

STANDARD PLANS SUMMARY

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BR-F-019-2(27)	1987	2	134

Standard Plan No.	Title	Date
B-01 ●	Notes and Miscellaneous Details	07/01/86
B-02		
B-03 ●	Typical Structure Excavation and Backfill Pay Limits	07/01/86
B-04		
B-05		
B-06	Concrete Box Girder	07/01/86
B-07	Concrete Box Girder	07/01/86
B-08	Concrete Box Girder	07/01/86
B-09		
B-10		
B-11		
B-12 ●	Prestressed Concrete Piles	07/01/86
B-13 ●	Prestressed Concrete Piles	07/01/86

D-01	Chain Link Fence With Toprail	r 03/06/87
D-02	Chain Link Fence Without Toprail	07/01/86
D-03	Wire Fence With Metal Posts	07/01/86
D-04 ●	Typical Details of Curbs and/or Gutters	07/01/86
D-05 ●	Typical Details of Reinforced Concrete Drop Driveway	07/01/86
D-06	Centerline and Reference Survey Monument	07/01/86
D-07 ●	Street Survey Monument	07/01/86
D-08	Landscaping Shrub and Tree Planting	07/01/86
D-09 ●	Field Office	07/01/86
D-10 ●	Field Office	07/01/86
D-11 ●	Project Site Laboratory	07/01/86
D-12 ●	Project Site Laboratory	07/01/86
D-13 ●	Field Office & Project Site Laboratory	07/01/86

H-01 ●	Type A, B, C and D Catch Basin	07/01/86
H-02 ●	Type A1, B1, C1 and D1 Catch Basin	07/01/86
H-03	Type A2, B2, C2 and D2 Catch Basin	07/01/86
H-04 ●	Typical Reinforcing Details for Catch Basins	07/01/86
H-05	Type A, B and C Storm Drain Manhole	07/01/86
H-06	Type D and E Storm Drain Manhole	07/01/86
H-07 ●	Type F Storm Drain Manhole	07/01/86
H-08 ●	Catch Basin and Manhole Casting	07/01/86
H-09	Type A-9 and A-9P Frames and Grates	07/01/86
H-10	Type A-9B Frames and Grates	07/01/86
H-11 ●	Type 61614 and 61214 Grated Drop Inlet	07/01/86
H-12 ●	Type 61616 Grated Drop Inlet	07/01/86
H-13 ●	61214, 61614 & 61616 Steel Frames and Grates	07/01/86
H-14	61214B Steel Frame and Grates	07/01/86
H-15	61614B Steel Frame and Grates	07/01/86
H-16 ●	Concrete and Cement Rubble Masonry Structures	07/01/86
H-17	Inlet Structures	07/01/86
H-18	Flared End Section for Culverts	07/01/86
H-19	Outlet Structures	07/01/86
H-20	Concrete Spillway Inlet	07/01/86
H-21	18" Slotted C. M. P. Drain	07/01/86
H-22	C. M. P. Coupling Details Standard Joint	07/01/86
H-23	Hat Shaped Coupling Band	07/01/86

Standard Plan No.	Title	Date
TE-01	Miscellaneous Sign Details	07/01/86
TE-02 ●	Galvanized Flanged Channel Sign Post Mounting	07/01/86
TE-03 ●	Galvanized Square Tube Sign Post Mounting	07/01/86
TE-04 ●	Regulatory Signs	07/01/86
TE-05 ●	Warning Signs	07/01/86
TE-06 ●	Miscellaneous Signs	07/01/86
TE-07	Reserved	07/01/86
TE-08 ●	Construction Signs	07/01/86
TE-09	Miscellaneous Intersection Signs	r 03/06/87
TE-10	Reserved	07/01/86
TE-11 ●	Bike Route Sign and Supplementary Plates	07/01/86
TE-12 ●	State Route Marker and Auxiliary Markers	07/01/86
TE-13	Interstate Route Marker	07/01/86
TE-14	State Route Marker and Border Detail for Guide Signs	07/01/86
TE-15	Route Marker Assemblies	07/01/86
TE-16 ●	Miscellaneous Reflector Markers	07/01/86
TE-17	Type II Object Markers	07/01/86
TE-18	Mileposts	07/01/86
TE-19	Reserved	07/01/86
TE-20	Overhead Sign Supports	07/01/86
TE-21	Overhead Sign Support, Box Truss Type, Aluminum	07/01/86
TE-22	Foundation Details and Schedules	07/01/86
TE-23	Destination & Ground Mounted Expressway Signs	07/01/86
TE-24	Breakaway Sign Supports for Ground Mounted Guide Signs	07/01/86
TE-25	Laminated Aluminum Sign Panels (Overhead)	07/01/86
TE-26	Laminated Aluminum Sign Panels (Ground Mounted)	07/01/86
TE-27	Solid Aluminum Extruded Sign Panel and Accessory Details	07/01/86
TE-28	Guide Signs Luminaire Mountings	07/01/86
TE-29	Reserved	07/01/86
TE-30 ●	Raised Pavement Markers and Striping	07/01/86
TE-31 ●	Miscellaneous Pavement Markings	07/01/86
TE-32	Miscellaneous Pavement Markings	07/01/86
TE-33 ●	Miscellaneous Pavement Markings	07/01/86
TE-34	Reserved	07/01/86
TE-35 ●	Pavement Alphabets, Numbers & Symbols	07/01/86
TE-36	Pavement Alphabets, Numbers & Symbols	07/01/86
TE-37	Reserved	07/01/86
TE-38 ●	Traffic Signal System, Miscellaneous Details	07/01/86
TE-39 ●	Traffic Signal System, Miscellaneous Details	07/01/86
TE-40 ●	Loop Detectors	r 03/06/87
TE-41 ●	Pullboxes	07/01/86
TE-42	Type III Traffic Signal Standard	07/01/86
TE-43	Concrete Pullbox (2' x 3')	07/01/86
TE-44	Reserved	07/01/86

Standard Plan No.	Title	Date
TE-45	Reserved	07/01/86
TE-46	Reserved	07/01/86
TE-47	Reserved	07/01/86
TE-48	Reserved	07/01/86
TE-49	Reserved	07/01/86
TE-50	Metal Guardrail	r 03/06/87
TE-51	Metal Guardrail	r 03/06/87
TE-52	Metal Guardrail with Rubrail	07/01/86
TE-53	Metal Guardrail with Rubrail at Obstruction	07/01/86
TE-54	Beam Type Guardrail with Rubrail at Obstruction (Shoulder Installation)	07/01/86
TE-55	Metal Guardrail Connection to Concrete Barrier	07/01/86
TE-56	Concrete Barrier Transition	07/01/86
TE-57	Guardrail Type 3, Thrie Beam	r 03/06/87
TE-58	Approach End Flare, One & Two Way Roadway	07/01/86
TE-59	Trailing End Flare, One & Two Way Roadway	r 03/06/87
TE-60	Anchor Block Details	07/01/86
TE-61	Breakaway Cable Terminal (BCT)	r 03/06/87
TE-62	Breakaway Cable Terminal (BCT)	07/01/86
TE-63	Guardrail Type 4 (Rigid Barrier)	r 03/06/87
TE-64 ●	Portable Concrete Guardrail	r 03/06/87
TE-65	Reserved	07/01/86
TE-66 ●	Barricades	07/01/86
TE-67	Delineation & Pavement Markings at Bridges	07/01/86
TE-68 ●	Wheelchair Ramps	07/01/86
TE-69 ●	Wheelchair Ramps	07/01/86

NOTE:
STANDARD PLANS APPLICABLE TO THIS
PROJECT ARE INDICATED BY A "●" NEXT TO
THE STANDARD PLAN NO. (D-07 ●)

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD PLANS SUMMARY

HAWAII BELT ROAD/KAMEHAMEHA AVENUE
Wailoa Bridge Replacement And Approaches
FEDERAL AID PROJECT NO: BR-F-019-2(27)
DATE: SEPT. 1986
SHEET NO. 1 OF 3 SHEETS

03/06/87	REVISED STANDARD PLANS D-01, TE-09, TE-40, TE-50, TE-51, TE-57, TE-59, TE-61, TE-63 AND TE-64.
DATE	REVISION

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BR-F-019-2(27)	1987	3	134

GENERAL NOTES

1. All roadway, structural and drainage system work shall be done in accordance with all applicable sections of the 'Standard Specifications for Road and Bridge Construction' Highways Division, Department of Transportation, 1985 as amended.
2. All azimuths and coordinates are referred to 'Hawai'i' coordinate system. Azimuths are turned clockwise from true south. Elevations shown are based on Mean Sea Level (MSL) as defined by the U.S. Coast and Geodetic survey.
3. The Contractor shall phase the construction or modification of the existing and new drainage, sewer, water and gas facilities as required to sequence the roadway construction as indicated by the plans. Any additional costs for the phasing of construction or modification of such, including all necessary temporary provisions (e.g. bulkheads, plugs fittings, etc.), shall be considered incidental to the respective facility items shown on the proposal.

GRADING NOTES

1. All grading work shall conform to Chapter 10 of the Hawaii County Code and shall not commence until a grading permit is approved and obtained.
2. The surface soil in the project area is a very dark brown muck about 8 inches thick. Underlying this soil is pahoehoe lava bedrock.

This soil is not suitable for embankment construction or as a pavement subgrade. The Contractor shall remove this layer during the clearing and grubbing operations. Where the soil layer is thick, a 24 inch working table or select fill will be required.

WATER NOTES

1. All water system work shall be done in accordance with the State's 'Standard Specifications For Road And Bridge Construction', 1985, as ammended.
2. The Contractor shall verify the existing water system in the field and shall pay for any damages incurred to the existing system which is a result of his operations.
3. The existing 12-inch waterline shall be in service until the new waterline is completed and ready for connection.
4. The Contractor shall coordinate the waterline work with the required utility companies or agencies.
5. All water mains and appurtenances, including service laterals and service connections, shall be pressure tested at 225 psi at the lowest point.

SEWER NOTES

1. All sewer work shall be done in accordance with the State's 'Standard Specifications for Road and Bridge Construction' 1985, as ammended.
2. The Contractor shall coordinate all sewer work involving sewer connections and cutting and plugging of existing sewer lines to minimize disruption of existing sewer services.
3. The Contractor shall exercise caution during the trenching operations to avoid damage to existing or new water, electrical, telephone, sewer, and gas facilities within the area.
4. 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 unforeseen obstacles during the course of the work. The contractor shall be responsible and shall pay for all damages to existing utilities.

GAS FACILITIES NOTES

1. The GASCO, Inc. gas pipelines in the project area are plastic coated and are cathodically protected. The contractor shall be extremely careful when working near these gas pipelines.
2. Prior verbal clearance must be obtained from GASCO, Inc. at least three (3) working days before starting excavation near these gas lines.

Since gas line locations on field maps and plans are approximate, the Contractor, after obtaining a verbal clearance, shall call GASCO, Inc., a minimum of 24 hours before starting excavation to arrange for field location of existing gas lines. The telephone number is 935-0021 during business and after hours.

The Contractor shall excavate and backfill around gas pipelines in the presence of a GASCO, Inc. representative. All backfill within six inches of gas pipeline shall be select cushion material.

3. For relocation of any gas pipeline ,the Contractor shall notify GASCO, Inc. three (3) working days before starting work. The Contractor shall provide the necessary excavation and backfill, install gas facilities, and restore sidewalks, pavement, or other facilities.
4. The Contractor shall notify GASCO , Inc. immediately after any damage has been caused to existing pipelines, their coatings or their cathodic protection devices. Repair work on this damage shall be done by the Contractor, at no additional cost to the State.
5. Minimum horizontal or vertical clearance between gas pipelines and other pipelines, conduits, or ductlines shall be 12 inches. Required support and protection for gas pipelines exposed in the trench shall be provided.
6. The Contractor shall work in an expeditious manner in order to keep uncovered gas pipelines exposed for as short a period of time as possible.

TRAFFIC PHASING NOTES

1. The Contractor shall maintain two (2) lanes of continuous traffic (one in each direction) across the Wailoa River at all times. Provisions for passing traffic through the construction area, along Kamehameha Avenue, shall be conducted according to the traffic detour plans.
2. Construction traffic detour shall be sequenced as follows:
 - A. PHASE I- Restripe Kamehameha Avenue to route two lanes of traffic on the southern portion of the existing bridge.
 - B. PHASE II- After construction of the northern portion of the west approach, restripe to route two (2) lanes of traffic to the northern portion of the existing bridge.
 - C. PHASE III- After construction of the southern portion of the new bridge and approach roads, restripe to route traffic to the new bridge.
 - D. PHASE IV- After construction of the balance of the new bridge, restripe for the ultimate condition shown on the plans.
3. The Contractor shall provide, install, maintain all the necessary signs, lights, flares, barricades, portable concrete barriers, markers, cones and other protective facilities. The Contractor shall also take necessary precautions for the convenience and safety to public traffic. All protective facilities and precautions shall conform to the 'Rules and Regulations Governing the Use of Traffic Control Devices at Work Sites on or Adjacent to Public Streets and Highways, adopted by the Highway Safety Coordinator, and the Federal Highway Administration's 'Manual on Uniform Traffic Control Devices for Streets and Highways, Part VI - Traffic Control for Highway Construction and Maintenance Operations' 1978, as ammended.
4. The Contractor shall, during all phases of construction, provide and maintain access to Hilo Iron Works, Harbor facilities, Canoe Park facilities, and all other business establishments within the project limits.

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

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
NOTES	
HAWAII BELT ROAD/KAMEHAMEHA AVENUE Wailoa Bridge Replacement And Approaches	
FEDERAL AID PROJECT NO. BR-F-019-2(27)	
SCALE:	DATE SEPT, 1986
SHEET NO. 2 OF 3 SHEETS	

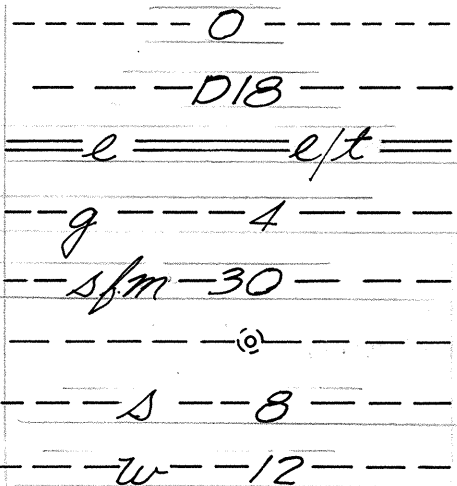
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BR-F-019-2(27)	1987	4	134

ABBREVIATIONS

Aband.	Abandoned
A.I.P.	Abandon in Place
A.R.V.	Air Relief Valve
A.C.	Asphaltic Concrete
#	Baseline
B.F.V.	Butterfly Valve
B.V.	Bottom Vertical
B.V.C.	Begin Vertical Curve
C.B.	Catch Basin
Ⓢ	Centerline
CL.	Class
Clr.	Clear
Conc.	Concrete
Conc. Blk.	Concrete Block
CRM	Cement Rubble Masonry
C.G.	Change of Grade
C.I.	Cast Iron
C.O. COTG	Cleanout to Grade
D.I.	Drain Inlet or Ductile Iron
D.L.	Drainline
Elec. Tel.	Electric & Telephone
Exist.	Existing
E.M.H.	Electrical Manhole
E.V.C.	End Vertical Curve
F.H.	Fire Hydrant
Gnd.	Ground
GRP	Grouted Rubble Pavement
G.C.L.	Grade Control Line
G.M.H.	Gas Manhole
G.V.	Gate Valve
G.W.	Guy Wire
H.G.L.	Hydraulic Grade Line
H.T.M.H.	Hawaiian Telephone Co. Manhole
Inv.	Invert
Lt.	Left
L.P.	Light Pole
M.H.	Manhole
M.J.	Mechanical Joint
o.c.	On Center
o h	Overhead
o s	Off Set
Pav't	Pavement
P.R.V.C.	Point of Return Vertical Curve
P.C.	Point of Curvature
P.T.	Point of Tangency
Rd.	Road
R.C.P.	Reinforced Concrete Pipe
Rt.	Right
\$	Station Line
s	Slope
SFM	Sewer Force Main
Sta.	Station
SDMH	Storm Drain Manhole
SMH	Sewer Manhole
Tr.	Traffic
T.V.	Top Vertical
U.B.	Utility Box
U.P.	Utility Pole
V.C.	Vertical Curve
V.C.P.	Vitrified Clay Pipe
W.B.	Water Box
W.M.	Water Meter
W.M.H.	Water Manhole
W.V.B.	Water Valve Box
@	At

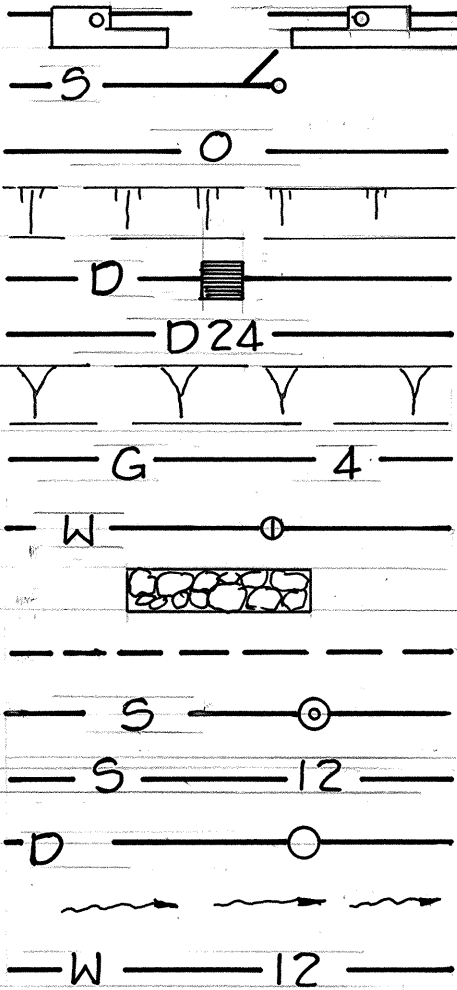
LEGEND

EXISTING



- Existing Contour
- Existing Drainline
- Existing Electric and or Telephone Ducts
- Existing Gas line
- Existing Sewer Force Main
- Existing Sewer Manhole
- Existing Sewerline
- Existing Waterline

NEW



- Catch Basin
- Cleanout to Grade
- Contour
- Cut Section
- Drain Inlet
- Drainline
- Fill Section
- Gas line
- Gate or Butterfly valve
- Grouted Rubble Pavement
- Limits of Grading
- Sewer Manhole
- Sewerline
- Storm Drain Manhole
- Swale
- Waterline

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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LEGEND & ABBREVIATIONS

HAWAII BELT ROAD/KAMEHAMEHA AVENUE
Wailoa Bridge Replacement And Approaches
FEDERAL AID PROJECT NO. BR-F-019-2(27)

SCALE DATE

SHEET No. 3 OF 3 SHEETS