FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BR-083-1(42)	2009	3	121

GENERAL NOTES

1. The scope of work includes demolishing the existing South Punaluu Bridge; constructing diversion road including diversion bridge; constructing new bridge and approach roadways; installing guardrail and end treatment; installing signage and striping; work zone traffic control; stream bank stabilization; replacing/installing street lights; and replacing/installing various utilities.

2. The Contractor is reminded of the requirements of Subsection 105. 16 – Subcontracts, which requires him to perform work amounting to not less than 30 percent of the total contract cost less deductible items. Non–compliance with this Subsection may be grounds for rejection of bid.

3. The Contractor's attention is directed to the following Sections: Subsection 107. 06 – Contractor Duty Regarding Public Convenience; Subsection 107. 11 – Safety: Accident Prevention; Subsection 107. 12 – Protection of Persons and Property; and Section 645 –Work Zone Traffic Control.

4. At the end of each day's work, the Contractor shall remove all equipment and other obstructions to permit free and safe passage of public traffic.

5. The existence and location of underground utilities, manholes, monuments and structures as shown on the plans are from the latest available data but the accuracy is not guaranteed. The encountering of other obstacles during the course of work is possible. The Contractor shall be held liable for any damages incurred to the existing facilities and/or improvements as a result of his operations.

6. Existing drainage system will be functional at all times during construction. The Contractor is to furnish materials, equipment, labor, tools and incidentals necessary to maintain flow. This work shall be considered incidental to various contract items.

7. The Contractor shall provide for free and safe access to and from all existing side streets at all times.

8. All saw cutting work shall be considered incidental to structural excavation or roadway excavation.

9. The Contractor shall comply with the directives of the State of Hawaii Occupational Safety And Health Law. Any citation (fine) received by the State for noncompliance by the Contractor shall be deducted from the progress payment.

10. 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 at all times.

11. The Contractor shall notify Oahu Transit Services Inc. (OTS), Ed Sniffen at 848–4571, or Lowell Tom 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 of traffic lanes, and the need to relocate any bus stop.

12. The Contractor shall follow the requirements of various permits and Best Management Practices (BMP) during the construction.

13. The Contractor shall provide an ADA–accessible pedestrian crossing and bike crossing over South Punaluu Stream, as shown in construction drawings.

14. No work or equipment shall be located or take place within 10' of any overhead wires or any HECO utility pole. No excavation shall take place within 5' of any HECO utility pole.

15. The Contractor will immediately report to the Engineer and utility companies damage discovered or caused by his work to any utilities.

16. The Contractor is advised that in addition to other Contractors working in the same areas, various utility companies (or their contractors) including Hawaiian Electric Company, Hawaiian Telephone Company, Oceanic Cable, The Gas Company, and the Board of Water Supply (BWS) may be performing work within the project area.

17. The Contractor shall coordinate all work with other Contractors in the areas. In case of unresolved conflict among contractors regarding access or work sites, the Engineer will make the final determination of priorities.

GENERAL CONSTRUCTION NOTES

1. 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.

2. 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 to various bid items.

3. The Contractor shall restore to their original condition all improvements damaged as a result of the 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 bid items.

4. The Contractor shall observe and comply with the administrative rules of The Department of Health regarding noise control of Oahu.

5. No section of incomplete guardrail, footing and/or excavation shall be left unshielded at the end of each work day. Intermediate concrete barriers and crash cushion end treatments used for shielding shall meet current SOH DOT standards and guidelines along with manufacturer's specifications. All shielding used during construction shall be considered incidental to various guardrail items.

NOTES FOR CONSTRUCTION WITHIN STATE RIGHT–OF–WAY

1. The Contractor shall obtain a Permit to Perform Work Upon State Highway from the Oahu District, State Highways, at 727 Kakoi Street, prior to commencement of work within the 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 2005 Standard Specifications for Road, Bridge and Public Works Construction, and the Specifications for Installation of Miscellaneous Improvements within State Highways of the State Highway Division.

3. Lane Closure may be performed only between the hours of 8:30 a.m. and 3:00 p.m. , Monday through Friday, except holidays, unless otherwise permitted by the Engineer.

4. The Contractor shall provide, install, and maintain all necessary signs, lights, flares, barricades, markers, cones, and other protective items, and shall take necessary precautions for the protection, convenience, and safety of public traffic. All such protective items 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 – Standards and Guides for Traffic Controls for Street and Highway Construction, Maintenance, Utility and Incident Management Operations" and NCHRP 350.

5. 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 Engineer.

6. The Contractor shall be required to provide adequate, safe, non–skid bridging material over any trench, including shoring, when trenching in pavement areas to handle all types of vehicular traffic.

7. No trench shall be opened more than 200 feet in advance of the installed and tested pipe and/or ductline. No jumps or spaces will be permited unless approved in writing by the Engineer.

8. Longitudinal drainage along the highway shall be maintained at all times to allow freeflow.

9. All regulatory, guide and construction signs and barricades shall be high intensity reflective sheeting.

10. Stop work and contact the State Historic Site Office, at 587–0014 immediately should any unidentified archaeological site or remains (such as artifacts, shells, bones, charcoal deposits, road or coral alignments, pavings or walls) been encountered during construction.

11. The Contractor shall retain the service of a qualified archeaologist during the construction.

12. The Contractor shall inform the State DOT Highway Oahu District Permit Office at 831–6712 at least five (5) working days prior to any lane closures or changes to lane closures.

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

MINGXUN DING
LICENSED PROFESSIONAL ENGINEER
No. 9246–C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE 4/30/16 EXPIRATION DATE OF LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GENERAL NOTES

KAMEHAMEHA HIGHWAY – REPLACEMENT OF SOUTH PUNALUU STREAM BRIDGE
Federal Aid Project No. BR–083–1(42)

Scale: None Date: May 2009

SHEET No. C3 OF 40 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BR-083-1(42)	2009	4	121

COLD PLANING NOTES

1. All saw cutting work shall be considered incidental to Cold Planing.
2. The Contractor shall compact the existing aggregate base in accordance with Section 304 – Aggregate Base Course. This preparation work shall be considered incidental to the new Asphalt Concrete Base Course, and will not be paid for separately.
3. The vertical pavement drop-off shall not exceed 2-inches. If a vertical pavement drop-off exists at the end of each day's cold planing and paving, the Contractor shall provide a wedge with a 48:1 minimum transition taper for traverse drop-off no steeper than 6:1 for longitudinal drop-off, as approved by the Engineer. This work shall be considered incidental to Cold Planing.
4. The Contractor shall lower manholes prior to Cold Planing, backfill with hot mix and re-adjust after final paving. This work shall be considered incidental to Manhole Adjustments.
5. Unless otherwise shown on plans, the Contractor shall remove asphalt concrete from existing gutters and swales and shall exercise caution in doing so. The Contractor shall be held liable for any damage caused to the gutters and swales by this removal. This work shall be considered incidental to Cold Planing.

PUBLIC HEALTH, SAFETY AND CONVENIENCE NOTES

1. 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.
2. The Contractor, at his own expense, shall keep the project and its surrounding areas 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 may require supplementary measures as necessary.
3. No Contractor shall perform any trenching operation so as to cause falling rocks, soil or debris in any form to fall, slide or flow onto adjoining properties, streets or natural water-courses. Should such violations occur, the cost incurred for any remedial action by the Director, D.O.T. shall be payable by the Contractor.
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 the public. The Contractor shall apply for a construction permit with a noise pollution control plan.

GENERAL DIVERSION NOTES

1. All fill slopes that do not meet the clear zone requirements set forth by the latest edition of the AASHTO Roadside Design Guide shall be shielded by NCHRP Report 350 and HDOT approved devices.

LEGEND & ABBREVIATIONS

——e——	Existing Electrical Line
——E——	New Electrical Line
∘jp	Existing Joint Pole
∘pp	Existing Power Pole
∘emh	Existing Electric Manhole
◉EMH	Adjusted Elec. MH Frame/Cover
∘EMH	New Electric Manhole
——t——	Existing Telephone Line
—— T——	New Telephone Line
∘tp	Existing Telephone Pole
∘tmh	Existing Telephone Manhole
◉TMH	Adjusted Tele. MH Frame/Cover
∘TMH	New Telephone Manhole
——w8——	Existing Water Line
∘wmh	Existing Water Manhole
◉WMH	Adjusted Water MH Frame/Cover
∘WMH	New Water Manhole
∘wv	Existing Water Valve Box
◉WV	Adjusted Water Valve Box
∘WV	New Water Valve Box
∘av	Existing Water Air Valve
◉AV	Adjusted Water Air Valve
∘AV	New Water Air Valve
▭wm	Existing Water Meter
▪WM	Adjusted Water Meter
▬WM	New Water Meter
⊸fh	Existing Fire Hydrant
UD8	New Underdrain
◎mon.	Existing Monument
◉MON.	Adjusted Monument
◎MON.	New Monument
þ	Existing Traffic Sign
	Existing Highway Lighting Standard
	New Highway Lighting Standard

Ah.	Ahead
ARV	Air Relief Valve
AC	Asphaltic Concrete
Bk.	Back
BL	Baseline
BB	Bottom of Bank
CL	Centerline
Conc	Concrete
CP	Construction Parcel
CY	Cubic Yard
DOT	Department of Transportation
Det	Detail
Div	Diversion
Ea	Each
Esmt	Easement
EP	Edge of Pavement
ES	Edge of Shoulder
EL	Elevation
EMB	Embankment
EXC	Excavation
Exist	Existing
Hwy	Highway
Lt	Left
Lc	Length of Curve
LF	Linear Feet
Max	Maximum
ML	Matchline
Min	Minimum
Mauka	Mountainside
NTS	Not to Scale
No.	Number
Makai	Oceanside
o.c.	On Center
O/S	Offset
Pav't/Pvmt	Pavement
PC	Point of Curvature
PI	Point of Intersection
PT	Point of Tangency
RPM	Reflective Pavement Marker
Rt	Right
ROW	Right-of-Way
Sht	Sheet
SF	Square Feet
Std	Standard
Sta	Station
Struct	Structural
SE	Superelevation
TB	Top of Bank
Typ	Typical
VC	Vertical Curve
WL	Waterline

ORIGINAL PLAN
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QUANTITIES BY
CHECKED BY

MINGXUN DING
LICENSED PROFESSIONAL ENGINEER
No. 9246-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE 4/30/16 EXPIRATION DATE OF LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GENERAL NOTES AND LEGEND

KAMEHAMEHA HIGHWAY – REPLACEMENT OF SOUTH PUNALUU STREAM BRIDGE
Federal Aid Project No. BR-083-1(42)

Scale: None Date: May 2009

SHEET No. C4 OF 40 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BR-083-1(42)	2009	5	121

WATER NOTES

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", 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. All other features of the water system, such as, grades, fittings, drainage, etc., and other features of improvements shall not be the responsibility of the Board of Water supply.

3. Test pressure shall be 150 psi. During the 30-minute pressure test, the pressure shall not drop more than 10 psi.

4. The Contractor shall notify BWS Capital Projects Division, Construction Section in writing and submit six (6) sets of approved construction plans one week prior to commencing work on the water system.

5. The Contractor shall chlorinate the entire inside surface of each pipe and fitting with disinfection solution of 5 ounces of sodium hypochlorite mixed with 10 gallons of water. (For connection only)

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 measure necessary to protect the water lines, such as constructing special reaction blocks (with BWS approval) and/or modifying his construction method.

7. 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.

8. Prior to installation, the Contractor shall submit for approval by Board of Water Supply, the manufacturer's certification that all cast iron (grey or ductile) fittings for the project conform in all respects to the Water System Standards, dated 2002.

9. Polygon shape for mechanical joint glands described in AWWA Standard C111 shall be "straight-sided"or an approved equal on a job-to-job basis.

10. Re-approval shall be required if this project is not under construction within a period of two years.

11. The Contractor shall cut and plug all existing unused laterals at the main whether or not shown on the plans. The damaged area shall be repaired to an eaqual or better condition than the immediate area. All work shall be done at the expense of the contractor.

12. The Contractor/Developer shall obtain a NPDES permit prior to the clorination and/or dewatering. A copy of the permit shall be submitted to the Board of Water Supply, Capitol Projects Division, Construction Section.

13. 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 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).

14. All ductile iron pipe, fittings and valves shall be wrapped with two layers of 8 mil. polyethylene wrap.

15. 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 polurethane 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.

16. Two-way blue reflective hydrant markers Type DB shall be installed at all new fire hydrant installations. Contractor shall verify the exact locations of hydrant markers with the nearest Honolulu Fire Department Battalion Chief.

17. Ball corp and ball stop shall be used in lieu of a corporation stop and stopcock, respectively.

18. Install 4 mil. thick, non-metallic, blue colored, 6 inches wide warning tape over centerline of the pipe below the base course along the entire length of the trench. Tape should be marked with "CAUTION WATERLINE BURRIED BELOW".

19. For cut-in tee connection to existing: All waterline construction requiring shutdown connection shall be scheduled for NORMAL working hours at SIX (6) hours maximum downtime.

20. The Contractor shall install electronic markers to all mains and test the electronic markers prior to installations to verify proper operation. BWS personnel shall verify the number and locations of placed electronic markers before final paving of the project.

21. Water Pipeline Chlorination and testing Procedures

A. The following chlorination and water sample collection procedure shall apply to all water pipeline projects:

Step 1: Clorinate main by filling with water and introducing chlorine in sufficient quantity to obtain a minimum chlorine concentration of 50 parts per million. Leave chlorinated water in the main overnight.

Step 2: Flush main with fresh water until all chlorine has been flushed outas evidenced by the ortho-tolidine test, then collect a water sample while continuing to flush the main.

Step 3: Repeat steps 1 and 2. After collecting the second water sample, stop flushing and allow the water to stand in the main overnight.

Step 4: Thoroughly flush the main with fresh water until all water that had been standing in the main overnight has been flushed out. Stop flushing and let the water stand in the main for one hour. Collect a water sample.

B. The main is deemed acceptable and certified when (1) two consecutive water samples, collected 24 hours apart under steps 1 and 2, show no total and fecal coliform and less than 200 colony forming units (CFU) of toal bacteria and (2) the sample of water held in the main for one hour, collected under step 4, also shows no total and fecal coliform and less than 200 CFU of total bacteria.

C. Chlorination, flushing, sampling ans testing will be extended should unsatisfactory results be encountered. Any sample that shows positive coliform presence or total bacteria greater than 200 CFU in unsatisfactory.

D. Steps 1 and 2 may be repeated before collecting the one-hour hold sample specified in Step 4. Repeating Steps 1 and 2 is recommended in the event samples show the presence of coliforms and/or increasing total bacterial results from one sample to the next.

E. Water samples that show the presence of atypical colonies, debris or results inconsistent with existing water are subject to reconfirmation. BWS reserves the right to request and test additional water samples in the intrest of safeguarding public health and safety.

Approved:

Dominic T. Chiu 5/5/09

Chief, Capital Projects Division — Date
Board of Water Supply, City & County of Honolulu

ORIGINAL PLAN | NOTE BOOK | No.

SURVEY PLOTTED BY ____ DATE
DRAWN BY ____
TRACED BY ____
DESIGNED BY ____
QUANTITIES BY ____
CHECKED BY ____

MINGKUN DING
LICENSED PROFESSIONAL ENGINEER
NO. 9246-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE — 4/30/10 EXPIRATION DATE OF LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GENERAL NOTES

KAMEHAMEHA HIGHWAY – REPLACEMENT OF SOUTH PUNALUU STREAM BRIDGE
Federal Aid Project No. BR-083-1(42)

Scale: None — Date: May 2009

SHEET No. C5 OF 40 SHEETS