

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(75) UNIT III	1994	2	353

SHEET SHEET
NO. TITLE

1. GENERAL

1	1G1	TITLE SHEET
2	1G2	LIST OF PLANS-1
3	1G3	LIST OF PLANS-2
4	1G4	LIST OF PLANS-3
5	1G5	LIST OF PLANS-4
6	1G6	STANDARD PLANS SUMMARY
7	1G7	KEY PLAN-1
8	1G8	KEY PLAN-2
9	1G9	KEY PLAN-3
10	1G10	ABBREVIATIONS, LEGEND & NOTES
11	1G11	CIVIL ABBREVIATIONS, SYMBOLS & GEN. NOTES
12	1G12	STRUCTURAL GEN. NOTES & ABBREVIATIONS
13	1G13	MECHANICAL ABBREVIATIONS AND LEGEND
14	1G14	ELECTRICAL SYMBOLS AND LEGENDS
15	1G15	SYSTEMS LEGEND AND ABBREVIATIONS
16	1G16	CONSTRUCTION MILESTONE SCHEDULE
16S-1	1G16A	NPDES GENERAL NOTES

2. EXPLORATORY TUNNEL IMPROVEMENTS

CIVIL

17	2C1	GENERAL PLAN-1
18	2C2	GENERAL PLAN-2
19	2C3	GENERAL PLAN-3 AND TYPICAL SECTION
20	2C4	ALIGNMENT PLAN AND PROFILE
21	2C5	HALAWA SITE PLAN
22	2C6	HAIKU SITE PLAN
23	2C7	MISCELLANEOUS DETAILS
24	2C8	DRAINAGE PROFILES
25	2C9	CATHODIC PROTECTION FIRE WATER LINE
26	2C10	CATHODIC PROTECTION TYPICAL DETAILS-1
27	2C11	CATHODIC PROTECTION TYPICAL DETAILS-2
28	2C12	CATHODIC PROTECTION TYPICAL DETAILS-3
29	2C13	DOMESTIC & FIRE WATER TYPICAL DETAILS
30	2C14	AS-BUILT SURVEY DATA
31	2C15	GRADING DETAILS

GEOTECHNICAL

32	2F1	CROSSPASSAGE NO. 1 CONNECTION/TURNOUT
33	2F2	CROSSPASSAGE NO. 3 CONNECTION/TURNOUT
34	2F3	CROSSPASSAGE NO. 5 CONNECTION/TURNOUT
35	2F4	CROSSPASSAGE NO. 7 CONNECTION/TURNOUT
36	2F5	CROSSPASSAGE NO. 9 CONNECTION/TURNOUT
37	2F6	SUGGESTED EXCAVATION & SUPPORT SEQUENCE
38	2F7	TUNNEL WATERPROOFING
39	2F8	PASSING POCKET NO. 1 CONNECTION
40	2F9	PASSING POCKET NO. 2 CONNECTION
41	2F10	PASSING POCKET NO. 3 CONNECTION
42	2F11	Y-INTERSECTION AT EXPLORATORY TUNNEL RAMP
43	2F12	EXISTING GROUND SUPPORT TYPE C TUNNEL
44	2F13	HALAWA AND HAIKU FAN ENLARGEMENT

ARCHITECTURAL

45	2A1	HALAWA GATE
46	2A2	HAIKU GATE
47	2A3	DOOR & RAILING DETAILS

SHEET SHEET
NO. TITLE

STRUCTURAL

48	2S1	GENERAL PLAN-1
49	2S2	GENERAL PLAN-2
50	2S3	GENERAL PLAN-3
51	2S4	TYPICAL TUNNEL SECTIONS
52	2S5	TYP. SECTS AT PASSING POCKETS AND TURNOUTS
53	2S6	CROSSPASSAGE NO. 1 CONNECTION PLANS & SECTION
54	2S7	CROSSPASSAGE NO. 3 CONNECTION PLANS & SECTION
55	2S8	CROSSPASSAGE NO. 5 CONNECTION PLANS & SECTION
56	2S9	CROSSPASSAGE NO. 7 CONNECTION PLANS & SECTION
57	2S10	CROSSPASSAGE NO. 9 CONNECTION PLANS & SECTION
58	2S11	SHAFT LINING SECTIONS AND DETAIL
59	2S12	TYPICAL STAIR SECTIONS
60	2S13	MISCELLANEOUS DETAILS & SECTIONS
61	2S14	TURNOUT PLAN, SECTIONS AND DETAILS
62	2S15	Y-INTERSECTION PLAN SECTIONS AND DETAILS
63	2S16	HALAWA GATE PLANS AND SECTIONS
64	2S17	HAIKU GATE PLANS AND SECTIONS

MECHANICAL

65	2M1	VENTILATION EQUIPMENT SCHEDULE
66	2M2	AIR FLOW AND CONTROL DIAGRAM
67	2M3	VENTILATION AND PIPING PLAN-1
68	2M4	VENTILATION AND PIPING PLAN-2
69	2M5	VENTILATION AND PIPING PLAN-3
70	2M6	VENTILATION AND PIPING SECTIONS
71	2M7	VENTILATION AND PIPING DETAILS
72	2M8	CROSSPASSAGE ELEVATOR MACHINE ROOM VENTILATION

ELECTRICAL

73	2E1	ONE LINE DIAGRAM
74	2E2	TUNNEL LIGHTING PLAN-1
75	2E3	TUNNEL LIGHTING PLAN-2
76	2E4	TUNNEL LIGHTING PLAN-3
77	2E5	TUNNEL POWER PLAN-1
78	2E6	TUNNEL POWER PLAN-2
79	2E7	TUNNEL POWER PLAN-3
80	2E8	POWER HALAWA APPROACH PLAN
81	2E9	POWER HALAWA PORTAL IB-LEVEL 1
82	2E10	POWER HALAWA PORTAL IB-LEVEL 2
83	2E11	POWER HALAWA PORTAL IB-LEVEL 3
84	2E12	POWER HALAWA PORTAL IB-LEVEL 4
85	2E13	POWER HALAWA PORTAL-SECTIONS
86	2E14	POWER HAIKU APPROACH PLAN
87	2E15	POWER HAIKU PORTAL IB-LEVEL A
88	2E16	POWER HAIKU PORTAL IB-LEVEL 1
89	2E17	POWER HAIKU PORTAL IB-LEVEL 2
90	2E18	POWER HAIKU PORTAL IB-LEVEL 3
91	2E19	POWER HAIKU PORTAL IB-LEVEL 4
92	2E20	POWER & LIGHTING C.P. CONNECTION PLAN
93	2E21	SECTIONS & DETAILS
94	2E22	ELEMENTARY DIAGRAM
95	2E23	LIGHTING FIXTURE SCHEDULE
96	2E24	PANEL SCHEDULES-1
97	2E25	PANEL SCHEDULES-2
98	2E26	PANEL SCHEDULES-3

SHEET SHEET
NO. TITLE

99	2E27	PANEL SCHEDULES-4
100	2E28	GROUNDING PLAN-1
101	2E29	GROUNDING PLAN-2
102	2E30	GROUNDING PLAN-3

SYSTEMS

103	2T1	CONDUIT/CABLE SCHEDULE & NOTES-SYSTEMS
104	2T2	BLOCK DIAGRAM-1 SYSTEMS
105	2T3	BLOCK DIAGRAM-2 SYSTEMS
106	2T4	BLOCK DIAGRAM-3 SYSTEMS
107	2T5	BLOCK DIAGRAM-4 SYSTEMS
108	2T6	BLOCK DIAGRAM RADIO SYSTEMS
109	2T7	SYSTEMS PLAN-1
110	2T8	SYSTEMS PLAN-2
111	2T9	SYSTEMS PLAN-3
112	2T10	SYSTEMS PLAN HALAWA
113	2T11	SYSTEMS PLAN HAIKU
114	2T12	SYSTEMS PLAN HAIKU-DETAILS
115	2T13	CROSSPASSAGE 3 & 7 CONNECTIONS
116	2T14	CROSSPASSAGE 1, 5 & 9 CONNECTIONS
117	2T15	MISCELLANEOUS DETAILS-1 SYSTEMS
118	2T16	MISCELLANEOUS DETAILS-2 SYSTEMS
119	2T17	MISCELLANEOUS DETAILS-3 SYSTEMS
120	2T18	MISCELLANEOUS DETAILS-4 SYSTEMS
121	2T19	MISCELLANEOUS DETAILS-5 SYSTEMS
122	2T20	MISCELLANEOUS DETAILS-6 SYSTEMS
123	2T21	MISCELLANEOUS DETAILS-7 SYSTEMS

3. TRAFFIC OPERATION CENTER EXPANSION

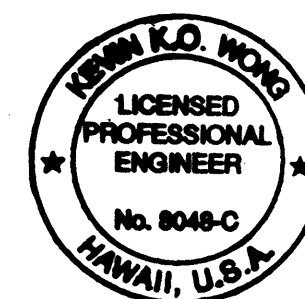
CIVIL

124	3C1	GRADING AND DRAINAGE
125	3C2	DRAINAGE PROFILES
126	3C3	MISCELLANEOUS DETAILS
127	3C4	STRIPING AND SIGNING

GEOTECHNICAL

128	3F1	PLAN-EXCAVATION AND RETAINING WALLS
129	3F2	EXISTING GROUND SUPPORT PIT EXCAVATION
130	3F3	EXCAVATION AND RETAINING WALL, EL 1040
131	3F4	PIT EXCAVATION BELOW EL 1040-1
132	3F5	PIT EXCAVATION BELOW EL 1040-2
133	3F6	SUGGESTED PIT EXCAVATION SEQUENCE
134	3F7	PIT EXCAVATION INSTRUMENTATION
135	3F8	SOLDIER PILE & LAGGING WALL DESIGN CRITERIA

SURVEY PLOTTED BY	DATE
DRIVEN BY	NOT 94
CHECKED BY	NOT 94
QUANTITIES BY	NOT 94
NO.	DEC 94



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OR UNDER MY SUPERVISION

K. O. Wong

10/13/95	ADDENDUM 1
DATE	REVISION
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
LIST OF PLANS-1	
GENERAL	
H-3 FINISH (UNIT III)	
FAIP NO. I-H3-1(75), UNIT III	
T.K. TUNNEL/ACCESS ROADS	
SCALE: NONE	DATE: JAN 1995
SHEET NO. 1G2	OF 16 SHEETS

SHEET	SHEET NO.	TITLE
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SHEET	SHEET NO.	TITLE
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SHEET	SHEET NO.	TITLE
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183	3M4	HVAC- PARTIAL PLAN AND SECTION
184	3M5	HVAC SECOND LEVEL PLAN
185	3M6	HVAC MECH. ROOM PARTIAL PLAN, SECTIONS AND DETAILS
186	3M7	PIPING PARTIAL PLANS
187	3M8	PIPING SECTIONS AND DETAILS
188	3M9	HVAC DETAILS

224	5C12	TYPICAL ROADWAY SECTIONS-2
225	5C13	CROSS SECTIONS
226	5C14	PCC PAVEMENT JOINT DETAILS
226S-1	5C14A	(DELETED)
227	5C15	SITE PAVEMENT DETAILS-1
228	5C16	SITE PAVEMENT DETAILS-2
229	5C17	MISCELLANEOUS DETAILS-1
230	5C18	MISCELLANEOUS DETAILS-2
231	5C19	DRAINAGE DETAILS
232	5C20	PROFILES-1, AR1, AR2, & AR5 LINES
233	5C21	PROFILES-2, AR3 & AR4 LINES
234	5C22	PROFILES-3, R3 & R5 LINES
235	5C23	EROSION AND SEDIMENT CONTROL MEASURES
236	5C24	STEAM RESTORATION AND ACCESS ROAD PLAN-1
237	5C25	STEAM RESTORATION AND ACCESS ROAD PLAN-2
238	5C26	STEAM RESTORATION AND ACCESS ROAD PLAN-3
239	5C27	STREAM RESTORATION AND ACCESS ROAD SECTIONS-1
240	5C28	STREAM RESTORATION AND ACCESS ROAD SECTIONS-2
241	5C29	(DELETED)
242	5C30	CROSSOVER STRIPING PLAN
243	5C31	(DELETED)
244	5C32	SYSTEMS CONDUIT-ROADWAY LEVEL
245	5C33	SYSTEMS VEHICLE DETECTION DETAILS

STRUCTURAL

189	3E1	LIGHTING-LOWER LEVEL PLAN
190	3E2	LIGHTING-PARKING LEVEL PLAN
191	3E3	LIGHTING-SECOND LEVEL PLAN
192	3E4	LIGHTING-ROOF LEVEL PLAN
193	3E5	POWER-LOWER LEVEL PLAN
194	3E6	POWER-PARKING LEVEL PLAN
195	3E7	POWER-SECOND LEVEL PLAN
196	3E8	POWER-ROOF LEVEL PLAN
197	3E9	LIGHTING SECTIONS & DETAILS
198	3E10	LIGHTING FIXTURE SCHEDULE
199	3E11	PANEL SCHEDULES

246	5S1	OB PORTAL EMERGENCY STAIR PLAN & SECTION
247	5S2	OB PORTAL EMERGENCY STAIR ELEVATION
248	5S3	OB PORTAL EMERGENCY STAIR SECTIONS
249	5S4	DRILLED SHAFT SUPPORT WALL

MECHANICAL

250 5M1 (DELETED)

ELECTRICAL

251 5E1 HALAWA ACCESS ROAD OVERHEAD POWER LINE
DEMOLITION PLAN

4. KNOLL REMEDIATION

STRUCTURAL

210	4S1	SITE PLAN
211	4S2	SECTIONS AND DETAILS-1
212	4S3	SECTIONS AND DETAILS-2

5. HALAWA SITE FINISHES

CIVIL


213	5C1	SITE LAYOUT PLAN
214	5C2	GENERAL PLAN AND PROFILE
215	5C3	SITE PLAN-GEOMETRY-1
216	5C4	SITE PLAN-GEOMETRY-2
217	5C5	SITE PLAN-GEOMETRY-3
218	5C6	SITE PLAN-GRADING AND DRAINAGE-1
219	5C7	SITE PLAN-GRADING AND DRAINAGE-2
220	5C8	SITE PLAN-GRADING AND DRAINAGE-3
221	5C9	FENCE LAYOUT-1
222	5C10	FENCE LAYOUT-2
223	5C11	TYPICAL ROADWAY SECTIONS-1

CIVIL

252	6C1	SITE LAYOUT PLAN
253	6C2	GENERAL PLAN AND PROFILE
254	6C3	SITE PLAN-GEOMETRY-1
255	6C4	SITE PLAN-GEOMETRY-2
256	6C5	SITE PLAN-GRADING AND DRAINAGE-1
257	6C6	SITE PLAN-GRADING AND DRAINAGE-2
258	6C7	FENCE LAYOUT PLAN
259	6C8	SITE PAVEMENT SECTIONS AND DETAILS
260	6C9	MISCELLANEOUS DETAILS
261	6C10	CHANNEL DROP STRUCTURE
262	6C11	SITE PLAN-SIGNING AND STRIPING

MECHANICAL

180	3M1	HVAC EQUIPMENT SCHEDULES
181	3M2	MECHANICAL EQUIPMENT SCHEDULE
182	3M3	AIR FLOW AND CONTROL DIAGRAM



THIS WORK WAS PREPARED BY M
OR UNDER MY SUPERVISION

OR UNDER MY SUPERVISION

Kenneth O. Wong

SHEET NO. 163 OF 16 SHEETS

ADD. 3

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(75) UNIT III	1994	4	353

SHEET NO. TITLE

6. HAIKU SITE FINISHES (CONT.)

ARCHITECTURAL

262S-1 6A1 STAINLESS STEEL RAILINGS

STRUCTURAL

263 6S1 IB PORTAL EMERGENCY STAIR PLAN & SECTION
264 6S2 IB PORTAL EMERGENCY STAIR ELEVATION
265 6S3 OB PORTAL EMERGENCY STAIR PLAN & SECTION
266 6S4 OB PORTAL EMERGENCY STAIR ELEVATION
267 6S5 PORTAL EMERGENCY STAIR DETAIL & SECTIONS

ELECTRICAL

268 6E1 HAIKU ACCESS ROAD OVERHEAD POWER LINE DEMOLITION PLAN

7. COMMON WORK

ARCHITECTURAL

269 7A1 ROOF WALKWAYS
270 7A2 STORAGE ROOM SECURITY FENCE
271 7A3 RAILING AND DETAILS-1
272 7A4 RAILING AND DETAILS-2
273 7A5 RAILING AND DETAILS-3

STRUCTURAL

274 7S1 ACCESS OPENING SAFETY RAILING-HALAWA
275 7S2 ACCESS OPENING SAFETY RAILING-HAIKU
276 7S3 ACCESS OPENING SAFETY RAILING-DETAILS
277 7S4 HALAWA POTABLE WATER TANK - PLAN
278 7S5 HAIKU POTABLE WATER TANK - PLAN
279 7S6 POTABLE WATER TANK - SECTIONS & DETAILS

MECHANICAL

280 7M1 HALAWA POTABLE WATER TREATMENT - P&ID
281 7M2 HAIKU POTABLE WATER TREATMENT - P&ID
282 7M3 WATER TREATMENT/TANK ACCESS ROOM VENTILATION
283 7M4 HALAWA POTABLE WATER TREATMENT - PLAN
284 7M5 HALAWA POTABLE WATER TREATMENT - SECTIONS
285 7M6 HAIKU POTABLE WATER TREATMENT - PLAN
286 7M7 HAIKU POTABLE WATER TREATMENT - SECTIONS
287 7M8 POTABLE WATER TREATMENT DETAILS-1
288 7M9 POTABLE WATER TREATMENT DETAILS-2
289 7M10 CONTROL BUILDING ELECTRICAL ROOM VENTILATION
290 7M11 CONTROL BUILDING ELECTRONICS SHOP HVAC
291 7M12 FUEL OIL SYSTEM LEAK DETECTORS
292 7M13 CROSSPASSAGE VENTILATION
292S-1 7M13A DEHUMIDIFIERS DETAILS AND SCHEDULES
292S-2 7M13B DEHUMIDIFIERS HAIKU PORTAL BUILDING - IB
292S-3 7M13C DEHUMIDIFIERS HAIKU PORTAL BUILDING - OB
292S-4 7M13D DEHUMIDIFIERS HAIKU PORTAL MECH. RM. - OB
292S-5 7M13E MISCELLANEOUS WORK ITEMS
292S-6 7M13F MISCELLANEOUS WORK ITEMS
292S-7 7M13G MISCELLANEOUS WORK ITEMS
292S-8 7M13H EQUIPMENT SCHEDULES
292S-9 7M13I CONTROL CENTER PARTIAL PLAN, SECTION & DIAGRAMS
293 7M14 PRESSURE REDUCING HOSE VALVE TESTING AND CALIBRATION - 1
294 7M15 PRESSURE REDUCING HOSE VALVE TESTING AND CALIBRATION - 2
295 7M16 PRESSURE REDUCING HOSE VALVE TESTING AND CALIBRATION - 3

SHEET NO. TITLE

7. COMMON WORK (CONT'D)

ELECTRICAL

296 7E1 HALAWA POTABLE WATER TREATMENT POWER PLAN
297 7E2 HAIKU POTABLE WATER TREATMENT POWER PLAN
298 7E3 PANEL SCHEDULES
299 7E4 CONTROL BLDG. ELECT. ROOM VENTILATION POWER PLAN
300 7E5 CONTROL BLDG. ELECTRONICS SHOP POWER PLAN
301 7E6 FUEL OIL SYSTEM LEAK DETECTORS POWER PLAN
301S-1 7E6A FLAG POLE GROUNDING
301S-2 7E6B PANEL SCHEDULES-DEHUMIDIFIERS
301S-3 7E6C CONTROL BUILDING PLANS AND SECTION
301S-4 7E6D PANEL SCHEDULES AND MAIN ONE LINE DIAGRAM

SYSTEMS

302 7T1 (DELETED)
303 7T2 (DELETED)
304 7T3 IDENTIFYING DEVICES-1
305 7T4 IDENTIFYING DEVICES-2
305S-1 7T4A BLOCK DIAGRAM RADIO EQUIPMENT
305S-2 7T4B RADIO EQUIPMENT LAYOUT CONTROL CENTER
305S-3 7T4C 800 MHz RADIO REBROADCAST CONDUITS SECTION B
305S-4 7T4D 800 MHz RADIO REBROADCAST CONDUITS LEVEL 3
305S-5 7T4E 800 MHz RADIO REBROADCAST CONDUITS SECTION B
305S-6 7T4F 800 MHz RADIO REBROADCAST CONDUITS LEVEL 3
305S-7 7T4G 800 MHz RADIO REBROADCAST CONDUITS SECTION B
305S-8 7T4H 800 MHz RADIO REBROADCAST CONDUITS LEVEL 3
305S-9 7T4I 800 MHz RADIO REBROADCAST CONDUITS SECTION B
305S-10 7T4J 800 MHz RADIO REBROADCAST CONDUITS LEVEL 3
305S-11 7T4K 800 MHz RADIO REBROADCAST REPEATERSTATION (STATION 426+80)
305S-12 7T4L DETAILS SYSTEMS EQUIPMENT-1
305S-13 7T4M DETAILS SYSTEMS EQUIPMENT-2
305S-14 7T4N INTRUSION DETECTOR CONDUIT LEVEL 2
305S-15 7T4O DETAILS SYSTEMS EQUIPMENT - 3
305S-16 7T4P DETAILS SYSTEMS EQUIPMENT - 4
305S-17 7T4Q DETAILS SYSTEMS EQUIPMENT - 5
305S-18 7T4R DETAILS SYSTEMS EQUIPMENT - 6
305S-19 7T4S DETAILS SYSTEMS EQUIPMENT - 7

8. HALAWA ACCESS ROAD

CIVIL

306 8C1 GRADING NOTES EROSION AND SEDIMENT CONTROL MEASURES
307 8C2 MUCK DISPOSAL & ACCESS ROAD RELOCATION TYP. SECTIONS & DETAILS
308 8C3 MUCK DISPOSAL & ACCESS ROAD RELOCATION PLAN
309 8C4 MUCK DISPOSAL & ACCESS ROAD RELOCATION PROFILE-1
310 8C5 MUCK DISPOSAL & ACCESS ROAD RELOCATION PROFILE-2
311 8C6 MUCK DISPOSAL & ACCESS ROAD RELOCATION CROSS SECTION-1
312 8C7 MUCK DISPOSAL & ACCESS ROAD RELOCATION CROSS SECTION-2
313 8C8 MUCK DISPOSAL & ACCESS ROAD RELOCATION CROSS SECTION-3
314 8C9 MUCK DISPOSAL & ACCESS ROAD RELOCATION CROSS SECTION-4
315 8C10 MUCK DISPOSAL & ACCESS ROAD RELOCATION CROSS SECTION-5
316 8C11 MUCK DISPOSAL & ACCESS ROAD RELOCATION CROSS SECTION-6
317 8C12 ACCESS ROAD "F2" PLAN NORTH HALAWA STREAM IMPROVEMENTS
318 8C13 ACCESS ROAD "F2" CROSS SECTIONS NORTH HALAWA STREAM IMPROVEMENTS
319 8C14 ACCESS ROAD "F2" GRADING PLAN IB STA. 595+50 TO 599+50
320 8C15 ACCESS ROAD "F2" PLAN REMOVAL OF PANEL BRIDGE & STREAM RESTORATION
321 8C16 ACCESS ROAD "F2" DETAILS STREAM IMPROVEMENTS
322 8C17 ACCESS ROAD "F2" PLAN

SHEET NO. TITLE

8. HALAWA ACCESS ROAD (CONT'D)

323 8C18 ACCESS ROAD "F2" PROFILE
324 8C19 ACCESS ROAD "F2" TYPICAL DETAILS
325 8C20 ACCESS ROAD "F2" TYPICAL ACCESS ROAD BRIDGES
326 8C21 ACCESS ROAD "F2" CROSS SECTIONS

9. HAIKU ACCESS ROAD

CIVIL

327 9C1 HAIKU ACCESS ROAD RESTORATION TYPICAL RESTORATION SECTION
328 9C2 HAIKU ACCESS ROAD RESTORATION PLAN-1
329 9C3 HAIKU ACCESS ROAD RESTORATION PLAN-2
330 9C4 HAIKU ACCESS ROAD RESTORATION PLAN-3
331 9C5 HAIKU ACCESS ROAD RESTORATION PROFILE-1
332 9C6 HAIKU ACCESS ROAD RESTORATION PROFILE-2
333 9C7 HAIKU ACCESS ROAD RESTORATION PROFILE-3
334 9C8 HAIKU ACCESS ROAD RESTORATION CROSS SECTION-1
335 9C9 HAIKU ACCESS ROAD RESTORATION CROSS SECTION-2
336 9C10 HAIKU ACCESS ROAD RESTORATION CROSS SECTION-3
337 9C11 HAIKU ACCESS ROAD RESTORATION CROSS SECTION-4
338 9C12 HAIKU ACCESS ROAD RESTORATION CROSS SECTION-5
339 9C13 HAIKU ACCESS ROAD RESTORATION CROSS SECTION-6
340 9C14 HAIKU ACCESS ROAD RESTORATION CROSS SECTION-7
341 9C15 HAIKU ACCESS ROAD RESTORATION CROSS SECTION-8
342 9C16 HAIKU ACCESS ROAD RESTORATION CROSS SECTION-9
343 9C17 HAIKU ACCESS ROAD RESTORATION CROSS SECTION-10
344 9C18 HAIKU ACCESS ROAD RESTORATION CROSS SECTION-11

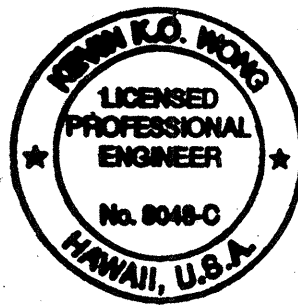
STRUCTURAL

345 9S1 HAIKU ACCESS ROAD RESTORATION PLAN AND ELEVATION
346 9S2 HAIKU ACCESS ROAD RESTORATION BRIDGE DETAILS-1
347 9S3 HAIKU ACCESS ROAD RESTORATION BRIDGE DETAILS-2

10. LANDSCAPE

348 10L1 PLANTING PLAN-HALAWA KNOLL
349 10L2 PLANTING PLAN-NORTH PANEL WALLS
350 10L3 PLANTING PLAN-SOUTH PANEL WALLS
351 10L4 PLAN-SLIDE REPAIR NHV ACCESS RD.
352 10L5 PLANTING PLAN-HAIKU KNOLL
353 10L6 SECTION, DETAILS AND PLANT LIST

SURVEY PLOTTED BY	DATE
DRAWN BY	NOT 94
CHECKED BY	NOT 94
DESIGNED BY	NOT 94
QUANTITIES BY	NOT 94
NOTED BY	NOT 94
NO.	



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T.K. Tunnel

5/1/97	DCN 75-017: ADDED SHT. NO. 7M13G
10/27/95	ADDENDUM 2 - ADDED SHT. NO. 7M13F, 7T4M, 7T4N
10/13/95	ADDENDUM 1
DATE	REVISION
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
LIST OF PLANS-3	
GENERAL	
H-3 FINISH (UNIT III)	
FAIP NO. I-H3-1(75), UNIT III	
T.K. TUNNEL/ACCESS ROADS	
SCALE: NONE	DATE: SEP 1995
SHEET NO. 164	OF 16 SHEETS

REFERENCE PLANS

PROJECT SHEET NO. TOTAL SHEETS SHEET NO. TITLE

EXPLORATORY TUNNEL-F.A.I. PROJ. NO. I-H3-1(37)

16	26	1 OF 4	OVERHEAD POWER LINE 11.5 KV LAYOUT-HALAWA
17	26	2 OF 4	OVERHEAD POWER LINE 11.5 KV LAYOUT-HALAWA
18	26	3 OF 4	OVERHEAD POWER LINE 11.5 KV LAYOUT-HALAWA
19	26	4 OF 4	OVERHEAD POWER LINE 11.5 KV LAYOUT-HALAWA
20	26	1 OF 4	OVERHEAD POWER LINE 12.47 KV LAYOUT-HAIKU
21	26	2 OF 4	OVERHEAD POWER LINE 12.47 KV LAYOUT-HAIKU
22	26	3 OF 4	OVERHEAD POWER LINE 12.47 KV LAYOUT-HAIKU
23	26	4 OF 4	OVERHEAD POWER LINE 12.47 KV LAYOUT-HAIKU
24	26	-	OVERHEAD POWER LINE POLE METERING DETAILS HALAWA AND HAIKU
25	26	-	OVERHEAD POWER POWER LINE DETAILS HALAWA AND HAIKU
26	26	-	OVERHEAD POWER SUBSTATION LAYOUT HALAWA AND HAIKU

HAIKU APPROACH AND TUNNELS-F.A.I. PROJ. NO. I-H3-1(61)

CIVIL

C.O. ADD. 46 424 CB10 SITE PLAN UTILITIES-SERVICE LEVEL

ARCHITECTURAL

113	424	A5	MISCELLANEOUS DETAILS-2
ADD. 118	424	AM1	LEVEL A PLAN
ADD. 119	424	AM2	LEVEL 1 PLAN
ADD. 120	424	AM3	LEVEL 2 PLAN
ADD. 121	424	AM4	LEVEL 3 PLAN
125	424	AM8	EAST ELEVATIONS
ADD. 128	424	AM11	LONGITUDINAL SECTION A
ADD. 129	424	AM12	LONGITUDINAL SECTION B
ADD. 130	424	AM13	TRANSVERSE SECTION C
131	424	AM14	LONGITUDINAL SECTION D
ADD. 133	424	AM16	DETAIL SECTION AT LOADING DOCK FACE
ADD. 134	424	AM17	PARTIAL PLANS AND INTERIOR ELEVATIONS
137	424	AM20	STAIR-1
138	424	AM21	STAIR-2
139	424	AN22	STAIR-3
140	424	AM23	SECTIONS AT ELEVATOR
C.O. 141	424	A01	LEVEL A PLAN
ADD. 142	424	A02	LEVEL 1 PLAN
ADD. 143	424	A03	LEVEL 2 PLAN
ADD. 144	424	A04	LEVEL 3 PLAN
C.O. 148	424	A06	EAST ELEVATION
ADD. 152	424	A012	LONGITUDINALSECTION B
153	424	A013	TRANVERSE SECTION C
154	424	A014	LONGITUDINAL SECTION D
156	424	A016	DETAIL SECTION AT LOADING DOCK FACE
C.O. ADD. 157	424	A017	PARTIAL PLANS AND INTERIOR ELEVATIONS
160	424	A020	STAIRS-1
161	424	A021	STAIRS-2
ADD. 162	424	A022	STAIRS-3
163	424	A023	SECTIONS AT ELEVATOR

PROJECT SHEET NO. TOTAL SHEETS SHEET NO. TITLE

HALAWA APPROACH AND TUNNELS-F.A.I. PROJ. NO. I-H3-1(64)

ELECTRICAL

323	424	EM1	GROUNDING-1
324	424	EM2	GROUNDING-2
341	424	E01	GROUNDING-1
342	424	E02	GROUNDING-2

CIVIL

37	531	CA1	SITE PLAN GEOMETRY -1
ADD. 40	531	CA4	SITE PLAN-GRADING AND DRAINAGE-1
ADD. 41	531	CA5	SITE PLAN-GRADING AND DRAINAGE-2
42	531	CA6	SITE PLAN-GRADING AND DRAINAGE-3
43	531	CA7	SITE PLAN-UTILITIES-1
44	531	CA8	SITE PLAN-UTILITIES-2
45	531	CA9	CATHODIC PROTECTION-FIRE WATER/DRAIN LINES
100	531	CA64	RETAINING WALL LAYOUT DATA
ADD. 100S-1	531	CA64A	SPUR ROAD-PLAN & PROFILE
ADD. 100S-2	531	CA64B	SPUR ROAD-GEOTEXTILE REINF. ABUTMENT
ADD. 100S-3	531	CA64C	SPUR ROAD-BRIDGE & ROADWAY

GEOTECHNICAL

C.O. 138	531	FA28	PORTAL DEVELOPMENT PLAN-1
C.O. ADD. 139	531	FA29	PORTAL DEVELOPMENT PLAN-2
C.O. 140	531	FA30	OB-ELEVATIONS & SECTIONS
C.O. 141	531	FA31	IB-ELEVATIONS & SECTIONS
158	531	FT6	UTILITY TUNNEL-GROUND SUPPORT

ARCHITECTURAL

166	531	A2	ROOF & MISCELLANEOUS DETAILS
181	531	AN5	ROOF LEVEL PLAN
187	531	AN11	LONGITUDINAL SECTION B

STRUCTURAL

C.O. 242	531	SV1	PLAN AND ELEVATION
C.O. 243	531	SV2	FOUNDATION LAYOUT
276	531	SA9	FACADE WALL RW-C4 PLAN AND ELEVATION
277	531	SA10	FACADE WALL RW-C4 DETAILS
280	531	SA13	RETAINING WALL RW-V6, PLAN, ELEV. & DETAILS
282	531	SA15	RETAINING WALL RW-S1 & S2 PLANS, ELEVATIONS & DETAILS
283	531	SA16	RETAINING WALL-TYPE 1
293	531	SA26	EXPLORATORY TUNNEL ACCESS-STRUCTURE-1

MECHANICAL, ELECTRICAL AND ARCHITECTURAL FINISH - F.A.I. PROJ. NO. I-H3-1(66)

MECHANICAL

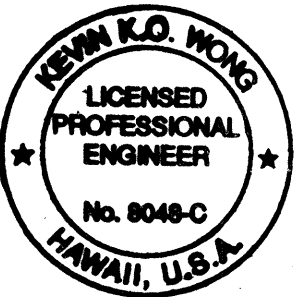
30	440	M20	FIRE PROTECTION-P&ID 1
31	440	M21	FIRE PROTECTION-P&ID 2
32	440	M22	FIRE PROTECTION-P&ID 3

ELECTRICAL

98	440	E4	GROUNDING
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FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(75) UNIT III	1994	5	353

ORIGINAL PLAN NO.	SURVEY PLOTTED BY	DATE
	BY: BUNYI	NOV 94
	TRACED BY	
	BY: D. DRYDEN	NOV 94
	QUANTITIES BY	
	CHECKED BY	DEC 94



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Kevin K.O. Wong

10/13/95	ADDENDUM 1
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LIST OF PLANS-4

GENERAL
H-3 FINISH (UNIT III)
FAIP NO. I-H3-1(75), UNIT III
T.K. TUNNEL/ACCESS ROADS

SCALE: NONE DATE: JAN 1995
SHEET NO. 165 OF 16 SHEETS

ADD.5

STANDARD PLANS SUMMARY

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(75) UNIT III	1994	6	353

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	r07/16/90
B-13	Prestressed Concrete Piles	r07/16/90

D-01 ●	Chain Link Fence With Toprail	r03/06/87
D-02	Chain Link Fence Without Toprail	r07/26/90
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	r10/16/90
H-17	Inlet Structures	r10/16/90
H-18	Flared End Section for Culverts	07/01/86
H-19	Outlet Structures	r02/15/91
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	r10/16/90
H-23	Hat Shaped Coupling Band	r10/16/90

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	r09/01/87
TE-05 ●	Warning Signs	07/01/86
TE-06	Miscellaneous Signs	r11/03/89
TE-07	Reserved	07/01/86
TE-08	Construction Signs	r09/01/87
TE-09	Miscellaneous Intersection Signs	r03/06/87
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	Supports for Ground Mounted Guide Sign	r11/03/89
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	r05/09/90
TE-31	Miscellaneous Pavement Markings	r05/09/90
TE-32	Miscellaneous Pavement Markings	r05/09/90
TE-33	Miscellaneous Pavement Markings	r11/03/89
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	r11/03/89
TE-39 ●	Traffic Signal System, Miscellaneous Details	07/01/86
TE-40	Loop Detectors	r11/03/89
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

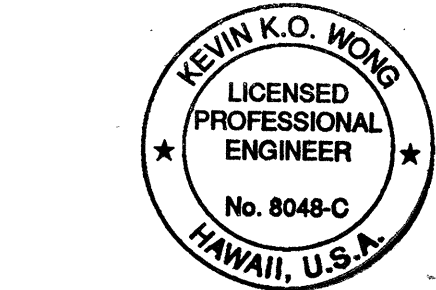
STANDARD PLAN NO.	TITLE	DATE
TE-45	Reserved	07/01/86
TE-46	Reserved	07/01/86
TE-47	Reserved	07/01/86
TE-48	Reserved	07/01/86
TE-49	Reserved	07/01/86
TE-50 ●	Metal Guardrail	r03/06/87
TE-51 ●	Metal Guardrail	r09/01/87
TE-52 ●	Metal Guardrail with Rubrail	r11/03/89
TE-53	Metal Guardrail with Rubrail at Obstruction	r09/01/87
TE-54	Beam Type Guardrail with Rubrail at Obstruction (Shoulder Installation)	r11/03/89
TE-55	Metal Guardrail Connection to Concrete Barrier	r11/03/89
TE-56	Concrete Barrier Transition	07/01/86
TE-57	Guardrail Type 3, Thrie Beam	r11/03/89
TE-57A	Guardrail Type 3, Modified Thrie Beam	11/03/89
TE-58	Approach End Flare, One & Two Way Roadway	07/01/86
TE-59	Trailing End Flare, One & Two Way Roadway	r11/03/89
TE-60	Anchor Block Details	07/01/86
TE-61	Breakaway Cable Terminal (BCT)	r11/03/89
TE-62	Breakaway Cable Terminal (BCT)	r09/01/87
TE-63	Guardrail Type 4 (Rigid Barrier)	r09/01/87
TE-64	Portable Concrete Barrier	r11/03/89
TE-65	Guardrail Type 4, Miscellaneous	r09/01/87
TE-66	Barricades	07/01/86
TE-67	Delineation & Pavement Markings at Bridges	07/01/86
TE-68	Wheelchair Ramps	r11/03/89
TE-69	Wheelchair Ramps	r11/03/89

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

02/15/91
10/16/90
07/26/90
07/16/90
05/09/90
11/03/89
09/01/87
03/06/87

REVISED STANDARD PLANS H-19
REVISED STANDARD PLANS H-16,H-17,
H-22 & H-23.
REVISED STANDARD PLANS D-02.
REVISED STANDARD PLANS B-12,B-13,
REVISED STANDARD PLANS TE-30,TE-31,
& TE-32.
REVISED STANDARD PLANS TE-06,TE-23,
TE-30, TE-31, TE-32, TE-33, TE-38,
TE-40, TE-52, TE-54, TE-55, TE-57,
TE-59, TE-61, TE-64, TE-68 & TE-69.
ADDED TE-57A TO STANDARD PLANS
REVISED STANDARD PLANS TE-04,TE-06,
TE-08, TE-32, TE-51, TE-53, TE-54,
TE-55, TE-57, TE-59, TE-62, TE-63,
TE-65 & TE-69.
REVISED STANDARD PLANS D-01, TE-09,
TE-40, TE-50, TE-51, TE-57, TE-59,
TE-61, TE-63 & TE-64.

DATE REVISION



THIS WORK WAS PREPARED BY ME
OR UNDER MY SUPERVISION

Kevin K.O. Wong

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD PLANS SUMARY

GENERAL

H-3 FINISH (UNIT III)
FAIP NO. I-H3-1(75), UNIT III
T.K. TUNNEL /ACCESS ROADS

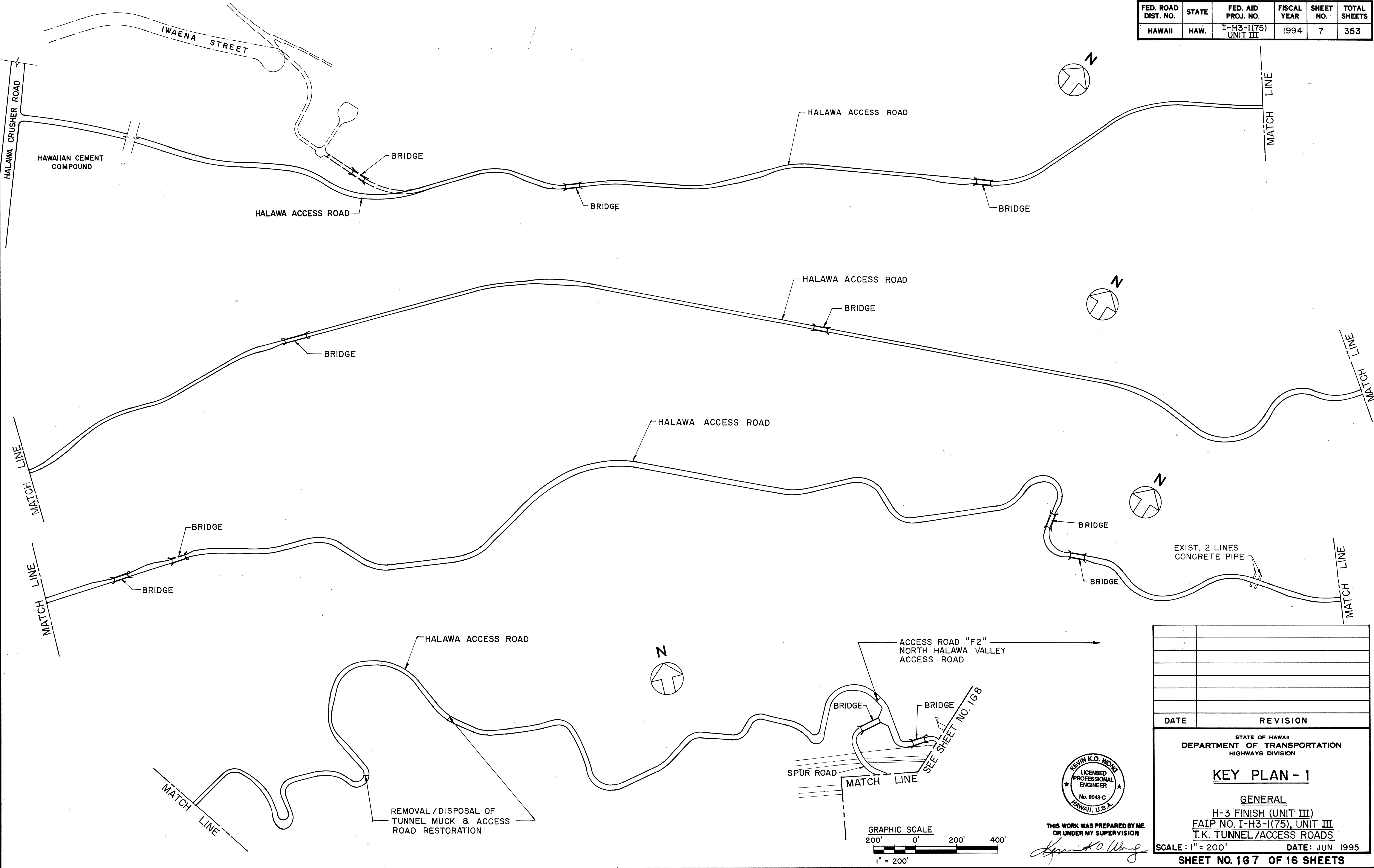
SCALE: NONE DATE: JUN 1995

SHEET No.166 OF 16 SHEETS

ORIGINAL SURVEY PLOTTED BY DATE OCT 94
DRAWN BY K.C. CHU
NOTE BOOK DESIGNED BY D.E. DRYDEN OCT 94
QUANTITIES BY JAN 95
CHECKED BY P.G. BUBBES

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(75) UNIT III	1994	7	353

ORIGINAL PLAN	DATE
SURVEY PLOTTED BY K.C. CHU	OCT 94
DESIGNED BY D.E. DRYDEN	OCT 94
CHECKED BY P.G. BIBBES	JAN 95



DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

KEY PLAN - 1

GENERAL
H-3 FINISH (UNIT III)
FAIP NO. I-H3-1(75), UNIT III
T.K. TUNNEL/ACCESS ROADS

SCALE: 1" = 200' DATE: JUN 1995

SHEET NO. 167 OF 16 SHEETS

ABBREVIATIONS

ALT.	ALTERNATE	MH	MANHOLE
ARCH.	ARCHITECTURAL	M.L.	MATCH LINE
A.C., AC	ASPHALT CONCRETE	MIN.	MINIMUM
A.I.S.I.	AMERICAN IRON AND STEEL INSTITUTE	MISC.	MISCELLANEOUS
ASTM	AMERICAN SOCIETY FOR TESTING MATERIAL	MSL	MEAN SEA LEVEL
AZ.	AZIMUTH	N	NORTH
		NIC	NOT IN CONTRACT
BEG	BEGIN	NO., #	NUMBER
BK.	BACK	NTP	NOTICE TO PROCEED
BOT., BOTT.	BOTTOM	NTS	NOT TO SCALE
B.O.F.	BOTTOM OF FOOTING		
BULKHD.	BULKHEAD	OB	OUTBOUND
		O.C.	ON CENTER
C.B.	CATCH BASIN	O.H.	OPPOSITE HAND
CRM	CEMENT RUBBLE MASONRY	O/H	OVERHEAD
¢	CENTERLINE	O/S	OFFSET
C.J.	CONSTRUCTION JOINT	OPN'G.	OPENING
CL.	CLASS		
CONC.	CONCRETE	PAVT.	PAVEMENT
COND.	CONDUIT	PERF.	PERFORATED
CMP	CORRUGATED METAL PIPE	PC	POINT OF CURVATURE, PRECAST
CF	CUBIC FEET	PCC	POINT OF COMPOUND CURVATURE
CULV.	CULVERT		PORTLAND CEMENT CONCRETE
		PB	PULLBOX
DET.	DETAIL	PL., P	PLATE
D, DIA., Ø	DIAMETER	PROJ.	PROJECT
DIM.	DIMENSION	PT.	POINT
		PVC	POLYVINYL CHLORIDE
E	EAST		
EA.	EACH	R	RADIUS
EASMT.	EASEMENT	RC	REINFORCED CONCRETE
E.P.	EDGE OF PAVEMENT	RCP	REINFORCED CONCRETE PIPE
EL, ELEV.	ELEVATION	RD.	ROAD
ELEC.	ELECTRICAL	REF.	REFERENCE
EMB.	EMBANKMENT	REINF.	REINFORCING
ENG., ENGR.	ENGINEER	REQ., REQ'D.	REQUIRED
EO.	EQUAL	RGS	RIGID GALVANIZED STEEL
EXT.	EXTERIOR	RN	REFERENCE NORTH
ET	EXPLORATORY TUNNEL	RT.	RIGHT
F.A.I.	FEDERAL AID INTERSTATE	R/W	RIGHT OF WAY
FT.,'	FEET, FOOT		
FH	FIRE HYDRANT	S	SOUTH
FW	FIRE WATER LINE	SECT.	SECTION
FWY.	FREEWAY	SF	SQUARE FEET
GALV.	GALVANIZED	SIM.	SIMILAR
GSP	GALVANIZED STEEL PIPE	SHT.	SHEET
GA.	GAUGE, GAGE	SPC.	SPACING
GCL	GRADE CONTROL LINE	STA.	STATION
		STD.	STANDARD
HECO	HAWAII ELECTRIC COMPANY	SY	SQUARE YARDS
HT.	HEIGHT	SYM.	SYMMETRICAL
H.P.	HIGH POINT		
HWY.	HIGHWAY	T&B	TOP AND BOTTOM
HOR., HORIZ.	HORIZONTAL	T.O.C.	TOP OF CONCRETE
HVB	HAIKU VALLEY BRIDGE	THK.	THICK
		TYP.	TYPICAL
IB	INBOUND	TOC	TRAFFIC OPERATIONS CENTER
IN "	INCH	U.N.O.	UNLESS NOTED OTHERWISE
INT.	INTERIOR		
INV.	INVERT	V	VALVE
		VAR.	VARIABLE, VARIES
L.	LFNGTH	VENTH.	VENTILATION
LF	LINEAR FOOT	VERT.	VERTICAL
LG	LONG		
LIN.	LINEAR	W.	WALL
LT.	LEFT	W	WEST
LTG.	LIGHTING	W.P.	WORK POINT
		WSP	WET STAND PIPE
MAT'L	MATERIAL	WWV	WINDWARD VIADUCT
MAX.	MAXIMUM		
MECH.	MECHANICAL		

DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIKEMAHE DIVISION

ABBREVIATIONS, LEGEND
& NOTES
GENERAL

H-3 FINISH (UNIT III)
FAIP NO. I-H3-I(75), UNIT III
T.K. TUNNEL/ACCESS ROADS

SCALE: NONE **DATE: JUN 1995**







SHEET NO. 1610 OF 16 SHEETS

Sam H. O. Ware

S Y M B O L S

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(75) UNIT III	1994	11	353

S Y M B O L S

	SYSTEM CONDUIT PULL BOX OR FW VALVE BOX
	FIRE WALL VALVE BOX
	TEST BOX FOR CATHODIC PROTECTION
	CENTERLINE OF SYSTEM CONDUIT
	DIELECTRIC EXPOSED INSULATORS WITH WALL MOUNTED JUNCTION BOX
	DIELECTRIC BURIED INSULATORS WITH WALL MOUNTED JUNCTION BOX

GENERAL NOTES

1. THE COORDINATE SYSTEM IS BASED ON THE HAWAII STATE PLANE COORDINATE SYSTEM - ZONE 3.
2. ALL AZIMUTHS ARE TURNED CLOCKWISE FROM TRUE SOUTH. ELEVATIONS SHOWN ARE FROM ELEVATION DATUM OF MEAN SEA LEVEL AS DEFINED BY U.S. COAST AND GEODETIC SURVEY.
3. GCL - GRADE CONTROL LINE:
HORIZONTALLY - SERVES AS THE REFERENCE LINE FOR THE ALIGNMENT: VERTICALLY - REPRESENTS THE TOP OF FINISH GRADE.

ABS	ACRYLONITRILE-BUTADIENE-STYRENE	FIG.	FIGURE	PI	POINT OF INTERSECTION OF TANGENTS
AC	ASPHALT CONCRETE	FIN. GR.	FINISH GRADE		
AGG.	AGGREGATE		FIRE HYDRANT	PIVC	POINT OF INTERSECTION OF VERTICAL CURVE
APPROX.	APPROXIMATE	FT	FOOT	POC	POINT OF CURVE
AWG	AMERICAN WIRE GAUGE	FUT.	FUTURE	PRC	POINT OF REVERSE CURVE
AZ	AZIMUTH	FW	FIRE WATER	PROJ.	PROJECT
				PT	POINT OF TANGENCY, POINT
BC	BEGINNING OF HORIZ. CURVE			PVC	POLYVINYL CHLORIDE
BEG.	BEGIN	GALS	GALLONS		
BLDG.	BUILDING	GALV.	GALVANIZED	R	RADIUS
BM	BENCH MARK	GCL	GRADE CONTROL LINE	RC	REINFORCED CONCRETE
BOT.	BOTTOM	GEN.	GENERAL	RCP	REINFORCED CONCRETE PIPE
BVC	BEGINNING OF VERTICAL CURVE	GND.	GROUND	RD	ROAD
		GR	GRATE	RDWY.	ROADWAY
CB	CATCH BASIN	GRP	GROUTED RUBBLE PAVING	REF.	REFERENCE
CC	COMPOUND CURVE, CENTER OF CURVE	HAR	HALAWA ACCESS ROAD	REQ.	REQUIRED
CH	CHORD	HMWPE	HIGH MOLECULAR WEIGHT POLYETHYLENE	RET.	RETAINING
CL.	CLASS	HORIZ.	HORIZOTAL	RT	RIGHT
CL	CENTERLINE	HQV	HALAWA QUARRY VIADUCT	R/W	RIGHT OF WAY
CMP	CORRUGATED METAL PIPE	IB	INBOUND	#	POUND
CO	CLEANOUT	ID	INSIDE DIAMETER		
CONC.	CONCRETE	IN.	INCH	S	SOUTH, SEWER
CONT.	CONTINUATION, CONTINUOUS	INV.	INVERT	SD	STORM DRAIN
CONSTR.	CONSTRUCTION			SECT.	SECTION
COORD.	COORDINATE	L	LENGTH	SHLD	SHOULDER
CP	CROSSPASSAGE	LC	LONG CORD	SHT.	SHEET
CULV.	CULVERT	LIN.FT.	LINEAR FEET	SMH	SEWER MANHOLE
CU.YD.	CUBIC YARD	LT	LEFT	STA.	STATION
		MAX.	MAXIMUM	STD.	STANDARD
D	DRAIN	MH	MANHOLE	SE	SUPERELEVATION
DET.	DETAIL	MIN.	MINIMUM	SW	SAFETY WALK
DIA.	DIAMETER	MSL	MEAN SEA LEVEL	SYM	SYMMETRICAL
DI	DROP INLET	MW	MANWAY		
DIP	DUCTILE IRON PIPE			TAN.	TANGENT
DW	DOMESTIC WATER	N	NORTH	T&B	TOP AND BOTTOM
DWG.	DRAWING	NHVV	NORTH HALAWA VALLEY VIADUCT (CONTRACT NO. 59)	TC	TOP OF CURB
		NIC	NOT IN CONTRACT	TEMP.	TEMPORARY
E	EAST	NO.	NUMBER	T.O.W.	TOP OF WALL
EA.	EACH	NOS.	NUMBERS	TYP.	TYPICAL
EASMT.	EASEMENT	NTS	NOT TO SCALE	UG.	UNDERGROUND
EC	END OF HORIZ. CURVE			UD.	UNDERDRAIN
EL.	ELEVATION	OB	OUTBOUND		
ELEC.	ELECTRICAL	O.C.	ON CENTER	V	VALVE
EMB.	EMBANKMENT	OD	OVERFLOW DRAIN, OUTSIDE DIAMETER	VAR.	VARIABLE, VARIES
E.P.	EDGE OF PAVEMENT	O/S	OFF SET	VB	VALVE BOX
EQ.	EQUAL			VC	VERTICAL CURVE
EVC	END OF VERTICAL CURVE	PAVT.	PAVEMENT	VERT.	VERTICAL
EXC.	EXCAVATION	PB.	PULL BOX	VS	VALVE STATION
EXIST.	EXISTING	PC	POINT OF CURVATURE, PRECAST	W	WEST
		PCC	POINT OF COMPOUND CURVATURE, PORTLAND CEMENT CONCRETE	W/	WITH
F.A.I. PROJ.	FEDERAL AID INTERSTATE PROJECT			W.P.	WORK POINT
				WSP	WET STANDPIPE

	GROUPED RUBBLE PAVING (GRP)
	SOIL
	ROCK
	EXISTING GRADE ELEVATION
	NEW GRADE ELEVATION
	GRADE TO DRAIN
	APPROXIMATE LIMIT OF GRADING
	EXISTING CONTOUR
	NEW GRADING
	CUT SECTION
	FILL SECTION
	EXISTING DRAIN LINE
	PERFORATED UNDERDRAIN PIPE
	SEWER LINE
	FIRE WATER LINE
	DRAIN LINE
	STORM DRAIN LINE
	OVERFLOW DRAIN LINE
	DOMESTIC WATER LINE
	WELL WATER
	MATCH LINE
	STORM DRAIN PROFILE NO. 9
	CLEAN OUT
	FIRE HYDRANT
	CATCH BASIN
	MANHOLE
	WORK POINT
	RIGHT OF WAY LINE
	CENTRAL ANGLE, POINT OF INTERSECTION
	SURVEY POINT
	STATION EQUATION
	CHAIN LINK FENCE
	CURVE NUMBER
	WALL LAYOUT POINT
	DRAINAGE/UTILITY NETWORK NODE
	LIMIT OF AC PAVING
	LIMIT OF PCC PAVING

5/12/97	DCN 75-018: DELETED REVISIONS MADE UNDER DCN 75-004
6/24/96	DCN 75-004 REVISED LIMITS OF AC AND PCC PAVING
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CIVIL ABBREVIATIONS
SYMBOLS & GEN. NOTES

HALAWA SITE FINISHES
H-3 FINISH (UNIT III)
FAIP NO. I-H3-I(75), UNIT III
T.K. TUNNEL/ACCESS ROADS

SCALE: NONE DATE: JUN 1995

SHEET NO. 1611 OF 16 SHEETS

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
	DRAWN BY <i>CARD / A. USION JR.</i>	<i>1/95</i>
NOTE BOOK	TRACED BY	
	DESIGNED BY <i>L. MANUTI</i>	<i>1/95</i>
	QUANTITIES BY	
NO.	CHECKED BY <i>G. TEBECKHORST</i>	<i>1/95</i>

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(75) UNIT III	1994	12	353

STRUCTURAL NOTES

1. DESIGN SPECIFICATIONS:

STRUCTURAL DESIGN IS IN ACCORDANCE WITH THE FOLLOWING APPLICABLE CODES, STANDARD,SPECIFICATIONS AND OTHER REFERENCES:

UBC	ICBO, "UNIFORM BUILDING CODE" VOLUME 2, STRUCTURAL ENGINEERING DESIGN PROVISIONS, 1994 EDITION.
ACI	AMERICAN CONCRETE INSTITUTE, "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE". ACI(318R-89), REVISED 1992.
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION, MANUAL OF STEEL CONSTRUCTION, ALLOWABLE STRESS DESIGN, NINTH EDITION.
AWS	AMERICAN WELDING SOCIETY, "STRUCTURAL WELDING CODE", ANSI/AWS D1.1-94.

LIVE LOADS

STRUCTURAL AREAS ARE DESIGNED TO ACCOMODATE THE FOLLOWING UNIFORMLY DISTRIBUTED LIVE LOADS OR CONCENTRATED LOADS WHICHEVER PRODUCES HIGHER STRESSES.

AREA	UNIFORM LOADS PSF	CONCENTRATED LOADS, LBS
1. OFFICES	50	2000
2. MECHANICAL	125	2000
3. ACCESS FLOOR SYSTEM		
OFFICE USE	50	2000
4. ROOFS (SUBJECTED TO AREA REDUCTION)	20	1000
5. SLAB-ON-GRADE	250	HS20-44
6. CEILING FRAMING	20	1000
7. STAIRS, BALCONIES AND EXITS	100	300
8. VEHICLE TRAFFIC AREAS	--	HS20-44
9. RETAINING WALL IN VEHICLE TRAFFIC AREAS	240	--

LIVE LOADS LESS THAN 100 PSF IS SUBJECTED TO AREA REDUCTION AS PERMITTED IN SECTION 1606 OF UBC.

2. MATERIALS:

A. THE FOLLOWING CONCRETE CLASS AND DESIGN COMPRESSIVE STRENGTH AT 28 DAYS, f'c SHALL BE USED UNLESS NOTED OTHERWISE.

CLASS	A	BD
f'c(Psi)	3000	3750
USAGE	CONCRETE FILL, SLAB-ON-GRADE SPREAD FOOTINGS	TRAFFIC OPERATIONS CENTER, RAILINGS AND BARRIERS, MANHOLES AND U.N.O.

B. REINFORCING STEEL (NON-PRESTRESSED) SHALL CONFORM TO ASTM A615 (AASHTO M31), GRADE 60 DEFORMED BARS (fy=60 KSI)

C. ALL STRUCTURAL STEEL SHALL BE ASTM A36, HOT DIPPED GALVANIZED UNLESS NOTED OTHERWISE.

- D. WELDED WIRE FABRICS (WWF) SHALL CONFORM TO ASTM A185 FOR SMOOTH WIRE AND ASTM A497 FOR DEFORMED WIRES.
- E. ALL BOLTED CONNECTIONS SHALL BE MADE USING 3/4" DIA. HIGH STRENGTH BOLTS CONFORMING TO ASTM A325, SLIP-CRITICAL CONNECTION CLASS A TYPE (FRICTION), UNLESS OTHERWISE NOTED.
- F. ALL WELDED CONNECTIONS SHALL BE MADE USING ELECTRODES CONFORMING TO AWS A5.1 OR 5.5, E70XX.
- G. ANCHOR BOLTS SHALL CONFORM TO ASTM A36 STEEL UNLESS NOTED OTHERWISE.
- H. ALL REINFORCING STEEL HOOKS SHALL BE STANDARD HOOKS AS DEFINED BY ACI 318-89 UNLESS OTHERWISE NOTED ON DESIGN DRAWINGS.
- K. ALL REINFORCING STEEL LAP SPLICE LENGHTS SHALL BE CLASS "B" CONFORMING TO THE TABLE BELOW UNLESS OTHERWISE NOTED ON DESIGN DRAWINGS.

BAR SIZE	f'c - 3000 PSI		f'c - 3750 PSI	
	OTHER BARS	TOP BARS	OTHER BARS	TOP BARS
#3	12	12	12	12
#4	16	21	14	18
#5	25	32	22	28
#6	36	46	31	40
#7	48	63	42	54
#8	63	82	55	71
#9	80	104	69	90
#10	102	132	88	115
#11	125	162	108	141

3. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCEMENT:

	MINIMUM COVER (INCHES)
CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH.....	3
CONCRETE EXPOSED TO EARTH OR WEATHER PRIMARY REINFORCEMENT.....	2
STIRRUPS, TIES AND SPIRALS	1½
CONCRETE BRIDGE DECK SLABS TOP REINFORCEMENT	1½
BOTTOM REINFORCEMENT.....	1¼

CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND PRIMARY REINFORCEMENT.....	1½
STIRRUPS, TIES AND SPIRALS	1

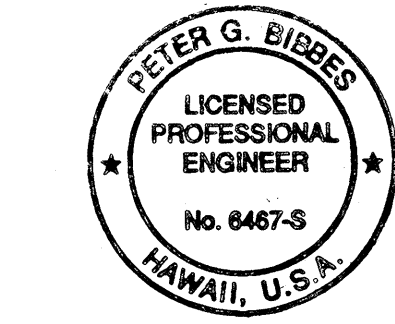
4. FOR LOCATION AND DETAILS OF SLEEVES FOR PIPE PENETRATION THRU WALL AND/OR FLOORS, SEE CIVIL AND MECHANICAL PLANS.
5. PRIOR TO PLACING CONCRETE VERIFY PLACEMENT OF CONDUITS, PIPES, PULLBOXES, JUNCTION BOXES, AND OTHER EMBEDDED ITEMS SHOWN ON CIVIL, MECHANICAL, ARCHITECTURAL, ELECTRICAL, AND SYSTEM PLANS.

A.B.	ANCHOR BOLT	K	KIP, KIPS (1000 LBS.)
&	AND	KLF	KIPS PER LINEAR FOOT
@	AT	KSF	KIPS PER SQUARE FOOT
ADD'L	ADDITIONAL	KSI	KIPS PER SQUARE INCH
BM	BEAM	OD	OUTSIDE DIAMETER
BOTT.	BOTTOM	OPN'G.	OPENING
B.O.	BOTTOM OF		
¢	CENTERLINE	LB., LBS.	POUND, POUNDS
CONC.	CONCRETE	PSI	POUNDS PER SQUARE INCH
C.C.	CENTER TO CENTER		
CIP	CAST IN PLACE	REINF.	REINFORCED
CL., CLR.	CLEAR, CLEARANCE	R.W.	RETAINING WALL
COL.	COLUMN		
CONN.	CONNECTION	STL.	STEEL
CONST.	CONSTRUCTION	STIFF.	STIFFENER
CONST. JT., C.J.	CONSTRUCTION JOINT	STD.	STANDARD
CONT.	CONTINUOUS	SQ.	SQUARE
C.F., CU.FT.	CUBIC FEET	STIRR.	STIRRUP
C.Y., CU.YD.	CUBIC YARD	SYM.	SYMMETRICAL
		SHT.	SHEET
DIAG.	DIAGONAL	TRANSV.	TRANSVERSE
D.L.	DEAD LOAD	T.O.	TOP OF
DET.	DETAIL	T.O.C.	TOP OF CONCRETE
DIA.	DIAMETER	T.O.S.	TOP OF STEEL
DN.	DOWN	TYP.	TYPICAL
		T&B	TOP AND BOTTOM
E.F.	EACH FACE		
E.W.	EACH WAY	U.N.O.	UNLESS NOTED OTHERWISE
EXP.	EXPANSION		
EA.	EACH	VERT.	VERTICAL
EQ.	EQUAL		
EL., ELEV.	ELEVATION	W.W.F.	WELDED WIRE FABRIC
		W.P.	WORKING POINT
FL.	FLOOR	W/	WITH
FTG.	FOOTING	WT.	WEIGHT
FDN.	FOUNDATION		
H.S.	HIGH STRENGTH		
ID	INSIDE DIAMETER		
JT.	JOINT		

ABBREVIATIONS

K	KIP, KIPS (1000 LBS.)
KLF	KIPS PER LINEAR FOOT
KSF	KIPS PER SQUARE FOOT
KSI	KIPS PER SQUARE INCH
OD	OUTSIDE DIAMETER
OPN'G.	OPENING
LB., LBS.	POUND, POUNDS
PSI	POUNDS PER SQUARE INCH
REINF.	REINFORCED
R.W.	RETAINING WALL
STL.	STEEL
STIFF.	STIFFENER
STD.	STANDARD
SQ.	SQUARE
STIRR.	STIRRUP
SYM.	SYMMETRICAL
SHT.	SHEET
TRANSV.	TRANSVERSE
T.O.	TOP OF
T.O.C.	TOP OF CONCRETE
T.O.S.	TOP OF STEEL
TYP.	TYPICAL
T&B	TOP AND BOTTOM
U.N.O.	UNLESS NOTED OTHERWISE
VERT.	VERTICAL
W.W.F.	WELDED WIRE FABRIC
W.P.	WORKING POINT
W/	WITH
WT.	WEIGHT

SURVEY PLOTTED BY	DATE
DRAWN BY	NOV 94
TRACED BY	NOV 94
CHECKED BY	NOV 94
ORIGINAL PLAN	
NOTE BOOK	
NO.	



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OR UNDER MY SUPERVISION

Peter G. Bibbes

DATE	REVISION

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION
STRUCTURAL GEN. NOTES
& ABBREVIATIONS
GENERAL
H-3 FINISH (UNIT III)
FAIP NO. I-H3-1(75), UNIT III
T.K. TUNNEL/ACCESS ROADS
SCALE: NO SCALE
DATE: JUN 1995
SHEET NO. 1612
OF 16
SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(75) UNIT III	1994	13	353

ABBREVIATIONS

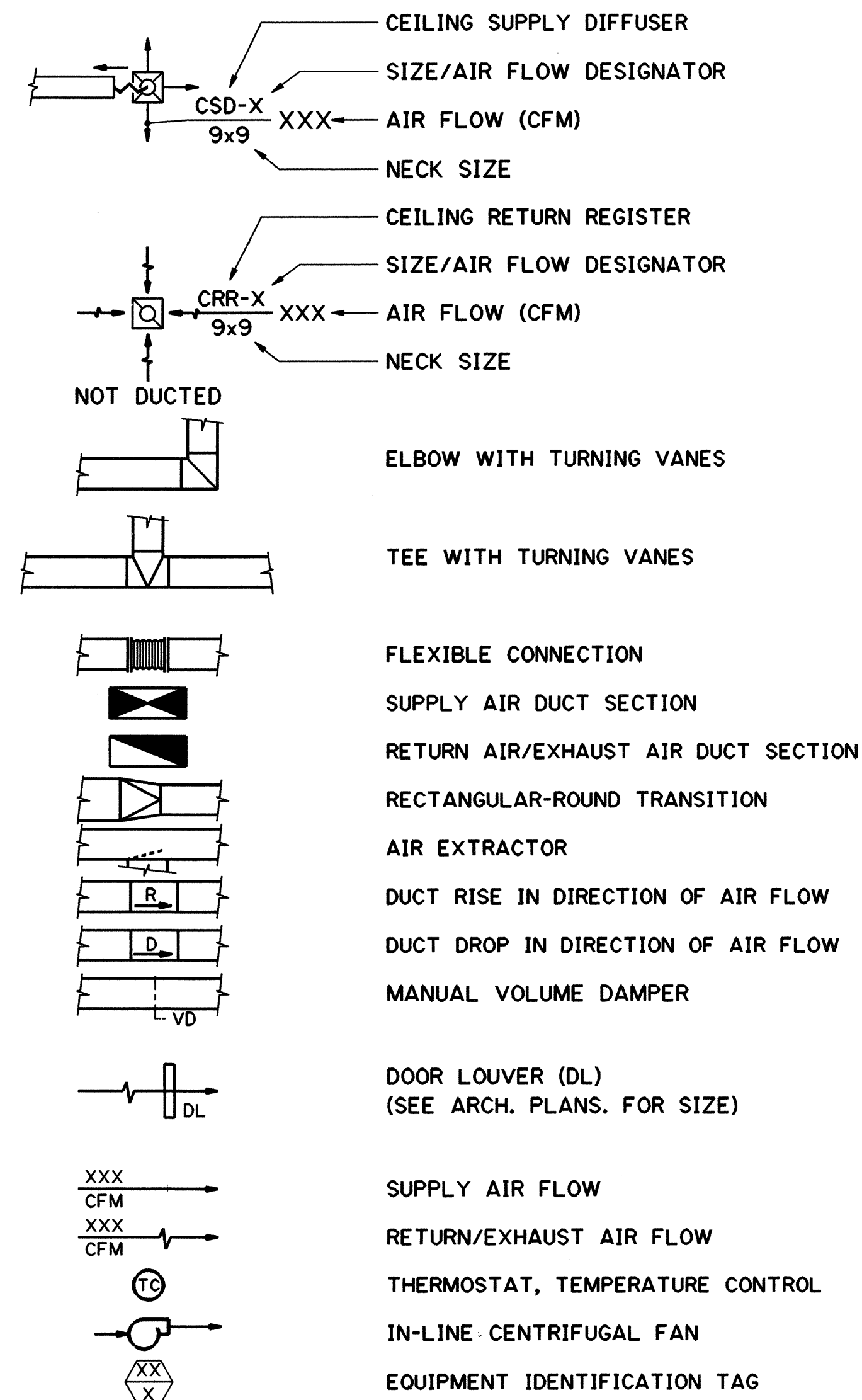
ABBR	ABBREVIATION	HP	HORSE POWER
ABV	ABOVE	H _z	HERTZ
AC	AIR CONDITIONING UNIT	IB	INBOUND
AD	ACCESS DOOR	IE	INVERT ELEVATION
AFF	ABOVE FINISH FLOOR	IN	INCHES
AH	AIR HANDLING UNIT	KW	KILOWATT
AP	ACCESS PANEL	LBS	POUNDS
ARCH	ARCHITECTURAL	MAX	MAXIMUM
ASSY	ASSEMBLY	MECH	MECHANICAL
ATM	ATMOSPHERE	MIN	MINIMUM
BHP	BRAKE HORSEPOWER	ML	MATCH LINE
BOD	BOTTOM OF DUCT	NC	NORMALLY CLOSED
BOP	BOTTOM OF PIPE	NIC	NOT IN CONTRACT
BTUH	BRITISH THERMAL UNITS PER HOUR	NO	NORMALLY OPEN
CFM	CUBIC FEET PER MINUTE	NPT	NATIONAL PIPE THREAD
CI	CAST IRON	NTS	NOT TO SCALE
CLG	CEILING	OA	OUTSIDE AIR
CL	CENTERLINE	OB	OUTBOUND
CONN	CONNECTION/CONNECT	OC	ON CENTER
CONT	CONTINUATION	PD	PRESSURE DROP
CP	CONTROL PANEL, CROSSPASSAGE	PDI	PLUMBING DRAINAGE INSTITUTE
CU	CONDENSING UNIT		
dB	DECIBEL	PL	PLATE
DB	DRY BULB	POC	POINT OF CONNECTION
DET	DETAIL	PSI	POUNDS PER SQUARE INCH
D.I.	DUCTILE IRON	PVC	POLYVINYL CHLORIDE
DIA	DIAMETER	RA	RETURN AIR
DIM	DIMENSION	RAD	RETURN AIR DAMPER
DL	DOOR LOUVER	REQ'D	REQUIRED
DN	DOWN	RF	RETURN FAN
DX	DIRECT EXPANSION	RM	ROOM
EA	EXHAUST AIR	RPM	REVOLUTIONS PER MINUTE
EF	EXHAUST FAN	SA	SUPPLY AIR
ELEC	ELECTRICAL	SAT	SOUND ATTENUATOR
ELEV	ELEVATION	SF	SUPPLY FAN
EQUIP	EQUIPMENT	SP	STATIC PRESSURE, SPRINKLER, SET POINT
ET	EXPLORATORY TUNNEL		
EXH	EXHAUST	SPEC	SPECIFICATION
°F	DEGREES FAHRENHEIT	STD	STANDARD
FH	FIRE HYDRANT	STRUCT	STRUCTURAL
FHC	FIRE HOSE CABINET	STL	STEEL
FLEX	FLEXIBLE	SS	SERVICE SINK
FLR	FLOOR	TEMP	TEMPERATURE
FIN	FINISHED	TG	TRANSFER GRILL
FP	FIRE PROTECTION	TOC	TRAFFIC OPERATIONS CENTER
FT	FEET		
GA	GAUGE	TP	TOTAL PRESSURE, TRAP PRIMER
GALV	GALVANIZED		
GPM	GALLONS PER MINUTE	TYP	TYPICAL

ABBREVIATIONS (Cont'd.)

V	VENT	WB	WET BULB
VB	VALVE BOX	WG	WATER GAUGE
VT	VENT TERMINATION	WH	WATER HEATER
VS	VALVE STATION	W/O	WITHOUT
VTR	VENT THROUGH ROOF		

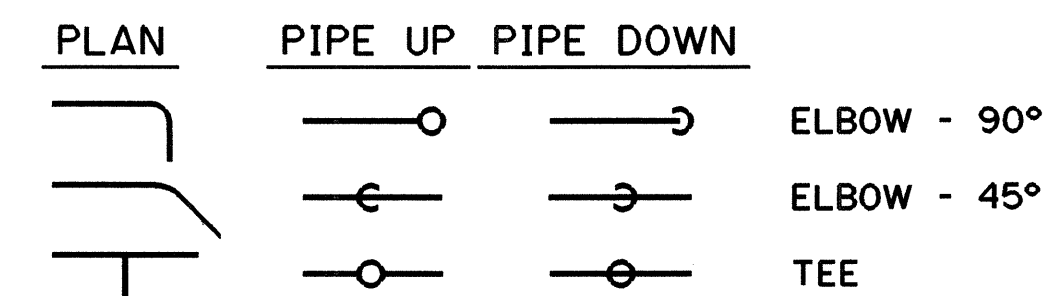
SYMBOLS

VENTILATION



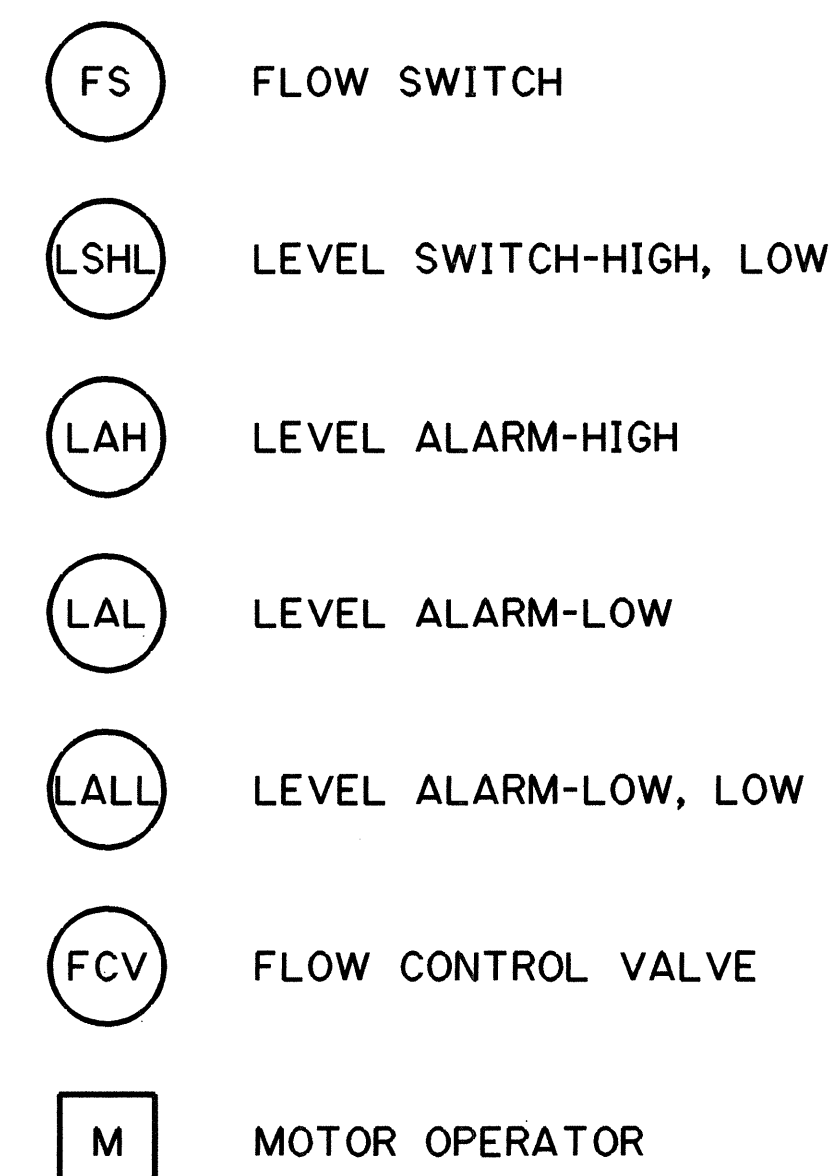
SYMBOLS (Cont'd.)

FIRE PROTECTION AND DRAINAGE WATER



<u>SYMBOL</u>	<u>ABBR.</u>	<u>DESCRIPTION</u>
		UNION
		FLANGED JOINT
		CAP ON END OF PIPE
		DIRECTION OF SLOPE
		BALL VALVE
	GV	GATE VALVE
	GLV	GLOBE VALVE
	CV	CHECK VALVE
	HB	HOSE BIBB
		EQUIPMENT IDENTIFICATION TAG
	FDC	ROOF FIRE DEPT. OUTLET CONNECTION
		FIRE HOSE VALVE
	FHC-S	FIRE HOSE CABINET-SURFACE MOUNTED

CONTROLS AND INSTRUMENTATION



GENERAL NOTES

1. SYMBOLS AND ABBREVIATIONS SHOWN ON THIS SHEET INCLUDE ITEMS WHICH MAY NOT BE PRESENTLY PART OF THIS CONTRACT.

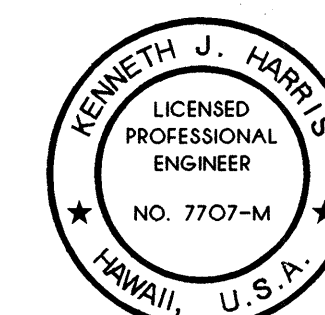
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

MECHANICAL ABBREVIATIONS
AND LEGEND
GENERAL
H-3 FINISH (UNIT III)
FAIP NO. I-H3-1(75), UNIT III
T.K. TUNNEL/ACCESS ROADS

SCALE: NONE DATE: JUN 1995





























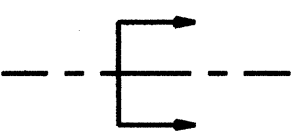

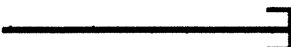
SHEET NO. 1613 OF 16 SHEETS















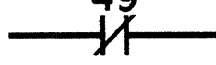

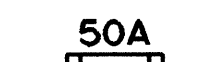
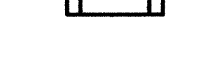
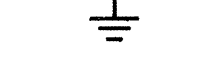

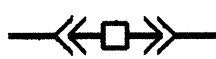




THIS WORK WAS PREPARED BY ME

Kenneth Altman

PLAN SYMBOLS

	DUPLEX RECEPTACLE
	SINGLE SPECIAL-PURPOSE RECEPTACLE
	FLOOR BOX WITH DUPLEX RECEPTACLE
	FLOOR JUNCTION BOX
S	SINGLE-POLE SWITCH
S ₃	THREE-WAY SWITCH
S _M	MANUAL MOTOR STARTER
S _{MC}	MOMENTARY CONTACT SWITCH OR PUSHBUTTON
S _a	SUBSCRIPT _a DENOTES DEVICE CONTROLLED
<u>CLG</u> <u>WALL</u>	
	 INCANDESCENT OR HIGH INTENSITY DISCHARGE FIXTURE
	 FLUORESCENT FIXTURE
	 EXIT LIGHT
	FLUORESCENT FIXTURE, RECESSED
	 LETTER SUBSCRIPT DESIGNATES SWITCH CONTROL
	EMERGENCY LIGHT - FLUORESCENT FIXTURE
	FLUORESCENT FIXTURE - EMERGENCY/NORMAL
	LIGHTING PANEL
	POWER PANEL
	PULL BOX
	JUNCTION BOX
	MOTOR CONTROLLER, SUBSCRIPT INDICATES NEMA SIZE
	DISCONNECT, SUBSCRIPT INDICATES SIZE AND NUMBER OF POLES, F - FUSED WITH SIZE SHOWN
	COMBINATION MOTOR STARTER, FUSED, SUBSCRIPT INDICATES NEMA SIZE
	MOTOR, INSERT INDICATES HORSEPOWER
	RACEWAY EMBEDDED IN CEILING, WALL OR FLOOR
	RACEWAY, EXPOSED
	GROUND WIRE
	CONDUIT TURNED UP OR TOWARD VIEWER
	CONDUIT TURNED DOWN OR AWAY FROM VIEWER
	CONDUIT BANK, INDICATE TYPE, SIZE, AND NUMBER OF CONDUITS BY CROSS-SECTION, IDENTIFICATION OF EACH RUN OR BY NOTATION
	GROUND ROD
	RACEWAY CAPPED

ONE LINE & ELEMENTARY SYMBOLS

	SELECTOR SWITCH, HAND-OFF-AUTO UNLESS OTHERWISE NOTED
	KEY INTERLOCK
	ELECTRICALLY OPERATED DEVICE, S - SOLENOID, R - RELAY
	TRANSFORMER
	PUSHBUTTON SWITCH, MOMENTARY CONTACT, N.C.
	PUSHBUTTON SWITCH, MOMENTARY CONTACT, N.O.
	MECHANICAL CONNECTION
	NORMALLY OPEN CONTACT TDC - TIME DELAY TO CLOSE
	NORMALLY CLOSED CONTACT TDO - TIME DELAY TO OPEN
	COIL, STARTER OR CONTACTOR
	OVERLOAD RELAY CONTACTS
	OVERLOAD RELAY
	FUSE WITH RATING
	GROUND CONNECTION
	PILOT LIGHT, R=RED, G=GREEN, A=AMBER, W=WHITE, C=CLEAR, B=BLUE
	POWER CIRCUIT BREAKER, ABOVE 600V, DRAW-OUT TYPE
	POWER CIRCUIT BREAKER, 480V, DRAW-OUT TYPE
	MOLDED CASE CIRCUIT BREAKER
	MINI-POWER CENTER W/ 30A, 2 POLE PRIMARY BREAKER
	LIGHTING CONTROLLER
	STARTER (NEMA SIZE AS SHOWN)
	DISCONNECT SWITCH (AMPACITY & PHASE AS SHOWN)
	DRY TYPE TRANSFORMER

EQUIPMENT MOUNTING HEIGHT


(UNLESS OTHERWISE NOTED)

1. ALL PANELBOARDS (WALL-MOUNTED)	6'-0" TOP OF HIGHEST CIRCUIT BREAKER
2. WALL-MOUNTED TRANSFORMERS	8'-0" BOTTOM OF XFMR.
3. WALL-MOUNTED LOCAL CONTROL STATIONS OR LOCAL CONTROL PANELS	2'-0" BOTTOM OF EQPT. 6'-0" MAX. AT TOP OF HIGHEST PUSH BUTTON
4. LOCAL MOTOR STARTERS, DISCONNECT SWITCH AND CIRCUIT BREAKERS	5'-0" AT HANDLE
5. POWER RECEPTACLES	4'-6" CENTER IN TUNNELS 1'-0" CENTERS IN BUILDINGS

ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR
AWG	AMERICAN WIRE GAUGE
CKT	CIRCUIT
C.O.	CONDUIT ONLY
ELEV	ELEVATION, ELEVATOR
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GND	GROUND
GRS	GALVANIZED RIGID STEEL CONDUIT
HID	HIGH INTENSITY DISCHARGE
HPS	HIGH PRESSURE SODIUM
KCMIL	1000 CIRCULAR MILS (FORMERLY MCM)
LTG	LIGHTING
MC	METALLIC CONDUIT
MH	MOUNTING HEIGHT, METAL HALIDE
MTD, MTG	MOUNTED, MOUNTING
+4'-6"	MOUNTING HEIGHT TO $\frac{1}{2}$ OUTLET AFF
NC	NORMALLY CLOSED
N.I.C.	NOT IN CONTRACT
NMC	NON-METALLIC CONDUIT
NTS	NOT TO SCALE
NO	NORMALLY OPEN
PNL	PANEL
Ø, PH.	PHASE
PWR	POWER
PVC	POLYVINYL CHLORIDE CONDUIT
RTU	REMOTE TERMINAL UNIT
SP	SPARE
SPDT	SINGLE POLE DOUBLE THROW
SPST	SINGLE POLE SINGLE THROW
TEL	TELEPHONE
XFR	TRANSFORMER
ZC	ZONE CONTROL
CP	CROSSPASSAGE

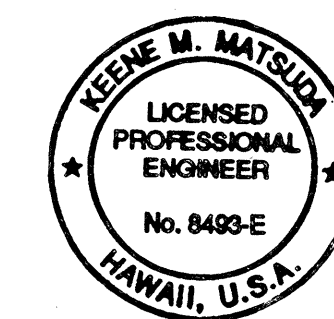
FIXTURE TYPE SYMBOL


 UPPER LETTER - TYPE OF FIXTURE
 LOWER NO. - LAMP WATTS
 MH - INDICATES MOUNTING HEIGHT ABOVE
 FINISHED FLOOR
 3 - INDICATES NUMBER OF FIXTURES

SPECIAL IDENTIFICATION

(U S E D N E X T T O S Y M B O L)

DP - DRIPPROOF (NEMA 2)	F - FLUSH	WP - WEATHERPROOF (NEMA 3R)
DT - DUSTTIGHT (NEMA 12)	G - GROUND	WT - WATERTIGHT (NEMA 4)
EP - EXPLOSIONPROOF (NEMA 7, OR 9)	GP - GENERAL PURPOSE (NEMA 1)	WTX - WATERTIGHT, CORROSION RESISTANT (NEMA 4X)
	R - RECESSED	
	VT - VAPORTIGHT	



THIS WORK WAS PREPARED BY ME
OR UNDER MY SUPERVISION

Keene Matrudd

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(75) UNIT III	1994	14	353

DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ELECTRICAL SYMBOLS

AND LEGENDS




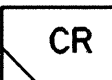
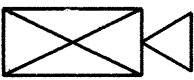
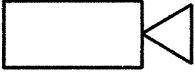
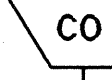


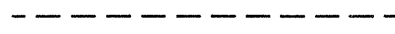
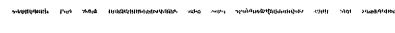






GENERAL
H-3 FINISH (UNIT III)
FAIP NO. I-H3-I(75), UNIT III
T.K. TUNNEL/ACCESS ROADS











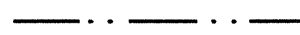




SCALE: NONE DATE: JUN 1995
SHEET NO. 1614 OF 16 SHEETS

SURVEY PLOTTED BY	DATE
DRAWN BY	10/94
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NOTED BY	10/94
CHECKED BY	10/94
ORIGINAL PLAN	
NOTE BOOK	
NO.	

ABBREVIATIONS	
ALUM	ALUMINUM
ANNUN	ANNUNCIATOR
APC	ADVANCED PROCESSING CONTROLLER
AV	AUDIBLE/VISUAL ALARM
CCTV	CLOSED CIRCUIT TELEVISION
CO	CARBON MONOXIDE MONITOR
COMM	COMMUNICATIONS
CR	CARD READER
DS	DOOR STRIKE
DT	DRIVE TRANSFORMER
EC	ELEVATOR CONTROLLER
ED	EXIT DETECTOR
EL	ELEVATION
EORM	EQUIPMENT ROOM
ES	EXIT SWITCH
FACP	FIRE ALARM CONTROL PANEL
FICE	FIBEROPTIC INTERFACE COMMUNICATION EQUIPMENT
FP	FIRE PROTECTION
HVAC	HEATING, VENTILATION, AIR CONDITIONING
I	INTERCOM
IB	IN BOUND
ID	INTRUSION DETECTOR
INT	INTRUSION
ITC	INTERFACE TERMINAL CABINET
JB	JUNCTION BOX
LH	LINEAR HEAT PUMP
MAX	MAXIMUM
MDF	MAIN DISTRIBUTION FRAME (TELEPHONE)
MHZ	MEGAHERTZ
MIN	MINIMUM
MM	MULTIMODE
NEC	NATIONAL ELECTRICAL CODE
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
OB	OUTBOUND
OC	ON CENTER
PABX	PRIVATE AUTOMATIC BRANCH EXCHANGE
PB	PORTAL BUILDING
PNL	POWER DISTRIBUTION PANEL
PS	PULL STATION
PTZ	PAN/TILT/ZOOM
RCF	RAISED COMPUTER FLOOR
RGS	RIGID GALVANIZED STEEL
RTU	REMOTE TERMINAL UNIT
R/D	RECEIVER/DRIVER
S&C	SUPERVISORY & CONTROL
SC	SIGN CONTROLLER
SD	SMOKE DETECTOR
STA	STATION

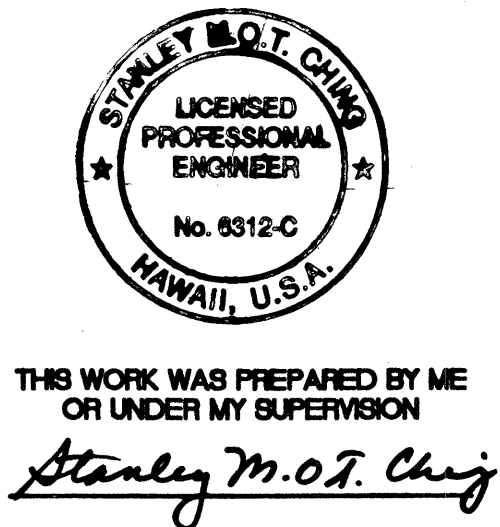
ABBREVIATIONS (Cont'd.)	
TC170	TRAFFIC CONTROLLER 170
TV	TELEVISION (CLOSED CIRCUIT)
TX	TRANSMITTER
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
URF	UNDER RAISED FLOOR
WP	WORK POINT
X-PSG	CROSSPASSAGE
XFMF	TRANSFORMER

SYMBOLS	
	AUDIBLE/VISUAL ALARM
	ADVANCED PROCESSING CONTROLLER
	BARE CABLE (NO CONDUIT)
	CARD READER
	CCTV CAMERA, FIXED POSITION
	CCTV CAMERA, PTZ
	CO MONITOR
	CONDUIT/CABLE NOTE
S-XXX	CONDUIT/CABLE NOTE
	CONDUIT (SURFACE MOUNTED)
	CONDUIT (EMBEDDED)
	CONDUIT (EXISTING)
	CONDUIT DOWN OR AWAY
	CONDUIT UP OR TOWARD
	CONSTRUCTION NOTE
	DOOR STRIKE
	DRIVE TRANSFORMER
	DRIVE TRANSFORMER

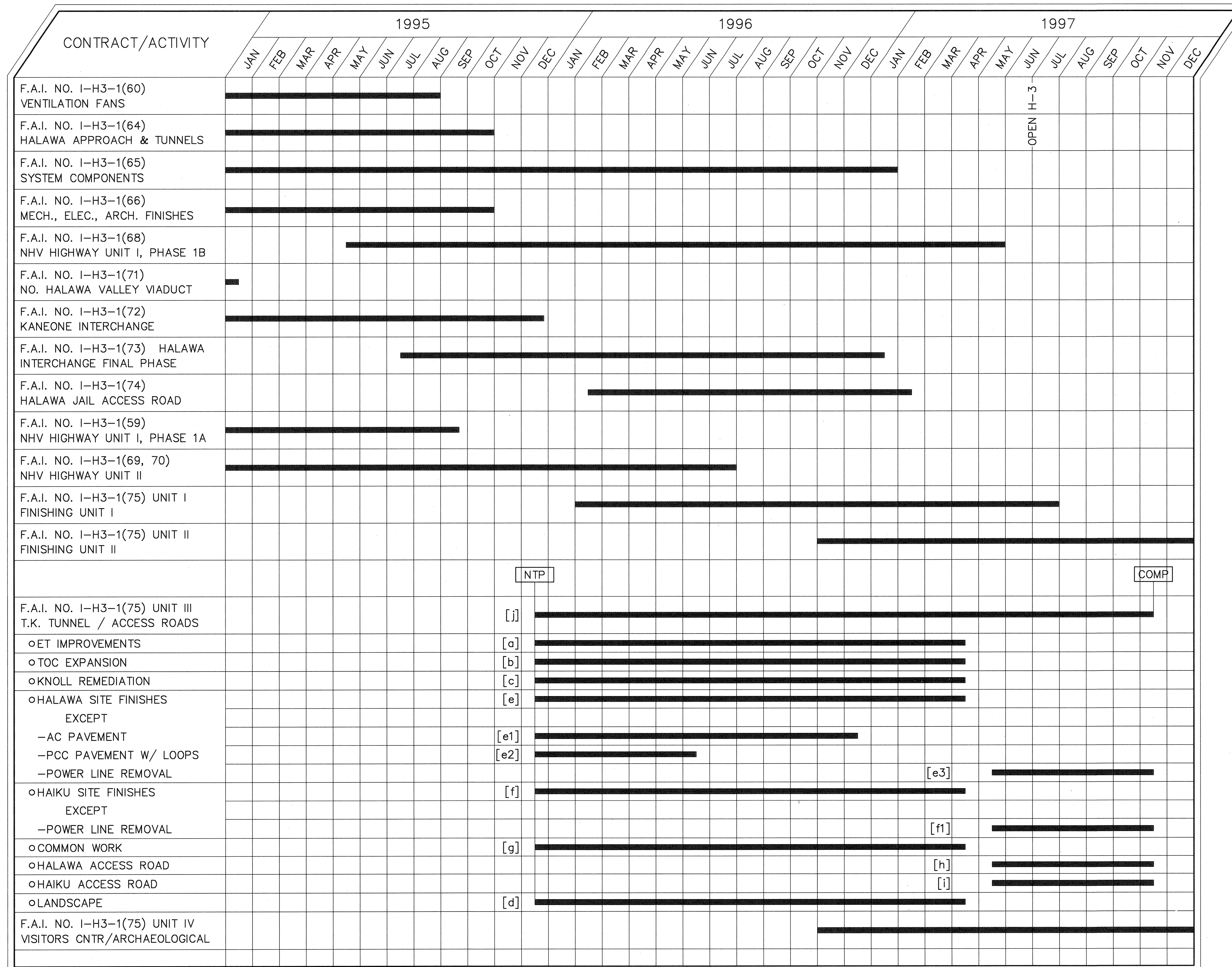
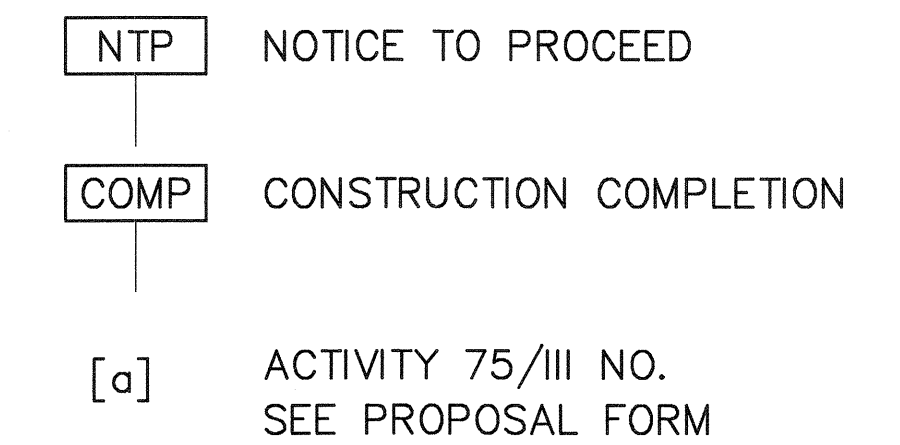
SYMBOLS (Cont'd.)	
	ELEVATOR CONTROLLER
	EXIT DETECTOR
	INTERCOM
	INTERFACE TERMINAL CABINET
	INTRUSION DETECTOR
	JUNCTION BOX, SURFACE MOUNTED (SIZE PER NEC CODE)
	JUNCTION BOX, IN STRUCTURE (SIZE PER NEC CODE)
	JUNCTION BOX, IN STRUCTURE (EXISTING)
	PABX TELEPHONE
	PULL STATION
	RADIO REBROADCAST ANTENNA
	RECEIVER/DRIVER
	SMOKE DETECTOR
	SURFACE METAL RACEWAY
	UNI-DIRECTIONAL ANTENNA

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(75) UNIT III	1994	15	353

10/13/95	ADDENDUM I
DATE	REVISION
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION SYSTEMS LEGEND AND ABBREVIATIONS GENERAL H-3 FINISH (UNIT III) FAIP NO. I-H3-1(75), UNIT III T.K. TUNNEL/ACCESS ROADS	
SCALE: NONE	DATE: JUN 1995
SHEET NO. 1G15	OF 16 SHEETS



FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(75), UNIT III	1994	16	353



DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CONSTRUCTION
MILESTONE SCHEDULE
GENERAL

H-3 FINISH (UNIT III)
FAIP NO. I-H3-1(75), UNIT III
T.K. TUNNEL/ACCESS ROADS

SCALE: NONE DATE: JUNE 1995

SHEET NO. 1G16 OF 16 SHEETS

KEVIN K.O. WONG

LICENSED
PROFESSIONAL
ENGINEER

No. 8048-C

HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME
OR UNDER MY SUPERVISION.

Kevin K.O. Wong

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(75), UNIT III	1994	ADD.16 S-1	353

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
GENERAL NOTES

(A) Erosion and Sediment Control Inspection and Maintenance Practices.

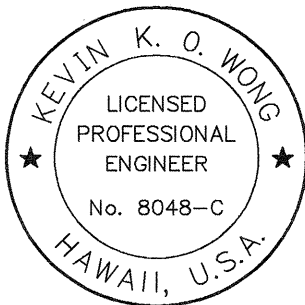
- (1) The Contractor shall inspect the erosion and sediment control measures at least once a week or after 0.5 inches of rainfall.
- (2) The Contractor shall maintain the erosion and sediment control measures according to the contract. If a repair is necessary, the Contractor shall initiate the repairs within twenty-four (24) hours after the inspection such as:
- (a) When sediment build-up reaches one-third (1/3) the height of the silt fence, the Contractor shall remove and dispose of the sediment build-up from the silt fence.
- (b) When the depth of the sediment basin reaches ten percent (10%) of the design capacity, the Contractor shall remove and dispose of the sediment build-up.
- (c) When tears are found on the silt fence, the Contractor shall replace the fabric.
- (d) The Contractor shall check to see if the fabric is securely attached to the fence posts and to see that the fence posts are firmly in the ground.
- (e) The Contractor shall inspect temporary and permanent seeding and planting for bare spots, washouts, and healthy growth.
- (3) The Contractor shall have its personnel make a maintenance inspection report promptly after each inspection. The Contractor shall select a minimum of three (3) personnel who will be responsible for inspection, maintenance, repair activities, and filling out the inspection and maintenance report. Personnel selected for the inspection and maintenance responsibilities will receive training from the Contractor. The Contractor shall train these personnel in the inspection and maintenance practices necessary for keeping the erosion and sediment controls used onsite according to the contract.

(B) Submittal Requirements:

- (1) Construction activities of five (5) acres or more.
- (a) Storm water discharges into State waters due to construction activities of Five (5) acres or more, will require an NPDES permit from the Department of Heath (DOH). The Contractor shall submit to the Engineer four (4) sets of Site-Specific Best Management Plans (BMP). The Plans shall be submitted no later than thirty (30) calendar days after the award of Contract.
- (b) No construction activities will be authorized until the Contractor's Site-Specific BMP has been approved by the Highways Division.
- (2) Construction activities dewatering and/or hydrotesting water.
- (a) Discharges into State waters due to dewatering and/or hydrotesting activities will require NPDES Permit(s) from DOH. If the Contractor options to discharge dewatering and/or hydrotesting effluent into State waters, the Contractor shall submit to the Engineer four (4) sets of Site-Specific Dewatering and /or Hydrotesting BMP, and four (4) copies of the Quality of Discharge Test results. The Plans and test results shall be submitted no later than thirty (30) calendar days after the award of Contract.
- (b) No dewatering and/or hydrotesting activities will be authorized until the receipt of the NPDES Permit(s) from DOH.

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

QAS by E. LEBACK 55-52



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OR UNDER MY SUPERVISION.

Kevin K. O. Wong

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

NPDES GENERAL NOTES

H-3 FINISH (UNIT III)
FAIP NO. I-H3-1(75), UNIT III
I.K. TUNNEL/ACCESS ROADS

SCALE: NO SCALE DATE: SEPTEMBER 1995
SHEET NO.1G16A OF 16 SHEETS

ADD.16S-1