

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BR-RS-0360(6)	1992	3	75

GENERAL NOTES:

- 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 DRAWINGS, SHALL BE PROTECTED AT ALL TIMES BY THE CONTRACTOR DURING CONSTRUCTION. ANY DAMAGE TO THE EXISTING UTILITIES SHALL BE REPAIRED BY THE CONTRACTOR AT HIS EXPENSE. PERSONNEL INJURY RESULTING FROM CONTACT WITH EXISTING UTILITIES SHALL BE THE CONTRACTOR'S RESPONSIBILITY.
- THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY DISCREPANCY OR CONFLICT FOUND IN THE FIELD PRIOR TO OR DURING THE COURSE OF CONSTRUCTION AND SHALL NOT PROCEED WITH CONSTRUCTION UNTIL THE ENGINEER RESOLVES THE SAID DISCREPANCY OR CONFLICT.
- WHEN TRENCH 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 THE EXISTING STRUCTURES FROM DAMAGE.
- ALL WORK CALLED FOR ON THE PLANS AND NOT ITEMIZED IN THE PROPOSAL BUT REQUIRED FOR THE CONSTRUCTION OF UNDERGROUND UTILITIES FOR THIS PROJECT, SHALL BE CONSIDERED INCIDENTAL TO UNCLASSIFIED TRENCH EXCAVATION.
- THE CONTRACTOR SHALL RESTORE TO THEIR ORIGINAL CONDITION ALL IMPROVEMENTS DAMAGED AS A RESULT OF THE CONSTRUCTION, INCLUDING PAVEMENTS, EMBANKMENTS, SIGNS, LANDSCAPING, STRUCTURES, UTILITIES, WALLS, FENCES, ETC. UNLESS PROVIDED FOR SPECIFICALLY IN THE PROPOSAL, DEMOLITION AND RESTORATION OF EXISTING ITEMS SHALL BE INCIDENTAL AND INCLUDED WITHIN THE AMOUNT PAID FOR UNCLASSIFIED TRENCH EXCAVATION.
- ALL AZIMUTHS AND COORDINATES ARE REFERRED TO ~~HAWAII STATE PLANE TRIANGULATION STATION "KAPUAI" COORDINATE SYSTEM~~ AZIMUTHS ARE TURNED CLOCKWISE FROM TRUE SOUTH. ~~ELEVATIONS SHOWN ARE FROM ELEVATION DATUM OF MEAN SEA LEVEL AS DEFINED BY THE U.S. COAST AND GEODETIC SURVEY~~ ALL ELEVATIONS SHOWN ARE 2.68' ABOVE MEAN SEA LEVEL AS DEFINED BY THE U.S. COAST AND GEODETIC SURVEY UNLESS OTHERWISE NOTED.

CONSTRUCTION NOTES:

- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS, DIVISION OF ENGINEERING, CONSTRUCTION BRANCH SEVEN (7) DAYS PRIOR TO COMMENCEMENT OF CONSTRUCTION.
- UNLESS RELOCATION IS CALLED FOR ON THE PLANS, EXISTING UTILITIES SHALL REMAIN IN-SERVICE AND IN PLACE. ALL EXISTING UTILITIES SHALL BE PROTECTED AT ALL TIMES BY THE CONTRACTOR DURING CONSTRUCTION UNLESS SPECIFIED ON THE PLANS TO BE ABANDONED. ANY DAMAGE TO THE EXISTING UTILITIES SHALL BE REPAIRED BY THE CONTRACTOR AT HIS EXPENSE. 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 CONTRACTOR SHALL NOTIFY THE STATE UPON UNCOVERING ANY POTENTIAL HISTORICAL ARTIFACTS OR ITEMS OF ARCHAEOLOGICAL SIGNIFICANCE.
- EXISTING DRAINAGE SYSTEMS SHALL BE FUNCTIONAL AT ALL TIMES UNLESS REPLACED BY A NEW FACILITY AND THE NEW FACILITY IS FUNCTIONAL.
- THE CONTRACTOR SHALL EMPLOY PROPER DEWATERING, TRENCH SHORING AND BRACING METHODS TO PREVENT THE LOSS OF GROUND AND DAMAGE TO EXISTING FACILITIES AND STRUCTURES.
- THE EXISTING IMPROVEMENTS WITHIN THE PROJECT AREA AND IN ADJACENT AREAS THAT ARE NOT TO BE REMOVED, SHALL BE PRESERVED AND PROTECTED. ANY AND ALL DAMAGES RESULTING FROM THE CONTRACTORS CONSTRUCTION OPERATION SHALL BE REPLACED AND REPAIRED TO ORIGINAL CONDITION, TO THE SATISFACTION OF THE OWNER.
- THE CONTRACTOR SHALL CONDUCT ALL TESTS AS REQUIRED BY THE ENGINEER AND BE RESPONSIBLE FOR ALL EXPENSES INCURRED IN CONDUCTING THESE TESTS.
- THE CONTRACTOR SHALL PROVIDE, INSTALL AND MAINTAIN ALL NECESSARY SIGNS, LIGHTS, FLARES, BARRICADES, MARKERS, CONES, AND OTHER PROTECTIVE FACILITIES AND TAKE ALL NECESSARY PRECAUTIONS FOR THE PROTECTION, CONVENIENCE, AND SAFETY OF TRAFFIC.

GRADING NOTES:

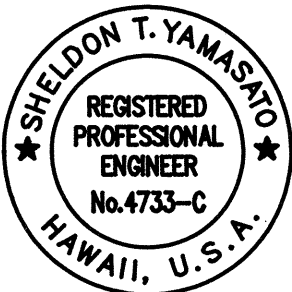
- ALL GRADING WORK SHALL CONFORM TO THE GRADING ORDINANCE OF THE COUNTY OF MAUI (CHAPTER 20.08 "SOIL EROSION AND SEDIMENTATION CONTROL") AND THE SOILS REPORT BY ERNEST K. HIRATA & ASSOCIATES, INC. "FOUNDATION INVESTIGATION HOOLAWA BRIDGE REPLACEMENT, MAKAWAO, MAUI, HAWAII."
- ALL CLEARING, GRUBBING AND GRADING OPERATIONS SHALL BE PERFORMED IN CONFORMANCE WITH THE APPLICABLE PROVISIONS OF CHAPTER 54, WATER QUALITY STANDARDS, AND CHAPTER 55, WATER POLLUTION CONTROL OF TITLE 11, ADMINISTRATIVE RULES OF THE STATE DEPARTMENT OF HEALTH.
- THE CONTRACTOR SHALL REMOVE ALL SILT AND DEBRIS RESULTING FROM HIS WORK AND DEPOSITED IN DRAINAGE FACILITIES, ROADWAYS AND OTHER AREAS. THE COSTS INCURRED FOR ANY NECESSARY REMEDIAL ACTION BY THE ENGINEER SHALL BE PAYABLE BY THE CONTRACTOR.
- THE CONTRACTOR, AT HIS EXPENSE, SHALL KEEP THE PROJECT AREA AND SURROUNDING AREA FREE OF DUST NUISANCE. THE WORK SHALL BE IN CONFORMANCE WITH THE AIR POLLUTION CONTROL STANDARDS AND REGULATIONS OF THE STATE DEPARTMENT OF HEALTH.
- ALL SLOPES AND EXPOSED AREAS SHALL BE SODDED OR PLANTED IMMEDIATELY AFTER THE GRADING WORK HAS BEEN COMPLETED. GRADING TO FINAL GRADE SHALL BE CONTINUOUS, AND ANY AREA WITHIN WHICH WORK HAS BEEN INTERRUPTED OR DELAYED, SHALL BE PLANTED.
- CONSTRUCTION DEBRIS AND WASTES SHALL BE DEPOSITED AT AN APPROPRIATE SITE. THE CONTRACTOR SHALL INFORM THE ENGINEER OF THE LOCATION OF DISPOSAL SITES. THE DISPOSAL SITE MUST ALSO FULFILL THE REQUIREMENTS OF THE GRADING ORDINANCES.
- GRADED AREA SHALL BE THOROUGHLY WATERED AFTER CONSTRUCTION ACTIVITY HAS CEASED FOR THE DAY AND FOR THE WEEKEND. NO GRADING WORK SHALL BE DONE ON SATURDAYS, SUNDAYS AND HOLIDAYS, AT ANY TIME WITHOUT PRIOR NOTICE TO THE ENGINEER. THE CONTRACTOR SHALL PROVIDE DUST CONTROL WITH SPRINKLERS AND/OR WATER WAGONS AS NECESSARY, WEEKENDS AND HOLIDAYS INCLUDED.
- PRIOR TO ANY EARTHWORK OPERATIONS, THE AREAS TO BE GRADED SHALL BE CLEARED OF ALL VEGETATION AND OTHER DELETERIOUS MATTER. THIS MATERIAL SHALL BE PROPERLY WASTED OFF-SITE. SOILS CONTAINING EXCESSIVE AMOUNTS OF ORGANIC MATTER SHALL BE SIMILARLY WASTED.
- ENGINEERED FILL AND BACKFILL SHALL BE COMPACTED TO AT LEAST 90 PERCENT OF ASTM D1557 MAXIMUM DRY DENSITY. ENGINEERED FILL SUPPORTING STRUCTURES SHALL BE COMPACTED TO AT LEAST 95 PERCENT MAXIMUM DENSITY.
- IMPORTED BORROW SHALL HAVE AN ANGLE OF INTERNAL FRICTION OF AT LEAST 26 DEGREES AND A COHESION OF AT LEAST 500 PSF WHEN COMPACTED TO 90 PERCENT OF THE MAXIMUM DRY DENSITY DETERMINED BY ASTM D1557. THE MATERIAL SHALL BE NON-EXPANSIVE. THE SOURCE OF THE FILL MATERIAL PROPOSED FOR USE SHALL BE IDENTIFIED TO THE ENGINEER PRIOR TO ITS USE IN THE FILL FOR SAMPLING, LABORATORY TESTING, AND EVALUATION.
- FILL CONSTRUCTED ON SLOPES STEEPER THAN 5:1 SHALL BE BENCHED INTO APPROVED NATURAL SOILS WITHIN THE HILLSIDE, AND CONSTRUCTED IN RELATIVELY UNIFORMLY HORIZONTAL LIFTS AT THE PROPER DEGREE OF COMPACTION.
- FILL SLOPE FACES SHALL BE OVERFILLED SLIGHTLY AND TRIMMED BACK DURING FINAL GRADING TO PROVIDE A TIGHT, WELL-COMPACTED SLOPE SURFACE.
- PERMANENT SLOPES SHALL RECEIVE EROSION PROTECTION AS SOON AS PRACTICAL AFTER FINAL GRADING, EROSION PROTECTION SHALL CONSIST OF SEEDING, HYDROMULCHING, RIP-RAP, OR OTHER APPROVED METHODS. FINAL SURFACE OF THE SITE SHALL BE GRADED TO DIRECT SURFACE WATER AWAY FROM PIER FOUNDATIONS. GRADING SHALL BE CONSTRUCTED SO THAT PONDING OR OTHER SITUATIONS WHICH ALLOW SEEPAGE OF SURFACE WATER INTO CUTS OR FILLS IS AVOIDED, TO MINIMIZE WATER INTRUSION INTO SLOPES.
- EXISTING TOPOGRAPHIC INFORMATION SHOWN WERE COMPILED FROM A SURVEY MAP PREPARED BY R.T. TANAKA ENGINEERS, INC. THE CONTRACTOR SHOULD EXAMINE THE SITE AND TAKE WHATEVER MEASURES WHICH ARE NECESSARY TO VERIFY CONDITIONS EXISTING IN THE FIELD.
- EARTHWORK QUANTITIES SHOWN ARE APPROXIMATE AND ARE TO BE USED FOR OBTAINING A GRADING PERMIT ONLY. NO ADJUSTMENTS HAVE BEEN MADE FOR LOSSES DUE TO GRUBBING AND SHRINKAGE NOR FOR DIFFERING TOPOGRAPHIC CONDITIONS. THE CONTRACTOR SHALL VERIFY EXISTING FIELD CONDITIONS AND PREPARE HIS OWN ESTIMATE AND BID ACCORDINGLY.
- THE CONTRACTOR SHALL PERFORM ALL GRADING IN CONFORMANCE WITH THE REQUIREMENTS SPECIFIED IN THE MAUI COUNTY GRADING ORDINANCE AND THIS PROJECT'S SPECIFICATIONS.

APPROXIMATE QUANTITIES:

AREA TO BE GRADED: 2 ACRES  
EXCAVATION: 7591 C.Y.  
EMBANKMENT: 7014 C.Y.

TEMPORARY EROSION CONTROL PROCEDURES:

- THE CONTRACTOR SHALL MINIMIZE THE AMOUNT OF EXISTING VEGETATED LAND TO BE EXPOSED AT ANY ONE TIME.
- EXCAVATION OPERATIONS SHALL PROCEED FROM HIGHER GROUND AREAS TO LOWER GROUND AREAS. EXISTING VEGETATION ON THE LOWER AREAS SHALL BE LEFT IN PLACE AS LONG AS FEASIBLE TO SERVE AS A FILTERING MEDIUM.
- IF THE EXCAVATED MATERIAL FROM HIGHER AREAS IS NEEDED TO FILL LOWER AREAS AS DESCRIBED IN NO. 2 ABOVE, FILLING OPERATIONS SHALL BE PHASED TO LIMIT EROSION AND SEDIMENTATION PROBLEMS TO A MINIMUM.
- GRADED AREAS THAT ARE NOT AT FINAL GRADE AND ARE EXPECTED TO BE EXPOSED FOR MORE THAN 30 DAYS, SHALL BE MULCHED (AT THE RATE OF 45 POUNDS PER 1000 SQUARE FEET) TO PREVENT EROSION AND SILT RUNOFF.
- WHEN INSTALLING THE DRAINAGE SYSTEM FOR THE PROJECT, FILTERING MATERIAL (JUTE STRIPS OR EQUAL) SHALL BE PROVIDED AT THE DRAIN INLETS TO PREVENT SILT FROM ENTERING THE DRAINAGE SYSTEM.
- THE ABOVE PROCEDURE FOR EROSION AND SEDIMENT CONTROL MAY BE REVISED BY THE CONTRACTOR TO CONFORM TO HIS GRADING OPERATION PROCEDURE. ANY REVISION TO THE ABOVE PROCEDURE SHALL BE SUBMITTED BY THE CONTRACTOR TO THE CHIEF ENGINEER OF THE DEPARTMENT OF PUBLIC WORKS FOR APPROVAL.
- THE CONTRACTOR SHALL FOLLOW THE SEQUENCE OF OPERATIONS OF THE "SOIL EROSION STANDARDS AND GUIDELINES", DEPARTMENT OF PUBLIC WORKS, CITY AND COUNTY OF HONOLULU, NOVEMBER, 1975.
- TEMPORARY EROSION CONTROL PROCEDURES SHALL BE SUBMITTED BY THE CONTRACTOR TO THE CHIEF ENGINEER OF THE DEPARTMENT OF PUBLIC WORKS FOR APPROVAL PRIOR TO APPLICATION FOR A GRADING PERMIT.
- TEMPORARY EROSION CONTROLS SHALL NOT BE REMOVED BEFORE PERMANENT EROSION CONTROLS ARE IN-PLACE AND ESTABLISHED. THE CONTRACTOR IS THE SOLE PARTY RESPONSIBLE FOR THE ADEQUACY OF ALL TEMPORARY EROSION CONTROL MEASURES TO PROTECT THE WORK FROM THE EFFECTS OF WATER.



THIS WORK WAS PREPARED BY  
ME OR UNDER MY SUPERVISION

*Sheldon T. Yamashiro*

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
<b>GENERAL NOTES</b>	
HOOLAWA BRIDGE REPLACEMENT HANA HWY., HOOLAWA, MAUI PROJECT NO. BR-RS-0360(6)	
NO SCALE	DATE: SEPT. 17, 1991
SHEET NO.	OF SHEETS