

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	RS-0270(10)	1985	2	28

GENERAL NOTES:

1. This project is located along Route 270, Hawi-Niulii Road, District of North Kohala, Island of Hawaii.
2. Improvements consist of replacing an existing 30" concrete pipe culvert and a 4'x2' reinforced concrete box culvert with a new aluminum arch culvert in the vicinity of Kapaau Town, Sta. 448+12.33. Incidental work includes water system adjustments, utility pole relocations, pavement restoration, removal of existing metal guard rails and posts, installation of new metal guard rails, demolition and construction of a CMU wall, and CRM masonry work along the channelized stream bed.
3. Smooth riding connections shall be incorporated in the pavement restoration and at all connecting approaches as shown on the plans and as directed by the Engineer.
4. The Contractor is to exercise extreme caution when the excavation and construction crosses or is in close proximity of underground and overhead utility facilities. The existence and locations of utility facilities, as shown on the plans, are from the latest available data but is not guaranteed as to accuracy and/or completeness. The Contractor shall be responsible for and shall pay for all damages to existing utilities resulting from his operations.
5. For water facility details not shown on these plans, refer to Department of Water Supply, County of Hawaii Standard Details.

WATER NOTES:

1. All work shall conform to the Department of Water Supply "Standards for Water System" dated March 1965, as amended.
2. The Contractor shall inform the D.W.S. Engineer 72 hours prior to the beginning of any water line work and one week prior to any connection, chlorination, shut-off or relocation work.
3. All work and material furnished by the D.W.S. shall be paid for by the Contractor.
4. All existing water line, water line 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 unto them during the contract period.
5. All hook-ups to existing water lines shall be done by or under D.W.S. supervision. Contractor shall provide all excavtion, backfill, road repair, traffic control, and equipment to lift materials.
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, size of which shall be determined by the D.W.S. Engineer. The D.W.S. Engineer, also reserves the right to require by-pass lines, regardless of the expected water shut off period, if it is deemed necessary.
7. Minimum horizontal clearance between water lines and other utilities shall be 8 feet unless otherwise specified. Minimum verticle clearance between water line and other utilities shall be 12" provided concrete jacket are used, and 18" if no concrete jackets are used. In all applicable instances the water lines 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 spcified otherwise.
9. All pipe line 4" or larger in diameter be ductile iron push on joint class 52, and all pipe line smaller than 4" in diameter shall be soft copper, Type K; unless otherwise specified.
10. All existing galvanized iron (G.I.) service laterals shall be replaced with copper service laterals. Relocation of existing meters shall be done by or under the D.W.S. supervision. Relocation of meter boxes and connection of customer service line to relocated meter shall be done by the Contractor. Materials used to connect customer line to the relocated meters shall be of the same kind as existing. Any additional material needed (pipes, fitting, etc.) shall be provided by the Contractor and considered incidental to the various bid items.
11. The water line shall be tested at a minimum of 225 PSI, at the low point under D.W.S. supervision.
12. The Contractor shall be responsible for the clorination 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.
13. Existing valves, F.H. units, valve boxes, frames and covers designated "Remove and Salvaged" shall be cleared of all dirt, scabs and concrete and delivered to the D.W.S. baseyard at 889 Leilani St. This work shall not be measured and paid for directly but shall be considered incidental for the various bid items.
14. Existing water line, valves, fittings and appurtenances not designated "Remove and Salvaged" shall be abandoned in place. All exposed valve boxes, valves, pipes and appurtenances shall be removed at no cost to D.W.S.

15. When the project includes service laterals or relocation of service laterals, the meter boxes shall be installed also and considered incidental to the service lateral. Existing meter boxes missing or damaged by the contractor shall be replaced at Contractor's cost.
16. Thrust Blocks for top vertical bends for the water system relocation must be designed for 225 PSI internal pressure, plus a safety factor of 1.5 (approx. 2.2 cu. yd. concrete). The Engineer shall make the determination in the field after analyzing the soil conditions.

APPROVED: Date 9/2/84

H. William Sewch
MANAGER, DWS

For work relating to DWS
Water System only.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

NOTES

HAWI-NIULII ROAD
DRAINAGE IMPROVEMENT
Vicinity of Kapaau Town

F.A.S. PROJ. No. RS-0270(10)

Date: Aug. 1984

SHEET No. OF SHEETS

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