

NOTES FOR CONSTRUCTION WITHIN STATE RIGHT-OF-WAY

1. THE CONTRACTOR SHALL OBTAIN A CONSTRUCTION PERMIT FROM THE STATE'S HIGHWAY DISTRICT ENGINEER AT 50 MAKALA STREET, HILO, HAWAII, PRIOR TO COMMENCEMENT OF WORK WITHIN STATE HIGHWAY RIGHT-OF-WAY.
2. CONSTRUCTION AND RESTORATION OF ALL EXISTING HIGHWAY FACILITIES WITHIN STATE RIGHT-OF-WAY SHALL BE DONE IN ACCORDANCE WITH ALL APPLICABLE SECTIONS OF THE CURRENT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, DATED 1985, AND THE SPECIFICATION FOR INSTALLATION OF MISCELLANEOUS IMPROVEMENTS WITHIN STATE HIGHWAYS, DATED MAY 1, 1984 OF THE STATE HIGHWAYS DIVISION.
3. ALL LANES SHALL BE OPENED TO TRAFFIC DURING THE MORNING PEAK HOURS FROM 6:00 A.M. TO 8:00 A.M. AND DURING THE AFTERNOON PEAK HOURS FROM 3:00 P.M. TO 6:00 P.M., AND DURING OFF-WORK HOURS. ONLY ONE LANE OF QUEEN KAAHUMANU HIGHWAY SHALL BE CLOSED AT ANY OTHER TIME.
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 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 "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, PART VI - TRAFFIC CONTROL FOR HIGHWAY CONSTRUCTION AND MAINTENANCE OPERATIONS". IF LANE CLOSURES ARE REQUIRED DURING CONSTRUCTION, A TRAFFIC CONTROL PLAN SHALL BE INCORPORATED INTO THE 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
- (1) 2" ASPHALT CONCRETE AND 6" AGGREGATE BASE COURSE, OR 2" ASPHALT CONCRETE AND 2-1/2" ASPHALT CONCRETE BASE COURSE OR ASPHALT CONCRETE.
- (2) 4" OF CLASS "A" CONCRETE REINFORCED WITH 6"x6" - 6/6 WIRE MESH ON 12" AGGREGATE SUBBASE IF DEEMED NECESSARY BY ENGINEER.
- b. COMMERCIAL DRIVEWAYS, SIDEROADS AND UTILITY INSTALLATIONS ON MINOR HIGHWAYS
- (1) 2-1/2" ASPHALT CONCRETE, 8" AGGREGATE BASE COURSE AND 12" AGGREGATE SUBBASE, OR 2-1/2" ASPHALT CONCRETE AND 8" ASPHALT CONCRETE BASE COURSE OR ASPHALT CONCRETE.
- (2) 6" OF CLASS "A" CONCRETE REINFORCED WITH 6"x6" - 6/6 WIRE MESH ON 12" AGGREGATE SUBBASE IF DEEMED NECESSARY BY ENGINEER.
- c. CHANNELIZED INTERSECTIONS AND UTILITY INSTALLATIONS ON MAJOR HIGHWAYS
- (1) 4" ASPHALT CONCRETE, 8" AGGREGATE BASE COURSE AND 12" AGGREGATE SUBBASE, OR 4" ASPHALT CONCRETE AND 8" ASPHALT CONCRETE BASE COURSE OR ASPHALT CONCRETE, OR MATCH EXISTING PAVEMENT STRUCTURE, WHICHEVER IS GREATER.
6. NO MATERIAL AND/OR EQUIPMENT SHALL BE STOCKPILED OR OTHERWISE STORED WITHIN HIGHWAY RIGHTS-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: EVERY 200 FEET..... ONE..... COMPACTION TEST
- b. BASE COURSE: EVERY 200 FEET..... ONE..... COMPACTION TEST
- c. FOR EACH 150..... ONE..... COMPACTION TEST
- d. ASPHALT CONCRETE PAVEMENT: TWO (2) DENSITY TESTS PER 500 TONS PER DAY PAVING, MINIMUM TWO (2) DENSITY TESTS PER DAY PAVING.
8. PRIOR TO COMMENCING TRENCH EXCAVATION WORK, THE CONTRACTOR SHALL TAKE A PROFILE ALONG THE NEW CENTERLINE OF UTILITY TRENCH AND THAT SUCH INFORMATION SHALL BE USED IN THE VERIFICATION OF RESTORING THE ROADWAY TO ITS ORIGINAL CONDITION. A COPY OF THE PROFILE SHALL BE SUBMITTED TO THE DISTRICT ENGINEER.
9. THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE ADEQUATE, SAFE, NON-SKID BRIDGING MATERIAL OVER THE TRENCH, INCLUDING SHORING, WHEN TRENCHING IN PAVEMENT AREAS TO HANDLE ALL TYPES OF VEHICULAR TRAFFIC. NO TRENCH SHALL BE LEFT OPEN DURING NON-WORKING HOURS, STRIKES OR JOB SHUTDOWN.
10. NO TRENCH SHALL BE OPENED MORE THAN 150..... FEET IN ADVANCE OF THE INSTALLED AND TESTED PIPE AND/OR DUCTLINE.
11. LONGITUDINAL DRAINAGE ALONG THE HIGHWAY SHALL BE MAINTAINED.
12. PAVEMENT STRIPING SHALL BE DONE BY CONTRACTOR.
13. APPROVAL OF PERMIT CONSTRUCTION PLANS SHALL BE VALID FOR A PERIOD OF ONE YEAR THEREOF 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 HIS CONSTRUCTION PLANS FOR DIVISION'S REVIEW AND APPROVAL.
14. ALL REGULATORY, GUIDE AND CONSTRUCTION SIGNS AND BARRICADES SHALL BE OF HIGH INTENSITY REFLECTIVE SHEETING.
15. UNPROTECTED PAVEMENT DROPOFFS GREATER THAN 2" WITHIN 8 FEET OF THE TRAVELWAY SHALL NOT BE ALLOWED DURING NON-WORKING HOURS, EXCEPT WHERE APPROVED BY THE ENGINEER IN WRITING.
16. NO OPEN TRENCHES SHALL BE PERMITTED WITHIN THE CLEAR ZONE DEFINED BY THE AASHTO ROADSIDE DESIGN GUIDE, EXCEPT WHERE SPECIFIED IN THE TRAFFIC CONTROL PLAN OR AS APPROVED BY THE ENGINEER IN WRITING.
17. LANE CLOSURES REQUIRE ADVANCE APPROVAL IN WRITING FROM THE DISTRICT ENGINEER. A "NOTICE TO MOTORISTS" IS ALSO REQUIRED, TO BE PUBLISHED IN ONE OF THE MAJOR DAILY NEWSPAPERS AT LEAST THREE TIMES PRIOR TO CLOSURE. SUBMIT THE NOTICE TO THE STATE HIGHWAYS DIVISION FOR REVIEW AND APPROVAL A MINIMUM OF 6 WEEKS PRIOR TO PUBLICATION.
18. CLEAR SHOULDER AREAS SHALL BE MAINTAINED FOR BICYCLE AND PEDESTRIAN TRAFFIC AT ALL TIMES. IF ONE SHOULDER IS CLOSED, APPROPRIATE SIGNS SHALL BE POSTED DIRECTING BICYCLISTS AND PEDESTRIANS TO USE OPPOSITE SHOULDER AREA.
19. CONTRACTOR SHALL RESTORE SMOOTH-RIDING ROADWAY AND SHOULDER AREAS FOR BICYCLE TRAFFIC, BOTH SIDES OF THE HIGHWAY, PRIOR TO SEPTEMBER 26, 1994 AND SHALL CEASE ALL CONSTRUCTION ACTIVITIES WITHIN THE STATE HIGHWAY RIGHT-OF-WAY FROM SEPTEMBER 26 THRU OCTOBER 10, 1994 WHICH INTERFERE IN ANY WAY WITH THE PREPARATION AND RUNNING OF THE IRONMAN TRIATHLON.

GENERAL NOTES

1. ALL 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, OF THE DEPARTMENTS OF PUBLIC WORKS, COUNTY OF HAWAII, AND INCLUDING SUPPLEMENTS AND AMENDMENTS MADE THERETO.
2. TOPOGRAPHIC AERIAL SURVEY INFORMATION SUPPLIED BY R.M. TOWILL CORP., DATED JANUARY 25, 1993, SEPTEMBER 20, 1992 AND AUGUST 1992.
3. ALL COORDINATES AND AZIMUTHS ARE REFERRED TO GOVERNMENT TRIANGULATION STATION "KEAHUULU". ELEVATIONS ARE REFERENCED TO MEAN SEA LEVEL.
4. ALL ELEVATIONS AND DISTANCES SHOWN ON PLANS ARE IN FEET.
5. FOR BENCH MARK, SEE SHEET C-3.
6. DIMENSIONS TAKE PRECEDENCE OVER SCALE.
7. WORK INCIDENTAL TO THE CONTRACT AND NECESSARY TO COMPLETE THE PROJECT, ALTHOUGH NOT SPECIFICALLY REFERRED TO ON THE CONTRACT DOCUMENTS, SHALL BE FURNISHED AND PERFORMED BY THE CONTRACTOR.
8. ALL EXISTING UTILITY LOCATIONS SHOWN ON PLANS AND PROFILES ARE BASED ON AVAILABLE SOURCES. THE CONTRACTOR SHALL VERIFY, PRIOR TO HIS CONSTRUCTION, THE EXACT HORIZONTAL AND VERTICAL 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 DAMAGE DUE TO HIS CONSTRUCTION PRACTICES. BEFORE DISRUPTING SERVICE OF ANY UTILITY, THE CONTRACTOR SHALL CONTACT AND COORDINATE HIS WORK WITH THE RESPONSIBLE UTILITY AUTHORITY.
9. THE CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR THE JOB SITE CONDITION DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING THE SAFETY OF ALL PERSONS AND PROPERTY; AND THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER AND ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR ENGINEER.
10. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL REQUIRED PERMITS FROM APPROPRIATE GOVERNMENT AGENCIES.
11. THE CONTRACTOR SHALL MAKE ARRANGEMENTS FOR UTILITIES SUCH AS ELECTRICITY, WATER, ETC. REQUIRED FOR HIS OPERATIONS AND ALL COST SHALL BE BORNE BY THE CONTRACTOR.
12. THE CONTRACTOR SHALL CONDUCT ALL TESTS AS REQUESTED BY THE ENGINEER AND BE RESPONSIBLE FOR EXPENSES INCURRED IN CONDUCTING THESE TESTS.
13. IF DIMENSIONAL ERRORS OR CONFLICTS OCCUR, THE CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE AND THE CONSTRUCTION ENGINEER AND SHALL WAIT FOR CLARIFICATION BEFORE RESUMING OR COMMENCING WORK ON THE DISCREPANCY ITEM.
14. THE CONTRACTOR SHALL COORDINATE THE STORAGE OF HIS MATERIAL AND EQUIPMENT WITH THE OWNER'S REPRESENTATIVE.
15. THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL TRAFFIC CONTROL DEVICES IN CONFORMANCE WITH THE "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS", AND TO THE SATISFACTION OF THE ENGINEER.
16. CONTRACT LIMITS ARE 40 FEET OUTSIDE THE GRADING AREA DELINEATED BY CROSS-SECTIONS. THE CONTRACTOR SHALL RESTRICT HIS WORK ACTIVITIES, EQUIPMENT AND MATERIALS TO WITHIN THE CONTRACT LIMITS, UNLESS PERMITTED BY OWNER'S REPRESENTATIVE.
17. THE CONTRACTOR SHALL PROVIDE TO THE ENGINEER "AS BUILT" DRAWINGS OF ALL NEW AND/OR RELOCATED UTILITIES, TRAFFIC CONTROL DEVICES, AND ALL STRUCTURES UPON COMPLETION OF WORK.
18. THE CONTRACTOR SHALL PROTECT ALL EXISTING PAVEMENT FROM DAMAGE DUE TO HIS CONSTRUCTION PRACTICES. IN THE EVENT OF DAMAGE, THE CONTRACTOR SHALL CONTACT AND COORDINATE HIS WORK WITH THE RESPONSIBLE AGENCY.
19. ALL ARCHAEOLOGICAL SITES DESIGNATED ON PLANS ARE APPROXIMATE LOCATIONS. THE CONTRACTOR SHALL VERIFY LOCATIONS WITH OWNER'S DESIGNATED ARCHAEOLOGISTS. THE CONTRACTOR SHALL EXERCISE EXTRA CAUTION TO AVOID DISTURBANCE TO THE ARCHAEOLOGICAL SITES WHEN CONSTRUCTING NEW WORK IN THEIR VICINITIES.
20. WORK INCIDENTAL TO THE CONTRACT AND NECESSARY TO COMPLETE THE PROJECT, ALTHOUGH NOT SPECIFICALLY REFERRED TO ON THE CONTRACT DOCUMENTS, SHALL BE FURNISHED AND PERFORMED BY THE CONTRACTOR.
21. THE ENGINEERS RESERVES THE RIGHT TO MAKE CHANGES TO THE DRAINAGE SYSTEM AS SUCH CHANGES ARE FOUND TO BE NECESSARY AS THE LAND IS CLEARED AND EROSION CONTROL CONSTRUCTION PROGRESSES.
22. THE CONTRACTOR SHALL NOTIFY THE ENGINEER 10 DAYS IN ADVANCE OF OPENING ANY OR UTILIZING EXISTING BORROW PITS FOR ONSITE BORROW, SO THAT A DETERMINATION CAN BE MADE AS TO THE SUITABILITY OF THE BORROW MATERIAL TO BE INCORPORATED INTO THE ROAD CONSTRUCTION.
23. THE CONTRACTOR SHALL OBSERVE AND COMPLY WITH ALL FEDERAL, STATE AND LOCAL LAWS REQUIRED FOR THE PROTECTION OF PUBLIC HEALTH, SAFETY, AND ENVIRONMENTAL QUALITY.
24. 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.
25. CONSTRUCTION SUPERVISORS SHALL BE NOTIFIED AS TO THE NATURE AND LOCATION OF ARCHAEOLOGICAL SITES, THE SIGNIFICANCE OF THE BUFFER ZONES, AND THE COLOR AND MEANING OF ANY FLAGGING TAPE.
26. AN ARCHAEOLOGIST WILL PROVIDE PERIODIC ON-SITE MONITORING OF CONSTRUCTION GRUBBING AND GRADING OCCURRING IN THE IMMEDIATE VICINITY OF THE ARCHAEOLOGICAL SITES.

DRAINAGE NOTES

1. ALL CONSTRUCTION WORK SHALL BE DONE IN ACCORDANCE WITH THE COUNTY OF HAWAII DEPARTMENT OF PUBLIC WORKS "STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION", DATED SEPTEMBER 1984 AND THE "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION", DATED SEPTEMBER 1986 AND SUPPLEMENT AND AMENDMENT MADE THERETO.
2. DRAIN PIPES SHALL HAVE A SHEET THICKNESS OF 0.105 INCHES FOR ALUMINUM SPIRAL RIB PIPE, UNLESS OTHERWISE SHOWN ON DRAWING.
3. MINIMUM PIPE COVER SHALL BE 3'-0".

SEWER NOTES

1. THE CONTRACTOR SHALL FURNISH ALL MATERIALS, LABOR AND EQUIPMENT FOR ALL SEWER WORK WITHIN THE COUNTY'S RIGHT-OF-WAY.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INVESTIGATION, INSPECTION AND VERIFICATION OF ALL EXISTING UTILITIES SUPPLEMENTED BY ACTUAL DIGGING IN THE FIELD IF NECESSARY, TO DETERMINE AND ACTUAL LOCATION OF SUCH UTILITIES WITH THEIR BRANCH AND SERVICE LINES, WHETHER INDICATED ON THE PLANS OR NOT.
3. THE CONTRACTOR WILL BE REQUIRED TO TAKE OUT AND PAY FOR ALL NECESSARY PERMITS AND LICENSES WHICH ARE REQUIRED BY LOCAL ORDINANCES FOR THE PROSECUTION OF THIS WORK.
4. WORKMANSHIP SHALL BE FIRST CLASS AND THE CONTRACTOR SHALL REPAIR ALL DAMAGES SUSTAINED DURING THE COURSE OF HIS WORK AND LEAVE COMPLETED WORK IN ITS ORIGINAL CONDITION. ALL WORK TO BE DONE BY ITS RESPECTIVE TRADESMEN.
5. THE CONTRACTOR SHALL NOTIFY THE WASTEWATER DIVISION (961-8338) 48 HOURS PRIOR TO ANY WORK BEING DONE ON THE EXISTING COUNTY SEWER SYSTEM AND WHEN INSPECTIONS ARE REQUIRED.
6. THE WASTEWATER DIVISION (961-8338) SHALL INSPECT THE SEWER LINE INSTALLATION FROM THE SEWER MAIN LINE TO THE CLEANOUT BY THE PROPERTY LINE. ANY WORK NOT PROPERLY INSPECTED PRIOR TO BACKFILL SHALL BE RE-EXCAVATED AT THE CONTRACTOR'S EXPENSE.
7. ALL DETAILS NOT SHOWN ON THE PLANS SHALL CONFORM TO THE STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION, SEPTEMBER, 1984 AND THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, SEPTEMBER, 1986.
8. THE CLEANOUT SHALL BE LOCATED WITHIN PRIVATE PROPERTY AND AS CLOSE TO THE PROPERTY LINE AS POSSIBLE. CLEANOUT SHALL BE EASILY ACCESSIBLE AND SHALL NOT BE BURIED OR LOCATED UNDER OR CLOSE TO ROCKWALLS, FENCES OR OTHER OBSTRUCTIONS. IF THE CLEANOUT IS DETERMINED INACCESSIBLE BY THE ENGINEER OR HIS REPRESENTATIVES, IT SHALL BE RELOCATED AT CONTRACTOR'S EXPENSE. A 12" X 12" X 8" CONCRETE COLLAR SHALL BE PROVIDED AROUND THE TOP OF THE CLEANOUT.
9. A 12" X 12" X 8" CONCRETE CAP SHALL BE PROVIDED AROUND ALL LATERAL MARKERS.
10. THE CONTRACTOR, AT THE COMPLETION OF THE PROJECT SHALL DELIVER TO THE WASTEWATER DIVISION TWO (2) SETS OF PLOT PLANS INDICATING THE LOCATION OF THE SEWER LATERAL IN RELATION TO THE BOUNDARY PINS. THIS SHALL BE ON AN 8.5" X 11" PAPER AND SHALL INCLUDE THE DATE OF INSTALLATION AS WELL AS THE TMK. A SEPARATE SHEET SHALL BE USED FOR EACH PARCEL.
11. ALL MANHOLE CONNECTIONS SHALL BE MADE AS PER STANDARD DETAIL S-48 OR WITH A TWO LONG VITRIFIED CLAY STUB TOGETHER WITH APPROPRIATE RUBBER COUPLER. ALL MANHOLE CONNECTIONS SHALL BE INSPECTED DURING CONSTRUCTION. ANY CONNECTIONS NOT INSPECTED SHALL BE REJECTED.
12. CONNECTIONS TO THE MAIN SEWER LINE SHALL BE MADE WITH WYE AND NECESSARY PIPE PIECE OF THE SAME MATERIAL AS MAIN SEWER LINE.
13. ALL RUBBER COUPLINGS UTILIZED SHALL HAVE PURE STAINLESS STEEL STRAPS INCLUDING THE TIGHTENING SCREW.
14. SADDLE CONNECTIONS, WHEN PERMITTED BY THE ENGINEER OR HIS REPRESENTATIVE, SHALL BE CONCRETE JACKETED. CONCRETE JACKET SHALL BE A MINIMUM OF SIX (6) INCHES IN THICKNESS AND SHALL EXTEND A MINIMUM OF TWO (2) FEET BEYOND THE SADDLE IN EACH DIRECTION.
15. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE WASTEWATER DIVISION SHOULD ANY EXISTING SEWER LINE BE DAMAGED. THE SEWER LINE SHALL BE REPAIRED BY THE CONTRACTOR AND ANY ROCKS AND/OR DEBRIS THAT ENTERED THE SEWER SYSTEM SHALL BE PHYSICALLY REMOVED.
16. ALL SEWER MANHOLES SHALL HAVE ECCENTRIC TYPE MANHOLE CONE SECTIONS WITH STAINLESS STEEL TOP RUNGS.

SOLID WASTE NOTES

1. ALL WASTE GENERATED BY CONSTRUCTION, INCLUDING GRUBBING EXCESS AND SUITABLE EXCAVATION MATERIAL, IS PROHIBITED AT THE KAILUA LANDFILL AND ALL TRANSFER STATIONS ISLAND-WIDE UNTIL THE NEW WEST HAWAII LANDFILL IS COMPLETED AND IN OPERATION. UNTIL THEN, CONSTRUCTION WASTES MAY BE BROUGHT TO THE HILO LANDFILL.
2. IF A COUNTY LANDFILL IS USED, THE CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE ALL NECESSARY LABOR, EQUIPMENT, MATERIALS AND SUPPLIES TO PROPERLY LANDFILL HIS WASTE.

WATER NOTES

1. ALL WORK SHALL CONFORM TO THE DEPARTMENT OF WATER SUPPLY "WATER SYSTEM STANDARDS," VOLUMES 1 AND 2, DATED 1985, AS AMENDED.
2. THE CONTRACTOR SHALL INFORM THE D. W. S. ENGINEER 72 HOURS PRIOR TO THE BEGINNING OF ANY WATERLINE WORK AND TWO WEEKS PRIOR TO ANY CONNECTION, CHLORINATION, SHUT-OFF OR RELOCATION WORK.
3. ALL WORK, EQUIPMENT, AND MATERIAL FURNISHED BY THE D. W. S. SHALL BE PAID FOR BY THE CONTRACTOR.
4. ALL EXISTING WATERLINES, WATERLINE APPURTENANCES AND OTHER UTILITY LOCATIONS SHOWN ON THE PLANS ARE OBTAINED FROM LATEST RELIABLE SOURCES. THE CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY THE EXACT LOCATION OF ALL UTILITIES IN THE FIELD AND SHALL BEAR ALL COST FOR DAMAGES DONE DURING THE CONTRACT PERIOD.
5. ALL CONNECTIONS TO EXISTING WATERLINES SHALL BE DONE BY OR UNDER D. W. S. SUPERVISION. CONTRACTOR SHALL PERFORM ALL EXCAVATION, BACKFILL, ROAD REPAIR, TRAFFIC CONTROL, AND PROVIDE EQUIPMENT NECESSARY TO COMPLETE THE CONNECTION.
6. WHERE WATER SHUT OFF OF MORE THAN 3 HOURS BECOMES NECESSARY, THE CONTRACTOR, AT HIS OWN COST, SHALL PROVIDE A TEMPORARY BY-PASS LINE. THE BY-PASS SIZE SHALL BE DETERMINED BY THE D. W. S. ENGINEER. IF NECESSARY, THE D. W. S. ENGINEER MAY REQUIRE A BY-PASS LINE, REGARDLESS OF THE EXPECTED WATER SHUT-OFF PERIOD.
7. MINIMUM HORIZONTAL CLEARANCE BETWEEN WATERLINES AND OTHER UTILITIES SHALL BE 8 FEET UNLESS OTHERWISE SPECIFIED. MINIMUM VERTICAL CLEARANCE BETWEEN WATERLINE AND OTHER UTILITIES SHALL BE 12" PROVIDED CONCRETE JACKETS ARE USED, AND 18" IF NO CONCRETE JACKETS ARE USED. IN ALL INSTANCES, THE WATERLINES SHALL BE AT A GRADE HIGHER THAN OTHER UTILITIES.
8. ALL FITTINGS (CLASS 250) AND ALL GATE VALVES (CLASS 200) SHALL BE CAST IRON, WITH MECHANICAL JOINTS UNLESS OTHERWISE SPECIFIED.
9. ALL PIPELINES, 4" AND LARGER IN DIAMETER, SHALL BE DUCTILE IRON, PUSH ON JOINT CLASS 52, AND ALL PIPELINES SMALLER THAN 4" IN DIAMETER SHALL BE SOFT COPPER, TYPE K, UNLESS OTHERWISE SPECIFIED.
10. THE WATERLINE SHALL BE TESTED AT A MINIMUM OF 225 PSI. AT THE LOW POINT UNDER D. W. S. SUPERVISION.
11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CHLORINATION OF THE WATER SYSTEM AND SHALL BEAR ALL COST. THE PERSONS ENGAGED TO DO THE CHLORINATION WORK MUST BE LICENSED BY THE STATE OF HAWAII AND APPROVED BY THE DEPARTMENT OF HEALTH.
12. WHEN COMPACTION TEST(S) ARE REQUIRED FOR THE PROJECT, THE CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE D. W. S. WITH PROCTOR RESULTS OF MATERIALS TO BE USED FOR THAT PORTION OF WORK REQUIRING COMPACTION. THESE RESULTS SHALL BE CERTIFIED AND SHALL BE FURNISHED TO D. W. S. ONE WEEK PRIOR TO COMMENCEMENT OF WORK.
13. SOLDER, 1/8-INCH DIAMETER, AND FLUX SHALL CONTAIN NOT MORE THAN 0.2 PERCENT LEAD.
14. PIPE CUSHION MATERIAL FOR COPPER PIPES SHALL BE NUMBER 4 FINE MANUFACTURED SAND, AS SPECIFIED IN VOLUME 1, PART III, SECTION 2.2.2, PARAGRAPH C2.

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Rev	Date	Description	Eng	App	

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MAKALAPUA  
SIGNALIZED INTERSECTION AT QUEEN  
KAAHUMANU HIGHWAY AND MAKALAPUA BLVD.

CONSTRUCTION NOTES-1

Designed By: **RI KT** Drawn By: **OL**  
Project No. **(BCH) 333, 5000** Date: **JANUARY 1994**

Approved By: \_\_\_\_\_ Date: \_\_\_\_\_  
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\_\_\_\_\_ Date: \_\_\_\_\_

FILE	POCKET	FOLDER	NO.
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1. THE EXISTENCE AND LOCATION OF HELCO OVERHEAD AND UNDERGROUND FACILITIES AS SHOWN ON THE PLANS ARE FROM EXISTING RECORDS OF VARYING DEGREES OF ACCURACY AND ARE NOT GUARANTEED AS SHOWN. SHOULD RELOCATION OF HELCO FACILITIES BE REQUIRED, HELCO IS TO BE CONTACTED FOUR (4) WEEKS IN ADVANCE. ANY WORK REQUIRED TO RELOCATE HELCO FACILITIES SHALL BE DONE BY HELCO AND PAID FOR BY THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COORDINATION.
2. FOR VERIFYING THE LOCATION OF HELCO UNDERGROUND DUCT LINES AND FOR ASSISTANCE IN PROVIDING PROPER SUPPORT AND PROTECTION OF THE UNDERGROUND DUCT LINES, THE CONTRACTOR IS TO CONTACT HELCO UNDERGROUND DIVISION A MINIMUM OF 72 HOURS IN ADVANCE.
3. THE CONTRACTOR IS TO OBTAIN AN EXCAVATION PERMIT FROM HELCO MAPPING AND RECORDS DIVISION PRIOR TO START OF CONSTRUCTION.
4. THE CONTRACTOR IS TO EXERCISE EXTREME CAUTION WHEN THE EXCAVATION AND/OR CONSTRUCTION CROSSES OR IN CLOSE PROXIMITY OF HELCO UNDERGROUND ELECTRICAL FACILITIES AND MAINTAIN ADEQUATE CLEARANCE FOR HIS EQUIPMENT WHILE WORKING CLOSE TO AND/OR UNDER HELCO'S OVERHEAD FACILITIES.
5. SHOULD FIELD CONDITIONS AND/OR CONSTRUCTION PROCEDURES REQUIRE THAT POLES BE BRACED TO FACILITATE CONSTRUCTION, THE CONTRACTOR IS TO CONTACT HELCO DISTRICT CONSTRUCTION SUPERINTENDENT A MINIMUM OF 72 HOURS IN ADVANCE FOR BRACING INSTRUCTION.
6. SHOULD IT BECOME NECESSARY, ANY WORK REQUIRED TO RELOCATE HELCO FACILITIES SHALL BE DONE BY HELCO AND PAID FOR BY THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COORDINATION.
7. THE CONTRACTOR SHALL REPORT ANY DAMAGES TO HELCO'S FACILITIES TO THE HELCO TROUBLE DISPATCHER.
8. THE CONTRACTOR IS TO COMPLY WITH THE DIRECTIONS OF THE STATE OF HAWAII OCCUPATIONAL SAFETY AND HEALTH LAW (DOSH).
9. FOR FIELD LOCATION OF HTCO'S FACILITIES, CONTACT HTCO OUTSIDE PLANT ENGINEERING SECTION A MINIMUM OF 72 HOURS IN ADVANCE OF THE START OF CONSTRUCTION.
10. THE CONTRACTOR SHALL EXERCISE CAUTION WHEN THE EXCAVATION AND CONSTRUCTION CROSSES OR IS IN CLOSE PROXIMITY OF UNDERGROUND TELEPHONE AND SIGNAL CABLE FACILITIES AND MAINTAIN ADEQUATE CLEARANCE FOR HIS EQUIPMENT WHILE WORKING CLOSE TO AND/OR UNDER THE OVERHEAD FACILITIES. ANY DAMAGE TO THE EXISTING UNDERGROUND AND OVERHEAD UTILITIES SHALL BE REPAIRED AND PAID FOR BY THE CONTRACTOR.
11. WHILE TRENCH EXCAVATION IS ADJACENT TO OR UNDER EXISTING STRUCTURES OR FACILITIES, THE CONTRACTOR IS RESPONSIBLE FOR PROPERLY SHEETING AND BRACING THE EXCAVATION AND STABILIZING THE EXISTING GROUND TO RENDER IT SAFE AND 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.
12. THE CONTRACTOR SHALL EXCAVATE AND BACKFILL AROUND TELEPHONE CABLES IN THE PRESENCE OF HTCO ENGINEER OR HIS REPRESENTATIVE. ALL EXCAVATION WITHIN TWO FEET OF TELEPHONE CABLES SHALL BE DONE BY HAND.
13. PROVIDE ADEQUATE SUPPORT AND PROTECTION OF TELEPHONE CABLES AND/OR DUCTLINES EXPOSED IN THE TRENCH. SUCH SUPPORT AND PROTECTION SHALL BE APPROVED BY HTCO.
14. FOR RELOCATION OF ANY TELEPHONE CABLES AND/OR DUCTLINES, THE CONTRACTOR SHALL NOTIFY HTCO FIVE (5) WORKING DAYS BEFORE STARTING WORK. THE CONTRACTOR SHALL PROVIDE THE NECESSARY EXCAVATION AND BACKFILL, ARRANGE FOR TRAFFIC PERMITS AND RESTORE SIDEWALK, PAVEMENT OR OTHER FACILITIES.
15. THE CONTRACTOR SHALL NOTIFY HTCO IMMEDIATELY AFTER ANY DAMAGE HAS BEEN CAUSED TO EXISTING CABLES, DUCTLINES, PULLBOXES, MANHOLES, POLES AND GUYS. REPAIR WORK ON DAMAGED CABLES SHALL BE DONE BY HTCO AND OTHER WORK INVOLVING EXISTING UNDERGROUND FACILITIES SHALL BE DONE BY THE CONTRACTOR IN THE PRESENCE OF HTCO ENGINEER OR HIS REPRESENTATIVE WITH PAYMENT FOR THIS WORK TO BE BORNE BY THE CONTRACTOR.

1. DURING CONSTRUCTION, PREVENTIVE MEASURES SHALL BE USED TO CONTROL FORESEEABLE DUST, EROSION OR SEDIMENTATION PROBLEMS WHICH MAY ARISE AS THE JOB PROGRESSES.
2. DRAINAGE SYSTEMS AS SHOWN ON THE CONSTRUCTION PLANS SHALL BE CONSTRUCTED AS EARLY AS PRACTICALLY POSSIBLE.
3. ALL FILL, SUBBASE AND BASE MATERIAL PLACED WITHIN THE ROAD PAVEMENT PRISM SHALL BE SUBSTANTIALLY COMPACTED BY THE END OF THE DAY.
4. THE CONTRACTOR SHALL CONDUCT HIS GRADING OPERATIONS SO THAT EXCAVATION, EMBANKMENT AND IMPORTED MATERIAL SHALL BE DAMPENED WITH WATER DURING HIS GRADING OPERATIONS AT ALL TIMES.
5. WATER TRUCK AND/OR TEMPORARY SPRINKLERS SHALL BE AVAILABLE ON THE JOB SITE AT ALL TIMES TO ENSURE BARE EARTH DOES NOT CREATE A DUST PROBLEM.
6. TEMPORARY VEGETATIVE COVER SHALL BE PLANTED WITHIN A PERIOD OF 30 CALENDAR DAYS AFTER THE SITE HAS BEEN GRADED OR BARED OF VEGETATION OR IF FINAL GRADING OR LANDSCAPING OF THE SITE WILL BE SUSPENDED FOR MORE THAN 30 CALENDAR DAYS. TEMPORARY VEGETATIVE COVER SHALL CONSIST OF 40 LBS. COMMON RYE GRASS SEED PER ACRE OR 400 LBS. PER ACRE 10-10-10-OR EQUIVALENT FERTILIZER WORKED INTO SEED BED BEFORE PLANTING. TEMPORARY SPRINKLER SYSTEM TO BE INSTALLED CONCURRENTLY WITH ALL PLANTINGS. PLANTING AND MAINTENANCE OF GRASS SHALL BE IN ACCORD TO THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, SEPTEMBER 1986.
7. FUGITIVE DUST AND SOLID WASTE DISPOSAL DURING GRUBBING AND GRADING ACTIVITIES SHALL MEET REQUIREMENTS OF ADMINISTRATIVE RULES, TITLE 11, CHAPTER 60, AIR POLLUTION CONTROL AND CHAPTER 58, SOLID WASTE MANAGEMENT CONTROL.

1. ALL ARCHAEOLOGICAL SITES DESIGNATED ON PLANS ARE APPROXIMATE LOCATIONS. THE CONTRACTOR SHALL VERIFY LOCATIONS WITH OWNER'S DESIGNATED ARCHAEOLOGISTS. THE CONTRACTOR SHALL EXERCISE EXTRA CAUTION TO AVOID DISTURBANCE TO THE ARCHAEOLOGICAL SITES WHEN CONSTRUCTING NEW WORK IN THEIR VICINITIES.
2. CONSTRUCTION SUPERVISORS AND ALL STAFF SHALL BE NOTIFIED AS TO THE NATURE AND LOCATION OF ARCHAEOLOGICAL SITES, THE SIGNIFICANCE OF THE BUFFER ZONES, AND THE COLOR AND MEANING OF ANY SITE PERIMETER FENCING AND/OR BUFFER ZONE FLAGGING TAPE.
3. THE CONTRACTOR SHALL FLAG ALL SITE IN THE FIELD PRIOR TO INITIATION OF GRUBBING AND GRADING ACTIVITIES.
4. THE BUFFER ZONE FOR THE MAHALAHOA TRAIL (THE OLD KING'S TRAIL) ON THE MAUKA SIDE OF THE HIGHWAY WILL TEMPORARILY BE 50 FEET OUT FROM THE CENTER LINE ON EACH SIDE OF THE TRAIL. BARRIER FENCES NEED TO BE ERCTED ACROSS THE END OF THE TRAIL TO BE CUT BY THE TURN LANE FROM MAKALAPUA BOULEVARD. SEE SHEET C-3 FOR FENCE LAYOUT. ALL OTHER BUFFER ZONES ARE TO BE 5 METERS (16.5 FEET) UNLESS APPROVED BY THE STATE HISTORIC PRESERVATION OFFICE (SHPO). ALL BUFFER ZONES SHALL BE IDENTIFIED AND MAPPED AROUND SITE PERIMETERS, WITHIN WHICH CONSTRUCTION ACTIVITY WOULD NOT BE ALLOWED, THE BUFFER SHALL BE STAKED AND NOT GRADING OR CONSTRUCTION ACTIVITY SHALL BE ALLOWED TO OCCUR WITHIN THE BUFFER ZONE.
5. AN ARCHAEOLOGIST WILL PROVIDE ON-SITE MONITORING OF INITIAL CONSTRUCTION GRUBBING AND GRADING OCCURRING IN THE IMMEDIATE VICINITY OF ALL SITES TO BE PRESERVED, OR SITES NOT TO BE PRESERVED BUT AT WHICH DATA COLLECTION HAS NOT YET BEEN COMPLETED AT THE TIME CONSTRUCTION ACTUALLY BEGINS.
6. SEE ALSO GRADING NOTE 15.

1. ALL GRADING WORK SHALL CONFORM TO CHAPTER 10 OF THE HAWAII COUNTY CODE AND SHALL NOT COMMENCE UNTIL A GRADING PERMIT IS OBTAINED.
2. THE CONTRACTOR SHALL REMOVE ALL SILT AND DEBRIS RESULTING FROM HIS WORK AND DEPOSITS IN DRAINAGE FACILITIES, ROADWAYS, AND OTHER AREAS. THE COSTS INCURRED FOR ANY NECESSARY REMEDIAL ACTION BY THE CHIEF ENGINEER SHALL BE PAYABLE BY THE CONTRACTOR.
3. ANY REMAINING SEDIMENT AND DEBRIS IN WATERWAYS AND DRAINAGE FACILITIES SHALL BE REMOVED UPON COMPLETION OF GRADING OPERATIONS.
4. 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 DEPARTMENT OF HEALTH.
5. ALL GRADING OPERATIONS SHALL BE PERFORMED IN CONFORMANCE WITH THE APPLICABLE PROVISIONS OF CHAPTER 55, "WATER POLLUTION CONTROL" AND CHAPTER 54, "WATER QUALITY STANDARDS" CONTAINED IN THE ADMINISTRATIVE RULES, TITLE 11, STATE DEPARTMENT OF HEALTH, AND TO THE EROSION AND SEDIMENTATION CONTROL STANDARDS AND GUIDELINES OF THE DEPARTMENT OF PUBLIC WORKS, COUNTY OF HAWAII.
6. THE CONTRACTOR SHALL OBTAIN A GRADING PERMIT TWO WEEKS PRIOR TO BEGINNING OF GRADING WORK FROM THE DEPARTMENT OF PUBLIC WORKS, PERMIT SECTION. GRADING PERMIT FEES SHALL BE PAID BY THE CONTRACTOR.
7. THE LIMITS OF THE GRADED AREA SHALL BE FLAGGED BEFORE THE COMMENCEMENT OF THE GRADING WORK.
8. FILLS ON SLOPES STEEPER THAN 5:1 SHALL BE KEPT.
9. THE COUNTY SHALL BE INFORMED OF THE LOCATION OF THE DISPOSAL SITE FOR THE EXCESS MATERIAL FROM THE PROJECT WHEN THE APPLICATION FOR A GRADING PERMIT IS MADE. THE DISPOSAL SITE MUST ALSO FULFILL THE REQUIREMENTS OF THE GRADING ORDINANCE.
10. THE COUNTY SHALL BE INFORMED OF THE LOCATION OF THE BORROW SITE FOR ANY BORROW REQUIRED FOR THIS PROJECT WHEN THE APPLICATION FOR A GRADING PERMIT IS MADE. THE BORROW SITE MUST ALSO FULFILL THE REQUIREMENTS OF THE GRADING ORDINANCE.
11. NO GRADING WORK SHALL BE DONE ON SATURDAYS, SUNDAYS AND HOLIDAYS AT ANY TIME WITHOUT PRIOR NOTICE TO THE CHIEF ENGINEER.
12. FILL SHALL BE COMPACTED IN ACCORDANCE WITH STANDARD SPECIFICATIONS.
13. ALL VEGETATION SHALL BE REMOVED PRIOR TO PLACING FILL ON NATURAL GROUND SURFACE.
14. THE CONTRACTOR SHALL CONFINE ALL HIS GRADING OPERATIONS WITHIN CONTRACT LIMITS AND SHALL PROTECT EXISTING FEATURES CLOSE TO LIMITS.
15. SHOULD ANY UNIDENTIFIED SITES OR REMAINS SUCH AS ARTIFACTS, SHELL, BONE, OR CHARCOAL DEPOSITS, HUMAN BURIALS, ROCK OR CORAL ALIGNMENTS, PAVINGS OR WALLS BE ENCOUNTERED, WORK IN THE AFFECTED AREA SHALL CEASE IMMEDIATELY AND THE PLANNING DEPARTMENT & THE OWNER'S DESIGNATED REPRESENTATIVE IMMEDIATELY NOTIFIED. SUBSEQUENT WORK SHALL PROCEED UPON AN ARCHAEOLOGICAL CLEARANCE FROM THE PLANNING DEPARTMENT, THROUGH THE OWNER'S DESIGNATED REPRESENTATIVE, WHEN IT FINDS THAT SUFFICIENT MITIGATIVE MEASURES HAVE BEEN TAKEN.
16. THE FOLLOWING QUANTITIES ARE PROVIDED FOR GRADING PERMIT PURPOSES ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING HIS OWN QUANTITIES.

ESTIMATED EARTHWORK QUANTITIES:  
EXCAVATION = 12,800 CUBIC YARDS  
EMBANKMENT = 10,400 CUBIC YARDS  
GRADED AREA = 5.7 ACRES