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STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION

HIGHWAYS DIVISION

HONOLULU, HAWAII

PLANS FOR

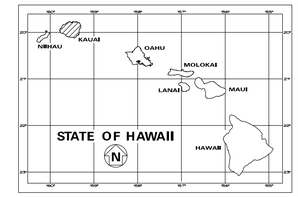
KAUMUALII HIGHWAY SAFETY IMPROVEMENTS
KIPU ROAD TO OMAO ROAD

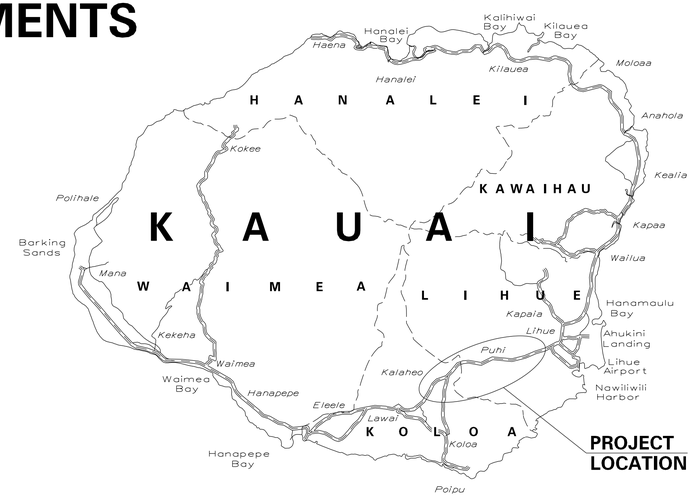
FEDERAL–AID PROJECT NO. HSIP–050–1(044)

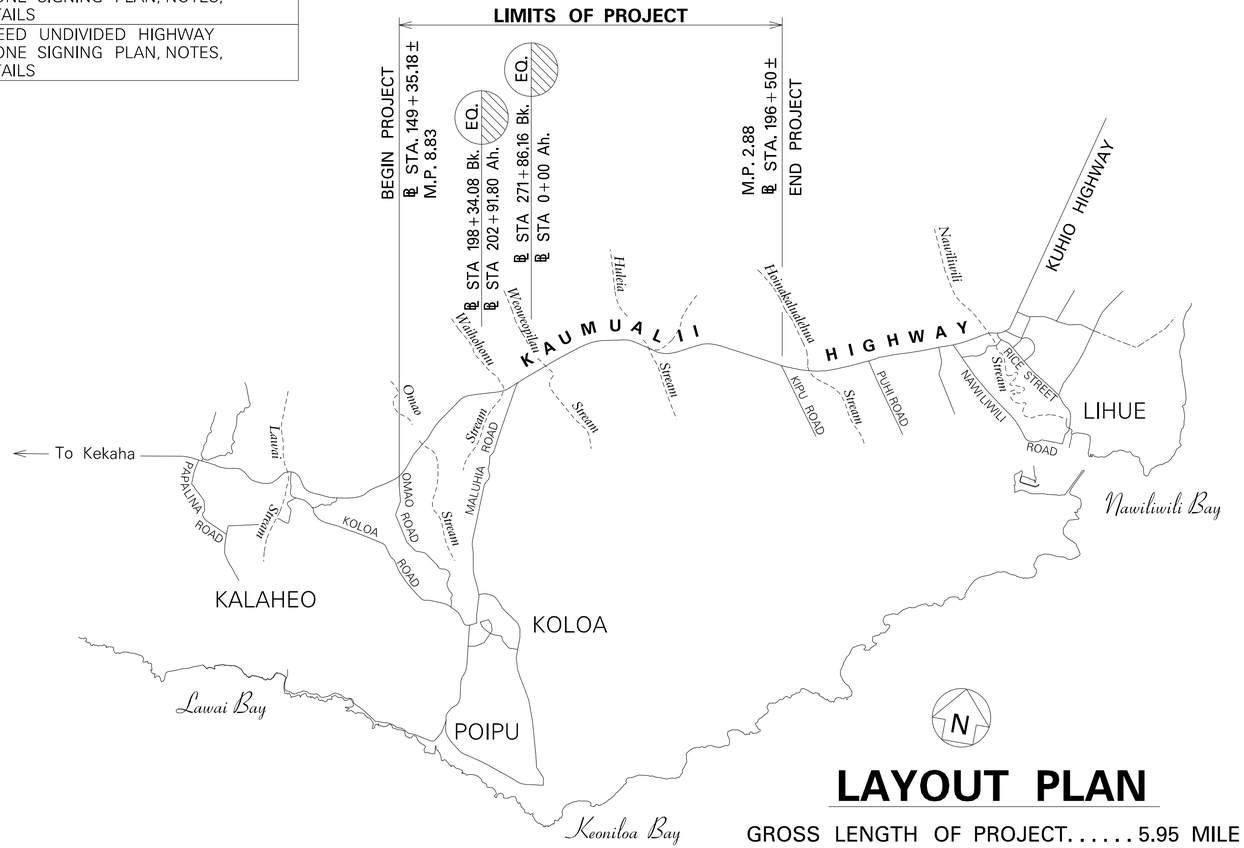
DISTRICTS OF LIHUE AND KOLOA
ISLAND OF KAUAI

FED. ROAD DIST. NO.	STATE	FED–AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP–050–1(044)	2024	1	40

50







LAYOUT PLAN

GROSS LENGTH OF PROJECT. . . . . 5.95 MILE
NET LENGTH OF PROJECT. . . . . 5.95 MILE

FEDERAL AID PROJECTS PREVIOUSLY CONSTRUCTED OR UNDER CONSTRUCTION

MILE POST 2.88 TO MILE POST 8.83

	KAUMUALII HIGHWAY Puhi road to Maluhi Road Rte 50 (MP 1.75 to 6.69)	KAUMUALII HIGHWAY Maluhi Road to Koloa Road Rte 50 (MP 6.69 to 10.40)
ADT 2023	32,000	18,000
ADT 2033	35,700	19,600
ADT 2043	39,400	21,100
2033 DHV	2,860	1,570
2043 DHV	3,150	1,690
DESIGN K	8.0	8.0
DESIGN D	55/45	60/40
DESIGN T	3.5	3.0
T24	4.0%	4.5%

APPROVED:

Jamie Sine — May 21, 2024
Manager, Hawaiian Telcom — Date

DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII

APPROVED:

for — May 22, 2024
DIR. OF TRANSPORTATION — DATE

HWY–KE MANAGED BY — 241–3000 PHONE — MAY 2024 DATE
HWY–K DESIGNED BY

STANDARD PLANS SUMMARY

FED. ROAD DIST. NO.	STATE	FED-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-050-1(044)	2024	2	40

STANDARD PLAN NO.	TITLE	DATE
B-01	NOTES & MISCELLANEOUS DETAILS	05/31/07
B-03	BACKFILL DETAILS AT EARTH RETAINING STRUCTURES	05/31/07
B-12	PRESTRESSED CONCRETE PILES & COMPRESSION SPLICE	05/31/07
	CAN DETAILS	
B-12A	PRESTRESSED CONCRETE PILES, PILE & COMPRESSION	05/31/07
	SPLICE CAN DETAILS & NOTES	
B-12B	PILE INTERACTION DIAGRAM	05/31/07
B-13	PRESTRESSED CONCRETE PILE BUILD-UP DETAILS	05/31/07

D-01	CATTLE GATE	05/31/07
D-02	CHAIN LINK FENCE WITH TOPRAIL	05/31/07
D-03	CHAIN LINK FENCE WITHOUT TOPRAIL	05/31/07
D-04	WIRE FENCE WITH METAL POSTS	05/31/07
D-05	TYPICAL DETAILS OF CURBS AND/OR GUTTERS	05/31/07
D-06	TYPICAL DETAIL OF REINFORCED CONCRETE DROP DRIVEWAY	05/31/07
D-07	CENTERLINE AND REFERENCE SURVEY MONUMENTS	05/31/07
D-08	STREET SURVEY MONUMENT	05/31/07
D-15	CONCRETE SIDEWALK	05/31/07
D-16	P.C.C. BUS PAD	05/31/07
D-17	P.C.C. BUS PAD	05/31/07
D-18	P.C.C. PAVEMENT LAYOUT	05/31/07
D-19	P.C.C. PAVEMENT W/ PERMEABLE BASE JOINT DETAILS	05/31/07
D-20	P.C.C. PAVEMENT W/ PERMEABLE BASE JOINT DETAILS	05/31/07
D-21	P.C.C. LONGITUDINAL JOINT DETAILS	05/31/07
D-22	P.C.C. CONNECTION TO CURBS AND GUTTERS	05/31/07
D-23	JOINTS	05/31/07

L-01	TREE PLANTING	08/16/06
L-02	TREE PLANTING	08/16/06
L-03	TREE TRANSPLANTING	08/16/06
L-04	PALM PLANTING	08/16/06
L-05	SHRUB PLANTING	08/16/06
L-06	LANDSCAPE DETAILS	08/16/06
L-07	LANDSCAPE DETAILS	08/16/06
L-08	LANDSCAPE DETAILS	08/16/06
L-09	LANDSCAPE DETAILS	08/16/06
L-10	LANDSCAPE DETAILS	08/16/06
L-11	PLANTING NOTES	08/16/06
L-12	IRRIGATION DETAILS	08/16/06
L-13	IRRIGATION DETAILS	08/16/06
L-14	IRRIGATION DETAILS	08/16/06
L-15	IRRIGATION DETAILS	08/16/06
L-16	IRRIGATION DETAILS	08/16/06
L-17	IRRIGATION DETAILS	08/16/06
L-18	IRRIGATION DETAILS	08/16/06
L-19	IRRIGATION DETAILS	08/16/06
L-20	IRRIGATION DETAILS	08/16/06
L-21	IRRIGATION DETAILS	08/16/06
L-22	IRRIGATION DETAILS	08/16/06
L-23	IRRIGATION DETAILS	08/16/06
L-24	IRRIGATION NOTES	08/16/06

STANDARD PLAN NO.	TITLE	DATE
H-01A	TYPE A CATCH BASIN	05/31/07
H-01B	TYPE B CATCH BASIN	05/31/07
H-01C	TYPE C CATCH BASIN	05/31/07
H-01D	TYPE D CATCH BASIN	05/31/07
H-01E	CATCH BASIN SECTIONS	05/31/07
H-02A	TYPE A1 CATCH BASIN	05/31/07
H-02B	TYPE B2 CATCH BASIN	05/31/07
H-02C	TYPE C1 CATCH BASIN	05/31/07
H-02D	TYPE D1 CATCH BASIN	05/31/07
H-02E	CATCH BASIN SECTION	05/31/07
H-03	TYPE A,B, AND C STORM DRAIN MANHOLE	05/31/07
H-04	TYPE D STORM DRAIN MANHOLE	05/31/07
H-05	TYPICAL REINFORCING DETAILS FOR DRAINAGE STRUCTURES	05/31/07
H-06	TYPICAL REINFORCING DETAILS FOR DRAINAGE STRUCTURES	05/31/07
H-07	CATCH BASIN AND MANHOLE CASTINGS	05/31/07
H-08	TYPE 1A-9 AND 1A-9P GRATED DROP INLET	05/31/07
H-09	TYPE 2A-9 AND 2A-9P GRATED DROP INLET	05/31/07
H-10	TYPE A-9 OR A-9P STEEL FRAMES	05/31/07
H-11	TYPE A-9 AND A-9P STEEL GRATES	05/31/07
H-12	TYPE 61614P AND 1211214P GRATED DROP INLET	05/31/07
H-13	TYPE 61616P AND 1211216P GRATED DROP INLET	05/31/07
H-14	TYPE 61214P GRATED DROP INLET	05/31/07
H-15	TYPE 1211214, 1211214P, 1211216, 1211216P STEEL	05/31/07
	FRAME AND GRATES	
H-16	TYPE 61614, 61614P, 61616, 61616P STEEL FRAME	05/31/07
	AND GRATES	
H-17	TYPE 61214 STEEL FRAMES AND GRATES	05/31/07
H-18	TYPE 61214P STEEL GRATES	05/31/07
H-19	TYPE 61614B STEEL FRAME AND GRATES	05/31/07
H-20	CEMENT RUBBLE MASONRY STRUCTURES	05/31/07
H-21	CONCRETE AND CEMENT RUBBLE MASONRY STRUCTURES	05/31/07
H-22	INLET/OUTLET STRUCTURE	05/31/07
H-23	INLET/OUTLET STRUCTURE	05/31/07
H-24	FLARED END SECTION FOR CULVERTS	05/31/07
H-25	FLARED END SECTION FOR CULVERTS	05/31/07
H-26	CONCRETE SPILLWAY INLET	05/31/07
H-27	CAP COUPLING DETAILS STANDARD JOINT	05/31/07
H-28	REINFORCED CONCRETE COLLAR & JACKET	05/31/07
H-29	UNDERDRAIN CLEANOUT STEEL FRAME AND COVER	05/31/07
H-30	UNDERDRAIN CONNECTION TO DRAINAGE STRUCTURE	05/31/07

TE-01 ●	SIGN HEIGHT AND LOCATION	07/11/08
TE-1A ●	SIGN INSTALLATION	07/11/08
TE-02A ●	GALVANIZED FLANGED CHANNEL SIGN POST MOUNTING	05/31/07
TE-02B ●	GALVANIZED FLANGED CHANNEL SIGN POST MOUNTING	05/31/07
TE-02C ●	GALVANIZED FLANGED CHANNEL SIGN POST MOUNTING	05/31/07
TE-03A ●	GALVANIZED SQUARE TUBE SIGN POST MOUNTING	05/31/07
TE-03B ●	GALVANIZED SQUARE TUBE SIGN POST MOUNTING	05/31/07
TE-04 ●	REGULATORY SIGNS	07/11/08
TE-05 ●	WARNING SIGNS	07/11/08
TE-06 ●	MISCELLANEOUS SIGNS	07/11/08
TE-07 ●	CONSTRUCTION SIGNS	07/11/08
TE-08 ●	MISCELLANEOUS INTERSECTION SIGNS	07/11/08

STANDARD PLAN NO.	TITLE	DATE
TE-09 ●	BIKE ROUTE SIGN & SUPPLEMENTARY PLATES	07/11/08
TE-10	INTERSTATE ROUTE MARKER	07/11/08
TE-11	STATE ROUTE MARKER AND AUXILIARY MARKERS	07/11/08
TE-12	STATE ROUTE MARKER AND BORDER DETAIL FOR	07/11/08
	GUIDE SIGNS	
TE-12A ●	ROUTE SIGN ASSEMBLIES	07/11/08
TE-13 ●	STREET NAME SIGN ON MAST ARM	07/11/08
TE-14 ●	MISCELLANEOUS REFLECTOR MARKERS	07/11/08
TE-15 ●	OBJECT MARKERS	07/11/08
TE-16 ●	MILE POSTS	07/11/08
TE-17A	CANTILEVER OVERHEAD SIGN ELEVATION & DETAILS	05/31/07
TE-17B	CANTILEVER SIGN FRAME DETAIL AND SECTION	05/31/07
TE-17C	CANTILEVER SIGN FRAME DETAIL	05/31/07
TE-17D	CANTILEVER SIGN FRAME SECTION	05/31/07
TE-17E	CANTILEVER SIGN FRAME DETAILS	05/31/07
TE-18A	TWO POST OVERHEAD SIGN FRAME ELEVATIONS	05/31/07
TE-18B	TWO POST SIGN FRAMING PLAN SECTION	05/31/07
TE-18C	TWO POST SIGN FRAMING SECTIONS AND DETAILS	05/31/07
TE-18D	TWO POST SIGN FRAME DETAILS	05/31/07
TE-18E	TWO POST SIGN FRAME DETAILS	05/31/07
TE-19A	OVERHEAD SIGN FRAMING SCHEDULE	05/31/07
TE-19B	SIGN POST DRILLED SHAFT FOUNDATION	05/31/07
TE-19C	SPREAD FOOTING	05/31/07
TE-19D	SIGN FRAME FOUNDATION SCHEDULE	05/31/07
TE-19D.1	SIGN FRAME FOUNDATION SCHEDULE	05/31/07
TE-19D.2	SIGN FRAME FOUNDATION SCHEDULE	05/31/07
TE-19D.3	SIGN FRAME FOUNDATION SCHEDULE	05/31/07
TE-19D.4	SIGN FRAME FOUNDATION SCHEDULE	05/31/07
TE-19D.5	SIGN FRAME FOUNDATION SCHEDULE	05/31/07
TE-19E	ANCHORAGE DETAILS	05/31/07
TE-19F	ANCHORAGE DETAILS	05/31/07
TE-19G	MISCELLANEOUS SIGN FRAME DETAILS	05/31/07
TE-19H	LUMINAIRE WALKWAY SUPPORT	05/31/07
TE-19J	FIXED MESSAGE LUMINAIRE SUPPORT	05/31/07
TE-19K	MISCELLANEOUS SIGN DETAILS	05/31/07
TE-19L	MISCELLANEOUS SIGN DETAILS	05/31/07
TE-19M	MISCELLANEOUS SIGN FRAME DETAILS	
TE-20	SUPPORTS FOR GROUND MOUNTED GUIDE SIGN	05/31/07
TE-20A	SUPPORTS FOR GROUND MOUNTED GUIDE SIGN	05/31/07
TE-20B	SUPPORTS FOR GROUND MOUNTED GUIDE SIGN	05/31/07
TE-20C	SUPPORTS FOR GROUND MOUNTED GUIDE SIGN	05/31/07
TE-21A	SIGN BREAKAWAY MOUNTS	05/31/07
TE-21B	SIGN BREAKAWAY MOUNTS	05/31/07
TE-22	LAMINATED ALUMINUM SIGN PANELS (OVERHEAD)	05/31/07
TE-23	LAMINATED ALUMINUM SIGN PANELS (GROUND MOUNTED)	07/11/08
TE-24	SOLID ALUMINUM EXTRUDED SIGN PANEL AND	05/31/07
	ACCESSORY DETAILS	
TE-25	GUIDE SIGNS LUMINAIRE MOUNTINGS	05/31/07
TE-26 ●	RAISED PAVEMENT MARKERS AND STRIPING	07/11/08
TE-27 ●	RAISED PAVEMENT MARKERS AND STRIPING	07/11/08
TE-28	ENTRANCE AND EXIT PAVEMENT MARKINGS	07/11/08
TE-28A ●	MISCELLANEOUS PAVEMENT MARKINGS	07/11/08
TE-29 ●	PAVEMENT ARROWS AND SYMBOLS	07/11/08
TE-30 ●	PAVEMENT ALPHABETS, NUMBERS & SYMBOLS	07/11/08

STANDARD PLAN NO.	TITLE	DATE
TE-31 ●	PAVEMENT ALPHABETS, NUMBERS & SYMBOLS	07/11/08
TE-32	TYPE I & II TRAFFIC SIGNAL SYSTEM MISC. DETAILS	05/31/07
TE-33	TYPE II TRAFFIC SIGNAL SYSTEM	08/16/06
TE-33A.1	TYPE II TRAFFIC SIGNAL STANDARD	05/31/07
TE-33A.2	TYPE II TRAFFIC SIGNAL STANDARD	05/31/07
TE-34	LOOP DETECTOR DETAILS	07/11/08
TE-35	LOOP DETECTORS & DUCT DETAILS	07/11/08
TE-36	TRAFFIC SIGNAL DETAILS	07/11/08
TE-37	PULLBOX & COVER DETAILS	07/11/08
TE-37A	TYPE "A" TRAFFIC PULLBOX	05/31/07
TE-37B	TYPE "A" TRAFFIC PULLBOX REINFORCING	05/31/07
TE-37C	TYPE "B" TRAFFIC PULLBOX	05/31/07
TE-37D	TYPE "B" TRAFFIC PULLBOX REINFORCING	05/31/07
TE-37E	TYPE "B" TRAFFIC PULLBOX FOUNDATION	05/31/07
TE-37F	TYPE "C" TRAFFIC PULLBOX	05/31/07
TE-37G	TYPE "C" TRAFFIC PULLBOX REINFORCING	05/31/07
TE-37H	TYPE "C" TRAFFIC PULLBOX FOUNDATION	05/31/07
TE-37J	TRAFFIC PULLBOX COVER AND DETAILS	05/31/07
TE-38	TYPE III TRAFFIC SIGNAL STANDARD	05/31/07
TE-38A.1	TYPE III TRAFFIC SIGNAL STANDARD	05/31/07
TE-38A.2	TYPE III TRAFFIC SIGNAL STANDARD	05/31/07
TE-39	METAL GUARDRAIL CONNECTION TO CONCRETE BARRIER	07/11/08
TE-40	CONCRETE BARRIER TRANSITION	05/31/07
TE-40A	CONCRETE BARRIER TRANSITION SECTIONS	05/31/07
TE-41	GUARDRAIL TYPE 4 (RIGID BARRIER)	05/31/07
TE-42	PORTABLE CONCRETE BARRIER	05/31/07
TE-43	PORTABLE CONCRETE BARRIER	05/31/07
TE-44	GUARDRAIL TYPE 4 MISCELLANEOUS DETAILS	07/11/08
TE-45	BARRICADES	07/11/08
TE-46	DELINEATION & PAVEMENT MARKINGS AT NARROW BRIDGES	07/11/08
TE-47	HIGHWAY LIGHT STANDARD	05/31/07

NOTE:

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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD PLANS SUMMARY

KAUMUALII HIGHWAY SAFETY IMPROVEMENTS
Kipu Road to Omao Road
Fed-Aid Project No. HSIP-050-1(044)

Date: May, 2024

SHEET No. *1* OF *1* SHEETS

ORIGINAL PLAN
SURVEY PLOTTED BY
DRAWN BY *K*
TRACED BY
DESIGNED BY *K*
QUANTITIES BY
CHECKED BY
DATE
NOTE BOOK *Kaumualii/Kipu*

FED. ROAD DIST. NO.	STATE	FED-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-050-1(044)	2024	3	40

GENERAL NOTES

1. The scope of work for this project includes widening the paved shoulder; removing and installing pavement marking and striping, traffic signs, reflector markers and object markers; relocating utility poles; replacing EVC Piezo sensor and hydro-mulch seeding of dressed shoulder.
2. The Contractor is reminded of the requirements of Subsection 105.16 - Subcontracts.
3. The Contractor's attention is directed to the following Sections of the Special Provisions: Subsection 107.06 - Contractor Duty Regarding Public Convenience; Subsection 104.11 - Utilities and Services; and Section 645 - Work Zone Traffic Control.
4. Any work specified in the contract but not listed separately in the proposal schedule shall be considered incidental to other various contract items and shall not be paid for separately.
5. The Contractor shall notify the Engineer in writing, two (2) weeks prior to starting paving operations.
6. 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.
7. All lanes shall be open to traffic during the hours from 6:30 AM to 8:30 AM. during afternoon peak hours from 3:30 PM to 6:30 PM, and during off work hours. Only one lane of highway shall be closed at any other time. Failure of the Contractor to open all lanes of traffic beyond the allowable lane closure hours specified above shall result in assessment of rental fees as specified in Section 108.09 - Rental Fees for Unauthorized Lane closure or Occupancy of the Special Provisions.

   Work shall be performed at night between 8:30 PM and 5:00 AM of the following day, Sunday thru Thursday, excluding holidays, Work outside of these hours are permissible when approved by the Engineer in writing.

   The allowable lane closure hours during night work, except holidays shall be as follows.

   Sunday thru Thursday, 9:00 PM to 12:00 Midnight
   Monday thru Friday, 12:00 Midnight to 5:00 AM
8. All workers within the State right-of-way who are exposed to either vehicles using the roadway or to construction equipment shall wear high-visibility safety apparel that meets the Performance Class 2 or 3 requirements of ANSI/ISEA 107-2004. "Workers" is defined as people on foot whose duties place them with the State right-of-way, such as, but not limited to construction and maintenance forces, equipment operators, survey crews, utility crews, responders to incidents (e.g., EMT and firemen), and law enforcement personnel directing traffic, investigating accidents, handling lane closures and obstructed roadways.
9. No material and/or equipment shall be stockpiled or otherwise stored within the highway right-of-way except at locations designated in writing and approved by the Engineer. If use of location is approved by the Engineer, the Contractor shall obtain a permit to use the property within the highway right-of-way from the State Highways Division at telephone no. (808) 241-3000.
10. 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.
11. Prior to construction, the contractor shall contact the various utility agencies for location of existing utilities within the project limits. The Contractor shall locate and protect all existing utilities whether or not shown on the plans, Any costs incurred by damages to existing utilities will be borne by the Contractor. Contractor shall request from One-Call Center, Ph: 1-866-423-7287. The Contractor shall also call the County of Kauai, Department of Water, Ph: (808) 245-5444 and the Wastewater Division, Ph: (808) 241-6642 for toning waterlines and sewerlines respectively.
12. All works of toning, probing, hand digging and all other means of utility verifications shall not be paid for separately, but shall be considered incidental to the various contract items.
13. The Contractor shall provide for access to and from all existing driveways, sidewalks and ADA access routes, and side streets and cross streets at all times. This work shall be considered incidental to the various contract items, and will not be paid for separately.
14. Existing drainage system will be functional at all times during construction. The Contractor shall furnish materials, equipment, labor, tools and incidentals necessary to maintain flow. This work shall be considered incidental to various contract items.
15. The Contractor, at his own expense shall hydro-mulch and maintain per Section 641 - Hydro-Mulch Seeding of the HDOT Standard Specification all areas disturbed by his operations.
16. Contractor shall exercise extreme caution to preserve all existing right-of-way centerline, as-built, construction, and NGS (horizontal and vertical in the NGS database) monuments located within the State of Hawaii right -of-way, If monuments are disturbed or destroyed, the Engineer shall be notified. Reconciliation to the Right-of-Way Baseline and/or boundary study and determination may be required prior to re-installation of the disturbed or destroyed monuments. The Engineer shall be contacted for guidelines and procedures prior to construction.

    A State of Hawaii Licensed Surveyor shall perform the location and staking of the reset monument. The DOT Standard Plans and Specifications, with the exception of NGS monuments which shall have a NGS approved "brass disk" marker, shall be referenced for the monument type and materials.

    Any NGS vertical monuments that are deemed necessary for relocation due to construction shall follow the NGS benchmark reset procedures written by Curtis Smith dated September 2010 or newer. All work must be done by an electronic digital level that is acceptable by NGS for second-order class one or higher work. The surveyor must use two one-piece invar barcode rods with current certifications with struts with 15 lbs turning plate or turtles; and/or turning pin with driving cap and temperature readings. Contact NGS prior to any work to ensure all equipments meets reset specifications. A State of Hawaii Licensed Surveyor shall perform the relocation. All work must be submitted both in electronic and hard copy formats to NGS and the Engineer.

    All monument work shall be considered incidental to this project, unless noted otherwise.
17. All saw cutting work shall be considered incidental to various contract items and will not be paid separately.
18. Trimming and dressing of shoulder, sidewalk and bus turnout shall consist of clearing, grubbing, grading, reshaping and compacting the unpaved shoulders with suitable material as shown on the plans and/or as directed by the Engineer. Suitable materials shall include materials from roadway excavation, including topsoil and base material therefrom, and if necessary, additional materials from borrow outside the limits of the right of way. Asphalt concrete removed from cold planing, reconstruction and roadway excavation shall not be used for dressing of shoulder, sidewalk or bus turnout. This work shall be considered incidental to the various contract items.
19. Reinstallation of solar amber lights on new traffic signs and post shall be considered incidental to various contract items and will not be paid separately.
20. Reflector Marker (RM-3) with steel post behind existing guardrail shall be white except when noted on the plans.
21. Install object marker (OM3-1) on all utility poles within the project limits. This work shall be paid under Item No. 632.1030 - Type III Object Marker (OM3-1).
22. The Contractor shall identify the type of existing guardrail end treatment on site in order to install the appropriate reflector marker that are to be replaced. Reflector marker shall be the same as the existing reflector marker at the end treatment or approved equal. This work shall be paid under Item No. 632.0140 - Reflector Marker on Guardrail End Treatment.
23. Removal and disposal of reflector marker, and object marker shall be considered incidental to various contract items and will not be paid separately.
24. Install object marker (OM3-1) on utility poles not protected by guardrails or as directed by the Engineer. Post mounted OM3-1 shall be in installed in front of the utility poles when there are conduits line attached to the face of the utility poles. Removal and disposal of existing reflector marker on the utility poles shall be considered incidental to various contract items and will not be paid separately.
25. Trim back existing vegetation in front of utility poles where object marker (OM3-1) are to be installed. This work shall be paid under Item No. 643.0110 - Maintenance of Existing Landscape Areas

LEGEND

	Reconstruction Areas		Existing Metal Guardrail
	Cold-planing Areas & Resurfacing Limits		New Metal Guardrail
			Adjusted and/or Relocated Metal Guardrail
○pp	Existing Power Pole	○fh	Existing Fire Hydrant
○emh	Existing Electric Manhole	—s—12—	Existing Sewer Line
⊘EMH	Adjusted Elec. MH Frame/Cover	—S—12—	New 12" Sewer Line
▭tspb	Existing Traffic Signal Pullbox	○smh	Existing Sewer Manhole
○tmh	Existing Telephone Manhole	⊘SMH	Adjusted Sewer Manhole
⊘TMH	Adjusted Tel. MH Frame/Cover	○SMH	New Sewer Manhole
▭tpb	Existing Telephone Pullbox	◎mon.	Existing Monument
—w—12—	Existing 12" Water Line	◎MON.	Adjusted Monument
○wmh	Existing Water Manhole	◎MON.	New Monument
⊘WMH	Adjusted Water MH Frame/Cover	----d--24---	Existing 24" Drain Line
○av	Existing Water Air Valve	○sdmh	Existing Storm Drain Manhole
⊘AV	Adjusted Water Air Valve	⊘SDMH	Adjusted Storm Drain Manhole
○wv	Existing Water Valve Box	⊟gdi	Existing Grated Drop Inlet
⊘WV	Adjusted Water Valve Box	⊟GDI	New Grated Drop Inlet
▭wm	Existing Water Meter Box	⊟GDI	Adjusted/Reconstructed Drain Inlet or Replaced Steel Grate
▭WM	Adjusted Water Meter Box		
▭WM	New Type "X" Water Meter Box		
⊳	Existing Traffic Sign		
⊳	New Traffic Sign		

ORIGINAL PLAN
SURVEY PLOTTED BY
DRAWN BY X
TRACED BY
NOTE BOOK Kilauea
DESIGNED BY X
QUANTITIES BY
CHECKED BY hmatsuda
DATE X

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GENERAL NOTES & LEGEND

KAUMUALII HIGHWAY SAFETY IMPROVEMENTS
Kipu Road to Omao Road
Fed-Aid Project No. HSIP-050-1(044)

Scale: NA Date: May, 2024

SHEET No. 1 OF 1 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-050-1(044)	2024	4	40

WATER POLLUTION AND EROSION CONTROL NOTES:

A. GENERAL:

1. See Special Provisions Section 209 - Water Pollution and Erosion Control. Section 209 describes but is not limited to: submittal requirements; scheduling of a water pollution and erosion control conference with the Engineer; construction requirements; method of measurement; and basis of payment. In addition, Appendix A lists potential pollutant sources and corresponding BMPs used to mitigate the pollutants.

2. Follow the guidelines in the current HDOT Construction Best Management Practices Field Manual in developing, installing and maintaining the Best Management Practices (BMP) for the project. For any conflicting requirements between the Manual and applicable bid documents, the applicable bid documents will govern. Should a requirement not be clearly described within the applicable bid documents, the Contractor shall notify the Engineer immediately for interpretation. For the purposes of clarification under Note A.2, "applicable bid documents" include the construction plans, standard specifications, Special Provisions, Permits, and the Storm Water Pollution Prevention Plan (SWPPP) when applicable.

3. Follow the guidelines in the Honolulu's City & County "Rules Relating to Soil Erosion Standards and Guidelines" along with applicable Soil Erosion Guidelines for projects on Maui, Molokai, Kauai, and Hawaii.

4. The Engineer may assess liquidated damages of up to $27,500 for non-compliance of each BMP requirement and each requirement stated in Section 209 and special provisions, for every day of non-compliance. There is no maximum limit on the amount assessed per day.

5. The Engineer will deduct the cost from the progress payment for all citations received by the Department for non-compliance, or the Contractor shall reimburse the State for the full amount of the outstanding cost incurred by the State.

6. If necessary, install a rain gage prior to any field work including the installation of any site-specific best management practices. The rain gage shall have a tolerance of at least 0.05 inches of rainfall. Install the rain gage on the project site in an area that will not deter rainfall from entering the gage opening. Do not install in a location where rain water may splash into rain gage. The rain gage installation shall be stable and plumbed. Do not begin field work until the rain gage is installed and site-specific best management practices are in-place.

7. Submit Site-Specific BMP Plan to the Engineer along with a completed Site-Specific BMP Review Checklist within 21 calendar days of date of award. The Site-Specific BMP Review Checklist may be obtained from http://www.stormwaterhawaii.com.

B. WASTE DISPOSAL:

1. Waste Materials
Collect and store all waste materials in a securely lidded metal dumpster or roll off container with cover to keep rain out or loss of waste during windy conditions. The dumpster shall meet all local and State solid waste management regulations. Deposit all trash and construction debris from the site in the dumpster. Empty the dumpster weekly or when the container is two-thirds full, whichever is sooner. Do not bury construction waste materials onsite. The Contractor's supervisory personnel shall be instructed regarding the correct procedure for waste disposal. Post notices stating these practices in the office trailer, on a weatherproof bulletin board, or other accessible location acceptable to the Engineer. The Contractor shall be responsible for seeing that these procedures are followed. Submit the Solid Waste Disclosure Form for Construction Sites to the Engineer within 21 calendar days of date of award. Provide a copy of all the disposal receipts from the facility permitted by the Department of Health to receive solid waste to the Engineer monthly. This should also include documentation from any intermediary facility where solid waste is handled or processed.

2. Hazardous Waste
Dispose all hazardous waste materials in the manner specified by local or State regulations and by the manufacturer. The Contractor's site personnel shall be instructed in these practices and shall be responsible for seeing that these practices are followed.

3. Sanitary Waste
Collect all sanitary waste from the portable units a minimum of once per week, or as required. Position sanitary facilities where they are secure and will not be tipped over or knocked down.

C. EROSION AND SEDIMENT CONTROL INSPECTION AND MAINTENANCE PRACTICES:

1. For projects with an NPDES Permit for Construction Activities, inspect at the following intervals. For construction areas discharging to nutrient or sediment impaired waters, inspect all control measures at least once each week and within 24 hours of any rainfall event of 0.25 inches or greater within a 24 hour period. For construction areas discharging to waters not impaired for nutrient or sediments, inspect all control measures weekly. Inspections are only required during the project's normal working hours. The discharge point water classification may be found in the SWPPP.

2. For projects without an NPDES Permit for Construction Activities, inspect all control measures weekly.

3. Maintain all erosion and sediment control measures in good working order. If repair is necessary, initiate repair immediately and complete by the close of the next work day if the problem does not require significant repair or replacement, or if the problem can be corrected through routine maintenance. When installation of a new erosion or sediment control or a significant repair is needed, install the new or modified control or complete the repair no later than 7 calendar days from the time of discovery. "Immediately" means the Contractor shall take all reasonable measures to minimize or prevent discharge of pollutants until a permanent solution is installed and made operational. If a problem is identified at a time in the day in which it is too late to initiate repair, initiation of repair shall begin on the following work day.

4. Remove built-up sediment from silt fence when it has reached one-third the height of the fence. Remove sediment from other perimeter sediment control devices when it has reached one-half the height of the device.

5. Inspect silt screen or fence for depth of sediment, tears, to verify that the fabric is securely attached to the fence posts or concrete slab and to verify that the fence posts are firmly in the ground. Inspect and verify the bottom of the silt screen is buried a minimum of 6 inches below the existing ground.

6. Inspect temporary and permanent seeding and planting for bare spots, washouts and healthy growth.

7. Complete and submit to the Engineer a maintenance inspection report within 24 hours after each inspection.

8. Provide a stabilized construction entrance at all points of exit onto paved roads to reduce vehicle tracking of sediments. Include stabilized construction entrance in the Water Pollution, Dust, and Erosion Control submittals. Minimum length should be 50 feet. Minimum width should be 30 feet. Minimum depth should be 12 inches or as recommended by the soils engineer and underlain with geo-textile fabric. If minimum dimensions cannot be met, provide other stabilization techniques that remove sediment prior to exit. Clean the paved street adjacent to the site entrance daily or as required to remove any excess mud, cold-planed materials, dirt or rock tracked from the site. Do not hose down the street without containing or vacuuming wash water. Cover dump trucks hauling material from the construction site with a tarpaulin. Remove sediment tracked onto the street, sidewalk, or other paved area by the end of the day in which the track-out occurs.

9. Include designated Concrete Washout Area(s) in the Water Pollution, Dust, and Erosion Control submittals.

10. Submit the name of a specific individual designated responsible for inspections, maintenance and repair activities and filling out the inspection and maintenance report.

11. Personnel selected for the inspection and maintenance responsibilities shall receive training from the Contractor. They shall be trained in all the inspection and maintenance practices necessary for keeping the erosion and sediment controls used onsite in good working order.

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE 12/23/21
	DRAWN BY A	
NOTE BOOK	TRACED BY	
	DESIGNED BY Y	
	QUANTITIES BY	
No. Mmaxedlign	CHECKED BY	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

WATER POLLUTION & EROSION CONTROL NOTES

KAUMUALII HIGHWAY SAFETY IMPROVEMENTS
Kipu Road to Omao Road
Fed-Aid Project No. HSIP-050-1(044)

Date: May, 2024

SHEET No. 1 OF 3 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-050-1(044)	2024	5	40

WATER POLLUTION AND EROSION CONTROL NOTES (Cont.):

12. Contain, remove, and dispose slurry generated from saw cutting of pavement in accordance with approved BMP practices. Do not allow discharge into the drainage system or State waters.

13. For projects with an NPDES Permit for Construction Activities, immediately initiate stabilizing exposed soil areas upon completion of earth-disturbing activities for areas where earth-disturbing activities have permanently or temporarily ceased. Earth-disturbing activities have permanently ceased when clearing and excavation within any area of the construction site that will not include permanent structures has been completed. Earth-disturbing activities have temporarily ceased when clearing, grading, and excavation within any area of the site that will not include permanent structures will not resume (i.e., the land will be idle) for a period of 14 or more calendar days, but such activities will resume in the future. For construction areas discharging into waters not impaired for nutrients sediments, complete initial stabilization within 14 calendar days after the temporary or permanent cessation of earth-disturbing activities. For construction areas discharging into nutrient or sediment impaired waters, complete initial stabilization within 7 calendar days after the temporary or permanent cessation of earth-disturbing activities. Classification of water at the discharge point may be found in the SWPPP.

14. For projects without an NPDES Permit for Construction Activities, complete initial stabilization within 14 calendar days after the temporary or permanent cessation of earth-disturbing activities.

D. GOOD HOUSEKEEPING BEST MANAGEMENT PRACTICES:

1. Materials Pollution Prevention Plan
   a. Applicable materials or substances listed below are expected to be present onsite during construction. Other materials and substances not listed below shall be added to the inventory.

Concrete	Cleaning Solvents
Detergents	Wood
Paints (enamel and latex)	Masonry Block
Metal Studs	Herbicides and Pesticides
Tar	Curing Compounds
Fertilizers	Adhesives
Petroleum Based Products	

   b. Use Material Management Practices to reduce the risk of spills or other accidental exposure of materials and substances to storm water runoff. Make an effort to store only enough product as is required to do the job.
   c. Store all materials stored onsite in a neat, orderly manner in their appropriate containers and if possible under a roof or other enclosure.
   d. Keep products in their original containers with the original manufacturer's label.
   e. Do not mix substances with one another unless recommended by the manufacturer.
   f. Whenever possible, use a product up completely before disposing of the container.
   g. Follow manufacturer's recommendations for proper use and disposal.
   h. Conduct a daily inspection to ensure proper use and disposal of materials onsite.

2. Hazardous Material Pollution Prevention Plan
   a. Keep products in original containers unless they are not resealable.
   b. Retain original labels and Safety Data Sheets (SDS), formerly Material Safety Data Sheets (MSDS).
   c. Dispose of surplus products according to manufacturers' instructions and local and State regulations.

3. Onsite and Offsite Product Specific Plan
   The following product specific practices shall be followed onsite:

   a. Petroleum Based Products:
   Monitor all onsite vehicles for leaks and perform regular preventive maintenance to reduce the chance of leakage. Store petroleum products in tightly sealed containers which are clearly labeled. Apply asphalt substances used onsite according to the manufacturer's recommendation.

   b. Fertilizers:
   Apply fertilizers used only in the minimum amounts recommended by the manufacturer and federal, state, and local requirements. Avoid applying just before a heavy rain event. Apply at the appropriate time of year for the location, and preferably timed to coincide as closely as possible to the period of maximum vegetation uptake and growth. Once applied, work fertilizer into the soil to limit exposure to storm water. Do not apply to storm conveyance channels with flowing water. Storage shall be in a covered shed or in an area where fertilizer will not come into contact with precipitation or stormwater. Transfer the contents of any partially used bags of fertilizer to a sealable plastic bin to avoid spills.

   c. Paints:
   Seal and store all containers when not required for use. Do not discharge excess paint to the drainage system, sanitary sewer system, or State waters. Dispose properly according to manufacturers' instructions and State and local regulations.

   d. Concrete Trucks:
   Washout or discharge concrete truck drum wash water only at a designated site as far as practicable from storm drain inlets or State waters. Do not discharge water in the drainage system or State waters. Disposal by percolation is prohibited. Clean disposal site as required or as requested by the Engineer.

4. Spill Control Plan
   a. Post a spill prevention plan to include measures to prevent and clean up each spill.
   b. The Contractor shall be the spill prevention and cleanup coordinator. Designate at least three site personnel who shall receive spill prevention and cleanup training. These individuals shall each become responsible for a particular phase of prevention and cleanup. Post the names of responsible spill personnel in the material storage area on a weatherproof bulletin board or other accessible location acceptable to the Engineer and in the office trailer onsite.
   c. Clearly post manufacturers' recommended methods for spill cleanup. Make site personnel aware of the procedures and the location of the information and cleanup supplies.
   d. Keep ample materials and equipment necessary for spill cleanup in the material storage area onsite.
   e. Clean up all spills immediately after discovery.
   f. Keep the spill area well ventilated. Personnel shall wear appropriate protective clothing to prevent injury from contact with a hazardous substance.
   g. Report spills of toxic hazardous material to the appropriate State or local government agency, regardless of the size. Where a leak, spill, or other release containing a hazardous substance or oil in an amount equal to or in excess of a reportable quantity established under either 40 CFR Part 110, 40 CFR Part 117, or 40 CFR Part 302 occurs during a 24-hour period, the Contractor shall notify the Engineer as soon as the Contractor has knowledge of the discharge. The Engineer will notify the National Response Center (NRC) at (800) 424-8802, the Clean Water Branch during regular business hours at (808) 586-4309, and the Hawaii State Hospital Operator at (808) 247-2191 and the Clean Water Branch (DOH-CWB) via email at cleanwaterbranch@doh.hawaii.gov during non-business hours immediately. The Contractor shall also provide to the Engineer, within 7 calendar days of knowledge of the release, a description of the release, the circumstances leading to the release, and the date of the release. The Engineer will provide this information to the DOH-CWB. The Engineer will provide information to the NRC if requested.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

WATER POLLUTION & EROSION CONTROL NOTES

KAUMUALII HIGHWAY SAFETY IMPROVEMENTS
Kipu Road to Omao Road
Fed-Aid Project No. HSIP-050-1(044)

Date: May, 2024

SHEET No. 2 OF 3 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-050-1(044)	2024	6	40

WATER POLLUTION AND EROSION CONTROL NOTES (Cont.):

E. PERMIT REQUIREMENTS:

1. The calculated land disturbance area for this project based on the construction plans is 0.1 acre not including Contractor Staging and Storage areas. If the total of the disturbed area and the Contractor Staging and Storage area is one acre or greater, the Contractor shall obtain the NPDES Construction Activities Permit using HDOT's latest SWPPP template. See Hawaii Administrative Rules Chapter 11-55, Appendix C for the definition of land disturbance. The Contractor shall be responsible for obtaining the required NPDES Construction Activities Permit and complying with the requirements of HAR 11-55 including, but not limited to:

   a. Deadlines for initiating and completing initial stabilization
   b. Increased inspection frequency and installation of rain gage if applicable
   c. Deadlines to initiate and complete repairs to BMPs
   d. Reporting requirements and corrective action reports

2. Comply with all applicable State and Federal Permit conditions. Permits may include, but not limited to the following:

   a. NPDES Permit for Construction Activities

   b. NPDES Permit for Construction Dewatering

   c. NPDES Permit for Hydrotesting Waters

   d. Water Quality Certification

   e. Stream Channel Alteration Permit

   f. Section 404 Army Corps of Engineer Permit

F. SITE-SPECIFIC BMP REQUIREMENTS:
Each BMP below is referenced to the corresponding section of the current HDOT Construction Best Management Practices Field Manual and appropriate Supplemental Sheets. The Manual may be obtained from the HDOT Statewide Stormwater Management Program Website at http://www.stormwaterhawaii.com/resources/contractors-and-consultants/ under Construction Best Management Practices Field Manual. Supplemental BMP sheets are located at http://www.stormwaterhawaii.com/resources/contractors-and-consultants/storm-water-pollution-prevention-plan-swppp/ under Concrete Curing and Irrigation Water.

The requirements for Water Pollution, Dust, and Erosion Control submittals are included in Section 209 of the Hawaii Standard Specifications for Road and Bridge Construction dated 2005 and applicable Special Provisions. A list of pollutant sources and corresponding BMP used to mitigate the pollutants are included in Section 209 of the Special Provisions under Appendix A.

Follow the requirements below:

1. Protect all Drainage Inlets receiving runoff from disturbed areas (SC-1).

2. Contain on-site runoff using Perimeter Sediment Controls
   a. SC-7 Silt Fence or Filter Fabric Fence
   b. SC-2 Vegetated Filter Strips and Buffers
   c. SC-6 Compost Filter Berm/Sock
   d. SC-8 Sandbag Barrier
   e. SC-9 Brush or Rock Filter

3. Control offsite runoff from entering construction area
   a. EC-3 Run-On Diversion
   b. EC-6 Earth Dike, Swales, and Ditches

4. Incorporate applicable Site Management BMP
   a. SM-1 Employee Training
   b. SM-2 Material Storage and Handling
   c. SM-3 Stockpile Management
   d. SM-6 Solid Waste Management
   e. SM-7 Sanitary Waste Management
   f. SM-9 Hazardous Materials and Waste Management
   g. SM-10 Spill Prevention and Control
   h. SM-11 Vehicle and Equipment Cleaning
   i. SM-12 Vehicle and Equipment Maintenance
   j. SM-13 Vehicle and Equipment Refueling
   k. SM-14 Scheduling
   l. SM-15 Location of Potential Sources of Sediment
   m. SM-16 Staging Area
   n. SM-17 Preservation of Existing Vegetation
   o. SM-19 Dust Control

5. Contain pollutants within the Construction Staging/Storage Area BMP with applicable Perimeter Sediment Controls and Site Management BMP. Include a Stabilized Construction Entrance/Exit (SC-11) for all areas which exit onto a paved street. Restrict vehicle access to these points.

6. Manage Concrete Waste including installing a Concrete Washout Area (SM-4) and properly disposing of Concrete Curing Water (California Stormwater BMP Handbook NS-12 Concrete Curing).

7. Remove saw cut slurry and hydrodemolition water from the site by vacuuming. Provide storm drain protection and/or perimeter sediment controls during saw cutting and hydrodemolition work.

ORIGINAL PLAN	
SURVEY PLOTTED BY	DATE 12/23/22
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CHECKED BY	
NOTE BOOK	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

WATER POLLUTION & EROSION CONTROL NOTES

KUHIO HIGHWAY CONCRETE BARRIER
Vicinity of Lanikai Street
Fed-Aid Project No. HSIP-050-1(044)

Date: May, 2024

SHEET No. 3 OF 3 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-050-1(044)	2024	7	40

HISTORICAL PRESERVATION NOTES

A. If cultural materials such as artifacts, burials, concentrations of shell or charcoal be discovered during construction, all earth-moving activity within and around the immediate discovery area shall cease immediately and the find shall be protected from further damage. The Contractor shall immediately notify the Planning Department and the State Historic Preservation Division at (808) 241-3690, which will assess the significance of the find and recommend appropriate mitigation measures, if necessary.

B. If previously unidentified non-burial historic properties, or unanticipated effects are discovered, the Contractor shall follow the Hawaii Administrative Rules (HAR) Chapter 13-280 "Rules Governing General Procedures for Inadvertent Discoveries of Historic Properties During a Project Covered by the Historic Preservation Review Process".

C. If human remains are discovered, HAR Title 13, Subtitle 13, Chapter 300 states that further disturbances and activities shall cease in any area or nearby area suspected to overlie remains and the State Historic Preservation Division and the Police Department will be contacted. The The appropriate process would then proceed in conformance with HAR Section 13-300, Subchapter 4, "Procedures for Proper Treatment of Burial Sites and Human Skeletal Remains".

D. The perimeter of the earthen ditch at Bridge 7E shall be avoided and appropriately protected with Construction Fencing a minimum of two meters (6'-6") from the top of the ditch for the duration of the project to avoid impacts that may result from signpost drivers during the installation of object and reflector markers. The installation, maintenance and removal of the protective fencing shall be the responsibility of the Contractor. Payment shall be incidental to various pay items and not paid for separately.

E. The Contractor shall provide photographs of the installation of the Construction Fence to HDOT prior to the start of construction of the project. Each photograph shall be described and presented together in an organized format.

MAMMALIAN PROTECTION NOTES - Hawaiian Hoary Bat

A. The Contractor shall incorporate the following measures to avoid and minimize project-related adverse effects to the Hawaiian hoary bat:

1. There shall be no disturbance, removal, or trimming of woody plants greater than 15 feet (4.6 meters) tall during the Hawaiian Hoary bat birthing and pup rearing season (June 1 through September 15).

2. Barbed wire shall not be used for fencing.

AVIAN PROTECTION NOTES - Hawaiian Seabirds

A. The Contractor shall incorporate the following measures to avoid and minimize project-related adverse effects to Hawaiian seabirds (Hawaiian petrel, Newell's shearwater and Hawaii DPS of the band-rumped storm-petrel):

1. Before beginning any work at the project site, the Contractor shall:

   a. Collect information regarding the protection of seabirds and seabird fallout.

   b. Submit to the Engineer for acceptance a protection of seabirds training plan including a detailed description of information and materials the Contractor intends to use in the training classes. The training plan shall be submitted to the Engineer for acceptance at least 15 days in advance of the class. If the Engineer rejects the training plan, the Contractor shall revise and promptly propose another training plan.

AVIAN PROTECTION NOTES - Hawaiian Seabirds (cont.)

   c. Disseminate information regarding the protection of seabirds and seabird fallout by conducting training classes for all employees, subcontractors, suppliers and other personnel working on the, including HDOT personnel, on such topics as the "Save Our Shearwater" (SOS) program, proper use of temporary lighting, procedures to store and report downed seabirds, and the consequences of non-compliance with the laws regarding threatened and endangered seabirds. The Engineer may request for additional topics related to seabirds to be included in the training classes. Training classes shall be taught by authorized representatives of the U.S. Fish and Wildlife Service (USFWS), the Department of Land and Natural Resources, the SOS program or other qualified personnel accepted by the Engineer.

   d. Furnish the Engineer with evidence that the Contractor has held training classes, including the dates of the classes, identify who conducted the training, and the content and nature of the training.

B. The Contractor shall comply to the following construction requirements:

1. As directed by the Engineer, conduct additional training classes during the project to update all employees, subcontractors, suppliers, HDOT personnel and other personnel on new and/or updated information regarding the protection of seabirds and seabird fallout.

2. No permanent streetlights shall be installed as part of the project.

3. All temporary lights used for night work (between sunset and sunrise) shall contain less than 2% wavelengths less than 550 nm, and shall be downward-facing and shielded so the bulb can only be seen from below. Temporary lights shall include but are not limited to flood lights, light towers, lights for construction equipment and other lights as determined by the Engineer. All traffic control devices, including warning lights, arrow boards, portable changeable message signs and other lighting device as determined by the Engineer shall be shielded.

4. Lights shall be turned off when human activity is not occuring in the lighted area, or install automatic motion sensor switches and timer controls on all outdoor lights.

5. Nighttime construction and the use of all temporary lights shall cease during the peak seabird fledgling period (September 15 through December 15).

6. Where fences extend above vegetation, integrate durable scare tape or bird deterrent into the fence to increase visibility and minimize fence strikes.

7. For powerlines and other cables, exposure above vegetation height and vertical profile shall be minimized. NOTE: The height of the 3 - each telephone poles to be relocated shall not increase.

8. Furnish and maintain a small (approximately 10" x 12" x 19"), portable cat kennel on site to temporarily hold a downed seabird. The Contractor shall obtain acceptance of the cat kennel from the Engineer prior to use.

9. If a downed dead seabird is found, the Contractor shall contact the USFWS (Ms. Megan Laut at (808) 792-9400, the Kauai Branch Division of Forestry and Wildlife (DOFAW) Office at (808) 274-3433 or SOS at (808) 635-5117 within 24 hours.

AVIAN PROTECTION NOTES - Hawaiian Seabirds (CONT.)

10. If the downed seabird is alive, the Contractor shall:

   a. Pick up the seabird from behind as soon as possible using a clean towel, t-shirt or cloth by gently wrapping it around its back and wings.

   b. Place the seabird in the cat kennel and immediately contact the SOS Program Coordinator at 808-635-5117 for further instructions on where to deliver the seabird.

   c. Deliver the seabird to the location determined by the coordinator of the SOS program and as directed by the Engineer.

   d. Keep the seabird in a cool, quiet location and out of direct sunlight with adequate ventilation.

   e. The Contractor and any personnel on-site shall not feed, provide water, handle or release the seabird.

11. The Contractor shall maintain records of all downed seabirds for the duration of the project. The records shall include the date, time, location and condition (dead or alive) the seabird was found and delivered. Submit a copy of the records to the Engineer after finding each and every downed seabird.

AVIAN PROTECTION NOTES - Hawaiian Waterbirds

A. The Contractor shall incorporate these measures to avoid and minimize project-related adverse effects to Hawaiian waterbirds (Hawaiian stilt, Hawaiian coot, Hawaiian common gallinule, and the Hawaiian duck):

1. In areas where known presence of Hawaiian waterbirds occurs, post, implement and enforce reduced speed limits, and inform project personnel and Contractors of the presence of these endangered species on-site.

2. If water resources are located within or adjacent to the project site, incorporate USFWS Recommended Standard Best Management Practices (BMPs) for work in aquatic environments.

3. Where appropriate habitat occurs within the vicinity of the project area, survey for Hawaiian waterbirds and nests prior to initiation of project work using survey biologists familiar with the species' biology. Survey biologists should be trained and capable of identifying adults and juveniles of each species, nesting behaviors, and nests. Repeat surveys again within three (3) days of project initiation and after any subsequent delay of work of 3 or more days (during which the birds may attempt to nest).

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

HISTORIC PRESERVATION AND ENVIRONMENTAL PROTECTION NOTES

KAUMUALII HIGHWAY SAFETY IMPROVEMENTS

Kipu Road to Omao Road
Fed-Aid Project No. HSIP-050-1(044)

Scale: NA Date: May 2024

SHEET No. 1 OF 2 SHEETS

ORIGINAL PLAN — SURVEY PLOTTED BY / DRAWN BY X / TRACED BY / DESIGNED BY X / QUANTITIES BY / CHECKED BY — DATE X

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-050-1(044)	2024	8	40

AVIAN PROTECTION NOTES - Hawaiian Waterbirds (cont.)

4. If a nest or active brood is found, the Contractor shall:

   a. Contact the USFWS (Ms. Megan Laut at (808) 792-9400, the Kauai Branch Division of Forestry and Wildlife (DOFAW) Office at (808) 274-3433 or SOS at (808) 635-5117 within 24 hours.

   b. Establish and maintain a 100-ft buffer around all active nests and/or broods until the chicks/ducklings have fledged. Do not conduct potentially disruptive activities or habitat alteration within this buffer.

   c. A biological monitor that is familiar with the species' biology shall be present on the project site during all construction or earth moving activities until the chicks/ducklings fledge to ensure that Hawaiian waterbirds and nests are not adversely affected.

AVIAN PROTECTION NOTES - Hawaiian Goose

A. The Contractor shall incorporate these measures to avoid and minimize project-related adverse effects to Hawaiian goose or nene:

   1. Nene in or near the project area shall not be approached, fed, or disturbed in any way.

   2. If nene are observed loafing, foraging, or otherwise present within the project area during the breeding season (September 1 through April 30), a trained biologist familiar with nene nesting behavior shall survey the area in and around the project area for nests prior to work each day. Surveys shall be repeated after any subsequent delay of work of three or more days (during which the birds may attempt to nest).

   3. If a nest is identified within a radius of 150 feet of the project area, or a previously undiscovered nest is found within the 150-foot radius after work begins, all work shall cease immediately and the Contractor shall contact the USFWS (Ms. Megan Laut at (808) 792-9400) or the Kauai Branch DOFAW Office at (808) 274-3433 for further guidance.

   4. Reduced speed limits shall be posted and implemented in areas where nene are known to be present, and project personnel and Contractors will be informed of the presence of endangered species on-site.

   5. There shall be no feeding of birds or dogs on the project site.

AVIAN PROTECTION NOTES - Hawaiian Short-Eared Owl

A. The Contractor shall incorporate the following measures to avoid and minimize adverse effects to the Hawaiian Short-Eared Owl or pueo:

   1. If pueo are observed loafing, foraging, or otherwise present within the project area, conduct a line survey during crepuscular hours through the project area prior to any vegetative alteration, especially ground-based disturbance.

   2. If a pueo nest is discovered, establish and maintain a minimum buffer of 350 feet around the nest until the chicks are capable of flight.

BIOLOGICAL RESOURCE PROTECTION NOTES

A. The Contractor shall take measures to reduce the spread of invasive species (e.g. Rapid Ohia Death, Coffee Leaf Rust, Little Fire Ants, False Kava, etc.):

   1. Minimize the movement of plant or soil material between work sites.

   2. All equipment, materials, and personnel should be cleaned of excess soil and debris to minimize the risk of spreading invasive species. Gear that may contain soil, such as work boots and vehicles, should be thoroughly cleaned with water and sprayed with 70 1/4 alcohol solution to prevent the spread of Rapid Ohia Death and other harmful fungal pathogens.

   3. Consult with the Kauai Invasive Species Committee (KISC) at (808) 821-1490 to learn of any high-risk invasive species in the area and ways to mitigate their spread during construction.

   4. The information and guidance at https://cms.ctahr.hawaii.edu/rod shall be reviewed and followed if ohia trees are present and will be removed.

B. In accordance with the Hawaii Department of Agriculture (HDOA) approved Plant Quarantine Interim Rule 22-1, the Contractor shall restrict the movement of Coconut Rhinoceros Beetle (CRB) host material within or to and from the island of Oahu, which is defined as the Quarantine Area.

   1. Regulated material (host material or host plants) is considered a risk for potential CRB infestation.

      a. Host material for the beetle specifically includes: entire dead trees, mulch, compost, trimmings, fruit and vegetative scraps and decaying stumps

      b. Host plants include the live palm plants in the following genera: Washingtonia, Livistonia and Pritchardia (all commonly known as fan palms), Cocos (coconut palms), Phoenix (date palms) and Roystonea (royal palms)

   2. When such material or these specific plants are moved, there is a risk of spreading CRB because they may contain CRB in any life stage. Refer to the following website for more information regarding CRB: https://dlnr.hawaii.gov/hisc/info/invasive-species-profiles/coconut-rhinoceros-beetle/

WILDFIRE PROTECTION NOTES:

A. The Contractor shall incoporate the following measures to reduce the risk of starting a wildfire:

   1. When engaging in activities that have a high risk of starting a wildfire (e.g. welding in grass), wet down the area before starting your task and continuously wet down the area as needed.

   2. When vision is impaired, such as when using eye protective gear for welding, use a spotter to watch for fire starts.

   3. A fire extinguisher shall always be on hand when engaging in activities that pose a high risk of starting a wildfire.

   4. For project specific action regarding how wildfire prevention can be addressed, coordinate with the Hawaii Wildfire Management Organization at (808) 850-0900 or admin@hawaiiwildfire.org.

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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

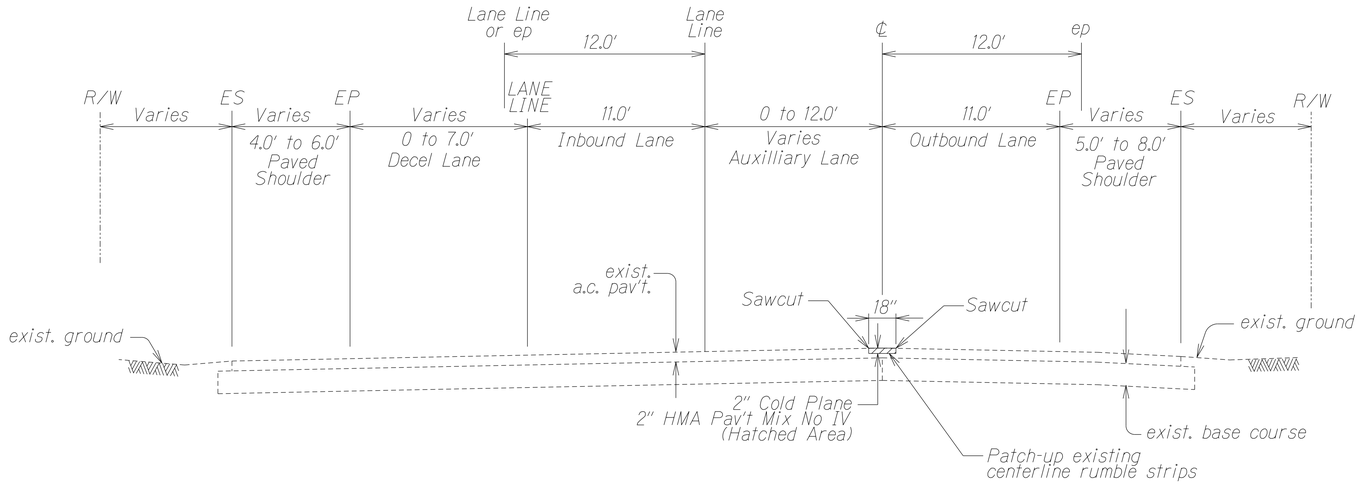
HISTORIC PRESERVATION AND ENVIRONMENTAL PROTECTION NOTES

KAUMUALII HIGHWAY SAFETY IMPROVEMENTS
Kipu Road to Omao Road
Fed-Aid Project No. HSIP-050-1(044)

Scale: NA Date: May 2024

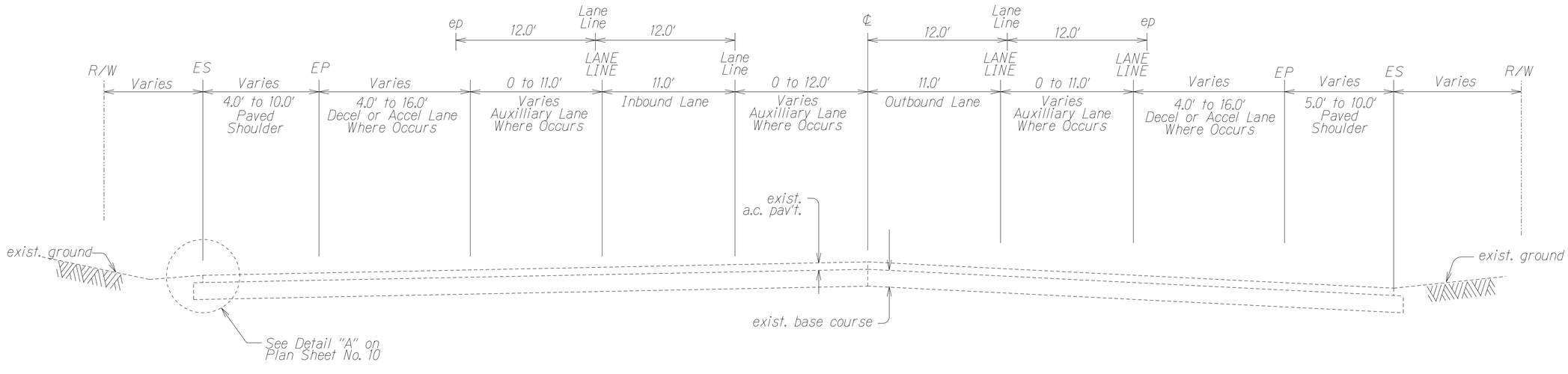
SHEET No. 2 OF 2 SHEETS

FED. ROAD DIST. NO.	STATE	FED-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-050-1(044)	2024	9	40



TYPICAL SECTION STA. 183+22 TO STA. 188+70

Not to Scale



TYPICAL SECTION

Not to Scale

Notes:

1. Location and offset from baseline of centerline and median pavement striping to follow existing pavement striping except when noted on the plans or as directed by the Engineer.
2. Remove pavement striping and traffic signs that are not shown on the plans or as directed by the Engineer.

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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

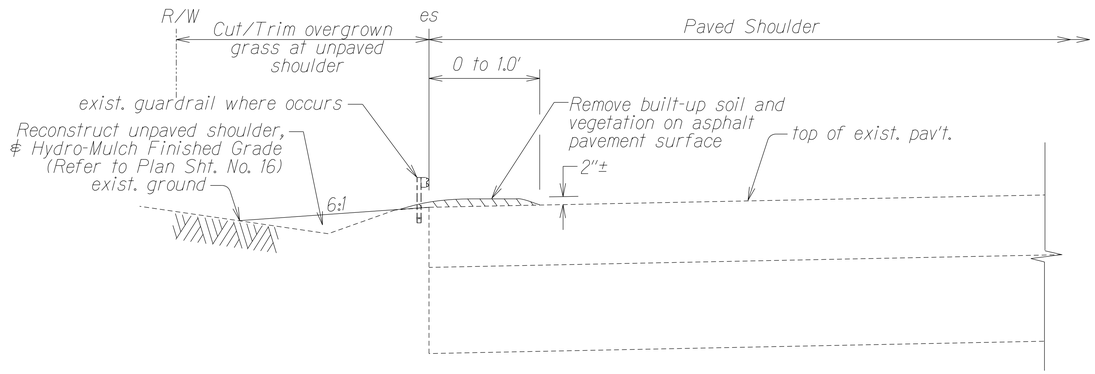
TYPICAL SECTIONS

KAUMUALII HIGHWAY SAFETY IMPROVEMENTS
Kipu Road to Omao Road
Fed-Aid Project No. HSIP-050-1(044)

Scale as shown Date: May, 2024

SHEET No. 1 OF 1 SHEETS

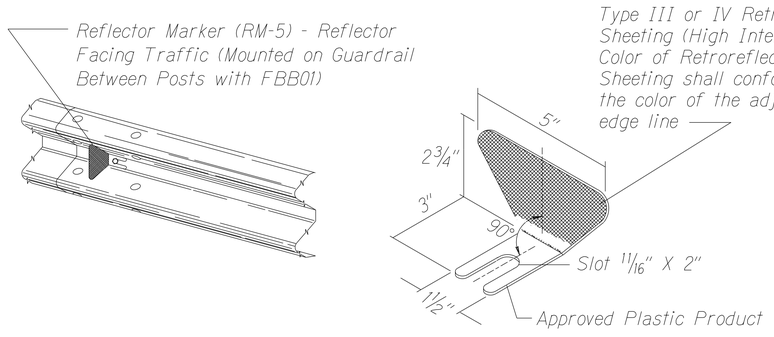
FED. ROAD DIST. NO.	STATE	FED-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-050-1(044)	2024	10	40



Notes:

1. Removal and disposal of vegetation and soil on top of a.c. pav't. shall be paid under Item No. 201.0100 - Clearing and Grubbing and will not be paid separately.
2. Cutting/Trimming and disposal of overgrown grass/vegetation at unpaved shoulder shall be paid under Item No. 643.0110 - Maintenance of Existing Landscape.

DETAIL "A"
Not to Scale



Note: Reflector Markers (RM-5) mounted on guardrails shall be spaced every 25 feet. RM-5's shall not be installed on Terminal Sections. Furnishing and installing of each RM-5 shall be considered incidental to the guardrail system.

REFLECTOR MARKER (RM-5) DETAIL AND TYPICAL INSTALLATION
Not to Scale

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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

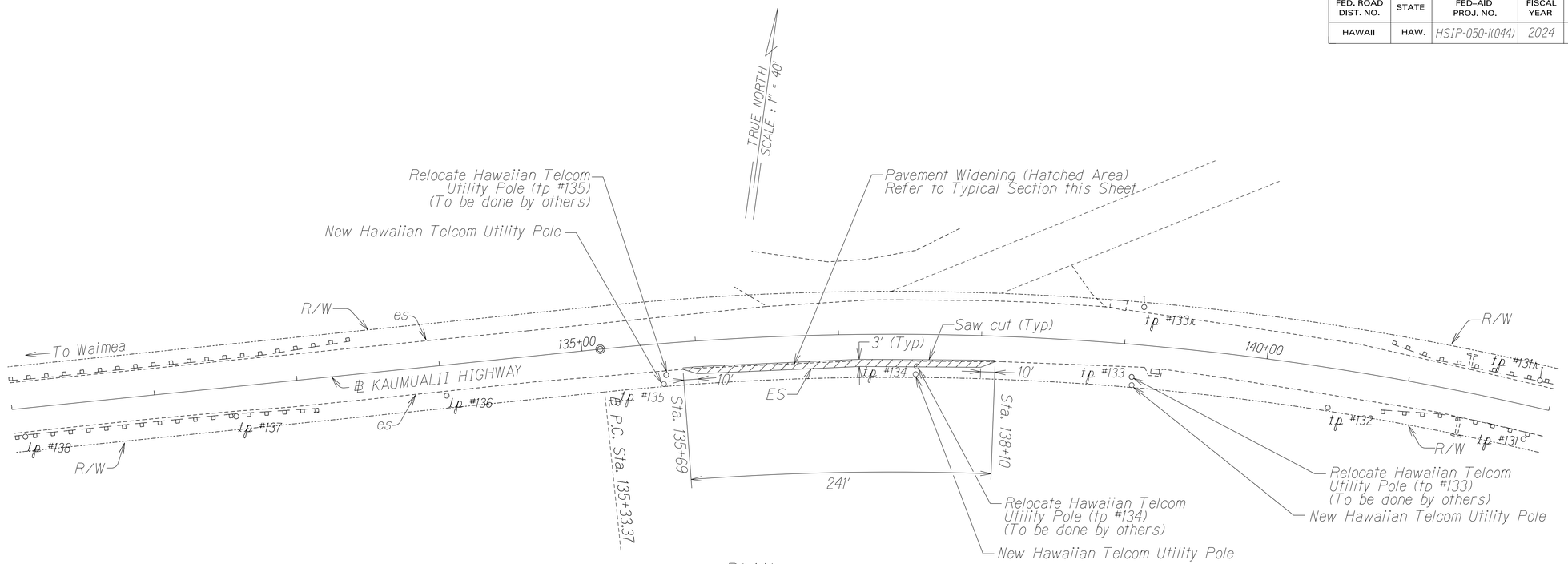
MISCELLANAOUS DETAIL

KAUMUALII HIGHWAY SAFETY IMPROVEMENTS
Kipu Road to Omao Road
Fed-Aid Project No. HSIP-050-1(044)

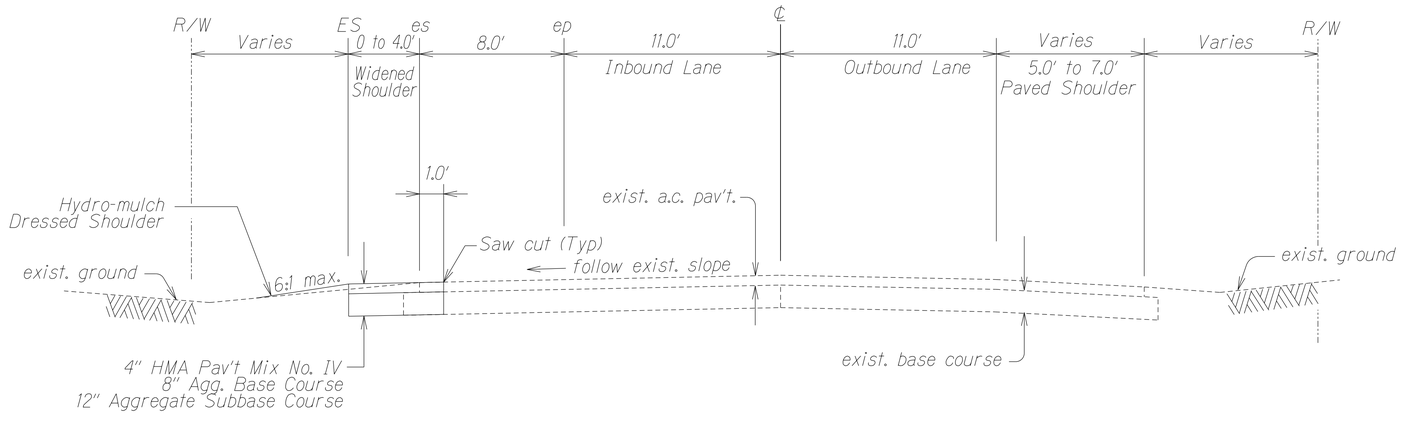
Scale as shown Date: May, 2024

SHEET No. 2 OF 2 SHEETS

FED. ROAD DIST. NO.	STATE	FED-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-050-1(044)	2024	11	40



PLAN
Scale: 1" = 40'



TYPICAL SECTION STA. 135+69 TO STA. 138+10
Not to Scale

APPROVED:

Manager, Hawaiian Telcom Date

ORIGINAL PLAN
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TRACED BY
DESIGNED BY
QUANTITIES BY X
CHECKED BY
DATE X
NOTE BOOK kelberds kmakpidgn

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

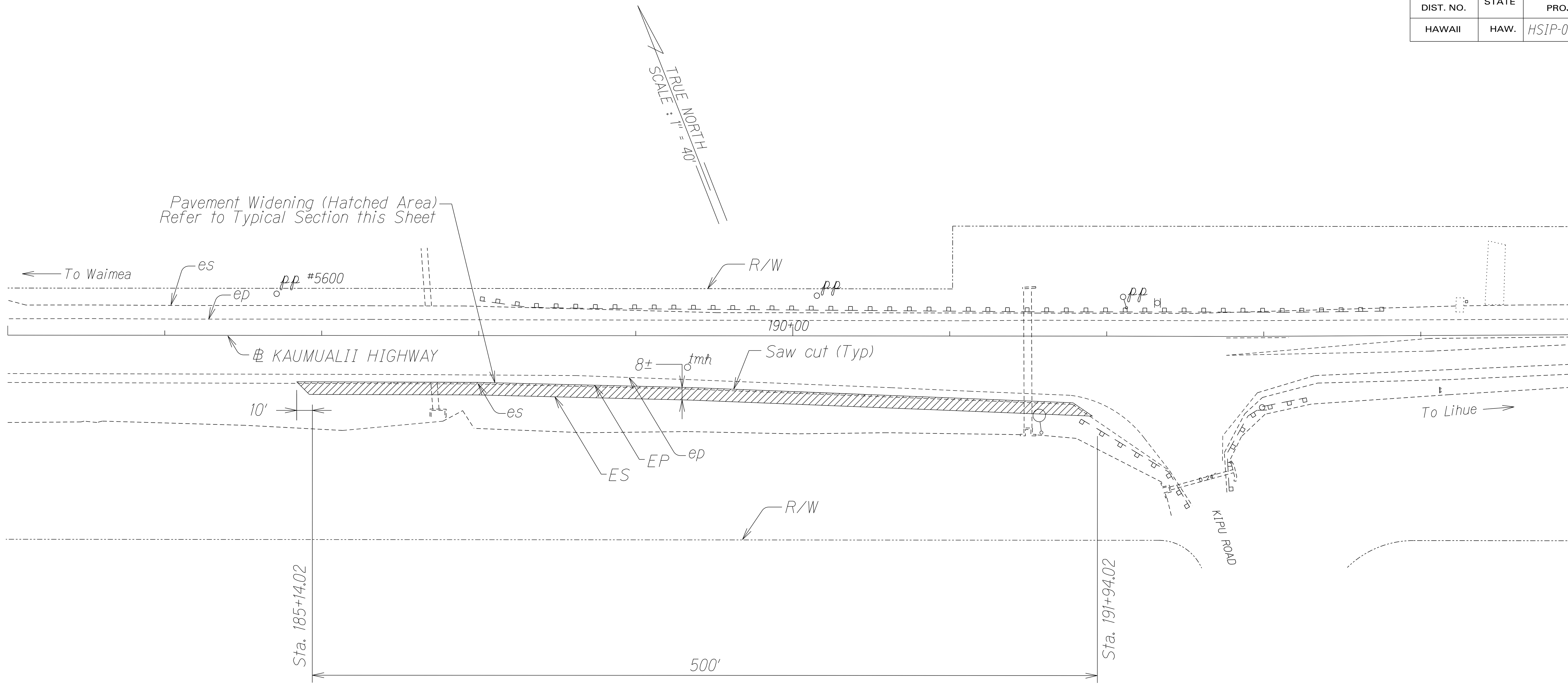
ROADWAY PLAN

KAUMUALII HIGHWAY SAFETY IMPROVEMENTS
Kipu Road to Omao Road
Fed-Aid Project No. HSIP-050-1(044)

Scale as shown Date: May, 2024

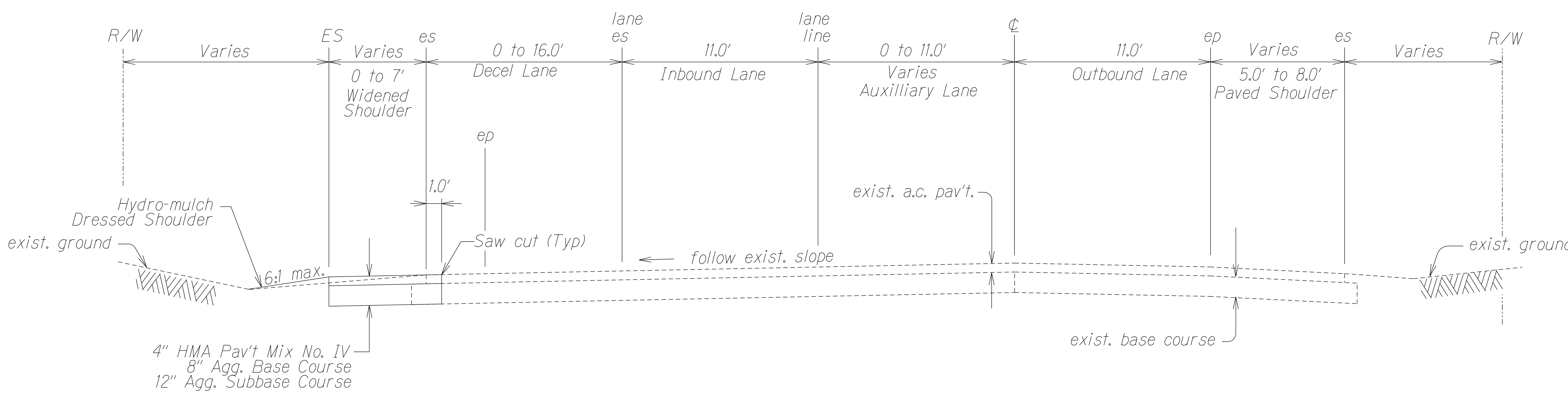
SHEET No. 1 OF 2 SHEETS

FED. ROAD DIST. NO.	STATE	FED-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-050-1(044)	2024	12	40



PLAN

Scale: 1" = 40'



TYPICAL SECTION STA. 187+45 TO STA. 190+45

Not to Scale

ORIGINAL PLAN	
SURVEY PLOTTED BY	DATE
DRAWN BY X	
TRACED BY X	
DESIGNED BY X	
QUANTITIES BY	
CHECKED BY	
NOTE BOOK No. hkmakp02.dgn	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY PLAN

KAUMUALII HIGHWAY SAFETY IMPROVEMENTS
Kipu Road to Omao Road
Fed-Aid Project No. HSIP-050-1(044)

Scale as shown — Date: May, 2024

SHEET No. 2 OF 2 SHEETS

FED. ROAD DIST. NO.	STATE	FED-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-050-1(044)	2024	13	40

LEGEND

10' White Profiled Thermoplastic Stripe
Type C Raised Pavement Markers @ 40'-0" o.c.

10' Yellow Profiled Thermoplastic Stripe
Type D Raised Pavement Markers @ 40'-0" o.c.

8" White Stripe with Type C Raised Pavement Markers @ 20'-0" o.c. (Tape, Type I or Thermoplastic Extrusion)

4" Double Solid Yellow Stripes with Type D Raised Pavement Markers On Both Outside Edges Of 4" Yellow Stripe @ 10'-0" o.c. (Tape, Type I Or Thermoplastic Extrusion)

4" Double Solid Yellow Stripes with Type H Raised Pavement Markers On Both Outside Edges Of 4" Yellow Stripe @ 10'-0" o.c. (Tape, Type II Or Thermoplastic Extrusion)

6" Yellow Edge Stripe with Type H Raised Pavement Markers @ 10'-0" o.c. (Tape, Type II or Thermoplastic Extrusion)

4" Double Solid White Stripes with Type C Raised Pavement Markers @ 20'-0" o.c. (Tape, Type I or Thermoplastic Extrusion)

Lane Change Restriction Marking
10' White Profiled Thermoplastic Stripe
Type C Raised Pavement Markers @ 20'-0" o.c.
4" White Stripe (Tape, Type I or Thermoplastic Extrusion)

6" or 8" White Edge Stripe with Type C Raised Pavement Markers @ 20'-0" o.c. (Tape, Type II or Thermoplastic Extrusion)

4" White Guide Line (Tape, Type III or Thermoplastic Extrusion except for bus bays)

Transverse Median Marking (Tape, Type II or Thermoplastic Extrusion)

Transverse Shoulder Marking (Tape, Type II or Thermoplastic Extrusion)

Channelizing Island or Deceleration Lane Gore (Tape, Type II or Thermoplastic Extrusion)

(2) Crosswalk and Stop Line. All Stop Lines shall be 10'-0" from Crosswalk unless otherwise noted. The circled number indicates the number of lanes for payment (Tape, Type III or Thermoplastic Extrusion)

Pavement Arrow (Tape, Type III or Thermoplastic Extrusion)

STOP Pavement Word (Tape, Type III or Thermoplastic Extrusion)

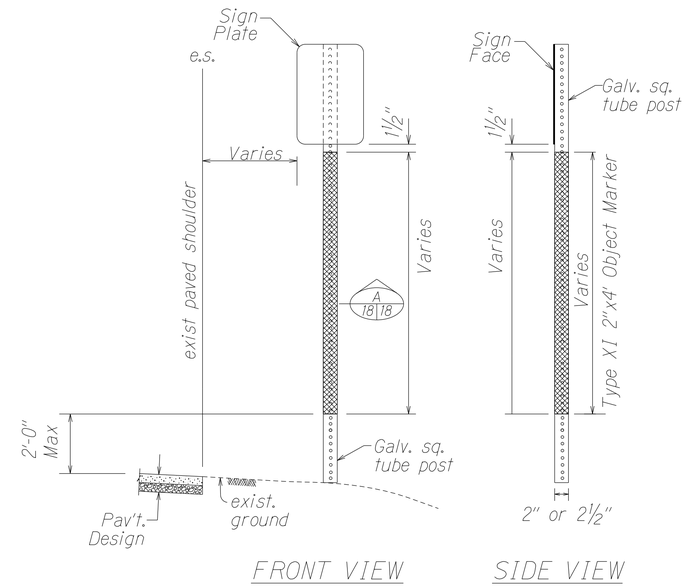
10' Yellow Profiled Thermoplastic Stripe @ 40'-0" o.c.
Type D Raised Pavement Markers on Outside Edge and Midway Between Yellow Profiled Thermoplastic Stripe @ 40'-0" o.c. (Passing Direction)
Type D Raised Pavement Markers on Outside Edge of 4" Single Solid Yellow Stripe @ 10'-0" o.c. (No-Passing Direction)
4" Single Solid Yellow Stripe (Tape, Type I or Thermoplastic Extrusion)

10' 10' 10' 10' Extension of Edge Line, 4" Wide x 2'-0" Long White Stripe @ 10'-0" o.c. w/Type C Markers @ 40'-0" o.c. (Tape, Type III or Thermoplastic Extrusion)

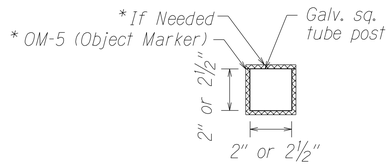
Centerline/Edgeline Rumble Strip

NOTES

1. Layout of pavement markings and striping shall be done by the Contractor and approved by the Engineer prior to any installation work.
2. Existing pavement markings not incorporated in the final traffic pattern shall be removed as directed by the Engineer. Costs shall be incidental to the various pavement marking items.
3. Raised pavement markers shall not be installed within crosswalks.
4. Final locations of all signs shall be approved by the Engineer prior to any installation work.
5. Existing signs not shown on these plans shall remain as posted unless otherwise directed by the Engineer. Removal and disposal of existing signs and/or posts as designated on these plans shall be incidental to the various signing items.
6. Final locations of all Stop Lines shall be approved by the Engineer prior to installation.
7. All pavement striping shall be as noted on the legend or plans.
8. All preformed pavement marking tapes over existing pavement shall be applied with an approved primer as recommended by the tape manufacturer and as approved by the Engineer. The primer shall be allowed to dry to the tacky stage prior to tape application.
9. All pedestrian warning signs with supplemental sign shall be on a fluorescent yellow-green retroreflective background with a black legend or border.
10. All red OM-5 object markers shall cover 4 sides of the sign post. All other OM-5 object marker colors shall cover 3 sides of the sign post facing all directions of traffic.
11. Background of object marker shall be retroreflectorized with Type XI Retroreflectivity sheeting.
12. If a strip of retroreflective material is used on the sign support, it shall be at least 2 inches in width, it shall be placed for the full length of the support from the sign to within 2 feet above the edge of roadway, and its color shall match the background color of the sign, except that the color of the strip for "YIELD" and "DO NOT ENTER" signs shall be red.

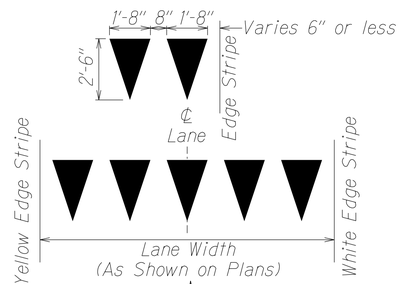


FRONT VIEW SIDE VIEW

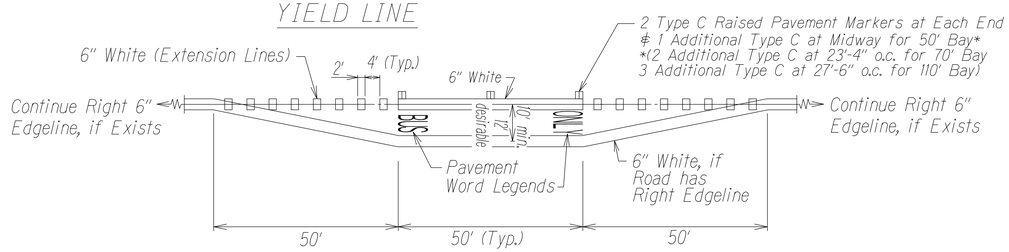


*NOTE: All red OM-5 object markers shall be 4-sided.

OBJECT MARKER (OM-5) DETAIL @ TRAFFIC SIGN POST
Not to Scale



YIELD LINE



BUS BAY

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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

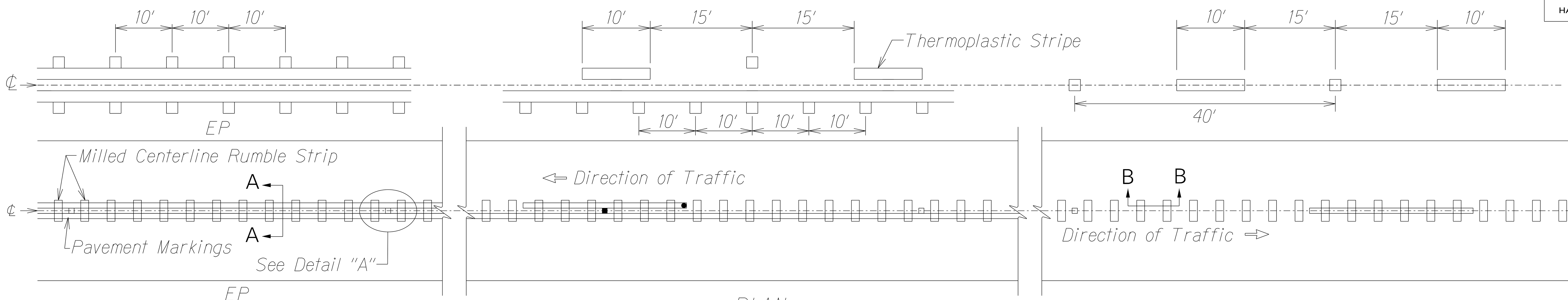
PAVEMENT MARKING LEGEND, DETAILS & NOTES

KAUMUALII HIGHWAY SAFETY IMPROVEMENTS
Kipu Road to Omao Road
Fed-Aid Project No. HSIP-050-1(044)

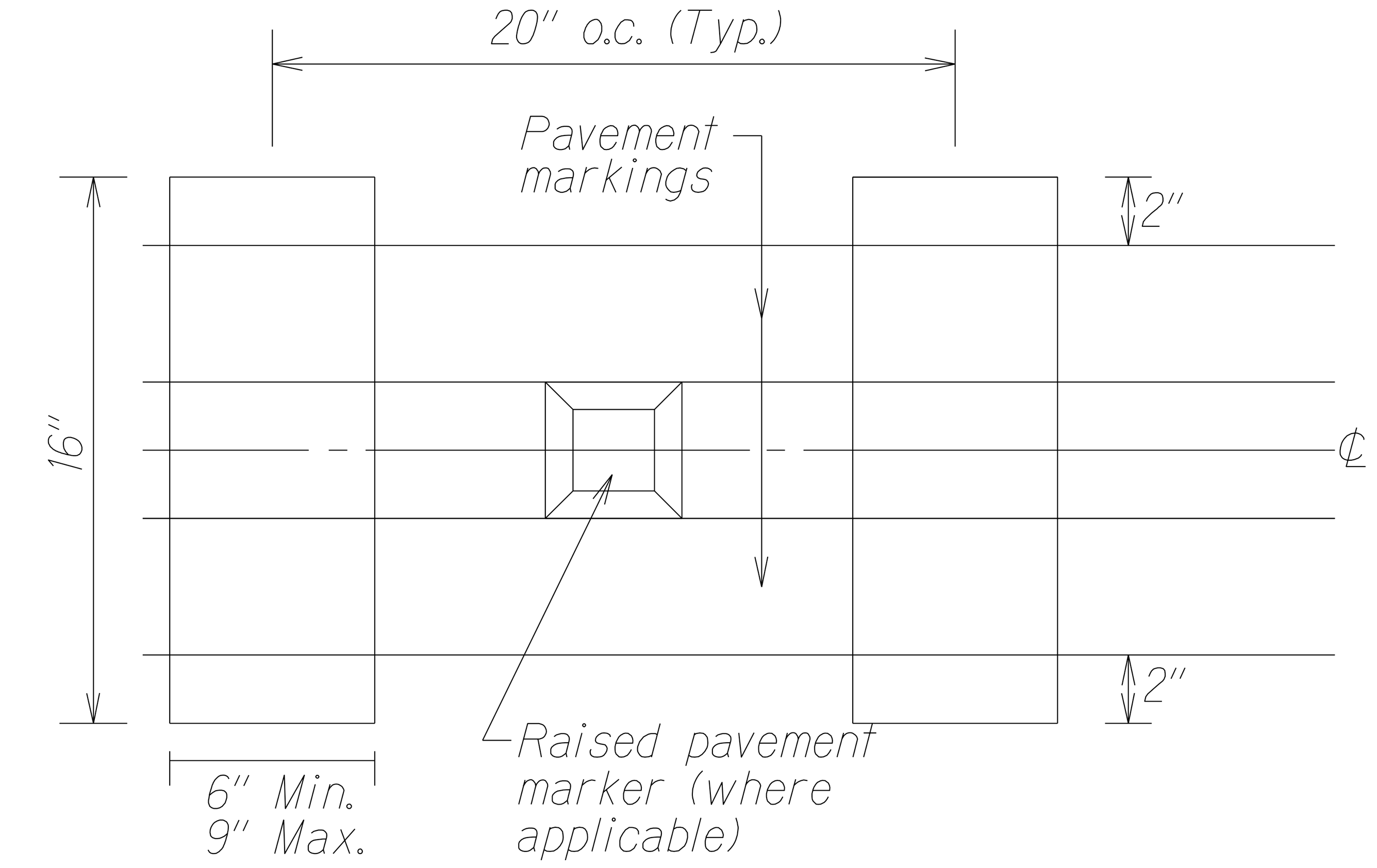
Scale: As Noted Date: May, 2024

SHEET No. 1 OF 1 SHEETS

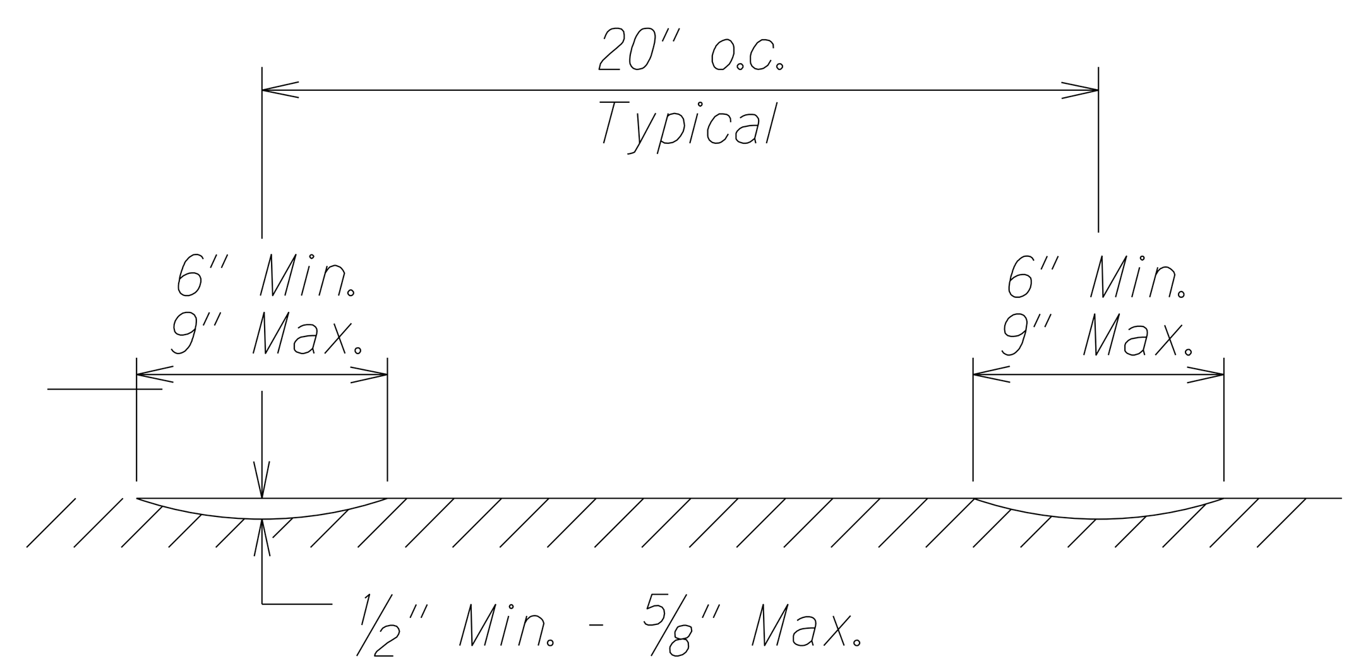
FED. ROAD DIST. NO.	STATE	FISCAL PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-050-1(044)	2024	14	40



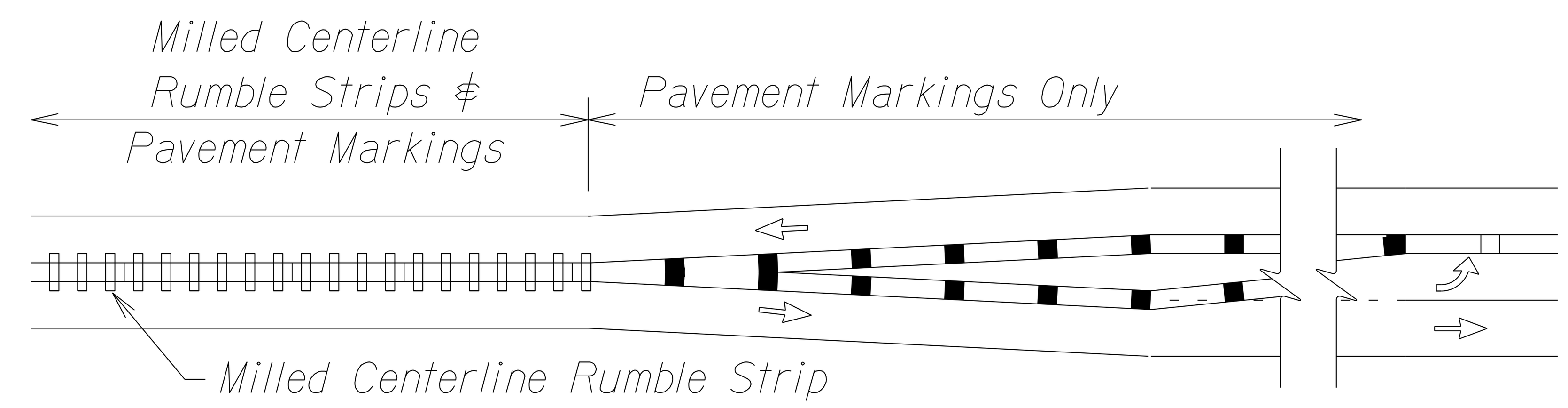
PLAN
Not to Scale



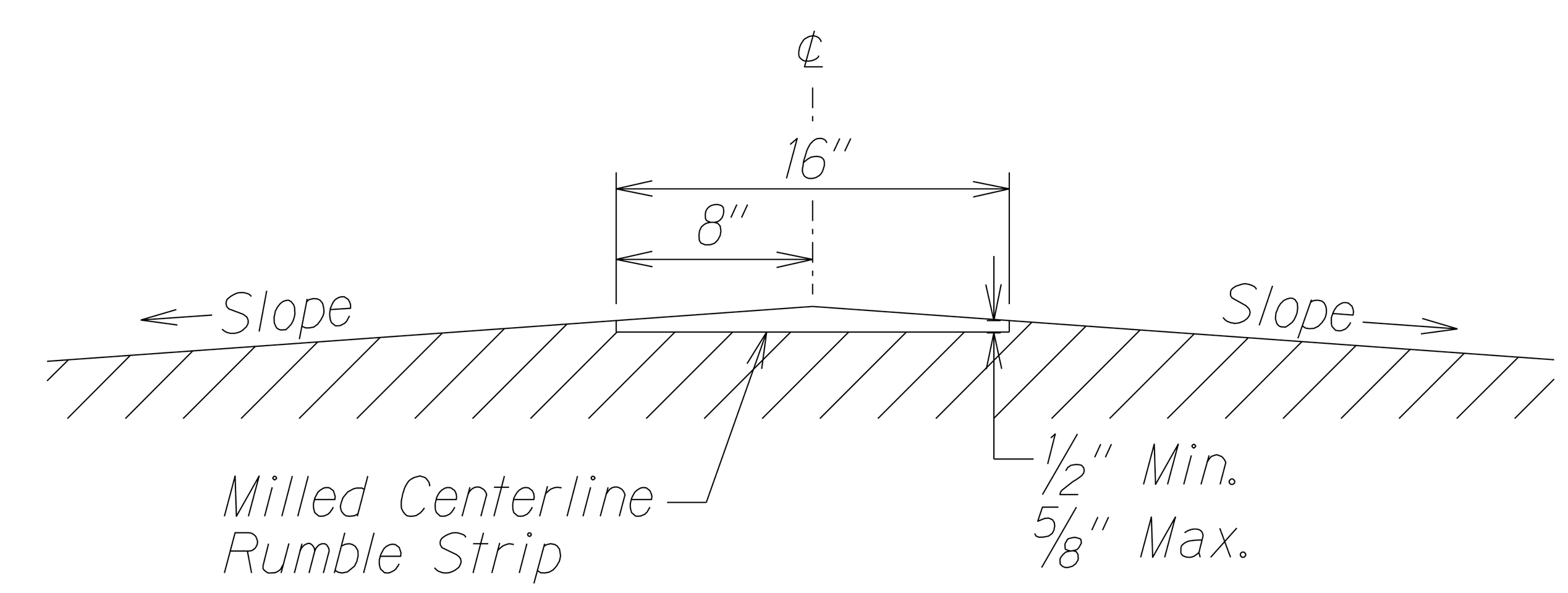
DETAIL "A"
Not to Scale



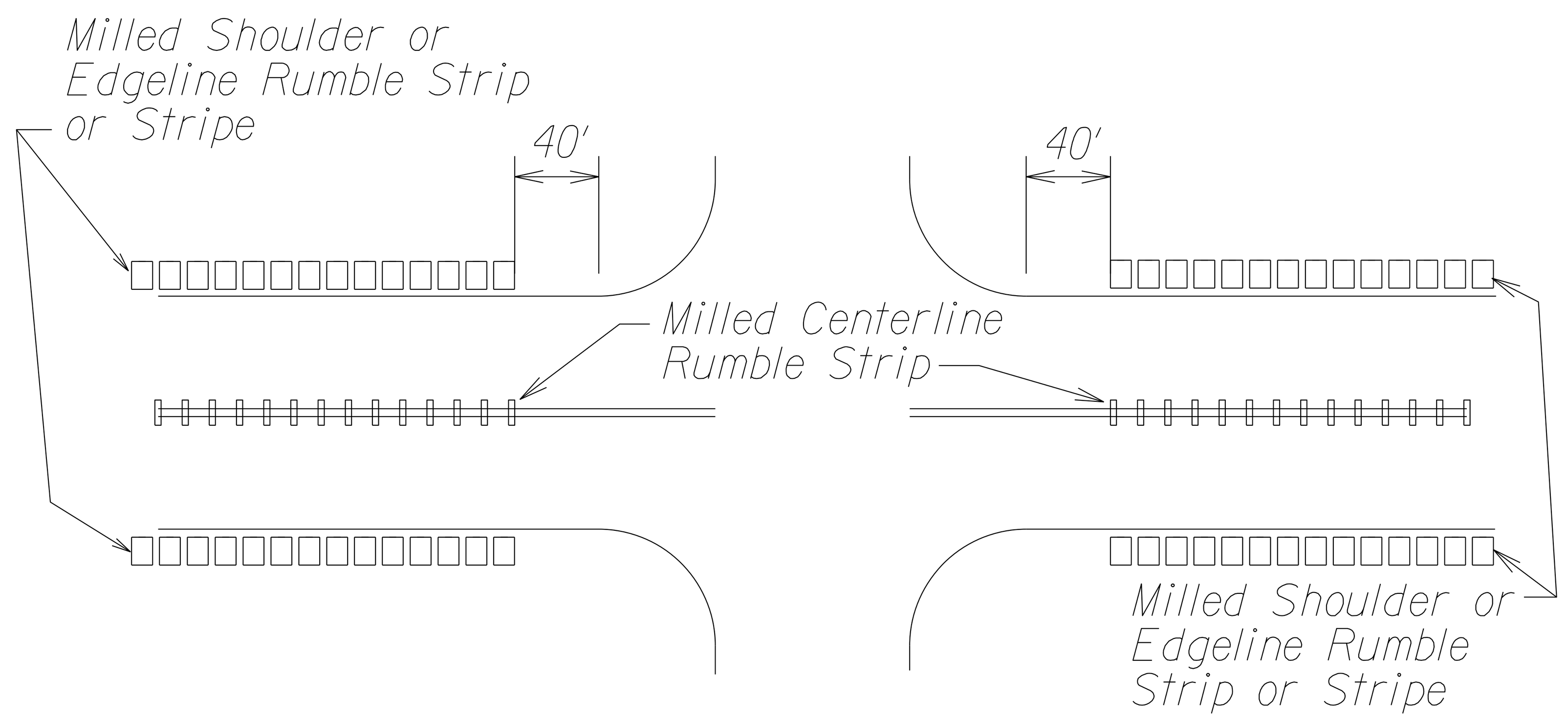
SECTION B-B
Not to Scale



INSTALLATION LIMIT
Not to Scale



SECTION A-A
Not to Scale



INSTALLATION LIMITS
Not to Scale

NOTES:

1. Dimensions shown are approximate. Adjust rumble strip spacing to coordinate with pavement markings prior to installation.
2. Raised pavement markers shall be installed on level surface between the rumble strips. Do not install raised pavement markers inside the milled area.
3. Do not install centerline rumble strips on bridge decks.
4. Where at-grade bridges are present, rumble strips shall end/begin 20 L.F. beyond the existing bridge deck joints/concrete approach slab.
5. Hot spray thermoplastic shall be used for solid line markings within the milled centerline rumble strip area.

MILLED CENTERLINE RUMBLE STRIPS

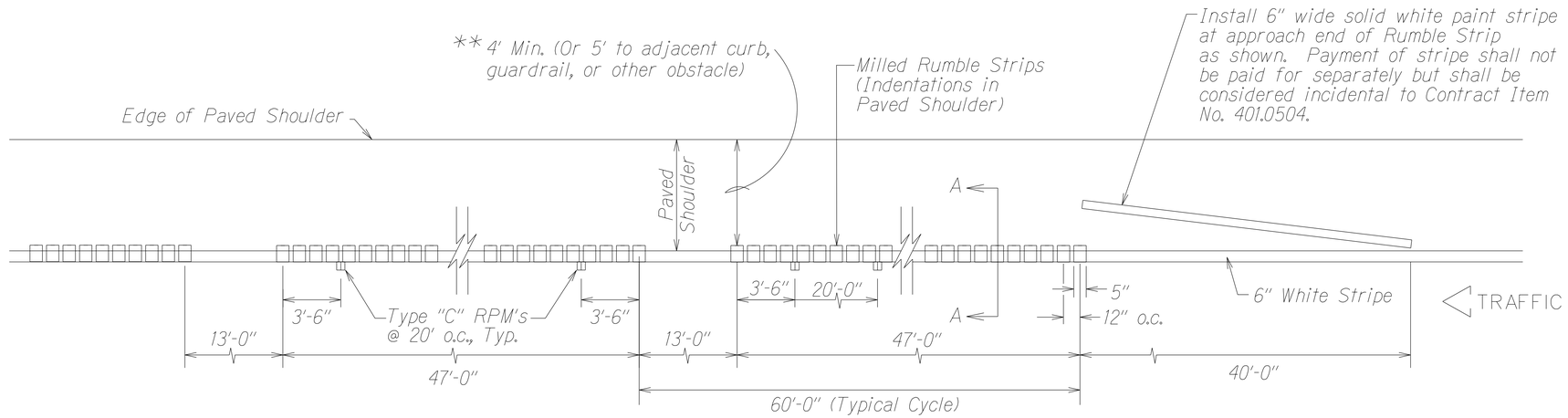
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

MILLED CENTERLINE RUMBLE STRIPS, NOTES, & DETAIL

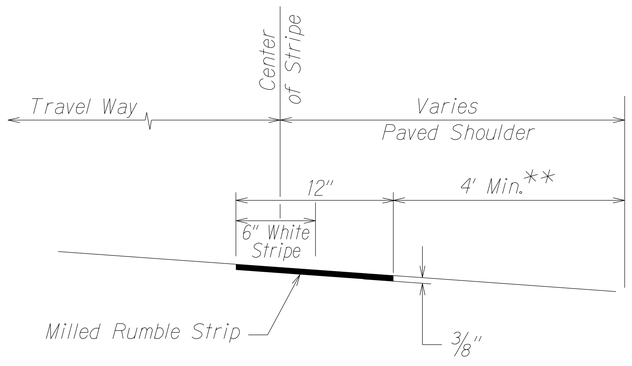
KAUMUALII HIGHWAY SAFETY IMPROVEMENTS
Kipu Road to Omao Road
Fed-Aid Project No. HSIP-050-1(044)
Scale: Not to scale Date: May, 2024

SHEET No. 1 OF 1 SHEETS

FED. ROAD DIST. NO.	STATE	FISCAL PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-050-1(044)	2024	15	40



PLAN
Not to Scale



SECTION A-A
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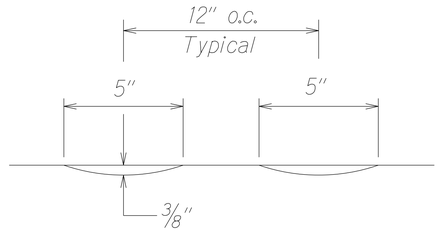

CROSS SECTION
Not to Scale

NOTES:

1. Bicycle Friendly milled edgeline rumble strip shall not be installed where shoulder serves as a part time shoulder lane.
** 2. Bicycle Friendly milled edgeline rumble strip should not be used unless 4 feet of clear shoulder width for bicycle use is available between the rumble strips and the outer edge of the paved shoulder.
3. Do not place Type "C" markers within 2 feet of the 13 feet rumble strip opening.

BICYCLE FRIENDLY MILLED EDGELINE RUMBLE STRIPS

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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

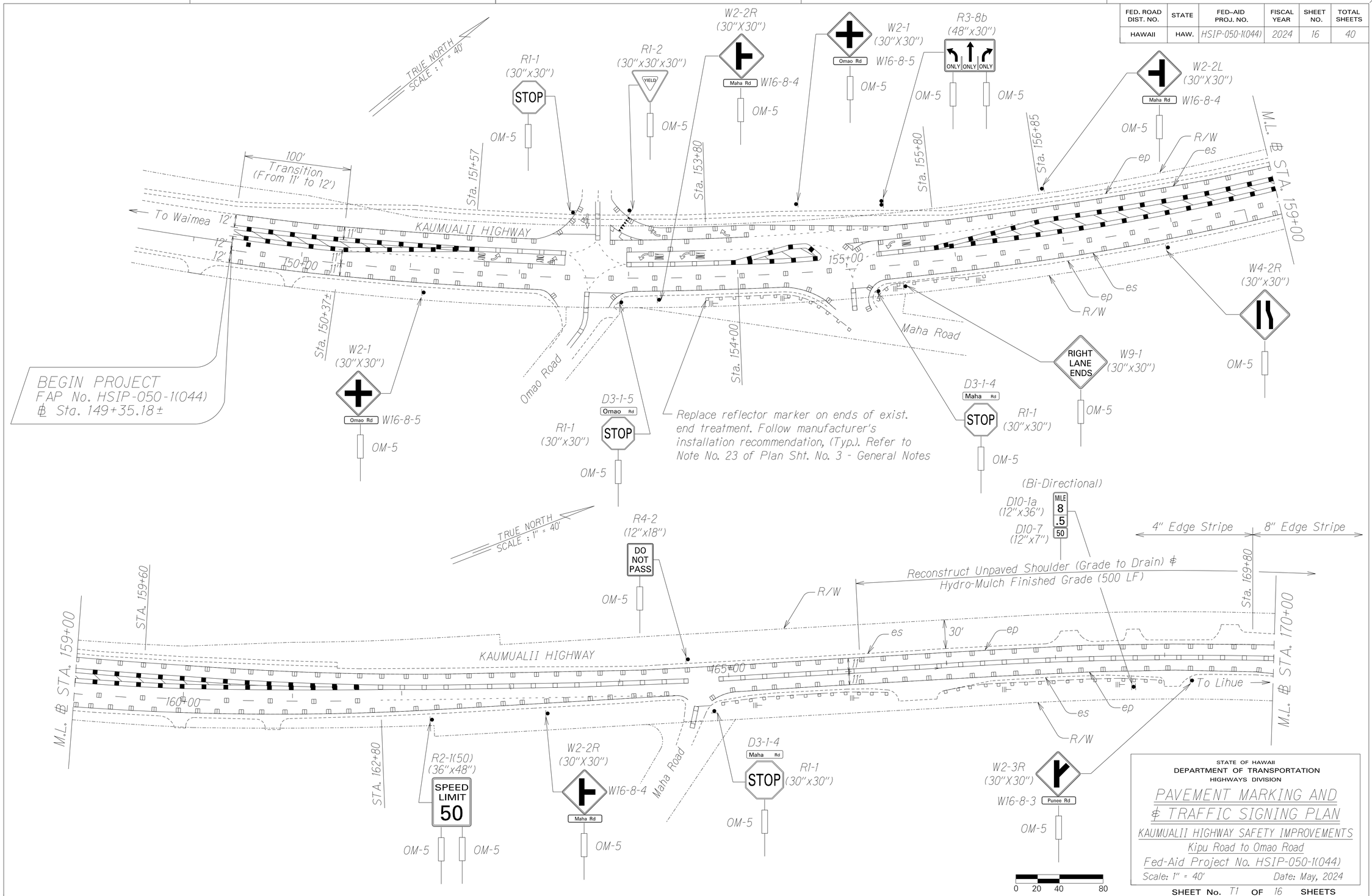
BICYCLE FRIENDLY MILLED EDGRLINE RUMBLE STRIPS, NOTES, & DETAIL

KAUMUALII HIGHWAY SAFETY IMPROVEMENTS
Kipu Road to Omao Road
Fed-Aid Project No. HSIP-050-1(044)

Scale: Not to scale Date: May, 2024

SHEET No. 1 OF 1 SHEETS

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-050-1(044)	2024	16	40



ORIGINAL PLAN

SURVEY PLOTTED BY _____ DATE _____
DRAWN BY JL
TRACED BY _____
DESIGNED BY JL
QUANTITIES BY _____
CHECKED BY _____

NOTE BOOK
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

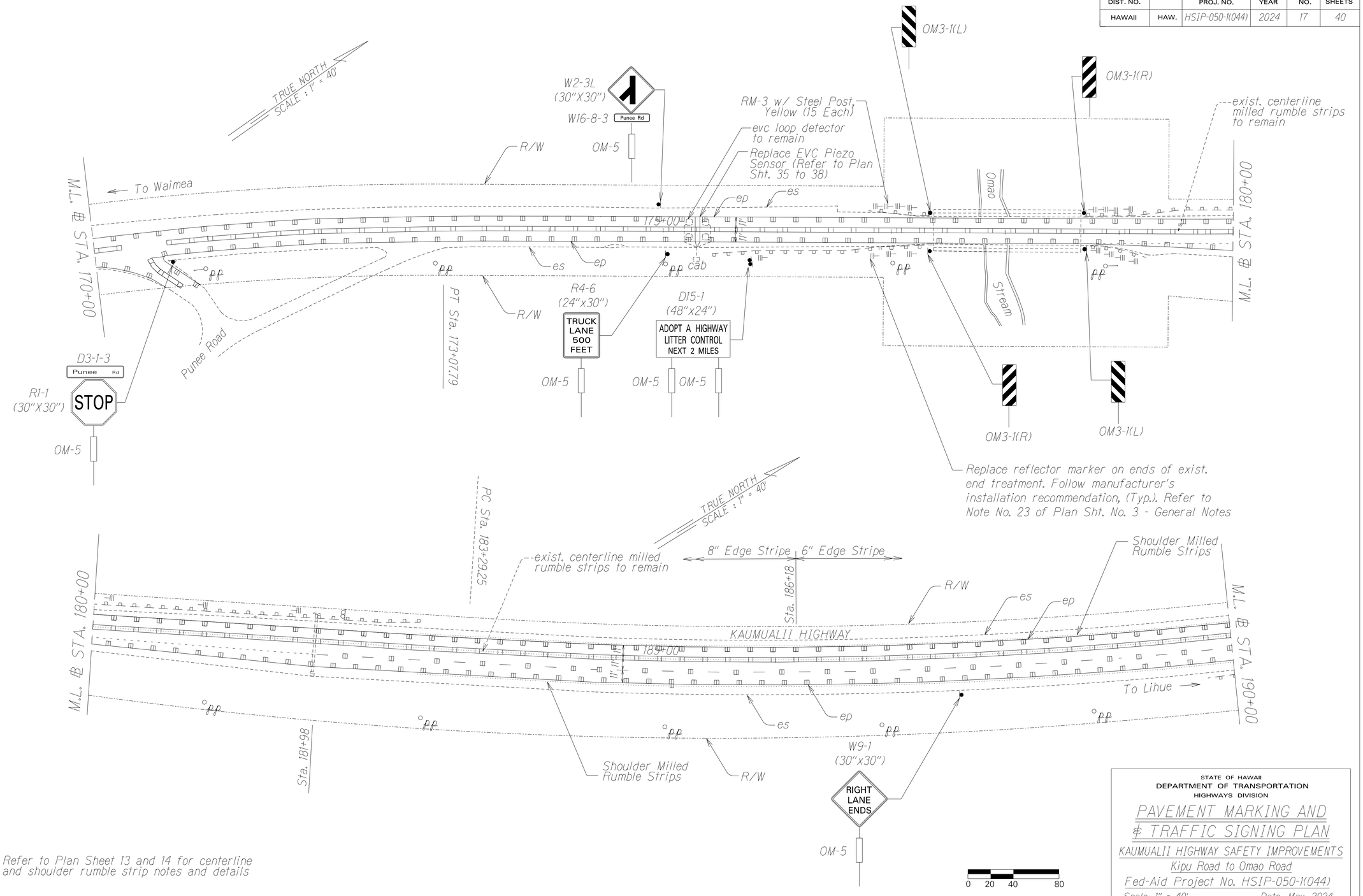
PAVEMENT MARKING AND ℄ TRAFFIC SIGNING PLAN

KAUMUALII HIGHWAY SAFETY IMPROVEMENTS
Kipu Road to Omao Road
Fed-Aid Project No. HSIP-050-1(044)

Scale: 1" = 40' Date: May, 2024

SHEET No. T1 OF 16 SHEETS

FED. ROAD DIST. NO.	STATE	FED-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-050-1(044)	2024	17	40



Note: Refer to Plan Sheet 13 and 14 for centerline and shoulder rumble strip notes and details

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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

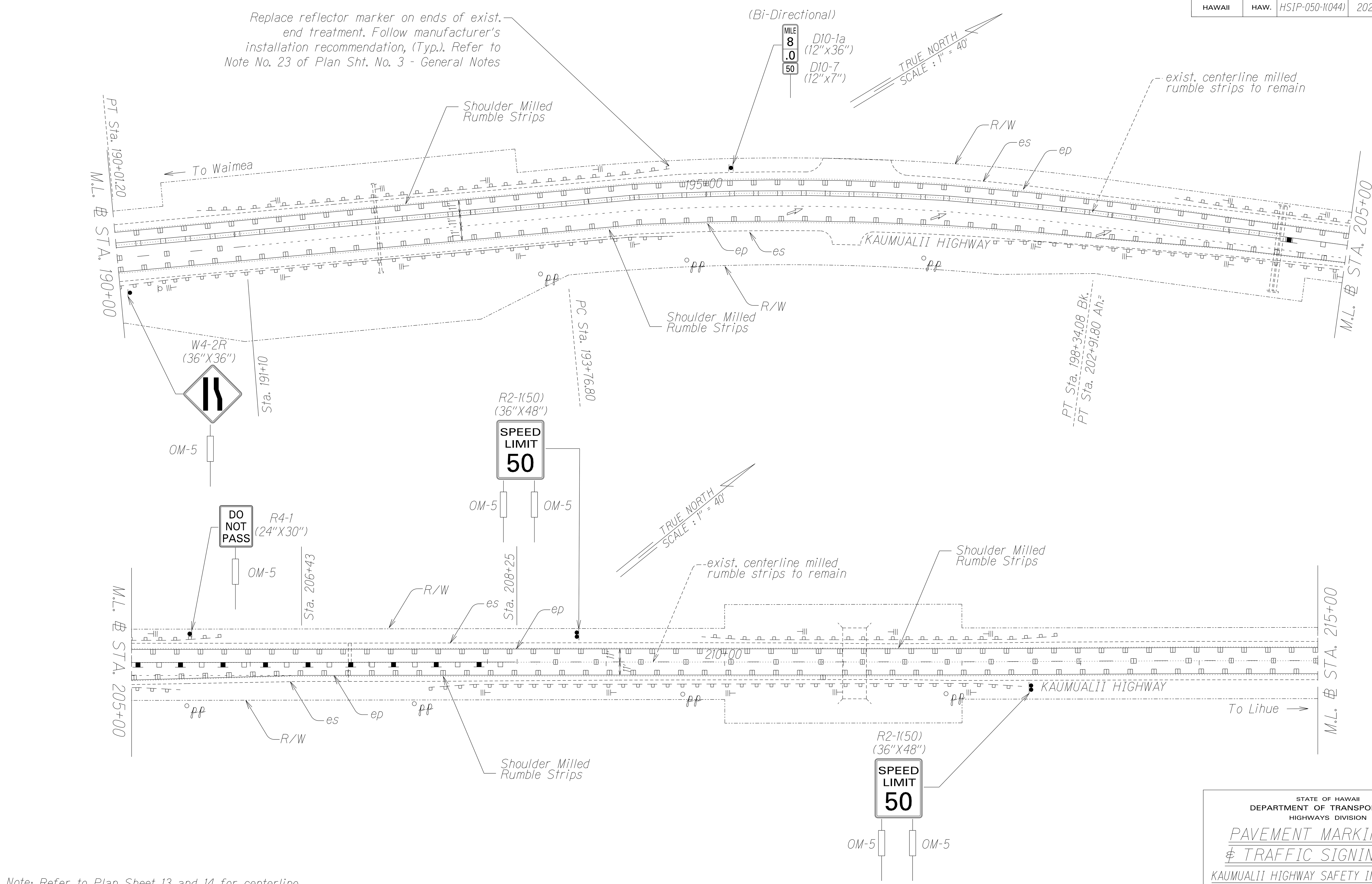
PAVEMENT MARKING AND & TRAFFIC SIGNING PLAN

KAUMUALII HIGHWAY SAFETY IMPROVEMENTS
Kipu Road to Omao Road
Fed-Aid Project No. HSIP-050-1(044)

Scale: 1" = 40' Date: May, 2024

SHEET No. T2 OF 16 SHEETS

FED. ROAD DIST. NO.	STATE	FED-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-050-1(044)	2024	18	40



Note: Refer to Plan Sheet 13 and 14 for centerline and shoulder rumble strip notes and details

0 20 40 80

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PAVEMENT MARKING AND & TRAFFIC SIGNING PLAN

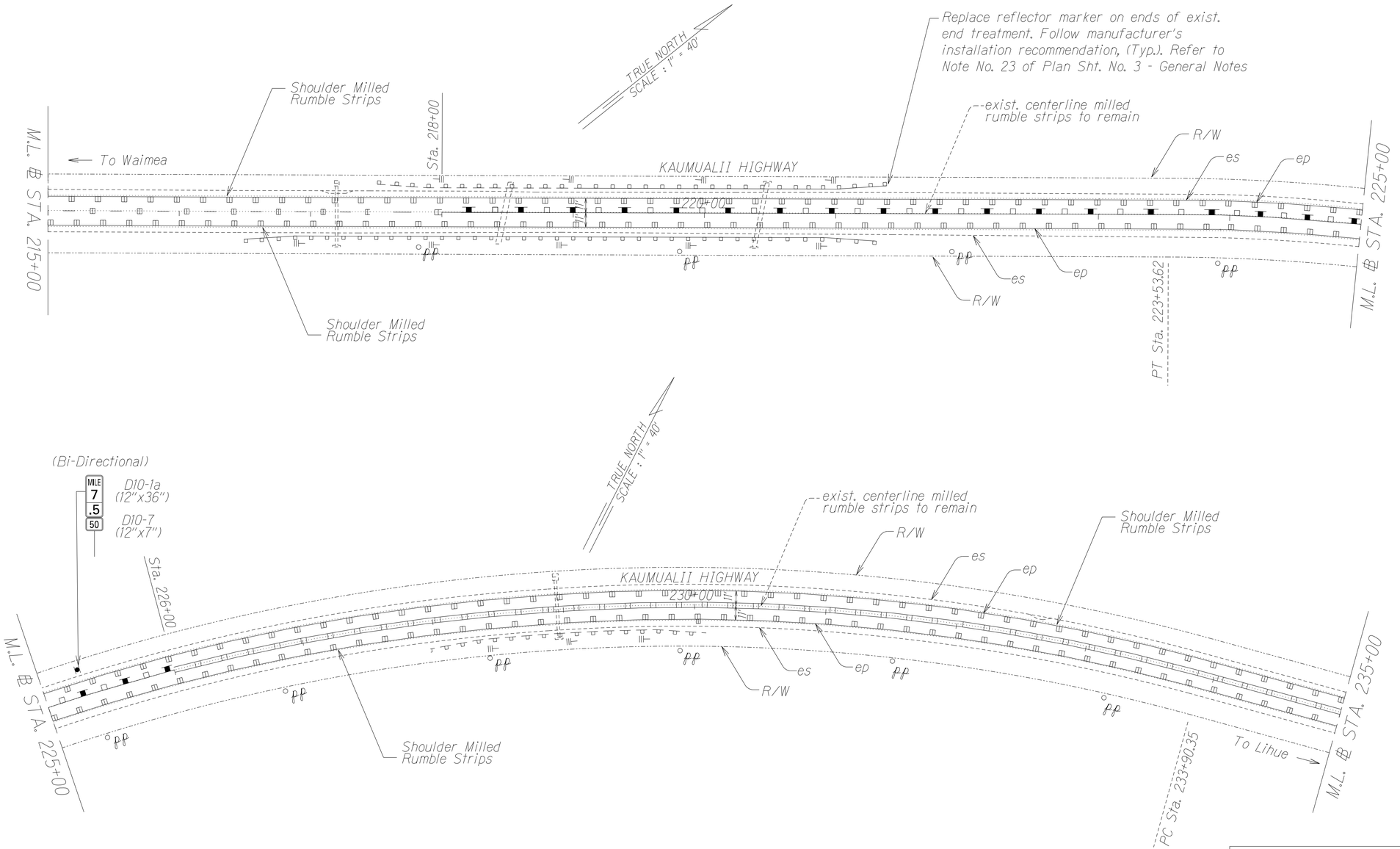
KAUMUALII HIGHWAY SAFETY IMPROVEMENTS
Kipu Road to Omao Road
Fed-Aid Project No. HSIP-050-1(044)

Scale: 1" = 40' Date: May, 2024

SHEET No. T3 OF 16 SHEETS

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

FED. ROAD DIST. NO.	STATE	FED-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-050-1(044)	2024	19	40



Note: Refer to Plan Sheet 13 and 14 for centerline and shoulder rumble strip notes and details

0 20 40 80

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PAVEMENT MARKING AND & TRAFFIC SIGNING PLAN

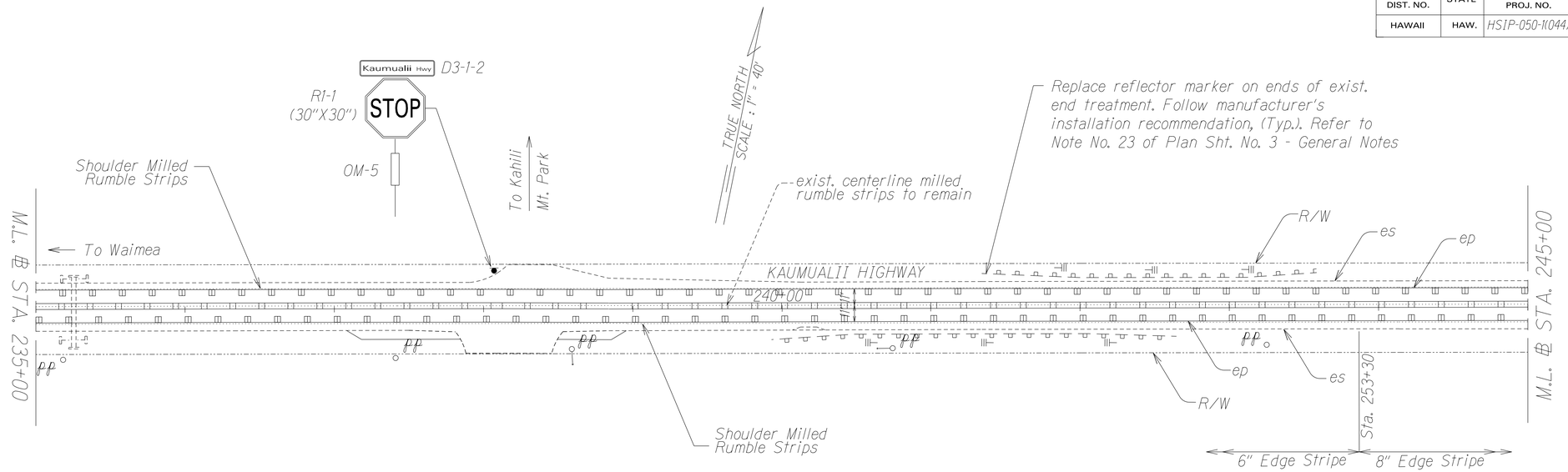
KAUMUALII HIGHWAY SAFETY IMPROVEMENTS
Kipu Road to Omao Road
Fed-Aid Project No. HSIP-050-1(044)

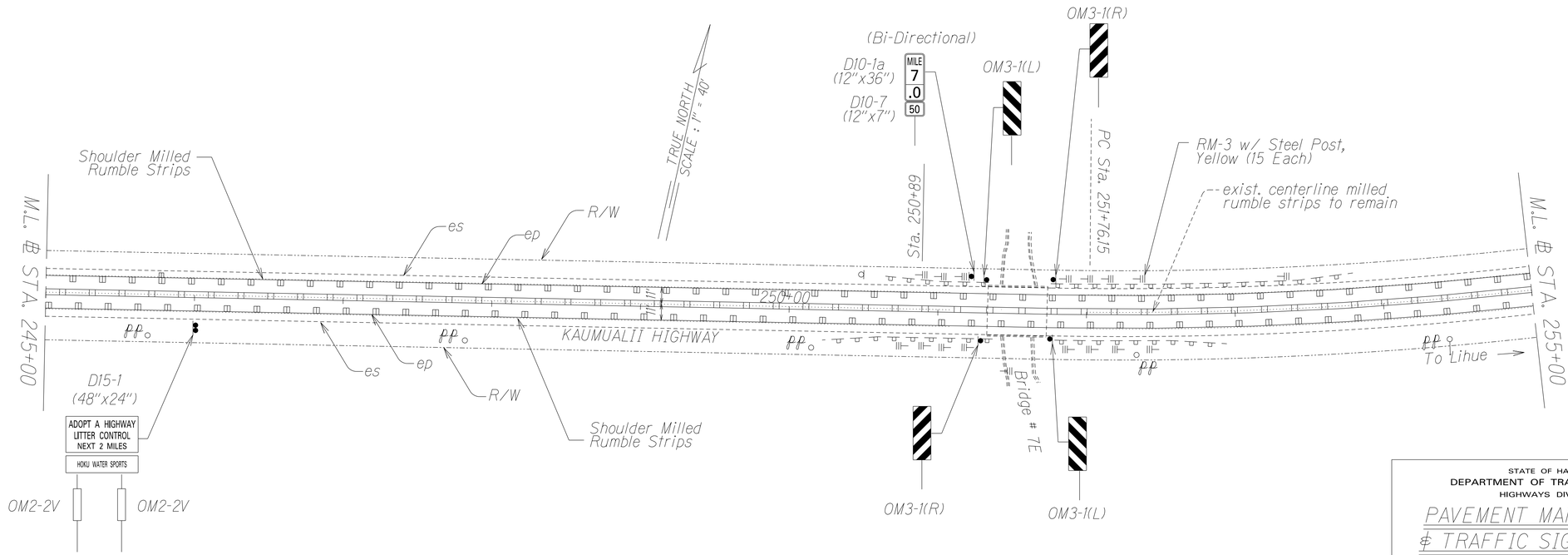
Scale: 1" = 40' Date: May, 2024

SHEET No. T4 OF 16 SHEETS

ORIGINAL PLAN
NOTE BOOK
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.	HSIP-050-1(044)	2024	20	40





Note: Refer to Plan Sheet 13 and 14 for centerline and shoulder rumble strip notes and details

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

0 20 40 80

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

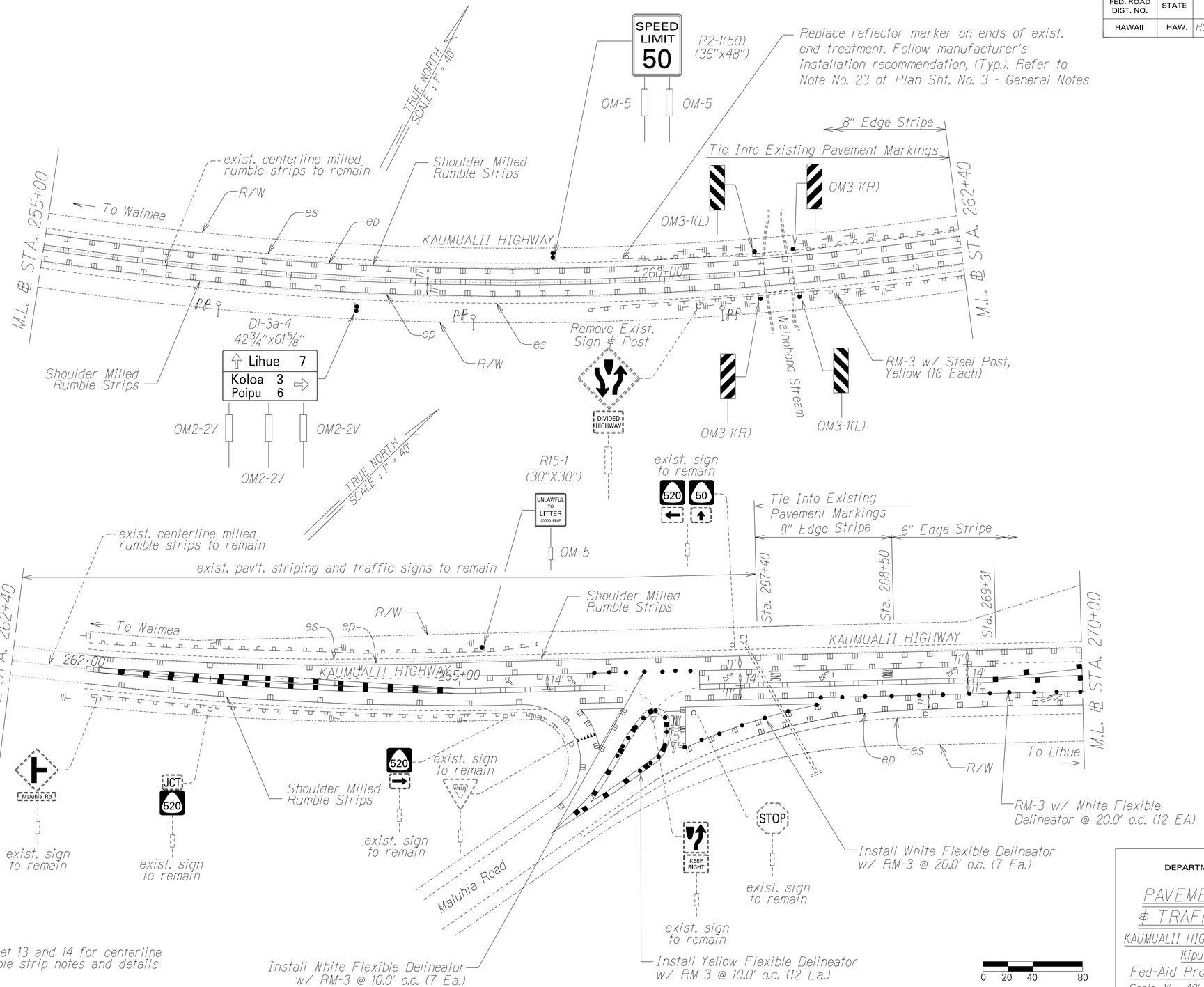
PAVEMENT MARKING AND & TRAFFIC SIGNING PLAN

KAUMUALII HIGHWAY SAFETY IMPROVEMENTS
Kipu Road to Omao Road
Fed-Aid Project No. HSIP-050-1(044)

Scale: 1" = 40' Date: May, 2024

SHEET No. T5 OF 16 SHEETS

FED. ROAD DIST. NO.	STATE	FED-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-050-1(044)	2024	21	40



Note: Refer to Plan Sheet 13 and 14 for centerline and shoulder rumble strip notes and details

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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

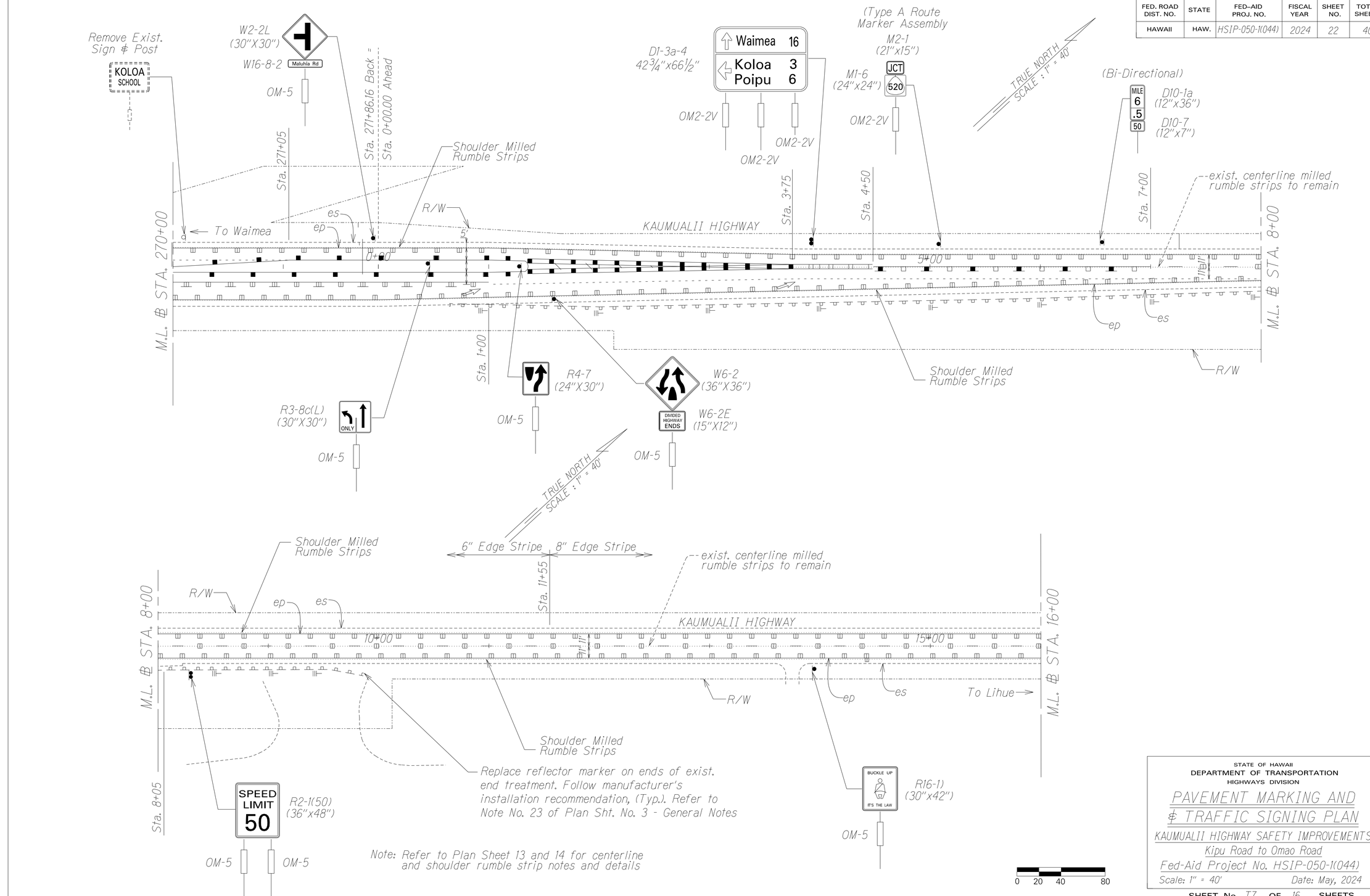
PAVEMENT MARKING AND & TRAFFIC SIGNING PLAN

KAUMUALII HIGHWAY SAFETY IMPROVEMENTS
Kipu Road to Omao Road
Fed-Aid Project No. HSIP-050-1(044)

Scale: 1" = 40' Date: May, 2024

SHEET No. T6 OF 16 SHEETS

FED. ROAD DIST. NO.	STATE	FED-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-050-1(044)	2024	22	40



ORIGINAL PLAN

SURVEY PLOTTED BY _____ DATE _____
DRAWN BY X
TRACED BY _____
DESIGNED BY X
QUANTITIES BY _____
CHECKED BY _____
NOTE BOOK kpl
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

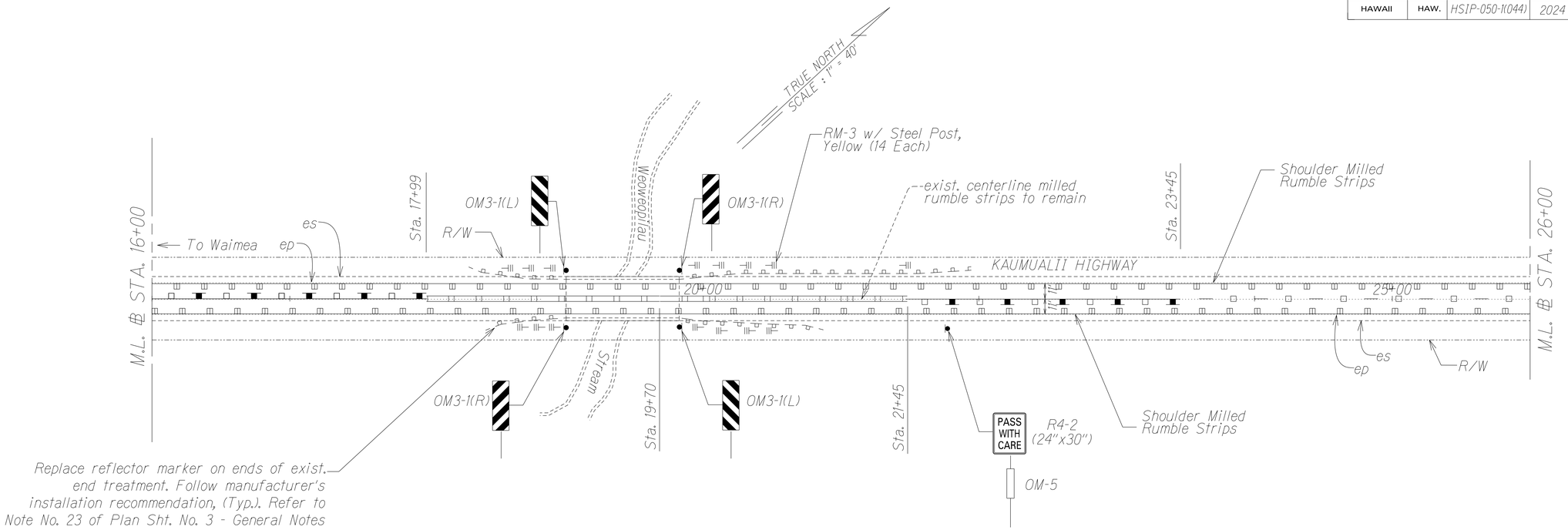
PAVEMENT MARKING AND ℄ TRAFFIC SIGNING PLAN

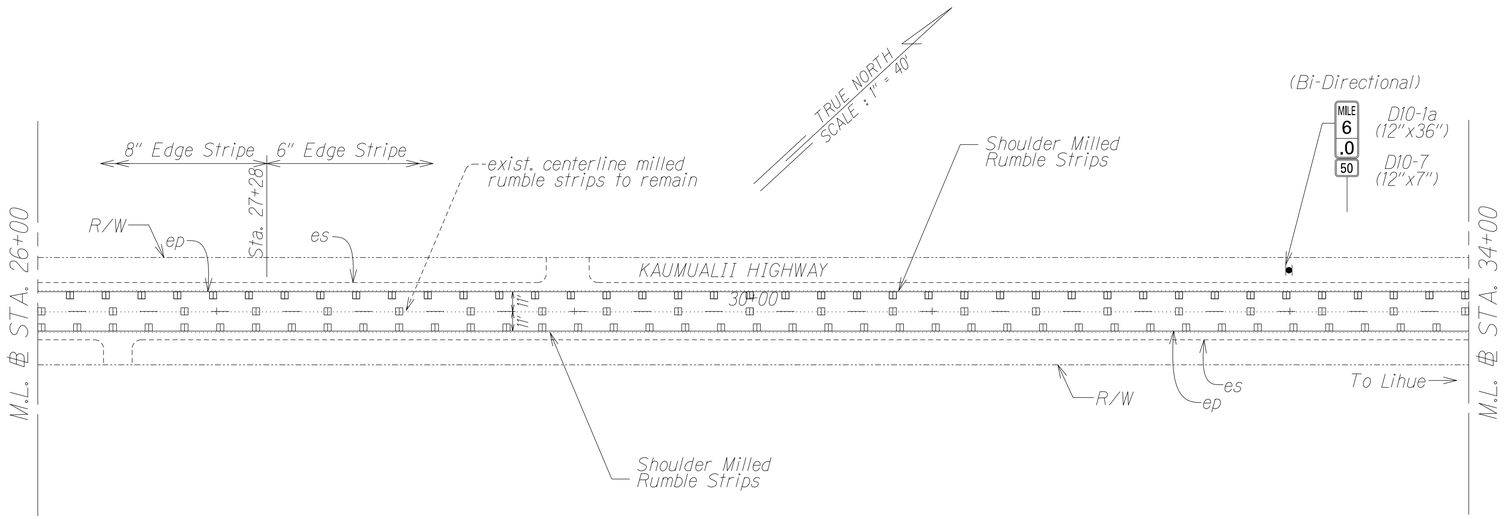
KAUMUALII HIGHWAY SAFETY IMPROVEMENTS
Kipu Road to Omao Road
Fed-Aid Project No. HSIP-050-1(044)

Scale: 1" = 40' Date: May, 2024

SHEET No. T7 OF 16 SHEETS

FED. ROAD DIST. NO.	STATE	FED-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-050-1(044)	2024	23	40





Note: Refer to Plan Sheet 13 and 14 for centerline and shoulder rumble strip notes and details

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

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

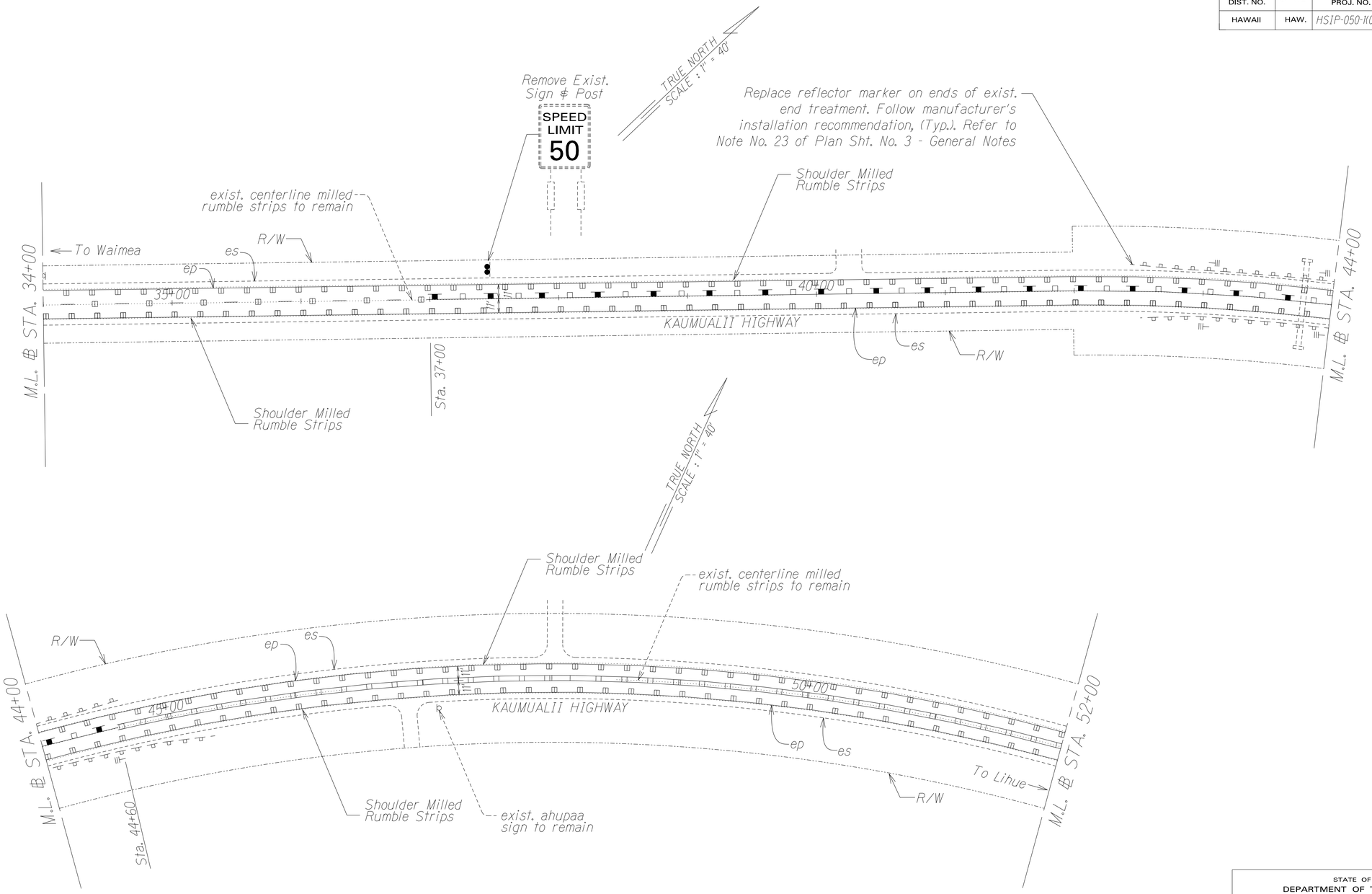
PAVEMENT MARKING AND ~~&~~ TRAFFIC SIGNING PLAN

KAUMUALII HIGHWAY SAFETY IMPROVEMENTS
Kipu Road to Omao Road
Fed-Aid Project No. HSIP-050-1(044)

Scale: 1" = 40' Date: May, 2024

SHEET No. T8 OF 16 SHEETS

FED. ROAD DIST. NO.	STATE	FED-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-050-1(044)	2024	24	40



Note: Refer to Plan Sheet 13 and 14 for centerline and shoulder rumble strip notes and details

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE X
	DRAWN BY X	
NOTE BOOK kpl	TRACED BY	
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	QUANTITIES BY	
	CHECKED BY	

0 20 40 80

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

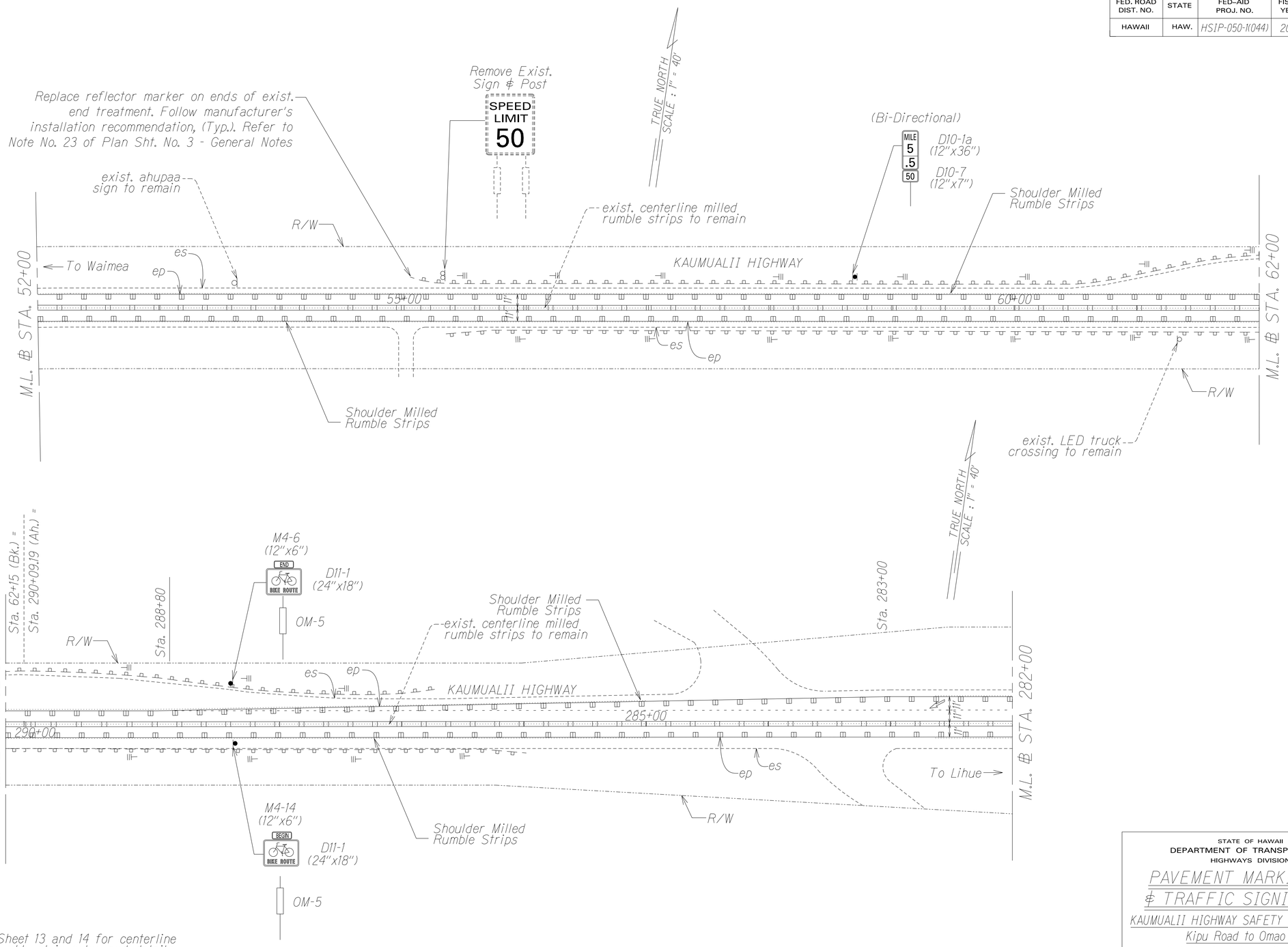
PAVEMENT MARKING AND ℄ TRAFFIC SIGNING PLAN

KAUMUALII HIGHWAY SAFETY IMPROVEMENTS
Kipu Road to Omao Road
Fed-Aid Project No. HSIP-050-1(044)

Scale: 1" = 40' Date: May, 2024

SHEET No. T9 OF 16 SHEETS

FED. ROAD DIST. NO.	STATE	FED-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-050-1(044)	2024	25	40



Note: Refer to Plan Sheet 13 and 14 for centerline and shoulder rumble strip notes and details

0 20 40 80

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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

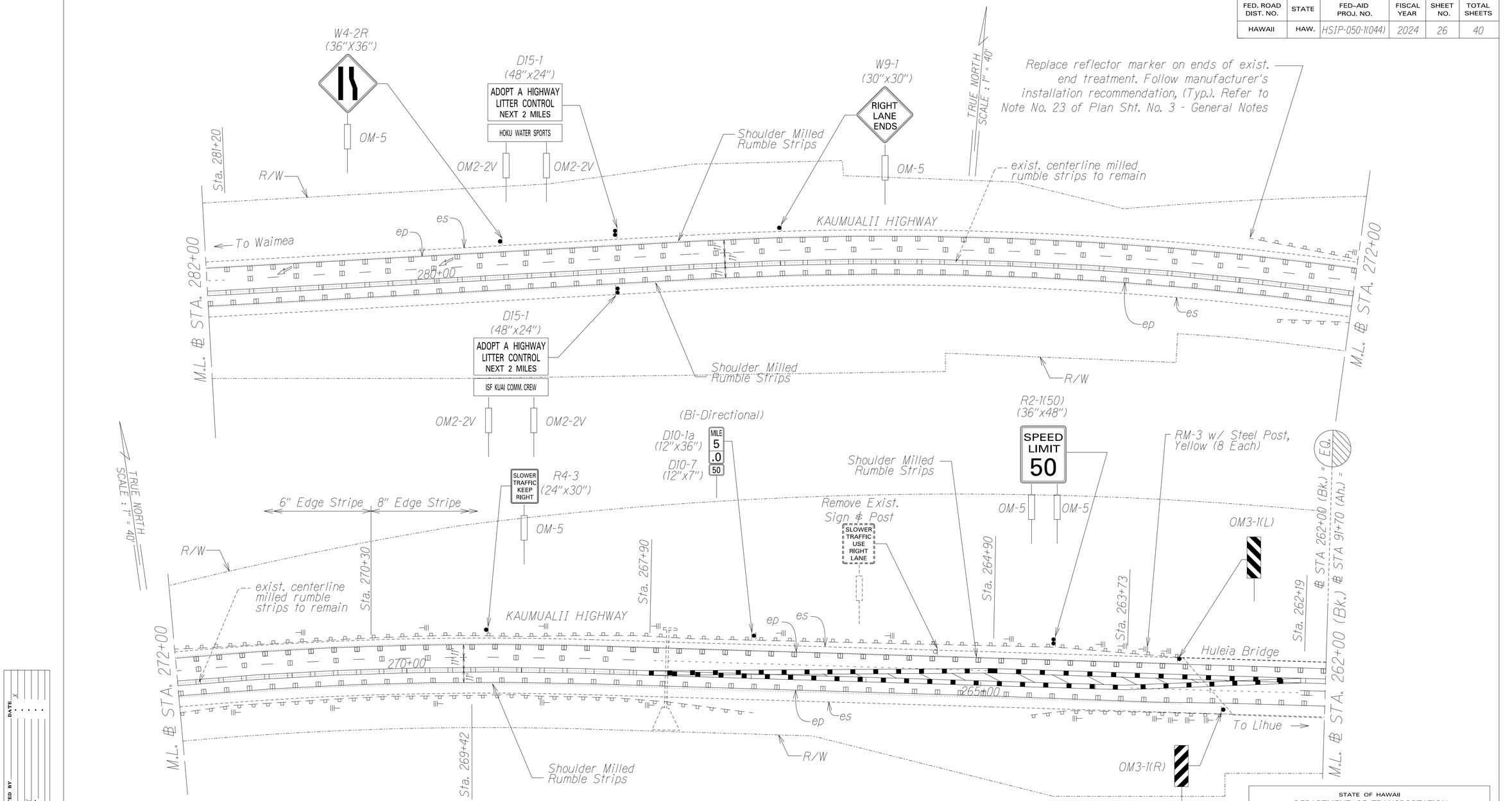
PAVEMENT MARKING AND & TRAFFIC SIGNING PLAN

KAUMUALII HIGHWAY SAFETY IMPROVEMENTS
Kipu Road to Omao Road
Fed-Aid Project No. HSIP-050-1(044)

Scale: 1" = 40' Date: May, 2024

SHEET No. T10 OF 16 SHEETS

FED. ROAD DIST. NO.	STATE	FED-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-050-1(044)	2024	26	40



Note: Refer to Plan Sheet 13 and 14 for centerline and shoulder rumble strip notes and details

0 20 40 80

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
	DRAWN BY X	
NOTE BOOK	TRACED BY	
	DESIGNED BY X	
	QUANTITIES BY	
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

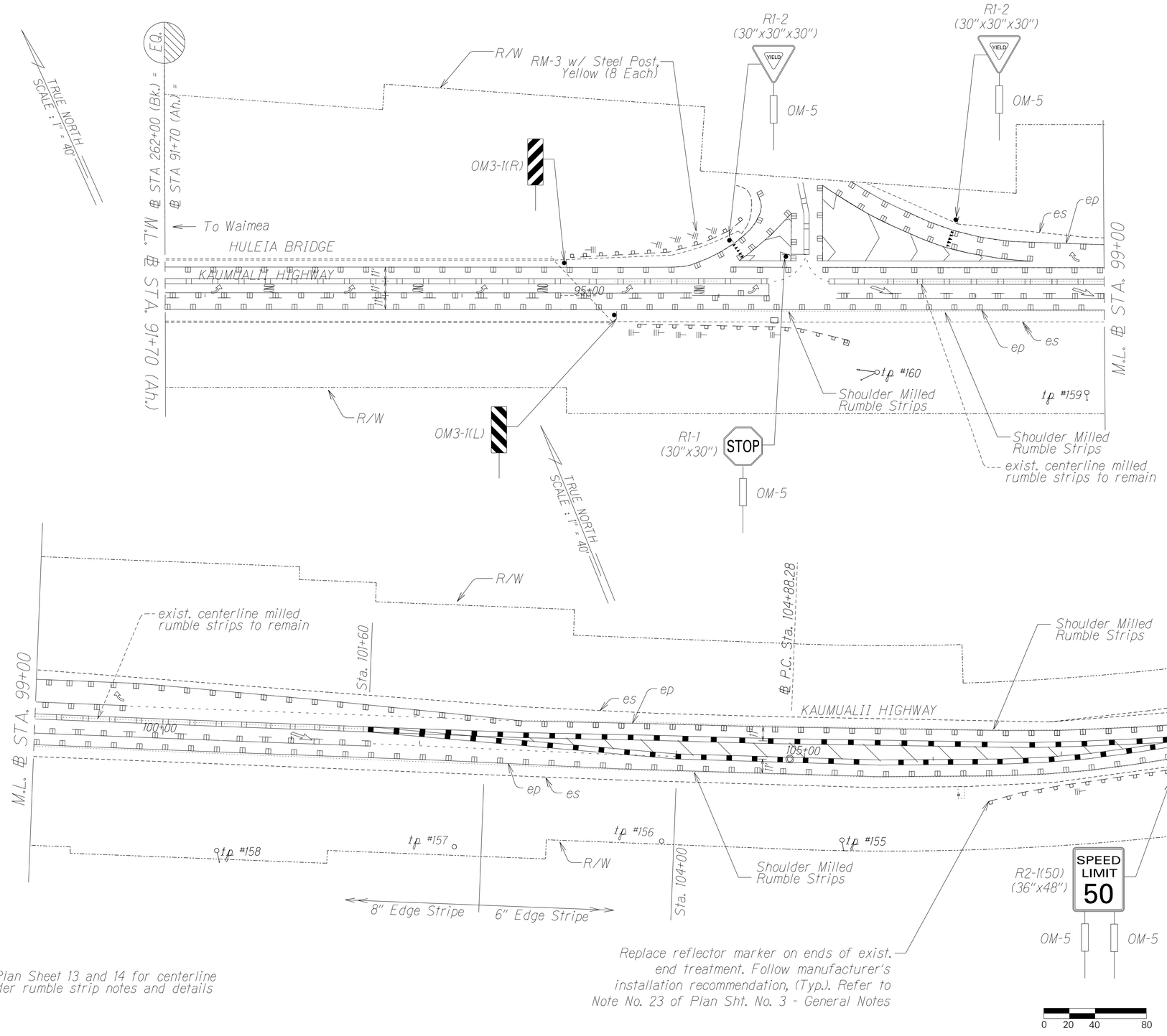
PAVEMENT MARKING AND ℄ TRAFFIC SIGNING PLAN

KAUMUALII HIGHWAY SAFETY IMPROVEMENTS
Kipu Road to Omao Road
Fed-Aid Project No. HSIP-050-1(044)

Scale: 1" = 40' Date: May, 2024

SHEET No. T11 OF 16 SHEETS

FED. ROAD DIST. NO.	STATE	FED-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-050-1(044)	2024	27	40



Note: Refer to Plan Sheet 13 and 14 for centerline and shoulder rumble strip notes and details

Replace reflector marker on ends of exist. end treatment. Follow manufacturer's installation recommendation, (Typ.). Refer to Note No. 23 of Plan Sht. No. 3 - General Notes

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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

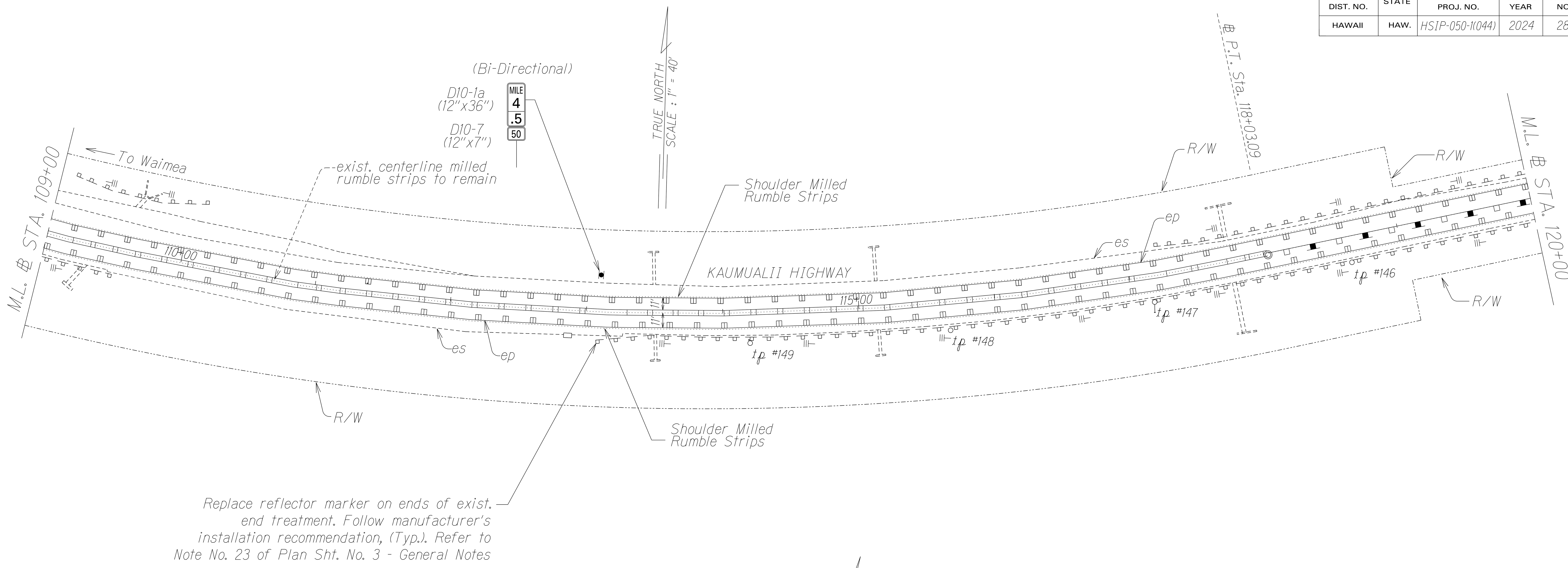
PAVEMENT MARKING AND ℄ TRAFFIC SIGNING PLAN

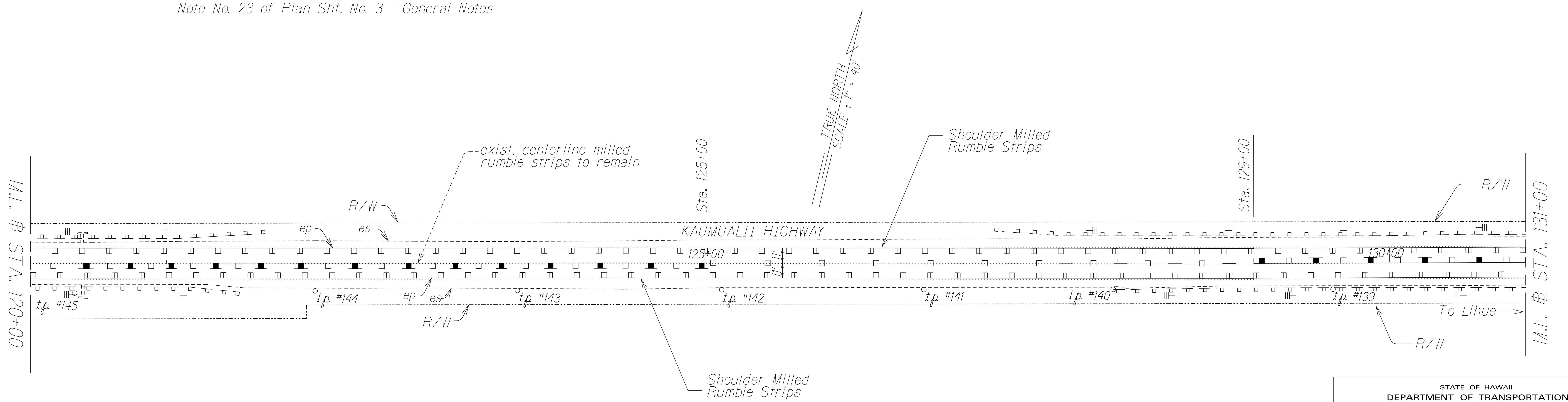
KAUMUALII HIGHWAY SAFETY IMPROVEMENTS
Kipu Road to Omao Road
Fed-Aid Project No. HSIP-050-1(044)

Scale: 1" = 40' Date: May, 2024

SHEET No. T12 OF 16 SHEETS

FED. ROAD DIST. NO.	STATE	FED-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-050-1(044)	2024	28	40





Note: Refer to Plan Sheet 13 and 14 for centerline and shoulder rumble strip notes and details

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

0 20 40 80

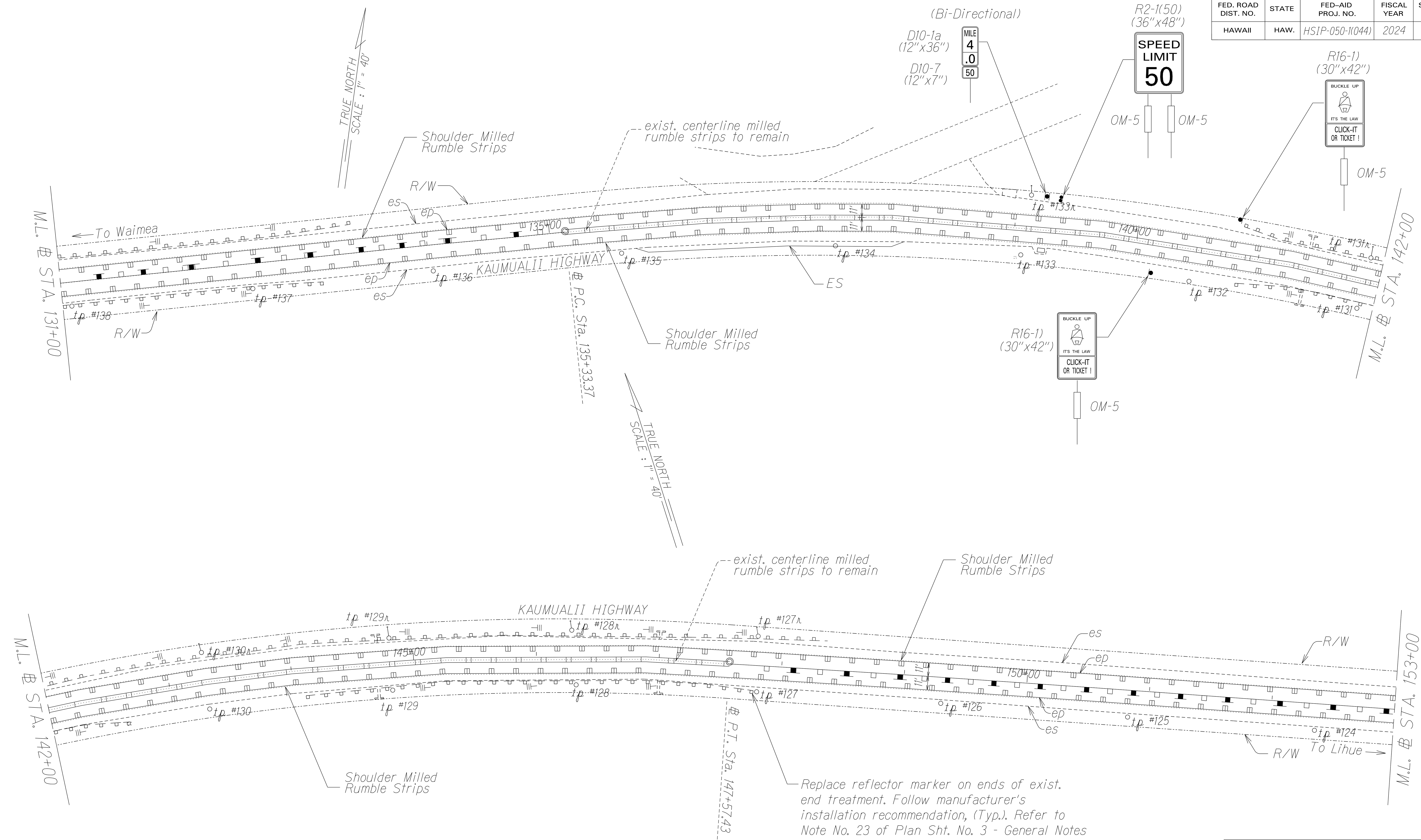
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PAVEMENT MARKING AND
& TRAFFIC SIGNING PLAN

KAUMUALII HIGHWAY SAFETY IMPROVEMENTS
Kipu Road to Omao Road
Fed-Aid Project No. HSIP-050-1(044)
Scale: 1" = 40'   Date: May, 2024

SHEET No. T13 OF 16 SHEETS

FED. ROAD DIST. NO.	STATE	FED-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-050-1(044)	2024	29	40



Note: Refer to Plan Sheet 13 and 14 for centerline and shoulder rumble strip notes and details

0 20 40 80

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

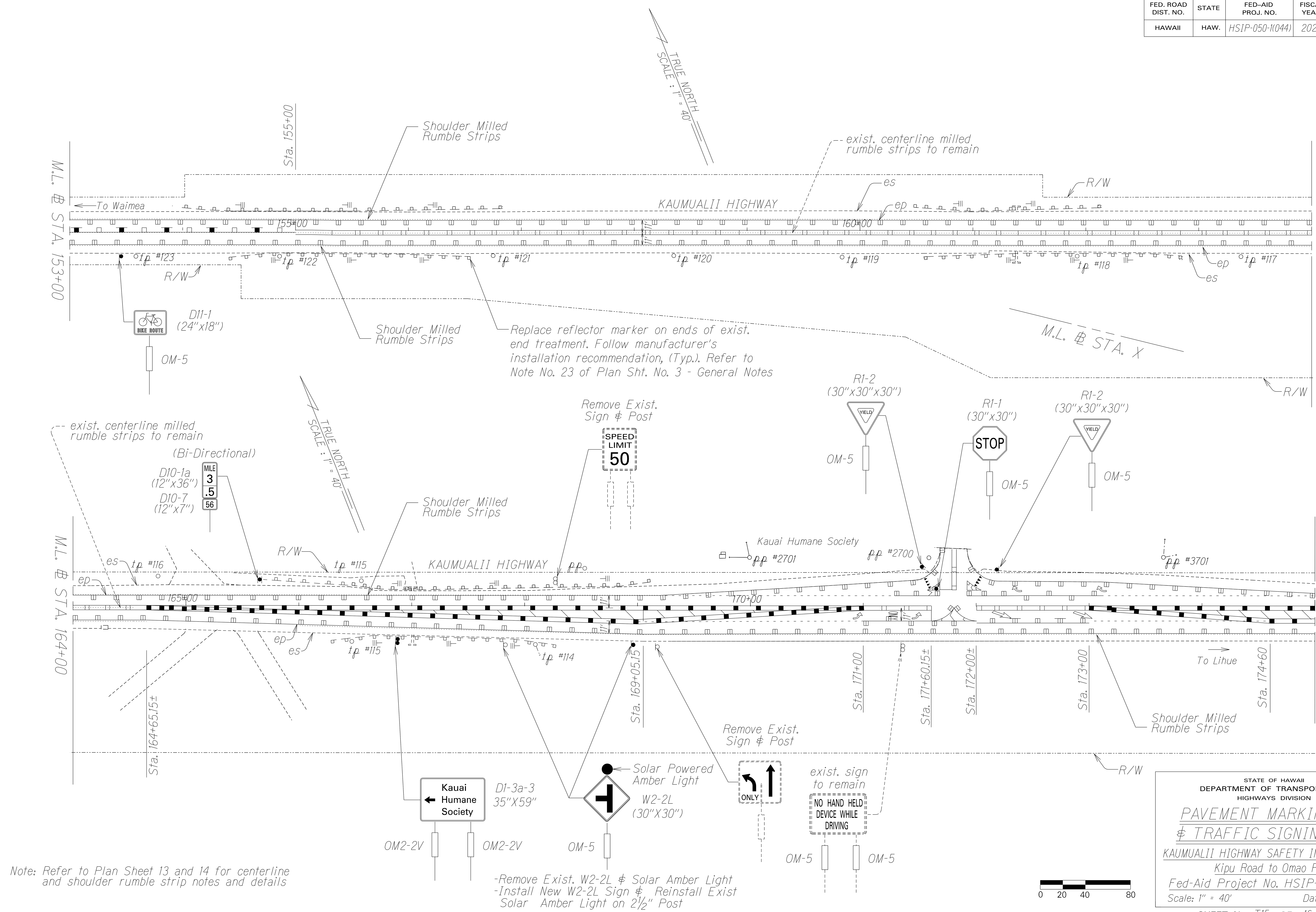
PAVEMENT MARKING AND
& TRAFFIC SIGNING PLAN

KAUMUALII HIGHWAY SAFETY IMPROVEMENTS
Kipu Road to Omao Road
Fed-Aid Project No. HSIP-050-1(044)

Scale: 1" = 40' Date: May, 2024

SHEET No. T14 OF 16 SHEETS

FED. ROAD DIST. NO.	STATE	FED-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-050-1(044)	2024	30	40



Note: Refer to Plan Sheet 13 and 14 for centerline and shoulder rumble strip notes and details

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PAVEMENT MARKING AND & TRAFFIC SIGNING PLAN

KAUMUALII HIGHWAY SAFETY IMPROVEMENTS
Kipu Road to Omao Road
Fed-Aid Project No. HSIP-050-1(044)

Scale: 1" = 40' Date: May, 2024

SHEET No. T15 OF 16 SHEETS

FED. ROAD DIST. NO.	STATE	FED-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-050-1(044)	2024	31	40

D1-3a-2
35"X59"

Kauai Humane Society

OM2-2V OM2-2V

-Remove Exist. W2-2R & Solar Amber Light
-Install New W2-2R Sign & Reinstall Exist Solar Amber Light on 2½" Post

Solar Powered Amber Light

W2-2R (30"X30")

OM-5

Shoulder Milled Rumble Strips

R/W

Sta. 179+67.37

TRUE NORTH
SCALE : 1" = 40'

R2-1(50)
(36"x48")

SPEED LIMIT 50

OM-5 OM-5

Patch Exist. Centerline Milled Rumble Strips
Refer to Detail on Plan Sht. No. 9

Sta. 183+22

M.L. @ STA. 175+00

To Waimea

pp #3700 pp #3600 pp #4602 pp #4601 pp #4600 pp #5601

ep es

KAUMUALII HIGHWAY

180+00

M.L. @ STA. 185+00

pp #3601

ep es

LIHUE
LIHUE
ALTERNATE ROUTE

Remove Exist. Sign & Post

W3-5(40)
(36"x36")

SPEED LIMIT 40

OM-5

Shoulder Milled Rumble Strips

SPEED LIMIT 40

R2-1(40)
(36"x48")

OM-5 OM-5

R/W

W1-7
(48"x24")

OM-5 OM-5

Patch Exist. Centerline Milled Rumble Strips

D15-1
(48"x24")

ADOPT A HIGHWAY LITTER CONTROL
NEXT 2 MILES

ISF KUAI COMM. CREW

OM2-2V OM2-2V

Patch Exist. Centerline Milled Rumble Strips

Sta. 185+17.37

Shoulder Milled Rumble Strips

Sta. 188+70

TRUE NORTH
SCALE : 1" = 40'

Centerline Milled Rumble Strips

Tie Into Existing Pavement Markings

6" Edge Stripe

(Bi-Directional)

D10-1a
(12"x36")

MILE 3.0

D10-7
(12"x7")

56

Sta. 191+77.50

Sta. 192+37.50

END PROJECT
FAP No. HSIP-050-1(044)
@ Sta. 196+50±

Remove Exist. Sign

Kipu Rd

W2-2L
(30"X30")

W16-8-1 Kipu Rd

OM-5

es ep

pp #5600

KAUMUALII HIGHWAY

R/W

pp pp pp pp pp pp

190+00

195+00

To Lihue

tmh

7"±

es

ES

Koloa 7
Waimea 21
Kipu

D-1-3a-1
(42¾"x66½")

OM-2V OM-2V OM-2V

R/W

KIPU ROAD

ADOPT A HIGHWAY LITTER CONTROL
NEXT 2 MILES

UHUE WARD LDS CHURCH

KAUAI COMMUNITY COLLEGE

BEACH HOUSE RESTAURANT

D15-1
(48"x24")

OM2-2V OM2-2V

ONLY

Remove Exist. Sign & Post

R3-8c(R)
(30"X30")

ONLY

OM-5

W2-2R
(30"X30")

W16-8-1 Kipu Rd

OM-5

RIGHT LANE MUST TURN RIGHT

R3-7R
(30"x30")

OM-5

RM-3 w/ White Flexible Delineator @ 10.0' o.c. (11 EA)

Kipu Rd

STOP

D3-1-1

R1-1
(30"X30")

OM-5

R2-1(40)
(36"x48")

SPEED LIMIT 40

OM-5 OM-5

Note: Refer to Plan Sheet 13 and 14 for centerline and shoulder rumble strip notes and details

0 20 40 80

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PAVEMENT MARKING AND & TRAFFIC SIGNING PLAN

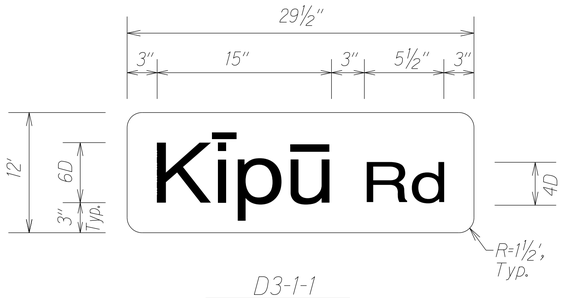
KAUMUALII HIGHWAY SAFETY IMPROVEMENTS
Kipu Road to Omao Road
Fed-Aid Project No. HSIP-050-1(044)

Scale: 1" = 40' Date: May, 2024

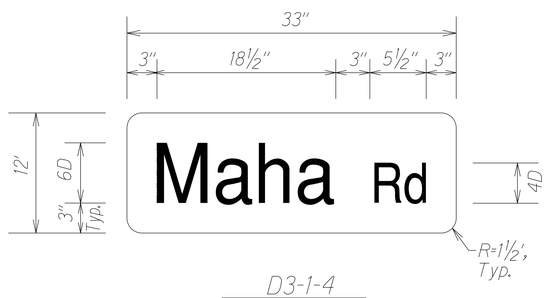
SHEET No. T16 OF 16 SHEETS

ORIGINAL PLAN
SURVEY PLOTTED BY
DRAWN BY X
TRACED BY
DESIGNED BY X
QUANTITIES BY
CHECKED BY
DATE
NOTE BOOK
N:\mapfile.dgn

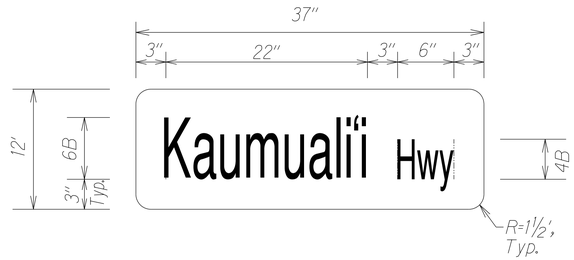
FED. ROAD DIST. NO.	STATE	FED-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-050-1(044)	2024	32	40



D3-1-1
Not to Scale

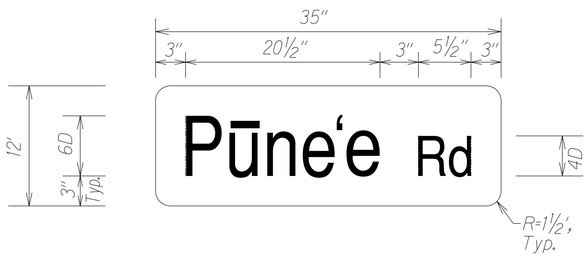


D3-1-4
Not to Scale



D3-1-2
Not to Scale

D3-1-5
Not to Scale



D3-1-3
Not to Scale

STREET NAME SIGN
Not to Scale

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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

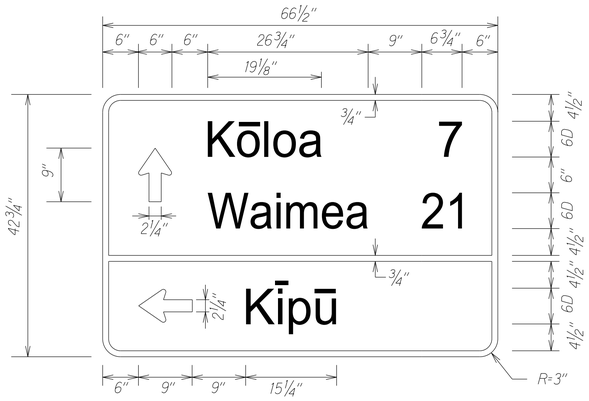
SIGN DETAIL

KAUMUALII HIGHWAY SAFETY IMPROVEMENTS
Kipu Road to Omao Road
Fed-Aid Project No. HSIP-050-1(044)

Scale: As Noted Date: May, 2024

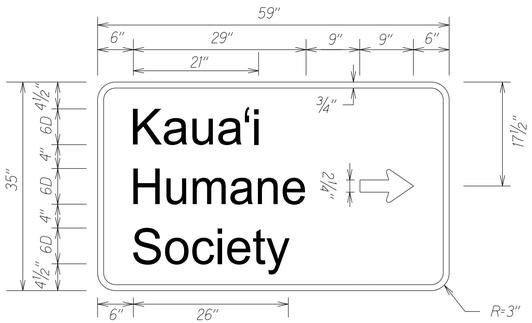
SHEET No. 1 OF 2 SHEETS

FED. ROAD DIST. NO.	STATE	FED-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-050-1(044)	2024	33	40



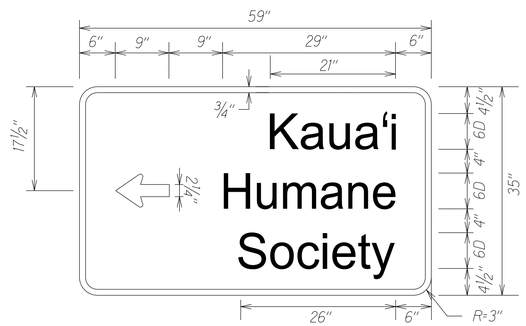
Sign Support: 3-4.00 lbs./ft. Flanged Channel Post
Flat Panel

D1-3a-1
Not to Scale



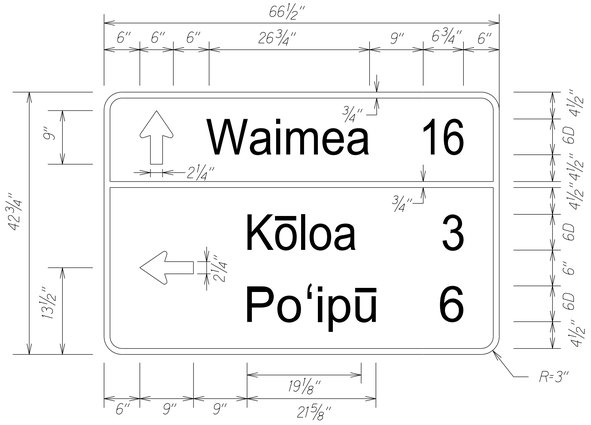
Sign Support: 3-4.00 lbs./ft. Flanged Channel Post
Flat Panel

D1-3a-2
Not to Scale



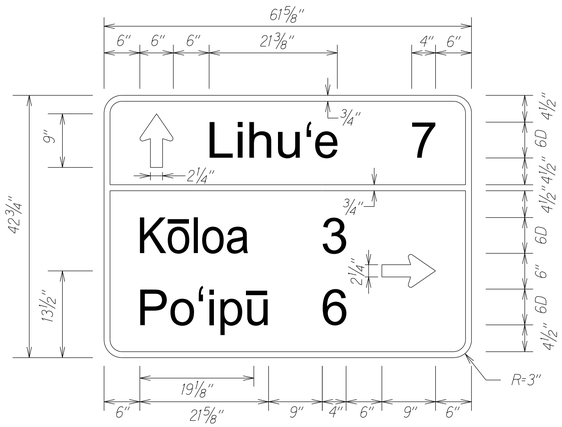
Sign Support: 3-4.00 lbs./ft. Flanged Channel Post
Flat Panel

D1-3a-3
Not to Scale



Sign Support: To be installed at exist. I-Beam Posts
Extruded panel

D1-3a-4
Not to Scale



Sign Support: 3-4.00 lbs./ft. Flanged Channel Post
Flat Panel

D1-3a-5
Not to Scale

Legend: White (Retroreflective)
Background: Green (Retroreflective)

DESTINATION SIGN
Not to Scale

Sign Support: 2-2½' Square Tube
Flat Panel
Legend: Blue (Retroreflective)
Background: White (Retroreflective)

Note: Acknowledgement sign D15-1 shall be paid under Item No. 631.0300 - Miscellaneous Sign with Post and will not be paid separately.

D15-1
Not to Scale

ACKNOWLEDGEMENT SIGN
Not to Scale

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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

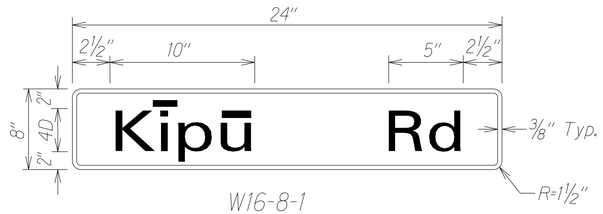
SIGN DETAIL

KAUMUALII HIGHWAY SAFETY IMPROVEMENTS
Kipu Road to Omao Road
Fed-Aid Project No. HSIP-050-1(044)

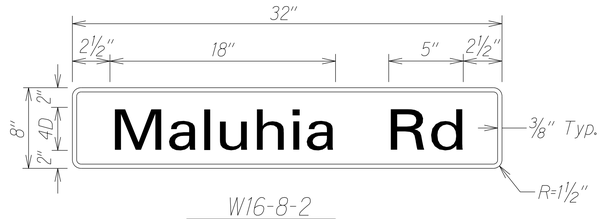
Scale: As Noted Date: May, 2024

SHEET No. 2 OF 2 SHEETS

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-050-1(044)	2024	34	40

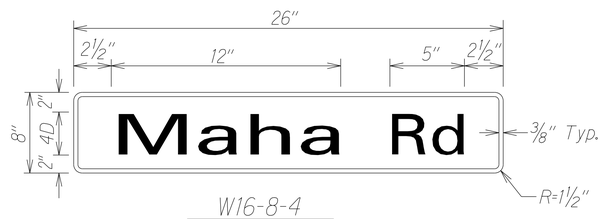


W16-8-1
Not to Scale

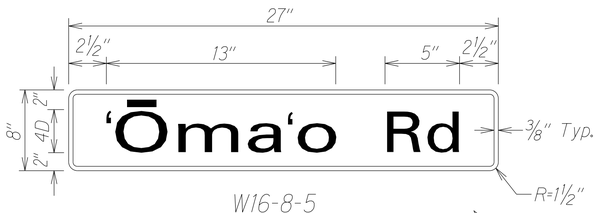


W16-8-2
Not to Scale

W16-8-3
Not to Scale

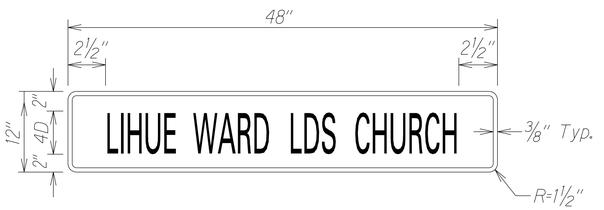


W16-8-4
Not to Scale



W16-8-5
Not to Scale

ADVANCE STREET NAME
Not to Scale



ACKNOWLEDGEMENT SUPPLEMENTAL PLAQUE
Not to Scale

Notes:

1. Advance Street Name Sign (W16-8) shall be installed on intersection warning sign (W2-2) and shall have black lettering and borders on a yellow background. Width of borders shall be 5/8".
2. Acknowledgement Plaque Sign shall be installed on Acknowledgement Sign (D15-1) and shall have blue lettering and borders on a white background. Width of borders shall be 5/8".

ORIGINAL PLAN
SURVEY PLOTTED BY
DRAWN BY J
TRACED BY
DESIGNED BY K
QUANTITIES BY
CHECKED BY
DATE
NOTE BOOK
HAWAII.dgn

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SUPPLEMENTAL PLAQUE SIGN DETAIL

KAUMUALII HIGHWAY SAFETY IMPROVEMENTS
Kipu Road to Omao Road
Fed-Aid Project No. HSIP-050-1(044)

Scale: As Noted Date: May, 2024

SHEET No. 1 OF 1 SHEETS

ENHANCED VEHICLE CLASSIFICATION (EVC) SYSTEM NOTES

1. The location of new sensors shall be staked out in the field by the Contractor based on the location of permanent striping and markings, and approved by the Engineer prior to installation.

2. The Contractor shall inform the Engineer at least three days prior to saw cutting pavement and installing sensors.

3. Highway crossing conduits shall be provided with a minimum of 36" cover and shall be concrete encased, per Standard Plan TE-36.

4. The Contractor shall verify the location of existing utilities and underground structures whether or not shown on the plans.

5. The Contractor shall assume that underground utilities not shown on the plans may exist. The Contractor shall be responsible for contacting the different utility companies for information and toning.

6. The Contractor shall be held liable for any damages incurred to existing utilities and underground structures as a result of operations. All damaged portions shall be replaced in accordance with the standards and specifications of the affected utility company at no cost to the State.

7. Changes to the contract plans and specifications will not be permitted, unless approved by the Engineer in writing.

8. Saw cuts shall be made by wet cutting only.

9. After saw cutting is done, the saw cuts shall be cleaned of dust, dirt, and refuse with water applied by pressure washer. Residual water within the saw cuts shall be vacuumed using a wet/dry vacuum. The saw cuts shall then be dried using an air compressor.

10. After saw cuts are dried, any remaining debris stuck within the cuts shall be removed. The saw cuts must be completely clean and dry before inserting the sensors and filling cuts and any voids surrounding the sensors or their lead cables with sealant.

11. The collected slurry shall be disposed of appropriately (i.e., either placed in a filter fabric-lined filtration box or a filter fabric-lined dug up retention/percolation basin). After filtration/percolation, the filter fabric and the retained sediments and any excavated pavement material shall be disposed of appropriately.

12. Sensor lead cables shall be pulled into conduits where indicated. Cables shall be tested for acceptance before and after installation into conduits.

13. Piezo sensor lead cables shall be continuous with no splices.

14. Sensor lead cables shall be terminated in the controller cabinet and shall have a minimum of 12" additional slack.

15. The Contractor shall restore all affected areas to their original condition or better. This item of work shall not be paid for separately, but shall be considered incidental to work of other paid items.

LOOP SENSOR LAYOUT NOTES

1. Loop sensors shall consist of four turns of 1C #14 cable (meeting IMSA Spec. 51-3 or equivalent) embedded in a 3/8" wide by 4" deep saw cut, except as noted. Loop sensors shall be provided a minimum of 2" cover.

2. Loop sensors shall be staggered on roadways with lanes that are less than 12 feet in width, and centered in lanes relative to permanent striping and markings, as shown on contract plans or by direction of the Engineer.

3. After laying the loop sensor cable in four (4) turns within the 4" deep cut, 1" long pieces of backer rod shall be pressed in each foot of the loop and the loop lead saw cut, to anchor the wire in the bottom of the cut before applying the loop sealant. Backer rod shall be embedded at least 2" below the top of pavement. The backer rod shall be pressed into the saw cut with a blunt object such as a wooden paint stir stick. No sharp object (such as a screw driver) shall be used to press the backer rod into the saw cuts.

4. Loop sensor and lead cable shall be one continuous wire. Lead wires from the same loop shall be twisted in pairs, five twists per foot, from the end of the saw cut at the roadway edge to the pull box. Do not twist one loop pair with another loop pair.

5. Continuity of loop sensors and lead cables shall be tested and warrantied for one year from the date of acceptance by the Engineer.

6. Loop sensor lead cables shall be spliced to home-run cables (meeting IMSA Spec. 50-2 or equivalent) only at the closest pull box to the loop. Splices shall be made using a splice kit. Splice points of cables shall be suspended near the top of the pull box with a j-hook.

7. The Contractor shall label the loop and piezo sensor leads clearly to identify traffic direction, lane number, and sequence of loop and piezo sensors in each lane in each direction.

8. The left-most lane in the direction of traffic flow is designated as Lane 1, and the next lane to its right as Lane 2, and so on, as indicated on plans.

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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

EVC TRAFFIC COUNTING SYSTEM NOTES

KAUMUALII HIGHWAY SAFETY IMPROVEMENTS
Kipu Road to Omao Road
Federal-Aid Project No. HSIP-050-1(044)
Date: May 2024

SHEET No. 1 OF 4 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-050-1(044)	2024	36	40

BOUNDARY LABEL LEGEND

ep = edge of pavement
℄ = centerline

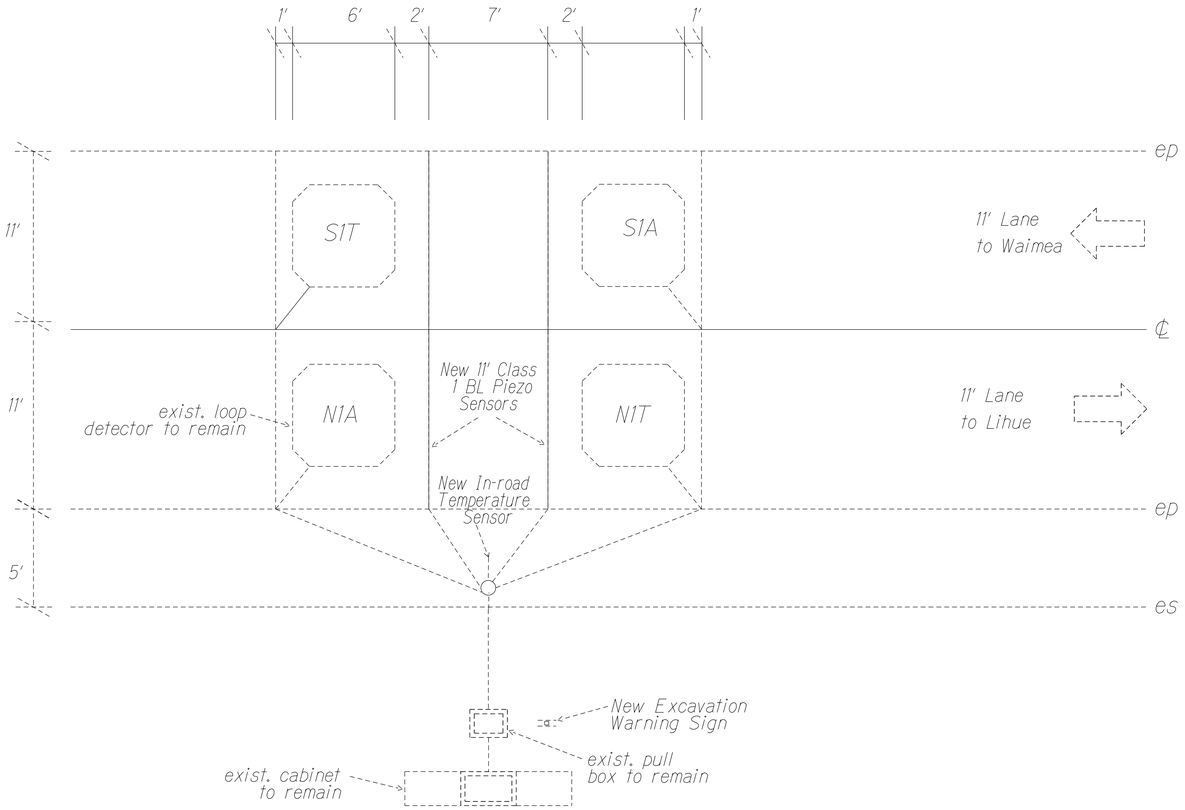
LOOP LABEL LEGEND

N = North
S = South
A = Approaching
T = Trailing

N 1 T
- T — Indicates approaching or trailing loop
- 1 — Indicates lane number
- N — Indicates direction

NOTES:

1. All dimensions and callouts are typical unless otherwise noted on plan.
2. Mount 200 Watt solar panel on top of cabinet (refer to Cabinet plan).
3. Place Excavation Warning Signs no more than 20' from Cabinet (refer to Warning Sign plan).6'
4. Refer to Sensor Details sheet for installation of Loop and Piezo Sensors.



Conduit Table:

Conduit* # - Size	Class 1 BL Sensor Lead Cables	2C #14 Loop Sensor Cable	In-Road Temperature Sensor Cable
1 - 2"	4	0	1
1 - 2"	0	4	0

*Conduits under pavement and at utility crossings shall be concrete encased per Standard Plan TE-36.

*Conduits in unpaved areas of the Right of Way shall be constructed per DUCT DETAILS on Standard Plan TE-35.

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK Halprin	DRAWN BY	
No. Name/Date	TRACED BY	
	DESIGNED BY	
	QUANTITIES BY	
	CHECKED BY	

EVC TRAFFIC COUNTING SYSTEM LAYOUT AND LABELING
NEW EVC STATION - KUHIO HIGHWAY SR 56 MP 8.13

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

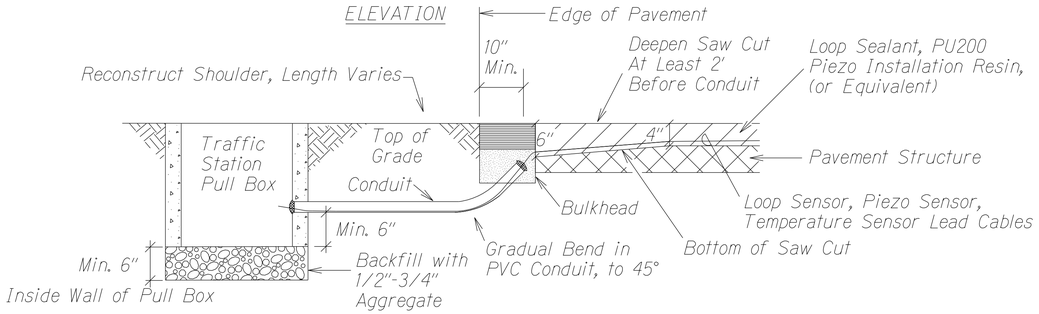
EVC TRAFFIC COUNTING SYSTEM LAYOUT

KAUMUALII HIGHWAY SAFETY IMPROVEMENTS
Kipu Road to Omao Road
Federal-Aid Project No. HSIP-050-1(044)

Scale: As Shown Date: May 2024

SHEET No. 2 OF 4 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-050-1(044)	2024	37	40

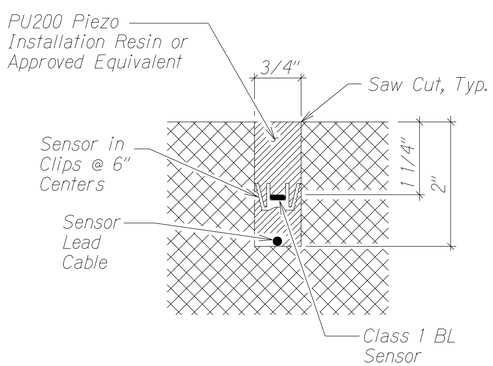


EDGE OF ROADWAY DETAILS

Not to Scale

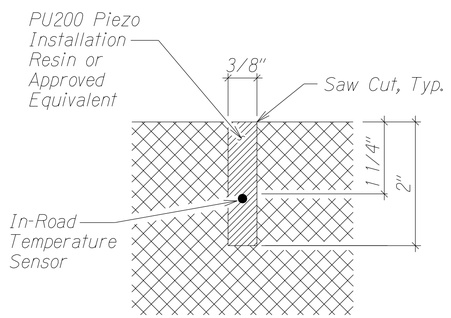
NOTES ON CONSTRUCTION AT END OF SAW CUT:

1. Conduit stubout should be installed at least 10 inches in from the edge of pavement. If the depth of pavement is 4 inches or less at the edge, conduit stubout should be installed at least 12 inches in from the edge of pavement.
2. Install bell ends on conduit and seal with duct seal compound after installation of lead cables.
3. Install temporary bulkhead/dam across saw cut to keep sealant in saw cut as it is placed..
4. Place loop sealant, PU200 piezo installation resin (or equivalent) in saw cut.
5. Place sand to cover exposed lead cables and protect and separate them from backfill.
6. Backfill over sand with new A.C. cold mix in stubout excavation hole.
7. Reconstruct shoulder, curb, and gutter as required.



PIEZO SENSOR SAW CUT SECTION DETAIL

Not to Scale



TEMPERATURE SENSOR SAW CUT SECTION DETAIL

Not to Scale

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
	DRAWN BY	
	TRACED BY	
NOTE BOOK Haleiwa Waianae/Lahaina	DESIGNED BY	
	QUANTITIES BY	
No.	CHECKED BY	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

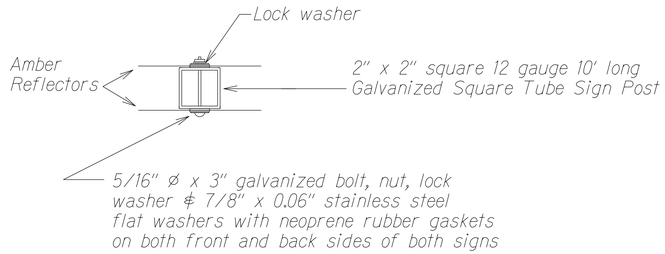
EVC TRAFFIC COUNTING SYSTEM SENSOR DETAILS

KAUMUALII HIGHWAY SAFETY IMPROVEMENTS
Kipu Road to Omao Road
Federal-Aid Project No. HSIP050-1(044)

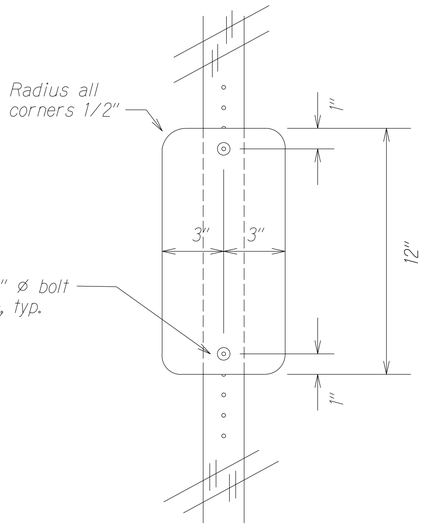
Scale As Noted Date: May 2024

SHEET No. 3 OF 4 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-050-1(044)	2024	38	40



PLAN



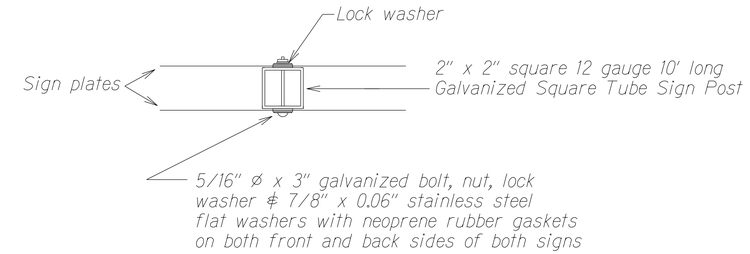
ELEVATION

NOTES:

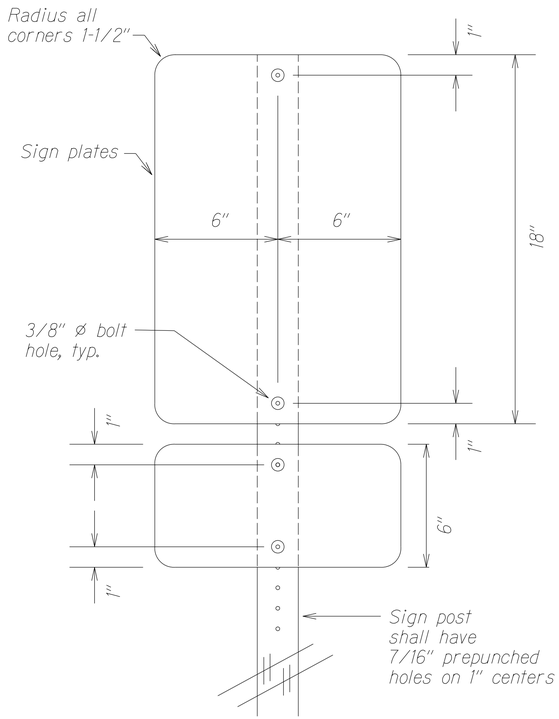
1. Two (2) reflectors shall be mounted on either side of the post and below the Warning and Station ID signs on the same post.
2. Bottom of reflectors shall be 4' above finished grade.
3. Reflector plates shall be oriented perpendicular to the roadway and to the Warning and Station ID signs higher on the post.

TYPE II OBJECT MARKER (REFLECTOR) MOUNTING

Not to Scale



PLAN



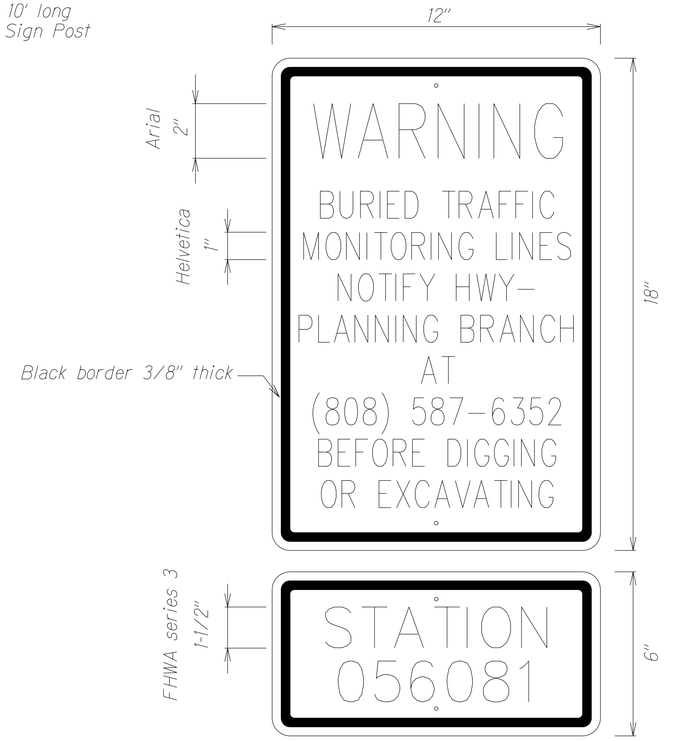
ELEVATION

NOTES:

1. Two (2) warning sign plates and two (2) station ID plates shall be mounted back to back, parallel to the roadway.
2. Bottom of Station ID signs shall be 7' above finished grade.

SIGN MOUNTING

Not to Scale



SIGN DETAIL

Not to Scale

NOTES:

1. Text on signs shall be centered both ways and shall be black text on yellow non-retro reflective background.
2. Existing station name shall be used on ID plates added as a retrofit. For new stations, use new HWY-PH station ID.
3. Station ID signs shall be placed directly below Warning signs.
4. Sign plates shall be 0.063 thick aluminum, single sided.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

EVC TRAFFIC COUNTING SYSTEM SIGNS

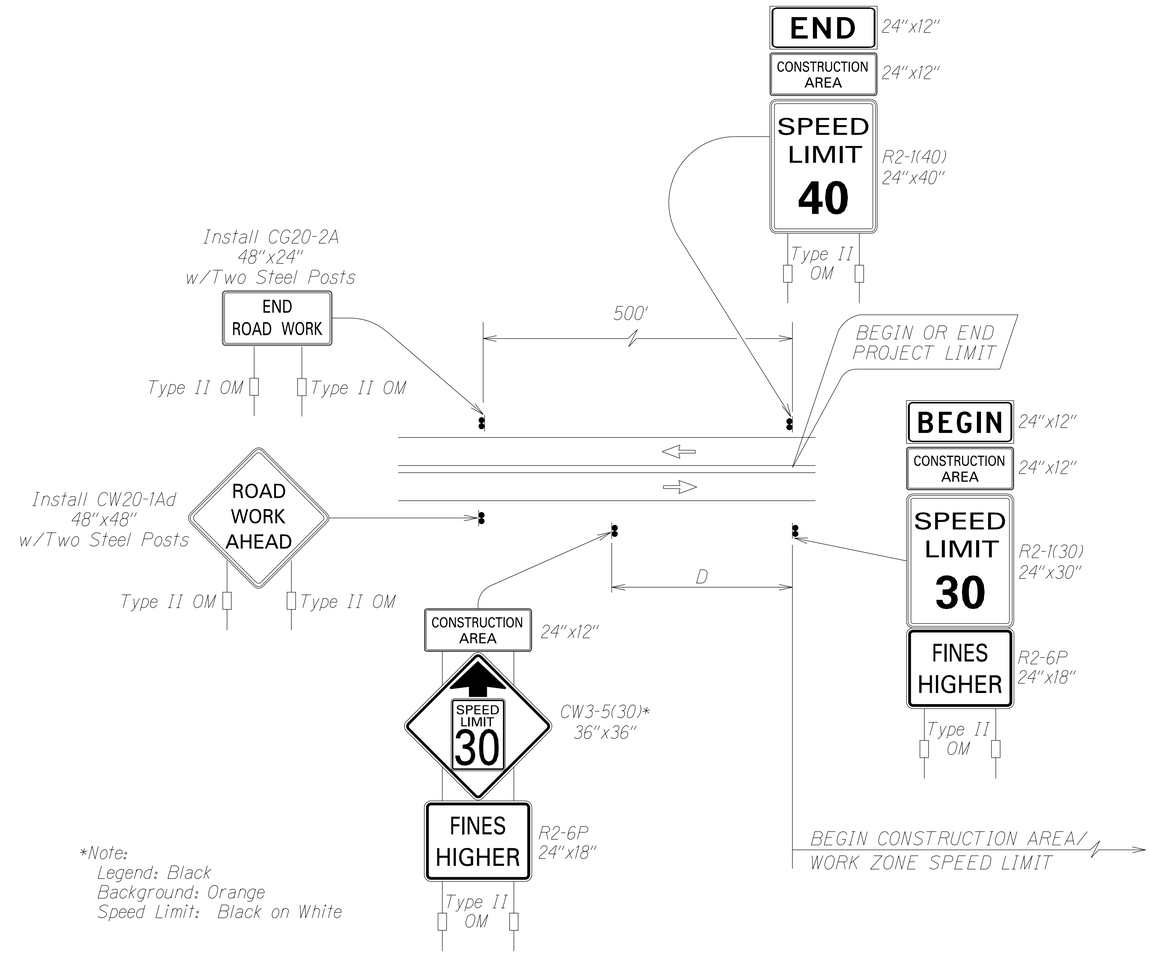
KAUMUALII HIGHWAY SAFETY IMPROVEMENTS
Kipu Road to Omao Road
Federal-Aid Project No. HSIP-050-1(044)

Scale: As Noted Date: May 2024

SHEET No. 4 OF 4 SHEETS

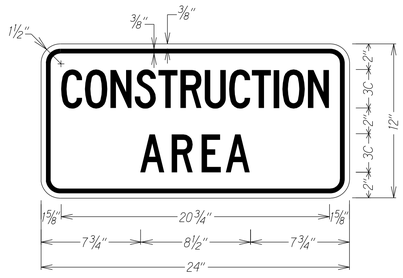
ORIGINAL PLAN
SURVEY PLOTTED BY
DRAWN BY
TRACED BY
DESIGNED BY
QUANTITIES BY
CHECKED BY
DATE
NOTE BOOK
N. Matsunaga

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-050-1(044)	2024	39	40

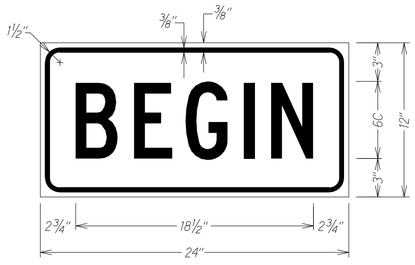


*Note:
Legend: Black
Background: Orange
Speed Limit: Black on White

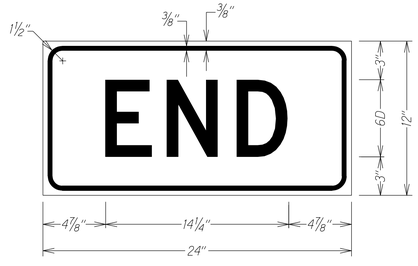
TYPICAL DETAIL FOR CONSTRUCTION SIGNS
ON TWO LANE OR MULTILANE UNDIVIDED LOW SPEED HIGHWAY



LEGEND: BLACK
BACKGROUND: ORANGE



LEGEND: BLACK
BACKGROUND: ORANGE



LEGEND: BLACK
BACKGROUND: ORANGE

Work Zone Notes:

1. This Work Zone Sign Plan is intended for use on long-term stationary work zones/construction phases (3 days or more). All work zones or construction phases less than 3 days duration will use Traffic Control Plans shown in Section 645 of the Special Provisions.
2. All existing regulatory speed limit signs with posts within the work zone/project limits shall be removed and replaced with work zone speed limit sign assemblies (R2-1(30) and CW3-5(30) with "CONSTRUCTION AREA" and R2-6P "FINES HIGHER" Supplemental Signs).
3. Construction sign assemblies shall be installed on both the approaching and trailing ends of each work zone as shown on this plan.
4. Each construction warning sign and work zone speed limit assembly shall have a minimum of two (2) Type II OM. Installation of each Type II OM shall be considered incidental to various pay items and shall not be paid for separately.
5. Upon the completion of all physical work or as directed by the Engineer, all construction signs and work zone speed limit assemblies shall be removed. All speed limit signs and posts that were existing at the start of the project within the work zone/project limits shall be restored back to their original locations and configurations. Dates, times, locations and description of work for each sign location shall be provided to the engineer in writing.
6. Placement of construction signs shall not obstruct the path of pedestrians and bicyclists.
7. The removal and restoration of existing regulatory speed limit signs with new posts along with the installation, maintenance and removal of work zone speed limit sign assemblies shall be considered incidental to various pay items and shall not be paid for separately.

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

r6/8/15 /usr2/lynne/steve/constr_signs/consignshwy2hisip-CA-5.dgn

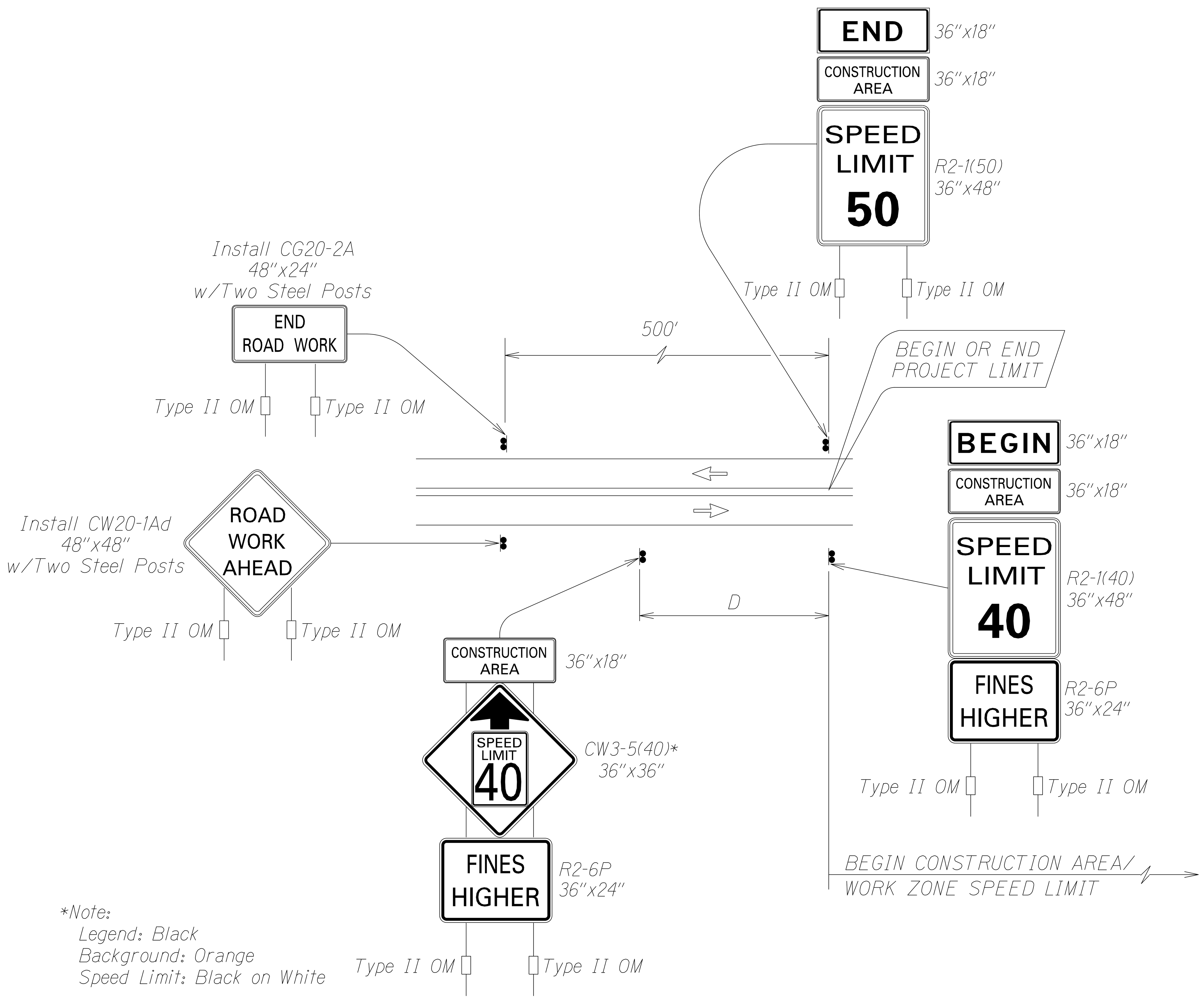
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LOW SPEED UNDIVIDED HIHGWAY
WORK ZONE SIGNING PLAN, NOTES & DETAILS
KAUMUALII HIGHWAY SAFETY IMPROVEMENTS
Kipu Road to Omao Road
Federal-Aid Project No. HSIP-050-1(044)

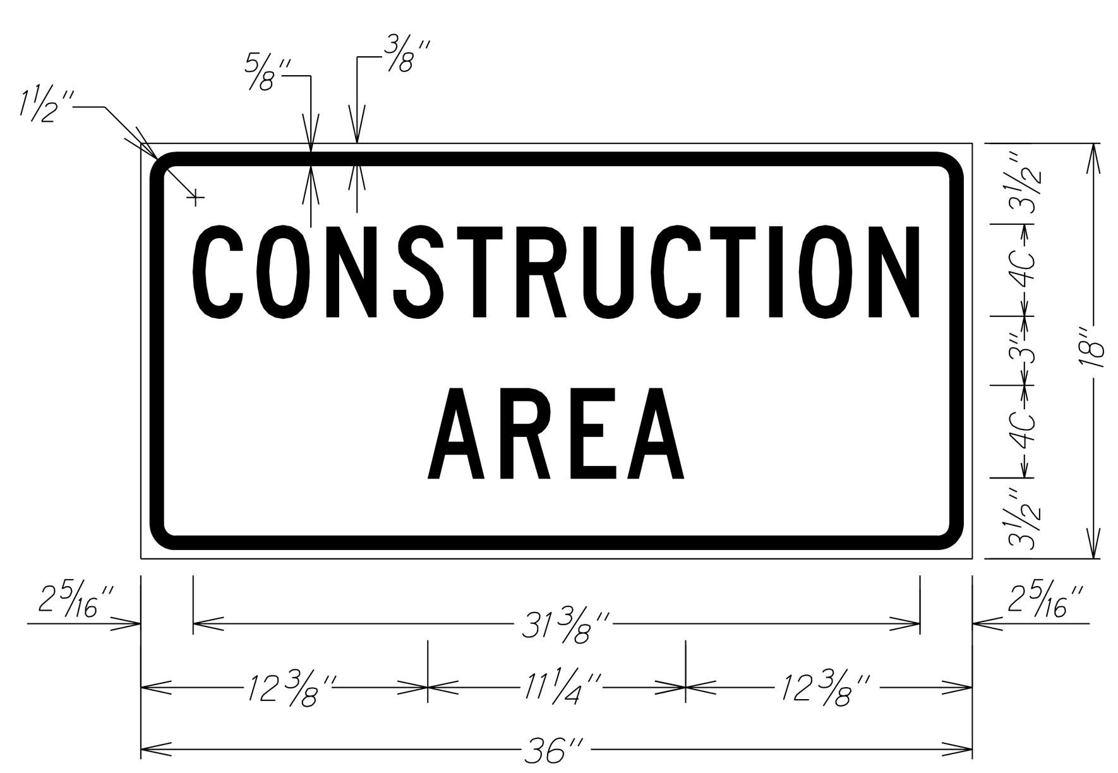
Not To Scale Date: May, 2024

SHEET No. 1 OF 2 SHEETS

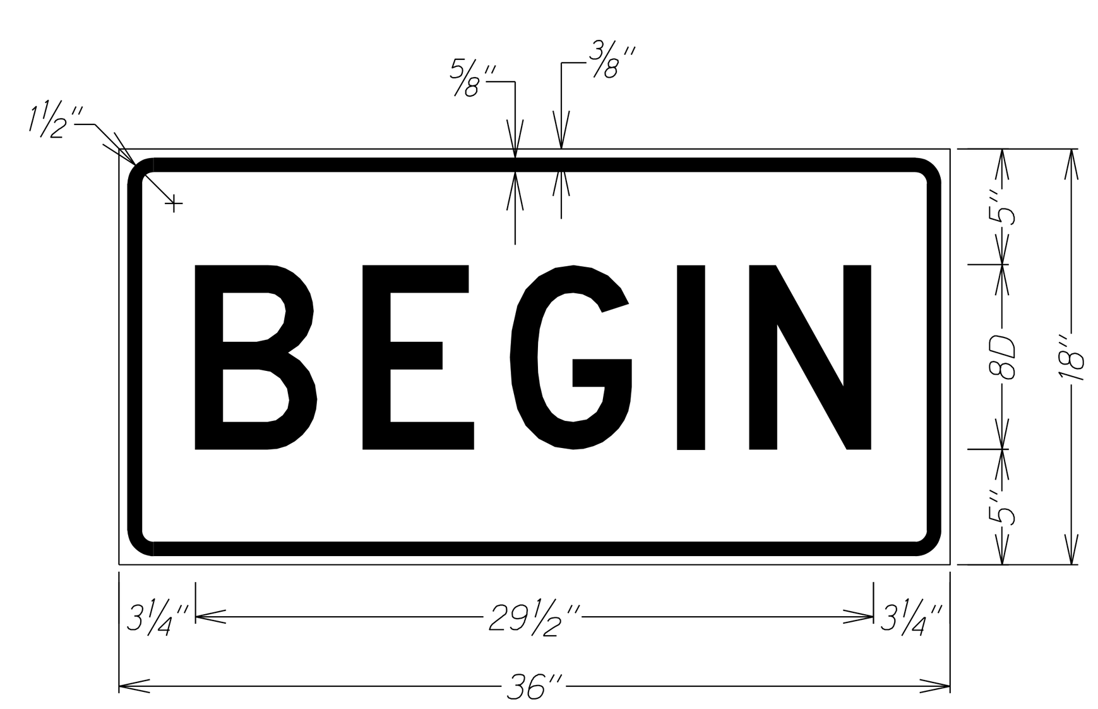
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-050-1(044)	2024	40	40



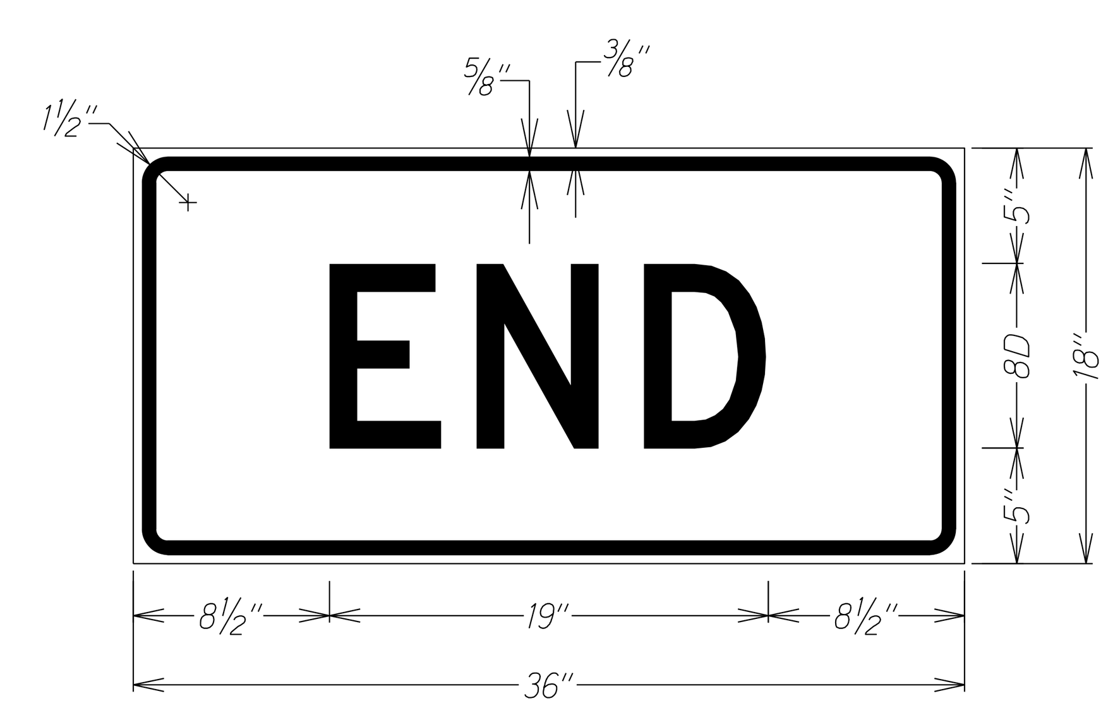
TYPICAL DETAIL FOR CONSTRUCTION SIGNS
ON TWO LANE OR MULTILANE UNDIVIDED HIGH SPEED HIGHWAY



LEGEND: BLACK
BACKGROUND: ORANGE



LEGEND: BLACK
BACKGROUND: ORANGE



LEGEND: BLACK
BACKGROUND: ORANGE

Work Zone Notes:

1. This Work Zone Sign Plan is intended for use on long-term stationary work zones/construction phases (3 days or more). All work zones or construction phases less than 3 days duration will use Traffic Control Plans shown in Section 645 of the Special Provisions.
2. All existing regulatory speed limit signs with posts within the work zone/project limits shall be removed and replaced with work zone speed limit sign assemblies (R2-1(40) and CW3-5(40) with "CONSTRUCTION AREA" and R2-6P, "FINES HIGHER" Supplemental Signs).
3. Construction sign assemblies shall be installed on both the approaching and trailing ends of each work zone as shown on this plan.
4. Each construction warning sign and work zone speed limit assembly shall have a minimum of two (2) Type II OM. Installation of each Type II OM shall be considered incidental to various pay items and shall not be paid for separately.
5. Upon the completion of all physical work or as directed by the Engineer, all construction signs and work zone speed limit assemblies shall be removed. All speed limit signs and posts that were existing at the start of the project within the work zone/project limits shall be restored back to their original locations and configurations. Dates, times, locations and description of work for each sign location shall be provided to the engineer in writing.
6. Placement of construction signs shall not obstruct the path of pedestrians and bicyclists.
7. The removal and restoration of existing regulatory speed limit signs with new posts along with the installation, maintenance and removal of work zone speed limit sign assemblies shall be considered incidental to various pay items and shall not be paid for separately.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

HIGH SPEED UNDIVIDED HIGHWAY

WORK ZONE SIGNING PLAN, NOTES&DETAILS

KAUMUALII HIGHWAY SAFETY IMPROVEMENTS

Kipu Road to Omao Road

Federal-Aid Project No. HSIP-050-1(044)

Not To Scale   Date: May, 2024

SHEET No. 2 OF 2 SHEETS

r6/8/15 /usr2/lynne/steve/constr_signs/consignshwy2ln-CA-3.dgn