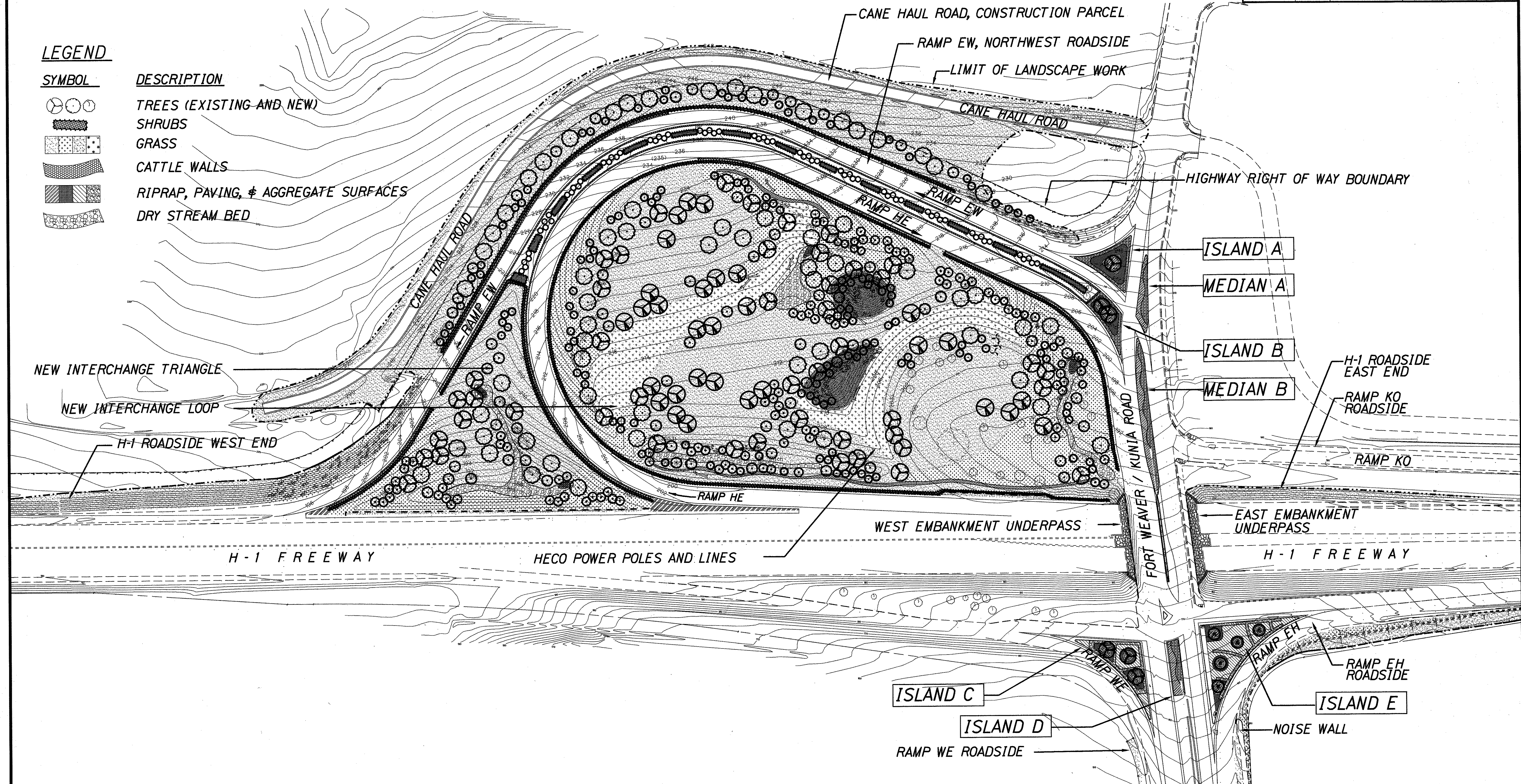


FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1M-HI-1(219)	1998	265	378

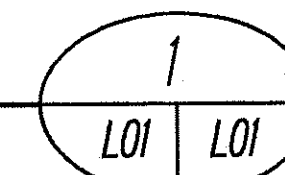
LEGEND

SYMBOL	DESCRIPTION
	TREES (EXISTING AND NEW)
	SHRUBS
	GRASS
	CATTLE WALLS
	RIPRAP, PAVING, & AGGREGATE SURFACES
	DRY STREAM BED

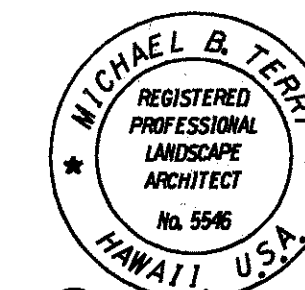


ORIGINAL PLAN	DATE
DRAWN BY	
CHECKED BY	
NOTED BY	
QUANTITIES BY	
CHECKED BY	

SITE PLAN OF
LANDSCAPE IMPROVEMENTS
1"=100'-0"



TRUE NORTH
SCALE: 1"=100'



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DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SITE PLAN OF
LANDSCAPE IMPROVEMENTS

INTERSTATE ROUTE H-1
Kunia Interchange Improvements
F. A. I. Project No. 1M-HI-1(219)

Scale: 1"=100' Date: Oct., 1997

SHEET No. 101 OF 52 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1M-HI-1(219)	1998	266	378

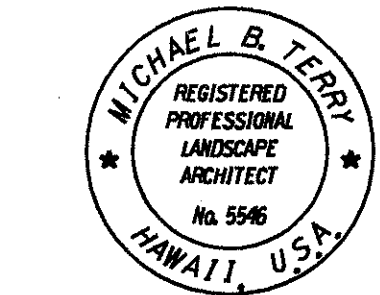
GENERAL LANDSCAPE NOTES:

- The Landscape Work shall include, but are not limited to:
 - Clearing and Grubbing
 - Stockpiling of Boulders, Rocks, Topsoil
 - Protection of Existing Trees to Remain
 - Site Preparation
 - Grading
 - Installation of Irrigation Mainlines and Sleeves
 - Installation of Hardscape Elements
 - Installation of Irrigation Systems
 - Installation of Plant Materials
 - Plant Establishment
- The landscape design of this project is based on a xeriscape theme utilizing drought tolerant plant materials and drip irrigation systems in selected areas.
- A major portion of the planted site will need to be established with a temporary irrigation system for a 2 year period.
- Within this project area are existing Golden Trumpet Trees (*Tabebuia chrysantha*) that were planted to commemorate the 100th Anniversary of the Japanese Arrival in Hawaii. Trees which are identified on the plan to remain, shall be protected with a temporary fence prior to the start of the overall construction work.
- Selected onsite materials, such as boulders, rocks, and topsoil, shall be stockpiled onsite for use in the new landscape. The stockpile locations shall be determined by the Contractor and accepted by the Engineer.
- Hardscape Elements include, but are not limited to rock paving, cattle wall, dry stream bed, riprap, boulder placement, concrete headers and strips, plastic headers, asphalt surfaces, and various aggregate placement.

LANDSCAPE CONSTRUCTION NOTES:

- Precautions shall be taken to avoid damages to existing structures and facilities above and below ground. Any and all damages to the project site resulting from actions or neglect of the Contractor shall be corrected at no cost to the State.
- Report any storm damages to the Engineer immediately.
- Perform all construction work in a manner safe to the operators, pedestrians, motorists, and the environment. Operate equipments in a safe manner with all appropriate safety shields and devices in place and operational.
- OSHA approved safety protection shall be worn by workers at all times when operating landscape power equipment.
 - Safety vests shall be worn while performing work on this project.
 - Safety glasses or face shields are required when operating trimming or edging tools.
 - Hearing protection is required during operation of power blowers, chain saws, and all other equipment that may damage hearing.
 - Safety cones shall be used to alert traffic and pedestrians of construction operations near sidewalks or traffic ways.
 - Hazard safety lights when personnel are stopped in traffic area.
 - Debris hazardous to pedestrians or motorists shall be removed immediately.
- Take precaution to contain fertilizer application in the targeted planting areas to prevent their deposition on the paved surfaces.
- Perform all chemical applications in accordance to current County, State, and Federal laws. EPA and State of Hawaii registered materials and methods of applications shall be performed under the supervision of a licensed (Category 3) pesticide applicator. When herbicide and/or pesticide are used, select only materials that are recommended and labeled for the intended use. Observe and follow all label instructions and restrictions.
- Stake and guy wires installed during construction shall be removed following the final acceptance of the landscape at the end of the Plant Establishment Period.
- Windbreaks shall be removed at the end of the Plant Establishment Period.
- Keep a weekly log of the construction services performed with details of adjustment to the irrigation system(s), fertilization, herbicide and pesticide control, noting the quantities applied.

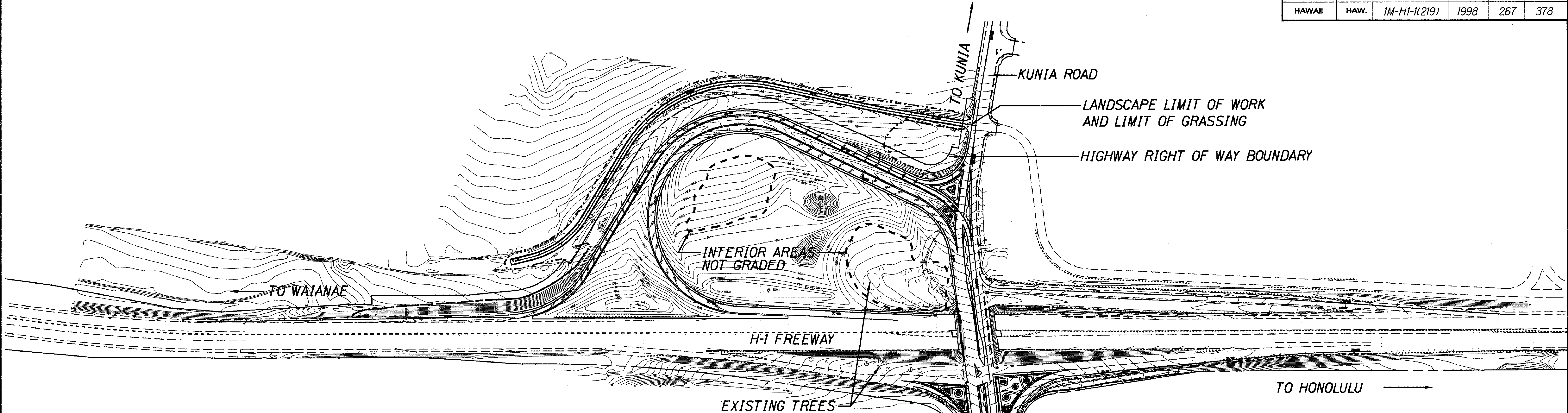
SURVEY PLOTTED BY	DATE
DESIGNED BY	
TRACED BY	
NOTE BOOK	
QUANTITIES BY	
CHECKED BY	
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STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
LANDSCAPE GENERAL NOTES	
INTERSTATE ROUTE H-1 Kunia Interchange Improvements F. A. I. Project No. 1M-HI-1(219)	
Scale:	Date: Oct., 1997
SHEET No. 102 OF 52 SHEETS	

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1M-HI-1(219)	1998	267	378



NOTES:

- EXISTING GOLDEN TRUMPET TREES (TABEBUIA CHRYSANTHA) WERE PLANTED IN 1968 AS A PART OF 100 GOLDEN TRUMPET TREES FOR THE COMMEMORATION OF THE 100TH ANNIVERSARY OF THE JAPANESE ARRIVAL IN HAWAII.
- A CERTIFIED ARBORIST HAS DETERMINED THE TREES ARE UNSUITABLE FOR RELOCATION.
- EXISTING TREES WITHIN THE AREAS TO BE GRADED SHALL BE REMOVED FROM THE SITE AS PART OF THE OVERALL SITE DEMOLITION WORK. (SEE GRADING PLANS SHEET H21 & H22).
- EXISTING TREES WITHIN THE UNGRADED AREAS SHALL REMAIN AND BE PROTECTED.
- PROTECT TREES WITH A 6' HIGH PLASTIC FENCE AROUND THE DRIPLINE. NO VEHICLES, EQUIPMENT, MATERIALS, OR TOPSOIL SHALL BE PERMITTED TO BE STORED WITHIN THIS ENCLOSED AREA. FENCE SHALL REMAIN IN PLACE UNTIL THE BEGINNING OF THE PLANTING PERIOD.
- TRENCHING WITHIN THE EXISTING TREE PROTECTION FENCE SHALL BE DONE BY HAND. ANY ROOTS ENCOUNTERED SHALL BE CUT CLEAN WITH TREE PRUNING TOOLS. TREE ROOTS 2" DIAMETER OR LARGER WILL NOT BE CUT. ROUTE IRRIGATION PIPES AT ALTERNATE LOCATIONS TO AVOID CONFLICT.
- ANY GRADING WITHIN THE TREE PROTECTION FENCE SHALL BE LIMITED TO 4" CUT OR FILL FROM THE ORIGINAL GRADE.
- ABOVE GROUND OR SURFACE RUNOFF SHALL NOT BE DIRECTED INTO THE TREE DRIPLINE FROM ADJACENT AREAS.
- EXISTING TREES TO REMAIN WITHIN THE PROJECT SITE SHALL BE PRUNED ACCORDING TO THE SPECIFICATIONS SECTION 619.
- ARRANGE WITH THE CITY AND COUNTY OF HONOLULU BEAUTIFICATION ADMINISTRATION TO REMOVE MONKEYPOD TREES ALONG FORT WEAVER ROAD (SEE SHEETS L44 AND L45). CONTACT MR. STAN OKA OR MR. ALAN NAKASONE AT 971-7162.

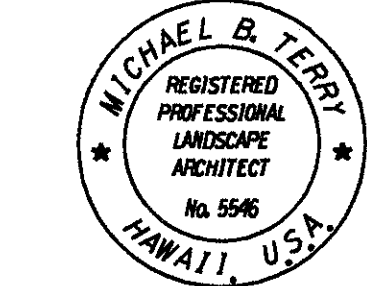
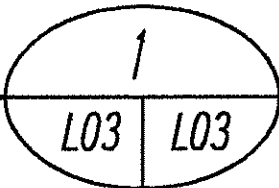
EXISTING TREE DISPOSITION SUMMARY

COMMON NAME	TO REMAIN	TO BE REMOVED
GOLDEN TRUMPET TREE	20	21
GOLD TREE	1	1
MONKEYPOD	1	5
AFRICAN TULIP	5	0
COCONUT PALM	0	4
TOTAL	27	31

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	
	DESIGNED BY	
	QUANTITIES BY	
	CHECKED BY	

LANDSCAPE TREE DISPOSITION PLAN

1"=200'



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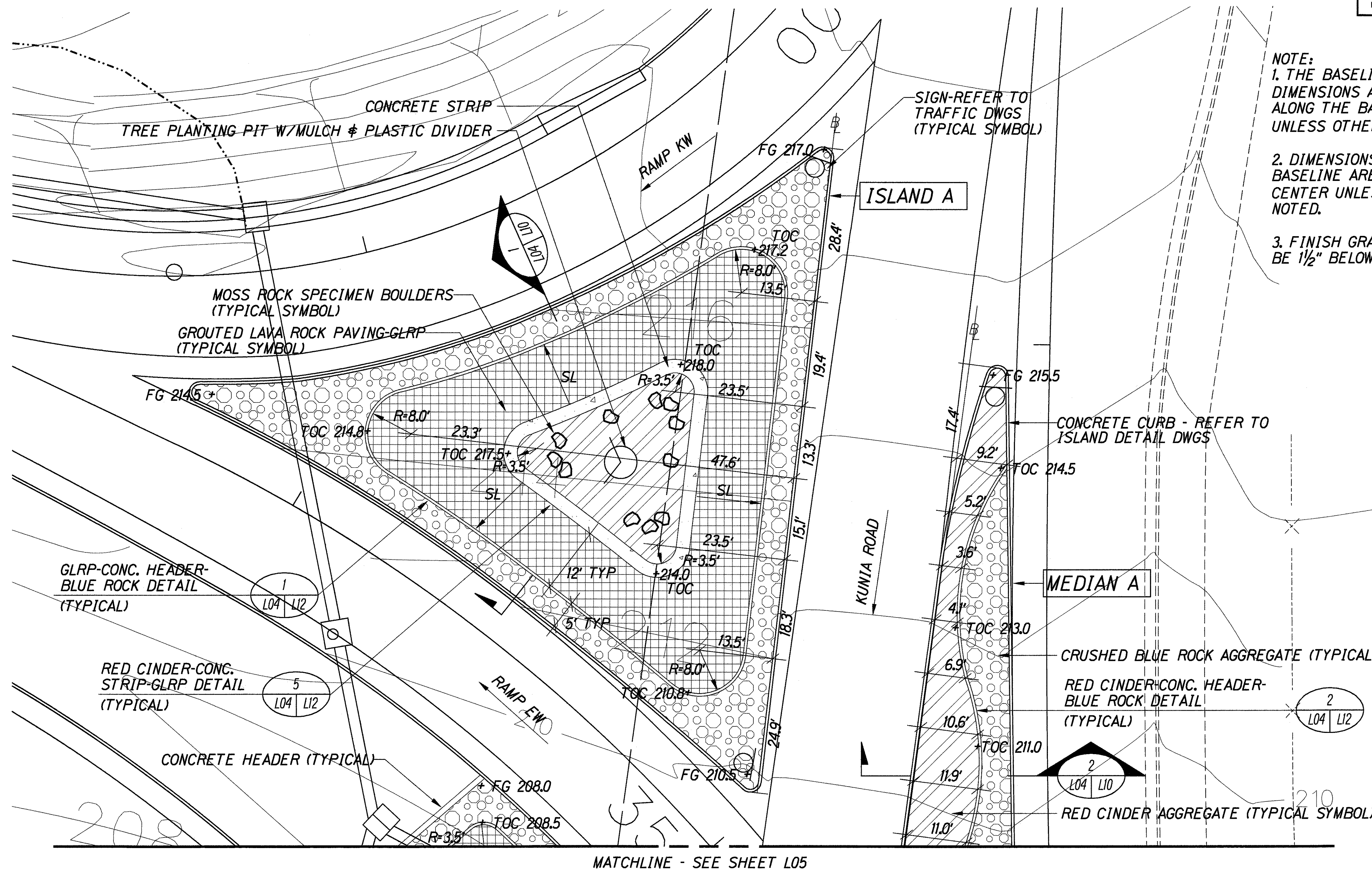
LANDSCAPE TREE DISPOSITION PLAN

INTERSTATE ROUTE H-1
Kunia Interchange Improvements
F. A. I. Project No. 1M-HI-1(219)

Scale: 1"=200' Date: Oct., 1997

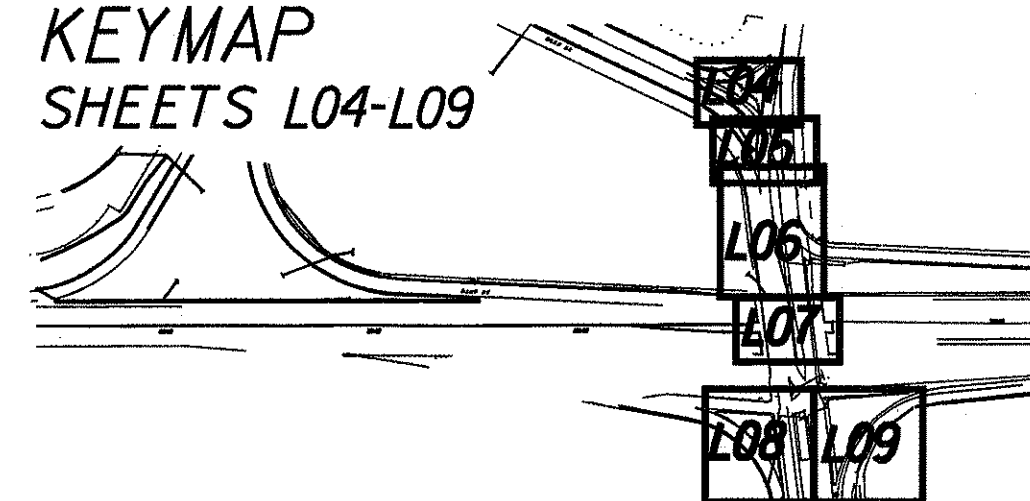
SHEET No. L03 OF 52 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1M-HI-1(219)	1998	268	378



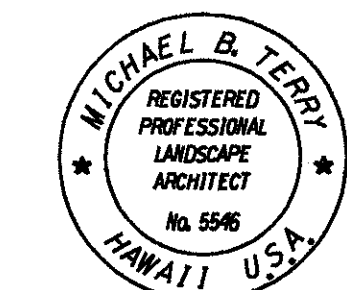
MATCHLINE - SEE SHEET L05

KEYMAP
SHEETS L04-L09



ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	
	DESIGNED BY	
	QUANTITIES BY	
	CHECKED BY	

TRUE NORTH
SCALE: 1"=10'



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DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

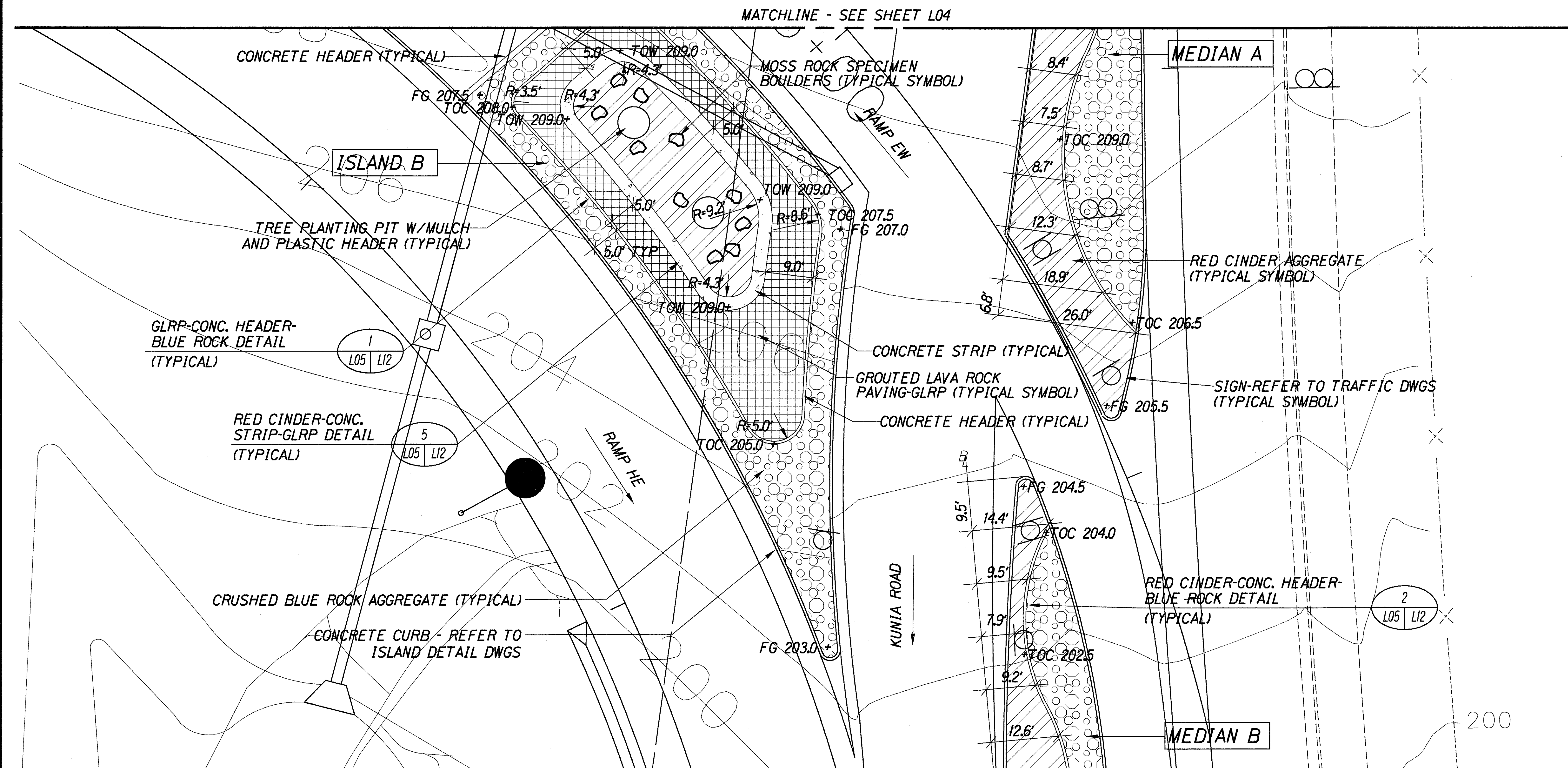
MEDIANS, ISLANDS, & EMBANKMENT
LAYOUT & GRADING PLAN

INTERSTATE ROUTE H-1
Kunia Interchange Improvements
F. A. I. Project No. 1M-HI-1(219)

Scale: 1"=10' Date: Oct., 1997

SHEET No. L04 OF 52 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1M-HI-1(219)	1998	269	378

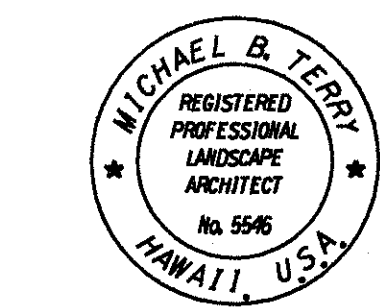
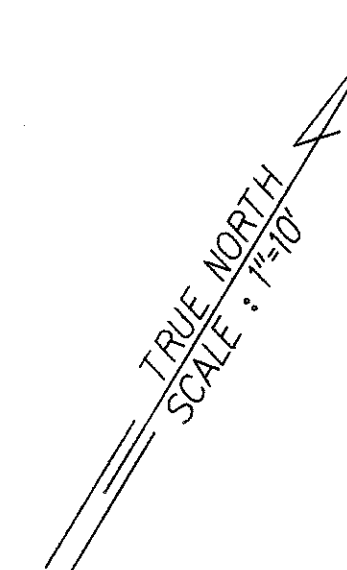
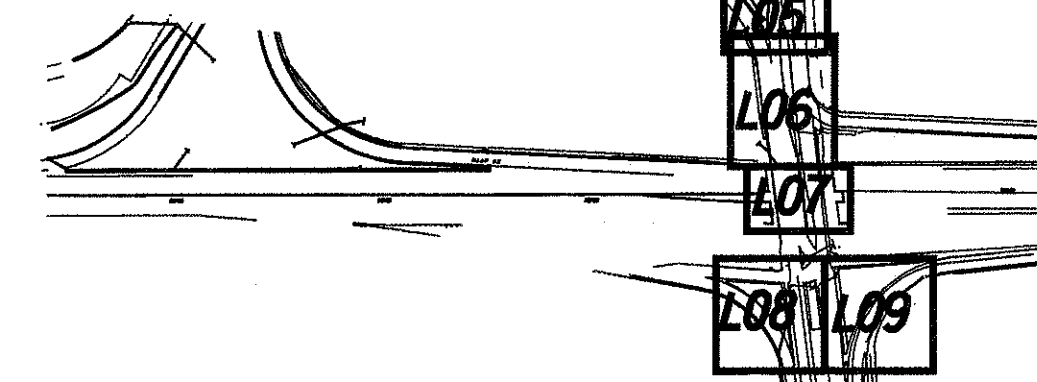


NOTE:
1. THE BASELINE (B) FOR DIMENSIONS ARE ESTABLISHED ALONG THE BACK OF CURB UNLESS OTHERWISE NOTED.

2. DIMENSIONS ALONG THE BASELINE ARE 10' ON CENTER UNLESS OTHERWISE NOTED.

3. FINISH GRADE (FG) SHALL BE 1 1/2" BELOW TOP OF CURB (TOC).

KEYMAP
SHEETS L04-L09



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DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

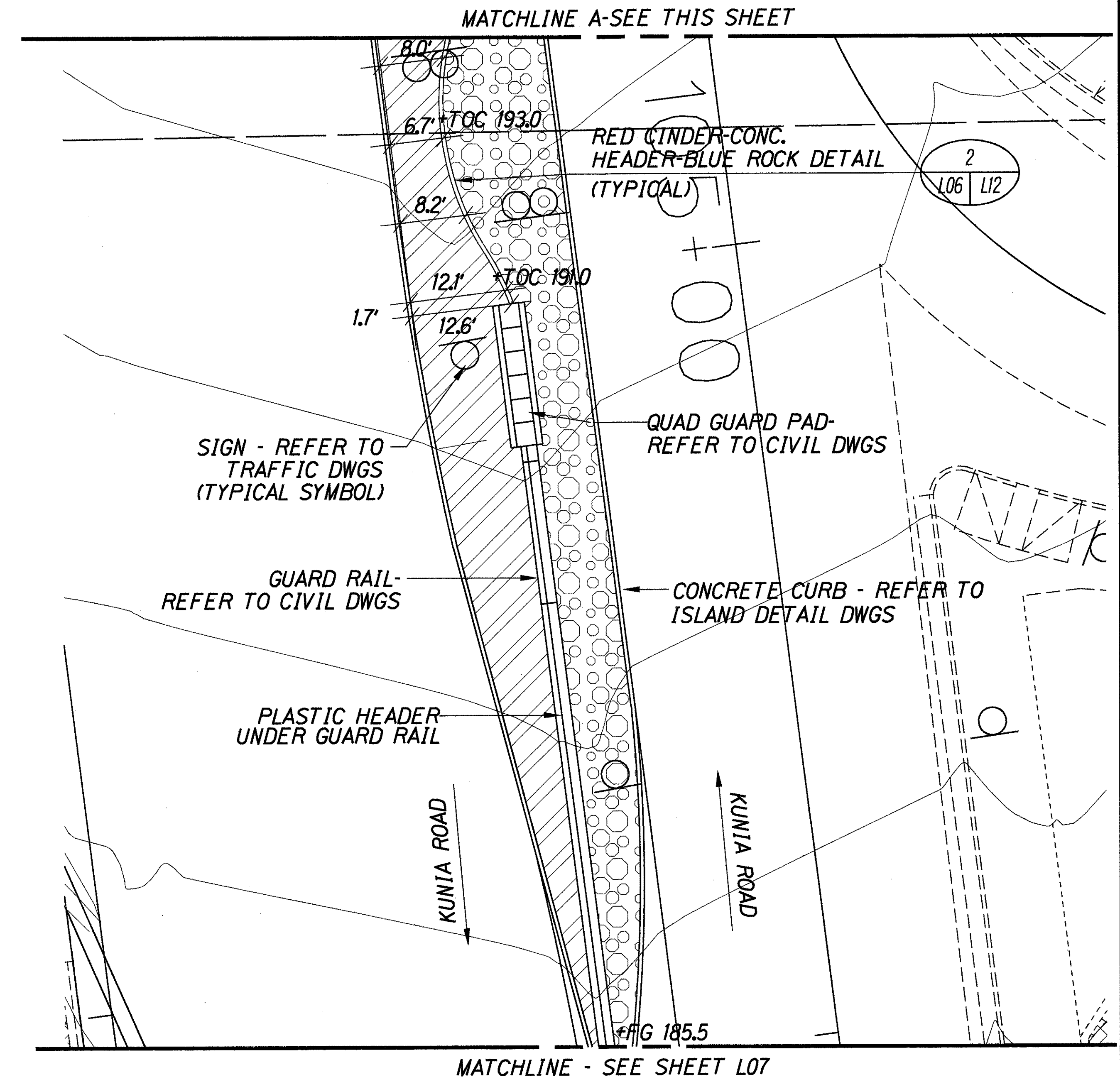
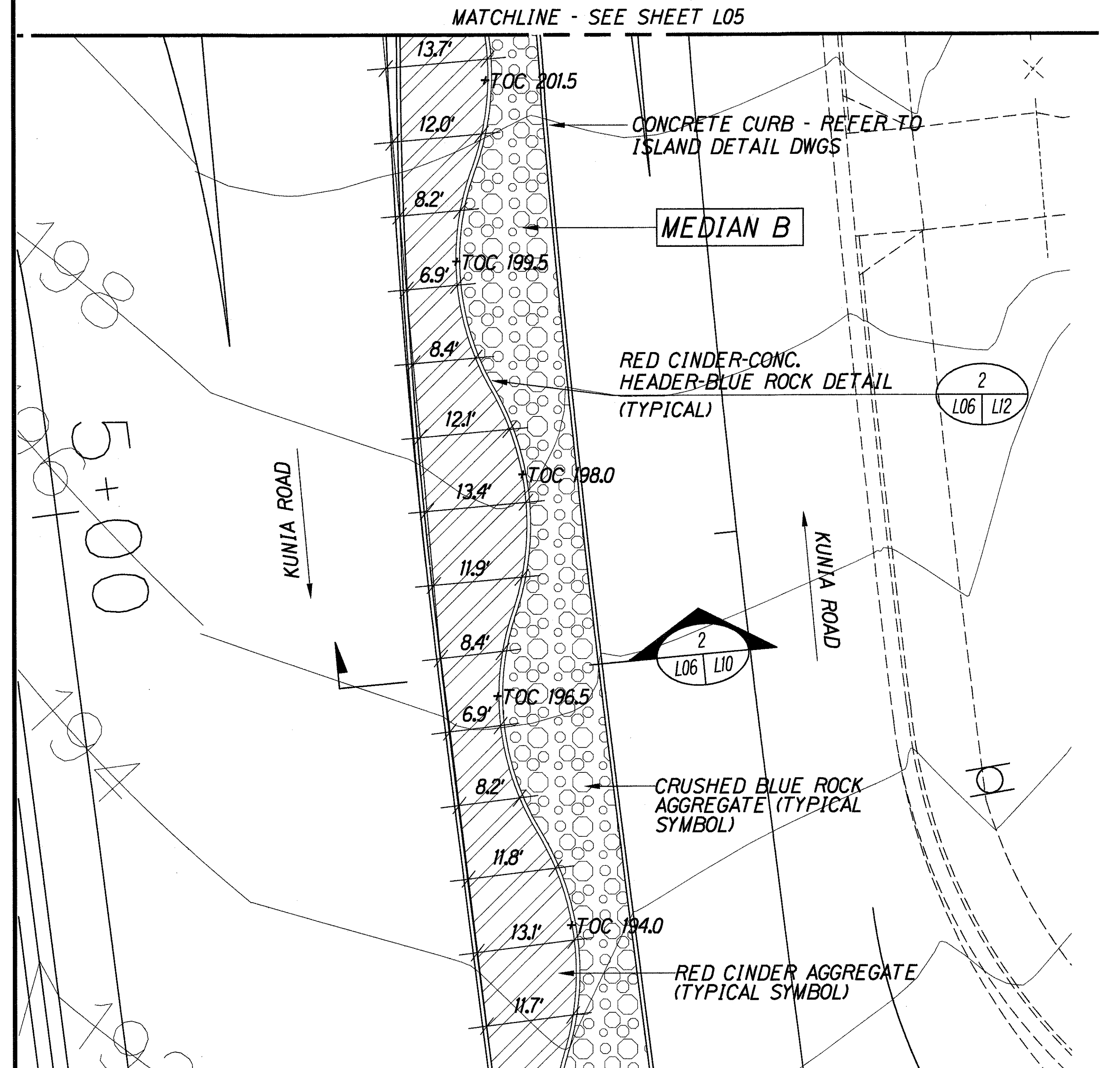
MEDIANS, ISLANDS, & EMBANKMENT
LAYOUT & GRADING PLAN

INTERSTATE ROUTE H-1
Kunia Interchange Improvements
F. A. I. Project No. 1M-HI-1(219)

Scale: 1"=10' Date: Oct., 1997

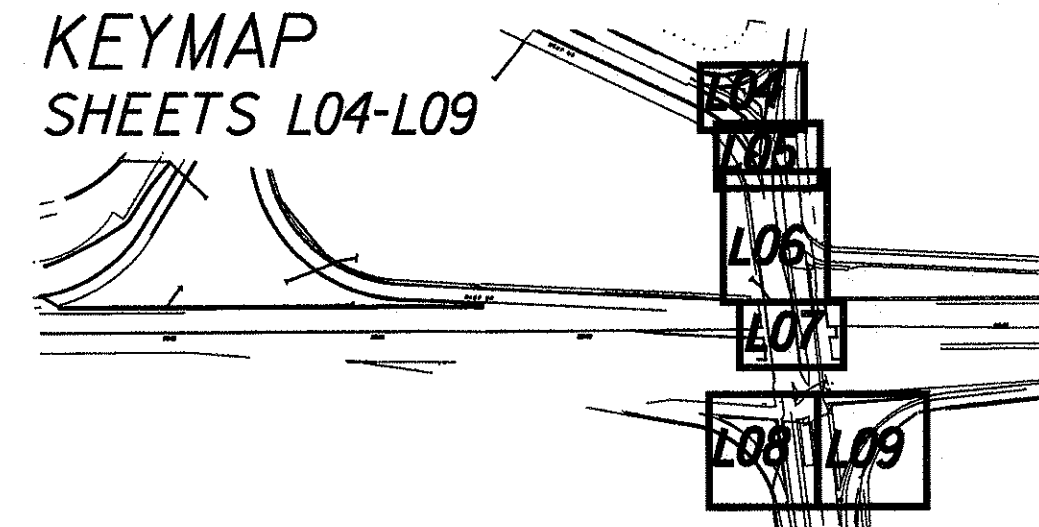
SHEET No. L05 OF 52 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1M-HI-1(219)	1998	270	378

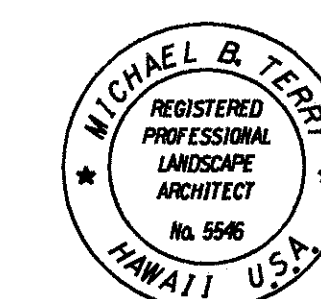
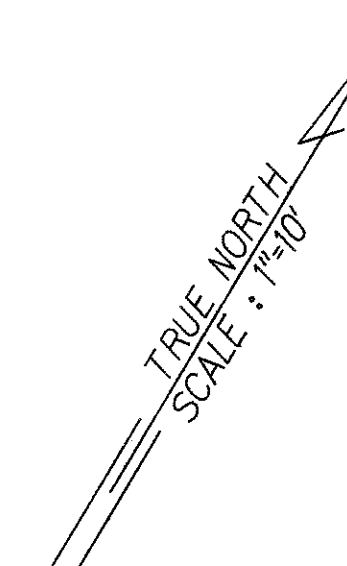


SURVEY PLOTTED BY	DATE
DRAWN BY	
DESIGNED BY	
NOTED BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
No.	

KEYMAP
SHEETS L04-L09



- NOTE:
1. THE BASELINE (Ø) FOR DIMENSIONS ARE ESTABLISHED ALONG THE BACK OF CURB UNLESS OTHERWISE NOTED.
 2. DIMENSIONS ALONG THE BASELINE ARE 10' ON CENTER UNLESS OTHERWISE NOTED.
 3. FINISH GRADE (FG) SHALL BE 1½" BELOW TOP OF CURB (TOC).



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HIGHWAYS DIVISION

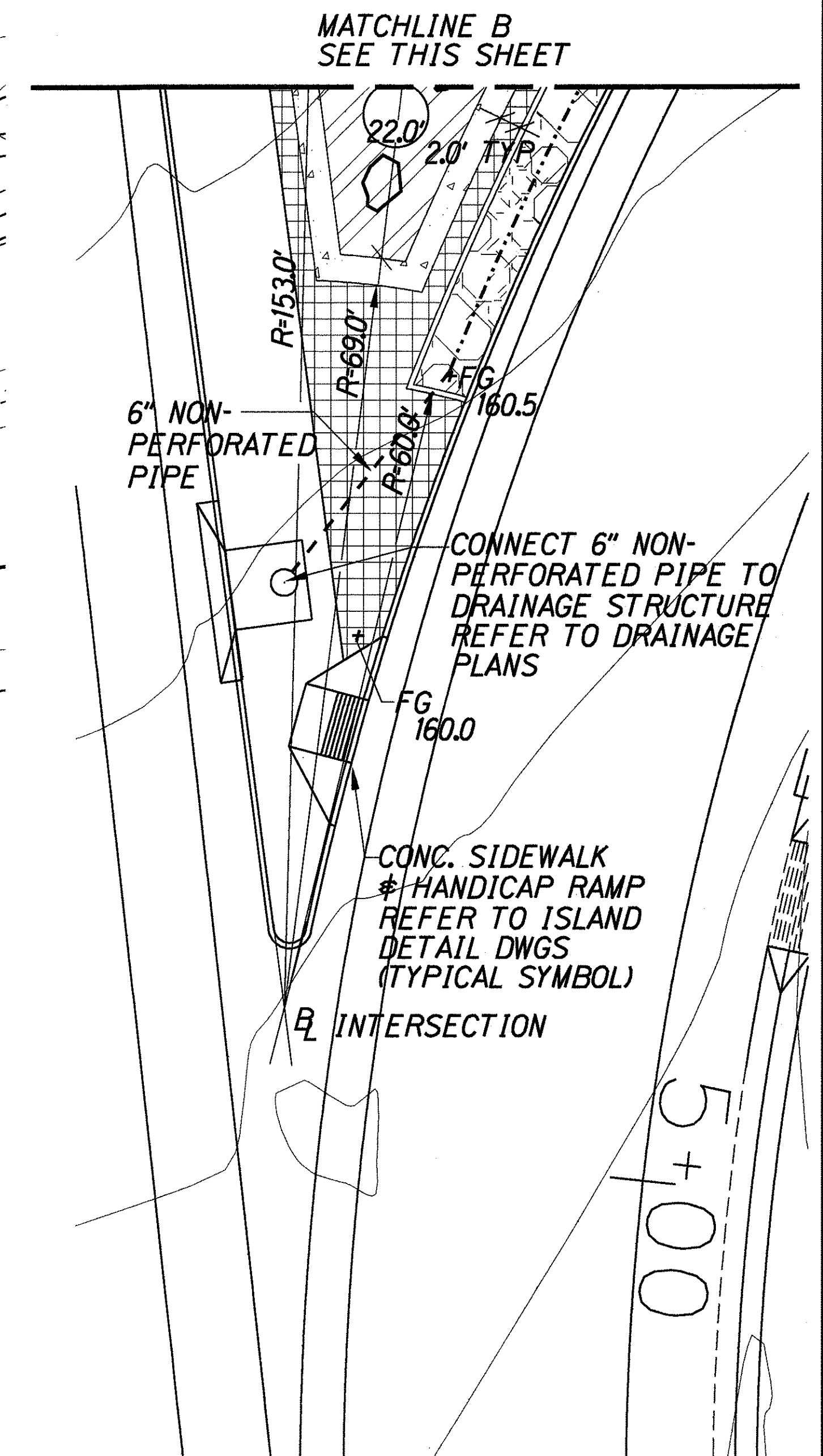
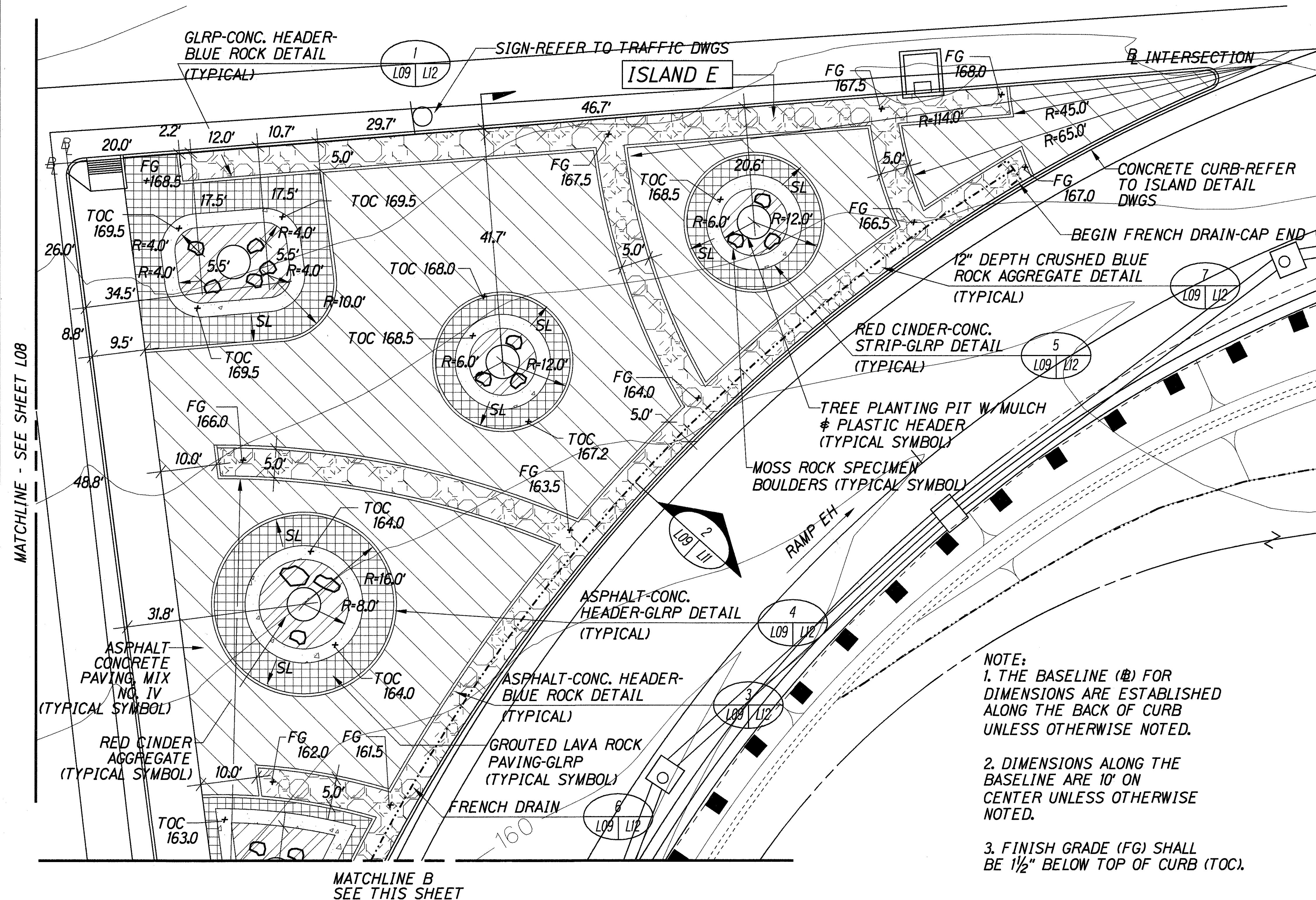
MEDIANS, ISLANDS, & EMBANKMENT
LAYOUT & GRADING PLAN

INTERSTATE ROUTE H-1
Kunia Interchange Improvements
F. A. I. Project No. 1M-HI-1(219)

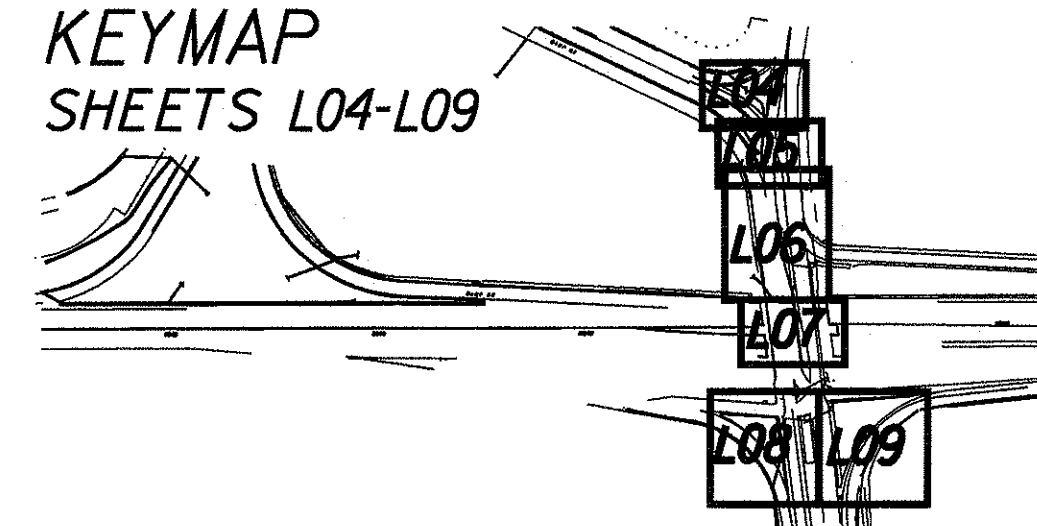
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SHEET No. L06 OF 52 SHEETS

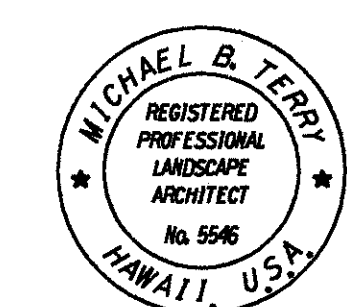
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1M-HI-1(219)	1998	273	378



KEYMAP
SHEETS L04-L09



TRUE NORTH
SCALE: 1"=10'



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DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

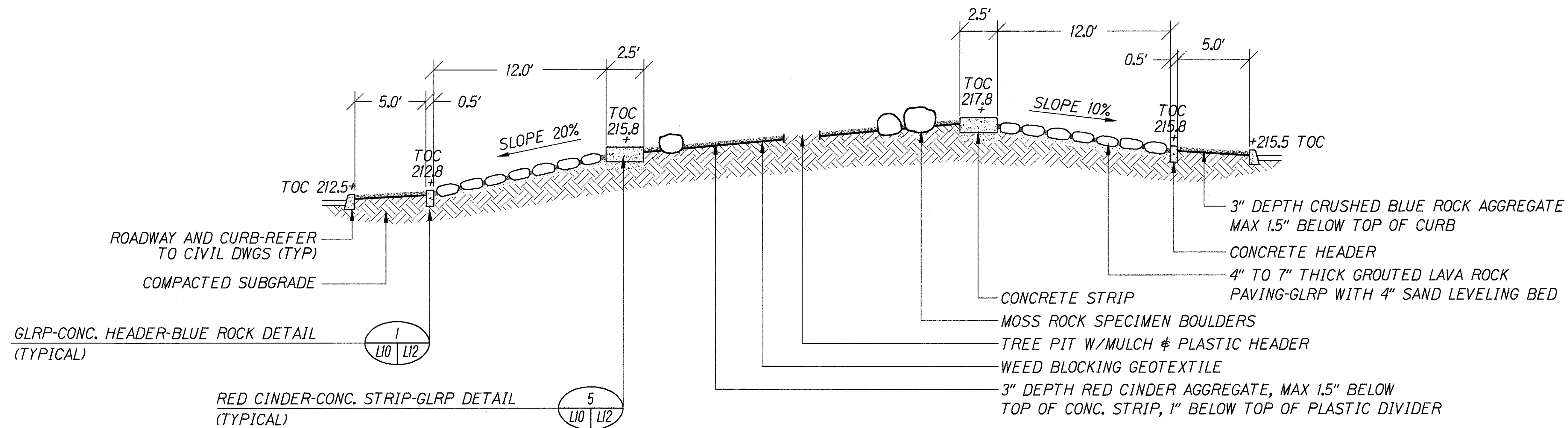
MEDIANS, ISLANDS, & EMBANKMENT
LAYOUT & GRADING PLAN

INTERSTATE ROUTE H-1
Kunia Interchange Improvements
F. A. I. Project No. 1M-HI-1(219)

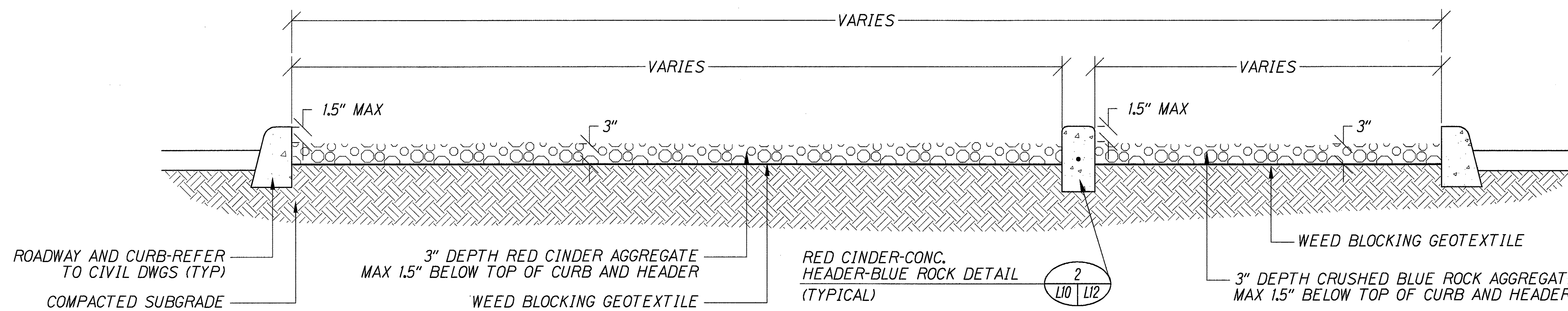
Scale: 1"=10' Date: Oct., 1997

SHEET No. L09 OF 52 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1M-HI-1(219)	1998	274	378

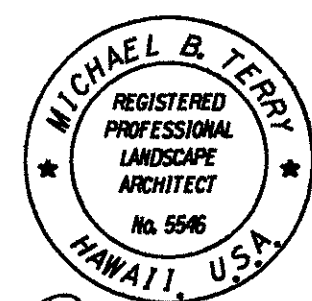


ISLAND A SECTION
1/4"=1'0"



MEDIAN A & B, ISLAND D SECTION
1"=1'-0"

SURVEY PLOTTED BY	DATE
DESIGNED BY	
TRACED BY	
NOTE BOOK	
QUANTITIES BY	
CHECKED BY	

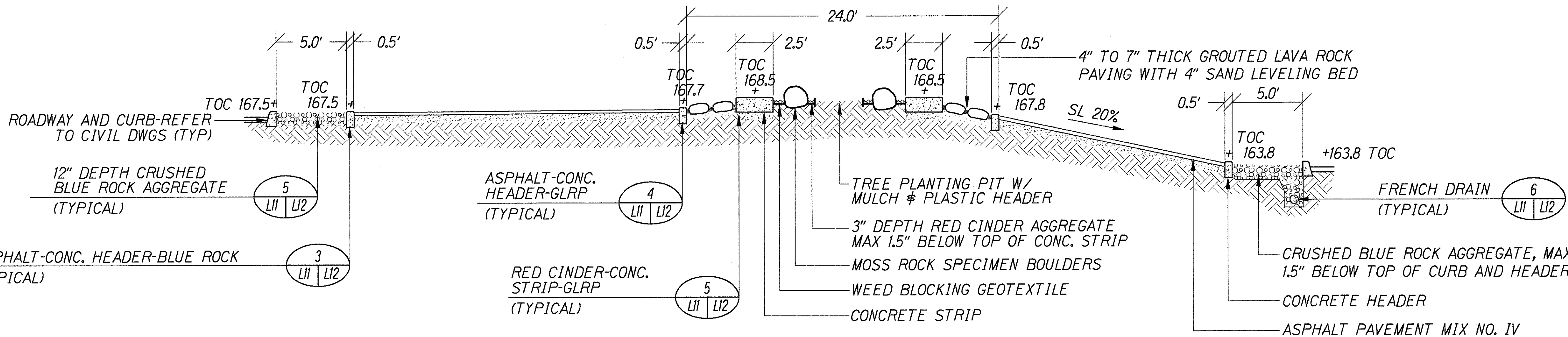
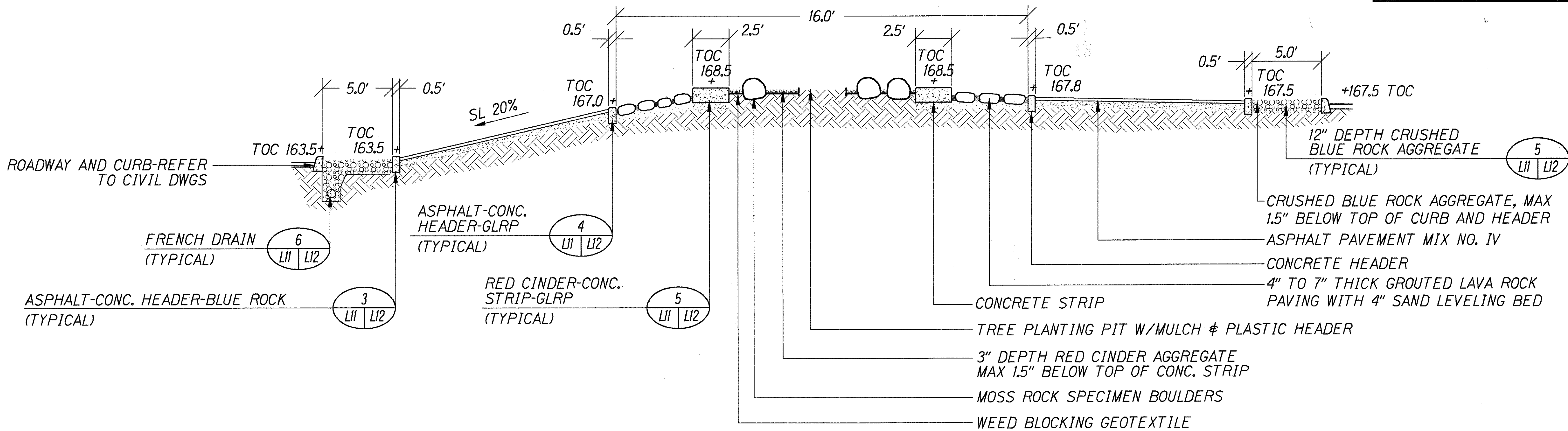


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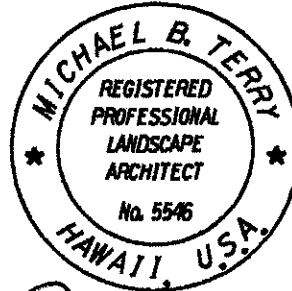
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION
MEDIANS, ISLANDS, & EMBANKMENT HARDSCAPE SECTIONS
INTERSTATE ROUTE H-1 Kunia Interchange Improvements F. A. I. Project No. 1M-HI-1(219)
Scale: Date: Oct., 1997
SHEET No. 110 OF 52 SHEETS

4/3/98	Revised Grouted Lava Rock Paving for Island A Section Per Addendum No. 2.
DATE	REVISION

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1M-HI-1(219)	1998	275	378



ORIGINAL PLAN	DATE
SURVEY PLOTTED BY	
DRAWN BY	
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HIGHWAYS DIVISION

MEDIANS, ISLANDS, & EMBANKMENT
HARDSCAPE SECTIONS

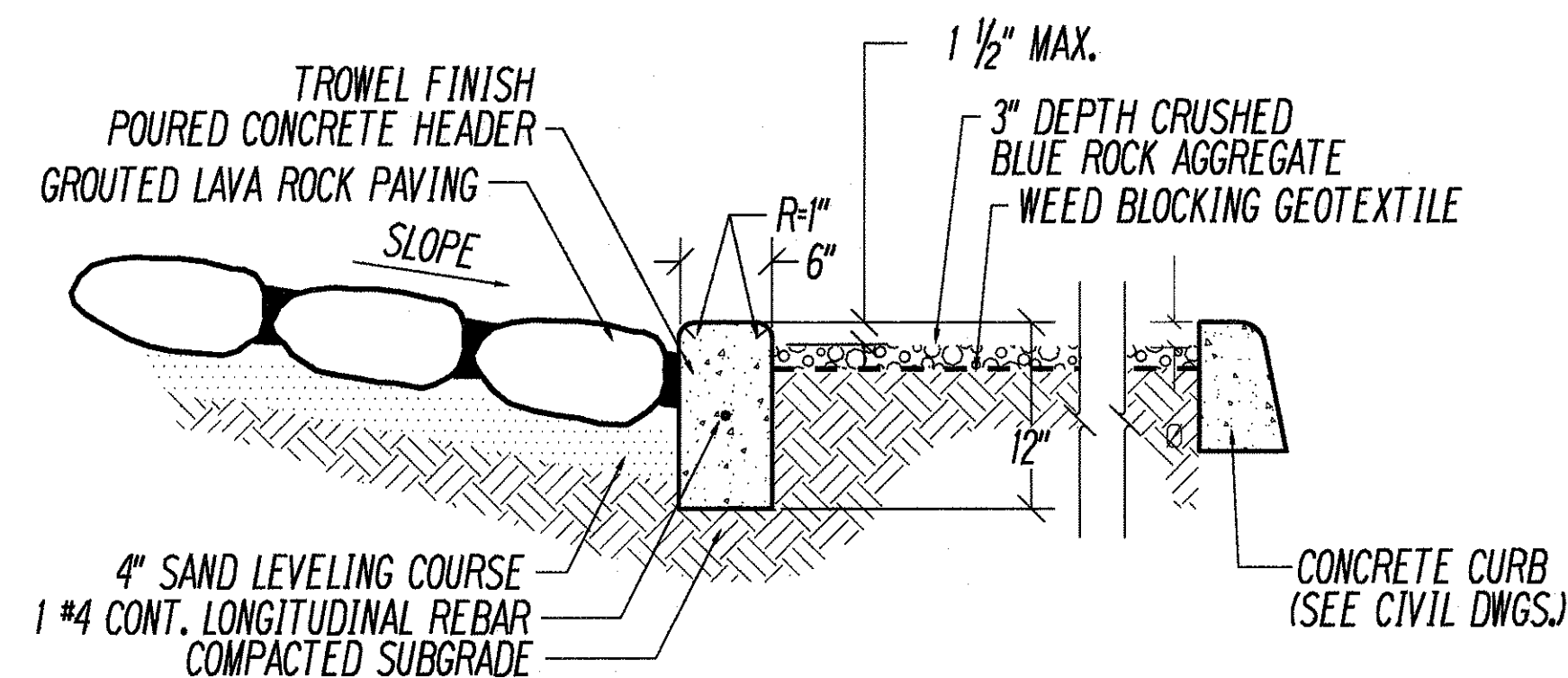
INTERSTATE ROUTE H-1
Kunia Interchange Improvements
F. A. I. Project No. 1M-HI-1(219)

Scale: Date: Oct., 1997

SHEET No. 111 OF 52 SHEETS

4/3/98	Revised Grouted Lava Rock Paving for Island C and Island E Sections Per Addendum No. 2.
DATE	REVISION

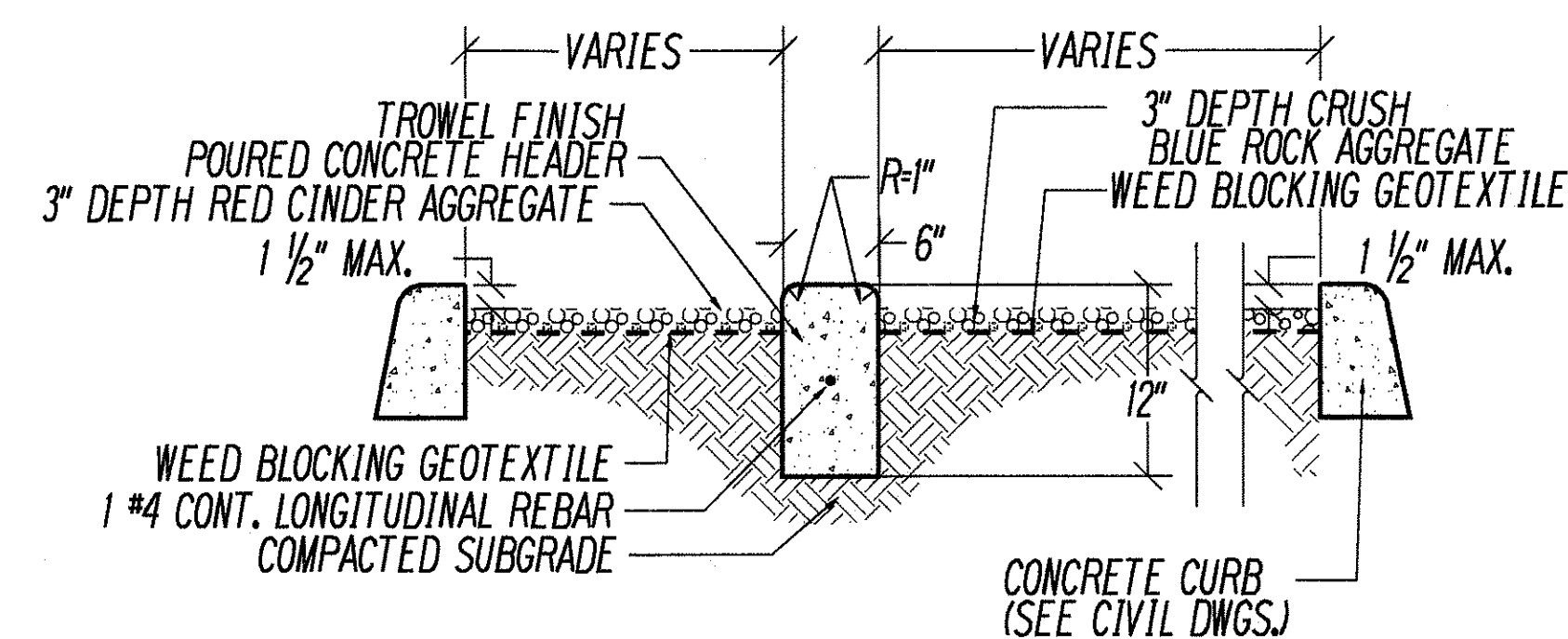
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1M-H1-K(219)	1998	276	378



GLRP-CONC. HEADER-BLUE ROCK DETAIL

NTS

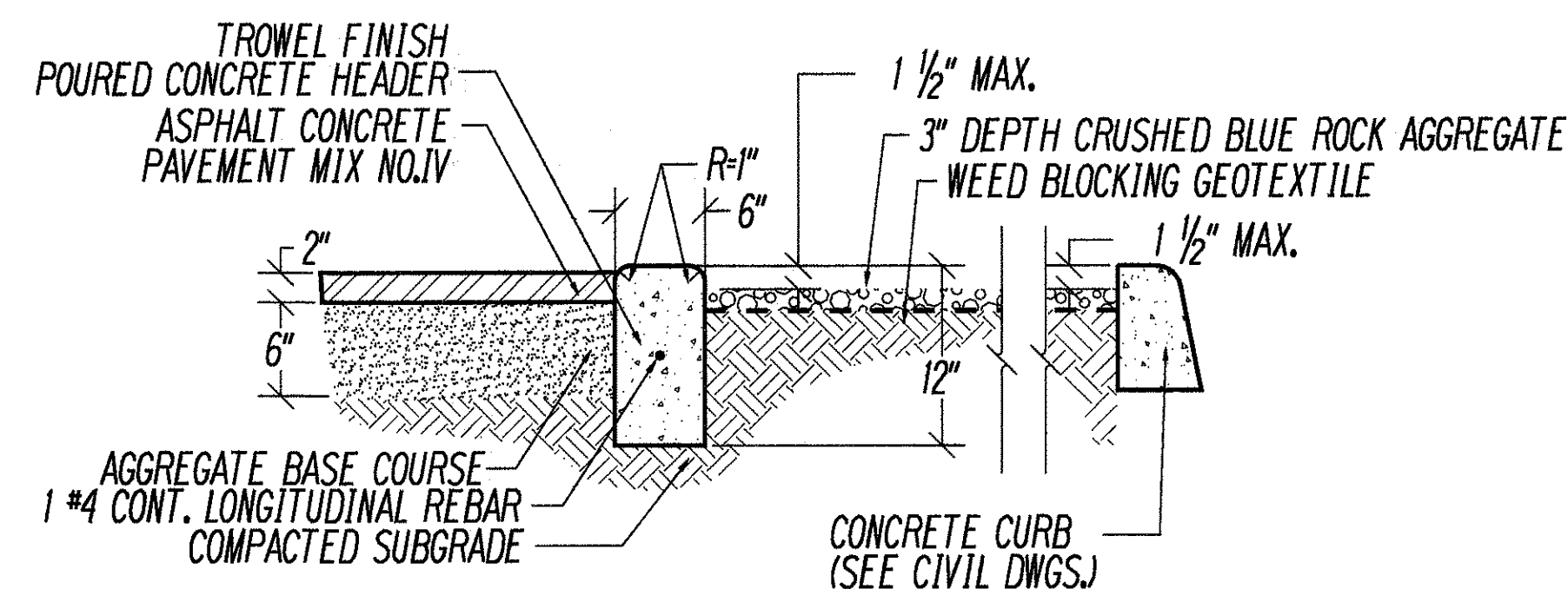
L04,L05,L08,L09,L10



RED CINDER-CONC. HEADER-BLUE ROCK DETAIL

NTS

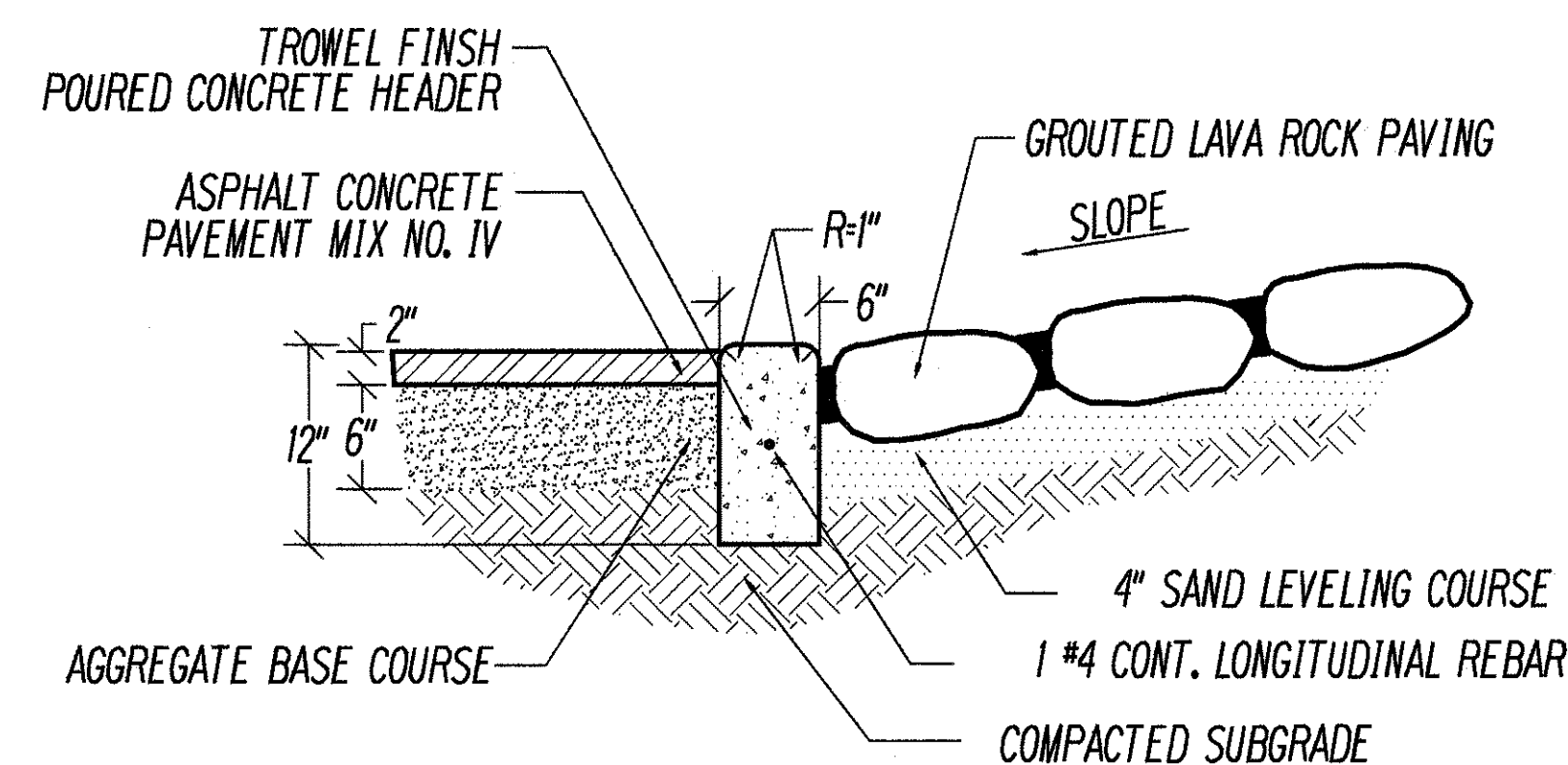
L04,L05,L06,L08,L10



ASPHALT-CONC. HEADER-BLUE ROCK DETAIL

NTS

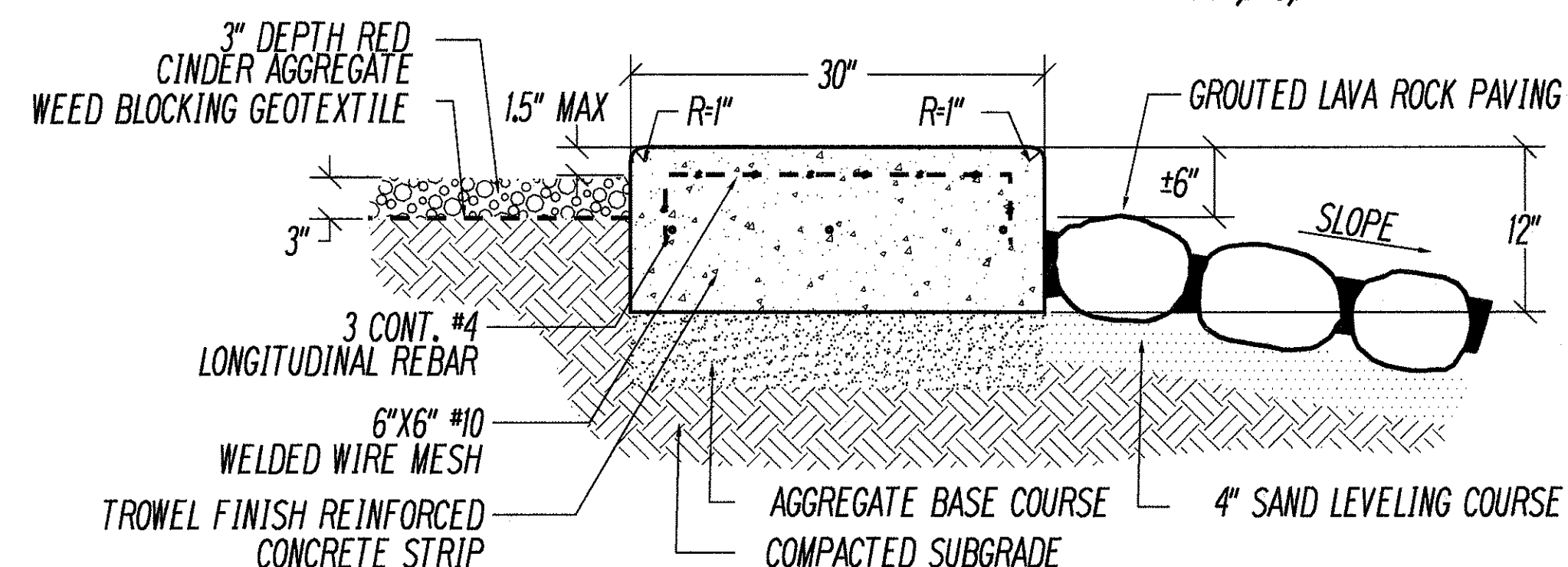
L08,L09,L11



ASPHALT-CONC. HEADER-GLRP DETAIL

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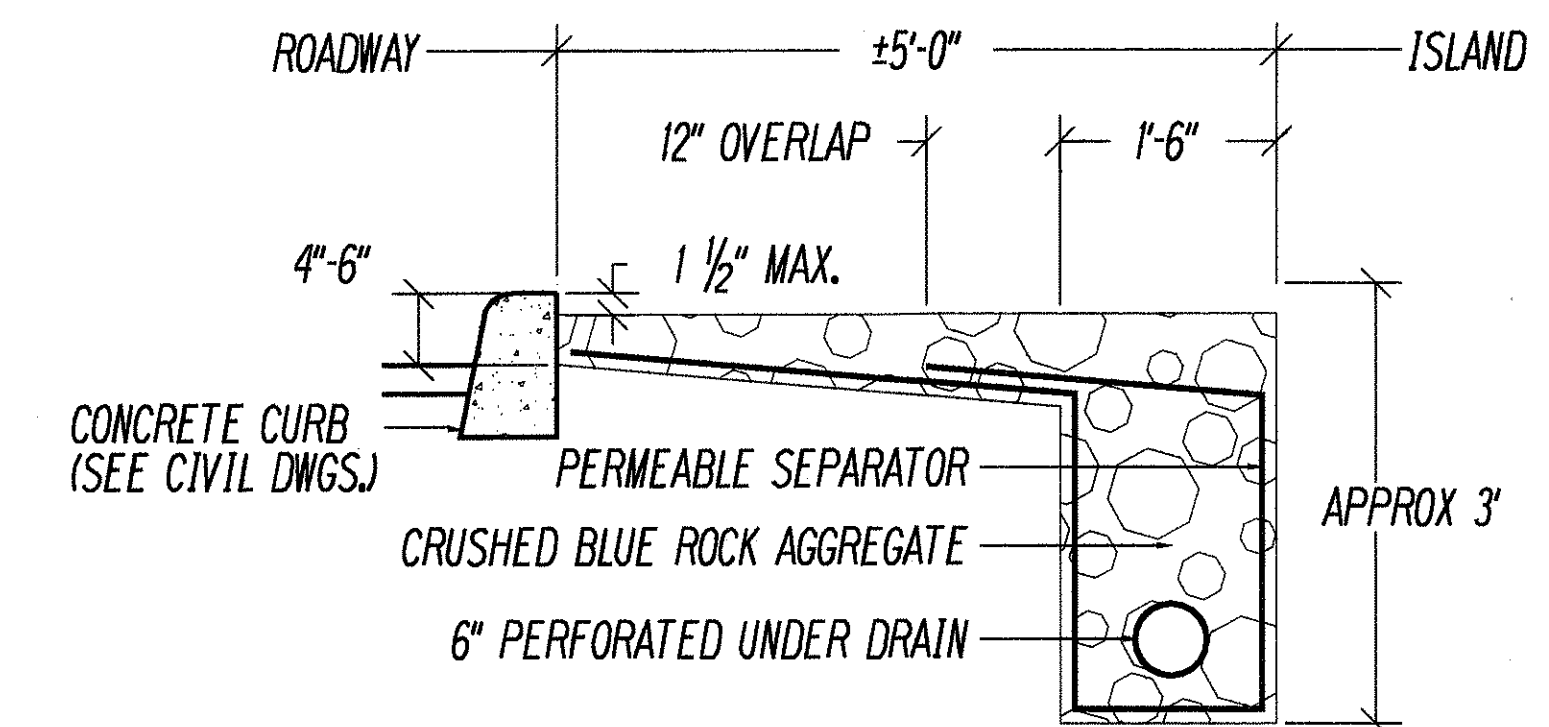
L08,L09,L11



RED CINDER-CONC. STRIP-GLRP DETAIL

NTS

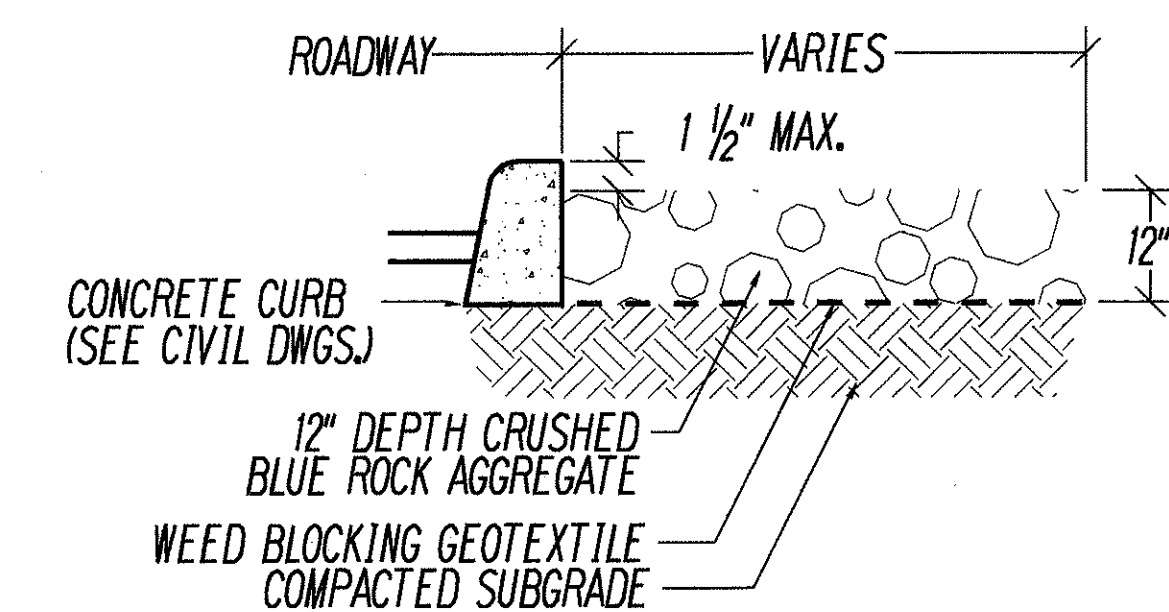
L04,L05,L08,L09,L10,L11



FRENCH DRAIN

NTS

L08,L09,L11

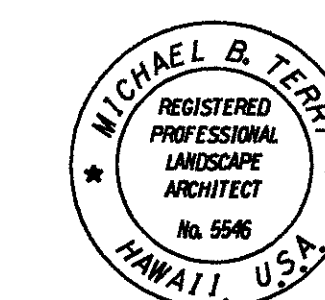


12 inch DEPTH CRUSHED BLUE ROCK AGGREGATE DETAIL

NTS

L08,L09,L11

SURVEY PLOTTED BY	DATE
DRAWN BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	



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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

MEDIANS, ISLANDS,
EMBANKMENTS HARDSCAPE DETAILS

INTERSTATE ROUTE H-1
Kunia Interchange Improvements
F. A. I. Project No. 1M-H1-K(219)

Scale: Date: Oct., 1997

SHEET No. L12 OF 52 SHEETS

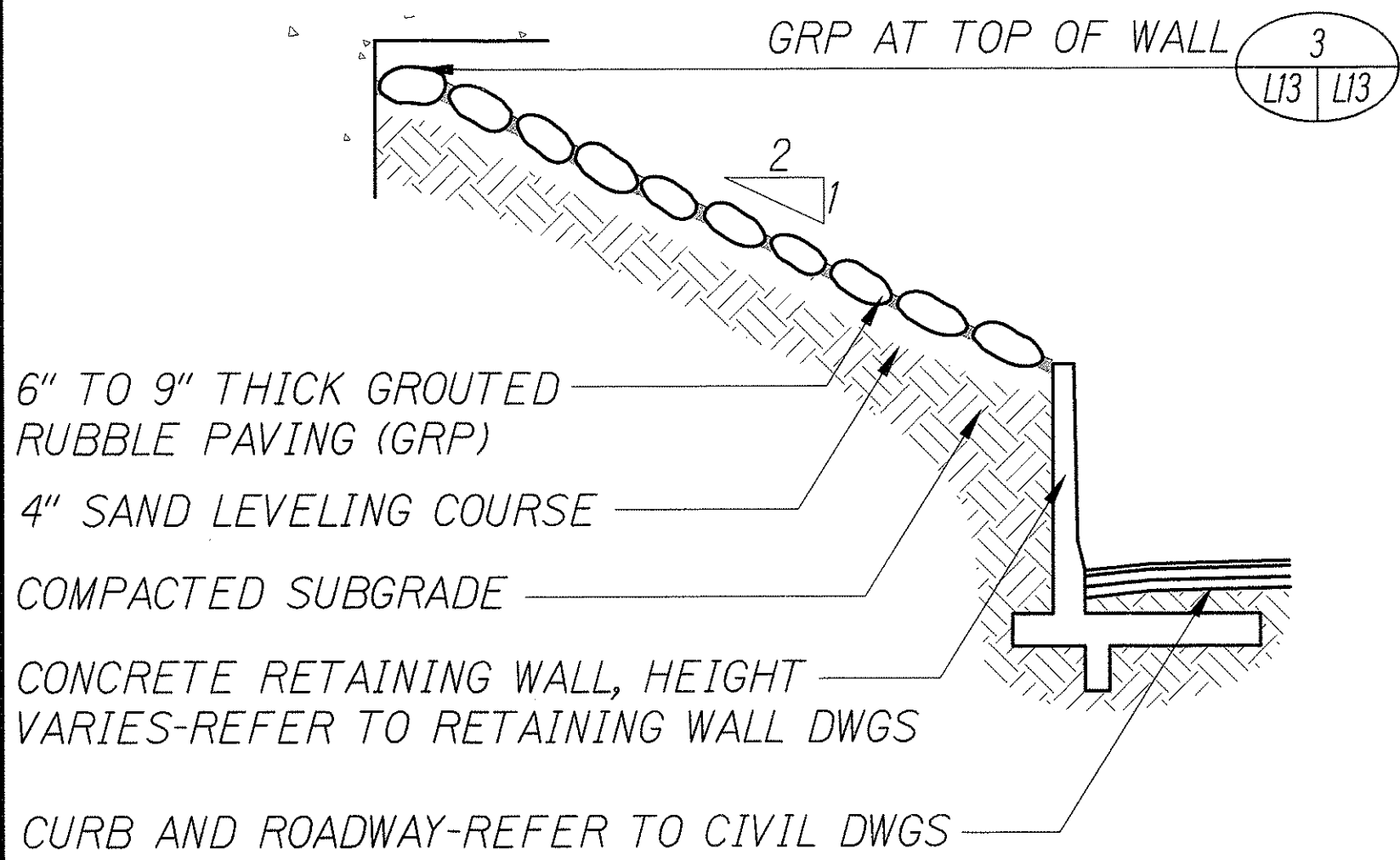
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1M-H1-1(219)	1998	277	378

PIPE SIZE	DIMENSIONS			ANCHOR BOLT & ROD SIZE
	a	b	c	
4"	1.5'	1.5'	2'	1/2" ϕ

- NOTES:**
1. APPLY BOND BREAKER BETWEEN GATE VALVE AND CONCRETE.
 2. ALL ANCHOR MATERIALS SHALL BE SHOP GALVANIZED STEEL & EPOXY COATED AFTER INSTALLATION.
 3. 3" CLEARANCE FOR ALL REINFORCING STEEL.
 4. THIS GATE VALVE ANCHOR BLOCK FOR PVC PIPE DETAIL IS TO BE USED AT STA. 3+33.90 ON THE IRRIGATION LINE SHOWN ON SHEET NO. L19-A.
 5. SEE DETAIL

4
L19 L24

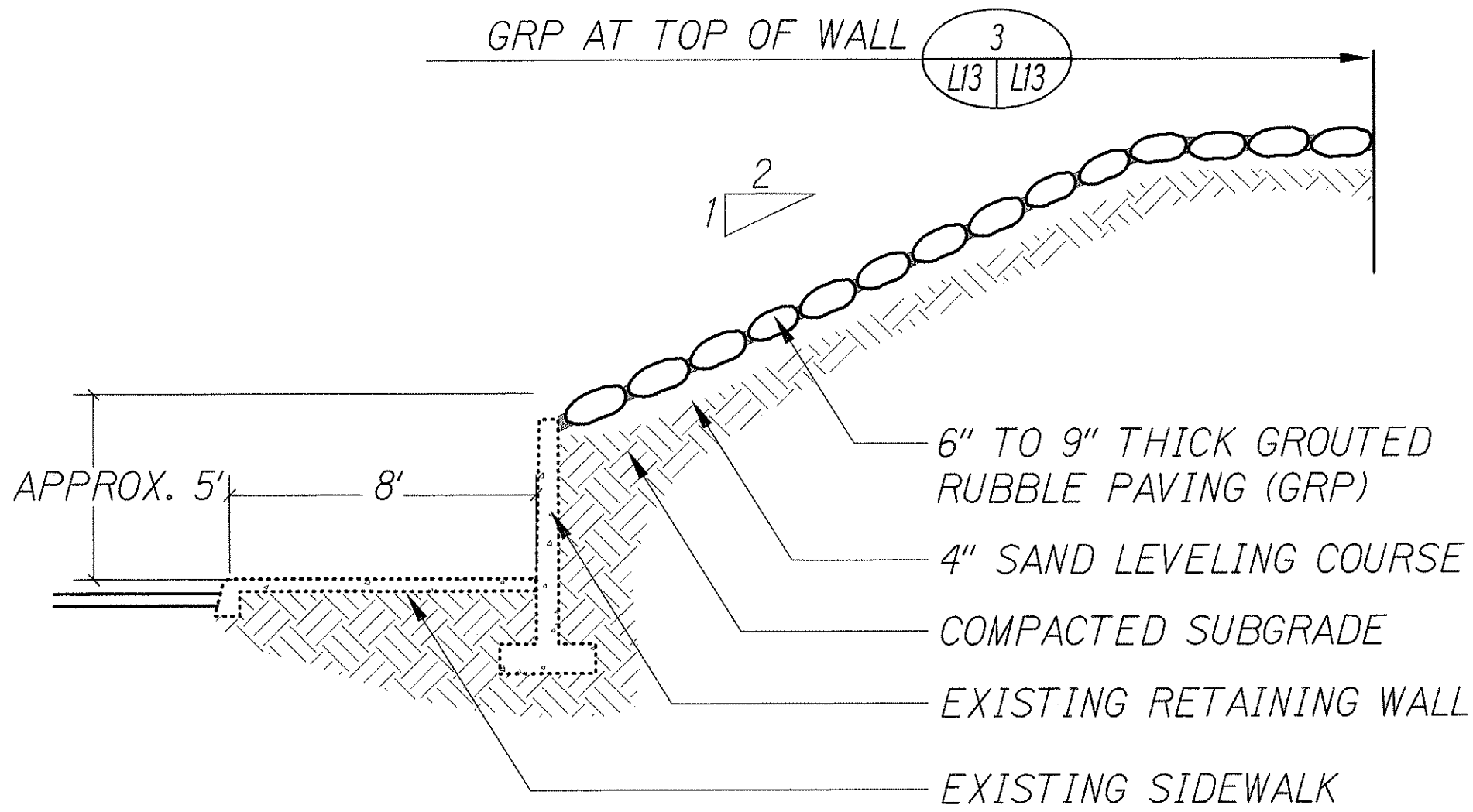
 FOR VALVE BOX AND NOTES.



UNDERPASS SECTION - WEST SIDE

1/4"=1'-0"

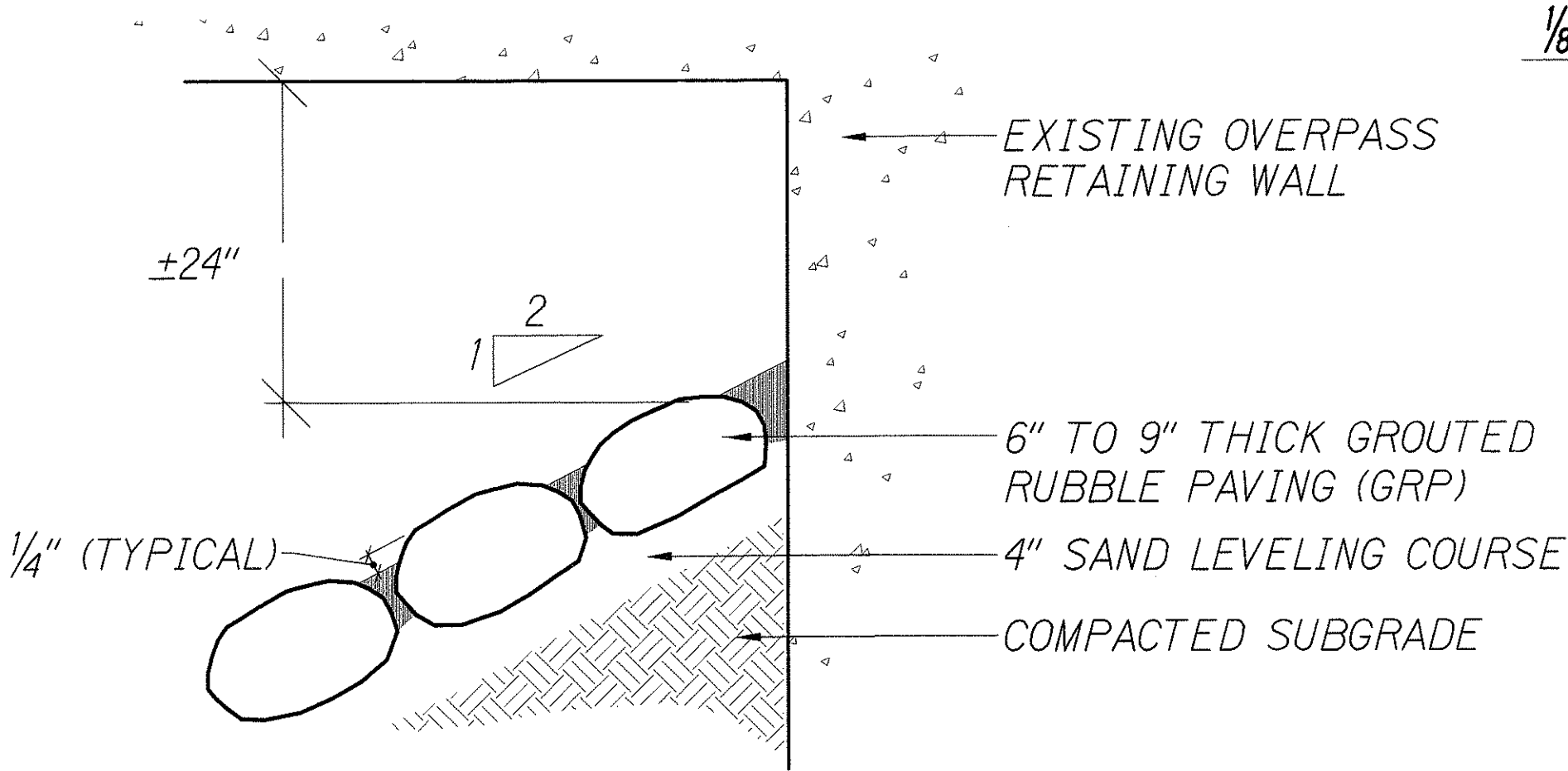
1
L07 L13



UNDERPASS SECTION - EAST SIDE

1/4"=1'-0"

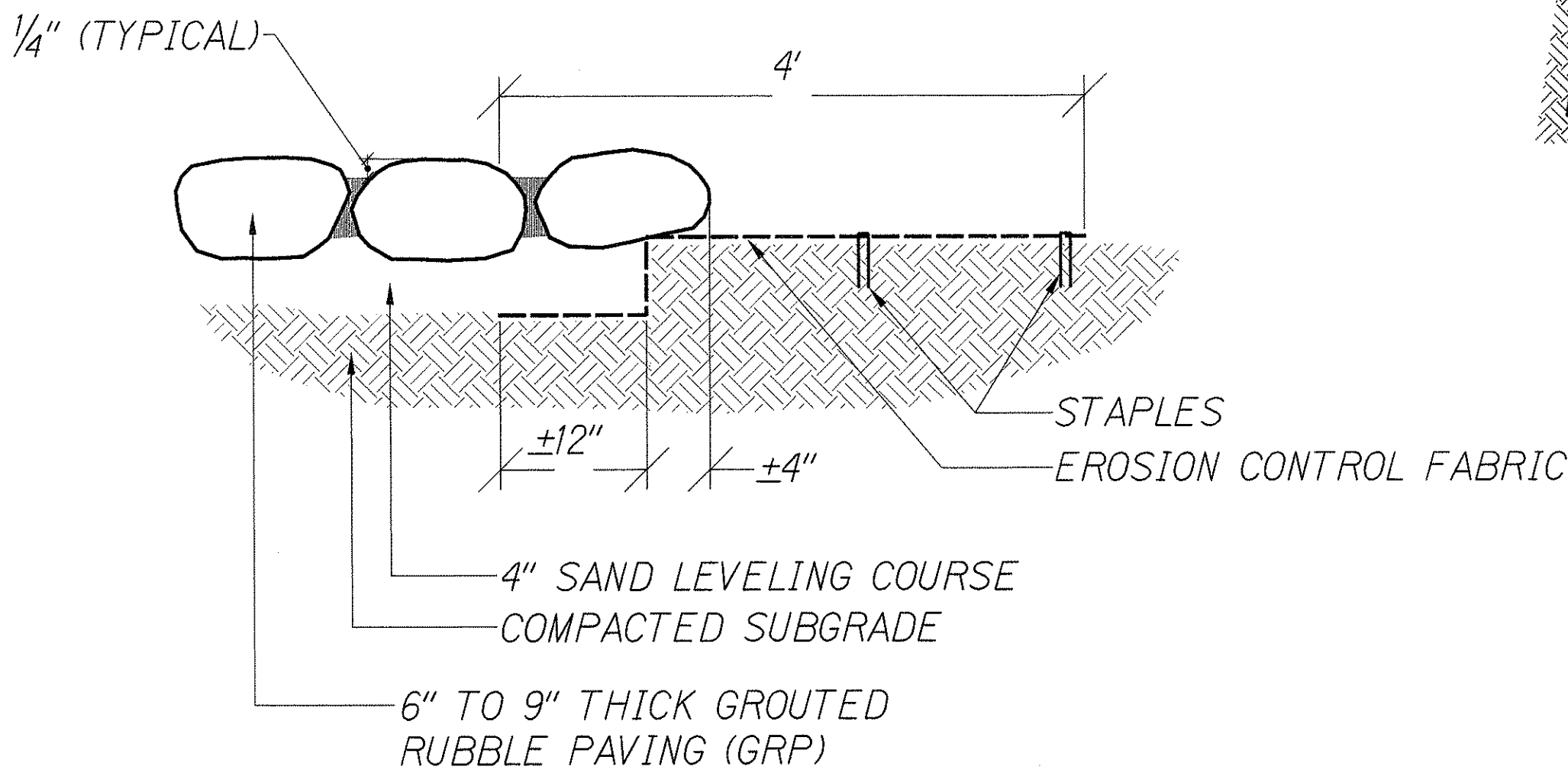
2
L07 L13



GRP AT TOP OF WALL

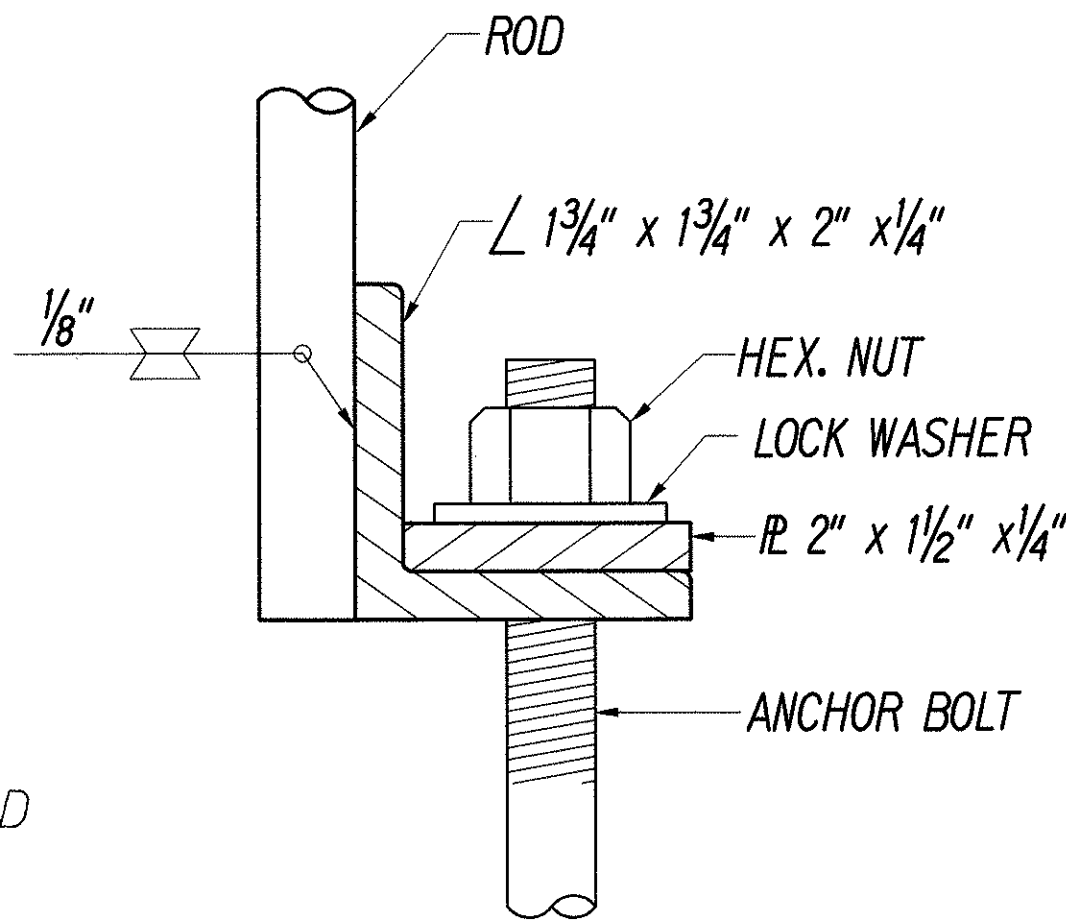
1"=1'-0"

3
L07,L13 L13

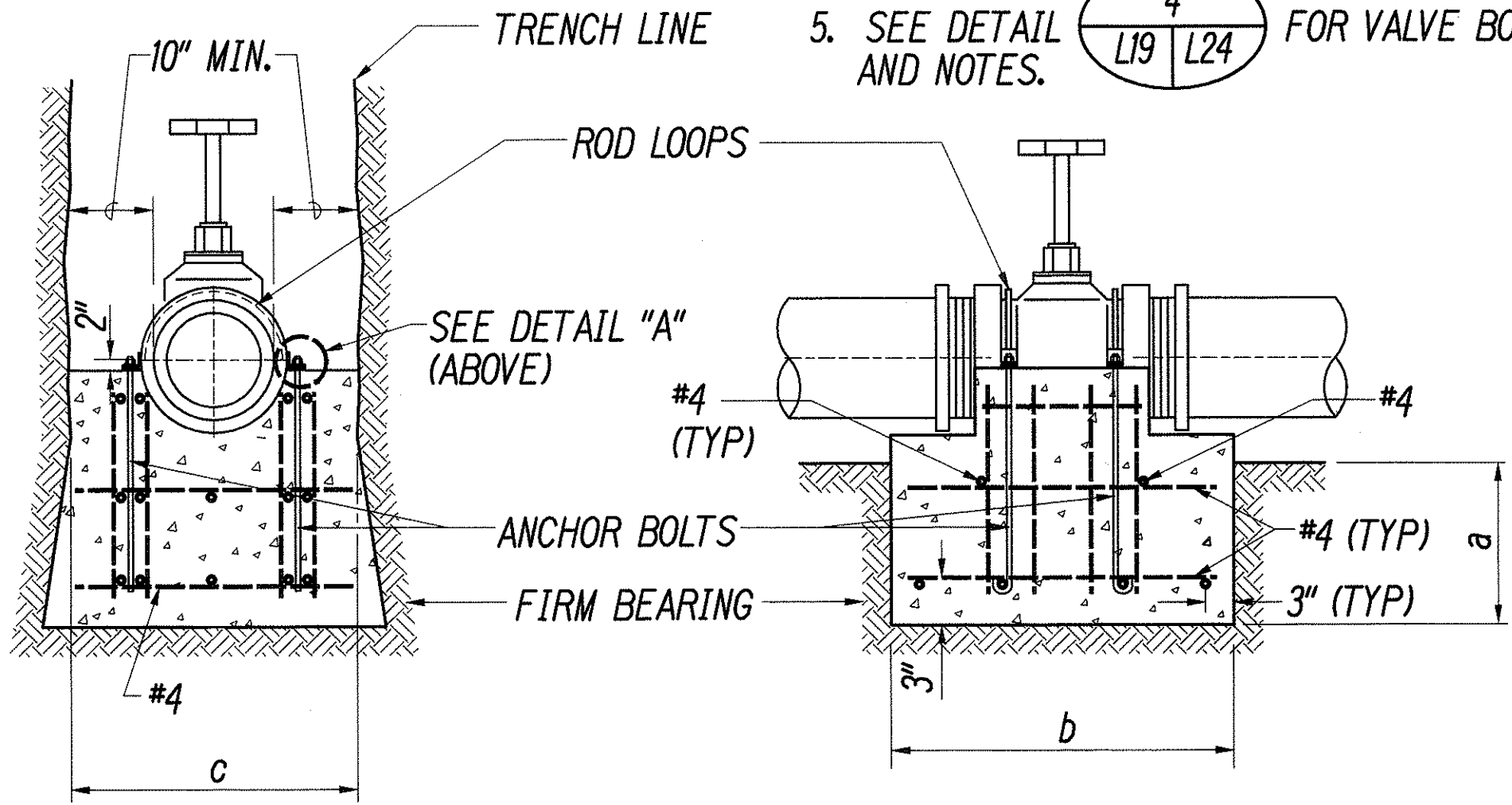


CONDITION AT EDGE OF GRP

1"=1'-0"



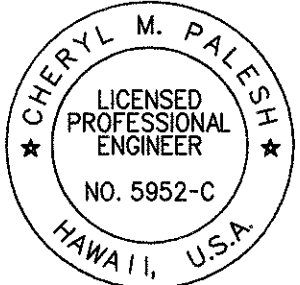
DETAIL "A"



GATE VALVE ANCHOR BLOCK FOR PVC PIPE DETAIL

NOT TO SCALE

1
L19-A L13



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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

MEDIANS, ISLANDS, &
EMBANKMENTS HARDSCAPE SECTIONS

INTERSTATE ROUTE H-1
Kunia Interchange Improvements
F. A. I. Project No. 1M-H1-1(219)

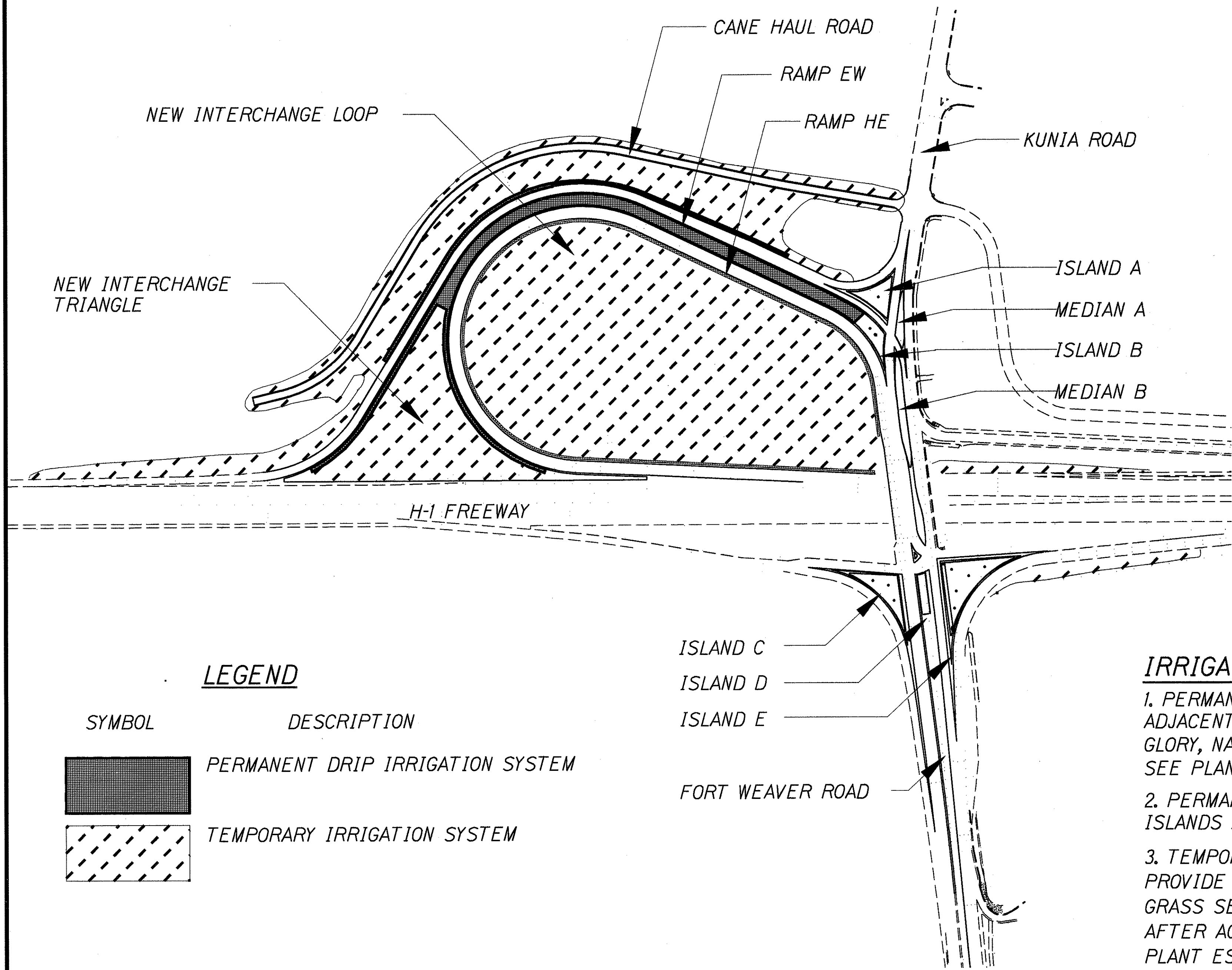
Scale: Date: Oct., 1997

SHEET No. L13 OF 52 SHEETS

ORIGINAL PLAN	DATE
SURVEY PLOTTED BY	
DRAWN BY	
TRACED BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	

11/1/99	Added Gate Valve Anchor Block for PVC Pipe Detail.
4/3/98	Revised Description of Grouted Rubble Paving Per Addendum No. 2.
DATE	REVISION

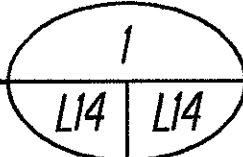
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1M-HI-1(219)	1998	278	378



SYMBOL	DESCRIPTION
	PERMANENT DRIP IRRIGATION SYSTEM
	TEMPORARY IRRIGATION SYSTEM

IRRIGATION SITE PLAN

1"=200'



IRRIGATION EQUIPMENT SCHEDULE					
SYMBOL	EQUIPMENT	PATTERN	PSI	RADIUS	GPM
	ADJUSTABLE STREAM BUBBLER NOZZLES W/0° TRAJECTORY	HALF CIRCLE	30	5'	1.0

	BRASS ELECTRIC REMOTE CONTROL VALVE (SIZE PER PLAN)
	BRASS GATE VALVE (SIZED TO MATCH MAIN)
	3/4" BRASS QUICK COUPLING VALVE WITH CORRESPONDING KEY AND HOSE SWIVEL
	40 STATION MULTIPLE PROGRAM HYBRID IRRIGATION CONTROLLER WITH CABINET (EXTRA STATIONS FOR TEMPORARY IRRIGATION SYSTEM)
	RAIN SENSOR COMPATIBLE WITH IRRIGATION CONTROLLER
	MOISTURE SENSOR COMPATIBLE WITH IRRIGATION CONTROLLER
	DRIPPER TUBING (DRIPPERLINE) - 12" EMITTER SPACING
	2" SCHEDULE 80 PVC CONDUIT
	6" SCHEDULE 40 PVC SLEEVE
	CLASS 200 PVC LATERAL (SIZE PER PLAN)
	SCHEDULE 40 PVC MAIN (SIZE PER PLAN)
	STATION NUMBER / VALVE SIZE
	GPM

IRRIGATION NOTES:

1. PERMANENT DRIP IRRIGATION SYSTEM TO BE INSTALLED IN ROADSIDES ADJACENT TO RAMPS EW, HE AND KUNIA ROAD FOR IRRIGATING GOLDEN GLORY, NAUPAKA, SILVER BUTTONWOOD, & GRASS (AT TWO MAINTENANCE ACCESSSES). SEE PLANTING PLAN FOR CLARIFICATION OF AREA TO BE DRIP IRRIGATED.
2. PERMANENT TREE BUBBLER IRRIGATION SYSTEMS TO BE INSTALLED IN ISLANDS A, B, C, AND E.
3. TEMPORARY IRRIGATION SYSTEM TO BE PROVIDED TO ALL OTHER PLANTED AREAS. PROVIDE TEMPORARY SPRINKLER SYSTEM TO ESTABLISH GOLDEN GLORY (4" POTS) AND GRASS SEEDS (AT TWO MAINTENANCE ACCESSSES). REMOVE ALL TEMPORARY IRRIGATION AFTER ACCEPTANCE OF LANDSCAPE BY THE ENGINEER (12 MONTHS AFTER THE 9 MONTH PLANT ESTABLISHMENT PERIOD).
4. IRRIGATION SLEEVES ARE PERPENDICULAR OR RADIAL TO THE REFERENCED ROAD STATION UNLESS OTHERWISE NOTED.
5. TEST AND VERIFY THE ADEQUACY OF THE WORKING PRESSURE (70 PSI) AT THE POINT OF CONNECTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ENGINEER.

SURVEY PLOTTED BY	DATE
DRAWN BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
DATE	



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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

IRRIGATION EQUIPMENT SCHEDULE
SITE PLAN, AND NOTES

INTERSTATE ROUTE H-1
Kunia Interchange Improvements
F. A. I. Project No. 1M-HI-1(219)

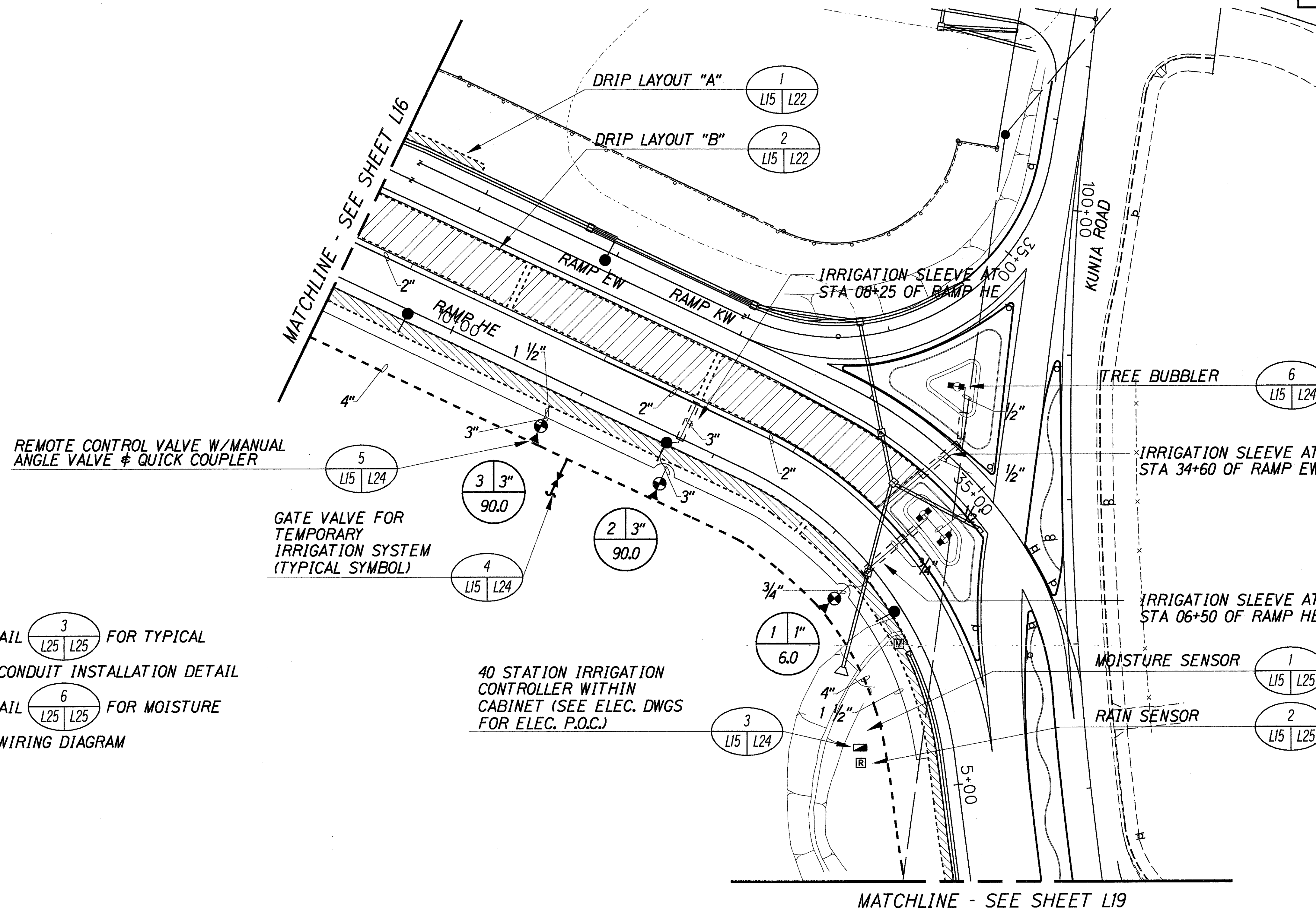
4/3/98	Revised Note Nos. 1 and 3 Per Addendum No. 3.
DATE	REVISION

Scale: Date: Oct., 1997

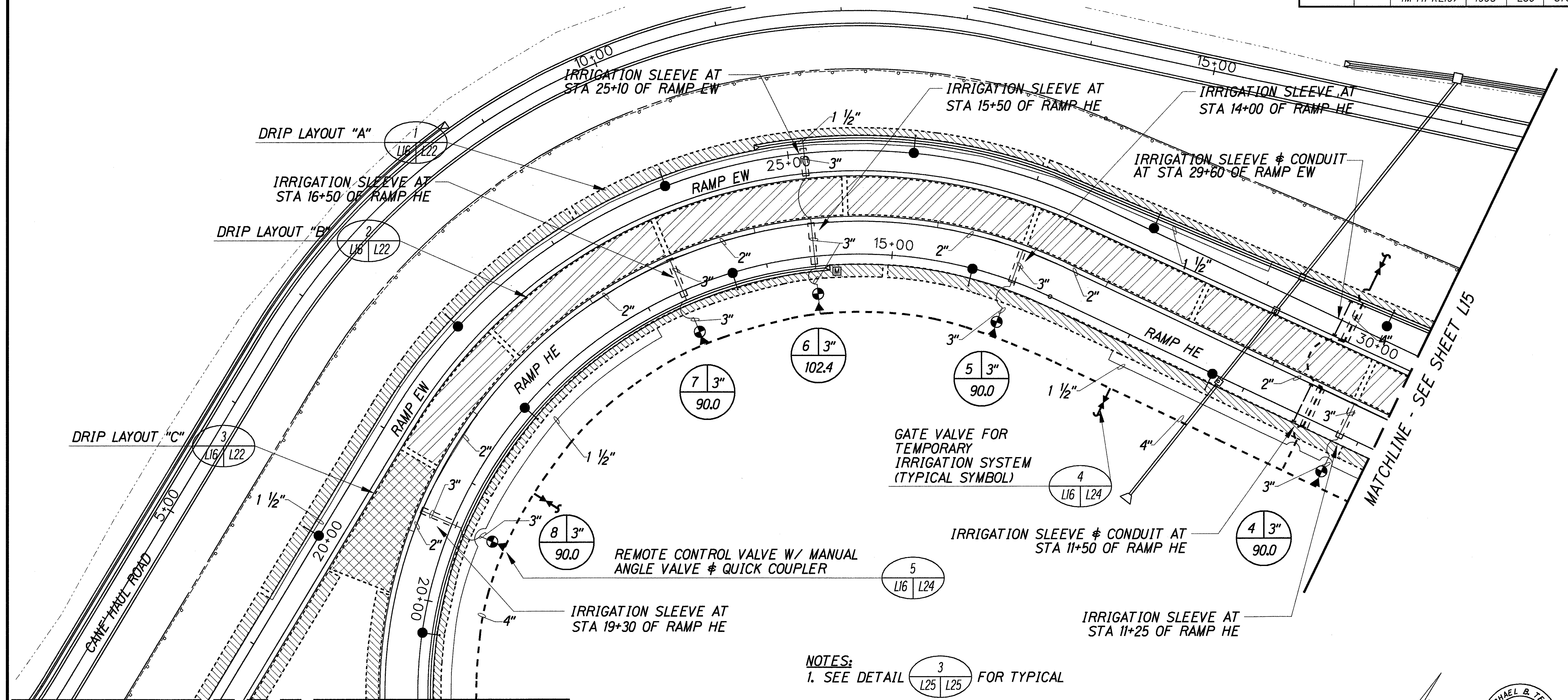
SHEET No. L14 OF 52 SHEETS

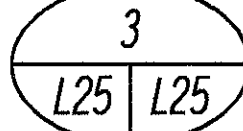
278R

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1M-HI-1(219)	1998	279	378



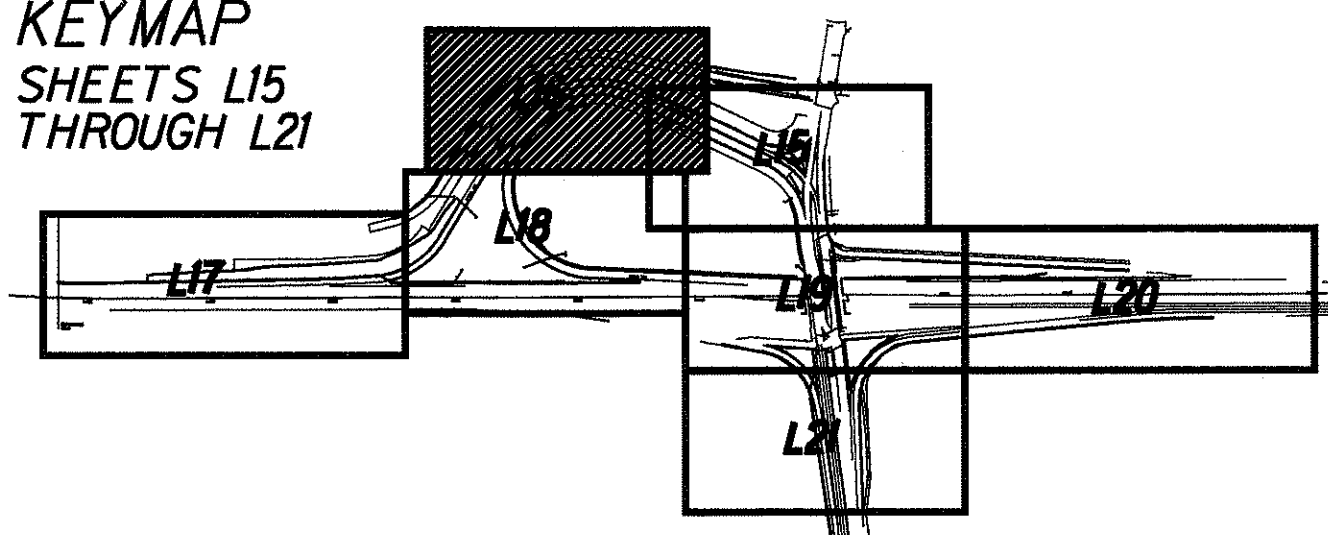
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1M-HI-1(219)	1998	280	378



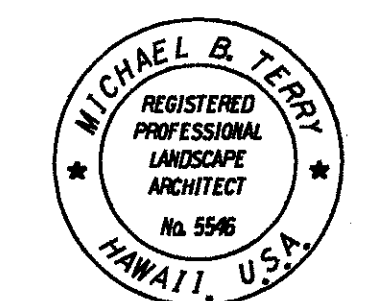
NOTES:
 1. SEE DETAIL  FOR TYPICAL SLEEVE/CONDUIT INSTALLATION DETAIL

MATCHLINE - SEE SHEET L18

KEYMAP
 SHEETS L15
 THROUGH L21



TRUE NORTH
 SCALE: 1"=40'



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STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

LANDSCAPE IRRIGATION PLAN

INTERSTATE ROUTE H-1
 Kunia Interchange Improvements
 F. A. I. Project No. 1M-HI-1(219)

Scale: 1"=40' Date: Oct., 1997

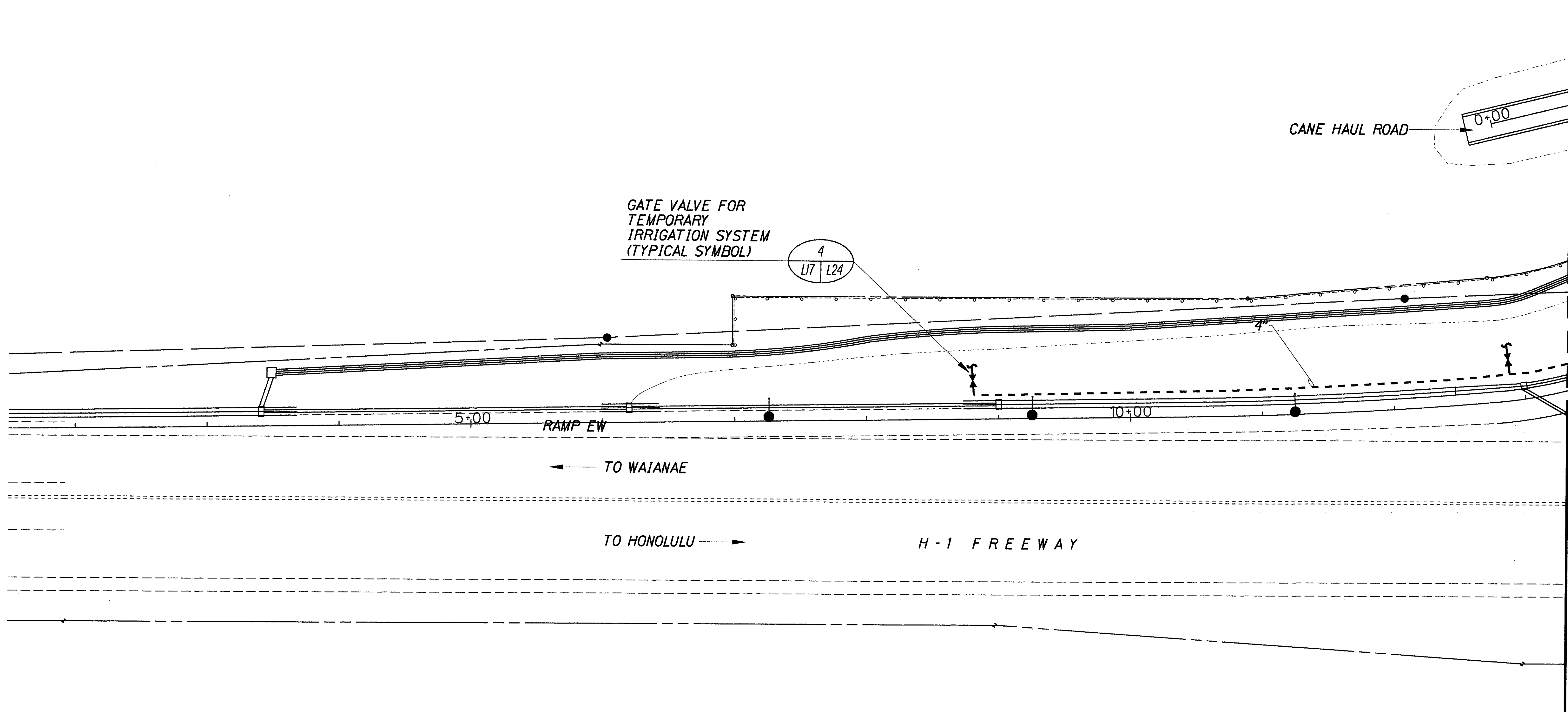
SHEET No. L16 OF 52 SHEETS

ADD. 280

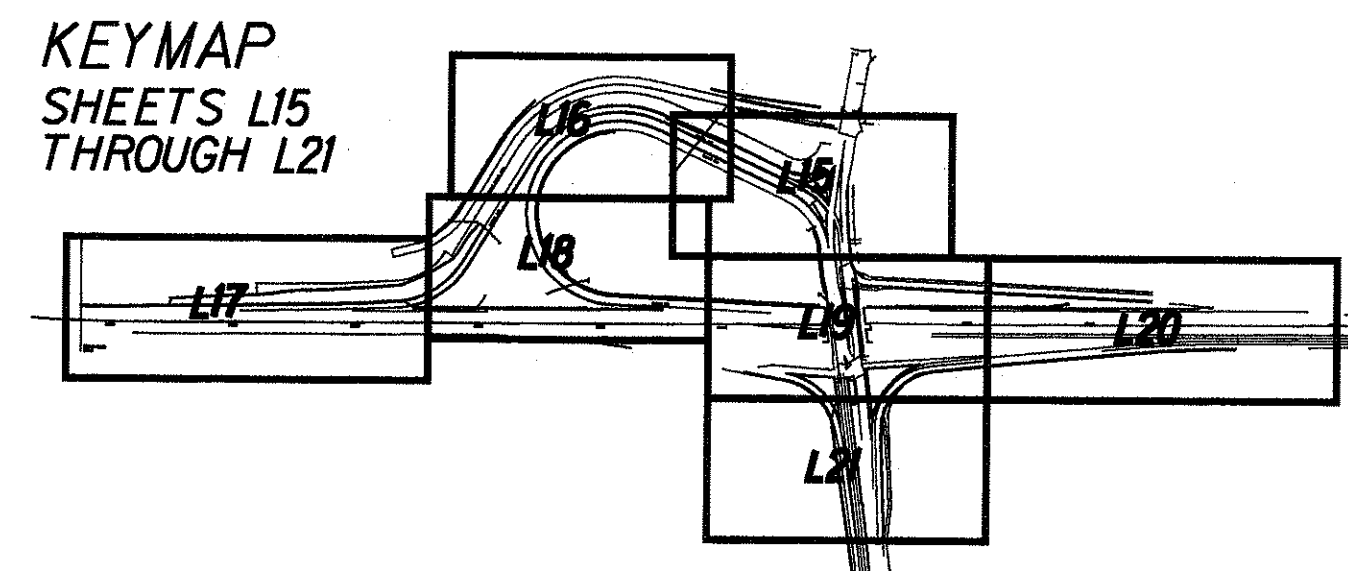
1/9/98	Deleted Moisture Sensor Per Addendum No. 1
DATE	REVISION

SURVEY PLOTTED BY	DATE
DRAWN BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
N.	

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1M-HI-1(219)	1998	281	378



ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	
	DESIGNED BY	
	QUANTITIES BY	
	CHECKED BY	



TRUE NORTH
SCALE: 1"=40'

MICHAEL B. TERRY
REGISTERED
PROFESSIONAL
LANDSCAPE
ARCHITECT
No. 5546
HAWAII, U.S.A.

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

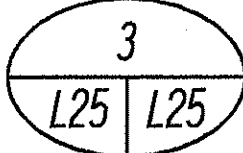
LANDSCAPE IRRIGATION PLAN

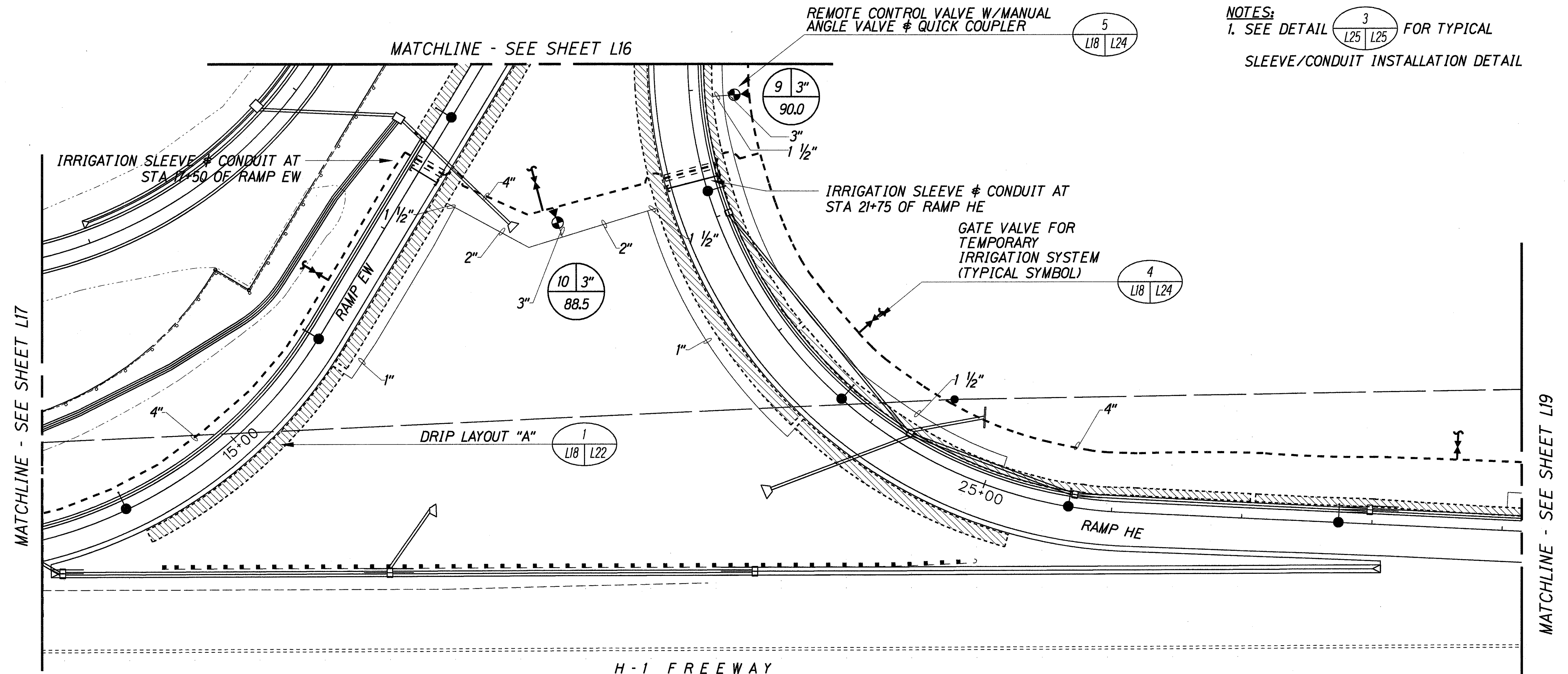
INTERSTATE ROUTE H-1
Kunia Interchange Improvements
F. A. I. Project No. 1M-HI-1(219)

Scale: 1"=40' Date: Oct., 1997

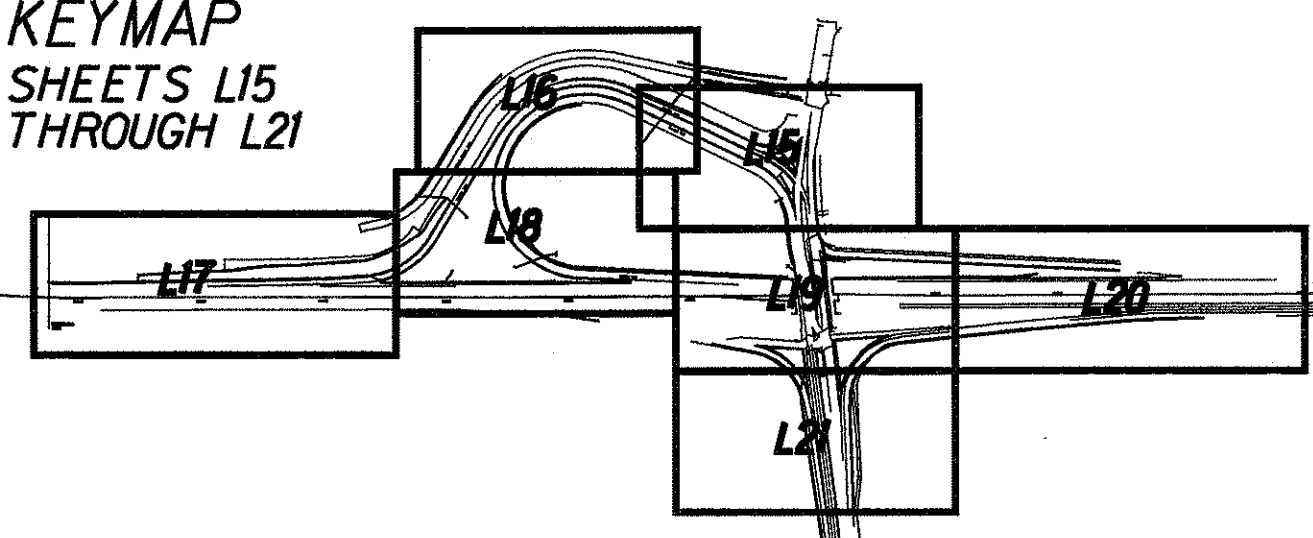
SHEET No. L17 OF 52 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1M-H1-1(219)	1998	282	378

NOTES:
1. SEE DETAIL  FOR TYPICAL SLEEVE/CONDUIT INSTALLATION DETAIL



KEYMAP
SHEETS L15
THROUGH L21



TRUE NORTH
SCALE: 1"=40'

MICHAEL B. TERRY
REGISTERED PROFESSIONAL LANDSCAPE ARCHITECT
No. 5546
HAWAII, U.S.A.

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LANDSCAPE IRRIGATION PLAN

**INTERSTATE ROUTE H-1
Kunia Interchange Improvements**
F. A. I. Project No. 1M-H1-1(219)

Scale: 1"=40' Date: Oct., 1997

SHEET No. L18 OF 52 SHEETS

KUNIA ROAD @ STA 106+10.43
(o/s 63.89' LT) = IRRIG LINE STA 0+98
INSTALL:
1-4" 1/32 BEND (TV)
1-CONC BLOCK

REMOTE CONTROL VALVE
W/ MANUAL ANGLE VALVE
& QUICK COUPLER

FOR CONTINUATION OF WATER LINE
SEE SHEET L49

MOISTURE SENSOR PROBES

GATE VALVE FOR TEMPORARY
IRRIGATION SYSTEM
(TYPICAL SYMBOL)

1 1/2"

2 1/2"

1 1/2"

30+00

KUNIA ROAD @ STA 107+75.64
(o/s 37' LT) = IRRIG LINE STA 2+83.52
INSTALL:
1-4" 1/8 BEND (HORIZ. & ROTATED)
2-4" MECHANICAL JOINT RESTRAINERS

KUNIA ROAD @ STA 108+13.92
(o/s 65.69' LT) = IRRIG LINE STA 3+33.90
INSTALL:
1-4"x4" TEE
2-CONC BLOCKS
1-4" AWWA C-900 PVC PIPE NIPPLE,
2' LONG MIN.
1-4" AWWA C-900 PVC TO SCHEDULE
40 PVC TRANSITION COUPLING
2-4" SCHEDULE 40 PVC PIPE NIPPLE, 2' LONG MIN.
1-4" GATE VALVE AND ANCHOR BLOCK PER DETAIL
1-4" CAP
TRANSITION FROM AWWA C-900
PVC TO DUCTILE IRON PIPE

KUNIA ROAD @ STA 108+39.92
(o/s 64.11' LT) = IRRIG LINE STA 3+60
INSTALL:
1-4" 1/16 BEND (BV)
1-CONC BLOCK

KUNIA ROAD @ STA 108+84.28
(o/s 61.41' LT) =
IRRIG LINE STA 4+04.44
5" HORIZONTAL DEFLECTION

KUNIA ROAD @ STA 108+87.85
(o/s 60.88' LT) = IRRIG LINE STA 4+08
INSTALL:
1-4" DUCTILE IRON TO SCHEDULE
40 PVC TRANSITION COUPLING

KUNIA ROAD @ STA 108+90.81
(o/s 60.44' LT) =
IRRIG LINE STA 4+11
BEGIN SLEEVE FOR
IRRIGATION LINE

IRRIGATION SLEEVE & CONDUIT AT
STA 14+00 OF RAMP KA-1

IRRIGATION SLEEVE & CONDUIT AT
STA 13+95 OF RAMP WE

KUNIA ROAD @ STA 106+10.51
(o/s 68.89' LT) =
IRRIG LINE STA 0+93
INSTALL:
1-3/4" ARV AND BOX
1-DOUBLE STRAP SERVICE SADDLE

MATCHLINE - SEE SHEET L15

FORT WEAVER/KUNIA ROAD

KUNIA ROAD @ STA 106+12.08
(o/s 161.88' LT) = IRRIG LINE
INSTALL:
1-4" 1/32 BEND (HORIZ.)
2-4" MECHANICAL JOINT RE

KUNIA ROAD @ STA 106+12.08
(o/s 161.88' LT) = IRRIG LINE
INSTALL:
1-4" SCHEDULE 40 L
C-900 PVC TRANS

KUNIA ROAD @ STA 106+12.08
(o/s 161.88' LT) = IRRIG LINE
INSTALL:
1-4" SCHEDULE 40 L
C-900 PVC TRANS

4" AWWA C-900 PVC
4" MINIMUM DISTANCE TO
EDGE OF RETAINING WALL

KUNIA ROAD @ STA 108+04.93
(o/s 66.23' LT) =
IRRIG LINE STA 3+24.90
INSTALL:
1-4" 1/8 BEND (HORIZ. & ROTATED)
2-4" MECHANICAL JOINT R

FOR PROFILE OF
4" IRRIGATION LINE
SEE SHEET NO. L19-B

IRRIGATION SLEEVE & CONDUIT AT
STA 06+40 OF RAMP EH

IRRIGATION SLEEVE & CONDUIT
THROUGH NOISE WALL AT
STA 06+40 OF RAMP EH

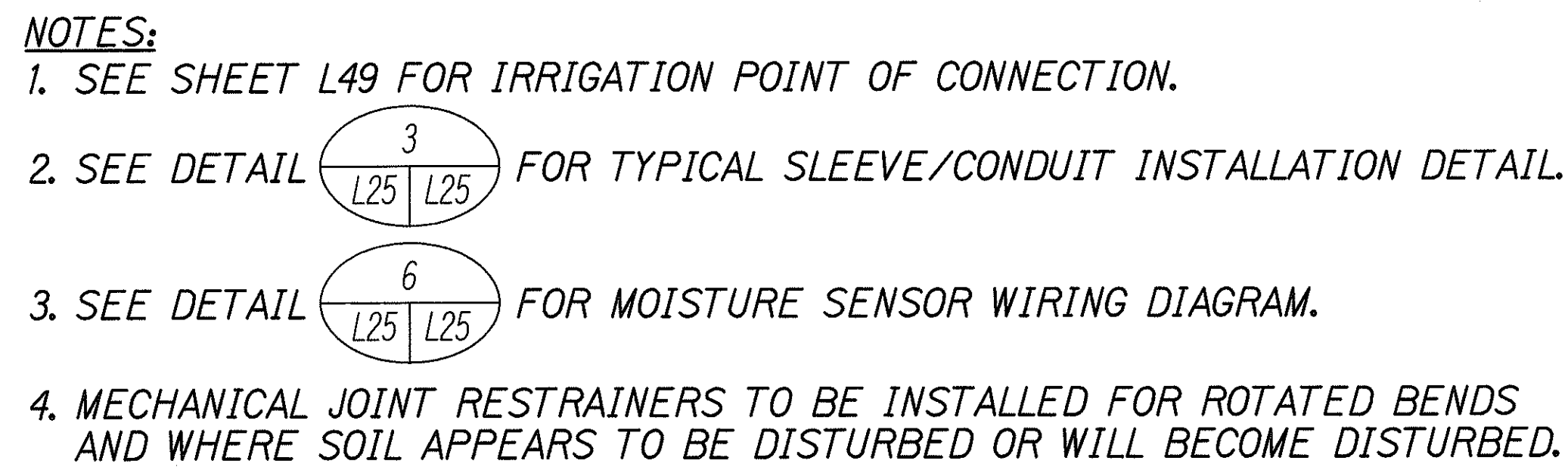
MATCHLINE - SEE SHEET L21

KEYMAP
SHEETS L15
THROUGH L21

NOTES:
1. SEE SHEET L49 FOR IRRIGATION POINT OF CONNECTION.
2. SEE DETAIL 3 FOR TYPICAL SLEEVE/CONDUIT INSTALLATION DETAIL.
3. SEE DETAIL 6 FOR MOISTURE SENSOR WIRING DIAGRAM.
4. MECHANICAL JOINT RESTRAINERS TO BE INSTALLED FOR ROTATED BENDS AND WHERE SOIL APPEARS TO BE DISTURBED OR WILL BECOME DISTURBED.

11/1/99 New Sheet with Revised Alignment of Irrigation Line. Also, Added Connection Between 4" Irrigation Main and Irrigation System In Island Along Ramp WE (Island C).

DATE REVISION



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

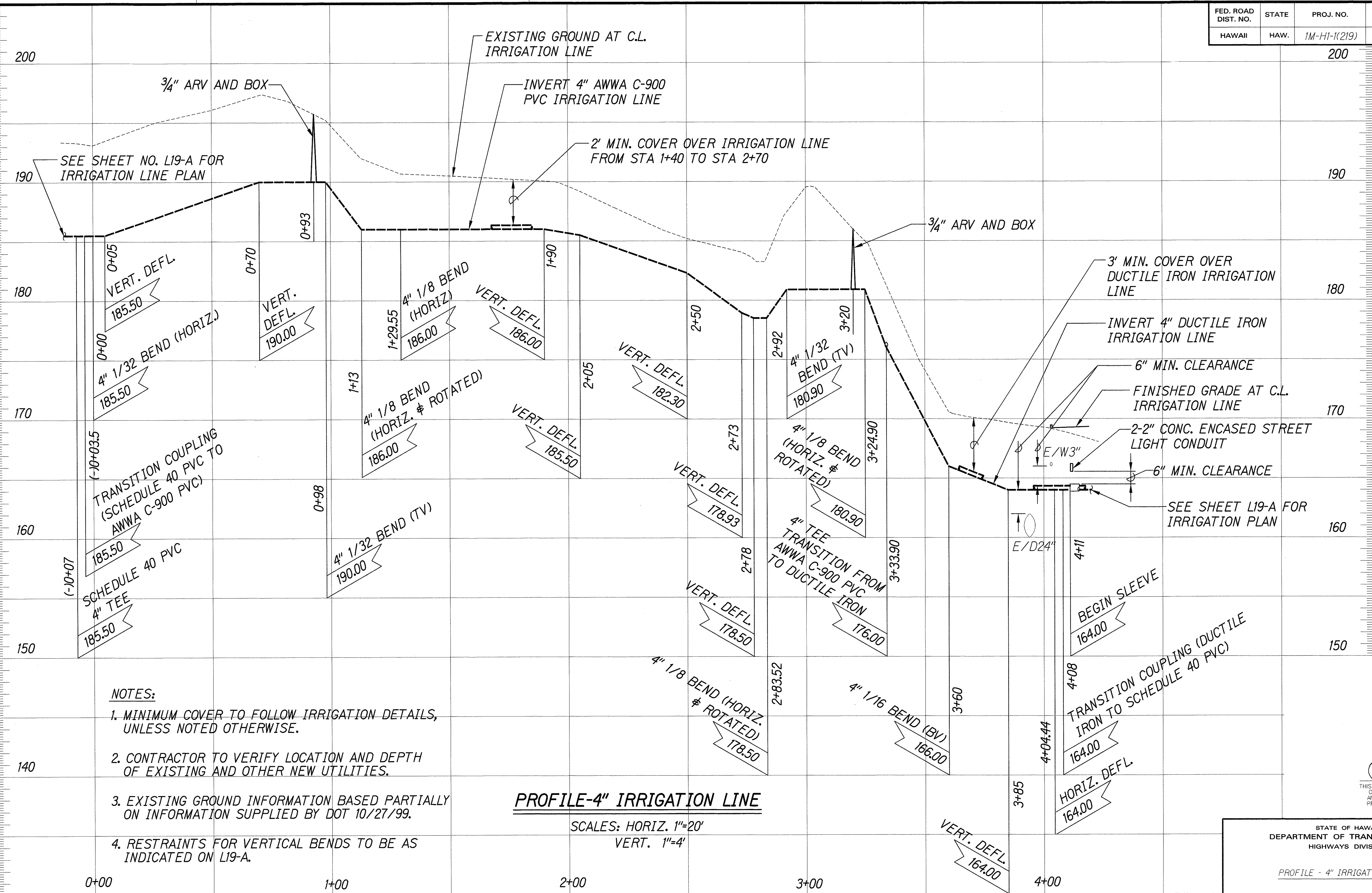
LANDSCAPE IRRIGATION PLAN

INTERSTATE ROUTE H-1
Kunia Interchange Improvements
F. A. I. Project No. 1M-HI-K(219)

Scale: 1"=40' Date: Oct., 1997

SHEET NO. 119-A OF 52 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1M-H1-1(219)	1998	C.O. ADD. 2835-2	378



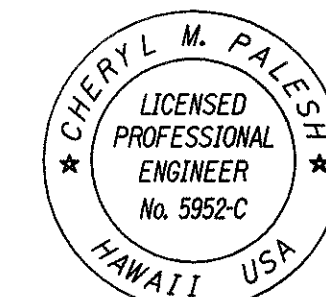
NOTES:

1. MINIMUM COVER TO FOLLOW IRRIGATION DETAILS, UNLESS NOTED OTHERWISE.
2. CONTRACTOR TO VERIFY LOCATION AND DEPTH OF EXISTING AND OTHER NEW UTILITIES.
3. EXISTING GROUND INFORMATION BASED PARTIALLY ON INFORMATION SUPPLIED BY DOT 10/27/99.
4. RESTRAINTS FOR VERTICAL BENDS TO BE AS INDICATED ON LI9-A.

PROFILE-4" IRRIGATION LINE

SCALES: HORIZ. 1"=20'
VERT. 1"=4'

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



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HIGHWAYS DIVISION

PROFILE - 4" IRRIGATION LINE

INTERSTATE ROUTE H-1
Kunia Interchange Improvements
F. A. I. Project No. 1M-H1-1(219)

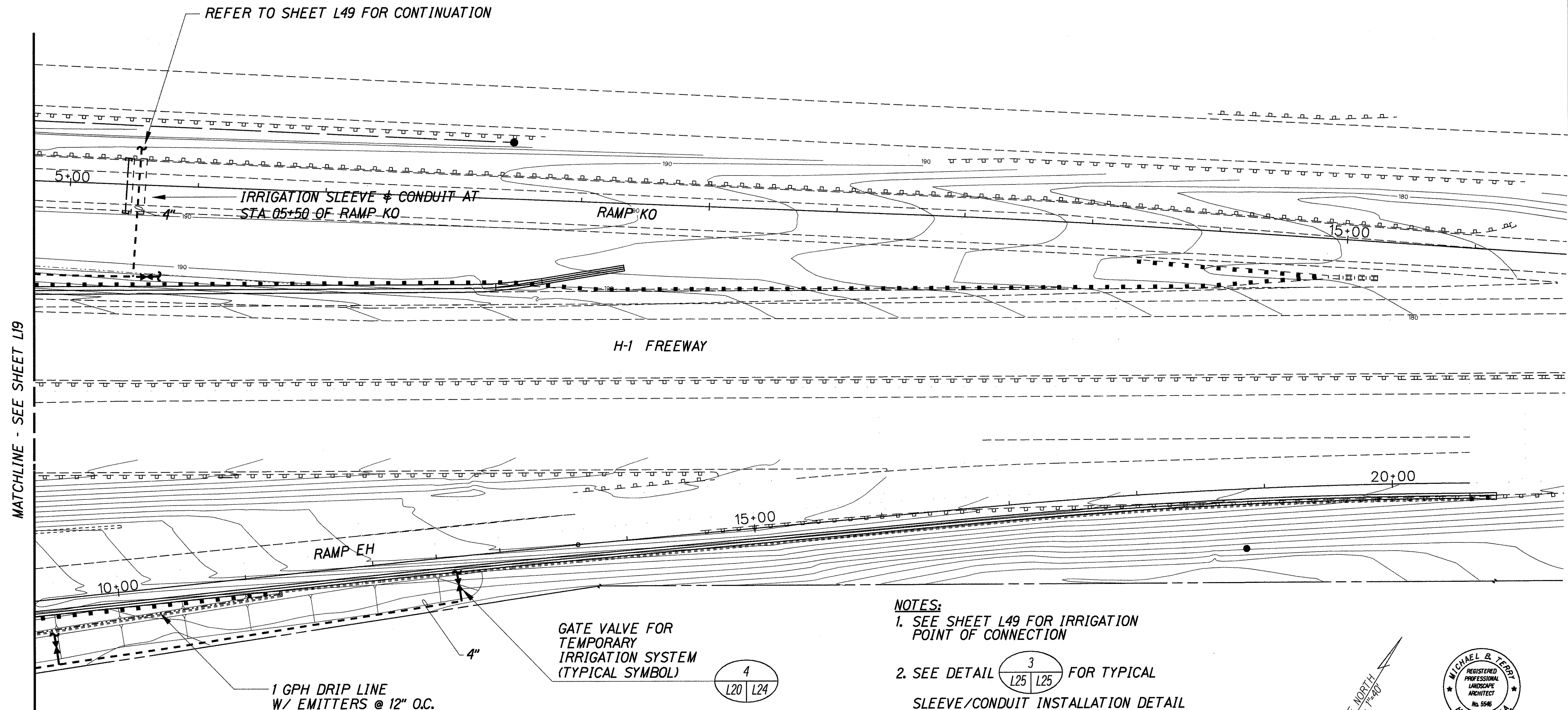
Scale: AS SHOWN Date: Oct., 1997

SHEET No. *L19-B* OF 52 SHEETS

C.O. ADD. 283S-2

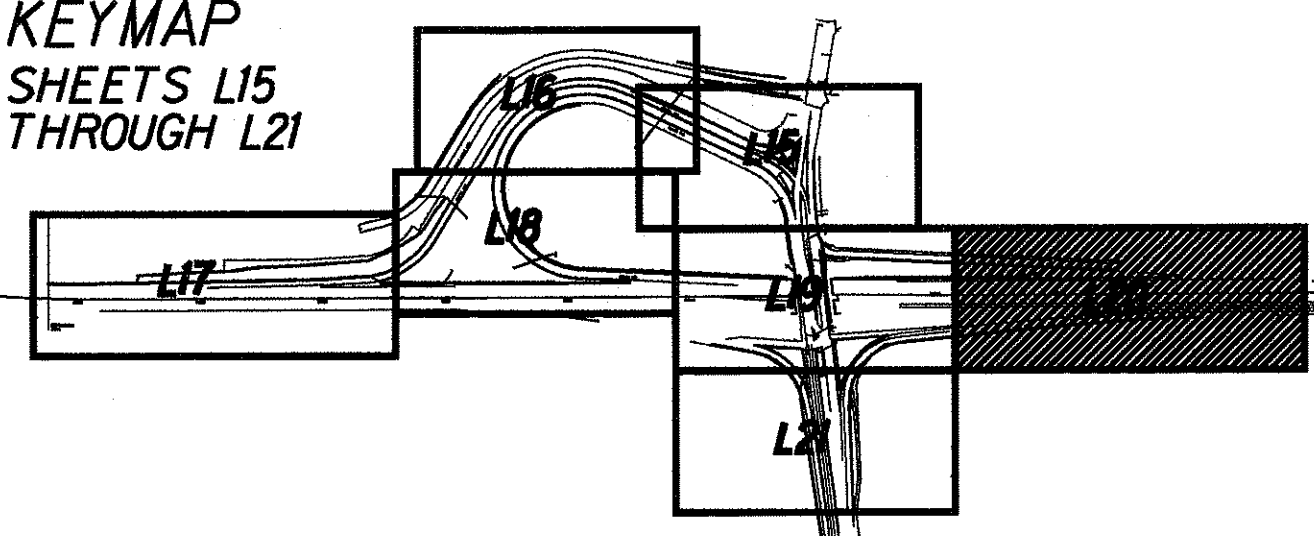
11/1/99	New Sheet with Profile of Revised Alignment of Irrigation Line.
DATE	REVISION

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1M-HI-1(219)	1998	284	378



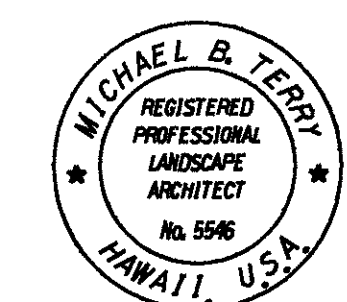
- NOTES:
- SEE SHEET L49 FOR IRRIGATION POINT OF CONNECTION
 - SEE DETAIL 3 FOR TYPICAL SLEEVE/CONDUIT INSTALLATION DETAIL

KEYMAP
SHEETS L15
THROUGH L21



ORIGINAL PLAN	DATE
DRAWN BY	
DESIGNED BY	
NOTED BY	
CHECKED BY	

TRUE NORTH
SCALE: 1"=40'



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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LANDSCAPE IRRIGATION PLAN

**INTERSTATE ROUTE H-1
Kunia Interchange Improvements
F. A. I. Project No. 1M-HI-1(219)**

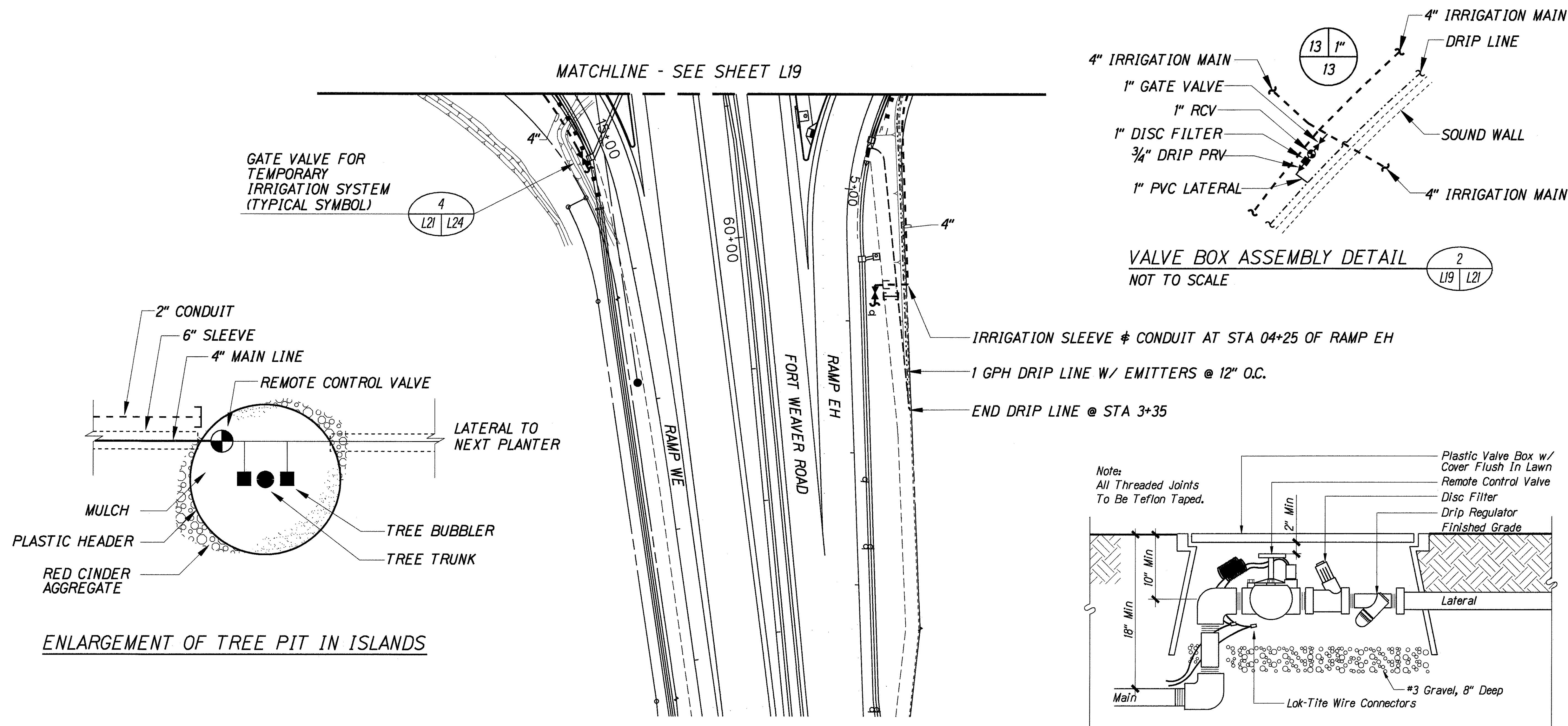
Scale: 1"=40' Date: Oct., 1997

SHEET No. L20 OF 52 SHEETS

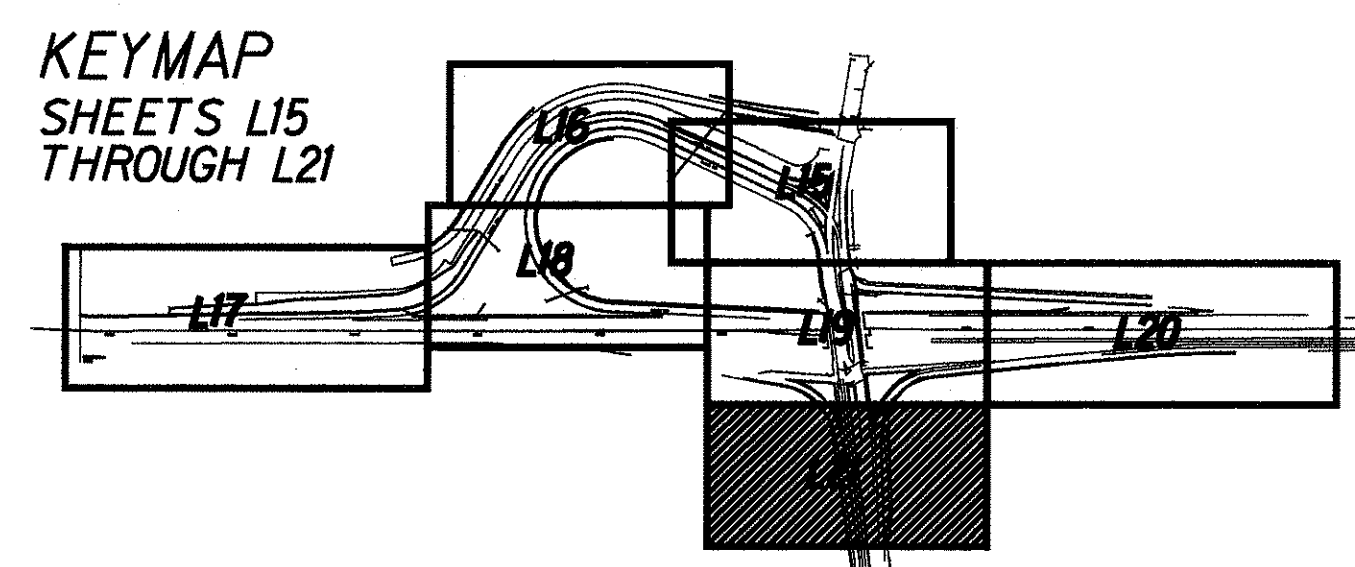
8/17/98	Revised Sheet to Add Dripline in Front of Noise Wall Along Ramp EH.
DATE	REVISION

C.O. 284

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1M-HI-K(219)	1998	285	378



NOTES:
1. SEE DETAIL 3 FOR TYPICAL SLEEVE/CONDUIT INSTALLATION DETAIL



TRUE NORTH
SCALE: 1"=40'

MICHAEL B. TERRY
REGISTERED PROFESSIONAL LANDSCAPE ARCHITECT
No. 5546
HAWAII, USA

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8/17/98	Revised Sheet to Add Dripline in Front of Noise Wall Along Ramp EH.
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LANDSCAPE IRRIGATION PLAN

INTERSTATE ROUTE H-1
Kunia Interchange Improvements
F. A. I. Project No. 1M-HI-K(219)

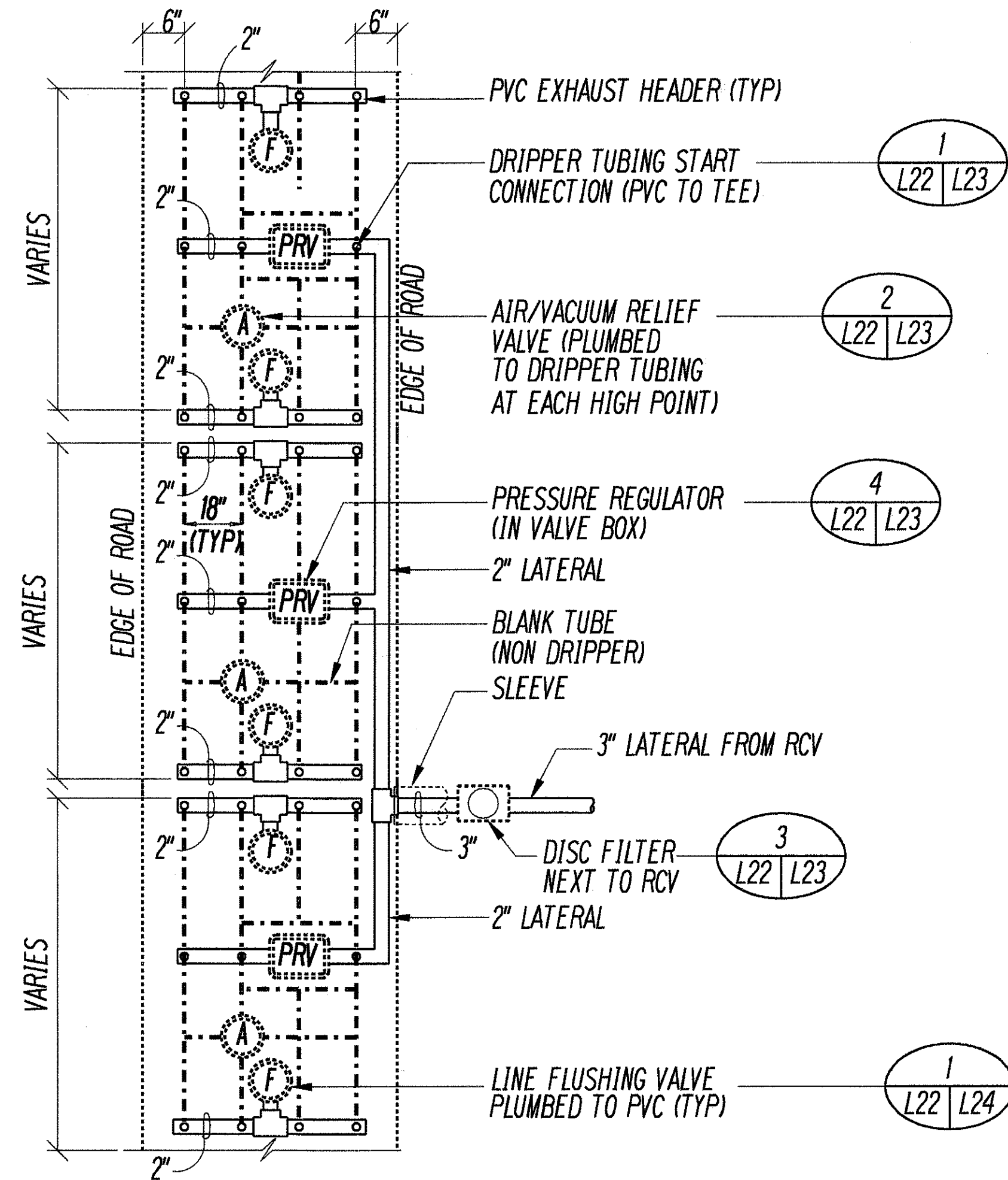
Scale: 1"=40' Date: Oct., 1997

SHEET No. L21 OF 52 SHEETS

C.O. 285

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1M-HI-1(219)	1998	286	378

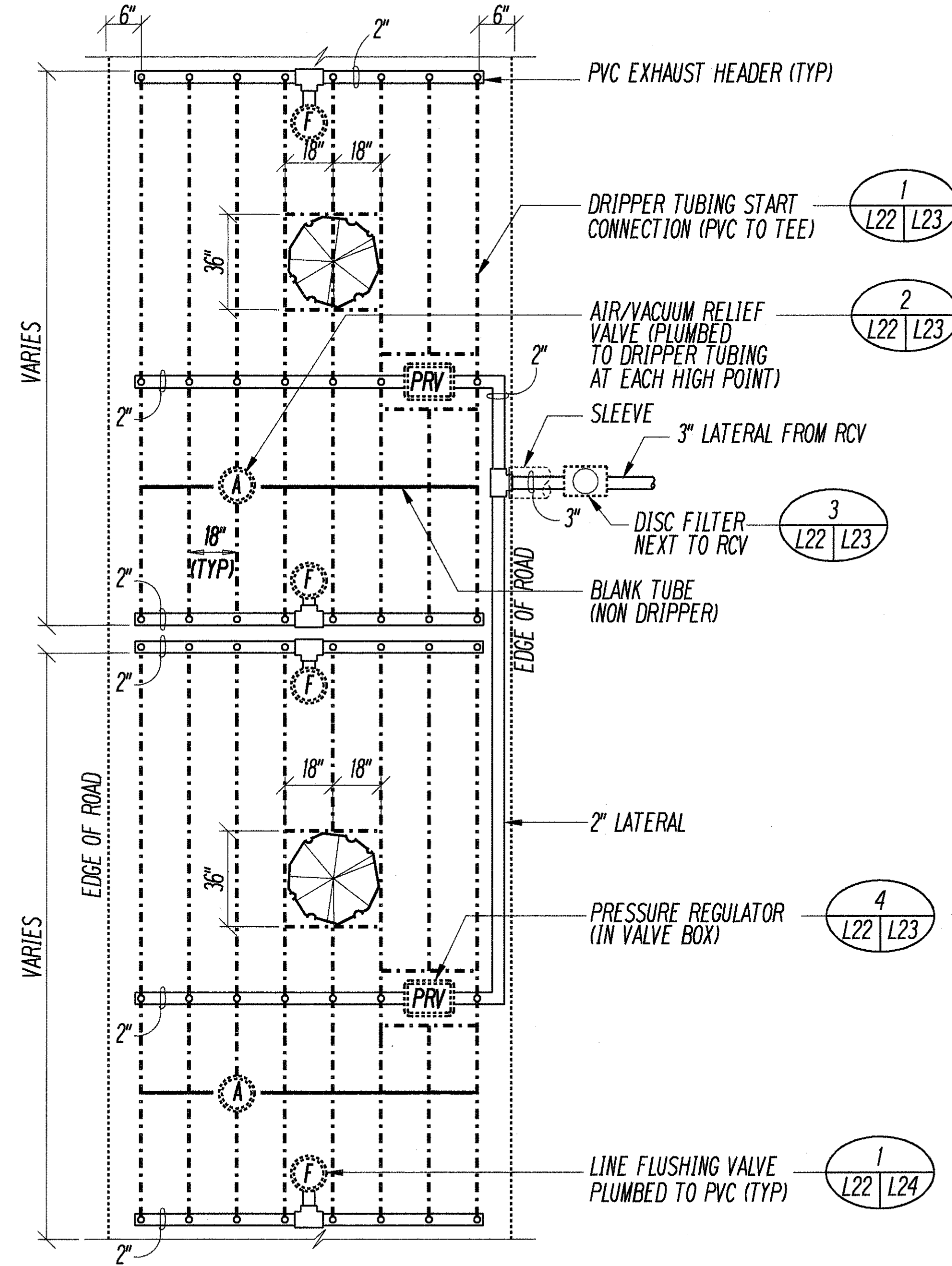
NOTE: NUMBER OF DRIPPER TUBING ROWS VARIES ACCORDING TO ACTUAL FIELD DIMENSIONS OF PLANTING AREAS



DRIP LAYOUT "A"
NTS

1
L22 L24
L15, L16, L18

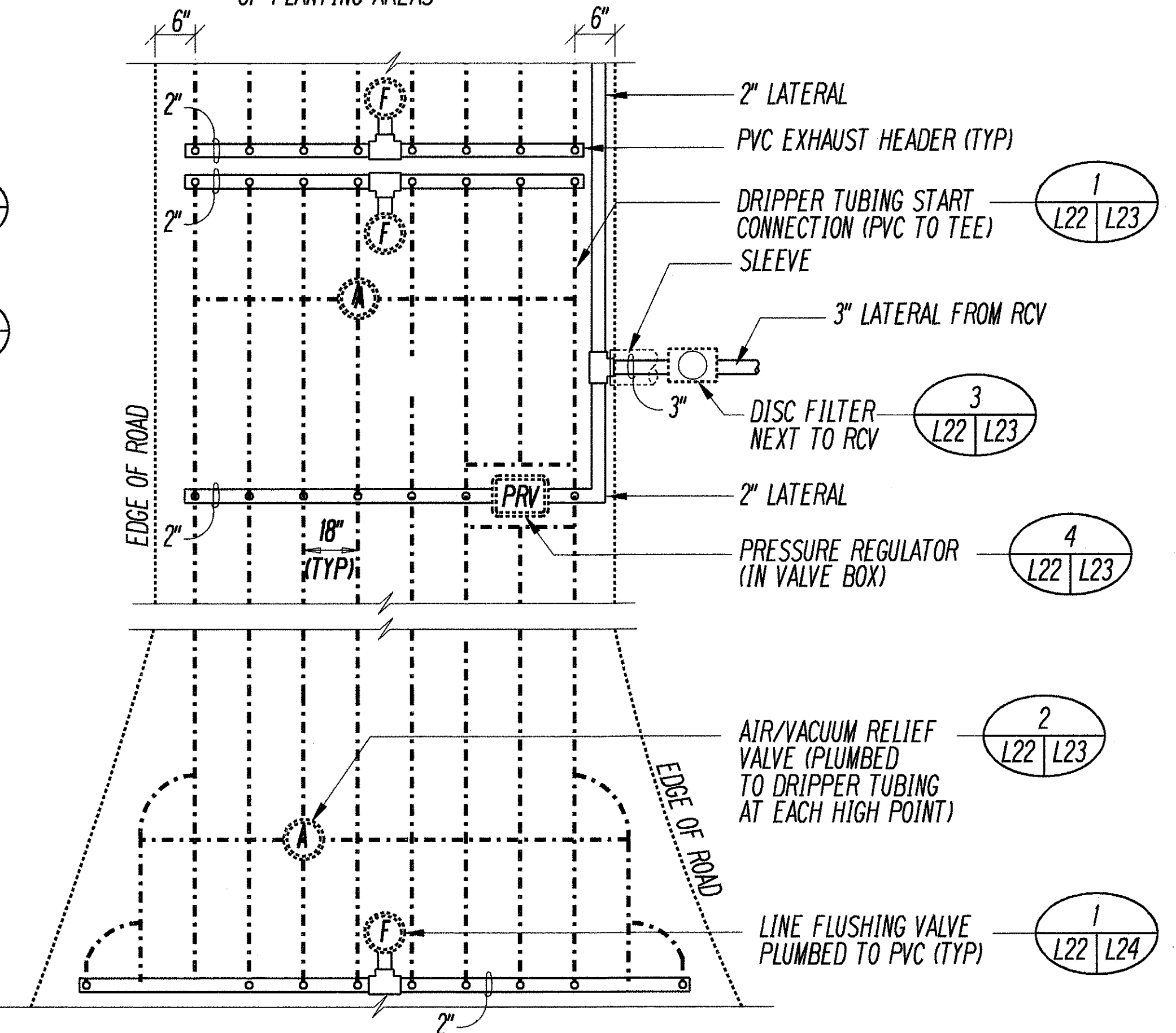
NOTE: NUMBER OF DRIPPER TUBING ROWS VARIES ACCORDING TO ACTUAL FIELD DIMENSIONS OF PLANTING AREAS



DRIP LAYOUT "B"
NTS

2
L22 L24
L15, L16

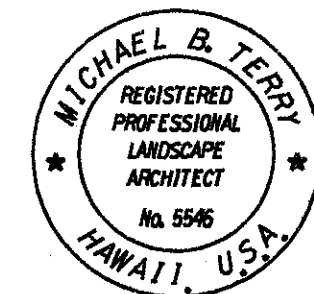
NOTE: NUMBER OF DRIPPER TUBING ROWS VARIES ACCORDING TO ACTUAL FIELD DIMENSIONS OF PLANTING AREAS



DRIP LAYOUT "C"
NTS

3
L16 L22

ORIGINAL PLAN	DATE
SURVEY PLOTTED BY	
DESIGNED BY	
NOTED BY	
CHECKED BY	



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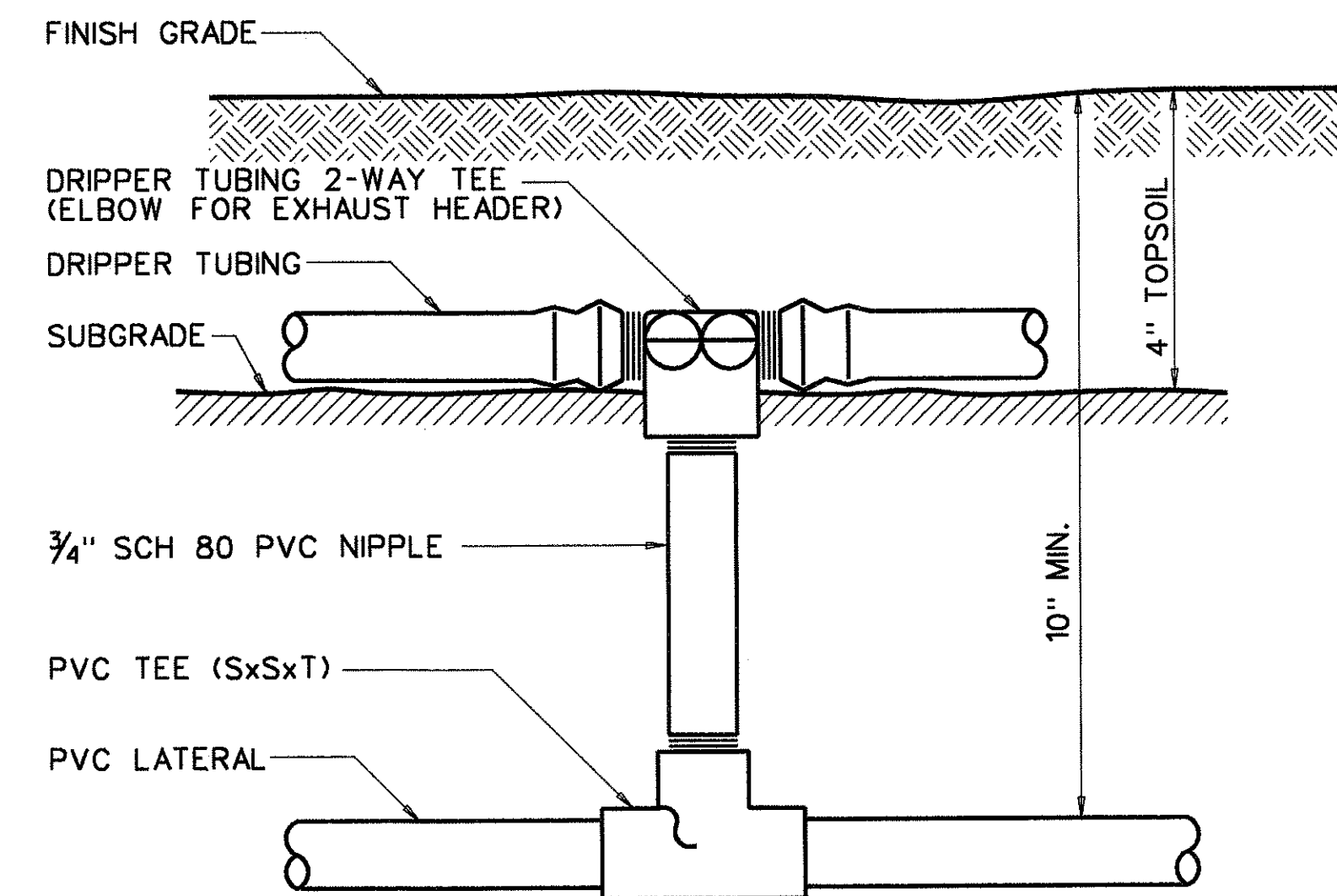
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

IRRIGATION DRIP LAYOUT

INTERSTATE ROUTE H-1
Kunia Interchange Improvements
F. A. I. Project No. 1M-HI-1(219)

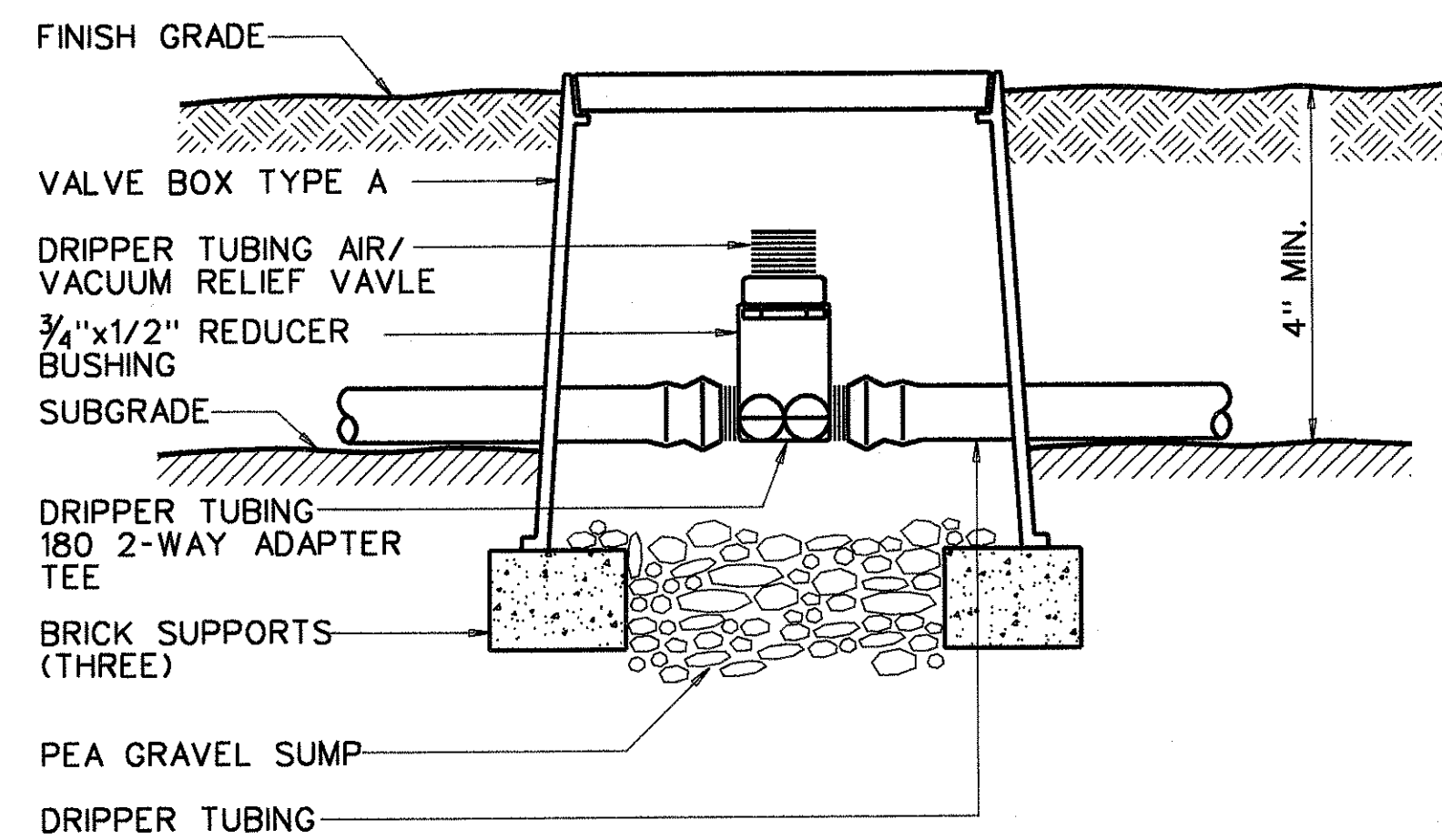
Scale: Date: Oct., 1997

SHEET No. L22 OF 52 SHEETS



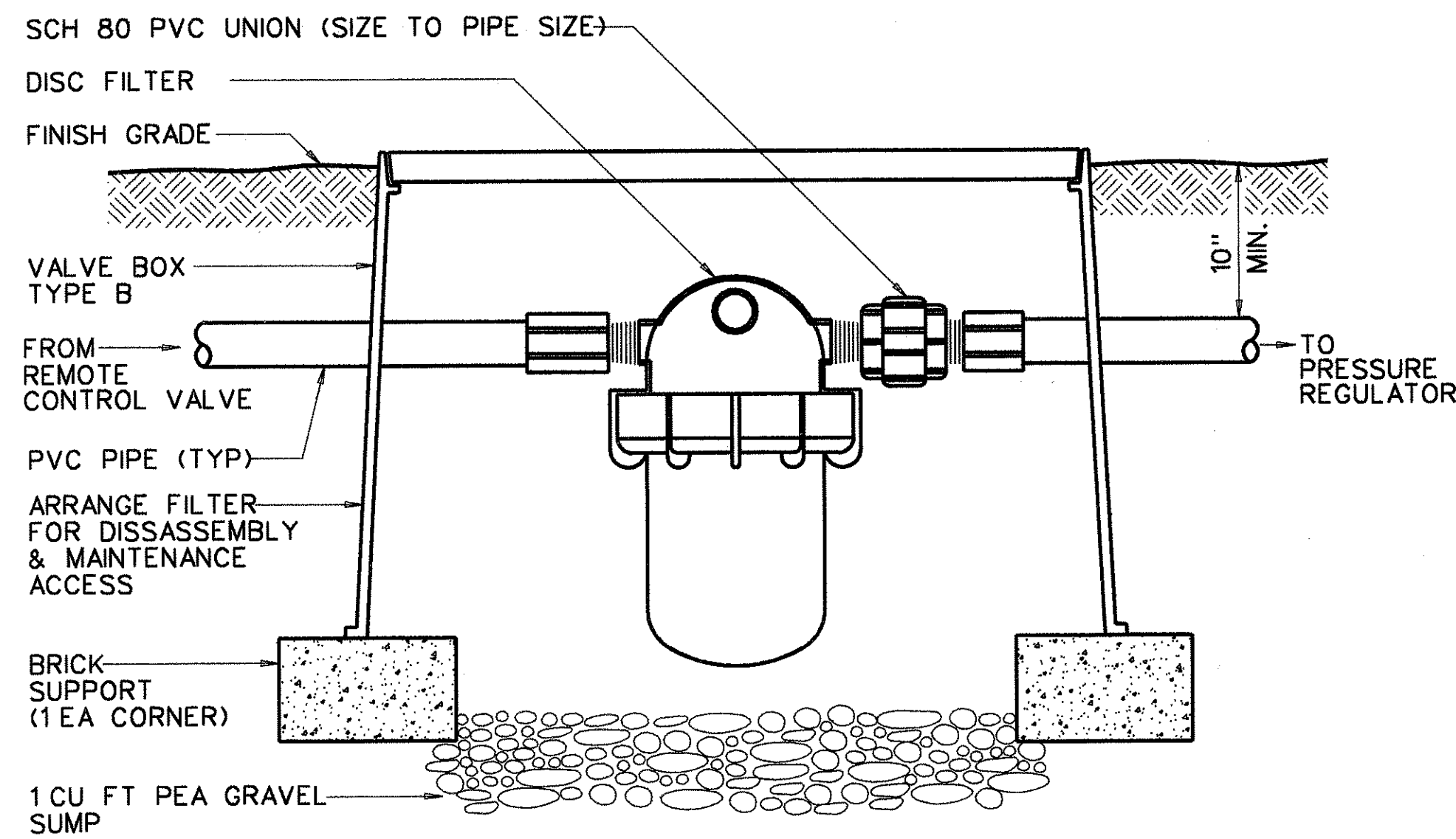
DRIPPER TUBING START CONNECTION
(WITH PVC RISER)
NTS

1
L22 L23



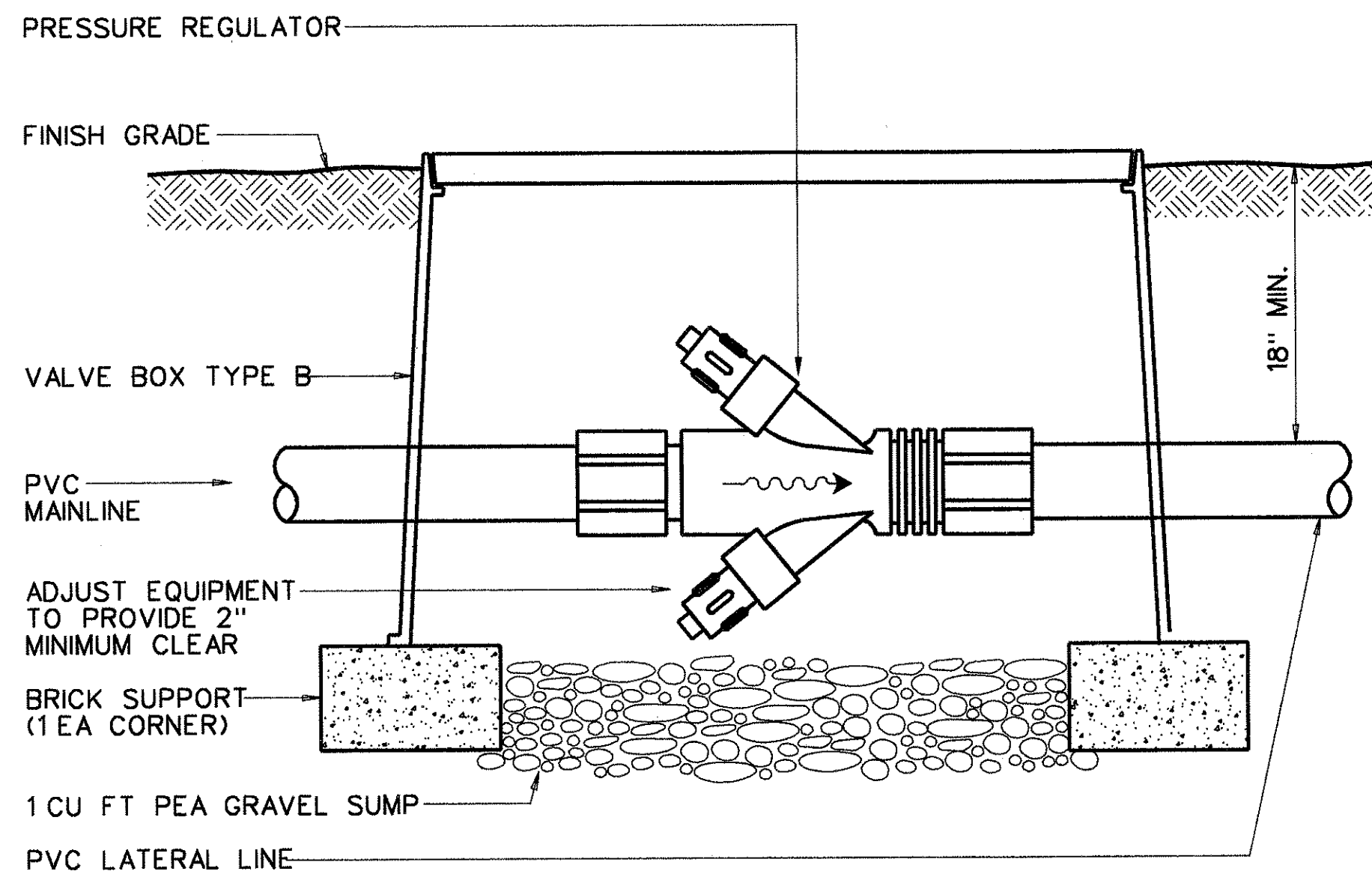
DRIPPER TUBING AIR/VACUUM RELIEF
(PLUMBED TO DRIPPER TUBING)
NTS

2
L22 L23



DISC FILTER (SEE CHART FOR SIZING)
NTS

3
L22 L23



PRESSURE REGULATING VALVE
(SEE CHART FOR SIZING)
NTS

4
L22 L23

RECOMMENDED DISC FILTER SIZING CHART

FILTER SIZE	3/4"	1"	1-1/2"	2" SUPER FILTER
FILTER VOLUME (cu. in.)	6	27	27	74
FILTRATION AREA (sq. in.)	25	48	48	146.5
FLOW RATE (G.P.M.)	HEAD LOSS P.S.I.			
13	3.40			
17		2.40		
31			1.70	
110				1.47

SYMBOL DESCRIPTION

MUNICIPAL SUPPLY (POTABLE WATER)

- LOSSES SHOWN ABOVE ARE FOR FILTERS WITH 140 MESH ELEMENTS TESTED IN AVERAGE WATER CONDITIONS. HIGHER MESH RATINGS WILL INCREASE LOSSES.
- DO NOT HYDRAULICALLY OVERLOAD FILTERS. IF WATER VOLUME OR QUALITY IS VARIABLE OR QUESTIONABLE, USE LARGER SIZE FILTER
- WHEN FILTERS ARE USED FOR MICRO-IRRIGATION SYSTEMS, SUCH AS EMITTERS REFER TO MANUFACTURER'S RECOMMENDATION FOR MESH RATING

RECOMMENDED PRESSURE REGULATOR SIZING CHART

FLOW RATE (G.P.M.)	REGULATED OUTPUT PRESSURE				
	15 PSI	20 PSI	25 PSI	35 PSI	45 PSI
	REGULATOR SIZE				
0.5-5.0	3/4"	3/4"			
3.5-20.0	3/4"	3/4"	3/4"	3/4"	3/4"
7.0-40.0	1-1/2"	1-1/2"	1-1/2"	1-1/2"	1-1/2"

EQUIPMENT SIZING CHART
NTS

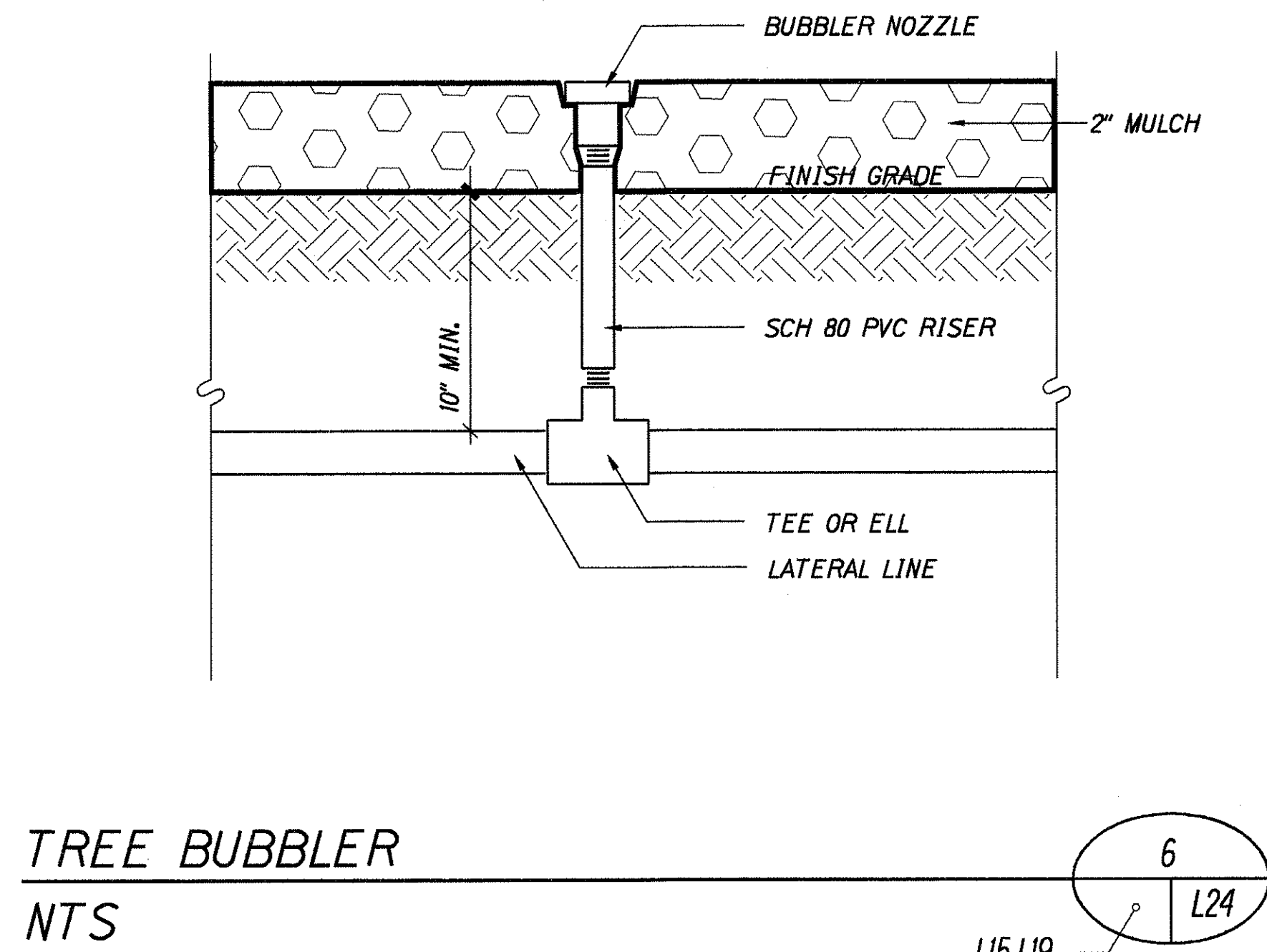
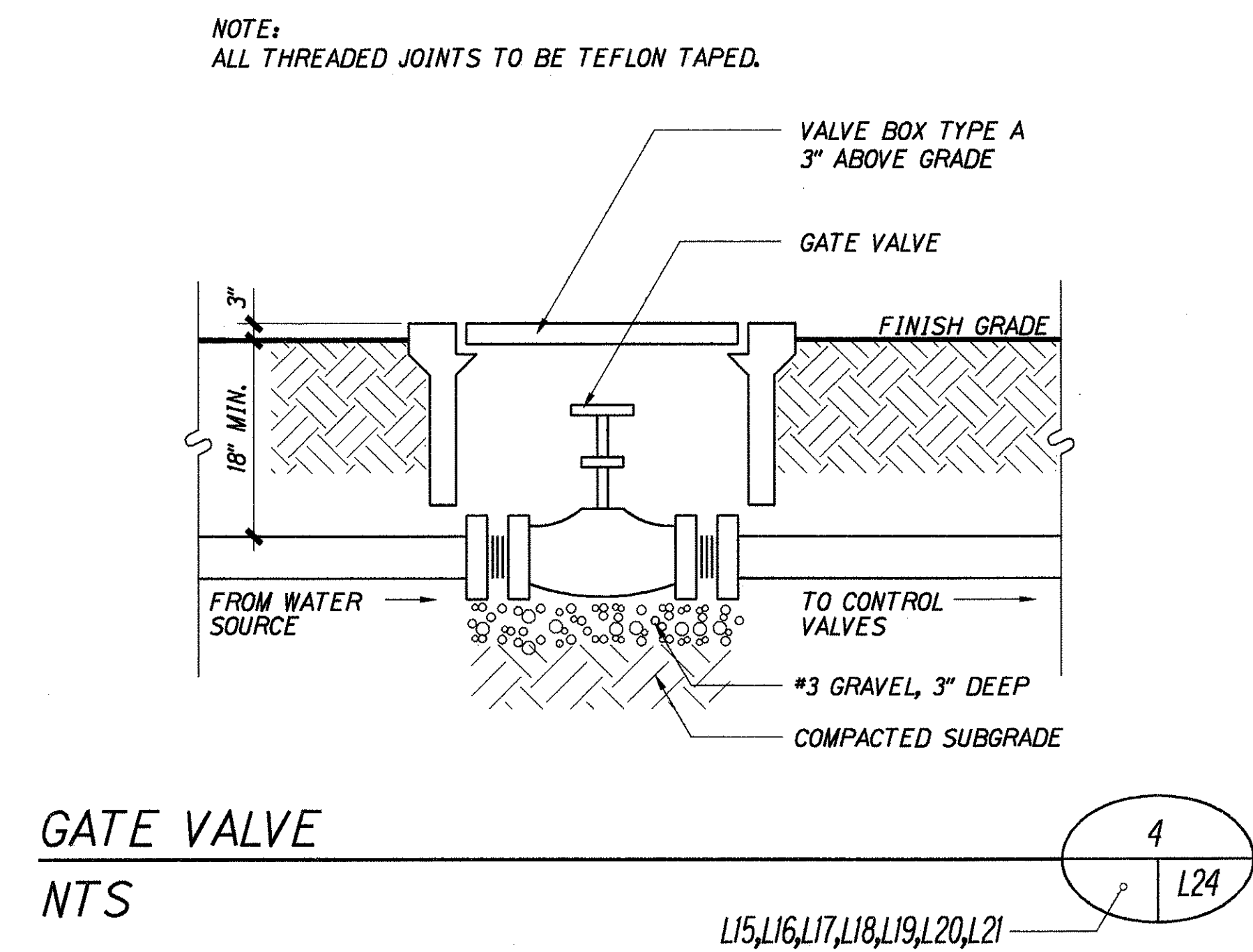
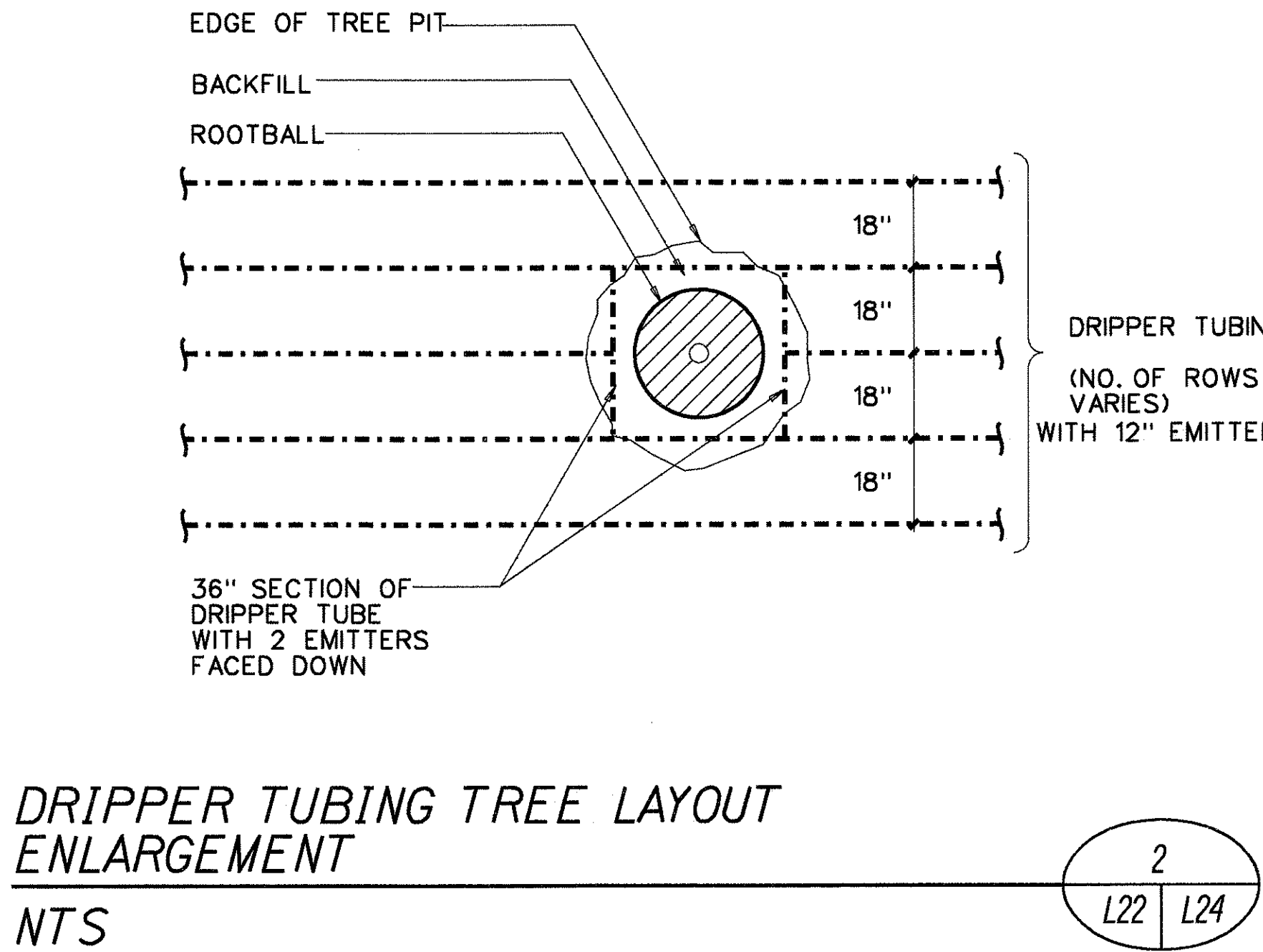
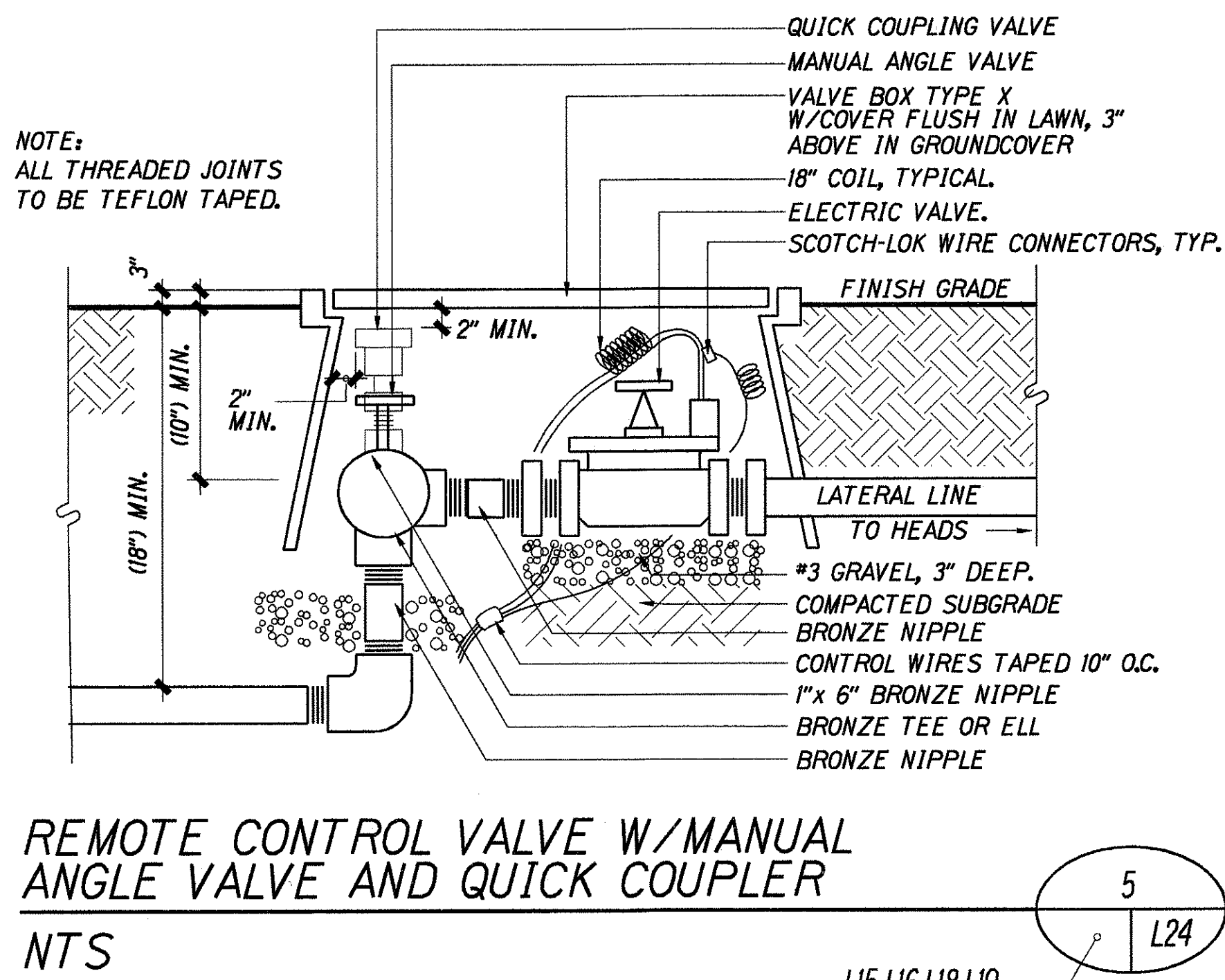
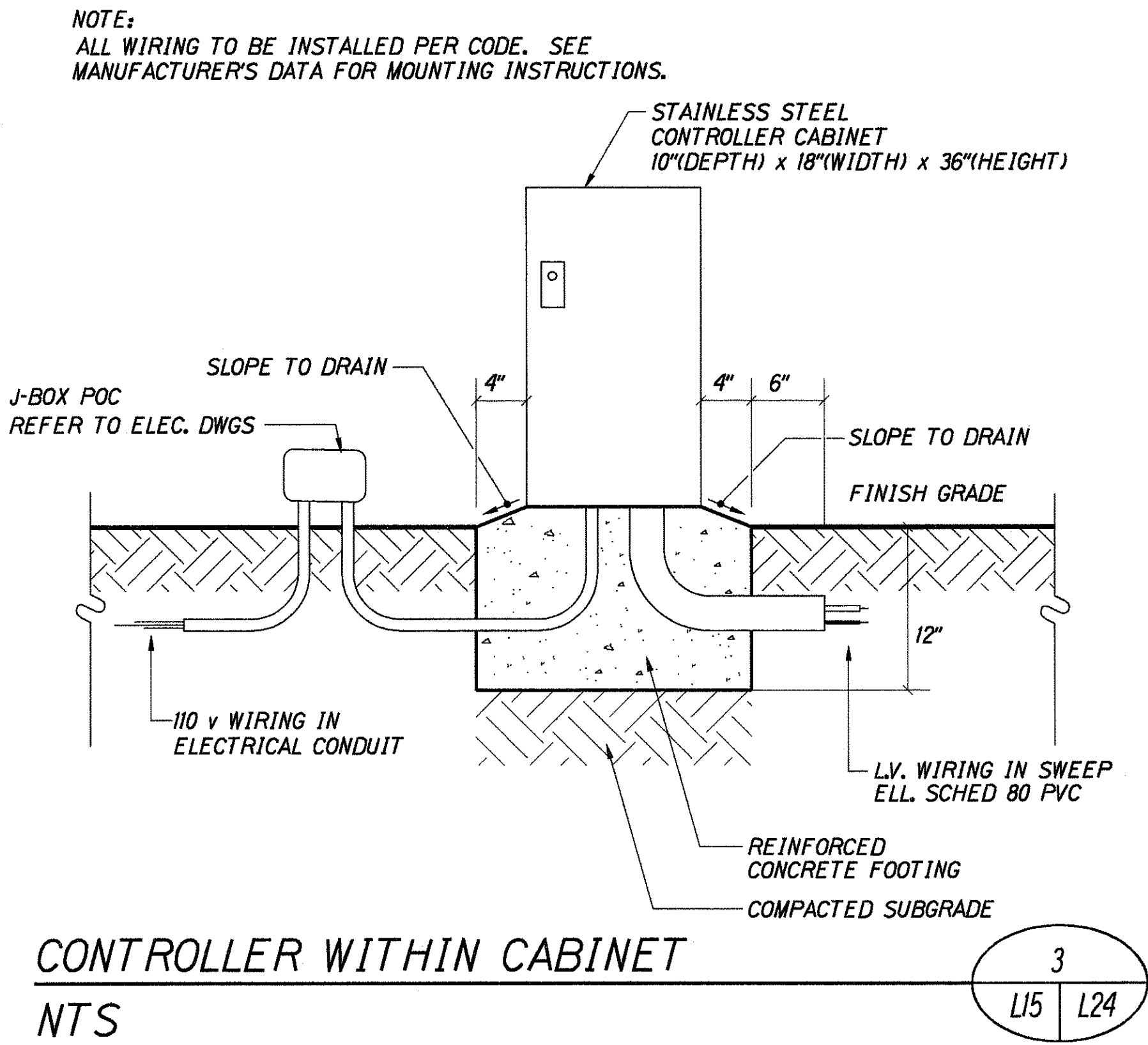
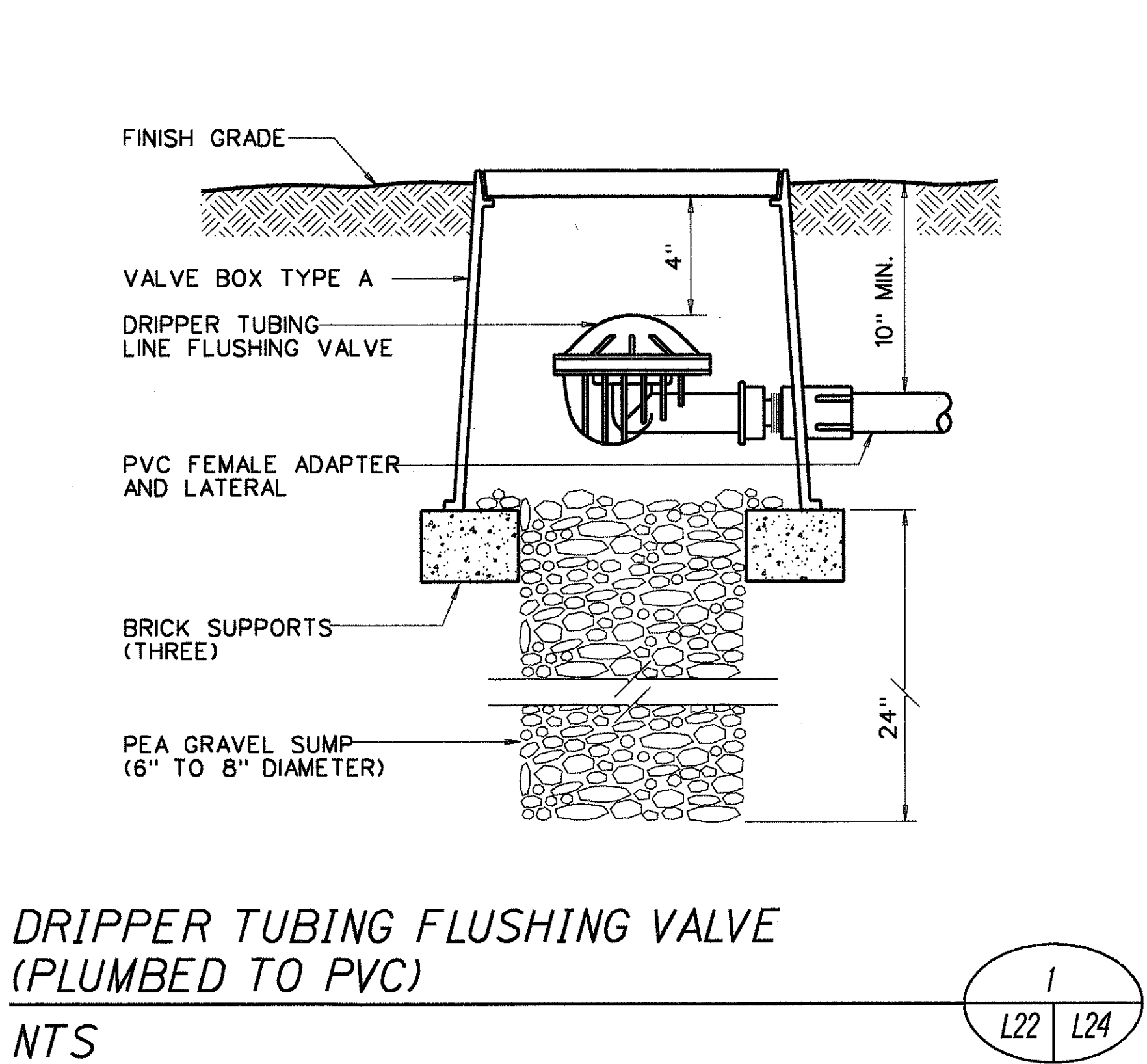
5
L23 L23

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

MICHAEL B. TERRY
REGISTERED
PROFESSIONAL
LANDSCAPE
ARCHITECT
No. 5546
HAWAII, USA
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OR UNDER MY SUPERVISION
AND CONSTRUCTION OF THIS
PROJECT WILL BE UNDER MY
OBSERVATION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
IRRIGATION DETAILS
INTERSTATE ROUTE H-1
Kunia Interchange Improvements
F. A. I. Project No. 1M-HI-K(219)
Scale: _____ Date: Oct., 1997
SHEET No. L23 OF 52 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1M-HI-1(219)	1998	288	378



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

MICHAEL B. TERRY
REGISTERED PROFESSIONAL LANDSCAPE ARCHITECT
No. 5546
HAWAII, USA

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

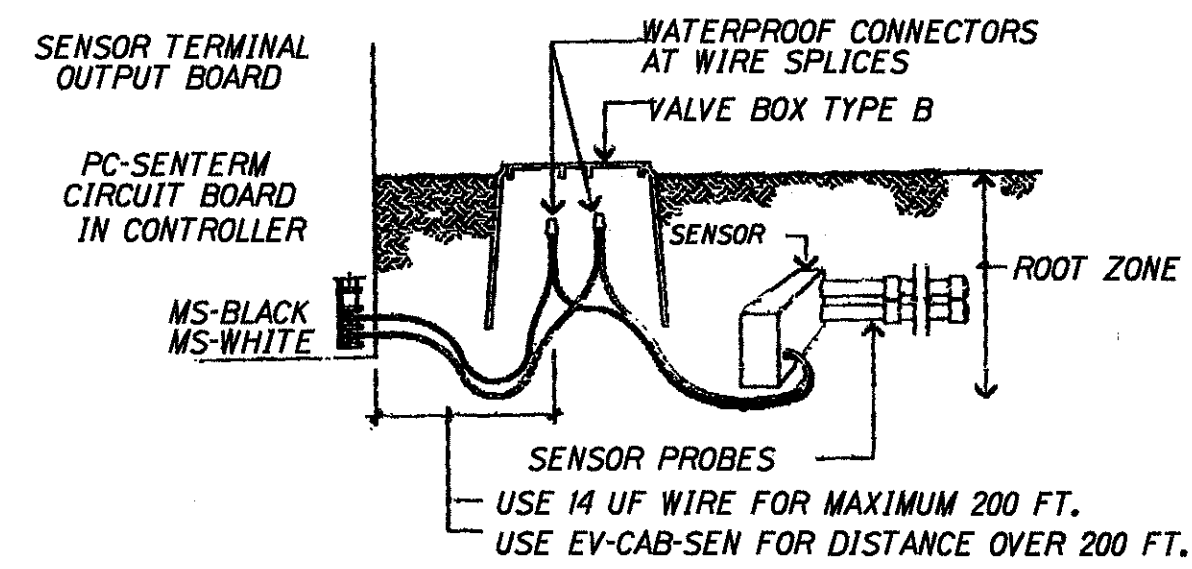
IRRIGATION DETAILS

INTERSTATE ROUTE H-1
Kunia Interchange Improvements
F. A. I. Project No. 1M-HI-1(219)

Scale: Date: Oct., 1997

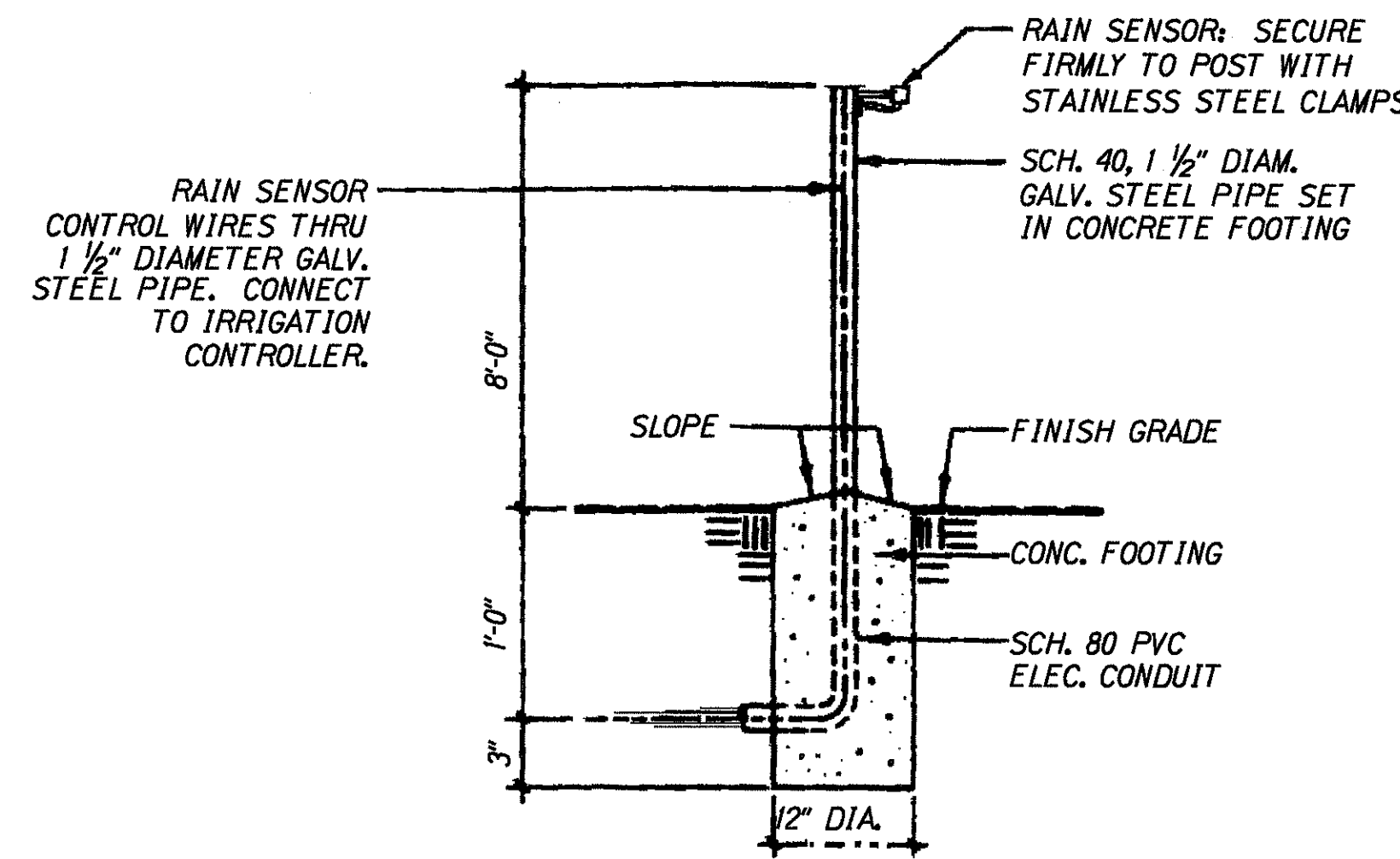
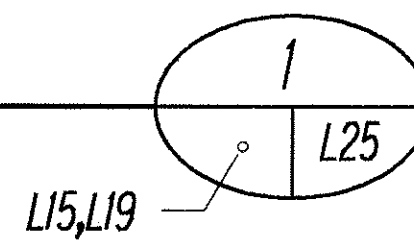
SHEET No. 288 OF 52 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1M-HI-1(219)	1998	289	378

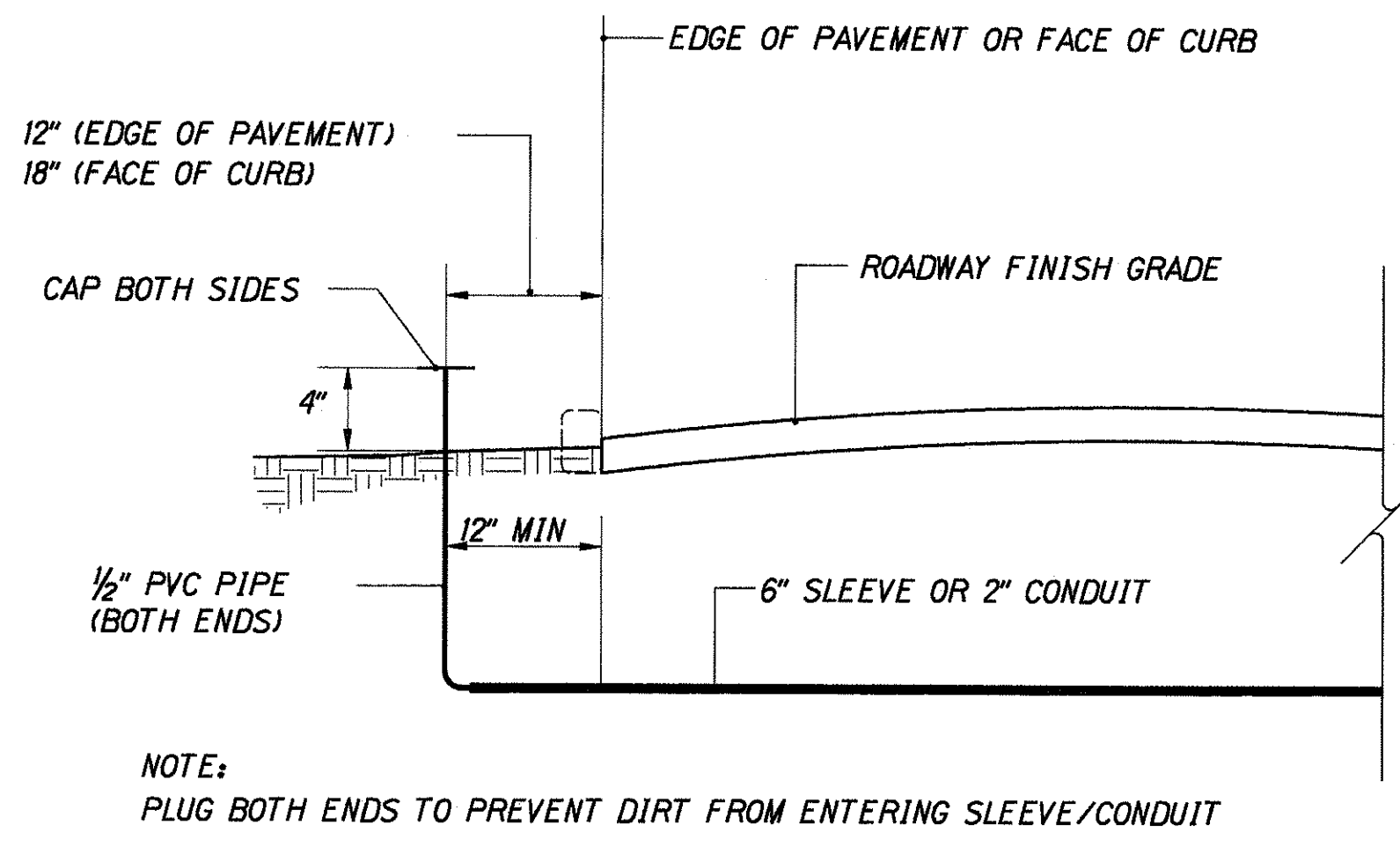
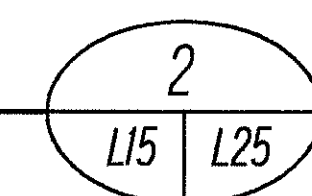


- INSTALLATION PROCEDURE:
- PICK A SENSOR LOCATION WHICH IS REPRESENTATIVE OF THE AREA WHICH IT IS CONTROLLING.
 - DIG HOLE TO APPROXIMATE CENTER OF PLANT ROOT ZONE
 - PLACE SENSOR WITH SENSOR PROBES PARALLEL TO GROUND AND SENSOR BODY HORIZONTAL AS SHOWN.
 - MAKE WIRE CONNECTIONS AT VALVE BOX USING WATERPROOF CONNECTORS.
 - BURY SENSOR, MAKING SURE TO COMPACT SOIL AS YOU GO.
 - WITH CONTROLLER POWER OFF, CONNECT SENSOR WIRES TO SENSOR TERMINAL OUTPUT BOARD
 - PROGRAM THE IRRIGATION CONTROLLER FOR MOISTURE SENSOR USAGE, PER INSTRUCTIONS IN PROGRAM MANUAL
 - FOR WIRING DIAGRAM, SEE DETAIL 6, SHT. L25.

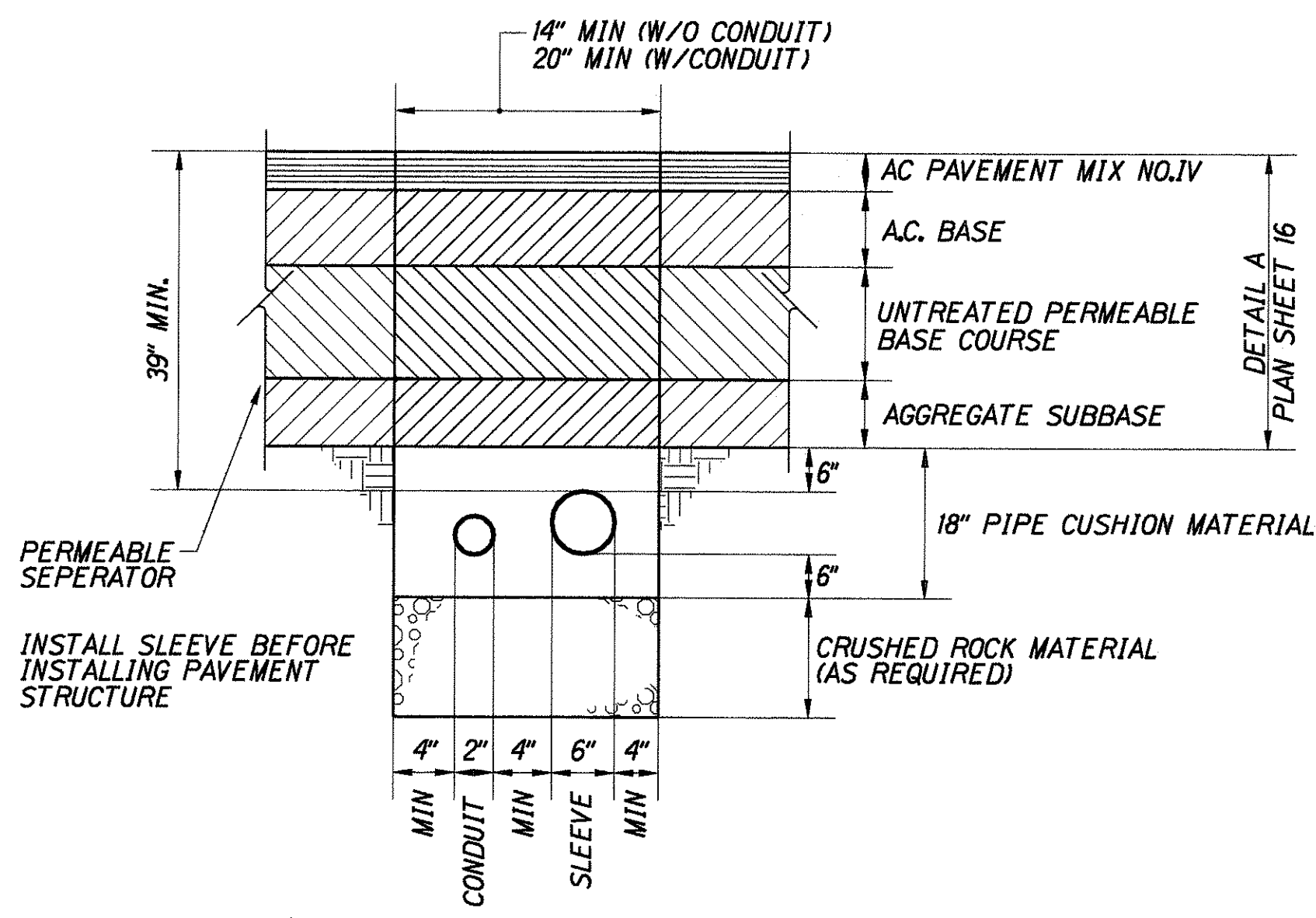
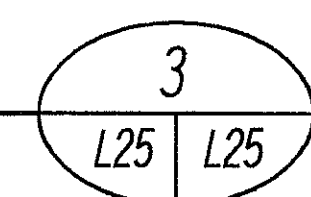
MOISTURE SENSOR PROBE
NTS



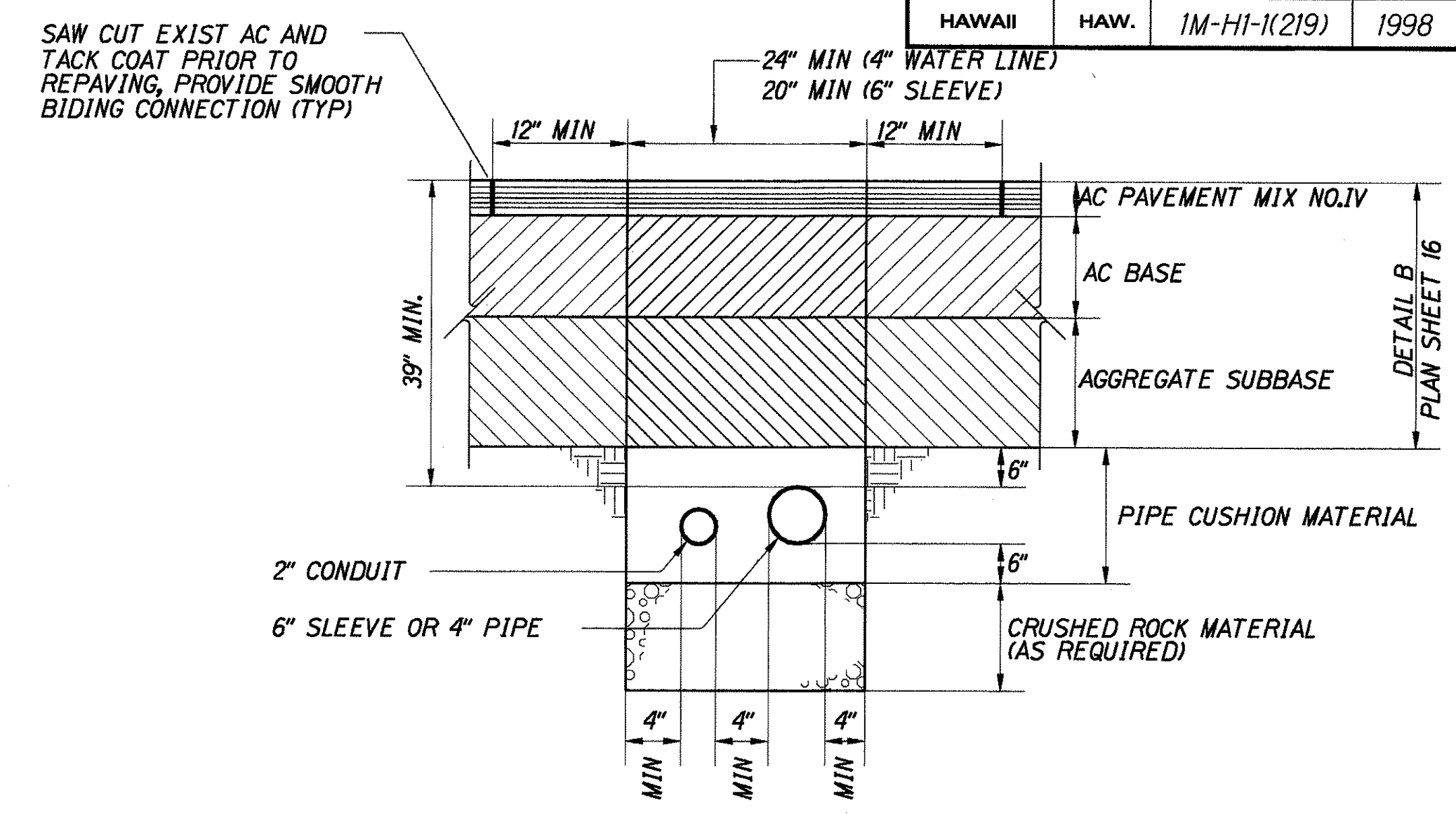
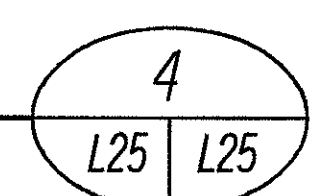
RAIN SENSOR
NTS



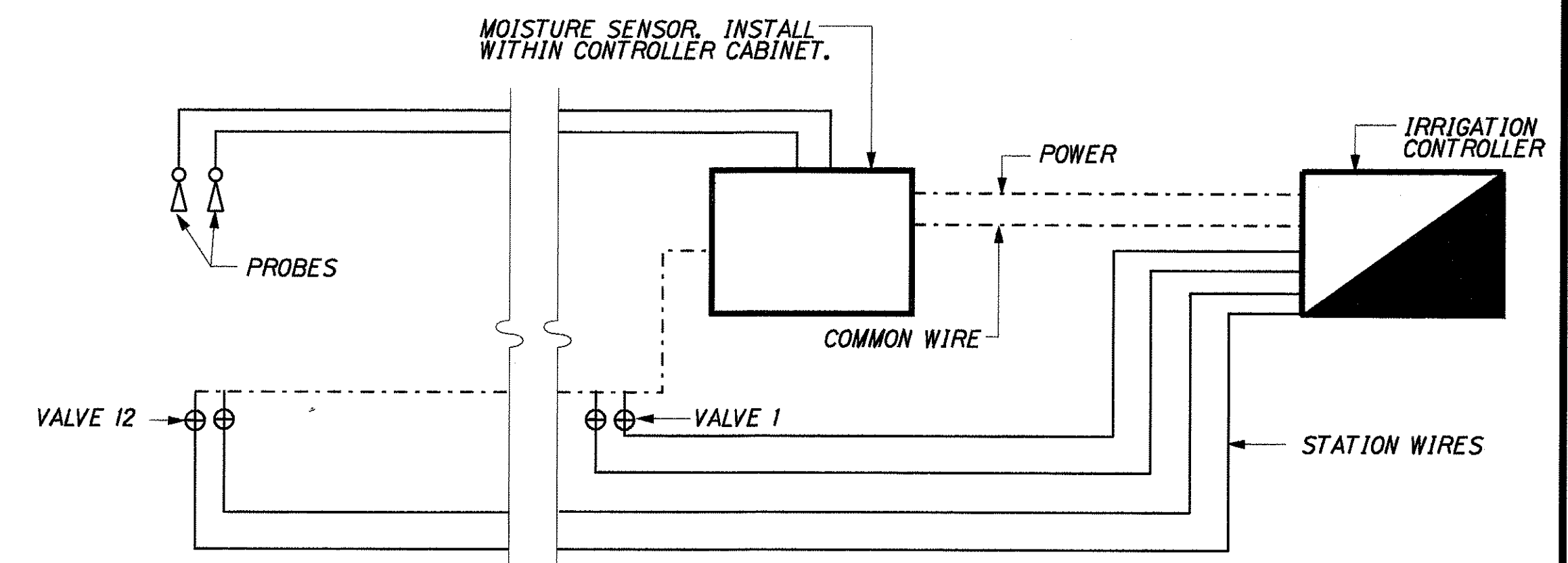
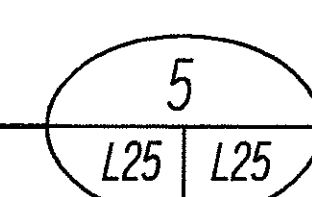
TYPICAL SLEEVE/CONDUIT
INSTALLATION DETAIL
NTS



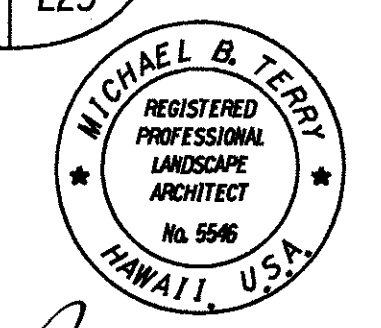
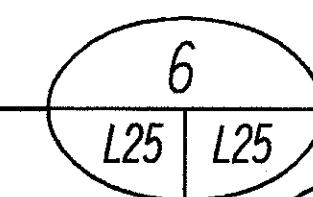
SLEEVE/CONDUIT TRENCH DETAIL
UNDER RAMPS KW, EW, HE AND WE
NTS



SLEEVE/CONDUIT TRENCH DETAIL UNDER
EXISTING ROADWAYS & SHOULDERS,
RAMPS EH, KA-1 AND KE-1
NTS



MOISTURE SENSOR WIRING DIAGRAM
NTS



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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

IRRIGATION DETAILS

INTERSTATE ROUTE H-1
Kunia Interchange Improvements
F. A. I. Project No. 1M-HI-1(219)

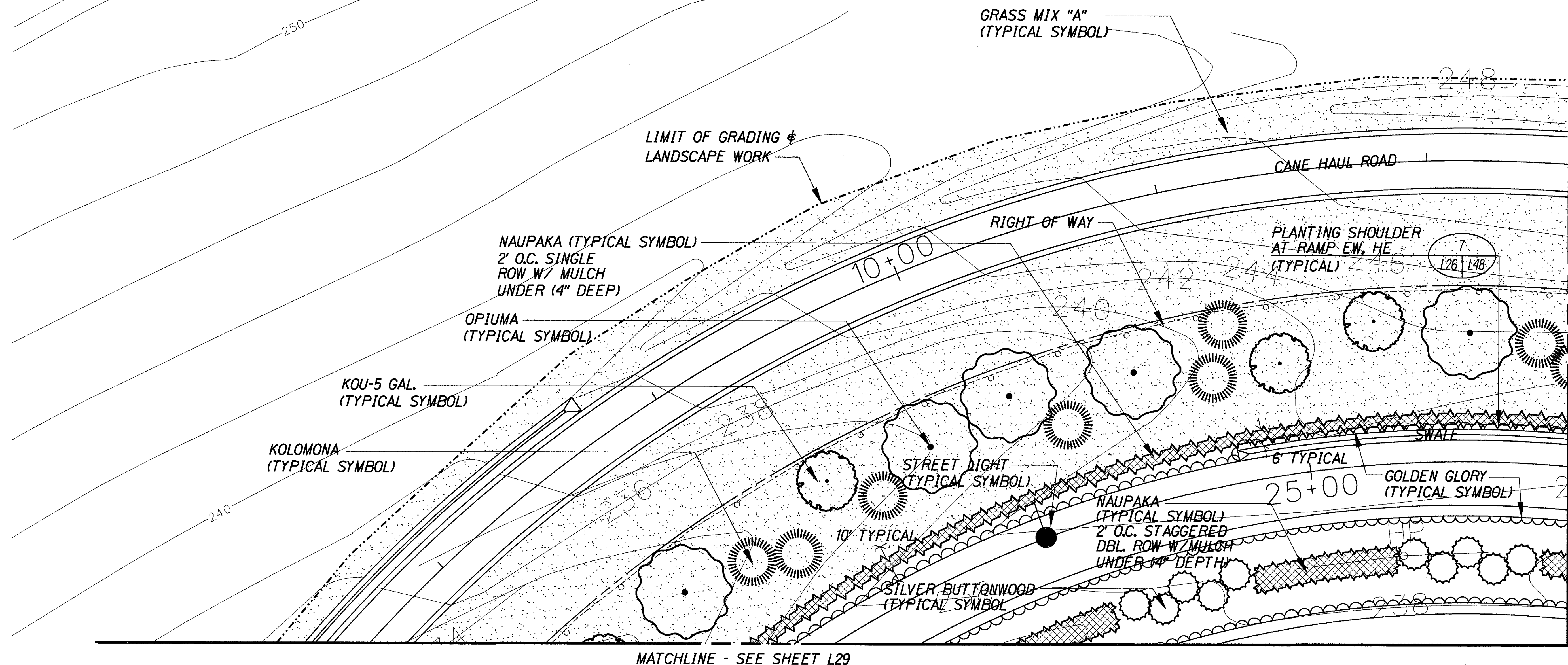
Scale: Date: Oct., 1997

SHEET No. L25 OF 52 SHEETS

1/9/98	Added Moisture Sensor Wiring Diagram and Note 8 Per Addendum No. 1.
DATE	REVISION

DATE	____
DESIGNED BY	____
TRACED BY	____
NOTE BOOK	____
CHECKED BY	____
____	____

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1M-HI-1(219)	1998	290	378

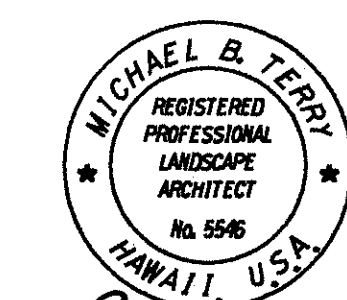
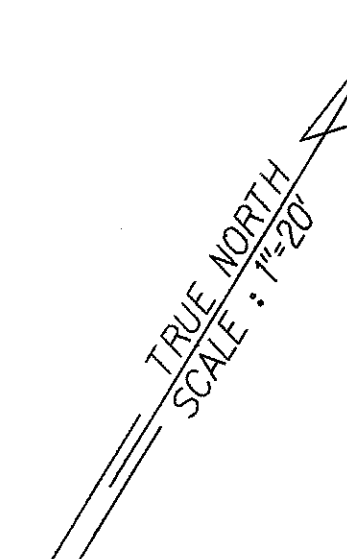
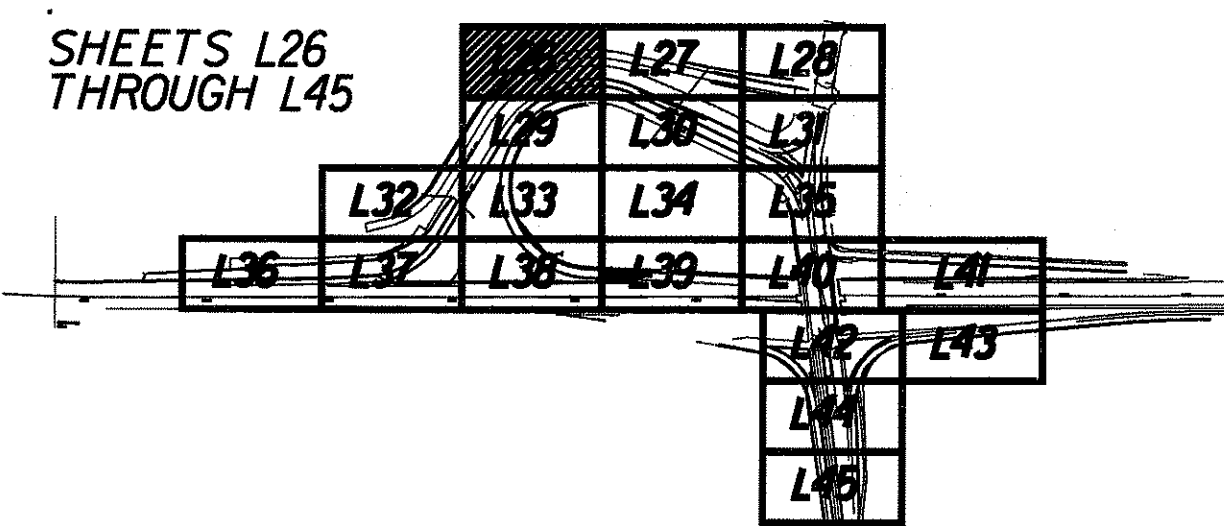


MATCHLINE - SEE SHEET L27

MATCHLINE - SEE SHEET L29

ORIGINAL PLAN	DATE
SURVEY PLOTTED BY	
DRAWN BY	
DESIGNED BY	
NOTE BOOK	
QUANTITIES BY	
CHECKED BY	

SHEETS L26 THROUGH L45



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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LANDSCAPE PLANTING PLAN

INTERSTATE ROUTE H-1
Kunia Interchange Improvements
F. A. I. Project No. 1M-HI-1(219)

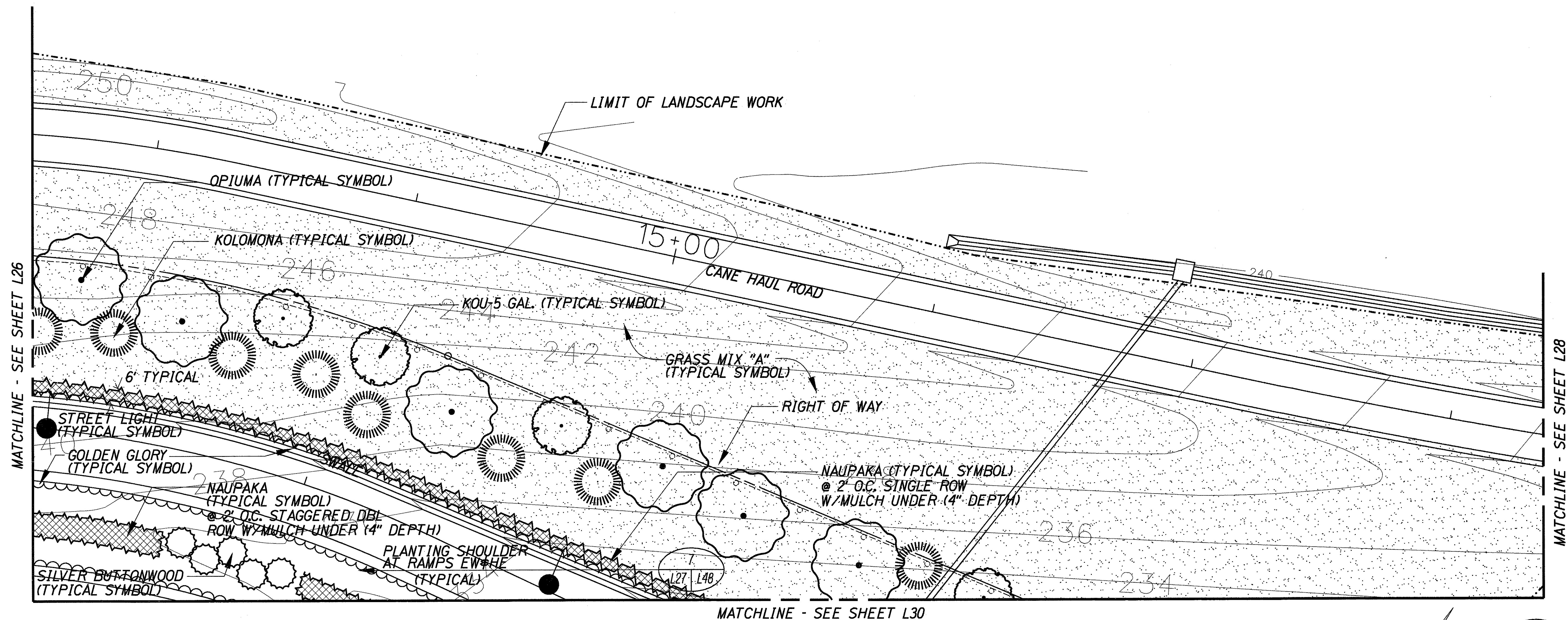
Scale: 1"=20' Date: Oct., 1997

SHEET No. L26 OF 52 SHEETS

4/3/98	Revised Typical Symbol for Creeping Ilima to Read Golden Glory Per Addendum NO. 3.
DATE	REVISION

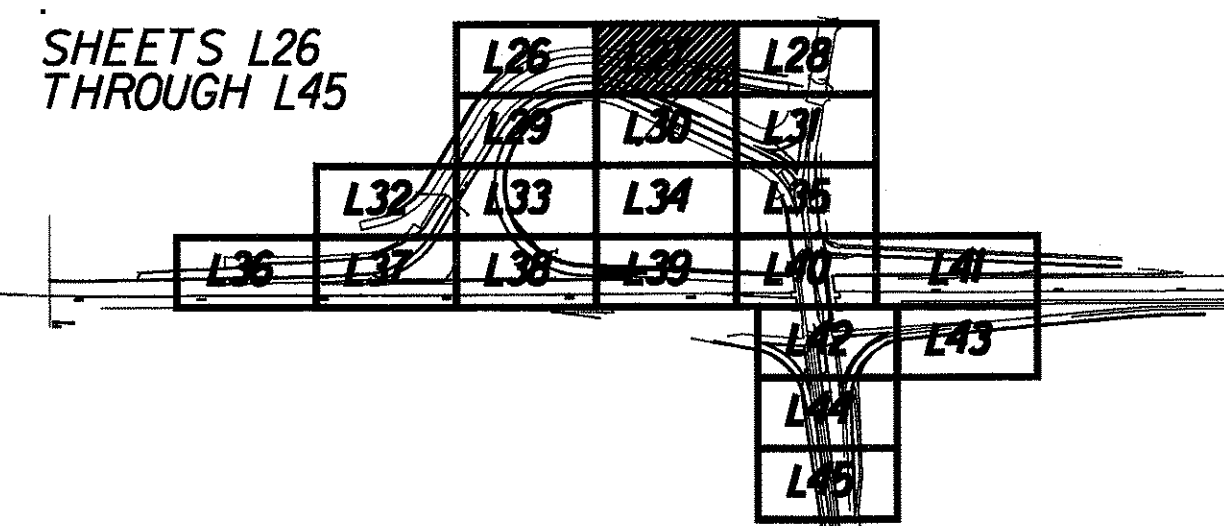
290R

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1M-HI-1(219)	1998	291	378



ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DESIGNED BY	
	QUANTITIES BY	
	CHECKED BY	

SHEETS L26
THROUGH L45



TRUE NORTH
SCALE: 1"=20'

MICHAEL B. TERRY
REGISTERED
PROFESSIONAL
LANDSCAPE
ARCHITECT
No. 5546
HAWAII, U.S.A.

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LANDSCAPE PLANTING PLAN

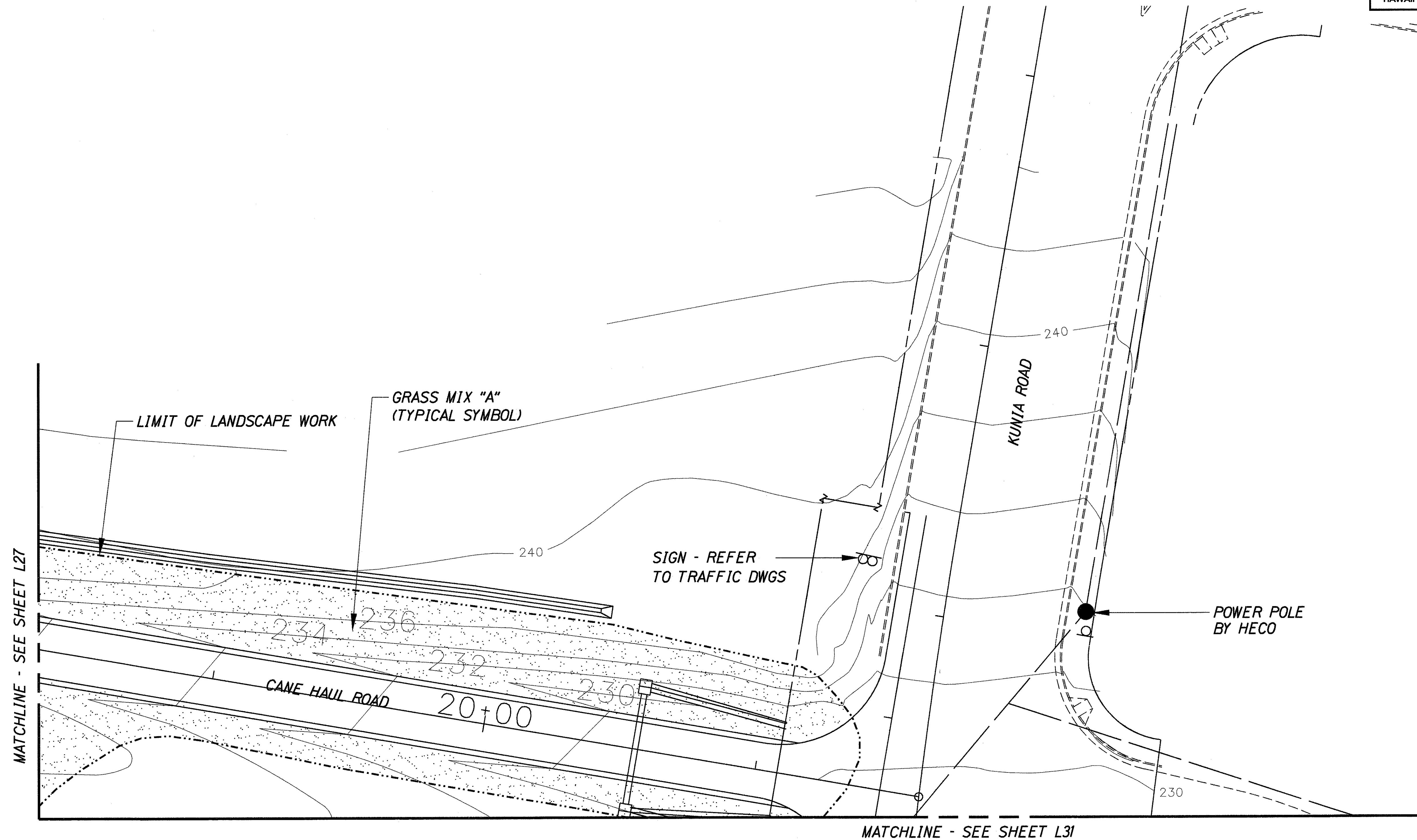
INTERSTATE ROUTE H-1
Kunia Interchange Improvements
F. A. I. Project No. 1M-HI-1(219)

Scale: 1"=20' Date: Oct., 1997

SHEET No. L27 OF 52 SHEETS

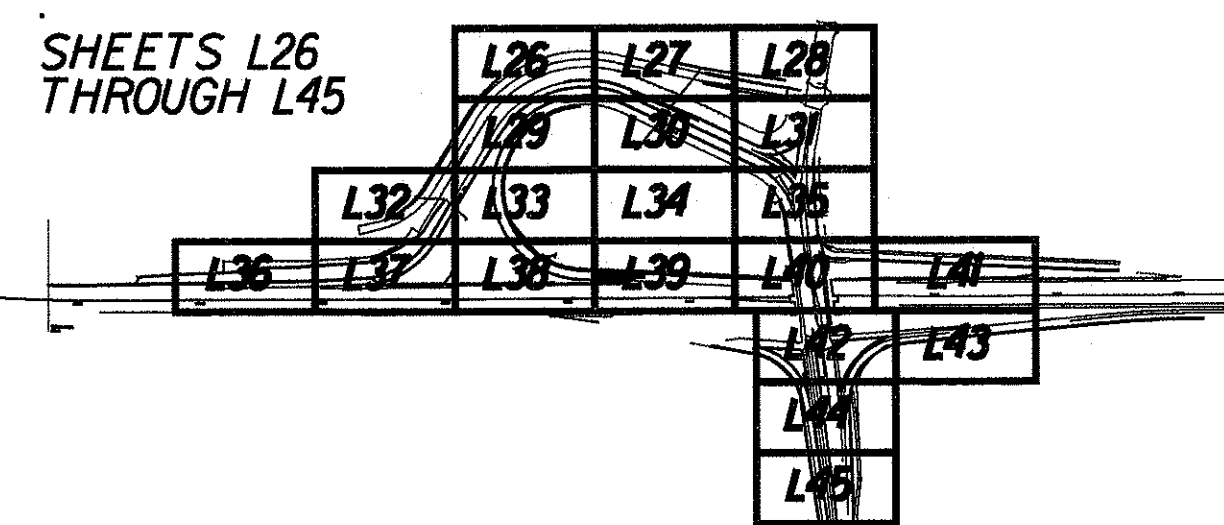
4/3/98	Revised Typical Symbol for Creeping Ilima to Read Golden Glory Per Addendum NO. 3.
DATE	REVISION

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1M-HI-1(219)	1998	292	378

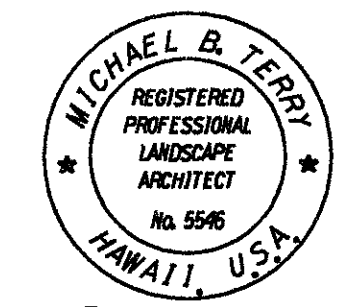


SURVEY PLOTTED BY	DATE
DRAWN BY	
DESIGNED BY	
NOTE BOOK	
QUANTITIES BY	
CHECKED BY	
No.	

SHEETS L26
THROUGH L45



TRUE NORTH
SCALE: 1"=20'



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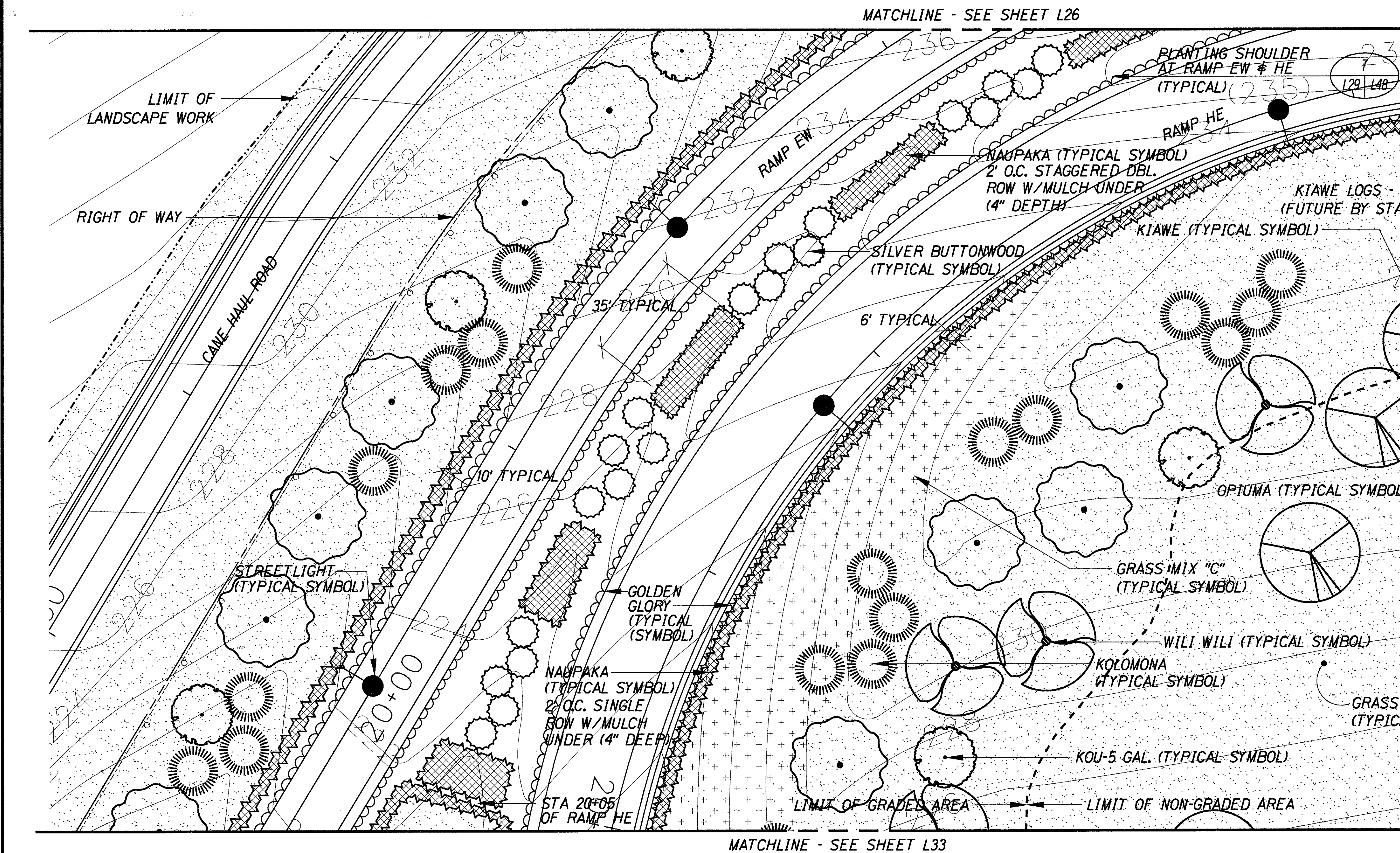
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LANDSCAPE PLANTING PLAN

INTERSTATE ROUTE H-1
Kunia Interchange Improvements
F. A. I. Project No. 1M-HI-1(219)

Scale: 1"=20' Date: Oct., 1997

SHEET No. L28 OF 52 SHEETS

[illegible]

UNDER (4" DEEP)

STA 20+05 OF RAMP

KOU-5 GAL. (TYPICAL SYMBOL)

LIMIT OF GRADES AREA

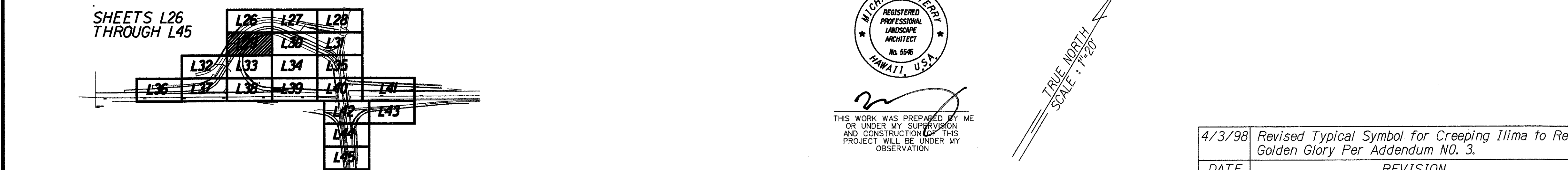
LIMIT OF NON-GRADED AREA

MATCHLINE - SEE SHEET L33

SHEETS L26 THROUGH L45

TRUE NORTH
SCALE: 1"=20'

MICHAEL B. TERP
REGISTERED
PROFESSIONAL
LANDSCAPE
ARCHITECT
No. 5546
HAWAII, USA



4/3/98	Revised Typical Symbol for Creeping Illima to Re Colden Clary Bar Addendum J10.3
--------	--

4/3/98	Revised Typical Symbol for Creeping Ilima to Re Golden Glory Per Addendum NO. 3.
DATE	REVISION

SHEETS L26
THROUGH L45

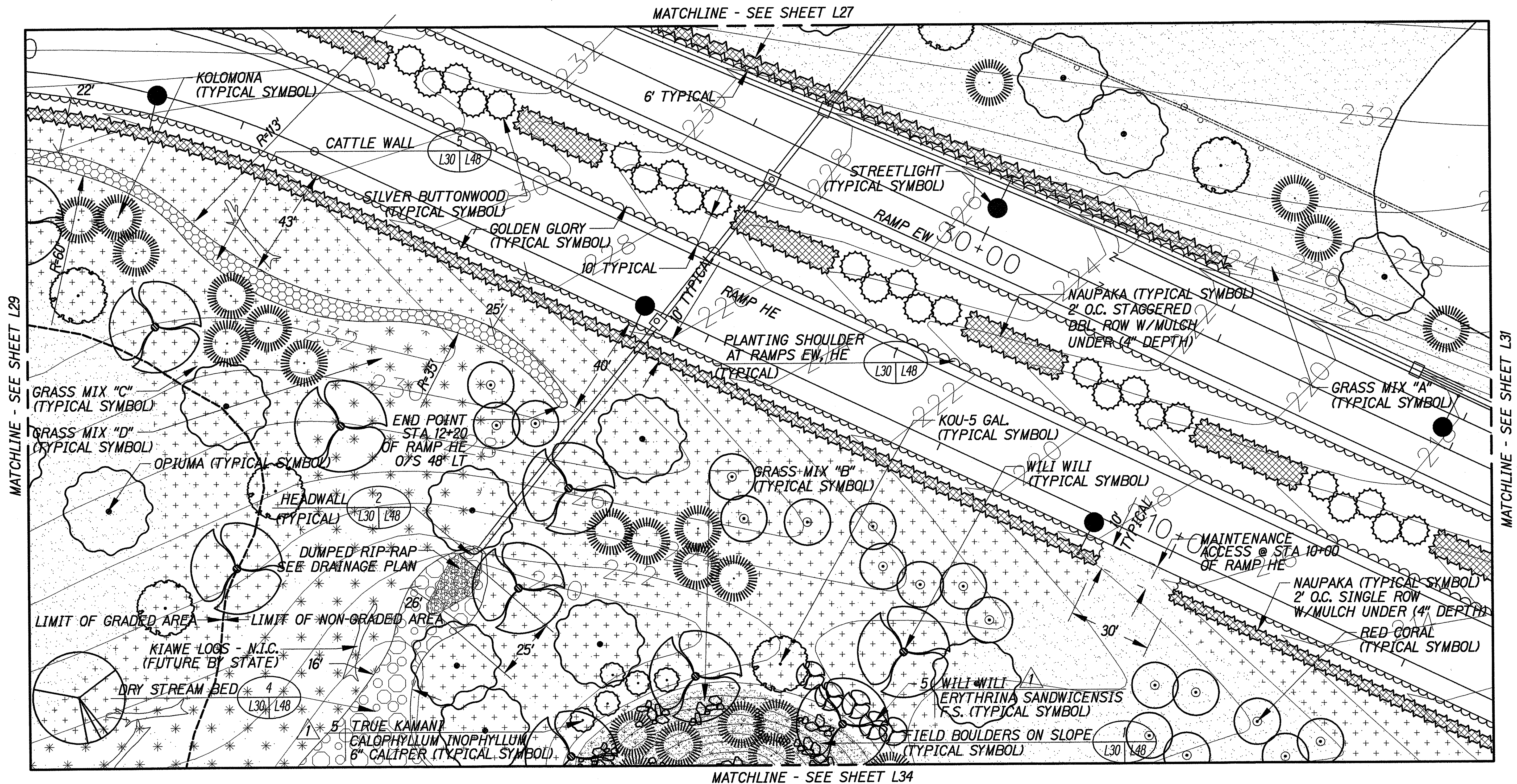
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OBSERVATION

TRUE NORTH
SCALE: 1"=20'

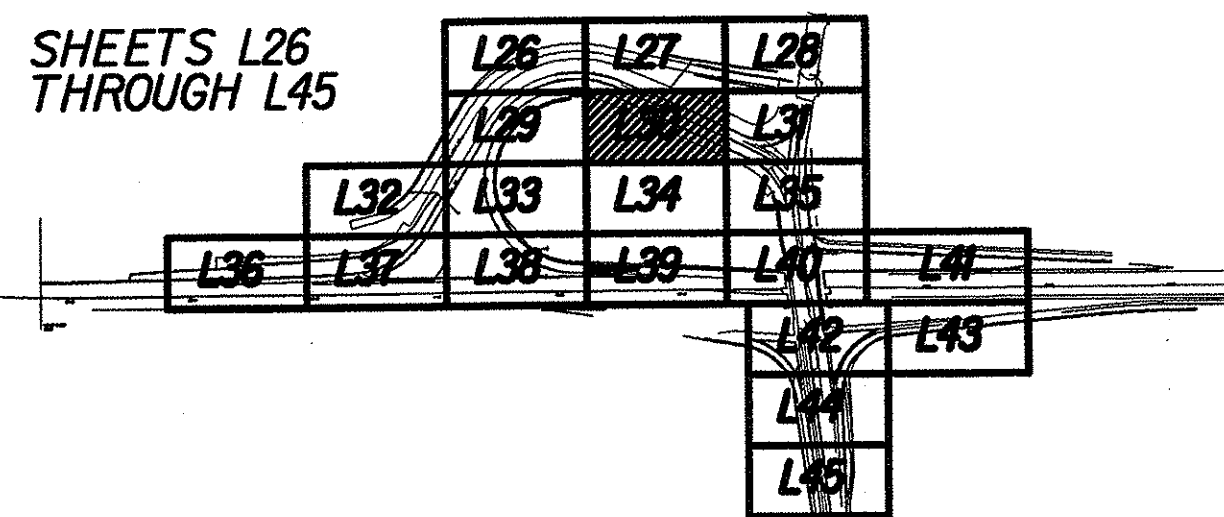
DATE	REVISION
4/3/98	Revised Typical Symbol for Creeping Ilima to Re Golden Glory Per Addendum NO. 3.

[illegible]

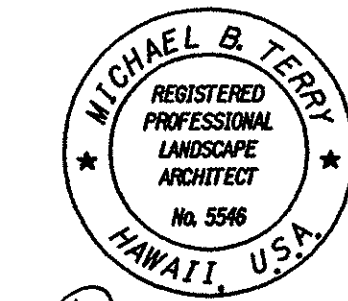
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1M-H1-K(219)	1998	294	378



DATE	
SURVEY PLOTTED BY	
DRAWN BY	
CHECKED BY	
NOTE BOOK	
QUANTITIES BY	
CHECKED BY	



TRUE NORTH
SCALE: 1"=20'



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DATE	REVISION
4/30/01	Revised Planting Plan
4/14/98	Revised Typical Symbol for Creeping Illima to Read Golden Glory Per Addendum NO. 3

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LANDSCAPE PLANTING PLAN

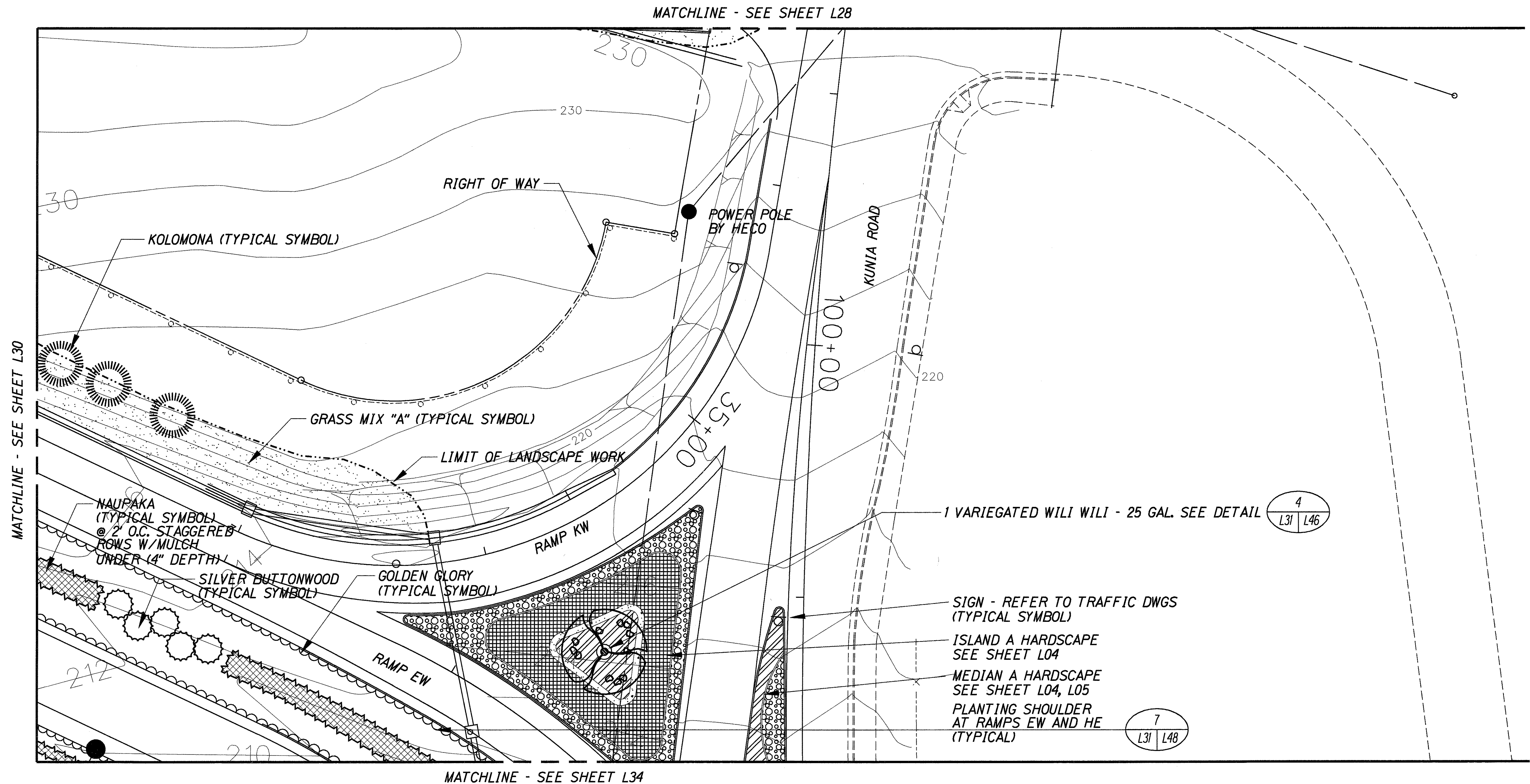
INTERSTATE ROUTE H-1
Kunia Interchange Improvements
F. A. I. Project No. 1M-H1-K(219)

Scale: 1"=20' Date: Oct., 1997

SHEET No. L30 OF 52 SHEETS

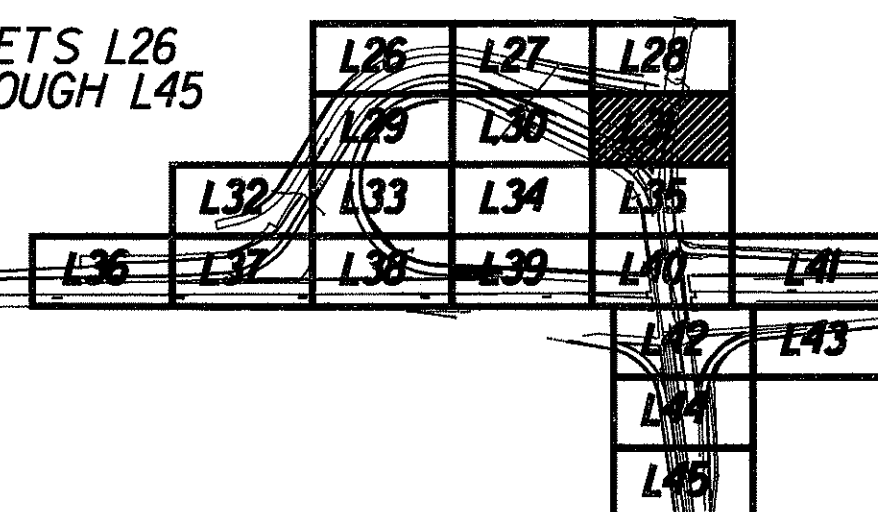
C.O. 294R

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1M-HI-K(219)	1998	295	378

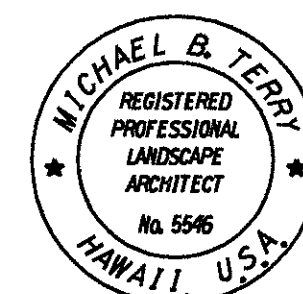


ORIGINAL PLAN	DATE
DESIGNED BY	
DRAWN BY	
CHECKED BY	
NOTED BY	
QUANTITIES BY	
DATE	

SHEETS L26
THROUGH L45



TRUE NORTH
SCALE: 1"=20'



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PROJECT WILL BE UNDER MY
OBSERVATION

4/3/98	Revised Typical Symbol for Creeping Ilima to Read Golden Glory Per Addendum NO. 3
DATE	REVISION

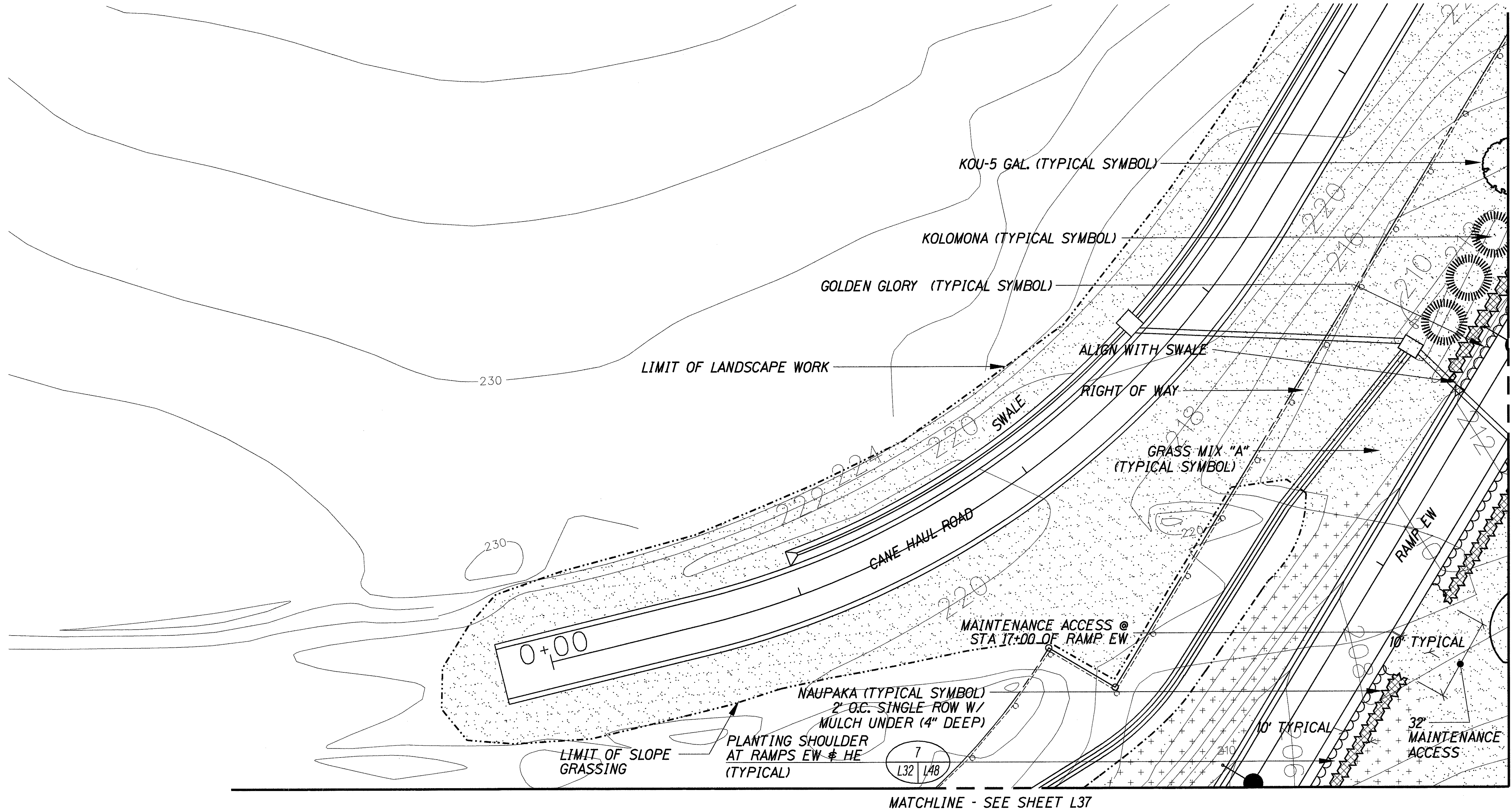
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LANDSCAPE PLANTING PLAN

INTERSTATE ROUTE H-1
Kunia Interchange Improvements
F. A. I. Project No. 1M-HI-K(219)

Scale: 1"=20' Date: Oct., 1997
SHEET No. L31 OF 52 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1M-HI-1(219)	1998	296	378

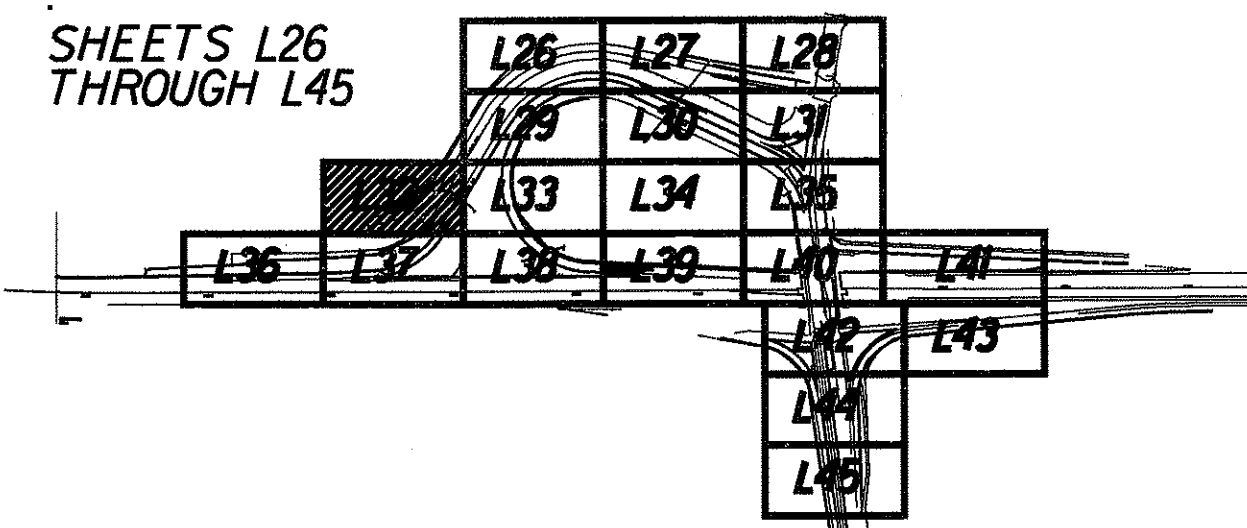


MATCHLINE - SEE SHEET L33

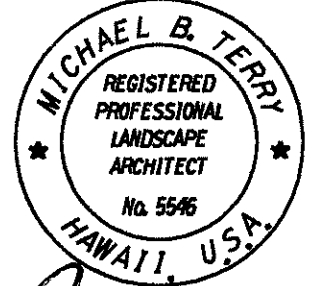
MATCHLINE - SEE SHEET L37

SURVEY PLOTTED BY	DATE
DRAWN BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
DATE	

SHEETS L26 THROUGH L45



TRUE NORTH
SCALE: 1"=20'



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4/3/98	Revised Typical Symbol for Creeping Ilima to Read Golden Glory Per Addendum NO. 3
DATE	REVISION

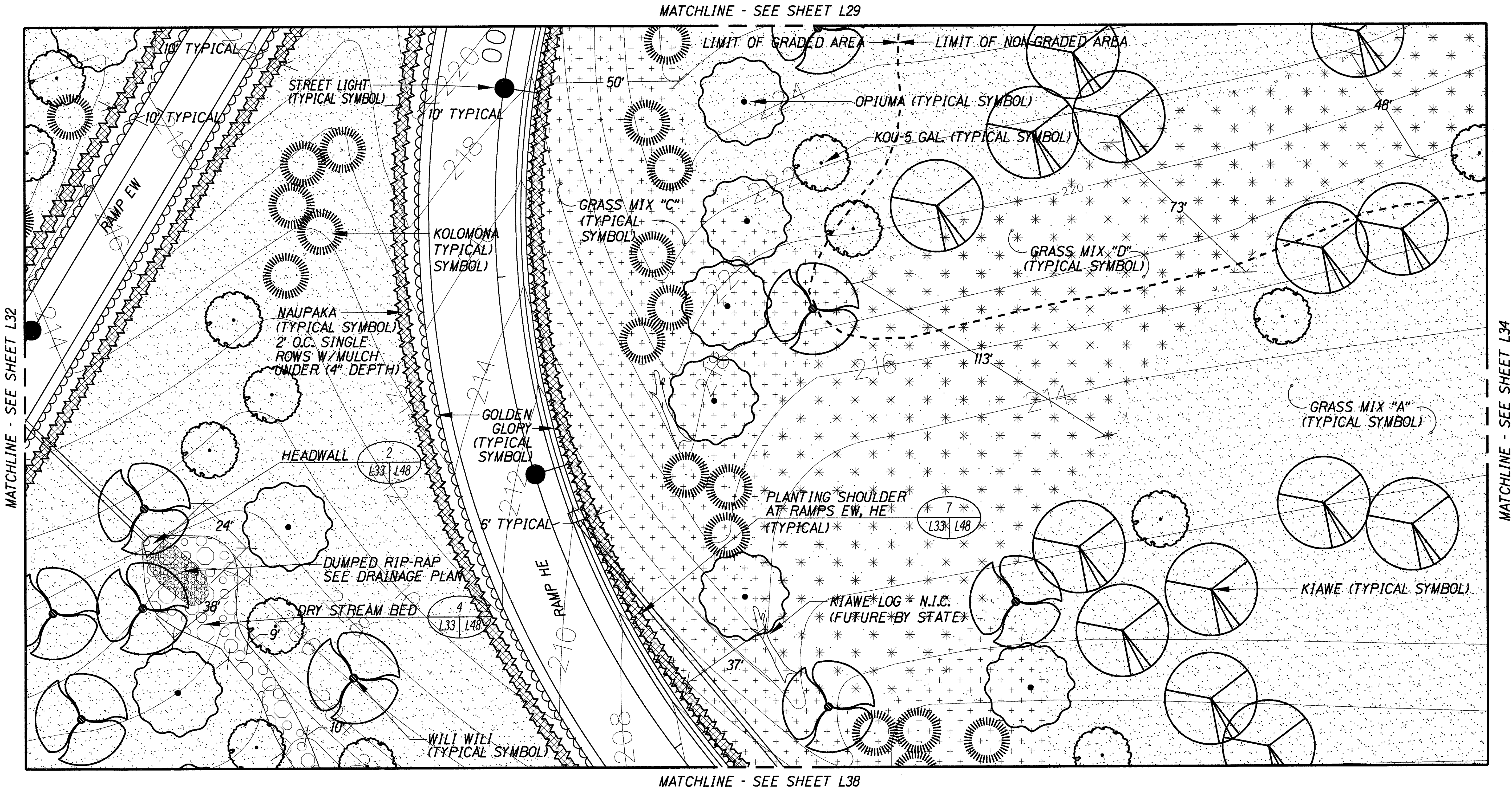
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LANDSCAPE PLANTING PLAN

INTERSTATE ROUTE H-1
Kunia Interchange Improvements
F. A. I. Project No. 1M-HI-1(219)

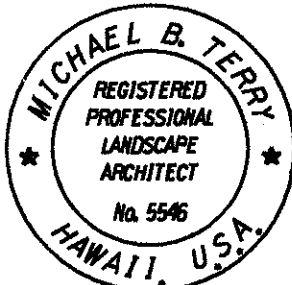
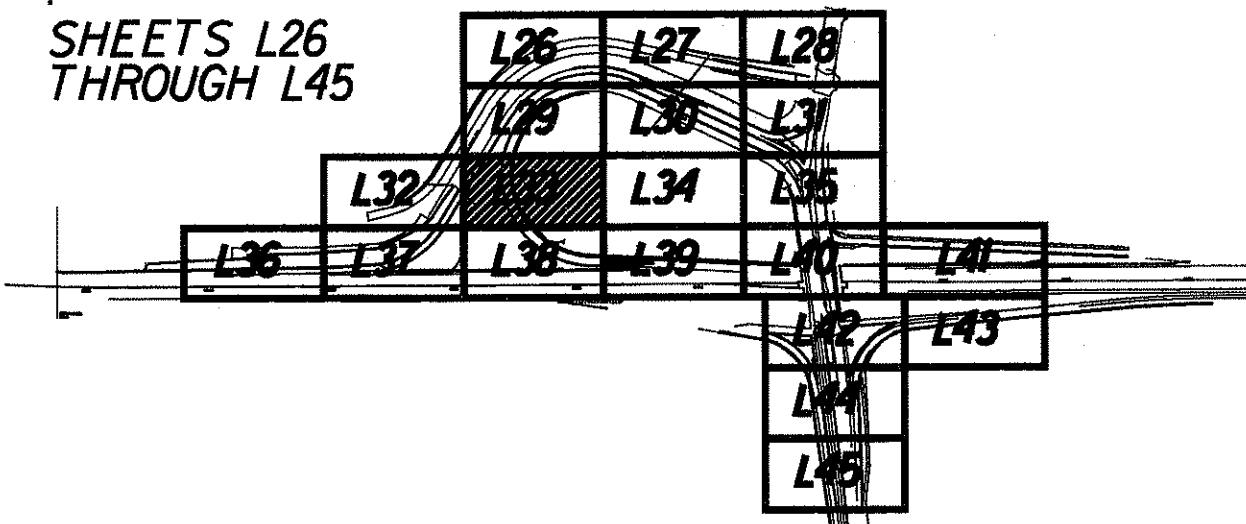
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SHEET No. L32 OF 52 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1M-HI-K(219)	1998	297	378

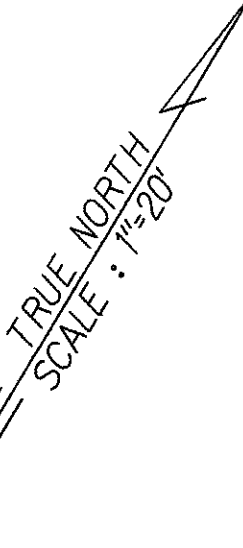


ORIGINAL PLAN	DATE
SURVEY PLOTTED BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	

SHEETS L26
THROUGH L45



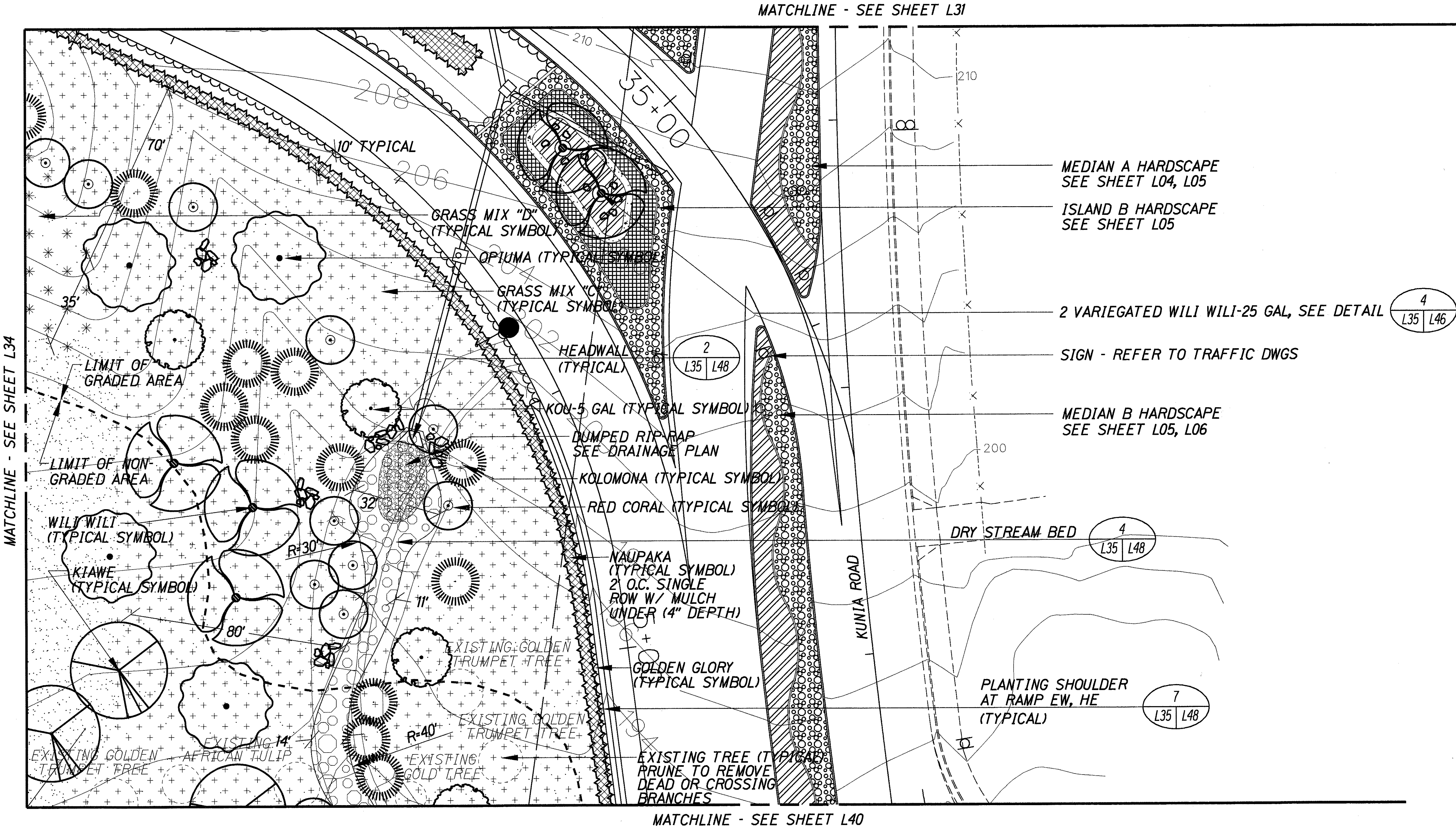
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OBSERVATION



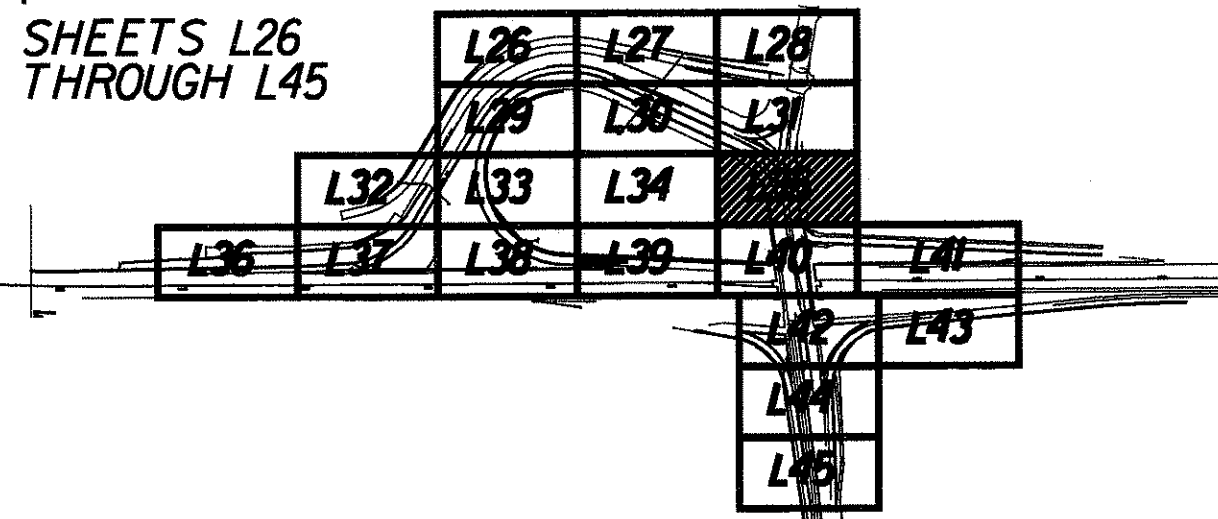
4/3/98	Revised Typical Symbol for Creeping Ilima to Read Golden Glory Per Addendum NO. 3.
DATE	REVISION

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
LANDSCAPE PLANTING PLAN	
INTERSTATE ROUTE H-1 Kunia Interchange Improvements F. A. I. Project No. 1M-HI-K(219)	
Scale: 1"=20'	Date: Oct., 1997
SHEET No. L33 OF 52 SHEETS	

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1M-HI-1(219)	1998	299	378



SURVEY PLOTTED BY	DATE
DESIGNED BY	
TRACED BY	
NOTE BOOK	
QUANTITIES BY	
CHECKED BY	



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TRUE NORTH
SCALE: 1"=20'

4/3/98	Revised Typical Symbol for Creeping Illima to Read Golden Glory Per Addendum NO. 3.
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

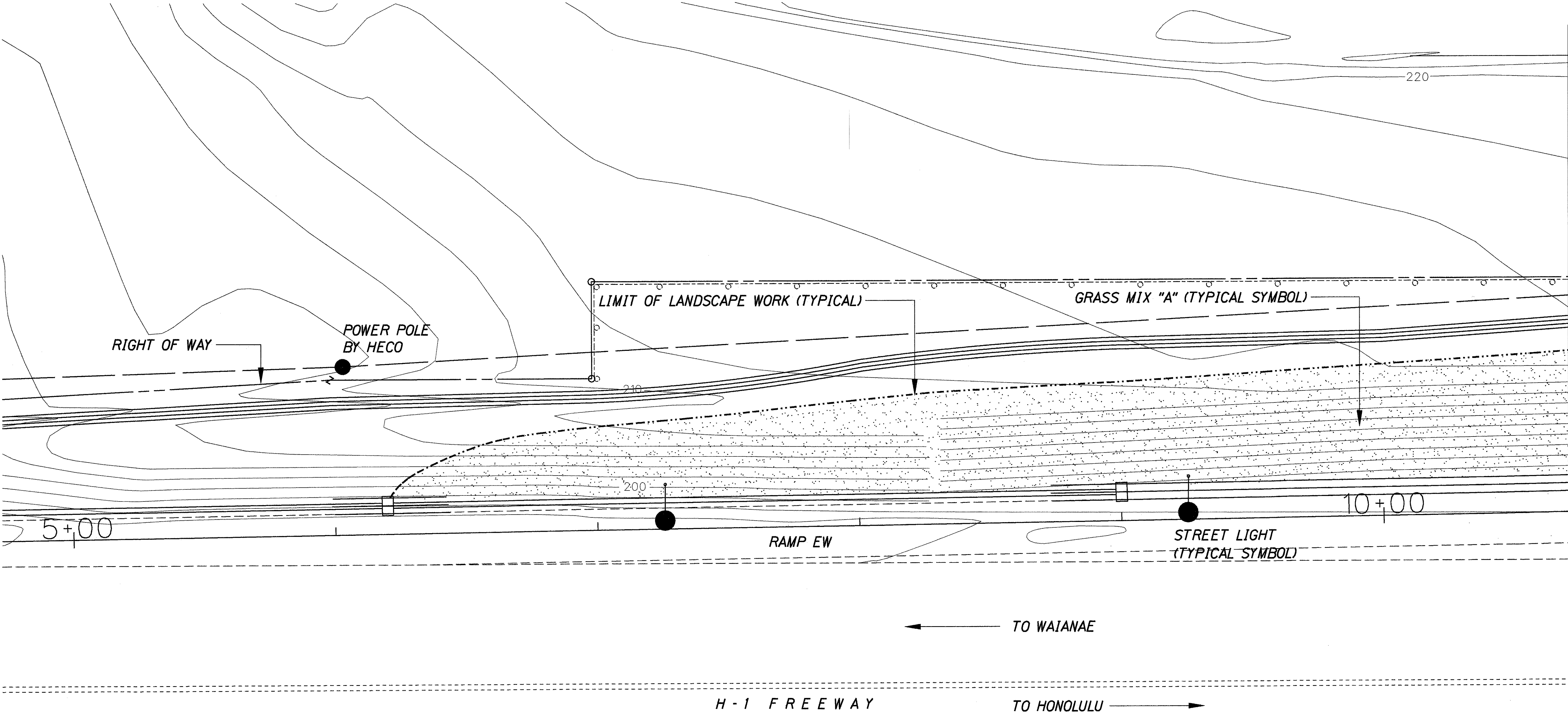
LANDSCAPE PLANTING PLAN

INTERSTATE ROUTE H-1
Kunia Interchange Improvements
F. A. I. Project No. 1M-HI-1(219)

Scale: 1"=20' Date: Oct., 1997

SHEET No. L35 OF 52 SHEETS

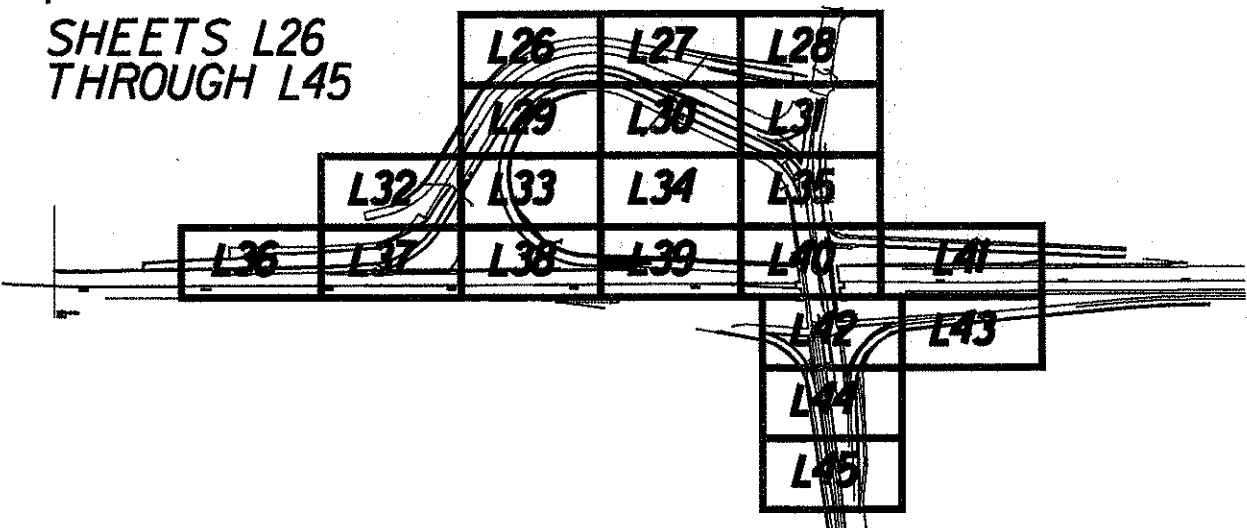
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1M-HI-1(219)	1998	300	378



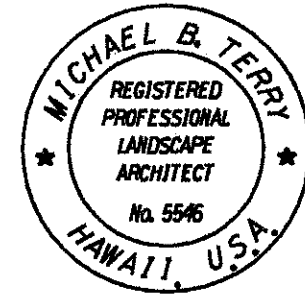
MATCHLINE - SEE SHEET L37

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DESIGNED BY	
	QUANTITIES BY	
	CHECKED BY	

SHEETS L26 THROUGH L45



TRUE NORTH
SCALE: 1"=20'



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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

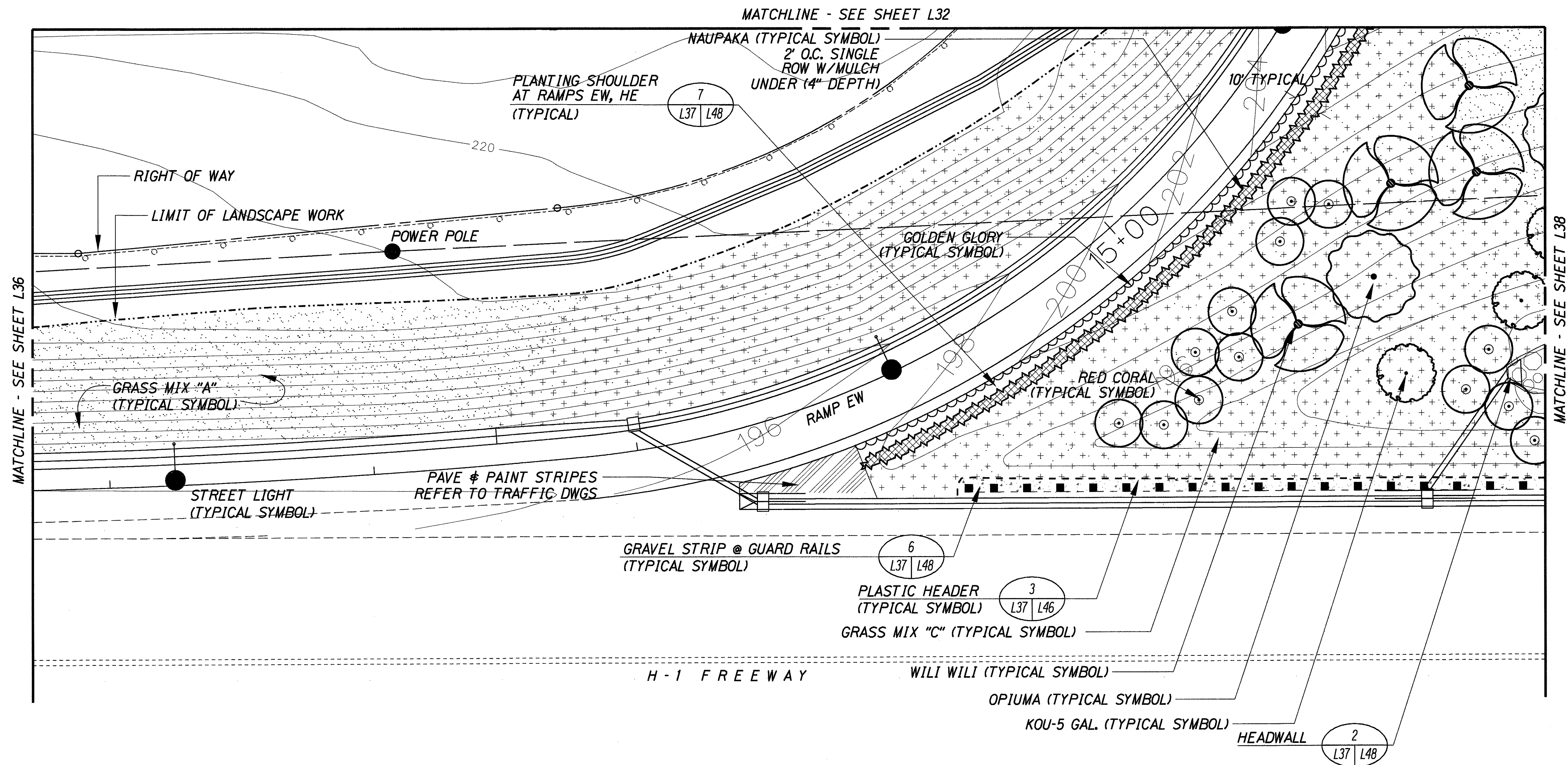
LANDSCAPE PLANTING PLAN

INTERSTATE ROUTE H-1
Kunia Interchange Improvements
F. A. I. Project No. 1M-HI-1(219)

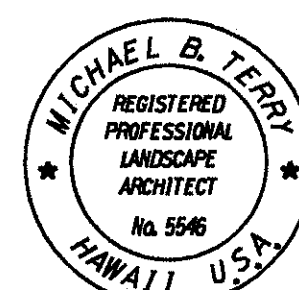
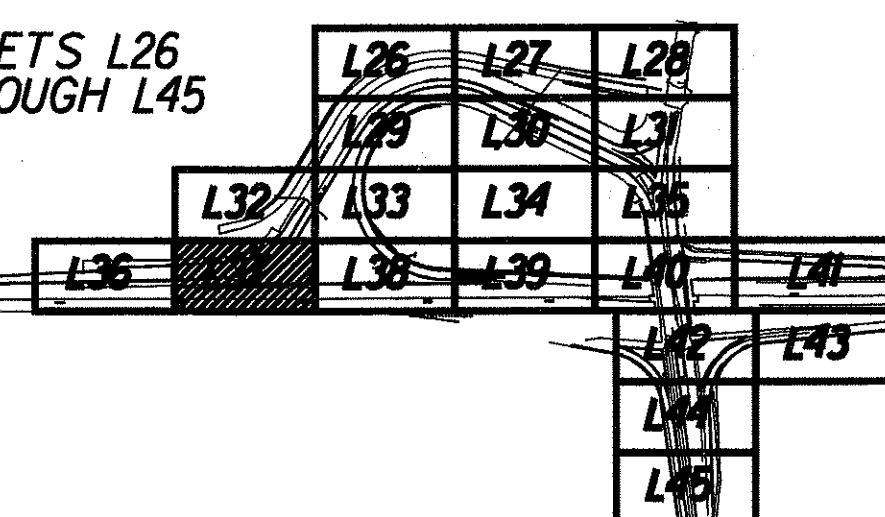
Scale: 1"=20' Date: Oct., 1997

SHEET No. L36 OF 52 SHEETS

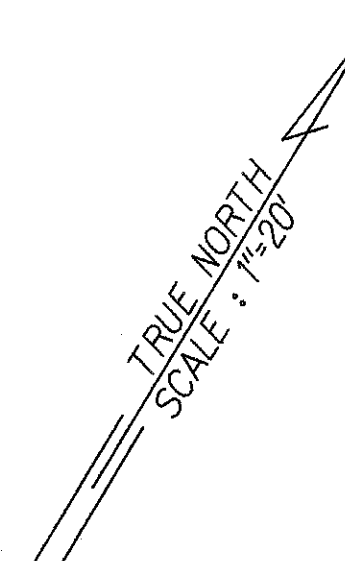
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1M-H1-1(219)	1998	301	378



SHEETS L26
THROUGH L45



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4/3/98	Revised Typical Symbol for Creeping Ilima to Read Golden Glory Per Addendum NO. 3.
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LANDSCAPE PLANTING PLAN

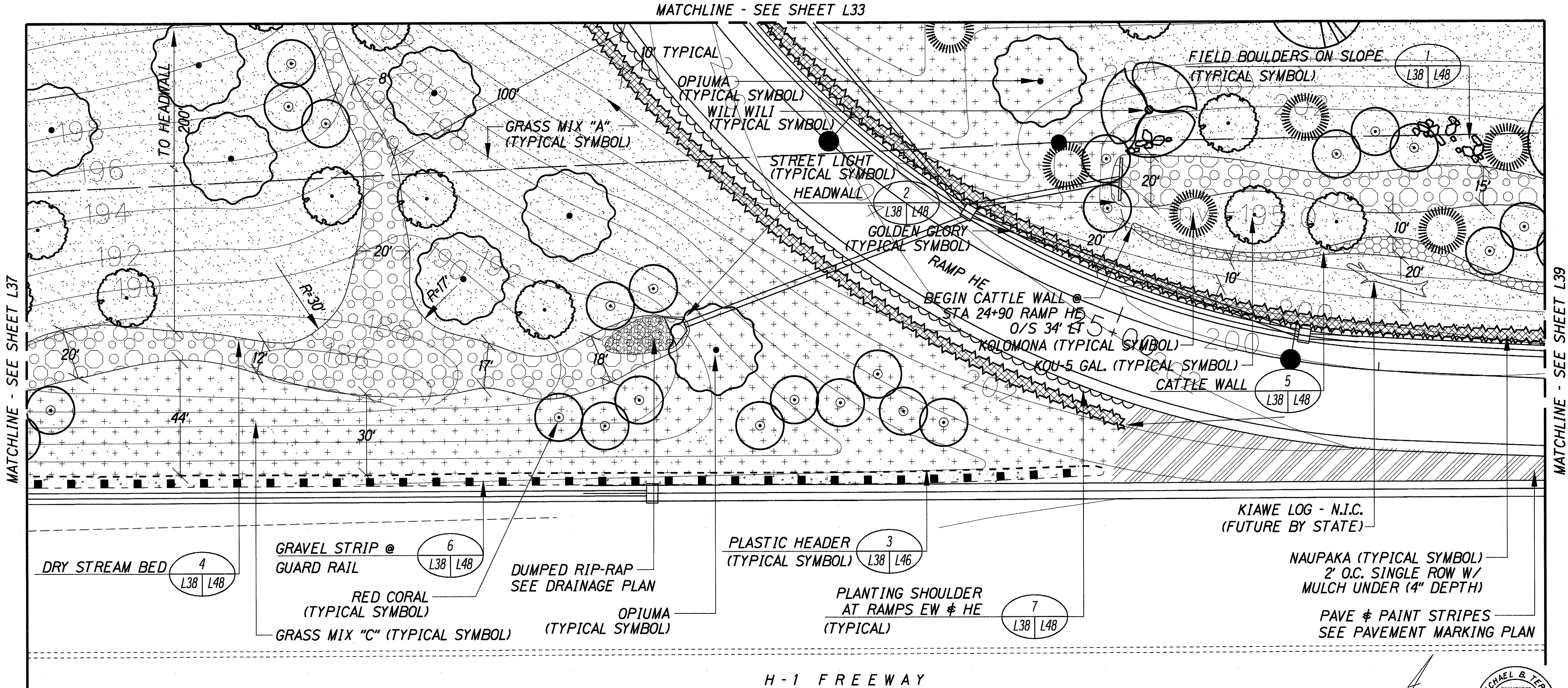
INTERSTATE ROUTE H-1
Kunia Interchange Improvements
F. A. I. Project No. 1M-H1-1(219)

Scale: 1"=20' Date: Oct., 1997

SHEET No. L37 OF 52 SHEETS

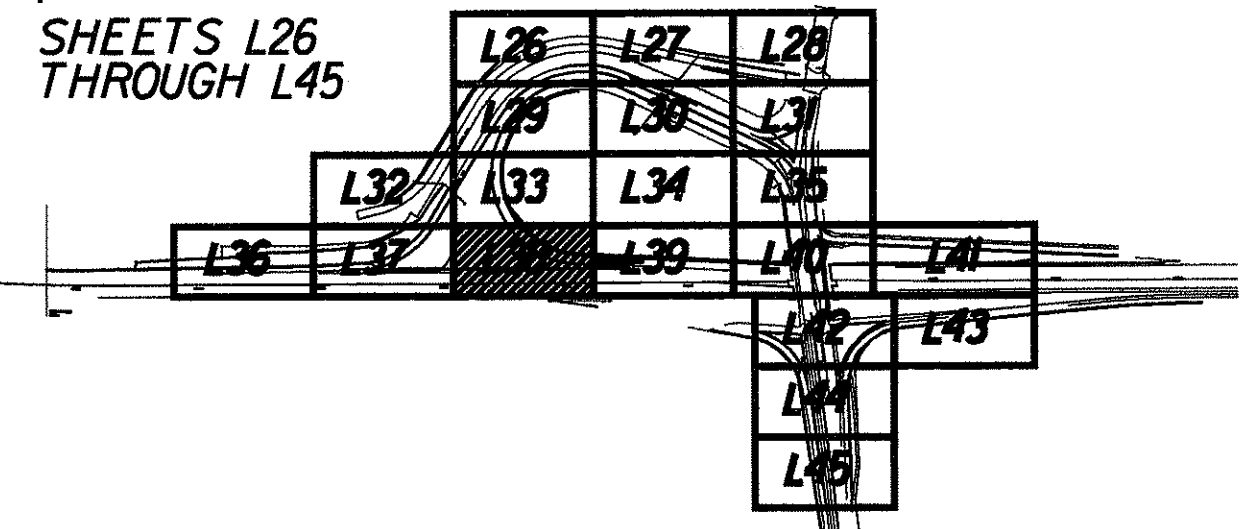
301R

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1M-HI-K(219)	1998	302	378



DESIGNED BY	DATE
DRAWN BY	
CHECKED BY	
NOTED BY	
QUANTITIES BY	
CHECKED BY	

SHEETS L26
THROUGH L45



4/3/98	Revised Typical Symbol for Creeping Ilima to Read Golden Glory Per Addendum NO. 3.
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

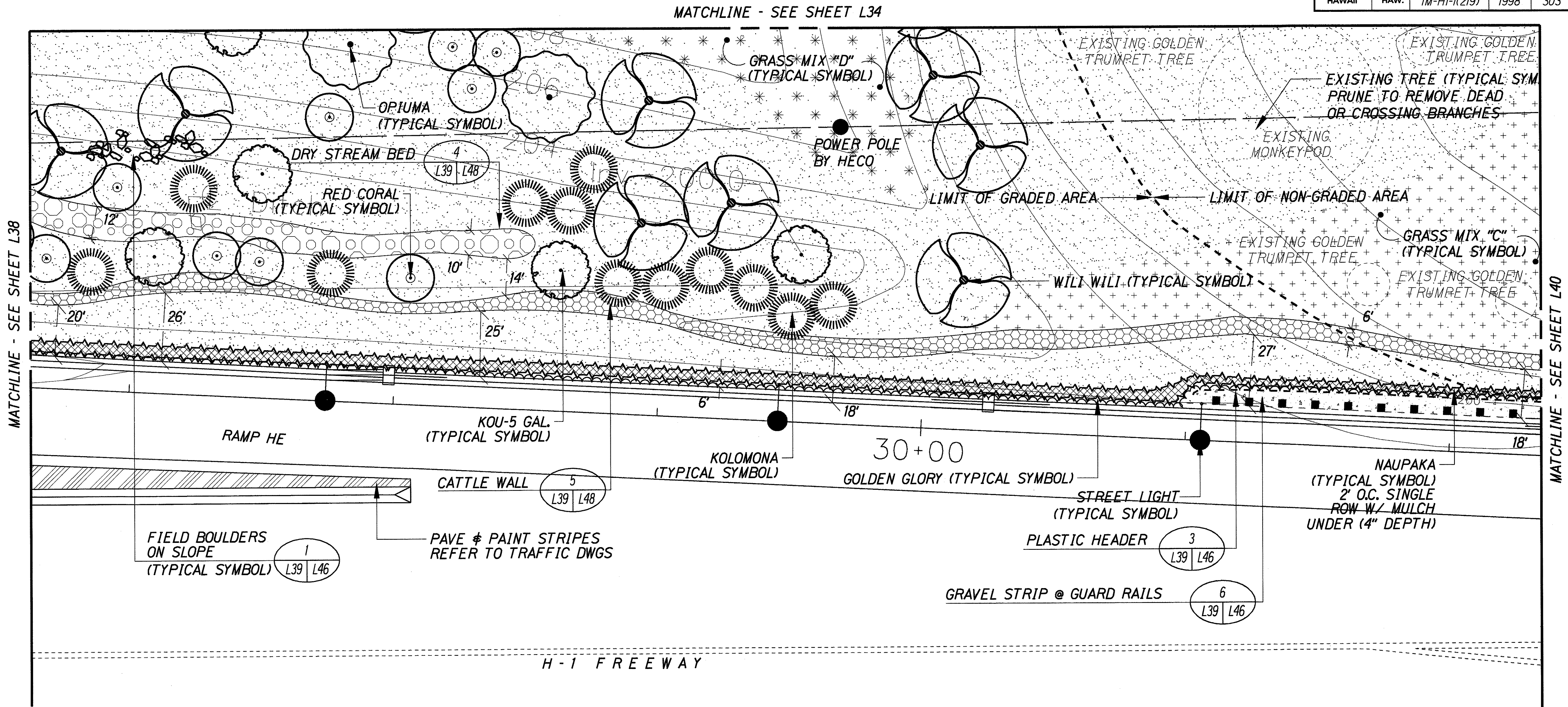
LANDSCAPE PLANTING PLAN

INTERSTATE ROUTE H-1
Kunia Interchange Improvements
F. A. I. Project No. 1M-HI-K(219)

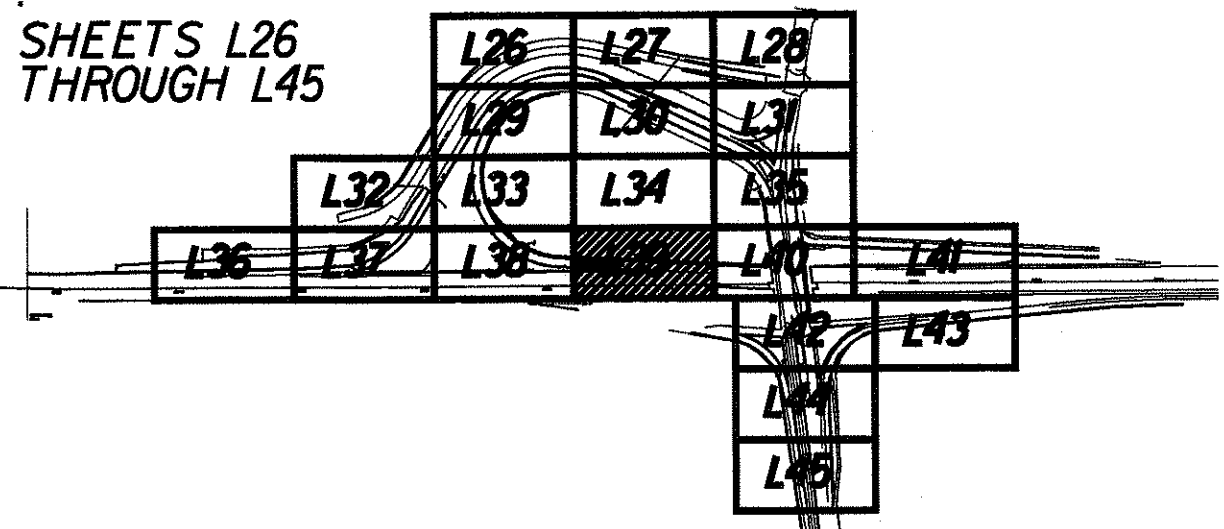
Scale: 1"=20' Date: Oct., 1997

SHEET No. L38 OF 52 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1M-HI-K(219)	1998	303	378



ORIGINAL PLAN	DATE
SURVEY PLOTTED BY	
DESIGNED BY	
NOTED BY	
CHECKED BY	



4/3/98	Revised Typical Symbol for Creeping Ilima to Read Golden Glory Per Addendum NO. 3.
DATE	REVISION

TRUE NORTH
SCALE: 1"=20'

MICHAEL B. TERRY
REGISTERED PROFESSIONAL LANDSCAPE ARCHITECT
No. 5546
HAWAII, U.S.A.

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

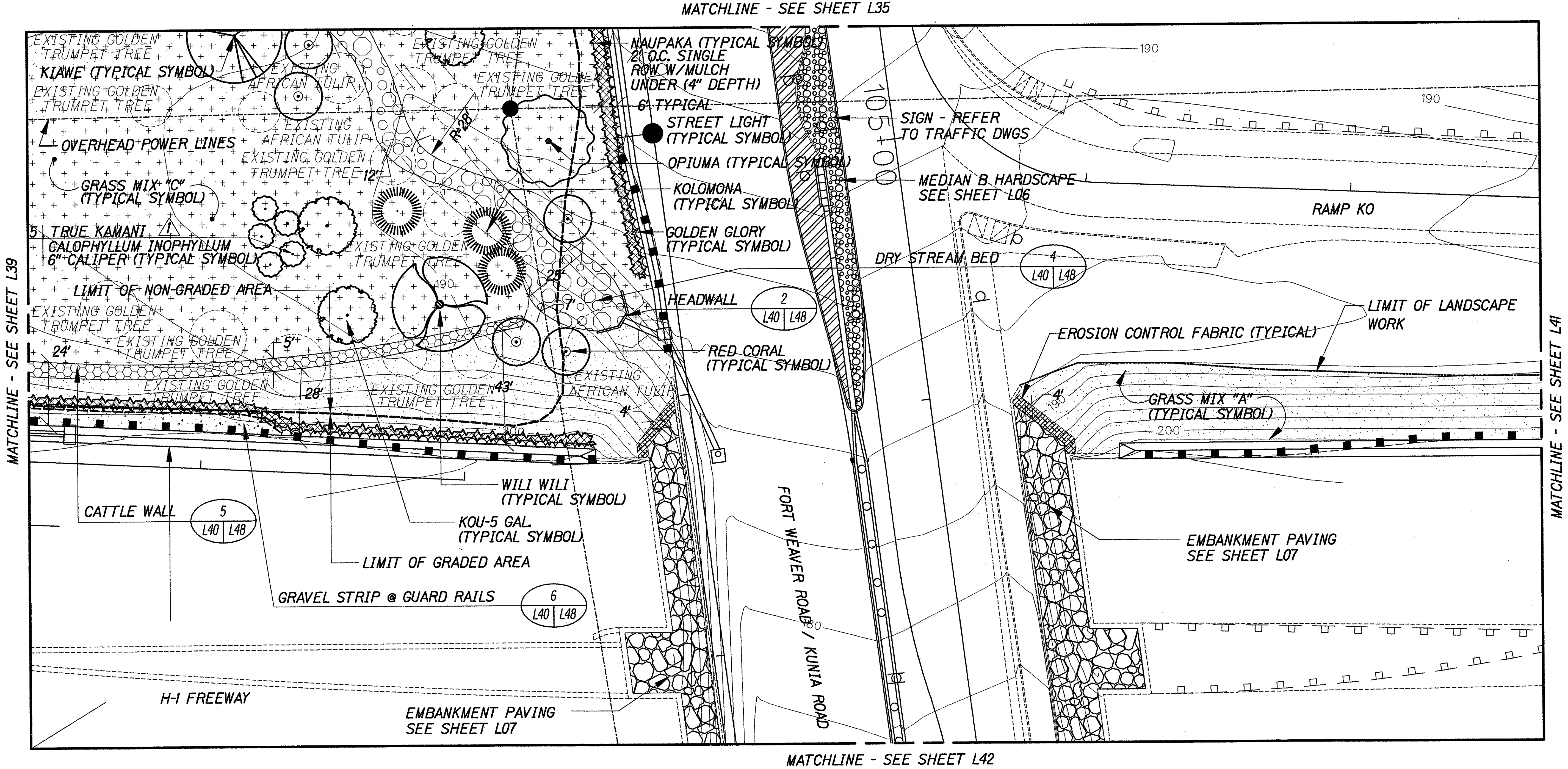
LANDSCAPE PLANTING PLAN

INTERSTATE ROUTE H-1
Kunia Interchange Improvements
F. A. I. Project No. 1M-HI-K(219)

Scale: 1"=20' Date: Oct., 1997

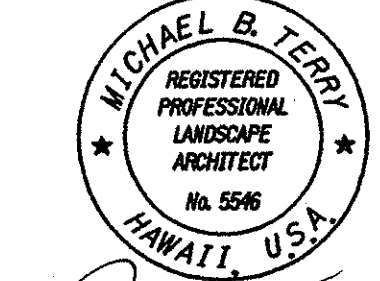
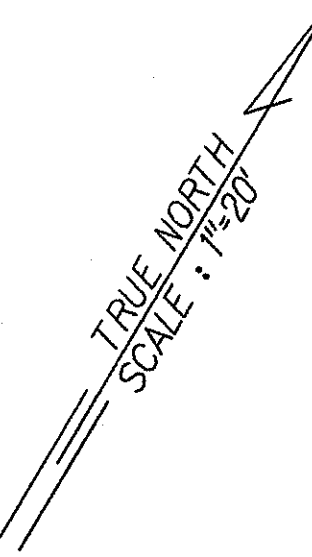
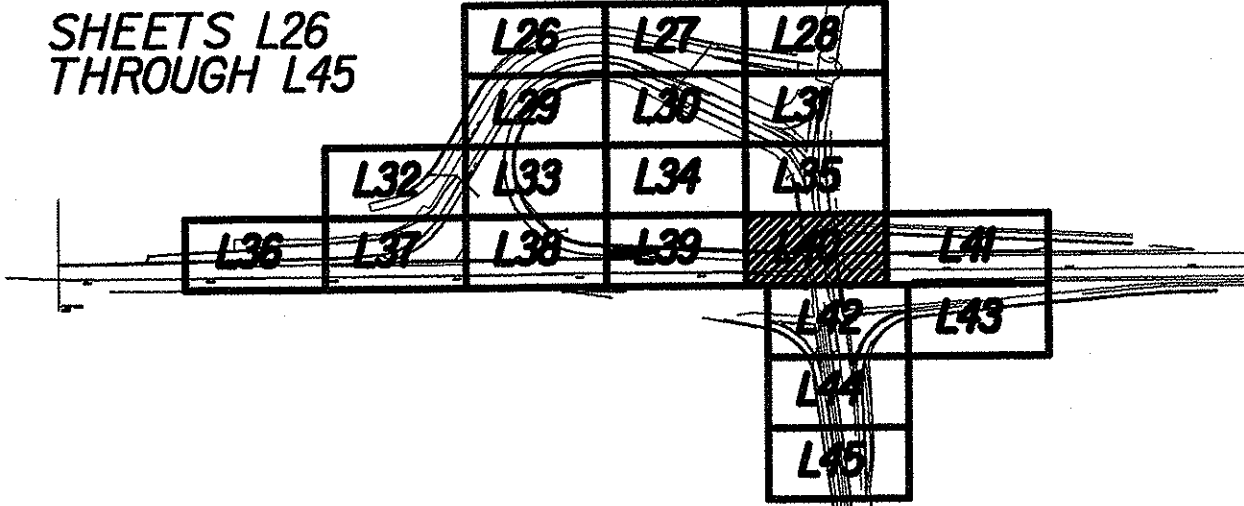
SHEET No. L39 OF 52 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1M-HI-1(219)	1998	304	378



SURVEY PLOTTED BY	DATE
DRAWN BY	
DESIGNED BY	
NOTED BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
N.	

SHEETS L26
THROUGH L45



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4/30/01	Revised Planting Plan
4/3/98	Revised Typical Symbol for Creeping Illima to Read Golden Glory Per Addendum No. 3.
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LANDSCAPE PLANTING PLAN

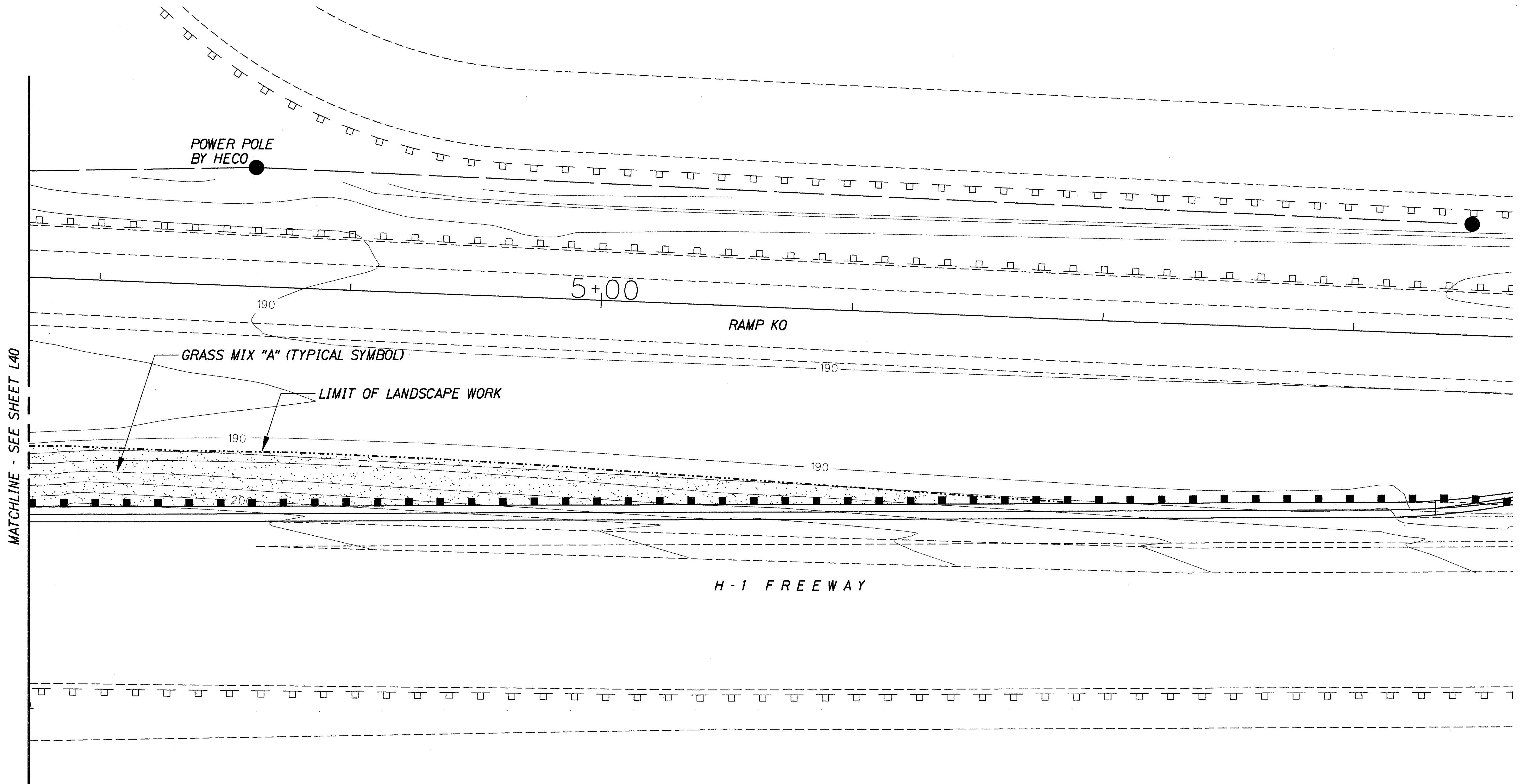
INTERSTATE ROUTE H-1
Kunia Interchange Improvements
F. A. I. Project No. 1M-HI-1(219)

Scale: 1"=20'
Date: Oct., 1997

SHEET No. L40 OF 52 SHEETS

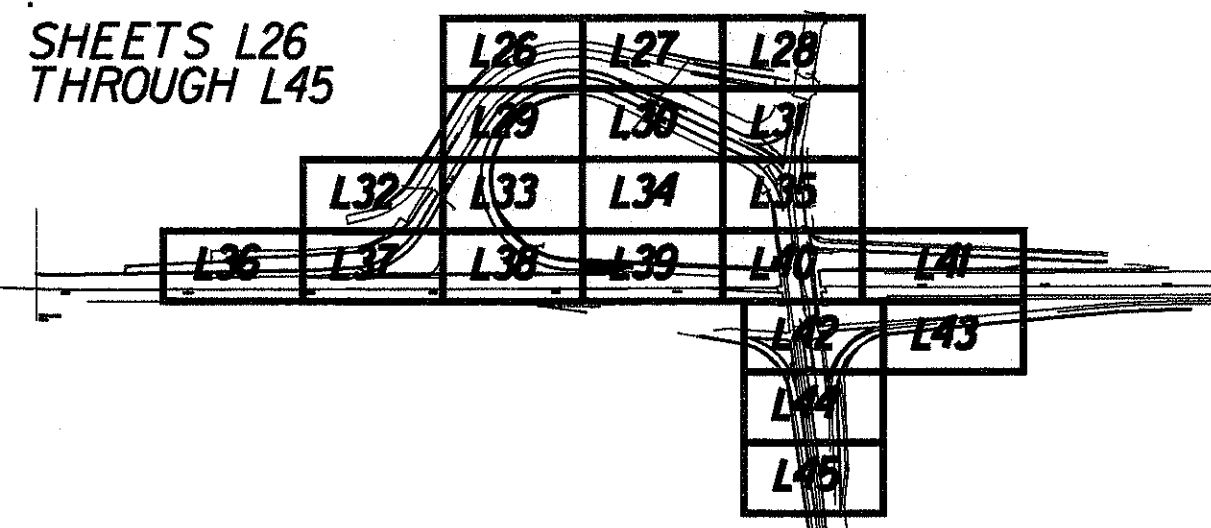
C.O. 304R

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1M-HI-1(219)	1998	305	378

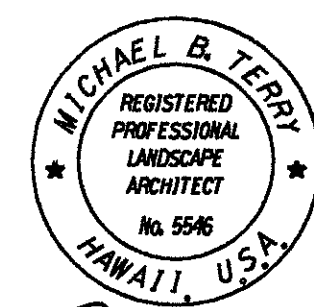


ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DESIGNED BY	
	QUANTITIES BY	
	CHECKED BY	

SHEETS L26
THROUGH L45



TRUE NORTH
SCALE: 1"=20'



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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

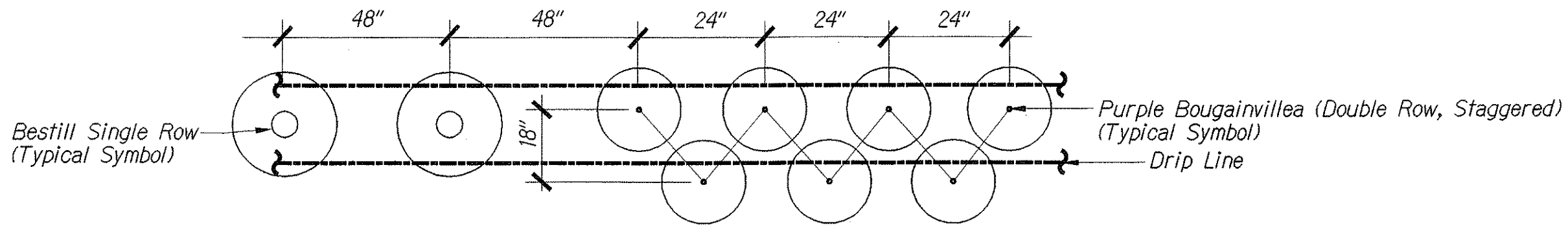
LANDSCAPE PLANTING PLAN

INTERSTATE ROUTE H-1
Kunia Interchange Improvements
F. A. I. Project No. 1M-HI-1(219)

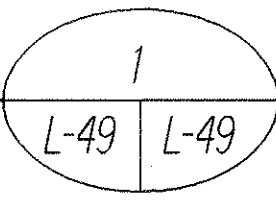
Scale: 1"=20' Date: Oct., 1997

SHEET No. L41 OF 52 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1M-H1-K(219)	1998		378



TYPICAL PLANTING & IRRIGATION
NTS

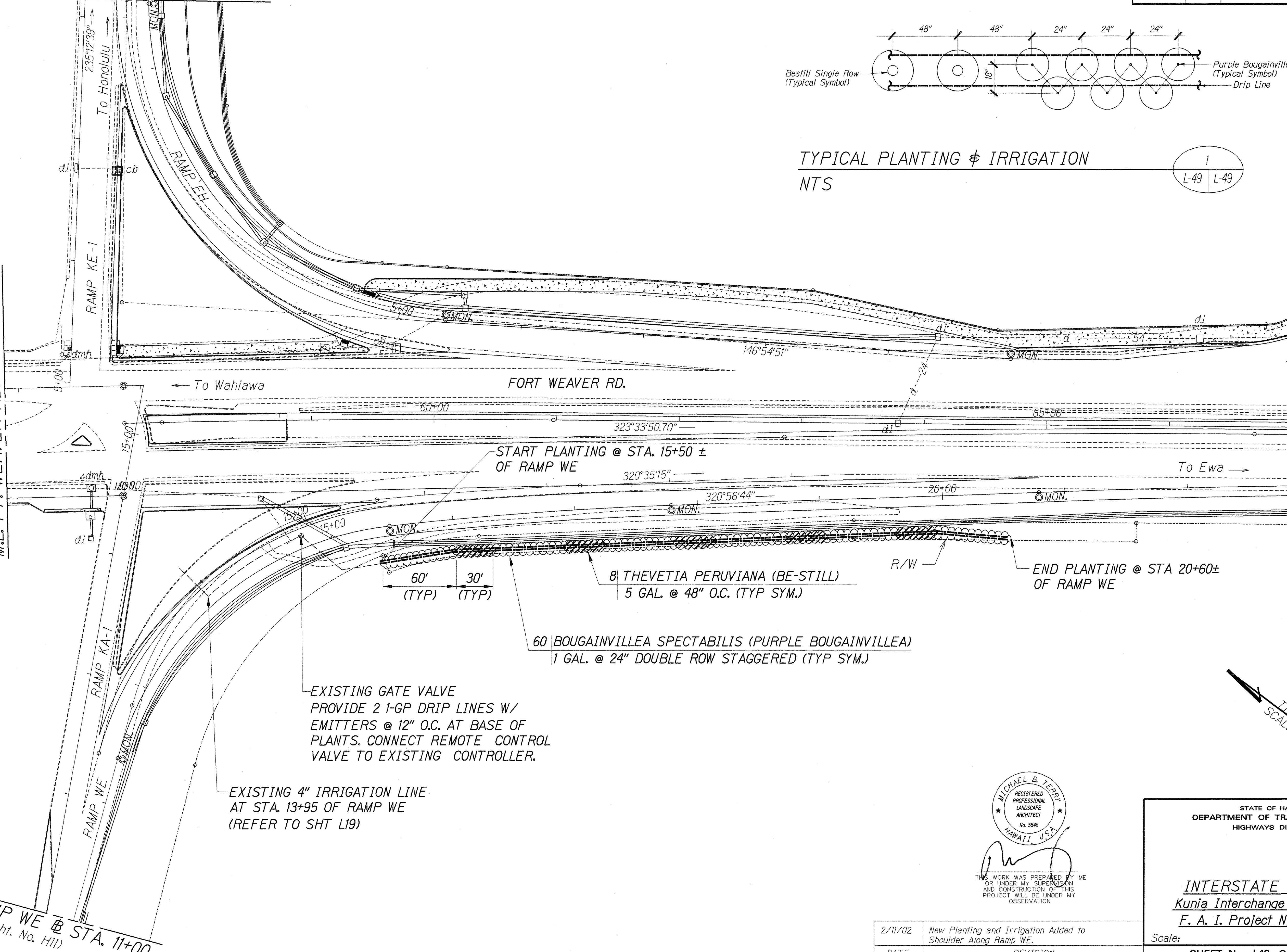


(See Sht. No. H12)
M.L. RAMP KE @ P.T. STA. 8+14.18

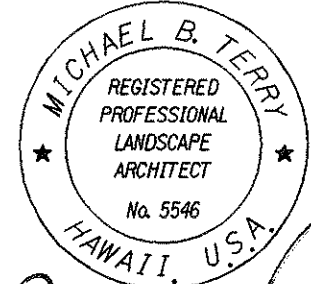
(See Sht. No. H12)
M.L. FT. WEAVER RD. @ STA. 56+50

M.L. FT. WEAVER RD. @ STA. 67+00
(See Sht. No. H17)

M.L. RAMP WE @ STA. 11+00
(See Sht. No. H11)



SURVEY PLOTTED BY	DATE
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DESIGNED BY	
CHECKED BY	
NOTE BOOK	
NO.	



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2/11/02	New Planting and Irrigation Added to Shoulder Along Ramp WE.
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

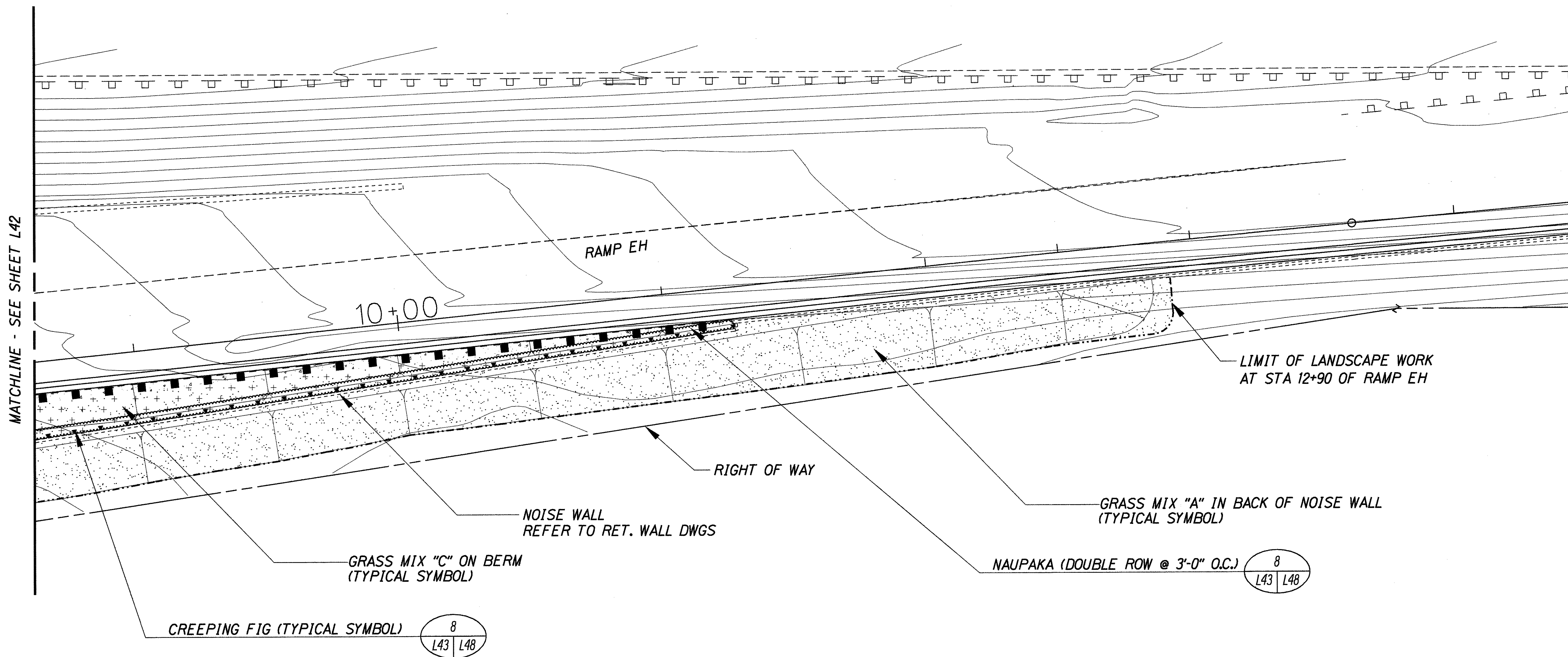
INTERSTATE ROUTE H-1
Kunia Interchange Improvements
F. A. I. Project No. 1M-H1-K(219)

Scale: SHEET No. L49 OF 52 SHEETS

Date: Oct., 1997

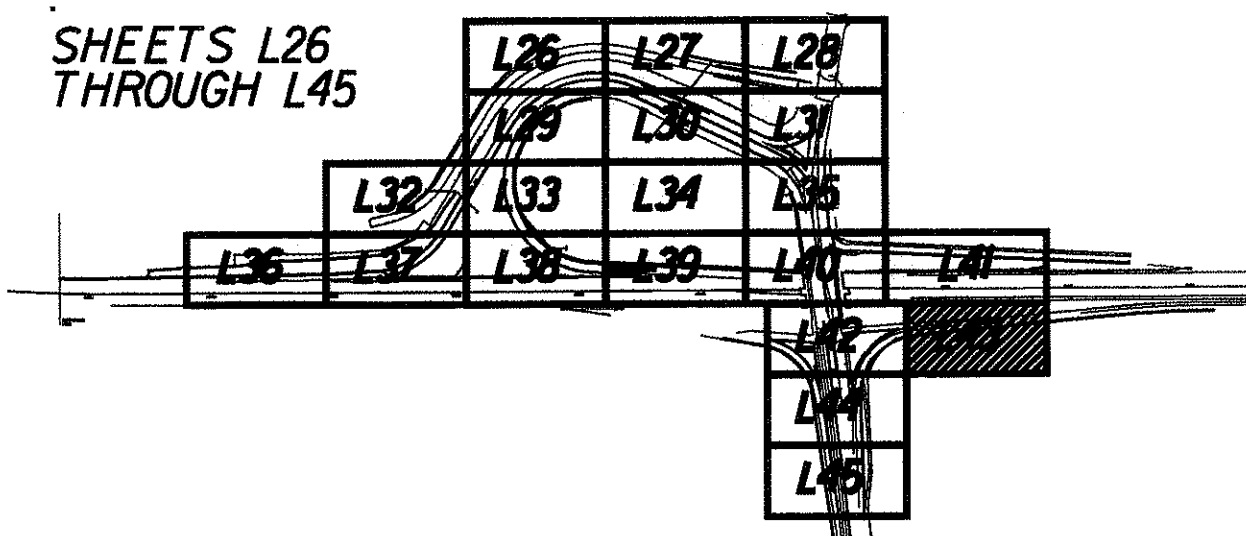
C.O. ADD. 306S-1

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1M-HI-K(219)	1998	307	378



ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
	DESIGNED BY	
	NOTED BY	
	CHECKED BY	

SHEETS L26 THROUGH L45



8/17/98	Revised Sheet to Add Naupaka and Creeping Fig in Front of Noise Wall Along Ramp EH.
DATE	REVISION

TRUE NORTH
SCALE: 1"=20'

MICHAEL B. TERRY
REGISTERED PROFESSIONAL LANDSCAPE ARCHITECT
No. 5546
HAWAII, U.S.A.

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LANDSCAPE PLANTING PLAN

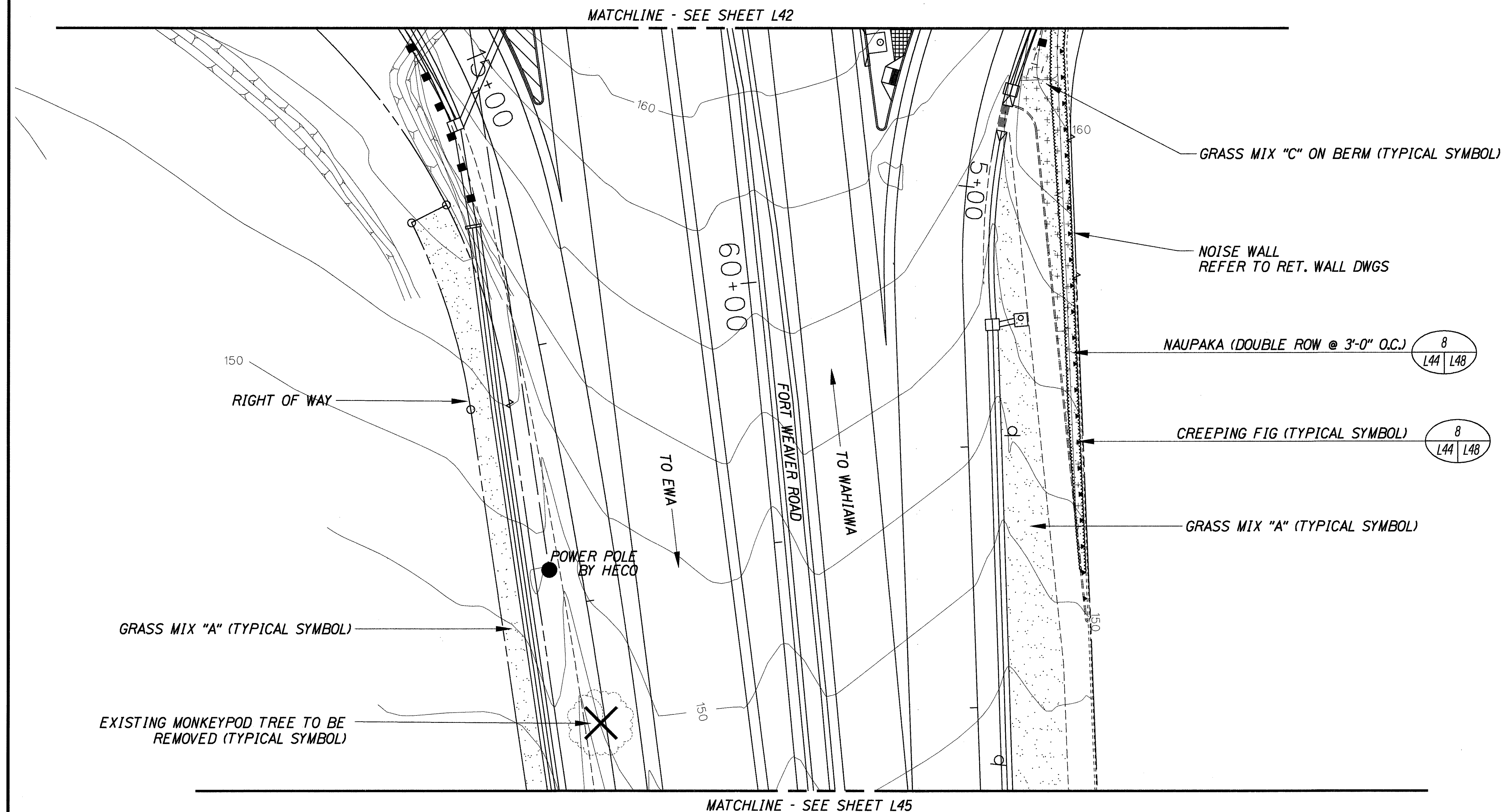
INTERSTATE ROUTE H-1
Kunia Interchange Improvements
F. A. I. Project No. 1M-HI-K(219)

Scale: 1"=20' Date: Oct., 1997

SHEET No. L43 OF 52 SHEETS

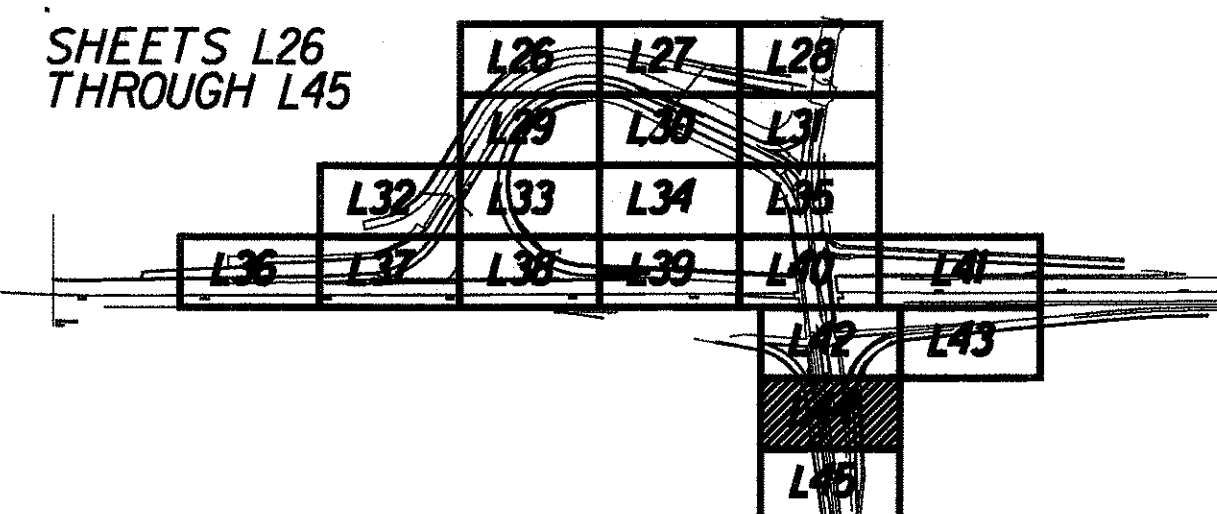
C.O. 307

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1M-HI-K(219)	1998	308	378

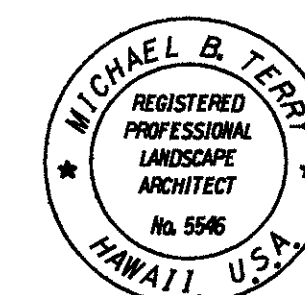


DESIGNED BY	DATE
TRACED BY	
NOTE BOOK	
QUANTITIES BY	
CHECKED BY	

SHEETS L26
THROUGH L45



TRUE NORTH
SCALE: 1"=20'



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8/17/98	Revised Sheet to Add Naupaka and Creeping Fig in Front of Noise Wall Along Ramp EH.
DATE	REVISION

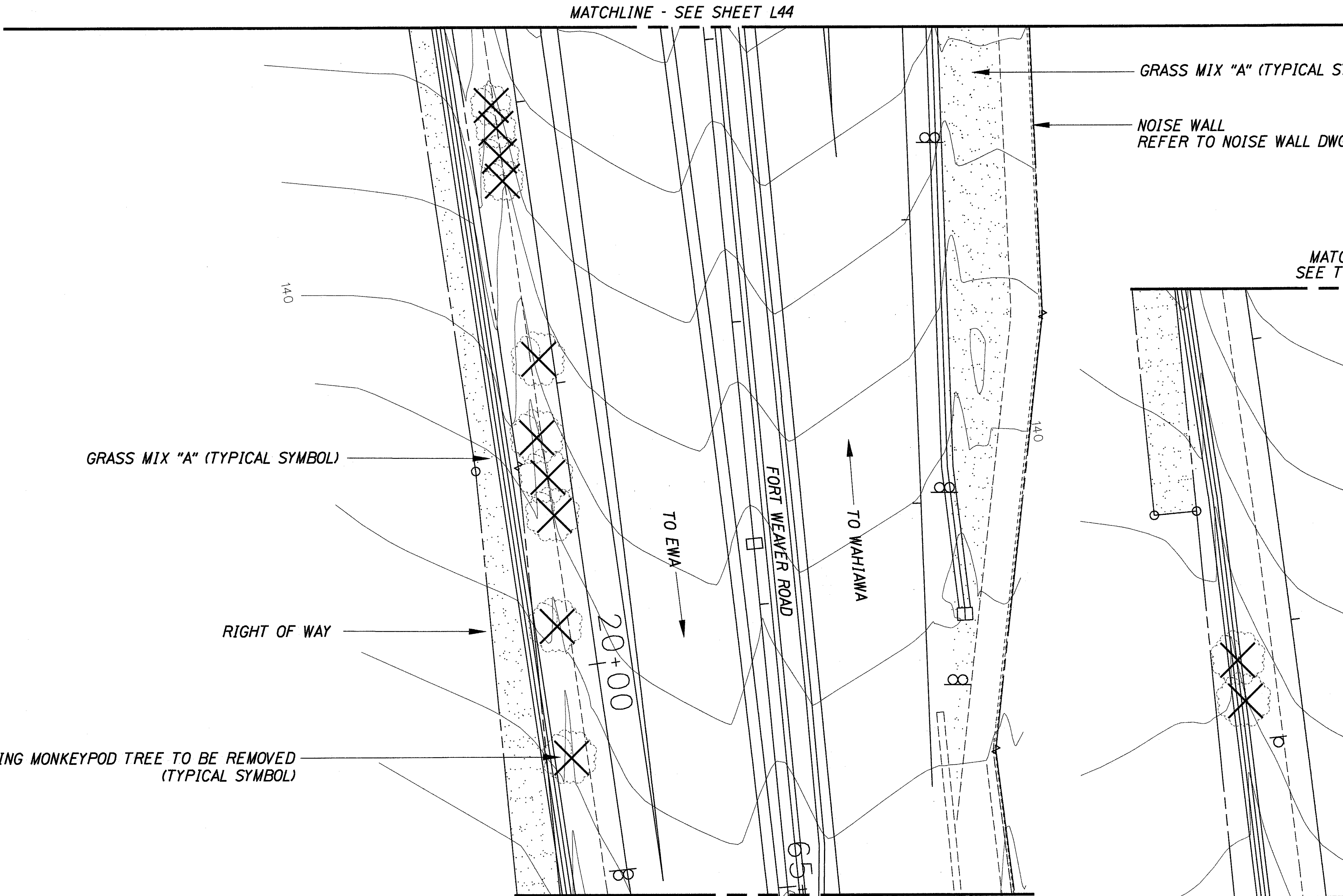
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LANDSCAPE PLANTING PLAN

INTERSTATE ROUTE H-1
Kunia Interchange Improvements
F. A. I. Project No. 1M-HI-K(219)
Scale: 1"=20' Date: Oct., 1997
SHEET No. L44 OF 52 SHEETS

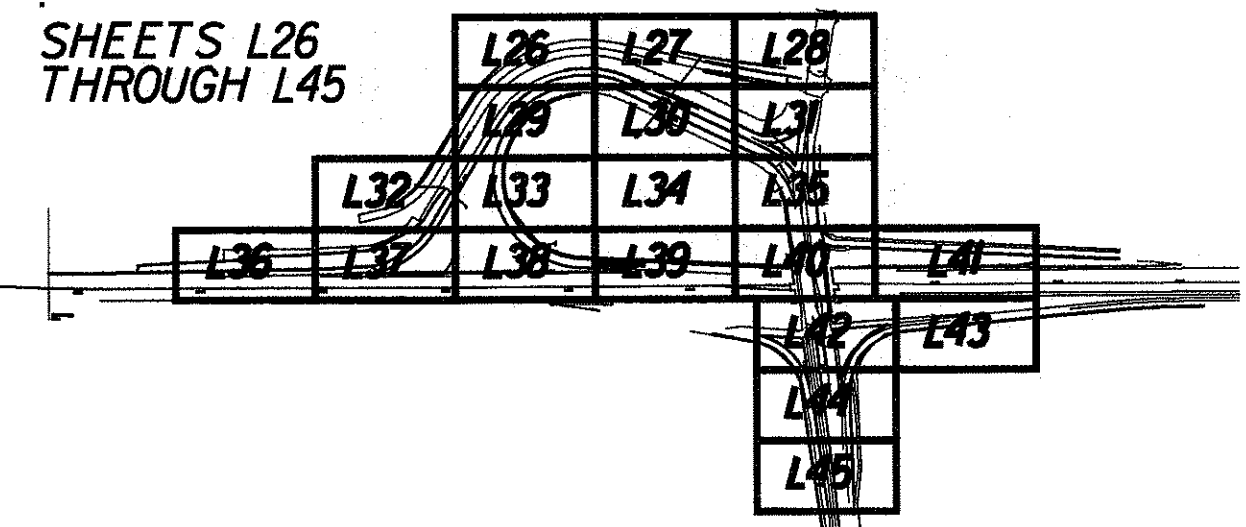
C.O. 308

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1M-HI-1(219)	1998	309	378

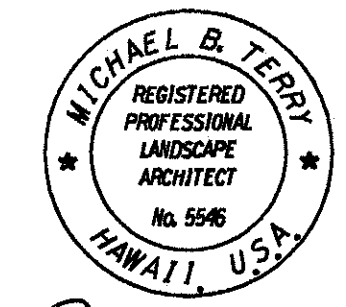


SURVEY PLOTTED BY	DATE
DRAWN BY	
DESIGNED BY	
NOTE BOOK	
QUANTITIES BY	
CHECKED BY	
ORIGINAL PLAN	
NO.	

SHEETS L26
THROUGH L45



TRUE NORTH
SCALE: 1"=20'



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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

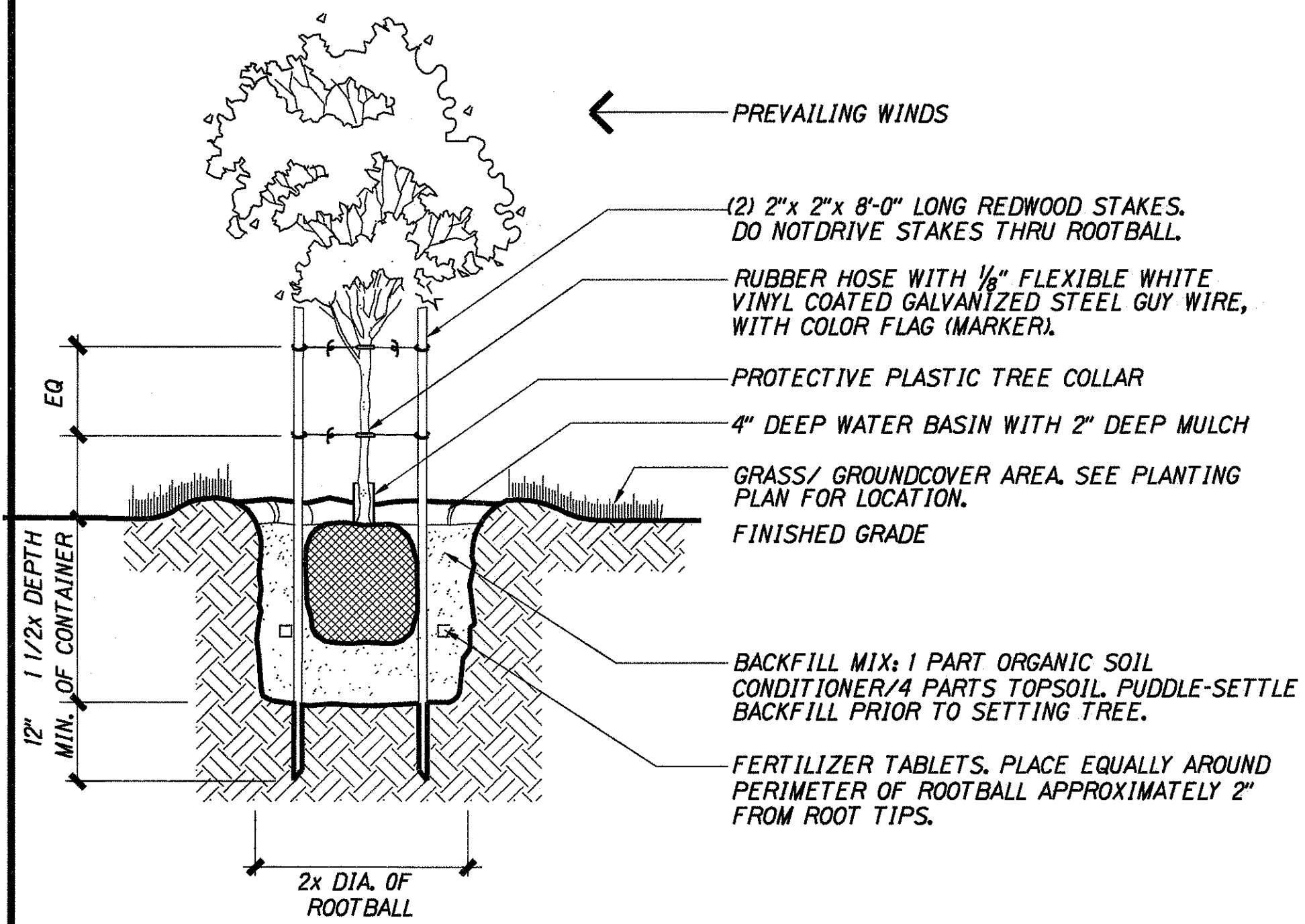
LANDSCAPE PLANTING PLAN

INTERSTATE ROUTE H-1
Kunia Interchange Improvements
F. A. I. Project No. 1M-HI-1(219)

Scale: 1"=20' Date: Oct., 1997

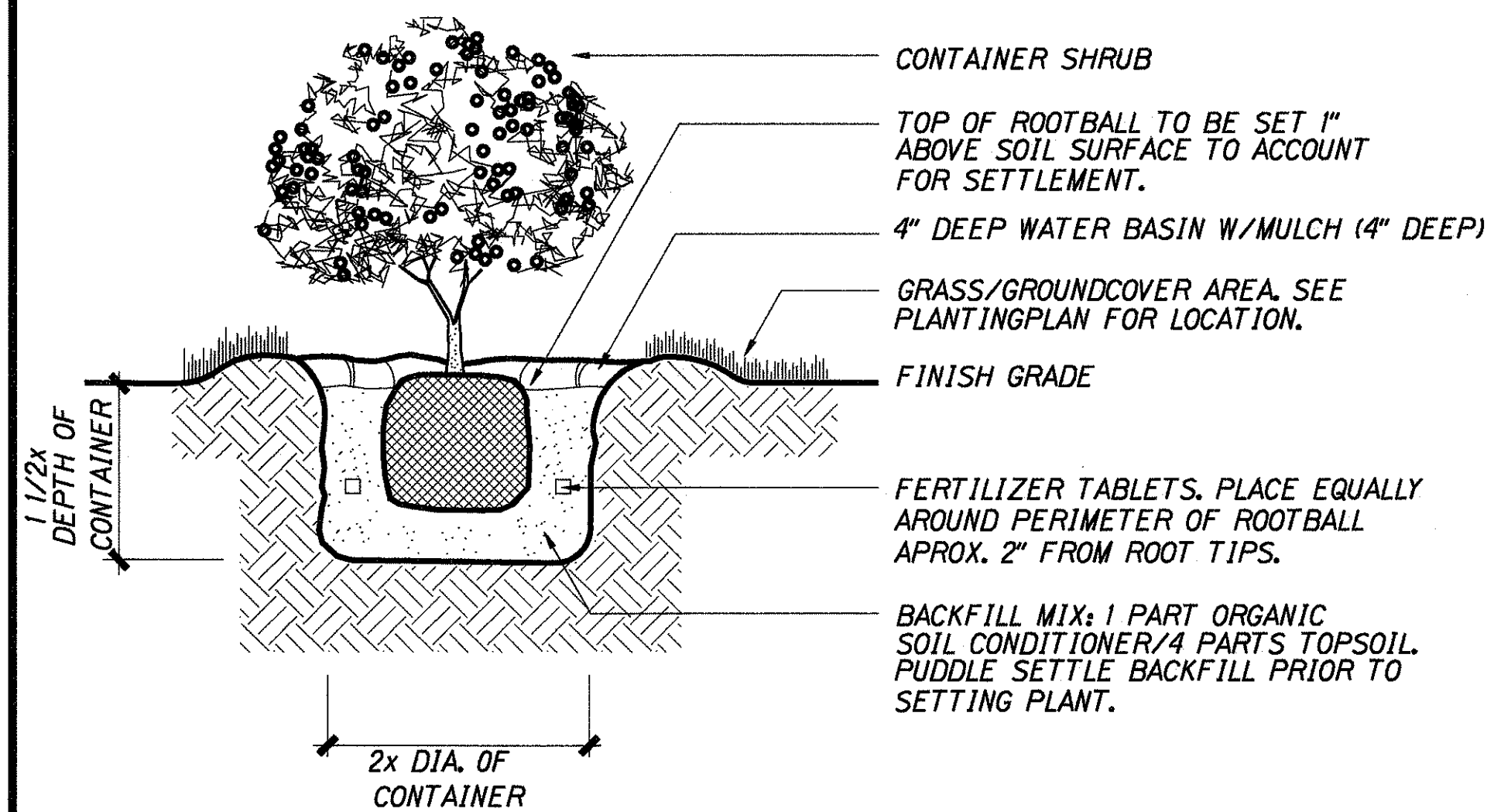
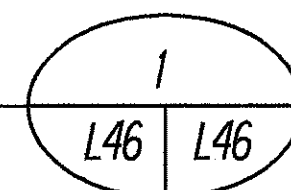
SHEET No. L45 OF 52 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1M-H1-1(219)	1998	310	378



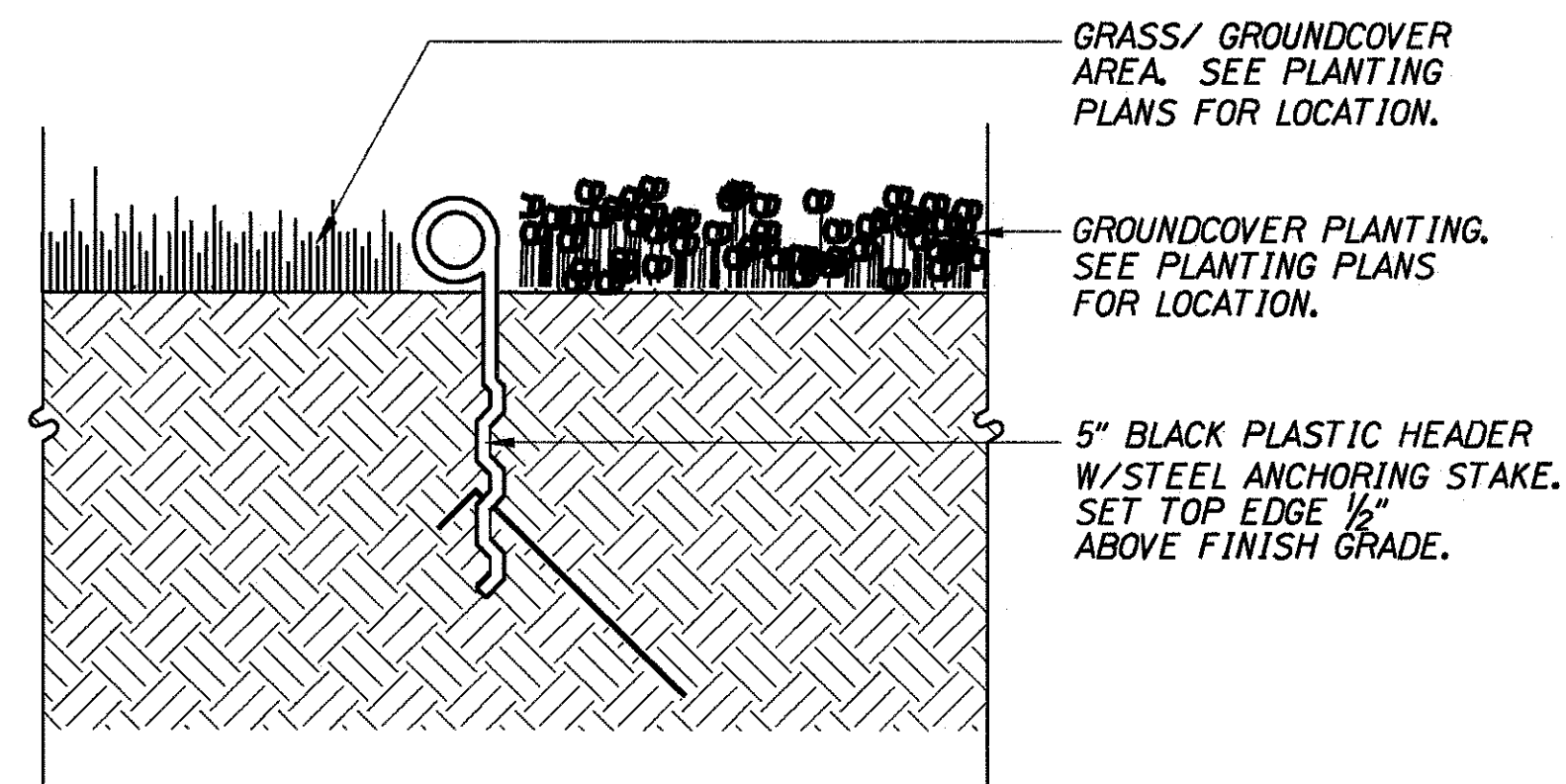
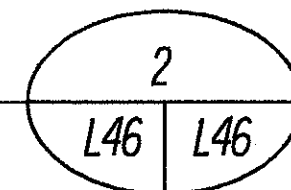
CONTAINER TREE PLANTING & STAKING

NTS



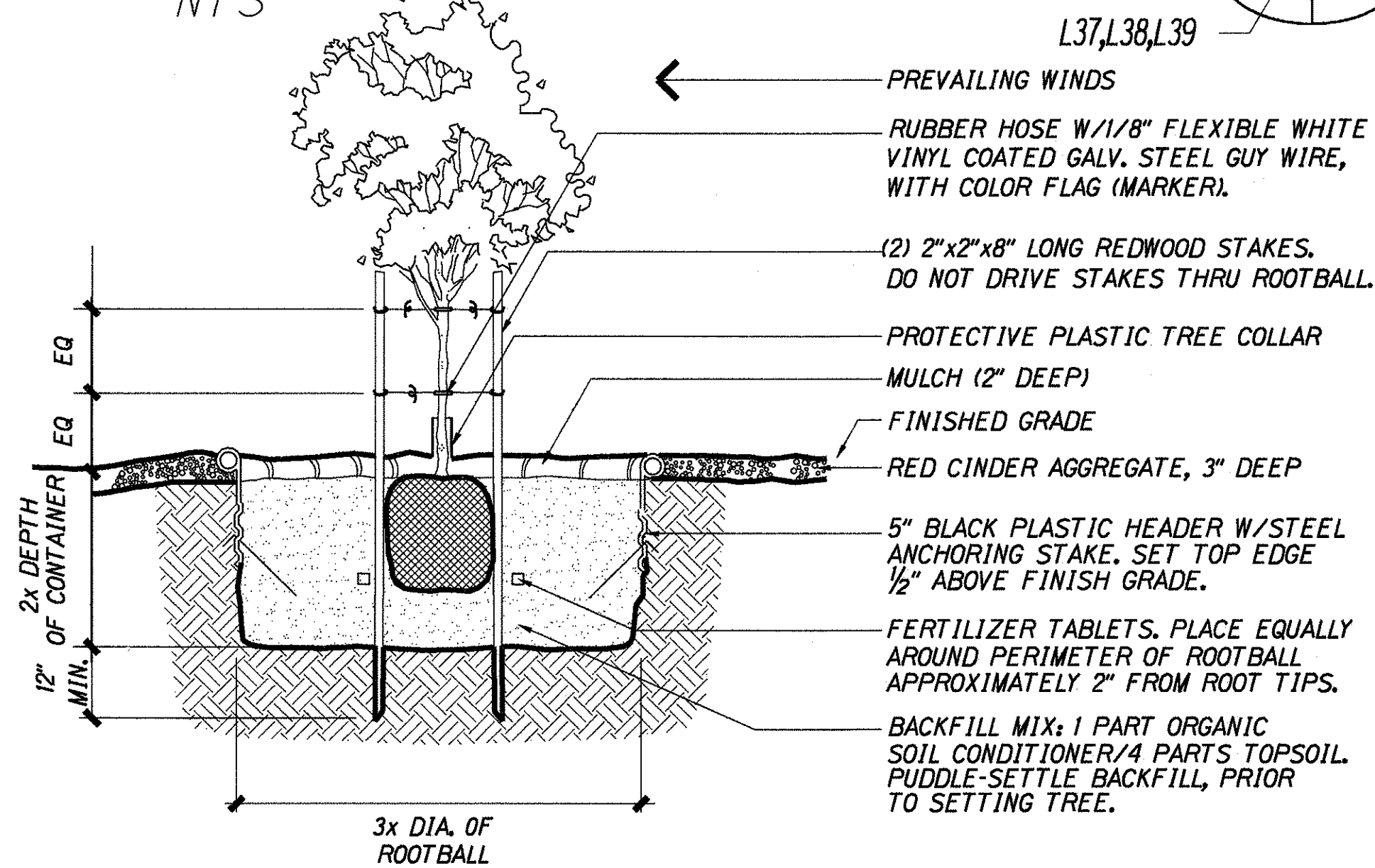
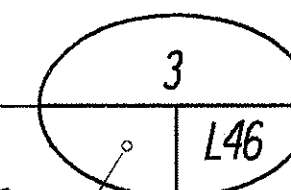
SHRUB PLANTING DETAIL

NTS



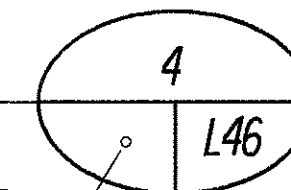
PLASTIC HEADER

NTS

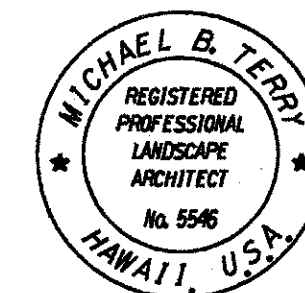


CONTAINER TREE PLANTING IN ISLANDS

NTS



SURVEY PLOTTED BY	DATE
DESIGNED BY	
TRACED BY	
NOTE BOOK	
CHECKED BY	



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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PLANTING DETAILS

INTERSTATE ROUTE H-1
Kunia Interchange Improvements
F. A. I. Project No. 1M-H1-1(219)

Scale: Date: Oct., 1997

SHEET No. L46 OF 52 SHEETS

ORIGINAL PLAN	DESIGNED BY	DATE
	DRAWN BY	
	TRACED BY	
	NOTED BY	
	CHECKED BY	

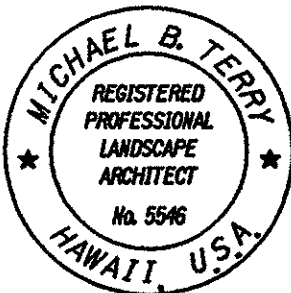
PLANTING NOTES

1. DRAWINGS ARE DIAGRAMMATIC AND NOT TO SCALE, REFER TO WRITTEN DIMENSIONS.
2. ALL WORK SHALL BE PERFORMED BY PERSONS FAMILIAR WITH PLANTING WORK AND UNDER THE SUPERVISION OF A QUALIFIED PLANTING FOREMAN.
3. QUANTITIES ARE SHOWN FOR THE CONVENIENCE OF THE CONTRACTOR ONLY. THE CONTRACTOR SHALL PERFORM ITS OWN QUANTITY ESTIMATES FOR THE PURPOSES OF BIDDING AND CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE PLANTS AND OTHER MATERIALS IN THE QUANTITIES NECESSARY TO COMPLETE THE INSTALLATION AS SHOWN ON THE DWGS.
4. CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UNDERGROUND UTILITIES WITH THE PROJECT AREA PRIOR TO COMMENCING WITH PLANTING OPERATION. ANY DAMAGES CAUSED BY THE CONTRACTOR SHALL BE REPAIRED WITHOUT ANY ADDITIONAL CHARGES TO THE STATE.
5. CONTRACTOR SHALL PROVIDE AN AGRICULTURAL SUITABILITY ANALYSIS FOR ON-SITE AND IMPORTED TOPSOIL. RECOMMENDATIONS FOR AMENDMENTS CONTAINED IN THIS ANALYSIS ARE TO BE CARRIED OUT BEFORE PLANTING OCCURS.
6. SEED FOR PROPAGATION OF NUECES BUFFEL GRASS AND SUN HEMP, AND ROOTED CUTTINGS OF MOTT DWARF ELEPHANT GRASS, MAY BE OBTAINED FROM THE UNITED STATES DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE'S PLANT MATERIALS CENTER IN HOOLEHUA, MOLOKAI, HAWAII. CONTACT MR. BOB JOY AT PH (808) 567-6885 OR FAX (808) 567-6537.

								FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
								HAWAII	HAW.	1M-H1-K(219)	1998	311	378

LANDSCAPE MATERIAL LIST								
Qty		Botanical Name	Common Name	Size	Caliper	Height	Spacing	Remarks
TREES								
144	ea	CASSIA GAUDICHAUDII	Kolomona	5 gal.	1"	4'-6'		
62	ea	CORDIA SUBCORDATA	Kou	5 gal.	1"	4'-6'		
5	ea	CORDIA SUBCORDATA	Kou	25 gal.	2"	8'-10'		
65	ea	CONOCARPUS ERECTUS	Silver Buttonwood	5 gal.	1"	4'-6'		
94	ea	ERYTHRINA CRISTA-GALLI	Red Coral	5 gal.	1"	4'-6'		
46	ea	ERYTHRINA SANDWICENSIS	Wili Wili	5 gal.	1"	4'-6'		
6	ea	ERYTHRINA VARIEGATA	Variegated Wili Wili	25 gal.	3"	8'-10'		
63	ea	PITHECELLOBIUM DULCE	Opiuma	5 gal.	1"	4'-6'		
30	ea	PROSOPSIS PALLIDA	Kiawe	15 gal.	2"	6'-8'		
15	ea	ERYTHRINA SANDWICENSIS	Wili Wili	Field Stock	8"	15'		
20	ea	CALOPHYLLUM INOPHYLLUM	True Kamani	-	6"	15'		
SHRUBS								
14,225	ea	SCAEVOLA FRUTESCENS	Naupaka	1 gal.			2' o.c. or as noted	
GROUNDCOVERS								
17,110	ea	ARACHIS PINTOI	Golden Glory	4" Pots			2' o.c.	
76	ea	FICUS PUMILA	Creeping Fig	1 gal.			10' o.c.	
GRASS								
642,850	sf	GRASS MIX "A"						Hydromulch
		Cenchrus ciliaris 'Birdwood'	Birdwood Buffel	Seed				1.5 lbs/1000 sf
		Lolium multiflorum	Annual Rye Grass	Seed				1 lbs/1000 sf
23,130	sf	GRASS MIX "B"						Hydromulch
		Cenchrus ciliaris 'Nueces'	Nueces Buffel Grass	Seed				1.5 lbs/1000 sf
		Lolium multiflorum	Annual Rye Grass	Seed				1 lbs/1000 sf
		Rhynchelytrum repens	Natal Redtop Grass	Seed				1 lbs/1000 sf
218,670	sf	GRASS MIX "C"						Hydromulch
		Crotalaria juncea	Sun Hemp	Seed				1.5 lbs/1000 sf
		Lolium multiflorum	Annual Rye Grass	Seed				1 lbs/1000 sf
		Rhynchelytrum repens	Natal Redtop Grass	Seed				2 lbs/1000 sf
74,090	sf	GRASS MIX "D"						Hydromulch
		Lolium multiflorum	Annual Rye Grass	Seed				1 lbs/1000 sf
		Pennisetum purpureum 'Mott'	Mott Dwarf Elephant Grass	Rooted Cuttings				
MISCELLANEOUS ITEMS						REMARKS		
870	lf	PLASTIC HEADER						
420	cy	CRUSHED BLUE ROCK AGGREGATE				3" minus		
105	cy	RED CINDER AGGREGATE				3" minus		
35	cy	AGGREGATE				1 1/2" minus		
250	cy	FIELD STONES/LAVA ROCK BOULDERS (FOR SLOPES)				2'-6' diameter		
50	cy	MOSS ROCK SPECIMEN BOULDERS (FOR ISLANDS & MEDIANS)				2'-3' diameter		
49,960	sf	WEED BLOCKING GEOTEXTILE				install under aggregate		

4/30/01	Revised Landscape Material List to Increase quantity of Wili Wili and True Kamani Trees.
8/17/98	Revised Landscape Material List to Increase quantity of Naupaka and to add Creeping Fig
4/3/98	Revised Planting Note No. 6 and Revised Landscape Material List Per Addendum No. 3.
DATE	REVISION

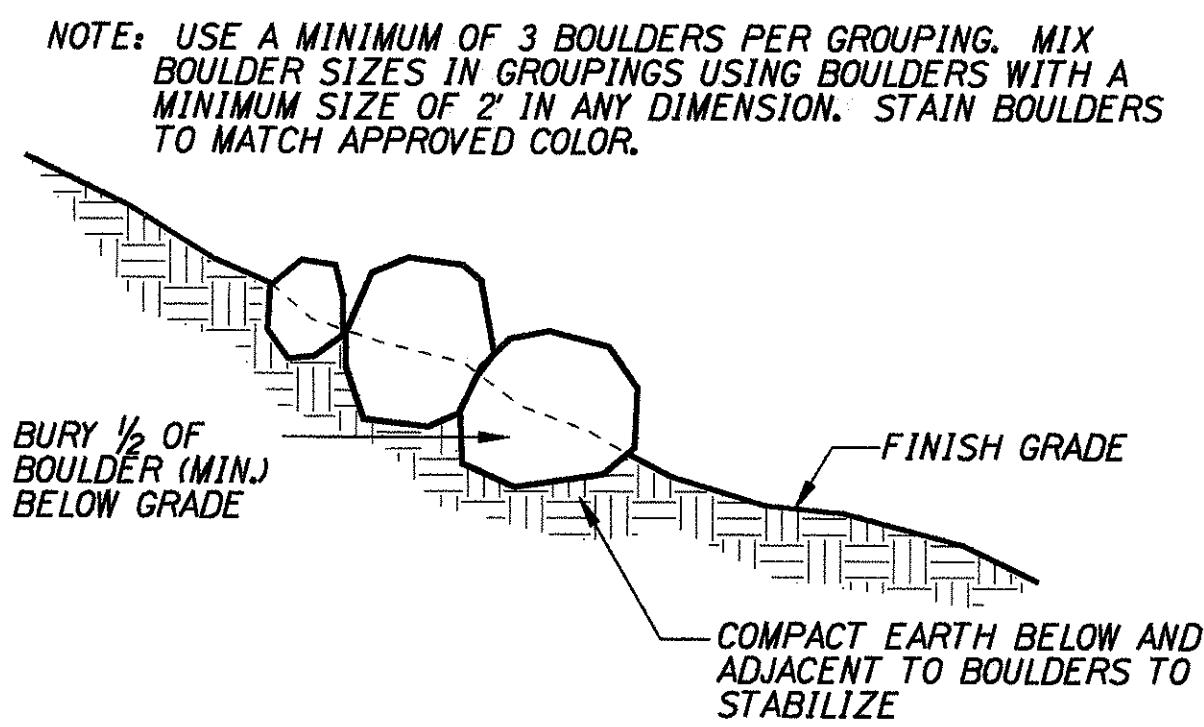


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STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
PLANTING NOTES AND LIST	
INTERSTATE ROUTE H-1 Kunia Interchange Improvements F. A. I. Project No. 1M-H1-K(219)	
Scale:	Date: Oct., 1997
SHEET No. L47 OF 52 SHEETS	

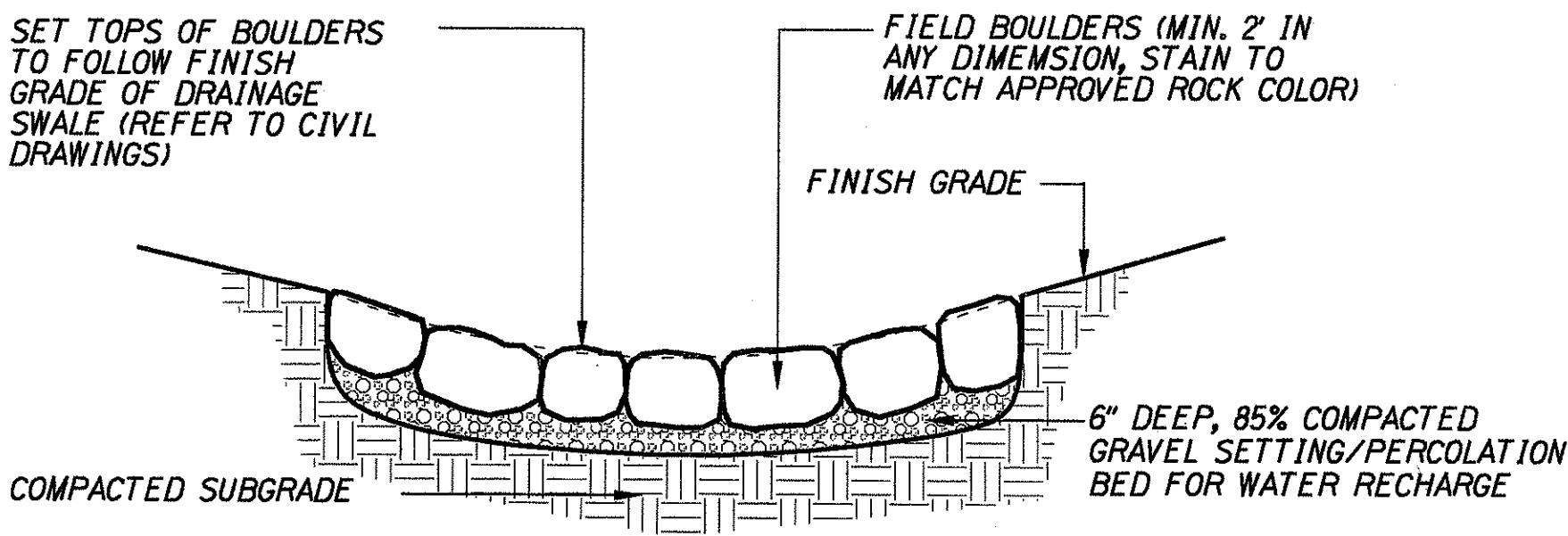
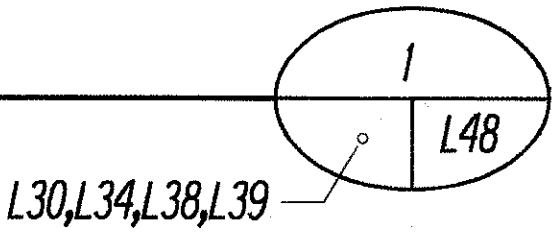
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FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1M-HI-K(219)	1998	312	378



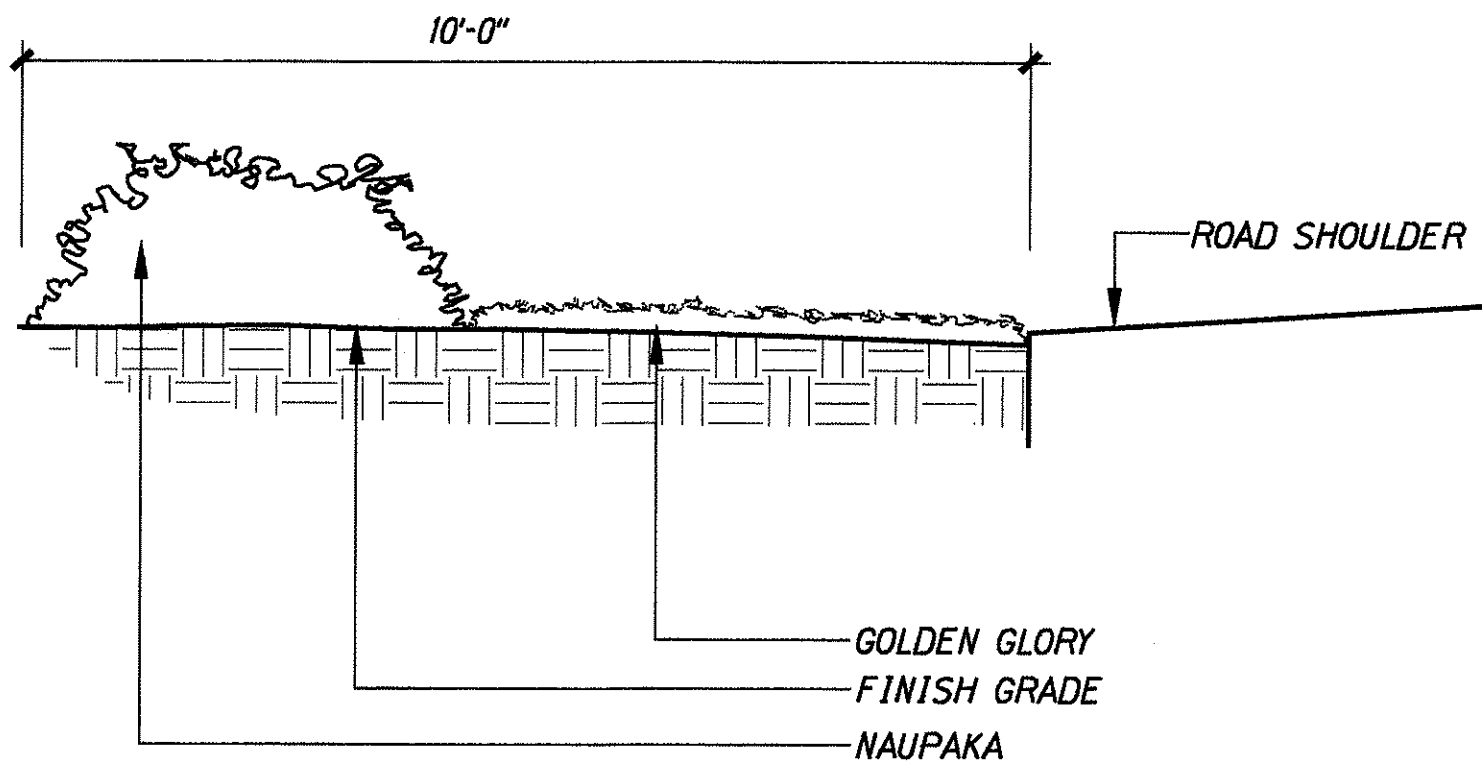
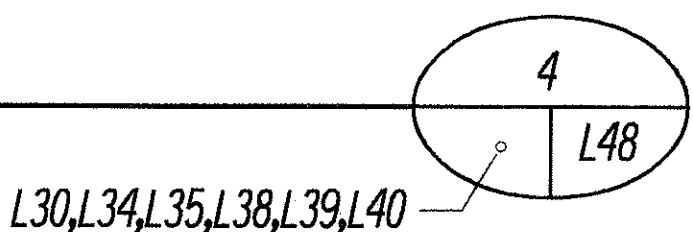
FIELD BOULDERS ON SLOPE

NTS



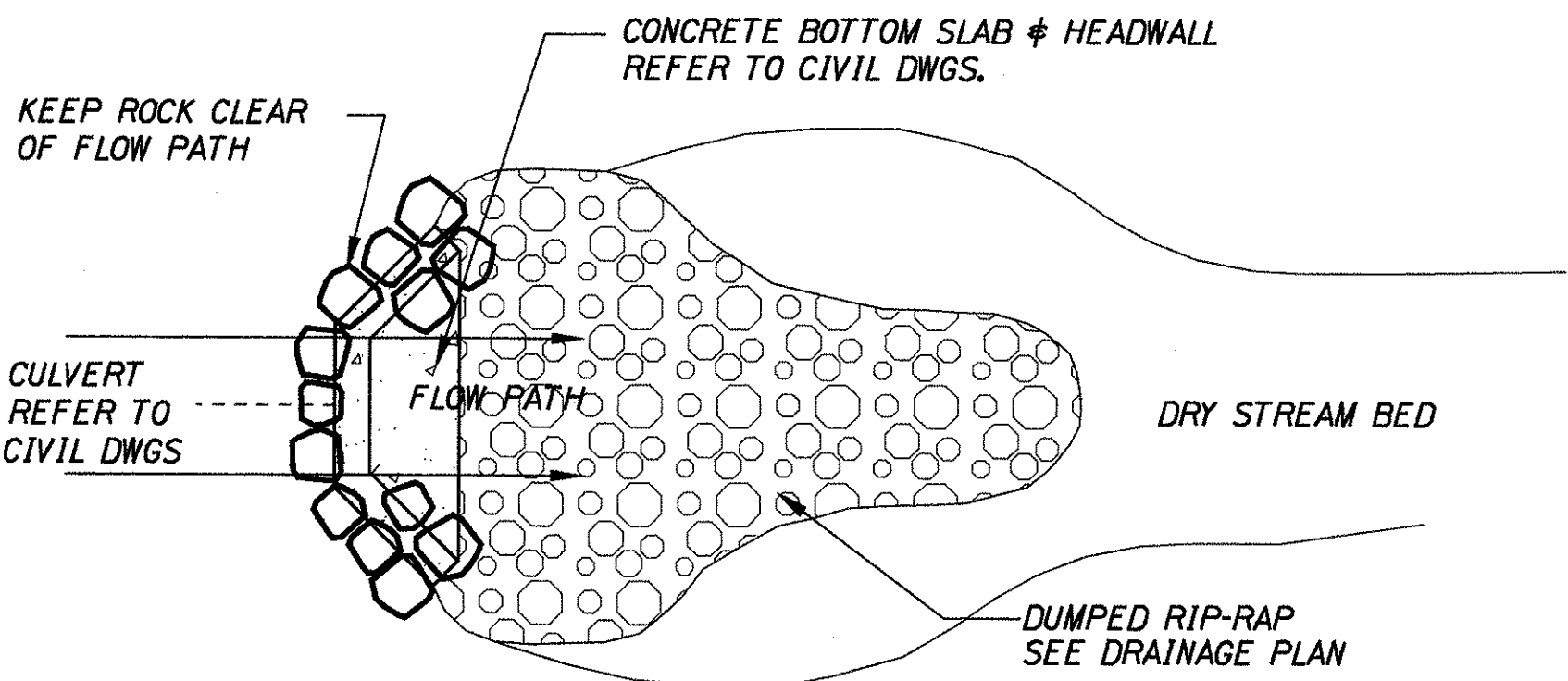
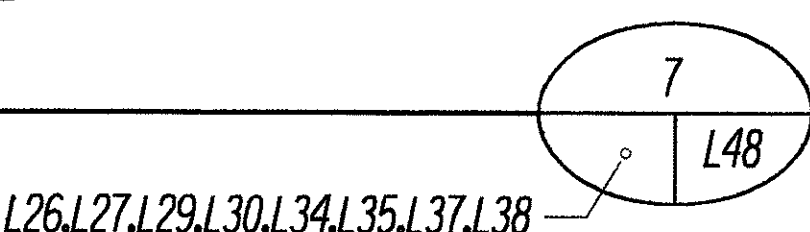
DRY STREAM BED

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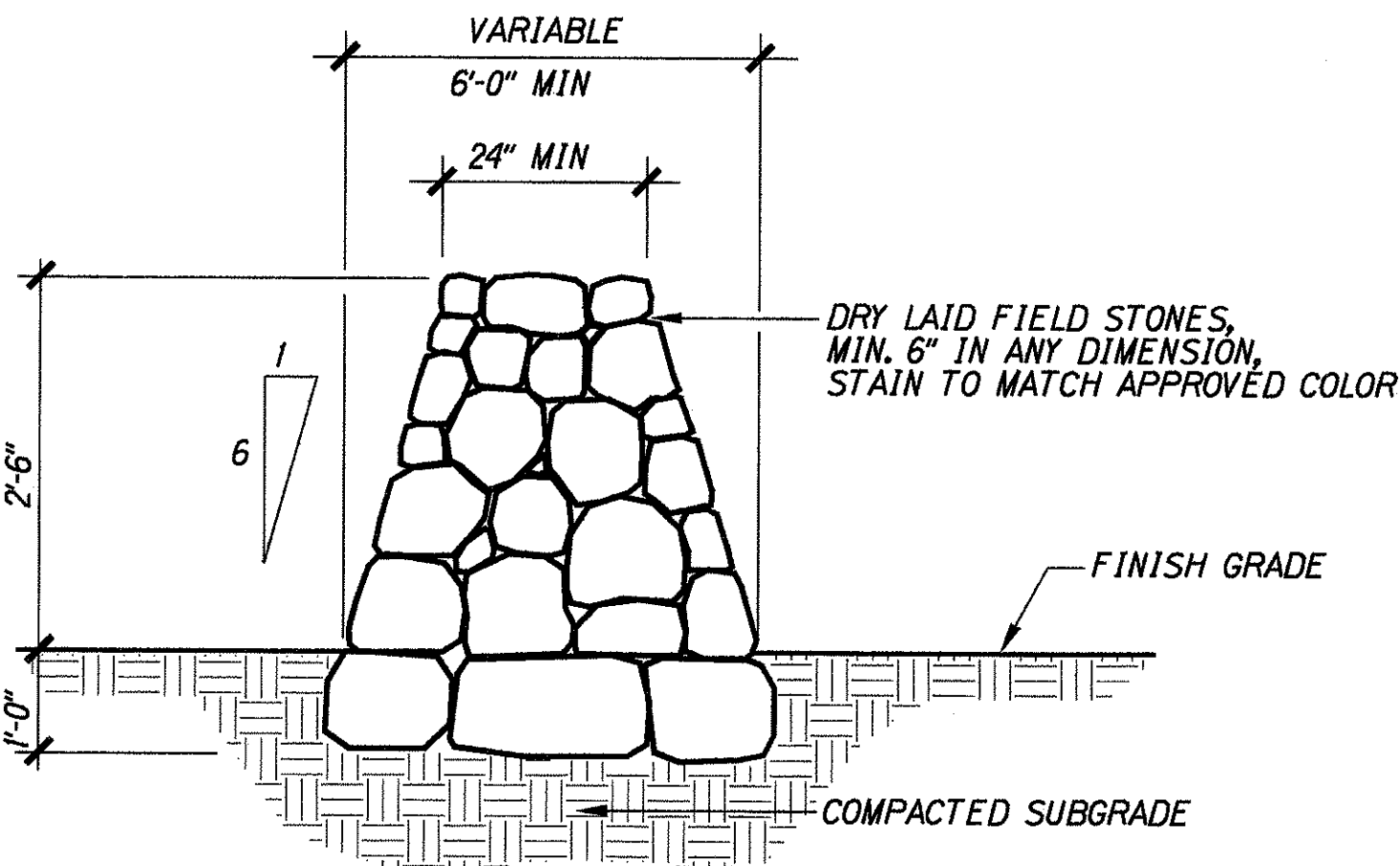
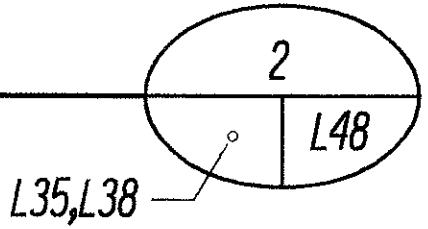
PLANTING SHOULDER STRIP AT RAMPS EW & HE

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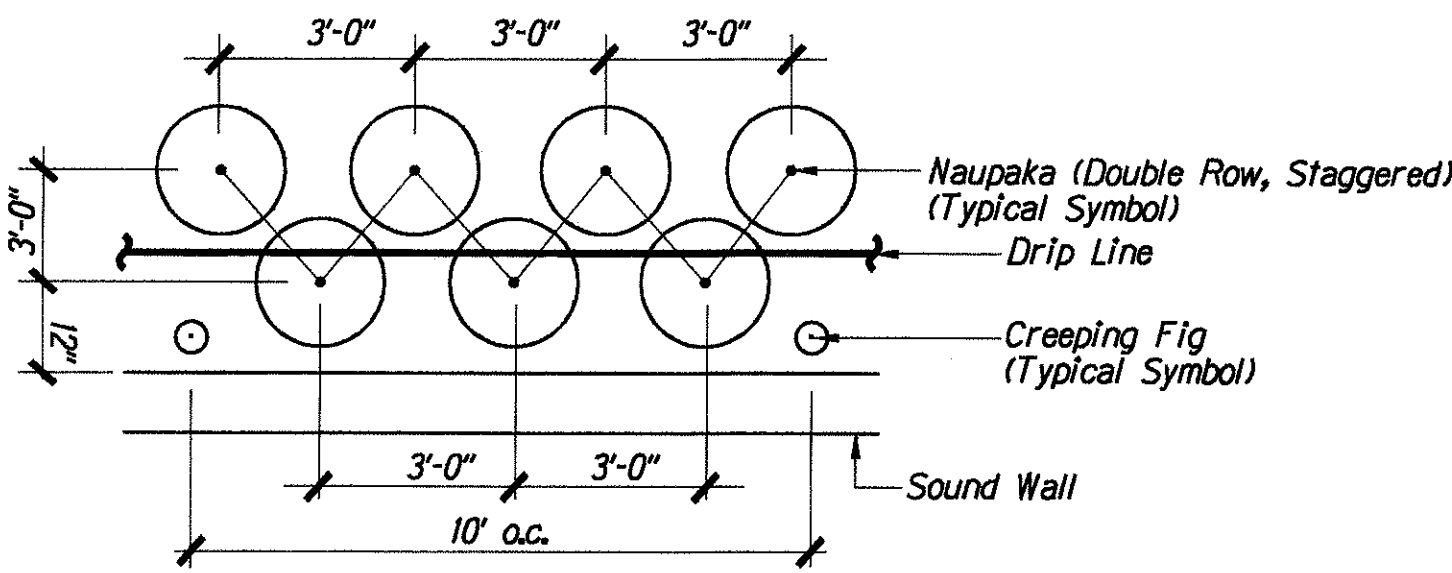
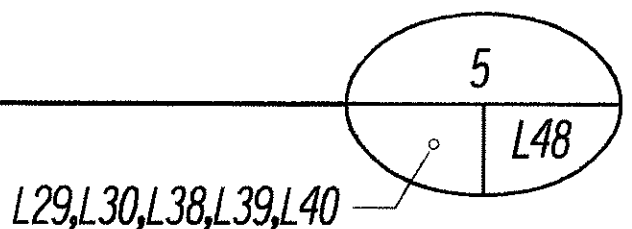
HEADWALL ROCK FACING PLAN

NTS

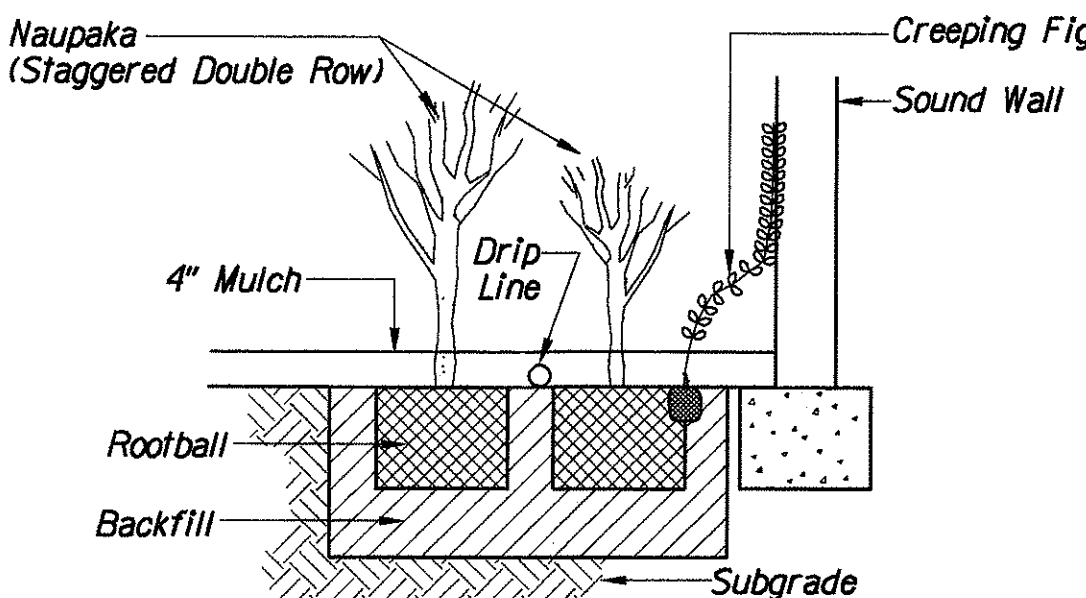


CATTLE WALL

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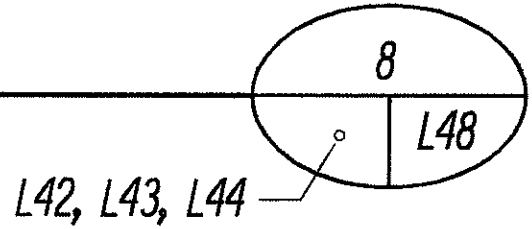
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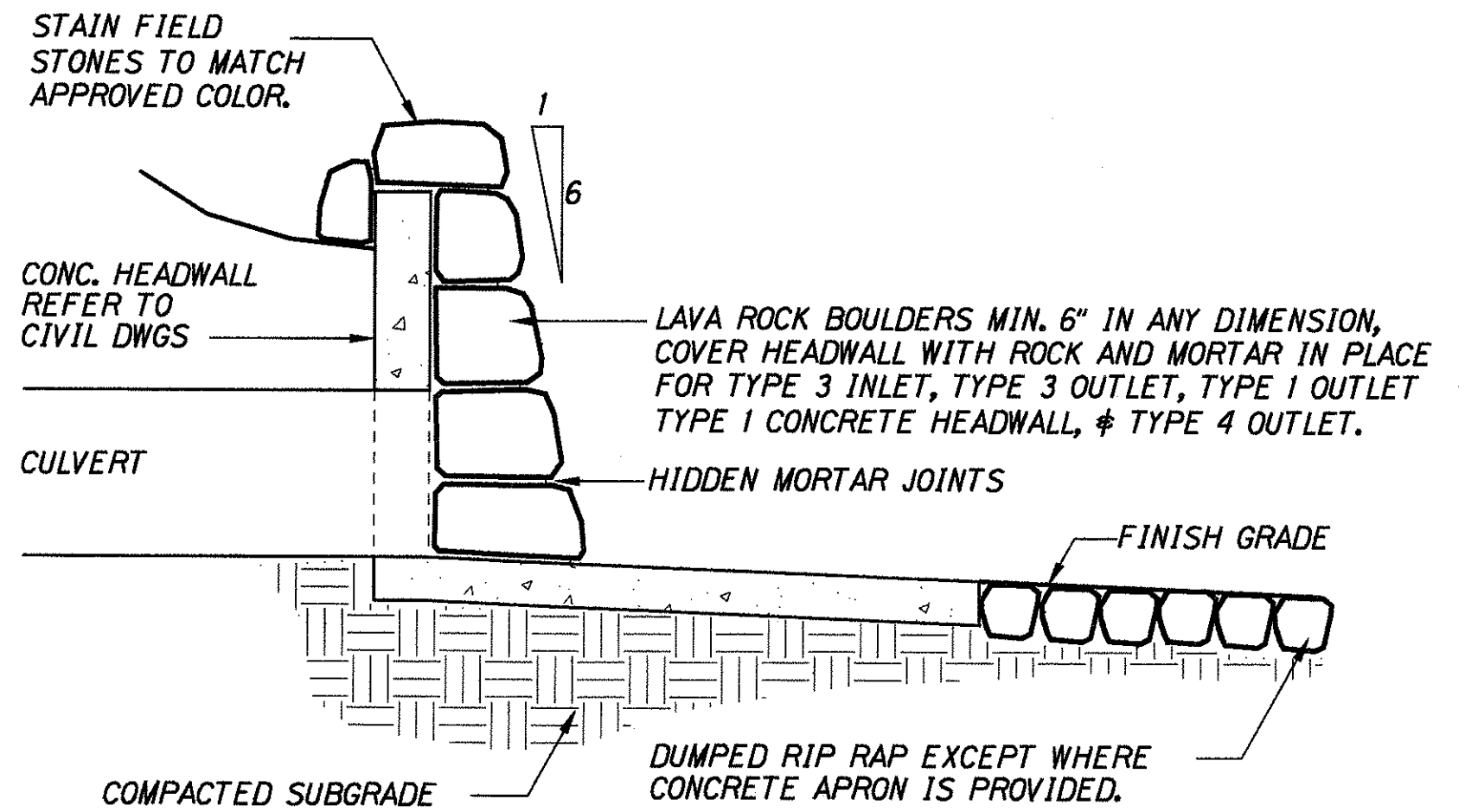
SECTION

PLANTING & IRRIGATION

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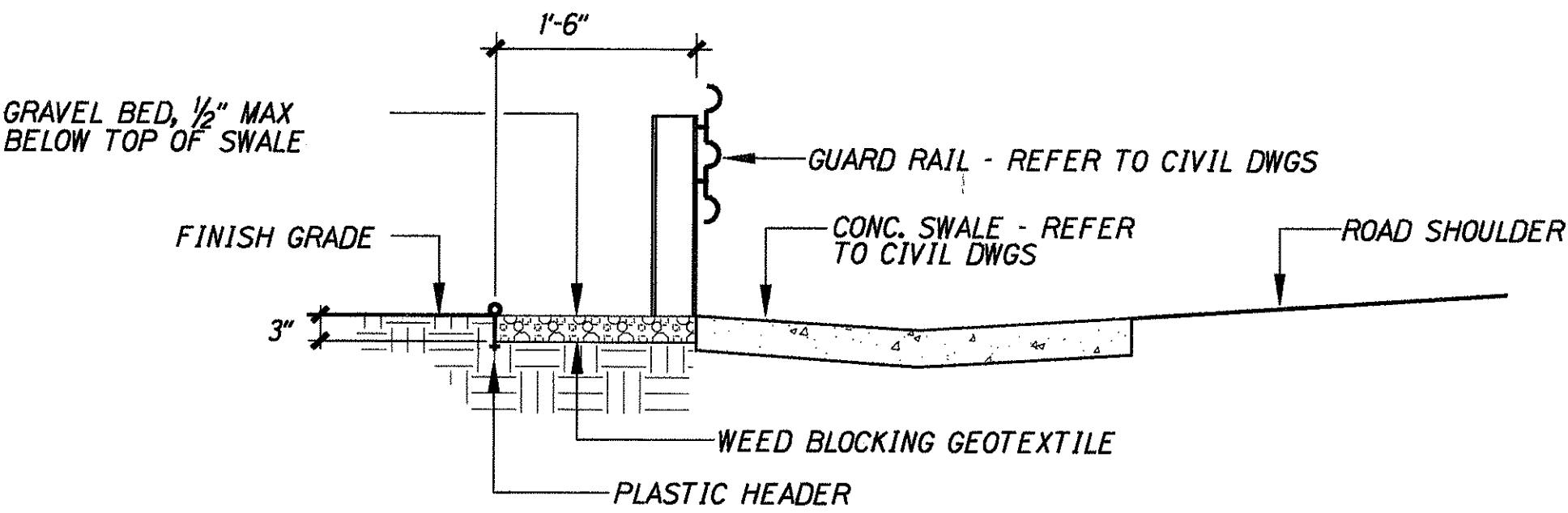
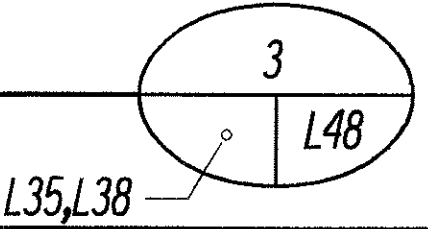


SURVEY PLOTTED BY	DATE
DESIGNED BY	
TRACED BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
NO.	



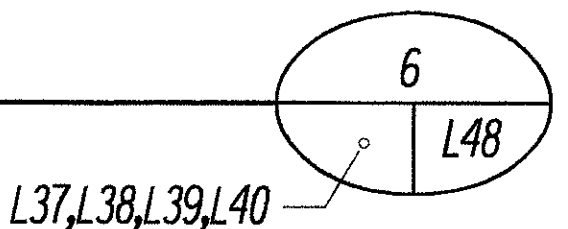
HEADWALL ROCK FACING SECTION

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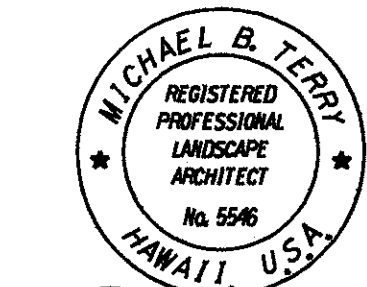


GRAVEL STRIP AT GUARD RAILS

NTS



8/17/98	Revised Sheet to add Detail No. 8
4/3/98	Revised Detail No. 7 Per Addendum No. 3.
DATE	REVISION



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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

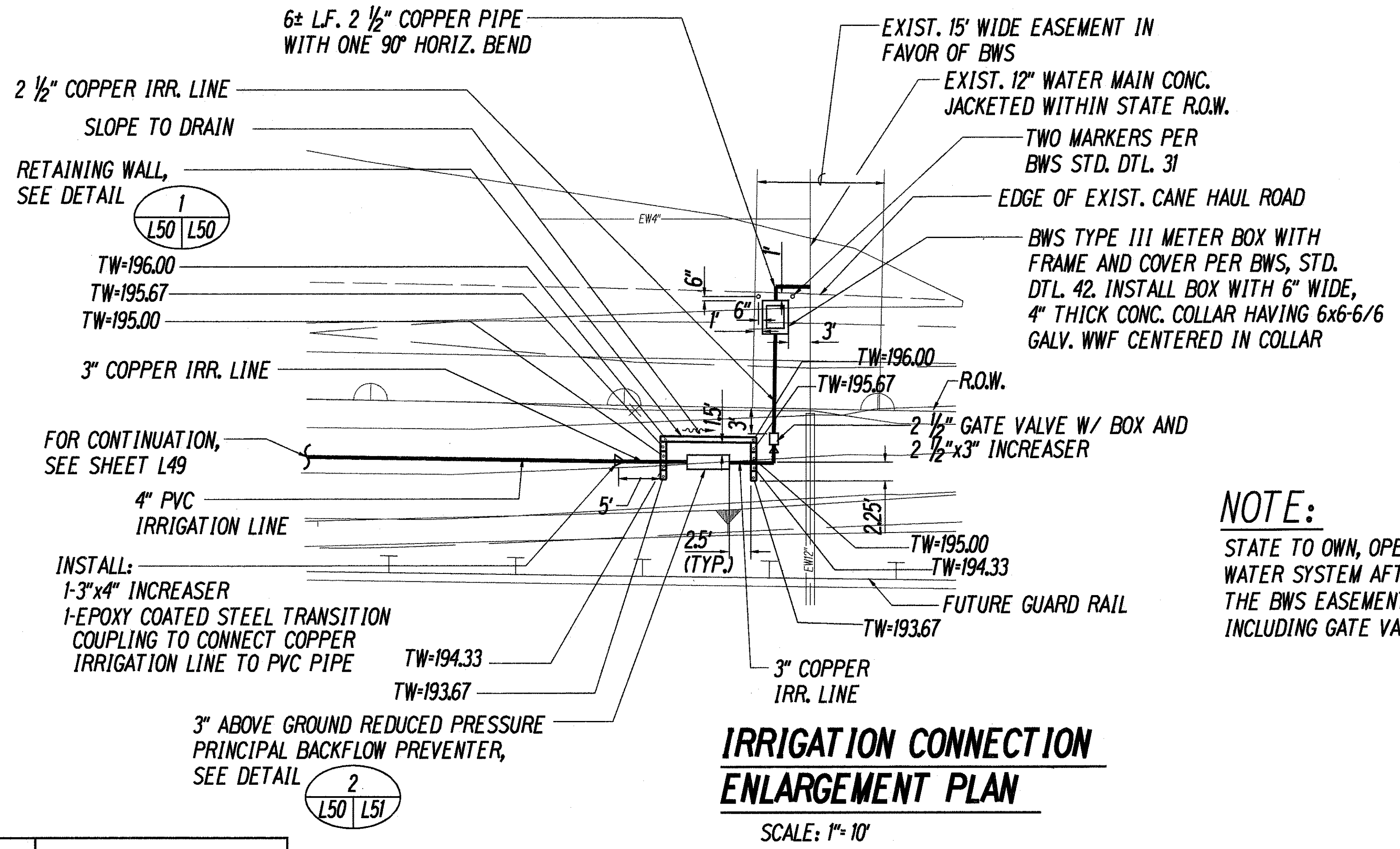
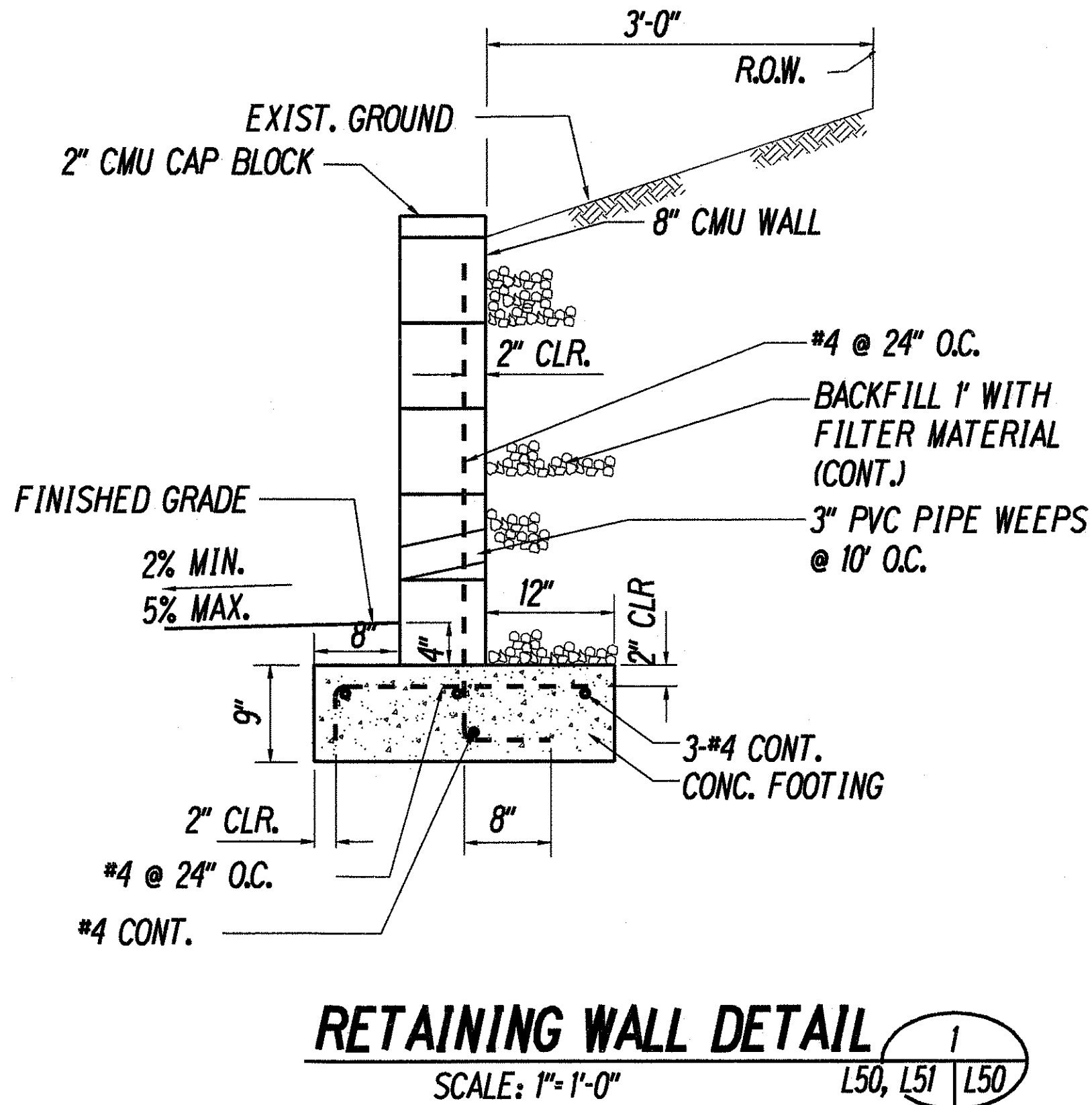
LANDSCAPE SOFTSCAPE DETAILS

INTERSTATE ROUTE H-1
Kunia Interchange Improvements
F. A. I. Project No. 1M-HI-K(219)

Scale: Date: Oct., 1997

SHEET No. L48 OF 52 SHEETS

C.O. 312R



NOTE:
STATE TO OWN, OPERATE AND MAINTAIN WATER SYSTEM AFTER THE METER WITHIN THE BWS EASEMENT AND STATE R.O.W., INCLUDING GATE VALVE AND WATER LINE.

FOR ESTIMATING PURPOSES ONLY

DESCRIPTION OF WORK	ESTIMATE
2 1/2" DOMESTIC SERVICE 2" METER INSTALLATION CHARGE	METER+SPICE 210+45 255
WATER SYSTEM FACILITIES CHARGES (TRANS & STORAGE) (TEMP) (PERMANENT)	N/A 83,854 83,854
*CREDIT S/N ----- S/N -----	
----- FIRE SERVICE ----- METER INSTALLATION CHARGE ONE-TIME CHARGE	----- ----- ----- ----- N/A
TOTAL	84,109

NOTE:
THE APPLICABLE WATER SYSTEM FACILITIES AND/OR ONE-TIME SERVICE CHARGE AND METER COST, AS STATED IN WATER NOTE #18, SHALL BE PAID FOR UNDER ITEM NO. 624.9000 WATER SYSTEMS FACILITIES AND INSTALLATION CHARGE.

* CREDITS WILL BE DETERMINED WHEN THE BUILDING PERMIT APPLICATION IS SUBMITTED FOR BWS REVIEW AND APPROVAL.

THIS ESTIMATE IS SUBJECT TO CHANGE. A FORMAL WRITTEN QUOTATION MAY BE OBTAINED AND ALL PAYMENTS FOR THE CHARGES SHOWN ON THE QUOTATION MADE WITHIN 30 DAYS AFTER THE CONSTRUCTION PLANS ARE APPROVED BY BWS. IF PAYMENTS ARE NOT RECIEVED WITHIN THE 30 DAYS PERIOD, THE PROJECT WILL BE SUBJECT TO THE PREVAILING RATES.

SURVEY PLOTTED BY	DATE
DESIGNED BY	
TRACED BY	
NOTE BOOK	
QUANTITIES BY	
CHECKED BY	

APPROVED BY:
CHIEF, PLANNING AND ENGINEERING, BWS.
CITY AND COUNTY OF HONOLULU

11/13/97
DATE

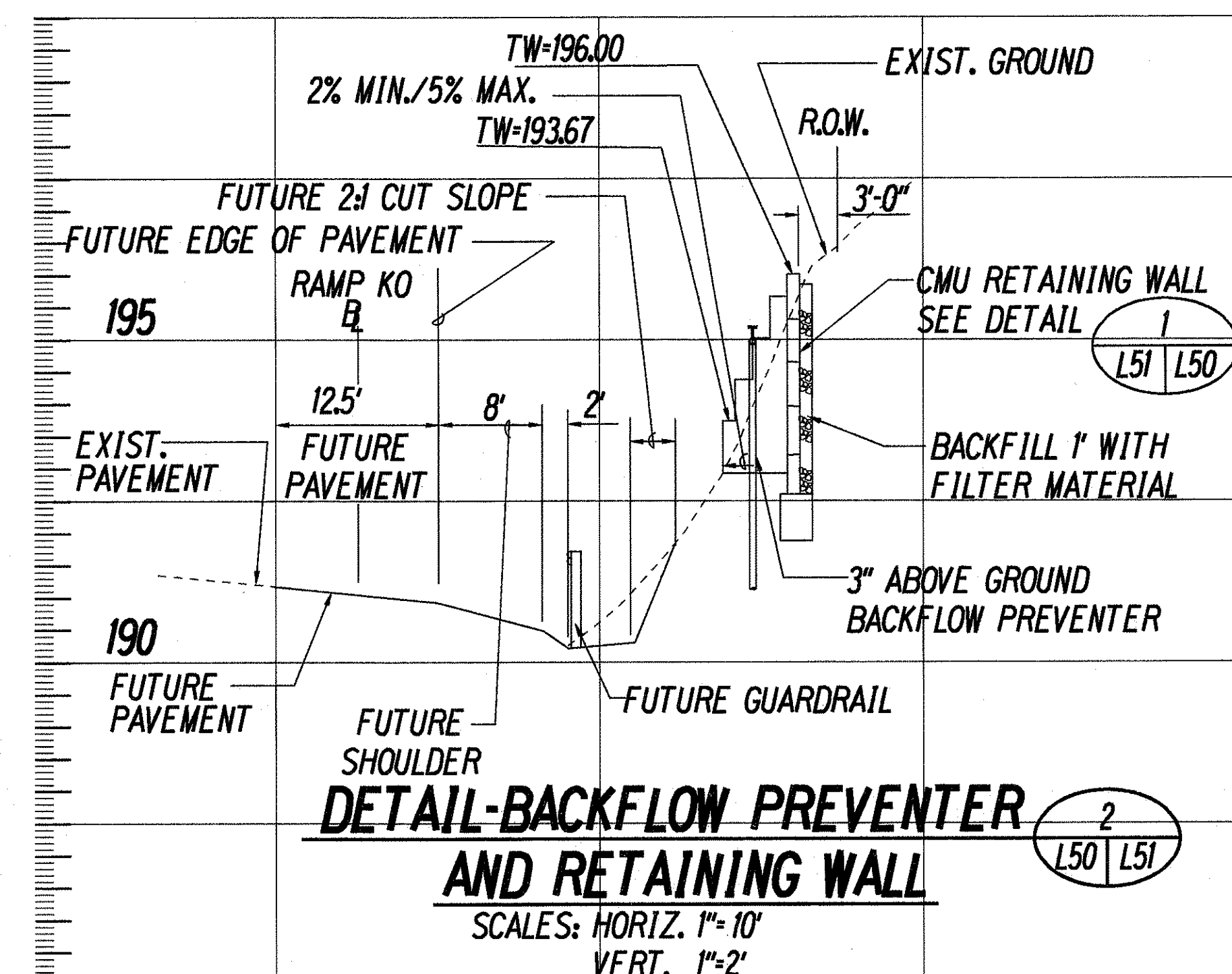
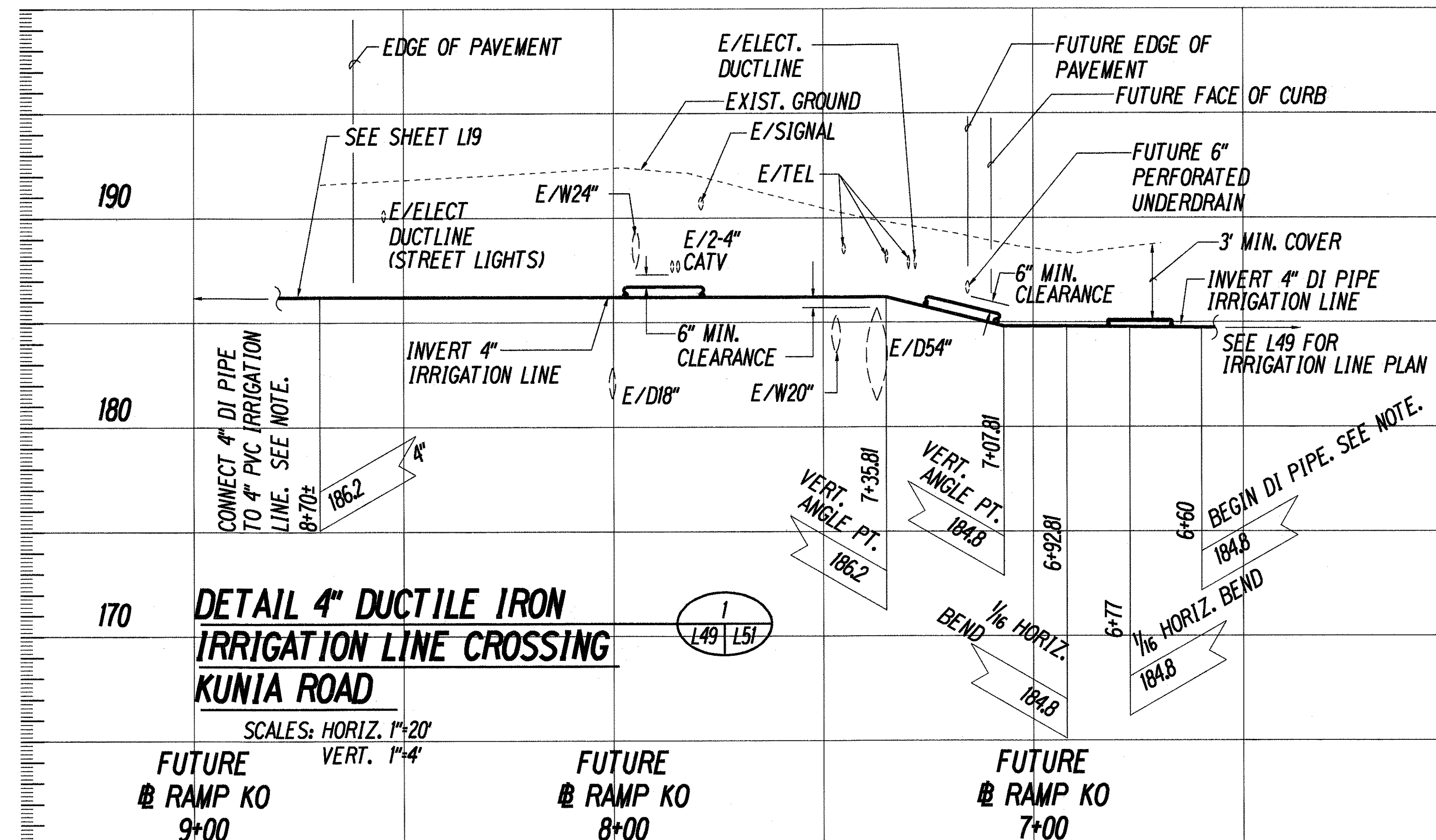
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

IRRIGATION CONNECTION ENLARGEMENT PLAN AND DETAILS

INTERSTATE ROUTE H-1
Kunia Interchange Improvements
F. A. I. Project No. 1M-H1-K(219)

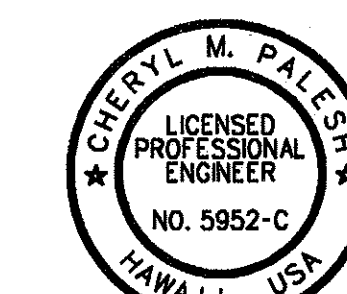
Scale: As Noted Date: Oct., 1997
SHEET No. 150 OF 52 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1M-H1-1(219)	1998	315	378



NOTE:

CONNECT DI PIPE TO PVC PIPE WITH A SMITH-BLAIR OMNI COUPLING NO. 441 OR OTHER BWS APPROVED COUPLING.



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APPROVED BY:
CHIEF, PLANNING AND ENGINEERING, BWS.
CITY AND COUNTY OF HONOLULU

11/13/97
DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**WATER LINE
DETAILS**

**INTERSTATE ROUTE H-1
Kunia Interchange Improvements**
F. A. I. Project No. 1M-H1-1(219)

Scale: As Noted Date: Oct., 1997

SHEET No. L51 OF 52 SHEETS

BOARD OF WATER SUPPLY NOTES

- ORIGINAL
PLAN

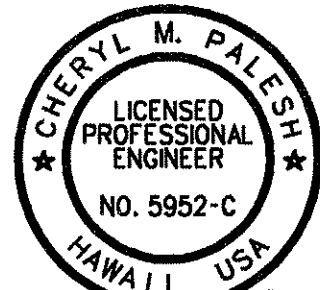
SURVEY PLOTTED BY
DRAWN BY
DESIGNED BY
NOTED BY
CHECKED BY

DATE
- UNLESS OTHERWISE SPECIFIED, ALL MATERIALS AND CONSTRUCTION OF WATER SYSTEM FACILITIES AND APPURTENANCES SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, DATED 1994, AS AMENDED, OF THE HAWAII HIGHWAYS DIVISION, DEPARTMENT OF TRANSPORTATION, AND THE CITY AND COUNTY OF HONOLULU BOARD OF WATER SUPPLY'S "WATER SYSTEM STANDARDS" VOLUME 1, DATED 1985, THE "APPROVED MATERIAL LIST AND STANDARD DETAILS FOR WATER SYSTEM CONSTRUCTION", VOLUME 2, DATED 1985, THE WATER SYSTEM EXTERNAL CORROSION CONTROL STANDARDS", VOLUME 3, DATED 1991, AND ALL SUBSEQUENT AMENDMENTS AND ADDITIONS.
 - ALL PLANS APPROVED BY THE BOARD OF WATER SUPPLY ARE BASED SOLELY ON THE ADEQUACY OF THE WATER SUPPLY. ALL OTHER FEATURES OF THE WATER SYSTEM, SUCH AS LINES, GRADES, FITTINGS, DRAINAGE, ETC., AND OTHER FEATURES OF IMPROVEMENTS SHALL NOT BE THE RESPONSIBILITY OF THE BOARD OF WATER SUPPLY.
 - THE CONTRACTOR SHALL NOTIFY THE BOARD OF WATER SUPPLY PLANNING AND ENGINEERING DIVISION, CONSTRUCTION SECTION ONE WEEK PRIOR TO COMMENCING WORK ON THE WATER SYSTEM.
 - THE EXISTENCE AND LOCATION OF UNDERGROUND UTILITIES AND STRUCTURES AS SHOWN ON THE PLANS ARE FROM THE LATEST AVAILABLE DATA BUT ARE NOT GUARANTEED AS TO THE ACCURACY OF THE ENCOUNTERING OF OTHER OBSTACLES DURING THE COURSE OF THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE AND PAY FOR ALL DAMAGES TO EXISTING UTILITIES. THE CONTRACTOR SHALL NOT ASSUME THAT WHERE NO UTILITIES ARE SHOWN, THAT NONE EXIST.
 - RE-APPROVAL SHALL BE REQUIRED IF THIS PROJECT IS NOT UNDER CONSTRUCTION WITHIN A PERIOD OF TWO YEARS.
 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL WATER LINES DURING CONSTRUCTION. THE CONTRACTOR SHALL BE ESPECIALLY CAREFUL WHEN EXCAVATING BEHIND WATER LINES, TEES, AND BENDS WHEREVER THERE IS A POSSIBILITY OF WATER LINE MOVEMENT DUE TO THE REMOVAL OF THE SUPPORTING EARTH BEYOND THE EXISTING REACTION BLOCKS. THE CONTRACTOR SHALL TAKE WHATEVER MEASURE NECESSARY TO PROTECT THE WATER LINES, SUCH AS CONSTRUCTING SPECIAL REACTION BLOCKS (WITH BWS APPROVAL) AND/OR MODIFYING HIS CONSTRUCTION METHOD.
 - THE CONTRACTOR SHALL HAVE EXISTING WATER MAINS TONED BEFORE CONSTRUCTION OF WORK IN VICINITY OF WATER MAINS, CALL THE INVESTIGATION SECTION AT 527-5297 FOR TONING SERVICES. GUARDRAIL POST LOCATIONS ARE TO BE KEPT TO A MINIMUM CLEAR DISTANCE OF 18 INCHES TO ANY 2-1/2 INCH WATER LINES AND METER BOXES. NO POST DRIVING WILL BE ALLOWED WHEN POST IS TO BE INSTALLED CLOSER THAN 3 FEET FROM WATER MAIN. EXCAVATED AREAS SHALL BE RESTORED TO THEIR ORIGINAL CONDITIONS.
 - PRIOR TO ANY EXCAVATING, THE CONTRACTOR SHALL VERIFY IN THE FIELD THE LOCATION OF EXISTING WATER MAINS AND APPURTENANCES.
 - THE PROJECT SHALL BE SUBJECT TO THE BOARD OF WATER SUPPLY'S CROSS-CONNECTION CONTROL REQUIREMENTS PRIOR TO ISSUANCE OF THE BUILDING PERMIT.

BOARD OF WATER SUPPLY NOTES (CONT.)

- MAINTAIN 3'-0" MINIMUM COVER FOR ALL EXISTING WATERLINES (18" MINIMUM FOR SERVICE LATERALS) FROM NEW FINISH GRADE. THE CONTRACTOR SHALL PROBE THE WATERLINE AND SERVICE LATERALS AND SUBMIT THE PROBING DATA TO BWS CONSTRUCTION SECTION. ANY ADJUSTMENTS TO THE EXISTING WATER SYSTEM TO MEET THE MINIMUM COVER AND THE REQUIREMENTS OF THE BWS STANDARDS, WHETHER SHOWN ON PLANS OR NOT, SHALL BE DONE BY THE CONTRACTOR AT NO COST TO BOARD.
- THE BACKFLOW PREVENTER DEVICE MUST BE INSTALLED BEFORE METER IS ISSUED.
- THE CONTRACTOR SHALL FURNISH AND INSTALL DIELECTRIC COUPLING AT ALL TAPS AND AFTER METERS FOR ALL COPPER SERVICE LATERAL CONNECTIONS.
- CONTRACTOR SHALL CUT AND PLUG ALL EXISTING UNUSED LATERALS AT THE MAIN WHETHER OR NOT SHOWN ON THE PLANS. METER AND VALVE BOXES TO BE OR ALREADY ABANDONED SHALL BE DEMOLISHED OR REMOVED AND PROPERLY DISPOSED OF. THE DAMAGED AREA SHALL BE REPAIRED TO AN EQUAL OR BETTER CONDITION THAN THE IMMEDIATE AREA. ALL WORK SHALL BE DONE AT THE EXPENSE OF THE CONTRACTOR.
- BOARD OF WATER SUPPLY APPROVAL OF THESE PLANS DOES NOT CONSTITUTE A WATER COMMITMENT. AVAILABILITY OF WATER WILL BE DETERMINED WHEN BUILDING PERMIT IS PRESENTED TO THE DEPARTMENT. WATER COMMITMENT WILL DEPEND UPON THE STATUS OF THE WATER SYSTEM AT THAT TIME. SHOULD WATER SERVICE BE MADE AVAILABLE, THE WATER COMMITMENT WILL BE EFFECTIVE WHEN THE PROJECT RECEIVES AN APPROVED BUILDING PERMIT FROM THE BUILDING DEPARTMENT. ALL WATER COMMITMENTS WILL BE CANCELED IN THE EVENT THE BUILDING PERMIT IS CANCELED.
- THE INSTALLATION, CHLORINATION AND TESTING OF THE WATER MAIN AND FACILITIES AFTER THE METER SHALL NOT BE THE RESPONSIBILITY OF THE BOARD OF WATER SUPPLY.
- A WATER ALLOCATION WILL BE REQUIRED WHEN THE PERMANENT WATER SERVICE IS APPLIED FOR. A TEMPORARY WATER SERVICE AGREEMENT THAT INCLUDES A CLAUSE RESERVING THE RIGHT OF THE BOARD OF WATER SUPPLY (BWS) TO TERMINATE THE TEMPORARY WATER SERVICE SHOULD THE BWS HAVE PROBLEMS MAINTAINING THE SYSTEM SHALL BE SIGNED BY THE STATE BEFORE METER IS ISSUED.
- A MAINTENANCE AGREEMENT BETWEEN THE BWS AND THE STATE FOR THE MAINTENANCE OF THE PRIVATE IRRIGATION LINE WITHIN THE BWS EASEMENT SHALL BE SIGNED BEFORE THE METER IS ISSUED.
- THE PROJECT SHALL PAY THE APPLICABLE WATER SYSTEM FACILITIES AND/OR ONE-TIME SERVICE CHARGE AND FOR THE METER WHICH WILL BE FURNISHED BY BWS AND INSTALLED BY THE CONTRACTOR WHEN THE LATERAL IS INSTALLED.

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1M-HI-1(219)	1998	316	378



Cheryl M. Palesh
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AND CONSTRUCTION OF THIS
PROJECT WILL BE UNDER MY
OBSERVATION

APPROVED BY:
[Signature]
CHIEF, PLANNING AND ENGINEERING, BWS,
CITY AND COUNTY OF HONOLULU

11/12/97
DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

BOARD OF WATER SUPPLY
NOTES

INTERSTATE ROUTE H-1
Kunia Interchange Improvements
F. A. I. Project No. 1M-HI-1(219)

Scale: Date: Oct., 1997

SHEET No. 152 OF 52 SHEETS