

WATER NOTES (9/9/98 VERSION)

1. UNLESS OTHERWISE SPECIFIED, ALL MATERIALS AND CONSTRUCTION OF WATER SYSTEM FACILITIES AND APPURTENANCES SHALL BE IN ACCORDANCE WITH THE CITY AND COUNTY OF HONOLULU, BOARD OF WATER SUPPLY'S "WATER SYSTEM STANDARDS", VOLUME 1, DATED 1985, THE "APPROVED MATERIAL LIST AND STANDARD DETAILS FOR WATER SYSTEM CONSTRUCTION", VOLUME 2, DATED 1985, AND THE "WATER SYSTEM EXTERNAL CORROSION CONTROL STANDARDS", VOLUME 3, DATED 1991, AND ALL SUBSEQUENT AMENDMENTS AND ADDITIONS.
2. THE CONTRACTOR SHALL NOTIFY THE BOARD OF WATER SUPPLY IN WRITING ONE WEEK PRIOR TO COMMENCING WORK ON THE WATER SYSTEM.
3. PAYMENT FOR ITEMS OF WORK CALLED FOR IN THE PLANS, SPECIAL PROVISIONS AND SPECIFICATIONS FOR WHICH PAYMENT IS NOT SPECIFIED SHALL NOT BE MADE DIRECTLY BUT SHALL BE CONSIDERED INCIDENTAL TO THE VARIOUS ITEMS OF THE PROPOSAL AND NO ADDITIONAL COMPENSATION SHALL BE MADE.
4. THE CONTRACTOR IS ALERTED TO THE ENCOUNTERING OF OBSTACLES WHETHER SHOWN ON THE PLANS OR NOT, OR WHICH MAY DIFFER IN LOCATION FROM THAT SHOWN ON THE PLANS WHICH MAY INTERFERE WITH HIS NORMAL METHOD OF OPERATIONS. THE CONTRACTOR SHALL TAKE INTO ACCOUNT ANY ADDITIONAL COSTS ANTICIPATED DUE TO THESE CONDITIONS AND SHALL HAVE THESE COSTS INCLUDED IN THE BID ITEMS WHICH HE/SHE FEELS MOST APPROPRIATE. NO SEPARATE ADDITIONAL COMPENSATION SHALL BE MADE.
5. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL ASSUMPTIONS, DEDUCTIONS, OR CONCLUSIONS HE/SHE MAY MAKE OR DERIVE FROM THE SUBSURFACE INFORMATION OR DATA FURNISHED ON THE PLANS. THE CONTRACTOR MUST SATISFY HIMSELF/HERSELF THROUGH HIS/HER OWN INVESTIGATIONS AS TO WHAT SUBSURFACE CONDITIONS ARE TO BE ENCOUNTERED.
6. PRIOR TO START OF EXCAVATION, THE CONTRACTOR SHALL NOTIFY ALL AGENCIES AND UTILITIES AND HAVE THEM LOCATE THEIR RESPECTIVE LINES AFFECTED. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ALL OF HIS/HER CONSTRUCTION AND SHALL PAY FOR ALL DAMAGES TO AND FOR THE PROTECTION OF EXISTING UTILITIES AND STRUCTURES.
7. THE CONTRACTOR SHALL EXPOSE, VERIFY AND BACKFILL ALL EXISTING UNDERGROUND UTILITIES AND STRUCTURES AT CROSSINGS PRIOR TO EXCAVATION OF PIPELINE TRENCH. THE WATER MAIN ALIGNMENT AND GRADE MAY BE CHANGED IF THERE ARE CONFLICTS WITH ANY EXISTING UNDERGROUND UTILITIES AND STRUCTURES, WHETHER SHOWN ON THE PLANS OR NOT. PAYMENT FOR WORK INCLUDED IN THIS PARAGRAPH SHALL BE CONSIDERED INCIDENTAL TO THE APPROPRIATE ITEMS OF THE PROPOSAL, AND NO ADDITIONAL COMPENSATION SHALL BE MADE.
8. EXISTING UTILITIES CROSSING THE WATER MAIN ARE TO REMAIN IN SERVICE AND IN PLACE. IF RELOCATED FOR THE CONTRACTOR'S CONVENIENCE, INTERRUPTION OF SERVICE SHALL BE FOR A MINIMUM PERIOD OF TIME AND SHALL BE DONE AT THE CONTRACTOR'S EXPENSE AND ONLY WITH THE APPROVAL OF THE BOARD OF WATER SUPPLY AND THE STATE.
9. ANY COST INCURRED BY GASCO, HECO, OR HTCO BY THIS PROJECT SHALL BE PAID BY THE BOARD OF WATER SUPPLY THROUGH THE CONTRACTOR. PAYMENT SHALL BE ONLY FOR THE ACTUAL COST AS SHOWN ON THE UTILITY COMPANY'S INVOICE. NO PAYMENT WILL BE MADE FOR PROFIT, TAX, OVERHEAD, AND BOND COST.
10. IF THE CONTRACTOR ELECTS NOT TO EXPOSE AND VERIFY ALL EXISTING UNDERGROUND UTILITIES AND STRUCTURES AT CROSSINGS PRIOR TO PIPELINE EXCAVATION, HE FORFEITS HIS RIGHTS FOR ANY CLAIMS FOR COMPENSATION CAUSED BY ANY CONFLICTS WITH EXISTING UTILITIES AND STRUCTURES.
11. ALL A.C. AND CONCRETE PAVEMENT TO BE TRENCHED (FOR PIPELINE OR ANY WATER SYSTEM INSTALLATION) SHALL BE "SAW-CUT" TO THE REQUIRED WIDTH PRIOR TO REPAVING.
12. PAYMENT FOR RESTORATION OF DRIVEWAYS, CURBS AND GUTTERS SHALL NOT BE MADE DIRECTLY BUT SHALL BE CONSIDERED INCIDENTAL TO THE VARIOUS ITEMS OF THE PROPOSAL.
13. RESTORATION OF PAYMENT SHALL BE IN ACCORDANCE WITH THE DETAILS SHOWN ON THE PLANS AND DONE WITH EQUIVALENT TO OR BETTER QUALITY MATERIALS.
14. UNLESS OTHERWISE SPECIFIED, CONNECTIONS TO EXISTING WATER MAINS AND CHLORINATION OF NEW MAINS SHALL BE DONE BY THE CONTRACTOR, WITH THE BOARD OF WATER SUPPLY'S INSPECTOR COORDINATING THE WORK. FOR DETAILS, CONTACT THE BWS PLANNING AND ENGINEERING DIVISION, ENGINEERING BRANCH, CONSTRUCTION SECTION.

15. WHEREVER CONNECTIONS TO EXISTING MAINS ARE SHOWN ON THE PLANS, THE CONTRACTOR SHALL EXPOSE THE EXISTING MAINS PRIOR TO EXCAVATION OF MAIN TRENCH. THE REMAINING EXCAVATION FOR THE CONNECTION SHALL BE EXCAVATED WHEN THE CONTRACTOR IS READY TO MAKE THE CONNECTION.
16. THE BRIDGE DECKS FOR TEMPORARY BRIDGE INSTALLATIONS SHALL BE FLUSH WITH ADJOINING PAVEMENT OF SIDEWALK. NO BUMPS OR ELEVATED BRIDGE DECKS SHALL BE ALLOWED.
17. ALL WATER MAIN TRENCHES SHALL BE BACKFILLED AS CALLED FOR UNDER PART III, SECTION 1.2.2, TRENCH BACKFILL, OF THE "WATER SYSTEM STANDARDS", DATED 1985. COMPACTION OF TRENCH BACKFILL SHALL MEET APPLICABLE REQUIREMENTS OF "THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION", SEPTEMBER 1986, OF THE COUNTIES OF THE STATE OF HAWAII.
18. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER DISPOSAL OF ALL EFFLUENT ASSOCIATED WITH THE CONSTRUCTION ACTIVITY AND THE DISINFECTION AND HYDROTESTING OPERATIONS TO SAFEGUARD PUBLIC HEALTH AND SAFETY IN ACCORDANCE WITH APPLICABLE DEPARTMENT OF HEALTH REQUIREMENTS. ALL PERMITS AND LICENSES FOR CONSTRUCTION WATER DISPOSAL, INCLUDING ALL APPLICATIONS, CHARGES, FEES, AND TAXES, ARE THE RESPONSIBILITY OF THE CONTRACTOR.
19. SHOULD MAJOR TREE ROOTS 2" AND GREATER BE ENCOUNTERED DURING CONSTRUCTION, THESE ROOTS SHALL BE CUT AND SEALED WITH ASPHALTIC PAINT.
20. DURING NON-WORKING HOURS, THE TRENCHES ON ALL STREETS SHALL BE COVERED WITH NON-SKID STEEL PLATES AND ALL LANES MAINTAINED OPEN FOR TRAFFIC.
21. UNLESS OTHERWISE SPECIFIED, ALL ABANDONED LINES SHALL BE CUT AND PLUGGED WITH CLASS DWS 2000 CONCRETE. PAYMENT FOR CUTTING AND PLUGGING WILL NOT BE MADE DIRECTLY BUT SHALL BE CONSIDERED INCIDENTAL TO THE VARIOUS ITEMS OF THE PROPOSAL. THE CONTRACTOR SHALL VERIFY THE SIZE AND TYPE OF LINE TO BE PLUGGED.
22. ALL SALVAGE MATERIALS SHALL BE CLEANED, REPAINTED AND DELIVERED TO THE KALIHI BWS CORPORATION YARD.
23. ALL WATER MAINS AND APPURTENANCES INCLUDING SERVICE LATERALS AND SERVICE CONNECTIONS SHALL BE SUBJECTED TO A HYDROSTATIC TEST PRESSURE OF 150 PSI BY THE CONTRACTOR IN THE PRESENCE OF THE BOARD OF WATER SUPPLY INSPECTOR.
24. ALL LATERALS (1" TO 2-1/2") SHALL BE REPLACED OR RECONNECTED WITH EITHER COPPER OR PLASTIC TUBING.
25. THE CONTRACTOR SHALL FURNISH AND INSTALL DIELECTRIC COUPLINGS FOR ALL SERVICE LATERAL CONNECTIONS. PAYMENTS FOR DIELECTRIC COUPLINGS WILL NOT BE MADE DIRECTLY, BUT SHALL BE CONSIDERED INCIDENTAL TO THE VARIOUS ITEMS IN THE PROPOSAL.
26. PAYMENT FOR SERVICE LATERALS AND SERVICE CONNECTION SHALL BE MADE AT THE UNIT PRICE BID IN THE PROPOSAL. PAYMENT SHALL INCLUDE TAPS INTO MAINS, RECONNECTIONS TO EXISTING SERVICES, TRANSFERAL OF METERS, AND INSTALLING PIPE LATERALS, FITTINGS, BALL CORPS, BALL STOPS, GLOBE VALVES, METER SPLICES, BRASS PIPES, CAPS AND ALL APPURTENANCES, AS REQUIRED, IN PLACE COMPLETE. PAYMENT FOR METER BOXES, INCLUSIVE OF C.I. FRAMES AND COVERS AND TYPE "A" VALVES BOXES SHALL BE MADE AT THE RESPECTIVE UNIT PRICE BID IN THE BID.
27. DEMOLISH AND BACKFILL ALL ABANDONED MANHOLES, VALVE BOXES AND METER BOXES. SALVAGE ALL CAST IRON FRAMES AND COVERS.
28. AFTER INSTALLATION OF TAPPING SLEEVE AND TAPPING VALVE AND PRIOR TO TAPPING THE EXISTING WATER MAIN, THE ASSEMBLY SHALL BE PRESSURE TESTED AT 150 PSI ON BOTH SIDES OF THE VALVE AND IN ACCORDANCE WITH THE WATER SYSTEM STANDARDS, DATED 1985.
29. THE NEW WATER MAIN SHALL BE COMPLETED IN PHASES AS SHOWN ON THE PLANS. THE CONTRACTOR SHALL COMPLETE EACH PHASE INCLUDING INSTALLATION AND TESTING OF THE WATER MAIN, TRANSFER OF SERVICES AND FINAL PAVING OF THE STREET PRIOR TO BEGINNING THE NEXT PHASE; HOWEVER, THE CONTRACTOR MAY COMMENCE WORK ON THE NEXT PHASE UPON SATISFACTORY PROGRESS OF ALL REMAINING WORK ON THE PREVIOUS PHASE AS APPROVED IN WRITING BY BWS.
30. THE CONTRACTOR SHALL INSTALL THE FIRE HYDRANT REFLECTIVE MARKERS. PAYMENT FOR INSTALLATION OF REFLECTIVE HYDRANT MARKERS SHALL BE MADE AT THE RESPECTIVE UNIT PRICE IN THE PROPOSAL.
31. MECHANICAL JOINT GLANDS SHALL BE "STRAIGHT-SIDED" AND POLYGON IN SHAPE AS DESCRIBED IN AWWA C111 AND SHALL BE APPLICABLE TO BOTH CAST IRON AND DUCTILE IRON GLANDS OR AN APPROVED EQUAL ON A JOB TO JOB BASIS.
32. ALL AIR RELIEF VALVES SHALL HAVE A MINIMUM WORKING PRESSURE RANGE OF 0 TO 150 PSI.

33. ALL PVC FITTINGS SHALL CONFORM TO AMERICAN WATER WORKS ASSOCIATION (AWWA) C-907. THE USE OF HUB CLAMPS AND SET SCREWS ON PVC FITTINGS IS NOT APPROVED. PRIOR TO THE PVC FITTING INSTALLATION, THE CONTRACTOR SHALL SUBMIT FOR APPROVAL BY THE BOARD OF WATER SUPPLY, THE MANUFACTURER'S CERTIFICATION THAT ALL PVC FITTINGS CONFORM IN ALL RESPECTS TO AWWA C-907.
34. PIPE CUSHION SHALL BE OF HIGH RESISTIVITY MATERIAL. THE CONTRACTOR SHALL SUBMIT A SOIL CERTIFICATION THAT HIGH RESISTANT CUSHION MATERIAL HAS A RESISTIVITY GREATER THAN 5,000 OHM-CM. REMAINDER OF THE BACKFILL MATERIAL SHALL BE AS SPECIFIED IN VOLUME 1 OF THE WATER SYSTEM STANDARDS. PIPE CUSHION AND BACKFILL MATERIAL SHALL CONTAIN NO HAZARDOUS SUBSTANCES ABOVE REGULATORY ACTION LEVELS INCLUDING BUT NOT LIMITED TO LEAD, ASBESTOS, MERCURY, CHROMIUM, CADMIUM, ZINC, STRONTIUM, AND POLYCHLORINATED BIPHENYLS (PCB).
35. ALL SECTIONS OF THE WATER MAIN REQUIRING REINFORCED CONCRETE JACKETING SHALL BE DUCTILE IRON PIPE WITH DUCTILE IRON FITTINGS.
36. ALL POLYVINYL CHLORIDE (PVC) PIPE DEFLECTIONS SHALL BE ACCOMPLISHED ONLY BY THE USE OF SPECIAL PVC DEFLECTION COUPLINGS. DEFLECTION AROUND CURVES SHALL BE ACCOMPLISHED ONLY BY THE USE OF PVC DEFLECTION COUPLINGS.
37. CLEANING SHALL BE BY THE USE OF "PIGS" INTRODUCED INTO THE PIPELINE AND RUN COMPLETELY THROUGH ALL INSTALLED PIPELINES AND ALL BRANCH LINES FOR FIRE HYDRANTS. "PIGGING" OF SERVICE LATERALS IS NOT REQUIRED. BARE FOAM "PIGS" SHALL BE USED TO SWAB PIPING CLEAN AS EACH LENGTH OF THE PIPELINE IS INSTALLED. EACH "PIG" SHALL CONSIST OF A CYLINDRICAL PIECE OF POLYURETHANE FOAM WITH A DENSITY OF 3-7 POUNDS PER CUBIC FOOT AND A VINYL-COATED NOSE. OUTSIDE DIAMETER OF THE "PIG" SHALL BE EQUAL TO 1-1/4" TO 1-1/2" TIMES THE INSIDE DIAMETER OF THE PIPE BEING INSTALLED. THE LENGTH OF THE "PIG" SHALL BE 1-1/2 TO 2 TIMES ITS DIAMETER. PRIOR TO USE, THE "PIG" SHALL BE SUBMERGED IN A CHLORINE SOLUTION OF 1 OZ. OF 5% CHLORINE BLEACH IN 5 GALLONS OF WATER. "PIGGING" OF THE PIPELINE SHALL BE CONSIDERED INCIDENTAL TO THE INSTALLATION OF THE NEW PIPELINE.
38. BALL CORPS AND BALL STOPS SHALL BE INSTALLED IN LIEU OF THE CORPORATION STOPS AND STOPCOCKS, RESPECTIVELY.
39. TRAFFIC CONTROL PLAN: THE CONTRACTOR SHALL BECOME FAMILIAR WITH AND SHALL MEET THE LATEST REQUIREMENTS OF THE CITY DEPARTMENT OF TRANSPORTATION SERVICE (DTS). AFTER THE AWARD OF THE CONSTRUCTION CONTRACT, THE CONTRACTOR SHALL SUBMIT A TRAFFIC CONTROL PLAN TO THE CITY DEPARTMENT OF PLANNING AND PERMITTING TRAFFIC REVIEW BRANCH FOR REVIEW AND APPROVAL 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. PAYMENT FOR THE PREPARATION AND IMPLEMENTATION OF THE APPROVED TRAFFIC CONTROL PLAN SHALL NOT BE MADE DIRECTLY BUT SHALL BE CONSIDERED INCIDENTAL AND SHALL BE INCLUDED IN THE VARIOUS ITEMS IN THE BID.
40. THE CONTRACTOR SHALL COORDINATE THE SECURING OF THE EXISTING WATER SYSTEM WITH THE BWS PRIOR TO EXCAVATING BEHIND OR REMOVING ANY EXISTING THRUST BLOCKS, STRUCTURAL STRUTS OR REACTION BEAMS, OR ANY FITTINGS SUCH AS TEES, PLUGS, CAPS, BENDS, OFFSETS, AND VALVES, OR ANY OTHER PIPELINE APPURTENANCE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ASSOCIATED DAMAGES RESULTING FROM FAILURE TO ADEQUATELY SECURE THE EXISTING SYSTEM.
41. PIPE ALTERNATIVES:

POLYVINYL CHLORIDE (PVC) PIPES SHALL BE AWWA C900, CLASS 150 FOR DIAMETERS 12" AND SMALLER AND AWWA C905, DR18 FOR DIAMETERS 16" THROUGH 24". ALL VALVES, CAST IRON PIPES AND FITTINGS SHALL BE DOUBLE WRAPPED WITH POLYETHYLENE. NO BENDING OF PVC PIPES WILL BE PERMITTED. THE INSTALLATION OF PVC PIPE ACCORDING TO THE PLANS AND SPECIFICATIONS AS BID ON BY THE CONTRACTOR, MAY REQUIRE ADDITIONAL DESIGN WORK, ADDITIONAL FITTINGS AND SPECIAL COUPLINGS NOT SPECIFIED IN THE PLANS AND SPECIFICATIONS. PAYMENT FOR ADDITIONAL DESIGN WORK, ADDITIONAL FITTINGS AND SPECIAL COUPLINGS SHALL BE CONSIDERED INCIDENTAL TO THE UNIT PRICE BID IN THE PROPOSAL FOR PVC PIPE. ANY ADDITIONAL DESIGN WORK SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. COPPER TONING WIRE SHALL BE INSTALLED ALONG THE ENTIRE LENGTH OF THE PIPELINE.

PAYMENT FOR POLYETHYLENE WRAP SHALL BE INCIDENTAL TO THE UNIT PRICE BID FOR DI PIPE, VALVES AND FITTINGS.

DOUBLE POLYETHYLENE WRAP SHALL NOT BE LESS THAN 16 MILS.

42. ALL CONNECTIONS WITHOUT TEMPORARY FOR TESTING MATERIALS SHALL BE TESTED TO THE PREVAILING LINE PRESSURE. ALL JOINTS SHALL BE LEFT EXPOSED FOR 24 HOURS TO CHECK FOR LEAKS PRIOR TO BACKFILL.
43. THE CONTRACTOR SHALL SWAB TO CHLORINATE THE ENTIRE INSIDE SURFACE OF EACH CONNECTION WITHOUT TEMPORARY FOR MATERIALS WITH DISINFECTION SOLUTION OF 5 OUNCES OF SODIUM HYPOCHLORITE MIXED WITH 10 GALLONS OF WATER.

PROPOSED PHASING SCHEDULE

PHASE	BEGIN STA	END STA
I	0+00	19+40
II	19+40	34+22.19
III	34+22.19	42+65.21

AC ASPHALTIC CONCRETE
APPROX APPROXIMATE
ARV AIR RELEASE VALVE
ASSY ASSEMBLY

BC BOTTOM OF CURB
OR BOX CULVERT

BL BASELINE
BLK(S) BLOCK(S)
BV BOTTOM VERTICAL
BW BOTTOM OF WALL

CBMH CATCH BASIN MANHOLE
CLD CENTERLINE OF DITCH
CLDW CENTERLINE OF DRIVEWAY
CLR CLEAR
CLRD CENTERLINE OF ROADWAY
CO CLEANOUT
CONC CONCRETE
CONN CONNECTION
CRM CONCRETE RUBBLE
MASONRY

CU COPPER UNIT
C&C CITY AND COUNTY
CL CENTERLINE

D DRAIN
DEFL DEFLECT
DET DETAIL
DI DUCTILE IRON
DIA DIAMETER
DMH DRAIN MANHOLE

E EAST OR ELECTRIC
EHH ELECTRICAL HANDHOLE
ELEV ELEVATION
EMH ELECTRICAL MANHOLE
EP EDGE OF PAVEMENT
EPB ELECTRICAL PULLBOX
EUG ELECTRICAL UNDERGROUND
EX,EXIST EXISTING

FH FIRE HYDRANT
FL FLANGE
FO FIBER OPTIC

G GAS
GALV GALVANIZED
GR GUARDRAIL
GV GATE VALVE
GW GUY WIRE

HORIZONTAL
HT HEIGHT
HWY HIGHWAY

INV INVERT

KAL KALANIANAOLE
LF LINEAR FEET
LOC LOCATION
LT LEFT

MH MANHOLE
MIN MINIMUM
MJ MECHANICAL JOINT

N NORTH
OD OUTSIDE DIAMETER
OH OVERHEAD
O/S OFFSET

PAVT PAVEMENT
PE POLYETHYLENE
PP POWER POLE
PSI POUNDS PER
SQUARE INCH
PVC POLYVINYL CHLORIDE

RFG RESTRAINING
FLANGE/GLAND

RT RIGHT
R/W RIGHT OF WAY

S SEWER OR SLOPE
SL STREET LIGHT
SLCAB STREET LIGHT CABINET
SLHH STREET LIGHT HANDHOLE
SLPB STREET LIGHT PULLBOX
SMH SEWER MANHOLE
SP SIGN POST
STA STATION
STD STANDARD
STRUCT STRUCTURAL
S/N SERVICE NUMBER

TC TOP OF CURB
TCCB TOP OF CURB @
CATCH BASIN
TD TOP OF DITCH
THH TELEPHONE HANDHOLE
TMH TELEPHONE MANHOLE
TPB TELEPHONE PULLBOX
TS TRAFFIC SIGNAL
TSCAB TRAFFIC SIGNAL CABINET
TSHH TRAFFIC SIGNAL HANDHOLE
TSP TRAFFIC SIGNAL POLE
TSPB TRAFFIC SIGNAL PULLBOX
TV TOP VERTICAL
TYP TYPICAL
T/V TOP OF VALVE

UG UNDERGROUND
UT UNDERGROUND TELEPHONE

VERT VERTICAL

W WATER
W/ WITH
WL WATER LINE
WM WATER METER
WM# WATER METER NUMBER
WMH WATER MANHOLE
WP WORKING PRESSURE
WV WATER VALVE

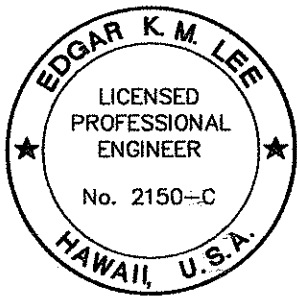
ABBREVIATION LIST

APPROVED:

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6/14/2000
DATE

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THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
WATER NOTES
ABBREVIATIONS AND LEGEND
KALANIANAOLE HIGHWAY
16-INCH WATER MAIN
LAUKAHI STREET TO WEST HIND DRIVE
JOB 00-19B

Scale: As Shown Date: May 2000

SHEET No. 3 OF 19 SHEETS

C086S-3

SURVEY PLOTTED BY	DATE
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