STANDARD PLANS SUMMARY

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	IM-H2-1(29)	1997	2	129

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	r01/27/93
TE-69 ●	Wheelchair Ramps	r01/27/93

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

DATE	REVISION
02/15/91	REVISED STANDARD PLANS H-19
10/16/90	REVISED STANDARD PLANS H-16, H-17, H-22 & H-23.
07/26/90	REVISED STANDARD PLANS D-02.
07/16/90	REVISED STANDARD PLANS B-12, B-13.
05/09/90	REVISED STANDARD PLANS TE-30, TE-31, & TE-32.
11/03/89	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
09/01/87	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.
03/06/87	REVISED STANDARD PLANS D-01, TE-09, TE-40, TE-50, TE-51, TE-57, TE-59, TE-61, TE-63 & TE-64.

EDWIN H. MARUYAMA
LICENSED PROFESSIONAL ENGINEER
No 10814
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

By: Edwin H. Maruyama
FUJITA & ASSOCIATES

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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD PLANS SUMMARY

INTERSTATE ROUTE H-2
MILILANI INTERCHANGE
SOUTHBOUND ON-AND-OFF-RAMPS
F.A.I. Proj. No. IM-H2-1(29)

SCALE: NONE Date: MAR. 1997

SHEET No. 81 OF 1 SHEETS

"AS-BUILT"

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	IM-H2-1(29)	1997	3	129

DEPARTMENT OF TRANSPORTATION NOTES

GENERAL NOTES

1. ALL WORK AND MATERIALS SHALL CONFORM TO THE APPLICABLE SECTIONS OF THE CURRENT HAWAII STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION 1985, EXCEPT AS OTHERWISE PROVIDED ON THE PLANS OR IN THE SPECIAL PROVISIONS.

2. THE SCOPE OF WORK FOR THIS PROJECT CONSISTS OF CLEARING, GRADING (INCLUDING EROSION AND DUST CONTROL MEASURES), THE CONSTRUCTION OF DRAINAGE SYSTEM, ASPHALT PAVEMENT, BASE COURSES, CONCRETE BARRIERS, CHAIN LINK FENCES, CONCRETE CURB AND GUTTERS, CONCRETE SIDEWALKS, WHEELCHAIR RAMPS, REINFORCED CONCRETE RETAINING WALLS, OR MECHANICALLY STABILIZED EARTH WALL (ALTERNATIVE) INSTEAD OF THE REINFORCED CONCRETE WALL 1, SOUND WALLS IF THEIR CONSTRUCTION IS REQUESTED BY D.O.T. , SIGNING AND PAVEMENT MARKINGS, TRAFFIC CONTROL AND APPURTENANCES, INSTALLATION OF STREET LIGHT SYSTEM AND TRAFFIC SIGNAL SYSTEM, AND OTHER WORKS IN ACCORDANCE WITH THE TRUE INTENT AND MEANING OF PLANS, SPECIFICATIONS AND OTHER CONTRACT DOCUMENTS.

3. EXISTING FACILITIES AND/OR PAVEMENT TO REMAIN WHICH HAS BEEN DAMAGED BY THE CONTRACTOR SHALL BE RESTORED TO ITS ORIGINAL CONDITION AT NO COST TO STATE.

4. COVERS OF UTILITY STRUCTURES WHICH ARE IN SERVICE SHALL BE ADJUSTED TO FINISH GRADE WHETHER OR NOT THEY ARE SHOWN ON PLANS. ABANDONED UTILITY BOXES WITHIN THE AREA OF WORK SHALL BE DEMOLISHED AND DUCTS, PIPES, ETC. SHALL BE PLUGGED.

5. CONTRACTOR SHALL PROVIDE AND MAINTAIN, AS IS NECESSARY, TEMPORARY WATER DIVERSION FACILITIES WITH EQUAL OR LARGER CAPACITY THAN THE EXISTING DRAINAGE FACILITIES.

6. ALL REGRADED AREAS AND ALL GRASSED AREAS DAMAGED BY CONSTRUCTION ACTIVITIES SHALL BE PLANTED IN ACCORDANCE WITH SPECIFICATIONS. PLANTING STRIP BETWEEN CURB AND SIDEWALK SHALL BE PLANTED WITH BERMUDA GRASS (CYNODON DACTYLON).

7. EXISTING FENCES AND METAL BEAM GUARDRAILS LOCATED WITHIN THE RIGHT-OF-WAY AND WHICH ARE TO BE REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

8. EXISTING CONCRETE STRUCTURES, SUCH AS SLABS, WALLS, MANHOLES, CULVERTS, CHANNELS, ETC., WHICH ARE DESIGNATED TO BE REMOVED OR ARE IN CONFLICT WITH PROPOSED CONSTRUCTION SHALL BE REMOVED TO A DEPTH OF NOT LESS THAN 3 FEET BELOW FINISH GRADE IN ROADWAY AND NOT LESS THAN 1.5 FEET BELOW FINISH GRADE IN OTHER AREAS.

9. WHERE NECESSARY, EXISTING A.C. PAVEMENT SHALL BE COLD-PLANED TO 1½" BELOW FINISH GRADE TO PERMIT INSTALLATION OF A.C. OVERLAY OF NOT LESS THAN 1½" THICKNESS. SUCH WORK IS NOT LIMITED TO AREAS IDENTIFIED ON PLANS, BUT SHALL BE PERFORMED AS REQUIRED.

10. ALL EXISTING PAVEMENT WHICH WILL NOT REMAIN SHALL BE ROOTED, PLOWED, PULVERIZED OR SCARIFIED TO A MINIMUM DEPTH OF 6".

11. SAW CUT PAVEMENT, SIDEWALK, CURB, AND GUTTER AT LIMITS OF RECONSTRUCTION BEFORE REMOVAL.

12. BACKFILL BETWEEN RECONSTRUCTED SIDEWALK AND CURB WITH SELECT MATERIAL AND AT LEAST 6-INCHES TOPSOIL.

13. PROVIDE EXPANSION JOINTS IN CONCRETE CURB AND GUTTERS AND IN CONCRETE SIDEWALKS AT A SPACING NOT EXCEEDING 100 FEET AND AT BEGINNING AND END OF CURB RETURNS. JOINTS IN SIDEWALK SHALL BE IN LINE WITH JOINTS IN ABUTTING CURB OR ADJACENT CURB.

14. PROVIDE LONGITUDINAL BROOM FINISH FOR CURB TYPE 2D AND CURB & GUTTER TYPE 2DG.

15. STATE PLANE COORDINATE SYSTEM ORIGIN OF AZIMUTH: MEHEULA PARKWAY BASE LINE 51° 44'42".

16. THE CONTRACTOR IS REMINDED OF THE REQUIREMENTS OF SUBSECTION 108.01 - SUBLETTING OF CONTRACT, WHICH REQUIRES HIM TO PERFORM WORK AMOUNTING TO NOT LESS THAN 50 PERCENT OF THE TOTAL CONTRACT COST LESS DEDUCTIBLE ITEMS. NON-COMPLIANCE WITH THIS SUBSSECTION MAY BE GROUNDS FOR REJECTION OF BID.

17. THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE FOLLOWING SECTIONS OF THE SPECIAL PROVISIONS: SUBSECTION 107.13 - PUBLIC CONVENIENCE AND SAFETY; SUBSECTION 107.21 - CONTRACTOR'S RESPONSIBILITY FOR UTILITY PROPERTY AND SERVICES; AND SECTION 645 - TRAFFIC CONTROL.

18. 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.

19. 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.

20. THE CONTRACTOR SHALL NOTIFY IN WRITING, THE OAHU TRANSIT SERVICES, INC. ROADS SUPERVISION OFFICE, 811 MIDDLE ST., HONO., HI 96819 (PHONE NO. 848-4571) SEVEN (7) DAYS PRIOR TO ANY PAVING OPERATIONS.

21. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING TWO (2) WEEKS PRIOR TO STARTING PAVING OPERATIONS.

22. ALL HOLES, DEPRESSIONS AND WHEEL RUTS SHALL BE FILLED AND COMPACTED WITH ASPHALT CONCRETE PAVEMENT, MIX NO. V PRIOR TO PAVING. THIS WORK WILL BE CONSIDERED INCIDENTAL TO VARIOUS CONTRACT ITEMS.

23. SMOOTH RIDING CONNECTIONS SHALL BE CONSTRUCTED AT PAVING LIMITS, INCLUDING THE ADJACENT LANE AS SHOWN ON THE PLANS AND/OR AS DIRECTED BY THE ENGINEER.

24. 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.

25. EARTH SWALE SHALL BE GRADED TO DRAIN. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE VARIOUS CONTRACT ITEMS.

26. CONTRACTOR SHALL RESTORE AREAS DISTURBED BY ITS OPERATIONS TO THE SATISFACTION OF THE ENGINEER IN THE FIELD. COST FOR THIS WORK WILL BE CONSIDERED INCIDENTAL TO THE VARIOUS CONTRACT ITEMS.

27. NO MATERIAL AND OR EQUIPMENT SHALL BE STOCKPILED OR OTHERWISE STORED WITHIN HIGHWAY RIGHT-OF-WAY EXCEPT AT LOCATIONS DESIGNATED IN WRITING AND APPROVED BY THE ENGINEER.

28. THE CONTRACTOR SHALL NOTIFY THE SUPERVISORS HIGHWAY LIGHTING AND TRAFFIC SIGNAL OF STATE OF HAWAII DEPARTMENT OF TRANSPORTATION, THREE (3) WORKING DAYS PRIOR TO COMMENCING WORK IN THIS AREA (834-4581).

GRADING NOTES

1. ALL GRADING WORK SHALL BE DONE IN ACCORDANCE WITH CHAPTER 14, ARTICLES 13, 14, 15 AND 16 AS RELATED TO GRADING, SOIL EROSION AND SEDIMENT CONTROL, OF THE REVISED ORDINANCES OF HONOLULU, 1990, AS AMENDED.

2. NO CONTRACTOR SHALL PERFORM ANY GRADING OPERATION SO AS TO CAUSE FALLING ROCKS, SOIL OR DEBRIS IN ANY FORM TO FALL, SLIDE OR FLOW ONTO ADJOINING PROPERTIES, STREETS OR NATURAL WATERCOURSES. SHOULD SUCH VIOLATIONS OCCUR, THE COSTS INCURRED FOR ANY REMEDIAL ACTION BY THE CHIEF ENGINEER SHALL BE PAYABLE BY THE CONTRACTOR.

3. THE CONTRACTOR, AT HIS OWN EXPENSE, SHALL KEEP THE PROJECT AREA AND SURROUNDING AREA FREE FROM DUST NUISANCE. THE WORK SHALL BE IN CONFORMANCE WITH THE AIR POLLUTION CONTROL STANDARDS AND REGULATIONS OF THE STATE DEPARTMENT OF HEALTH.

4. THE UNDERGROUND PIPES, CABLES OR DUCTLINES KNOWN TO EXIST BY THE ENGINEER FROM HIS SEARCH OF RECORDS ARE INDICATED ON THE PLANS. THE CONTRACTOR SHALL VERIFY THE LOCATIONS AND DEPTHS OF THE FACILITIES AND EXERCISE PROPER CARE IN EXCAVATING IN THE AREA. WHEREVER CONNECTIONS OF NEW UTILITIES TO EXISTING UTILITIES ARE SHOWN ON THE PLANS, THE CONTRACTOR SHALL EXPOSE THE EXISTING LINES AT THE PROPOSED CONNECTIONS TO VERIFY THEIR LOCATIONS AND DEPTHS PRIOR TO EXCAVATION FOR THE NEW LINES. ALSO, THE CONTRACTOR NEEDS TO CHECK WITH THE VARIOUS UTILITY COMPANIES, HAWAIIAN ELECTRIC COMPANY, HAWAIIAN TELEPHONE, BOARD OF WATER SUPPLY, AND AT&T AND HAVE THE AREA TONED.

⚠ 5. ALL SLOPES AND EXPOSED AREAS SHALL BE SODDED OR PLANTED AS SOON AS FINAL GRADES HAVE BEEN ESTABLISHED. PLANTING SHALL NOT BE DELAYED UNTIL ALL GRADING WORK HAS BEEN COMPLETED. GRADING TO FINAL GRADE SHALL BE CONTINUOUS, AND ANY AREA, WITHIN WHICH WORK HAS BEEN INTERRUPTED OR DELAYED, SHALL BE PLANTED. ~~PLANTING SHALL BE IN ACCORDANCE WITH SPECIFICATIONS SECTION 653 - TEMPORARY GROUND COVER.~~

6. FILLS ON EXISTING SLOPES STEEPER THAN 5:1 SHALL BE KEYED.

7. THE CITY SHALL BE INFORMED OF THE LOCATION OF THE BORROW/DISPOSAL SITE FOR THE PROJECT WHEN THE APPLICATION FOR THE GRADING PERMIT IS MADE. THE BORROW/DISPOSAL SITE MUST ALSO FULFILL THE REQUIREMENTS OF THE GRADING ORDINANCE.

8. NO GRADING WORK SHALL BE DONE ON SATURDAYS, SUNDAYS AND HOLIDAYS AT ANY TIME WITHOUT PRIOR NOTICE TO THE CHIEF ENGINEER.

9. THE LIMITS OF THE GRADED AREA SHALL BE FLAGGED BEFORE COMMENCEMENT OF THE GRADING WORK.

10. ALL GRADING OPERATIONS SHALL BE PERFORMED IN CONFORMANCE WITH THE APPLICABLE PROVISIONS OF CHAPTER 54, WATER QUALITY STANDARDS, AND CHAPTER 55, WATER POLLUTION CONTROL, OF TITLE 11, ADMINISTRATIVE RULES OF THE STATE DEPARTMENT OF HEALTH.

11. EXCAVATED MATERIAL ON SITE WHICH WILL BE EXPOSED FOR MORE THAN 7 DAYS SHALL BE COVERED WITH PLASTIC SHEETS WITHIN 2 DAYS OF PLACEMENT OR AS DIRECTED BY THE ENGINEER.

12. "FILTER INLETS" SHALL BE INSTALLED IN SWALES NEAR CATCH BASINS IN ORDER TO FILTER SEDIMENT FROM RUNOFF, BEFORE WATERS ENTER CLOSED DRAINAGE SYSTEM.

13. THE BORROW/DISPOSAL SITE MUST FULFILL THE REQUIREMENTS OF THE GRADING ORDINANCE.

14. ON SITE SOILS MAY BE USED AS FILL OR BACKFILL, ALL UNSUITABLE TO BE HAULED OFF SITE AND PROPERLY DISPOSED OF IN ACCORDANCE WITH APPLICABLE CITY & COUNTY ORDINANCES AT THE CONTRACTOR EXPENSE.

15. IMPORTING FILL FROM MAUKA BORROW SITE TO THE PROJECT SITE SHALL BE AT THE CONTRACTOR EXPENSE.

16. FOR BENCH MARKS AND EXISTING MONUMENTS SEE SHEET NUMBER 9.

GENERAL DRAINAGE NOTES

1. DRAINAGE PIPES TO BE ABANDONED SHALL BE REMOVED AS NECESSARY TO FACILITATE CONSTRUCTION. PIPES TO BE ABANDONED IN PLACE SHALL BE PLUGGED AT BOTH ENDS.

2. WHEN EXCAVATING IN CLOSE PROXIMITY OF WALLS, FENCES, UTILITY POLES, TRAFFIC SIGNAL POLES AND OTHER IMPROVEMENTS, THE CONTRACTOR SHALL PROTECT, SUPPORT, SECURE AND TAKE ALL OTHER NECESSARY PRECAUTIONS TO PREVENT DAMAGING THESE FACILITIES AND IMPROVEMENTS.

3. CONTRACTOR SHALL SEQUENCE CONSTRUCTION SUCH THAT EXIST. FACILITIES REMAIN IN SERVICE UNTIL NEW FACILITIES ARE IN SERVICE OR SHALL PROVIDE AND MAINTAIN, AS IS NECESSARY, TEMPORARY WATER DIVERSION FACILITIES.

4. THE CONTRACTOR SHALL VERIFY LOCATIONS AND ELEVATIONS OF ALL EXISTING UTILITY LINES AND NOTIFY RESPECTIVE OWNERS BEFORE COMMENCING EXCAVATION WORK FOR DRAINLINES.

5. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS STAMPED BY A LICENSED ENGINEER OF PRE-CAST DRAINAGE STRUCTURES TO THE ENGINEEER FOR APPROVAL. CONTRACTOR SHALL VERIFY LOCATION OF EXIST. UTILITIES PRIOR TO MANUFACTURING PRE-CAST STRUCTURES TO ENSURE CONFLICTS WITH PROPOSED DRAINAGE STRUCTURE DO NOT EXIST.

6. THE REFERENCE POINT FOR LOCATING DRAINAGE STRUCTURES BY STATION AND OFFSETS IS AT THE CENTER OF THE MAIN BODY, EXCEPT THAT AT CATCH BASINS THE REFERENCE POINT IS AT THE CENTERLINE OF THE MAIN BODY AT FACE OF CURB OR GUTTER INVERT.

7. EXISTING DRAINAGE FACILITIES TO REMAIN AND LOCATED WITHIN PROJECT LIMITS SHALL BE CLEANED OF SILT AND DEBRIS.

8. EXCEPT IN AREAS WHERE NEW PAVEMENT STRUCTURE IS BEING CONSTRUCTED, EXISTING PAVEMENT DAMAGED BY TRENCHIING OR OTHER ACTIVITIES SHALL BE RESTORED IN ACCORDANCE WITH DETAIL SHOWN ON SHT. 33.

9. STEEL PLATES FOR COVERING TRENCHES SHALL HAVE SKID RESISTANT SURFACE.

10. ALL DRAINAGE PIPE SHALL BE REINFORCED CONCRETE PIPE, CLASS III UNLESS OTHERWISE SPECIFIED ON PLANS.

ABBREVIATIONS

AC	ASPHALTIC CONCRETE
℔	BASE LINE
BVC	BEGIN VERTICAL CURVE
BM	BENCH MARK
C. B.	CATCH BASIN
CRM	CEMENT RUBBLE MASONRY
℄	CENTERLINE
C	CENTER OF CURVE
C. L.	CHAIN LINK
CONC.	CONCRETE
CMP	CORRUGATED METAL PIPE
DMH	DRAIN MANHOLE
ELEV.	ELEVATION
EVC	END VERTICAL CURVE
EXIST.	EXISTING
GDI	GRATED DROP INLET
GRP	GROUTED ROCK PAVEMENT
HORIZ.	HORIZONTAL
INV	INVERT
L	LENGTH
LF	LINEAR FEET
M.P.	MEHEULA PARKWAY
O.C.	ON CENTER
PAV'T.	PAVEMNT
P.C.C.	POINT OF COMPOUND CURVE
P.C.	POINT OF CURVATURE
PIVC	POINT OF INTERSECTION VERTICAL CURVE
P.T.	POINT OF TANGENCY
P/L	PROPERTY LINE
R	RADIUS
RCP	REINFORCED CONCRETE PIPE
SHT.	SHEET
S̶	SHOULDER LINE
S	SLOPE
ST'D.	STANDARD
STA.	STATION
TYP.	TYPICAL
VERT.	VERTICAL
V.C.	VERTICAL CURVE
E.P.	NEW EDGE OF PAVEMENT
e.P.	EXISTING EDGE OF PAVEMENT
E.S.	NEW EDGE OF SHOULDER
e.S.	EXISTING EDGE OF SHOULDER

LEGEND

==D 24==	EXISTING DRAINLINE
	EXISITNG CATCHBASIN
□	EXISTING GRATED DROP INLET
○	EXISTING MANHOLE
—x—x—	EXISTING CHAIN LINK FENCE
	EXISTING CMU WALL
	EXISTING TREE

REAPPROVED (DUE TO TIME LAPSE)

Act'g. DIRECTOR AND CHIEF ENGINEER — DATE 2/19/97
DEPARTMENT OF PUBLIC WORKS
CITY AND COUNTY OF HONOLULU

CHIEF, DIVISION OF ENGINEERING, D.P.W. GS — DATE 2/18/97
(FOR GRADING ONLY)

APPROVED:

for DIRECTOR AND CHIEF ENGINEER — DATE 4/15/95
DEPARTMENT OF PUBLIC WORKS
CITY AND COUNTY OF HONOLULU

CHIEF, DIVISION OF ENGINEERING D.P.W. GS — DATE 4/12/95
(FOR GRADING ONLY)

EDWIN H. MARUYAMA LICENSED PROFESSIONAL ENGINEER No. [illegible]-C HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
By: [signature] FUJITA & ASSOCIATES

NO.	DATE	DESCRIPTION	ENGR.	D.P.W.		
⚠	11/11/95	GRADING NOTE No. 5	[signature]	1/11/96		
REVISION				APPROVED		

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CONSTRUCTION NOTES

INTERSTATE ROUTE H-2
MILILANI INTERCHANGE
SOUTHBOUND ON-AND-OFF-RAMPS
F.A.I. Proj. No. IM-H2-1(29)

SCALE: NONE — DATE: MAR. 1997

SHEET No. N1 OF 4 SHEETS

"AS-BUILT" 3

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

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	IM-H2-1(29)	1997	4	129

GENERAL NOTES FOR TRAFFIC CONTROL PLAN

1. THE CONTRACTOR SHALL MAKE MINOR ADJUSTMENTS AT INTERSECTIONS, DRIVEWAYS, BRIDGES, STRUCTURES, ETC., TO FIT FIELD CONDITIONS.
2. CONES OR DELINEATORS SHALL BE EXTENDED TO A POINT WHERE THEY ARE VISIBLE TO APPROACHING TRAFFIC.
3. TRAFFIC CONTROL DEVICES SHALL BE INSTALLED SUCH THAT THE SIGN OR DEVICE FARTHEST FROM THE WORK AREA SHALL BE PLACED FIRST. THE OTHERS SHALL THEN BE PLACED PROGRESSIVELY TOWARD THE WORK AREA.
4. REGULATORY AND WARNING SIGNS WITHIN THE CONSTRUCTION ZONE THAT ARE IN CONFLICT WITH THE TRAFFIC CONTROL PLANS SHALL BE REMOVED OR COVERED. ALL SIGNS SHALL BE RESTORED UPON COMPLETION OF THE WORK.
5. FLAGGERS AND/OR POLICE OFFICERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES.
6. WHEN REQUIRED BY THE DISTRICT ENGINEER, THE CONTRACTOR SHALL INSTALL A FLASHING ARROW SIGNAL AS SHOWN ON THE TRAFFIC CONTROL PLANS.
7. SIGN SPACINGS (L), TAPER LENGTHS (T) AND SPACINGS OF CONES OR DELINEATORS SHALL BE AS SHOWN IN TABLE 1 OF SECTION 645 IN THE SPECIFICATIONS, UNLESS OTHERWISE NOTED ON THE TRAFFIC CONTROL PLANS.
8. ALL TRAFFIC LANES SHALL BE MINIMUM OF 12 FEET WIDE ON H-2 FREEWAY.
9. ALL CONSTRUCTION WARNING SIGNS SHALL BE PROMPTLY REMOVED OR COVERED WHENEVER THE MESSAGE IS NOT APPLICABLE OR NOT IN USE.
10. THE BACKS OF ALL SIGNS USED FOR TRAFFIC CONTROL SHALL BE APPROPRIATELY COVERED TO PRECLUDE THE DISPLAY OF INAPPLICABLE SIGN MESSAGES (I.E., WHEN SIGNS HAVE MESSAGES ON BOTH FACES).
11. AT THE END OF EACH DAY'S WORK OR AS SOON AS THE WORK IS COMPLETED, THE PERMITTEE SHALL REMOVE ALL TRAFFIC CONTROL DEVICES NO LONGER NEEDED TO PERMIT FREE AND SAFE PASSAGE OF PUBLIC TRAFFIC. REMOVAL SHALL BE IN THE REVERSE ORDER OF INSTALLATION.
12. REPLACE PERMANENT PAVEMENT MARKINGS AND TRAFFIC SIGNS UPON COMPLETION OF EACH PHASE OF WORK.
13. ALL LANE CLOSURES AND OTHER TRAFFIC PATTERN CHANGES (DETOURS) NOT SHOWN ON THE PLANS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL IN ACCORDANCE WITH SPECIFICATIONS SECTION 645 - TRAFFIC CONTROL. FOR RESTRICTIONS ON LANE CLOSURES, DETOURS, CONSTRUCTION WORK DURING PEAK HOURS, AND OTHER REQUIREMENTS REGARDING MAINTAINING VEHICULAR AND PEDESTRIAN TRAFFIC, SEE SECTION 645 - TRAFFIC CONTROL.

SIGNING NOTES:

1. SIGN DETAILS SHALL CONFORM TO THE LATEST EDITIONS AND AMENDMENTS OF THE FOLLOWING FHWA PUBLICATIONS: "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS", "STANDARD HIGHWAY SIGNS" AND "STANDARD ALPHABETS FOR HIGHWAY SIGNS."
2. BORDER WIDTHS AND RADII SHALL CONFORM TO STANDARD PLAN TE-14, EXCEPT AS NOTED.
3. SUPERFLUOUS EXISTING SIGNS ARE GENERALLY NOT SHOWN ON PLANS. THEY SHALL BE REMOVED AND STOCKPILED AT DOT'S PEARL CITY BASEYARD AS DIRECTED BY THE ENGINEER. REMOVAL OF SIGNS SHALL ALSO INCLUDE THE REMOVAL OF POST AND FOUNDATION TO A MINIMUM HEIGHT OF 1-FOOT BELOW THE GROUND. POST AND FOUNDATIONS SHALL BECOME THE PROPERTY OF THE CONTRACTOR.
4. THE CONTRACTOR SHALL BACKFILL ALL HOLES, DEPRESSIONS AND PITS LEFT BY THE REMOVAL OF THE EXISTING SIGNS WITH EMBANKMENT MATERIAL AND GRASS ALL AREAS EXPOSED.
5. DESTINATION AND GUIDE SIGN'S MOUNTING AND FOOTING, SHALL CONFORM TO STANDARD PLANS TE-23, TE-24, AND TE-26 EXCEPT AS NOTED ON PLANS.

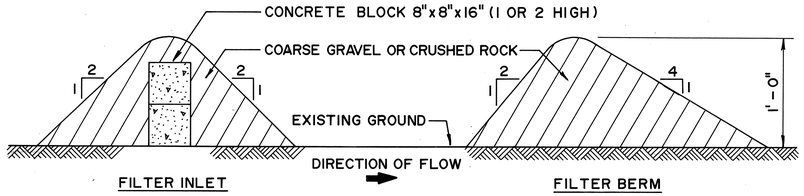
PAVEMENT MARKING NOTES

1. PAVEMENT STRIPING, ARROWS, DIAMONDS AND OTHER SYMBOLS SHALL BE REFLECTIVE THERMOPLASTIC COMPOUND PAVEMENT MARKINGS.
2. LOCATION OF PAVEMENT MARKERS IS SHOWN SCHEMATICALLY. FOR EXACT LOCATION OF MARKERS IN RELATION TO STRIPE, SEE STANDARD PLANS TE-30, TE-31, TE-32.

TYPICAL SECTION NOTES:

1. SEE ROADWAY CONSTRUCTION PLANS FOR LIMITS OF ROADWAY AND SIDEWALK RECONSTRUCTION.
2. CROSS SLOPE OF SIDEWALK SHALL BE 1/4"/FT.
3. PROVIDE EXPANSION JOINTS IN CONCRETE CURB AND GUTTERS AND IN CONCRETE SIDEWALKS AT A SPACING NOT EXCEEDING 100 FEET AND AT BEGINNING AND END OF CURB RETURNS. JOINTS IN SIDEWALK SHALL BE IN LINE WITH JOINTS IN ABUTTING CURB.

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



TEMPORARY EROSION CONTROL DETAILS
N.T.S.

TEMPORARY EROSION CONTROL NOTES

1. LOCATION OF FILTER INLETS FOR TEMPORARY EROSION CONTROL ARE SHOWN ON DRAINAGE AND GRADING PLANS.
2. CONTRACTOR MAY USE FILTER FABRIC SILT FENCE IN LIEU OF FILTER BERMS SUBJECT TO THE APPROVAL OF THE ENGINEER.

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 THE DIVERSION DIKE AND REPAIR THE BREACHES.

(f) 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 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 HEALTH (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.

APPROVED:

CHIEF, DIVISION OF ENGINEERING, D.P.W. (FOR EROSION CONTROL ONLY) — DATE 9/15/95

REAPPROVAL (DUE TO TIME LAPSE)

CHIEF, DIVISION OF ENGINEERING, D.P.W. (FOR EROSION CONTROL ONLY) — DATE 2/19/97

EDWIN H. MARUYAMA LICENSED PROFESSIONAL ENGINEER No 1899-C HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

By: Edwin H. Maruyama
FUJITA & ASSOCIATES

NO.	DATE	REVISION	ENGR.	APPROVED
1	8/8/95	ADDED NPDES NOTES	MM	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CONSTRUCTION NOTES

INTERSTATE ROUTE H-2
MILILANI INTERCHANGE
SOUTHBOUND ON- AND OFF-RAMPS
F.A.I. Proj. No. IM-H2-1(29)

SCALE: AS NOTED DATE: MAR. 1997

SHEET No. N2 OF 4 SHEETS

"AS-BUILT"

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	IM-H2-1(29)	1997	5	129

C & C OF HONOLULU NOTES

GENERAL CONSTRUCTION NOTES

1. THE CONTRACTOR SHALL PERFORM APPLICABLE CONSTRUCTION WORK ALL IN ACCORDANCE WITH THE STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION DATED SEPTEMBER 1984 AS AMENDED AND THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION SEPTEMBER 1986, OF THE DEPARTMENT OF PUBLIC WORKS, CITY AND COUNTY OF HONOLULU AND THE REVISED ORDINANCES OF HONOLULU, 1990, AS AMENDED.
2. VERIFY AND CHECK ALL DIMENSIONS AND DETAILS SHOWN ON THE DRAWINGS PRIOR TO THE START OF CONSTRUCTION. ANY DISCREPANCY SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ENGINEER FOR CLARIFICATION.
3. ALL EXISTING UTILITIES WHETHER OR NOT SHOWN ON THE PLANS SHALL BE PROTECTED AT ALL TIMES BY THE CONTRACTOR DURING CONSTRUCTION AND ANY DAMAGE TO THEM SHALL BE REPAIRED AND PAID FOR BY THE CONTRACTOR.
4. 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.
5. WHEN EXCAVATING TRENCHES ADJACENT TO OR UNDER EXISTING STRUCTURES OR FACILITIES, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPERLY SHEETING AND BRACING THE EXCAVATION AND STABILIZING THE EXISTING GROUND TO RENDER IT SAFE AND SECURE FROM POSSIBLE SLIDES, CAVE-INS AND SETTLEMENT, AND FOR PROPERLY SUPPORTING EXISTING STRUCTURES AND FACILITIES WITH BEAMS, STRUTS OR UNDERPINNING TO FULLY PROTECT IT FROM DAMAGE.
6. BACKFILL UNDER EXISTING STRUCTURES OR FACILITIES SHALL BE SANDY OR GRANULAR MATERIAL COMPLETELY PLACED AS SOON AS THE PIPE IS LAID AND TESTED. THE BACKFILL MATERIAL SHALL BE RAMMED WITH PROPER TOOLS UNTIL COMPACTED FROM 90% TO 95% OF IT'S MAXIMUM DENSITY.
7. 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 UNCLASSIFIED TRENCH EXCAVATION.
8. 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. AT NO COST TO THE CITY.
9. NO STOCKPILING OF MATERIAL WILL BE PERMITTED ON CITY AND COUNTY STREETS.
10. THE CONTRACTOR SHALL OBSERVE AND COMPLY WITH PUBLIC HEALTH REGULATIONS TITLE 11, CHAPTER 42, 43, 44A AND 44B REGARDING NOISE CONTROL FOR OAHU.
11. THE UNDERGROUND PIPES, CABLES OR DUCTLINES KNOWN TO EXIST BY THE ENGINEER FROM HIS SEARCH OF RECORDS ARE INDICATED ON THE PLANS. THE CONTRACTOR SHALL VERIFY THE LOCATIONS AND DEPTHS OF THE FACILITIES AND EXERCISE PROPER CARE IN EXCAVATING IN THE AREA. WHEREVER CONNECTIONS OF NEW UTILITIES TO EXISTING LINES ARE SHOWN ON THE PLANS, THE CONTRACTOR SHALL EXPOSE THE EXISTING LINES AT THE PROPOSED CONNECTIONS TO VERIFY THEIR LOCATIONS AND DEPTHS PRIOR TO EXCAVATION FOR THE NEW LINES.
12. THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION SECTION, DIVISION OF ENGINEERING, DEPARTMENT OF PUBLIC WORKS AT 527-6311 TO ARRANGE FOR INSPECTIONAL SERVICES AND SUBMIT THREE (3) SETS OF APPROVED CONSTRUCTION PLANS SEVEN (7) DAYS PRIOR TO COMMENCEMENT OF CONSTRUCTION.
13. BENCH MARKS FOR THIS PROJECT ARE AS SHOWN ON PLAN AND PROFILE SHEETS.
14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONFORMITY WITH THE APPLICABLE PROVISIONS OF CHAPTER 54, WATER QUALITY STANDARDS, AND CHAPTER 55, WATER POLLUTION CONTROL, OF TITLE 11, ADMINISTRATIVE RULES OF THE STATE DEPARTMENT OF HEALTH.

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, 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 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 COSTS INCURRED FOR ANY REMEDIAL ACTION BY THE CHIEF ENGINEER 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.
5. THE CONTRACTOR SHALL APPLY FOR A CONSTRUCTION PERMIT WITH A NOISE POLLUTION CONTROL PLAN.

TRAFFIC NOTES

1. CONTRACTOR SHALL OBTAIN THE PERMIT FROM THE DEPARTMENT OF TRANSPORTATION SERVICES BEFORE WORK ON ANY PORTION OF A PUBLIC STREET OR HIGHWAY MAY BEGIN.
2. THE CONTRACTOR SHALL PROVIDE, INSTALL, AND MAINTAIN ALL NECESSARY SIGNS AND OTHER PROTECTIVE FACILITIES, WHICH SHALL CONFORM WITH THE "HAWAII ADMINISTRATION RULES 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 CURRENT U.S. FEDERAL HIGHWAY ADMINISTRATION'S "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREET AND HIGHWAYS, PART VI - TRAFFIC CONTROLS FOR STREET AND HIGHWAY CONSTRUCTION AND MAINTENANCE OPERATIONS."
3. WORK ON ANY STREET AREA MAY BE PERFORMED ONLY BETWEEN THE HOURS OF 8:30 A.M. TO 3:00 P.M., MONDAY THROUGH FRIDAY, UNLESS OTHERWISE PERMITTED BY THE DEPARTMENT OF TRANSPORTATION SERVICES.
4. DURING WORKING HOURS, THE CONTRACTOR SHALL PROVIDE FOR TWO LANES FOR THROUGH TRAFFIC. ON STREETS TOO NARROW TO MAKE THIS PRACTICABLE, THE CONTRACTOR MAY WORK IN ONE HALF THE ROADWAY, KEEPING THE OTHER HALF OPEN TO TRAFFIC AND ALTERNATING THE FLOW OF TRAFFIC. IF UNABLE TO PROVIDE ONE LANE, THE CONTRACTOR SHALL AT LEAST (3) WEEKS, PRIOR TO CLOSURE, SUBMIT A TRAFFIC CONTROL PLAN TO THE DEPARTMENT OF TRANSPORTATION SERVICES FOR APPROVAL. DURING NON-WORKING HOURS, ALL TRENCHES SHALL BE COVERED WITH A SAFE NON-SKID BRIDGING MATERIAL AND ALL LANES SHALL BE OPEN TO TRAFFIC.
5. AS REQUIRED BY THE DEPARTMENT OF TRANSPORTATION SERVICES, THE CONTRACTOR SHALL PROVIDE OFF-DUTY POLICE OFFICERS TO CONTROL THE FLOW OF TRAFFIC.
6. WHERE PEDESTRIAN WALKWAYS EXIST, THEY SHALL BE MAINTAINED IN PASSABLE CONDITION OR OTHER FACILITIES FOR PEDESTRIANS SHALL BE PROVIDED. PASSAGE BETWEEN WALKWAYS AT INTERSECTIONS SHALL LIKEWISE BE PROVIDED.
7. THE CONTRACTOR SHALL REFERENCE, TO THE APPROVAL OF THE DEPARTMENT OF TRANSPORTATION SERVICES, ALL EXISTING TRAFFIC SIGNS, POSTS AND PAVEMENT MARKINGS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. THE CONTRACTOR SHALL REPLACE OR REPAIR ALL TRAFFIC SIGNS, POSTS, AND PAVEMENT MARKINGS DISTURBED BY HIS ACTIVITIES. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF TRANSPORTATION SERVICES AT 523-4029 ONE (1) WEEK PRIOR TO ANY WORK TO BE DONE ON SIGNS, POSTS AND PAVEMENT MARKINGS.
8. THE CONTRACTOR SHALL PROVIDE SAFE ACCESS TO ALL STREETS AND DRIVEWAYS OR SHALL MAKE OTHER ARRANGEMENTS TO THE SATISFACTION OF THE AFFECTED RESIDENTS. THE CONTRACTOR SHALL NOTIFY THE HONOLULU POLICE AND FIRE DEPARTMENTS OF THE WORK IN PROGRESS AND BLOCKING OF ANY STREETS.
9. NO MATERIAL AND/OR EQUIPMENT SHALL BE STOCKPILED OR OTHERWISE STORED WITHIN STREET RIGHTS-OF-WAY EXCEPT AT LOCATIONS DESIGNATED IN WRITING AND APPROVED BY DEPARTMENT OF TRANSPORTATION SERVICES.
10. STATE DEPARTMENT OF TRANSPORTATION SHALL ENSURE THAT THE CONTRACTOR INSTALL THE CONSTRUCTION TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH THE MUTCD AND HAWAII RULES AND REGULATIONS AS SPECIFIED IN TRAFFIC NOTE #2.

REAPPROVED (DUE TO TIME LAPSE)

CHIEF, DIVISION OF ENGINEERING, D.P.W. (FOR CONSTRUCTION WITHIN CITY R/W ONLY) — DATE 2/18/97

APPROVED:

CHIEF, DIVISION OF ENGINEERING, D.P.W. (FOR CONSTRUCTION WITHIN CITY R/W ONLY) — DATE 4/2/95

CHIEF, TRANSPORTATION MANAGEMENT DIVISION, D.T.S. (FOR CONSTRUCTION WITHIN CITY R/W ONLY) — DATE 3/18/96

NO.	DATE	DESCRIPTION	ENGR.	D.P.W.
REVISION				APPROVED

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CONSTRUCTION NOTES

INTERSTATE ROUTE H-2
MILILANI INTERCHANGE
SOUTHBOUND ON-AND-OFF-RAMPS
F.A.I. Proj. No IM-H2-1 (29)

SCALE: NONE — DATE: MAR. 1997

SHEET No. N3 OF 4 SHEETS

EDWIN H. MARUYAMA LICENSED PROFESSIONAL ENGINEER No. 1829-C HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

By: Edwin H. Maruyama
FUJITA & ASSOCIATES

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

ORIGINAL PLAN
NOTE BOOK
No. ____

137218

"AS-BUILT" 5

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	IM-H2-1(29)	1997	6	129

NOTES PER SUBSURFACE INVESTIGATION REPORT

1. PRIOR TO THE START OF ACTUAL GRADING OPERATIONS, THE SITE SHALL BE CLEARED AND GRUBBED IN ACCORDANCE WITH SECTION 201 OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION OF THE STATE OF HAWAII DEPARTMENT OF TRANSPORTATION, HEREINAFTER REFERRED TO AS STANDARD SPECIFICATIONS. ALL ORGANICS, ABOVE-GROUND VEGETATION, RUBBISH AND OTHER DELETERIOUS MATERIAL SHALL BE WASTED OFF-SITE.

2. EXISTING STOCKPILES, SWALES AND SIMILAR ITEMS SHALL BE REMOVED AND CLEANED OUT TO HARD NATURAL GROUND OR COMPACTED FILL. CONCRETE CURBS, MANHOLES AND SIMILAR OBSTRUCTIONS WHICH AFFECT THE PLANNED CONSTRUCTION, OR ARE DESIGNATED FOR REMOVAL ON THE GRADING AND DRAINAGE PLANS, SHALL BE SIMILARLY REMOVED. THE RESULTING DEPRESSIONS SHALL BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH THE MATERIAL, PLACEMENT, AND COMPACTION REQUIREMENTS HEREIN.

3. AREAS TO RECEIVE FILL WHICH ARE STEEPER THAN 5H:1V SHALL BE BENCHED WITH A SERIES OF HORIZONTAL TERRACES PRIOR TO FILL PLACEMENT, INCLUDING THOSE AREAS WHERE THE FILL EMBANKMENTS WILL TIE INTO THE 3H:1V SLOPES OF THE EXISTING EMBANKMENTS. THE BENCHES SHALL EXTEND THROUGH ANY LOOSE SURFACE MATERIALS INTO HARD RESIDUAL SOILS OR COMPACTED FILL.

4. THE ON-SITE SOILS AND THE REDDISH BROWN CLAYEY SILTS OBTAINED FROM WITHIN 3-1/2 TO 4 FEET OF THE EXISTING GROUND SURFACE AT THE OPTIONAL BORROW SITE OF THE MILILANI MAUKA DEVELOPMENT MAY BE USED AS FILL OR BACKFILL PROVIDED THEY ARE PLACED AND COMPACTED IN ACCORDANCE WITH THESE REQUIREMENTS. THE HIGH PLASTICITY BROWN CLAYEY SILTS ENCOUNTERED BELOW THE NEAR SURFACE SOILS AT THE OPTIONAL BORROW SITE OF THE MILILANI MAUKA DEVELOPMENT SHALL NOT BE USED AS FILL FOR THE RAMP CONSTRUCTION. THE FILL MATERIALS SHALL BE SEGREGATED IN THE FIELD AT THE OPTIONAL BORROW SITE TO MINIMIZE THE USE OF THE DEEPER SOILS AS FILL.

5. THE CONTRACTORS ARE ADVISED THAT THE SOILS OF THE OPTIONAL BORROW SITE OF THE MILILANI MAUKA DEVELOPMENT POSSESS HIGH IN-SITU MOISTURE CONTENTS, AND THAT SIGNIFICANT DRYING OF THE BORROW SITE SOILS WILL LIKELY BE REQUIRED TO ADEQUATELY COMPACT THE SOILS TO THEIR SPECIFIED LEVELS OF COMPACTION.

6. PRIOR TO FILL PLACEMENT, ANY AREAS DESIGNATED TO RECEIVE FILL OR STRUCTURAL UNITS, SUCH AS PAVEMENTS, CURBS, GUTTERS, ETC., SHALL BE SCARIFIED, MOISTURE-CONDITIONED TO WITHIN 3 PERCENT OF THEIR OPTIMUM MOISTURE CONTENT, AND UNIFORMLY COMPACTED TO AT LEAST 90 PERCENT OF THE SOIL'S MAXIMUM DRY DENSITY AS DETERMINED BY LABORATORY COMPACTION TEST AASHTO T-180 FOR A MINIMUM DEPTH OF 6 INCHES.

7. WHERE THE EXISTING GROUND TO RECEIVE FILL OR STRUCTURAL UNITS IS WITHIN 3 FEET OF THE RAMP SUBGRADES, THE GROUND SHALL BE SIMILARLY SCARIFIED AND MOISTURE CONDITIONED AND UNIFORMLY COMPACTED TO AT LEAST 95 PERCENT RELATIVE COMPACTION, AS DETERMINED BY THE ABOVE-REFERENCED TEST, FOR AN AREA EXTENDING AT LEAST 3 FEET BEYOND THE EDGE OF THE ROADBED.

8. SOFT SPOTS ENCOUNTERED SHALL BE REMOVED TO HARD RESIDUAL SOILS OR COMPACTED FILL AND SUBSEQUENTLY BACKFILLED IN ACCORDANCE WITH THE REQUIREMENTS HEREIN. WHERE SOFT SPOTS ARE ENCOUNTERED WITHIN 3 FEET OF THE EMBANKMENT SUBGRADE, THEY SHALL BE REMOVED TO A MAXIMUM DEPTH OF 3 FEET, OR UNTIL FILL COMPACTED TO 95 PERCENT RELATIVE COMPACTION IS ENCOUNTERED, WHICHEVER IS LESS, AND THE RESULTING DEPRESSION BACKFILLED IN ACCORDANCE WITH THESE REQUIREMENTS.

9. IMPORTED FILL SHALL BE LOW-EXPANSION SOIL (LESS THAN 3 PERCENT SWELL WHEN TESTED IN ACCORDANCE WITH AASHTO T-193, INTERIM 1991), FREE OF ORGANICS, DELETERIOUS MATERIAL, AND ROCKS OR SOIL CLODS GREATER THAN 3 INCHES IN DIAMETER, WITH A SAND EQUIVALENCY OF AT LEAST 2.

   THE FILL SHALL HAVE A FRICTION ANGLE OF AT LEAST 25 DEGREES AND A COHESION OF NO LESS THE 350 POUNDS PER SQUARE FOOT WHEN COMPACTED TO 90 PERCENT RELATIVE COMPACTION AT ITS APPROXIMATE OPTIMUM MOISTURE CONTENT AS DETERMINED BY AASHTO T-180.

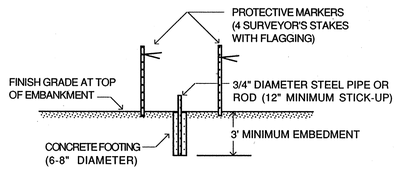
   ADDITIONALLY, FILL UTILIZED TO CONSTRUCT THE UPPER 3 FEET OF THE ROADWAY EMBANKMENTS SHALL HAVE A CALIFORNIA BEARING RATIO (CBR) OF AT LEAST 6 WHEN TESTED IN ACCORDANCE WITH AASHTO T-193, INTERIM 1991.

   FILL MATERIALS IMPORTED FROM BORROW SOURCES OTHER THAN THE OPTIONAL BORROW SITE OF THE MILILANI MAUKA DEVELOPMENT SHALL BE TESTED TO DETERMINE WHETHER THEY MEET THE ABOVE CRITERIA AND APPROVED BY THE ENGINEER PRIOR TO ITS USE AS FILL OR BACKFILL.

10. FILL AND BACKFILL SHALL BE PLACED IN MAXIMUM LIFTS OF 8 INCHES IN LOOSE THICKNESS, MOISTURE-CONDITIONED TO WITHIN 3 PERCENT OF ITS OPTIMUM MOISTURE CONTENT, AND UNIFORMLY COMPACTED TO AT LEAST 90 PERCENT RELATIVE COMPACTION AS DETERMINED BY LABORATORY COMPACTION TEST AASHTO T-180. FILL PLACED WITHIN THE UPPER 3 FEET OF THE EMBANKMENTS, OR WITHIN 3 FEET OF THE ROAD SUBGRADE, SHALL BE COMPACTED TO AT LEAST 95 PERCENT RELATIVE COMPACTION.

11. FILL SLOPES SHALL BE LATERALLY OVER CONSTRUCTED DURING THE MASS GRADING AND SUBSEQUENTLY CUT BACK TO THE DESIRED LINES AND GRADES SUCH THAT THE FINISHED SLOPE FACE IS A TIGHT, WELL-COMPACTED SURFACE. THE CONTRACTOR SHALL MAKE THE NECESSARY PROVISIONS DURING THE SITE GRADING TO PREVENT THE SPILLAGE OF MATERIALS OUTSIDE THE CONSTRUCTION AREA OR ONTO KIPAPA DRIVE.

12. AT LEAST 4 SETTLEMENT MARKERS SHALL BE INSTALLED AT THE TOP OF THE FILLS AT THE LOCATIONS INDICATED ON THE GRADING PLAN TO MONITOR THE SETTLEMENT RATES. CONSTRUCTION OF THE SETTLEMENT-SENSITIVE ITEMS AND STRUCTURES SHALL BE DELAYED UNTIL THE FILL HAS SETTLED A SUFFICIENT AMOUNT SUCH THAT THE STRUCTURES CAN TOLERATE THE REMAINING SETTLEMENTS. THE SETTLEMENT MARKERS SHALL BE CONSTRUCTED AS SHOWN BELOW AND MONITORED WEEKLY BY THE PROJECT SURVEYOR.



13. THE EXISTING NEAR-SURFACE UTILITIES, AS INDICATED ON THE GRADING AND DRAINAGE PLANS, WHICH CANNOT WITHSTAND THE ESTIMATED SETTLEMENTS SHALL BE REMOVED AND RE-ROUTED, OR RECONSTRUCTED ONCE THE SETTLEMENTS HAVE OCCURRED.

14. SHOULD THE REINFORCED CONCRETE RETAINING WALL, WALL 1 ALTERNATIVE NO. 2, BE USED TO SUPPORT THE GRADE DIFFERENCES ON THE WESTERN SIDE OF RAMP R-1, THE FOLLOWING ADDITIONAL REQUIREMENTS SHALL BE FOLLOWED.

    A. THE EMBANKMENTS SHALL BE CONSTRUCTED PRIOR TO THE CONSTRUCTION OF THE CONCRETE RETAINING WALL, AND THE EMBANKMENTS SHALL BE ALLOWED TO SETTLE FOR A PERIOD OF AT LEAST 6 WEEKS AND UNTIL THE SETTLEMENTS HAVE SUBSIDED. THE CONSTRUCTION OF THE CONCRETE RETAINING WALL, WALL 1 ALTERNATIVE NO. 2, SHALL BE DELAYED UNTIL THE FILL HAS SETTLED A SUFFICIENT AMOUNT SUCH THAT THE WALL CAN TOLERATE THE REMAINING SETTLEMENTS.

    B. ADDITIONAL SETTLEMENT MARKERS, IN ADDITION TO THE MARKERS AT THE TOP OF THE EMBANKMENT, SHALL BE INSTALLED ALONG THE PLANNED WALL ALIGNMENT AT THE LOCATIONS INDICATED ON THE GRADING PLAN TO MONITOR THE SETTLEMENTS SO CONSTRUCTION CAN PROCEED AS SOON AS THE SETTLEMENTS HAVE DIMINISHED TO TOLERABLE LEVELS.

    C. THE EMBANKMENT GRADING SHALL BE ADJUSTED SUCH THAT THE TOP OF THE FILL SLOPES EXTEND AT LEAST 2 FEET BEYOND THE PLANNED ALIGNMENT OF THE PROPOSED CONCRETE RETAINING WALL. WHERE THE FILL EMBANKMENTS CANNOT BE CONSTRUCTED TO THIS CONFIGURATION DUE TO THE PROXIMITY OF KIPAPA DRIVE, THE FILL SHALL BE EXTENDED SUCH THAT THE TOE OF THE FILL SLOPE EXTENDS AT LEAST 2 FEET BEYOND THE ALIGNMENT OF THE CONCRETE RETAINING WALL. TEMPORARY SLOPES AS STEEP AS 1-1/2H:1V MAY BE USED TO CONSTRUCT THE FILL SLOPES IN THESE AREAS.

    D. TEMPORARY WALLS OR GEOTEXTILE SILTATION FENCES SHALL BE ERECTED AT THE TOE OF THE FILLS TO PREVENT SPILLAGE OF ERODED SEDIMENTS AND MATERIALS OUTSIDE THE SITE AREA.

    E. ONCE THE RETAINING WALL HAS BEEN CONSTRUCTED AND BACKFILLED, THE AREA SHALL BE FINE GRADED TO THE PLANNED FINISH GRADES.

15. BACKFILL BEHIND THE REINFORCED CONCRETE RETAINING WALLS SHALL CONSIST OF STRUCTURE BACKFILL A CONFORMING TO THE REQUIREMENTS OF SECTION 703.20 OF THE STANDARD SPECIFICATIONS. BACKFILL SHALL BE PLACED AND COMPACTED IN ACCORDANCE WITH THE REQUIREMENTS HEREIN. BELOW A DEPTH OF 3 FEET OF THE FINISH SUBGRADE, COMPACTION SHALL NOT EXCEED 95 PERCENT RELATIVE COMPACTION IN ORDER TO MINIMIZE THE LATERAL EARTH PRESSURES AGAINST THE WALLS.

16. ADEQUATE DRAINAGE, IN THE FORM OF WEEPHOLES OR TRANSVERSE DRAINS, SHALL BE PROVIDED BEHIND THE WALLS TO MINIMIZE THE BUILD-UP OF HYDROSTATIC PRESSURES.

    A. TRANSVERSE DRAINS SHALL CONSIST OF PERFORATED PIPE SURROUNDED BY 6 INCHES OF FILTER MATERIAL, OR AASHTO M-43 NO. 57 AGGREGATE WRAPPED IN NON-WOVEN FILTER FABRIC.

    B. SHOULD WEEPHOLES BE USED, A CONTINUOUS DRAINAGE BLANKET OF FILTER MATERIAL, OR AASHTO M-43 NO. 57 AGGREGATE WRAPPED IN NON-WOVEN FILTER FABRIC, AT LEAST 12 INCHES IN WIDTH, SHALL BE PLACED BEHIND THE WALL AND WEEPHOLES.

    C. FILTER MATERIAL SHALL CONFORM TO SECTION 703.18 OF THE STANDARD SPECIFICATIONS. THE NON-WOVEN FILTER FABRIC SHALL CONFORM TO SECTION 716 OF THE STANDARD SPECIFICATIONS, AS AMENDED DECEMBER 9, 1991.

17. THE WALL 1 ALTERNATIVE NO. 1, THE MECHANICALLY STABILIZED EARTH RETAINING WALL (MSERW) SYSTEM, MAY BE CONSTRUCTED BEFORE, AFTER, OR IN CONJUNCTION WITH THE MASS GRADING OF THE EMBANKMENTS TO EXPEDITE THE WORK. THE USE OF SMALLER EQUIPMENT AND SLIGHTLY DIFFERENT PROCEDURES WILL BE REQUIRED BY THE CONTRACTOR FOR ITS CONSTRUCTION.

18. SHOULD THE WALL 1 ALTERNATIVE NO. 1 BE USED IN LIEU OF THE REINFORCED CONCRETE WALL, THE MATERIAL, COMPACTION, AND CONSTRUCTION REQUIREMENTS OF THE REINFORCED FILL SHALL CONFORM TO THE REQUIREMENTS INDICATED ON THE APPROVED PLANS AND SPECIFICATIONS FOR THE WALL 1 ALTERNATIVE NO. 1, THE MSERW SYSTEM, AND SECTION 695 OF THE STANDARD SPECIFICATIONS. THE REINFORCED FILL MATERIAL SHALL BE TESTED PRIOR TO ITS USE TO VERIFY THAT IT MEETS THE SPECIFIED REQUIREMENTS.

19. THE BOTTOM OF THE FOUNDATION EXCAVATIONS SHALL BE COMPACTED TO 95 PERCENT RELATIVE COMPACTION AS DETERMINED BY LABORATORY COMPACTION TEST AASHTO T-180 PRIOR TO THE PLACEMENT OF THE REINFORCING STEEL AND CONCRETE, THE CONCRETE LEVELING PAD AND REINFORCED FILL.

20. ANY SOFT SPOTS ENCOUNTERED IN THE FOUNDATION EXCAVATIONS SHALL BE REMOVED DOWN TO HARD NATURAL GROUND OR COMPACTED FILL, AND THE RESULTING DEPRESSION BACKFILLED WITH APPROVED ON-SITE SOILS COMPACTED TO 95 PERCENT RELATIVE COMPACTION IN ACCORDANCE WITH THESE REQUIREMENTS. THE PREPARATION OF THE FOUNDATION SUBGRADE FOR THE MSERW SYSTEM SHALL BE COMPLETED IN ACCORDANCE WITH SECTION 695 AND THE APPROVED MSERW PLANS AND SPECIFICATIONS.

21. SUBDRAINS SHALL BE INSTALLED AND CONSTRUCTED IN ACCORDANCE WITH SECTION 605 OF THE STANDARD SPECIFICATIONS, AS AMENDED, AT LOCATIONS SHOWN ON THE DRAINAGE PLANS AND IN ACCORDANCE WITH THE DETAILS SHOWN ON THE SECTION PLANS.

22. THE ASPHALTIC CONCRETE PAVEMENT SECTIONS FOR EACH RAMP SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE PAVEMENT DETAILS SHOWN ON THE SECTION PLANS.

23. THE ASPHALT TREATED PERMEABLE BASE SHALL EXTEND BENEATH THE TRAVELED WAY OF THE RAMPS PLUS ITS SHOULDERS, AND SHALL EXTEND TO THE OUTSIDE EDGE OF THE LONGITUDINAL SUBDRAINS ON THE LOW SIDE OF THE RAMPS.

24. A GEOTEXTILE FILTER FABRIC CONFORMING TO SECTION 716 OF THE STANDARD SPECIFICATIONS, AS AMENDED DECEMBER 9, 1991, SHALL BE PLACED BETWEEN THE LAYERS OF ASPHALT TREATED PERMEABLE BASE AND THE UNDERLYING AGGREGATE SUBBASE.

25. THE COMPOSITION AND PLACEMENT OF THE ASPHALTIC CONCRETE PAVING, ASPHALT CONCRETE BASE, ASPHALT TREATED PERMEABLE BASE, AND AGGREGATE SUBBASE SHALL CONFORM TO PLANS AND THEIR RESPECTIVE SECTIONS OF THE STANDARD SPECIFICATIONS. THE AGGREGATE SUBBASE SHALL BE COMPACTED TO AT LEAST 95 PERCENT RELATIVE COMPACTION AS DETERMINED BY AASHTO T-180.

26. THE SUBGRADE FOR THE RAMP PAVEMENTS SHALL BE PREPARED IN ACCORDANCE WITH SECTION 203.02(C) OF THE STANDARD SPECIFICATIONS, MOISTURE-CONDITIONED TO WITHIN 3 PERCENT OF ITS OPTIMUM MOISTURE CONTENT, AND COMPACTED TO AT LEAST 95 PERCENT RELATIVE COMPACTION AS DETERMINED BY AASHTO T-180 FOR A MINIMUM DEPTH OF 6 INCHES PRIOR TO THE PLACEMENT OF THE AGGREGATE SUBBASE.

27. THE INSTALLATION OF THE UTILITIES SHALL BE COMPLETED IN ACCORDANCE WITH SECTIONS 206, 603, AND 604 OF THE STANDARD SPECIFICATIONS, AND THE APPROPRIATE SECTION PERTAINING TO EACH UTILITY. UTILITY BACKFILLS SHALL BE PLACED AND COMPACTED UTILIZING THE APPROPRIATE MECHANICAL COMPACTORS AROUND AND ABOVE THE PIPES. JETTING AND PONDING OF THE BACKFILL AS A METHOD TO ACHIEVE COMPACTION SHALL NOT BE ALLOWED.

28. UTILITIES MAY BE FOUNDED IN THE VERY STIFF TO HARD RESIDUAL SOILS OR PROPERLY COMPACTED FILL. WHERE SOFT SPOTS, ROCK, OR BOULDERS ARE ENCOUNTERED AT THE BOTTOM OF UTILITY EXCAVATIONS, THEY SHALL BE REMOVED, AND THE RESULTING DEPRESSION BACKFILLED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

29. UTILITY AND SIMILAR SITE EXCAVATIONS SHALL BE SHORED AND BRACED BY THE CONTRACTOR IN ACCORDANCE WITH THE APPLICABLE GOVERNMENTAL REGULATIONS.

30. POSITIVE DRAINAGE PROVISIONS SHALL BE PROVIDED DURING THE CONSTRUCTION TO PRECLUDE THE PONDING OF WATER ON THE FILLS AND ADJACENT TO OR BENEATH THE EMBANKMENTS, STRUCTURES, AND THEIR FOUNDATIONS.

31. SEEDING OR PLANTING OF THE GRADED SLOPES SHALL BE COMPLETED AS SOON AS PRACTICAL AFTER GRADING TO MINIMIZE EROSION.

32. THE SITE PREPARATION, SITE GRADING AND OPTIONAL BORROW SITE EXCAVATION SHALL BE MONITORED BY THE ENGINEER TO DETERMINE WHETHER THE ANTICIPATED MATERIALS ARE ENCOUNTERED. FIELD DENSITY TESTS SHALL BE TAKEN BY THE ENGINEER TO DETERMINE WHETHER THE SPECIFIED LEVELS OF COMPACTION ARE CONSISTENTLY OBTAINED IN THE FILLS AND BACKFILLS.

33. SAMPLES OF THE PROPOSED FILL AND BACKFILL MATERIALS SHALL BE SUBMITTED BY THE CONTRACTOR TO THE ENGINEER NO LESS THAN 7 WORKING DAYS PRIOR TO ITS INTENDED JOB-SITE DELIVERY TO ALLOW ADEQUATE TIME FOR TESTING, EVALUATION, AND APPROVAL.

34. FOUNDATION EXCAVATIONS SHALL BE OBSERVED BY THE ENGINEER PRIOR TO THE PLACEMENT OF REINFORCING STEEL AND CONCRETE, THE CONCRETE LEVELING PAD, AND REINFORCED FILL TO DETERMINE WHETHER THE ANTICIPATED BEARING MATERIALS HAVE BEEN ENCOUNTERED.

THE NOTES SHOWN ON THIS SHEET ARE TAKEN FROM THE REVISED "SUBSURFACE INVESTIGATION REPORT", DATED JULY 20, 1994. PREPARED BY FEWELL GEOTECHNICAL ENGINEERING, LTD.

NOTE:
THE DATES INDICATED ON NOTES 16C AND 24 SHALL READ MAY 16, 1995.

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

EDWIN H. MARUYAMA
LICENSED PROFESSIONAL ENGINEER
No 18[illegible]-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
By _____
FUJITA & ASSOCIATES

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CONSTRUCTION NOTES

INTERSTATE ROUTE H-2
MILILANI INTERCHANGE
SOUTHBOUND ON-AND-OFF-RAMPS
F.A.I. Proj. No. IM-H2-1(29)

SCALE: NONE DATE: MAR. 1997

SHEET No. N4 OF 4 SHEETS

137216

"AS-BUILT" 6