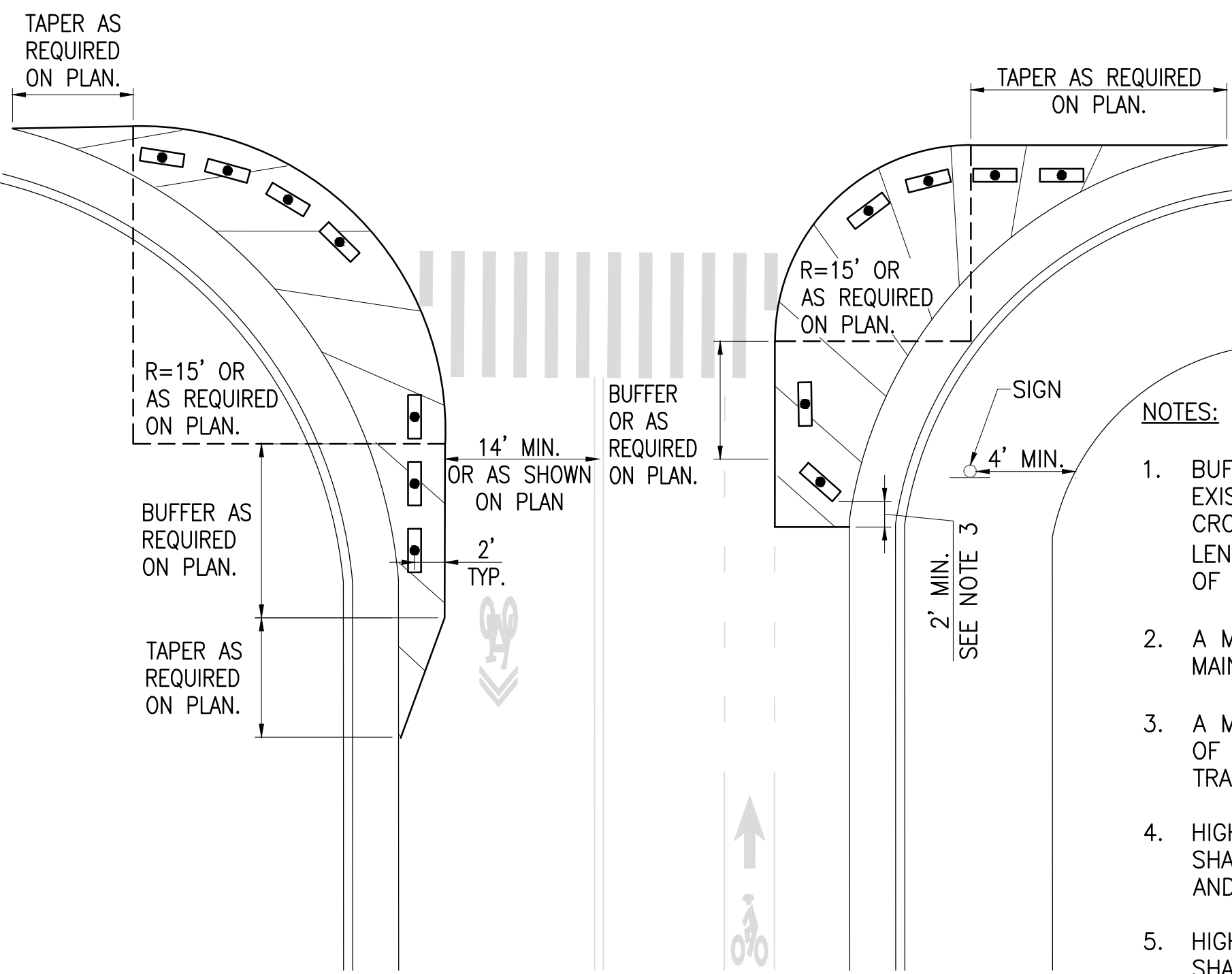
CHIEF, TRAFFIC REVIEW BRANCH,  
DEPARTMENT OF PLANNING AND PERMITTING,  
CITY & COUNTY OF HONOLULU  
(FOR WORK WITHIN CITY MAINTAINED ROAD ONLY)

DATE



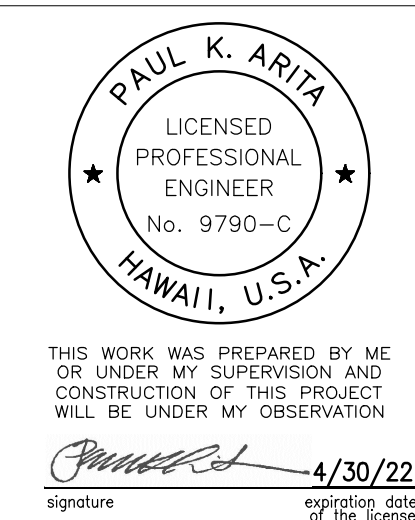
**TRANSVERSE/BULB-OUT STRIPING DETAIL**  
NOT TO SCALE

- NOTES:
1. 10' O.C. SHALL BE MEASURED ALONG THE GUTTER FACE FOR AREAS WITHIN THE STRAIGHT AND TAPERED PORTION OF THE STRIPED BULB-OUT.
  2. 10 O.C. SHALL BE MEASURED ALONG THE BULB-OUT STRIPING FOR AREAS WITHIN THE CURVE RETURN OF THE STRIPED BULB-OUT.
- \* OR AS NOTED IN PLANS



**TYPICAL INTERSECTION PLAN**  
NOT TO SCALE

- NOTES:
1. BUFFER LENGTH SHALL BE 20' MIN. FROM THE EXISTING CROSSWALK. WHEN AN EXISTING CROSSWALK IS NOT PRESENT, THE BUFFER LENGTH SHALL BE 20' MIN. FROM THE TANGENT OF THE CURB FACE.
  2. A MIN. 4' CLEAR SIDEWALK WIDTH SHALL BE MAINTAINED.
  3. A MIN. 2' CLEARANCE BETWEEN BEGIN AND END OF STRIPED BULB-OUT AND HIGH PERFORMANCE TRAFFIC SEPARATOR CURB.
  4. HIGH PERFORMANCE TRAFFIC SEPARATOR CURB SHALL NOT BE PLACED FRONTING CROSSWALKS AND DRIVEWAYS OR OVER UTILITIES AND GUTTER.
  5. HIGH PERFORMANCE TRAFFIC SEPARATOR CURB SHALL NOT BE PLACED FRONTING CURB RAMPS. WHEN A CROSSWALK IS NOT PRESENT, HIGH PERFORMANCE TRAFFIC SEPARATOR CURB SHALL NOT BE PLACED FRONTING CURB RAMP FLARES.
  6. SIGNS SHALL NOT BE INSTALLED OVER DRIVEWAY AND FLARES, CURB RAMPS AND UTILITIES BOXES.



REVISION	DATE	BRIEF	MADE BY	APPROVED

<b>ATA AUSTIN, TSUTSUMI &amp; ASSOCIATES, INC.</b> ENGINEERS, SURVEYORS • HONOLULU, HAWAII				
DEPARTMENT OF HAWAIIAN HOME LANDS NANAKULI TRAFFIC CALMING MEASURES, PHASE I NANAKULI, OAHU, HAWAII				
<b>SIGNAGE AND STRIPING DETAIL - 2</b>				
DESIGNED BY: CJ/SN	DRAWN BY: DO	CHECKED BY: PA		
APPROVED		SUBMITTED BY		
DATE		FIRM MEMBER	DATE	

**C-025**

SHEET 26 OF 26

FILE	POCKET	FOLDER	NO.
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