

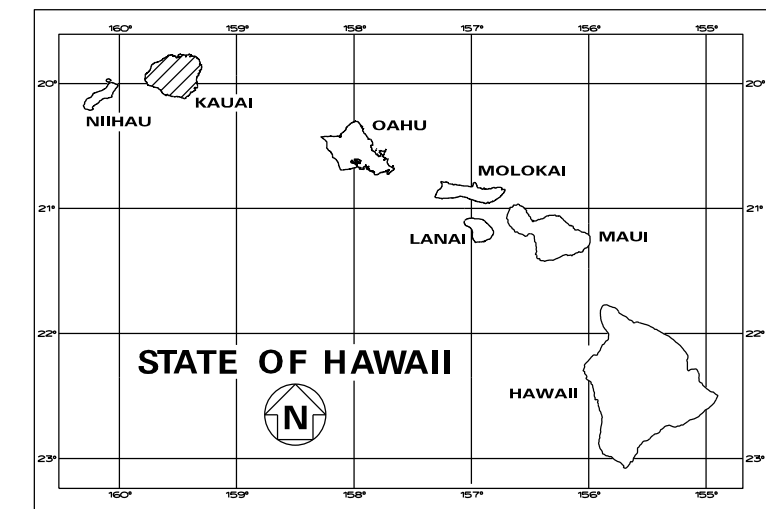
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9	TYPICAL SECTIONS
10	ROADWAY PLAN
11	LOW SPEED UNDIVIDED HIGHWAY WORK ZONE SAFETY PLAN, NOTES AND DETAILS

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
HONOLULU, HAWAII

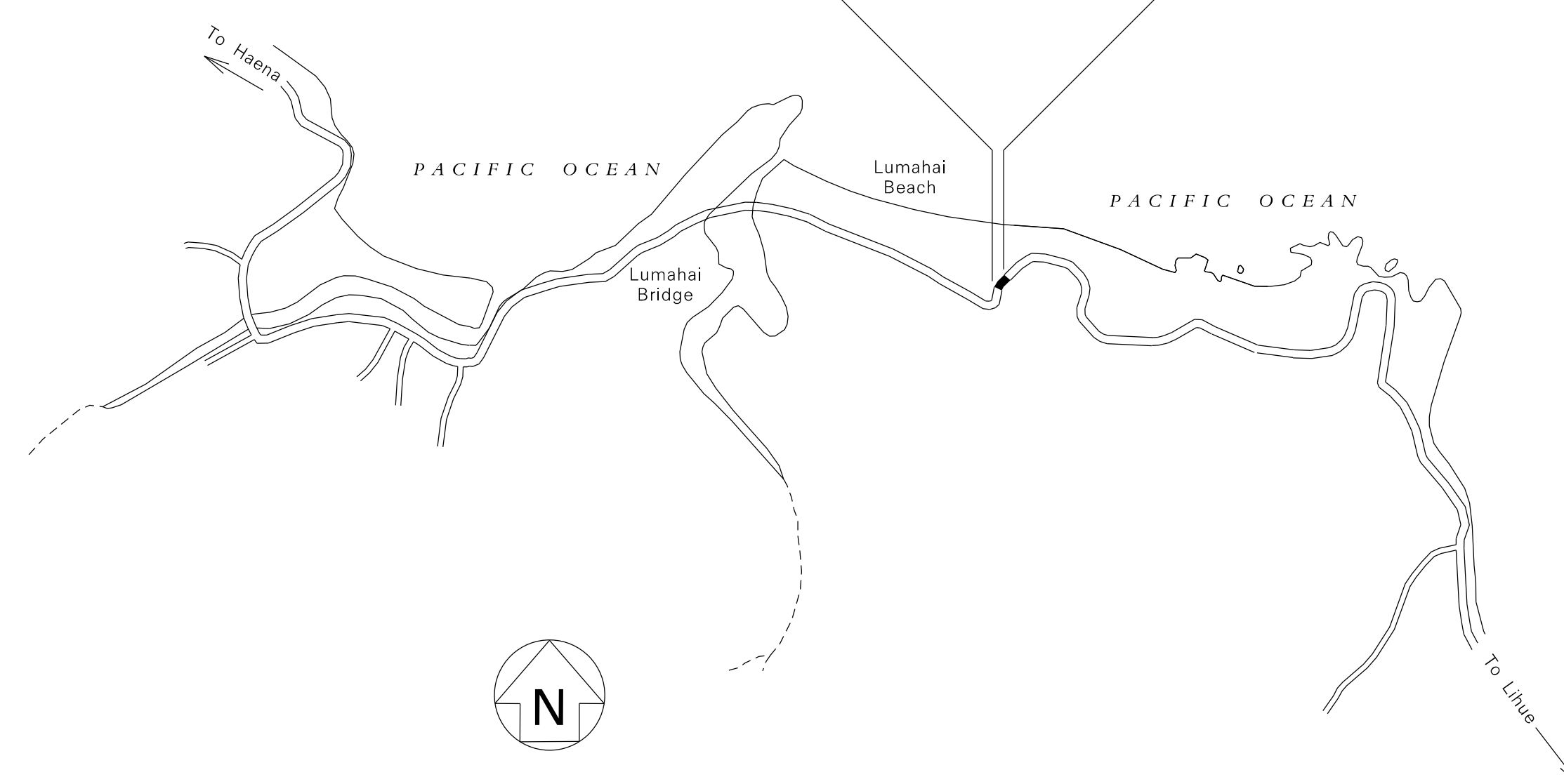
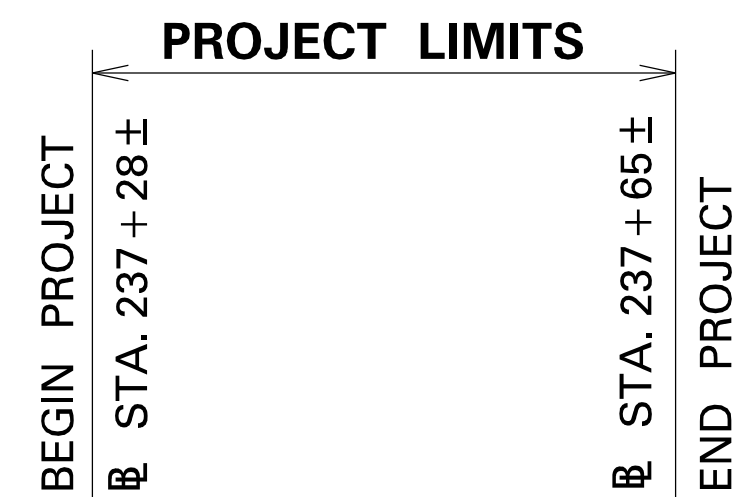
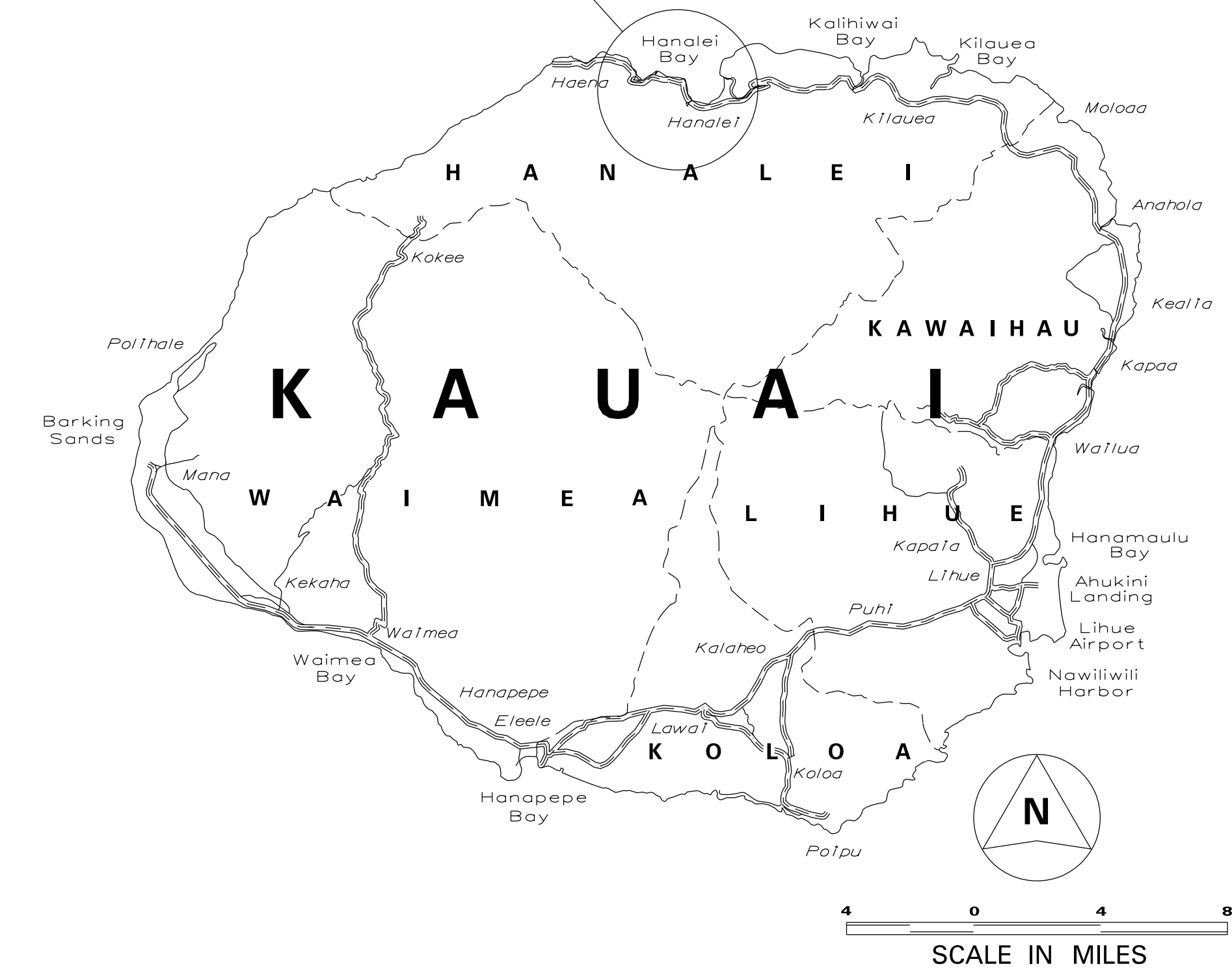
**PLANS FOR
KUHIO HIGHWAY (ROUTE 560)
DRAINAGE IMPROVEMENTS
VICINITY OF MILE POST 5.50
PROJECT NO. 560A-01-23M**

DISTRICT OF HANAIEI
ISLAND OF KAUAI

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	560A-01-23M	2023	1	11

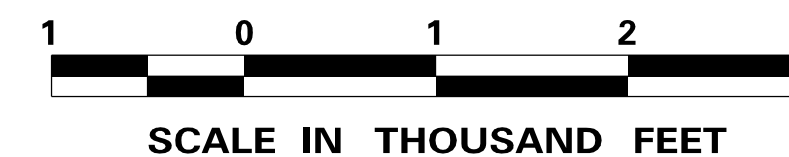


LOCATION OF PROJECT



LAYOUT PLAN

GROSS LENGTH OF PROJECT..... 0.008 MILE
NET LENGTH OF PROJECT..... 0.008 MILE



----- FEDERAL AID PROJECTS PREVIOUSLY CONSTRUCTED OR UNDER CONSTRUCTION
MILE POST 5.492 TO MILE POST 5.500

DESIGNED BY _____
P. S. & E. BY _____
PHONE 241-3000
DATE APRIL 2023

STANDARD PLANS SUMMARY

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	560A-01-23M	2023	2	11

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 CAN DETAILS	05/31/07
B-12A	PRESTRESSED CONCRETE PILES, PILE & COMPRESSION SPLICE CAN DETAILS & NOTES	05/31/07
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 FRAME AND GRATES	05/31/07
H-16	TYPE 61614, 61614P, 61616, 61616P STEEL FRAME AND GRATES	05/31/07
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-01A	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 GUIDE SIGNS	07/11/08
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	05/31/07
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 ACCESSORY DETAILS	05/31/07
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

*KUHIO HIGHWAY (ROUTE 560)
DRAINAGE IMPROVEMENTS
Vicinity of Mile Post 5.50
Project No. 560A-01-23M*

Date: May 2023

SHEET No. 1 OF 1 SHEETS

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

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	560A-01-23M	2023	3	11


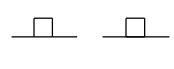
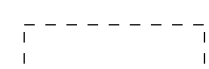
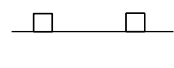

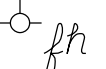

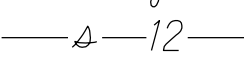

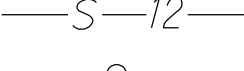
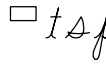
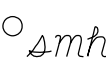
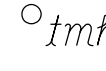

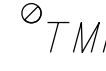

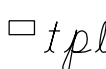

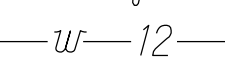

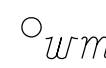



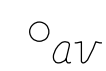


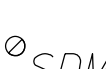
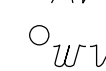



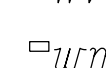





GENERAL NOTES

- The scope of work for this project includes removing existing drop inlet and concrete gutter, construction of grated drop inlet and concrete gutter, and cleaning of existing drainage structure.
- The Contractor is reminded of the requirements of Subsection 105.16 - Subcontracts.
- 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.
- 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.
- The Contractor shall notify the Engineer in writing, two (2) weeks prior to starting paving operations.
- 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.
- All lanes shall be open to traffic during peak hours from 6:30 A.M. to 8:30 A.M., during afternoon peak hours from 3:30 P.M. to 6:30 P.M., 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.
- 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.
- 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. 241-3000.
- 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.
- 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: 245-5444 and the Wastewater Division, Ph: 241-6642 for toning waterlines and sewerlines respectively.
- 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.
- No sections where guardrail has been removed shall be left unattended at the end of each work day. Open sections shall be shielded by Portable Concrete Barrier, unless otherwise approved by the Engineer. For Portable Concrete Barriers, refer to Standard Plans TE-42 and TE-43, Furnishing, installing and maintaining of these devices shall be considered incidental to the various contract items and will not be paid separately.

- 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.
- 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.
- 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.
- Contractor shall exercise extreme caution to preserve BENCHMARKS (Survey Monuments). Whenever the center of a Survey Monument is less than three (3) feet from the edge of construction, the Contractor shall retain a Licensed Land Surveyor to reference the location of said Survey Monument.

Benchmarks that are disturbed or destroyed shall be restored under a Licensed Land Surveyor's direction. Copies of field notes, descriptions and new values of the new benchmark shall be sent to the Department of Transportation, Highways Division, Cadastral Engineering Section, for review and approval prior to construction.
- All new reference survey monuments shall be set under a Licensed Land Surveyor's direction. Copies of field notes, descriptions and values of the new survey monuments shall be sent to the Department of Transportation, Highways Division, Cadastral Engineering Section, for review and approval prior to construction.
- Should historic remains such as artifacts, burials, concentrations of shell or charcoal be encountered during construction activities, work shall cease immediately in the immediate vicinity of the find. The Contractor shall immediately notify the Planning Department at (808) 241-4050 and State Historic Preservation Division at (808) 692-8015, which will assess the significance of the find and recommend the appropriate mitigation measures, if necessary.
- The Contractor shall take measures to reduce the spread of invasive species (eg. Rapid 'Ohi'a Death) such as by minimizing the movement of plant or soil material between worksites, such as fill. Additionally, all equipment, materials, and personnel should be cleaned of excess soil and debris to minimize the risk of spreading invasive species.
- Removal and disposal of unsuitable materials, existing concrete gutter and drop inlet structure shall be considered incidental to various contract items and will not be paid separately.
- Excavation and disposal of excavated materials, backfilling of suitable materials, subgrade preparations, installation of aggregate base, and welded wire fabric shall be considered incidental to various contract items and will not be paid separately.
- Cleaning of existing culvert and drop inlet structure shall be paid under Item No. 603.0100 - Clean Existing Culverts and will not be paid separately.

LEGEND

	Reconstruction Areas		Existing Metal Guardrail
	Cold-planing Areas & Resurfacing Limits		New Metal Guardrail
	Existing Power Pole		Existing Fire Hydrant
	Existing Electric Manhole		Existing Sewer Line
	Adjusted Elec. MH Frame/Cover		New 12" Sewer Line
	Existing Traffic Signal Pullbox		Existing Sewer Manhole
	Existing Telephone Manhole		Adjusted Sewer Manhole
	Adjusted Tel. MH Frame/Cover		New Sewer Manhole
	Existing Telephone Pullbox		Existing Monument
	Existing 12" Water Line		Adjusted Monument
	Existing Water Manhole		New Monument
	Adjusted Water MH Frame/Cover		Existing 24" Drain Line
	Existing Water Air Valve		Existing Storm Drain Manhole
	Adjusted Water Air Valve		Adjusted Storm Drain Manhole
	Existing Water Valve Box		Existing Grated Drop Inlet
	Adjusted Water Valve Box		New Grated Drop Inlet
	Existing Water Meter Box		Adjusted/Reconstructed Drain Inlet or Replaced Steel Grate
	Adjusted Water Meter Box		
	New Type "X" Water Meter Box		
	Existing Traffic Sign		
	New Traffic Sign		

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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GENERAL NOTES & LEGEND
KUHIU HIGHWAY (ROUTE 560)
DRAINAGE IMPROVEMENTS
Vicinity of Mile Post 5.50
Project No. 560A-01-23M
Scale: NA Date: May 2023

SHEET No. 1 OF 1 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	560A-01-23M	2023	4	11

WATER POLLUTION AND EROSION CONTROL NOTES:

A. GENERAL:

- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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:

- 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.
- 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.

- 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:

- 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.
- For projects without an NPDES Permit for Construction Activities, inspect all control measures weekly.
- 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.
- 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.
- 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.
- Inspect temporary and permanent seeding and planting for bare spots, washouts and healthy growth.
- Complete and submit to the Engineer a maintenance inspection report within 24 hours after each inspection.
- 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.
- Include designated Concrete Washout Area(s) in the Water Pollution, Dust, and Erosion Control submittals.
- Submit the name of a specific individual designated responsible for inspections, maintenance and repair activities and filling out the inspection and maintenance report.
- 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	DESIGNED BY	DATE
NOTE BOOK	DESIGNED BY	12/23/21
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

WATER POLLUTION & EROSION CONTROL NOTES

KUHIU HIGHWAY (ROUTE 560)
DRAINAGE IMPROVEMENTS
Vicinity of Mile Post 5.50
Project No. 560A-01-23M

Date: May 2023

WATER POLLUTION AND EROSION CONTROL NOTES (Cont.):

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	560A-01-23M	2023	5	11

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.

- 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.

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.

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.

ORIGINAL PLAN	DESIGNED BY	DATE
NOTE BOOK	DESIGNED BY	12/23/21
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STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
WATER POLLUTION & EROSION CONTROL NOTES	
KUHIU HIGHWAY (ROUTE 560)	
DRAINAGE IMPROVEMENTS	
Vicinity of Mile Post 5.50	
Project No. 560A-01-23M	
Date: May 2023	

SHEET No. 2 OF 3 SHEETS

WATER POLLUTION AND EROSION CONTROL NOTES (Cont.):

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	560A-01-23M	2023	6	11

E. PERMIT REQUIREMENTS:

1. The calculated land disturbance area for this project based on the construction plans is 0.01 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
NOTE BOOK	DRAWN BY	12/23/21
NO. _____	DESIGNED BY	
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

WATER POLLUTION & EROSION CONTROL NOTES

KUHIU HIGHWAY (ROUTE 560)
DRAINAGE IMPROVEMENTS
Vicinity of Mile Post 5.50
Project No. 560A-01-23M

Date: May 2023

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	560A-01-23M	2023	7	11

HISTORICAL PRESERVATION NOTES

1. 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.
2. 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".
3. 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 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".

MAMMALIAN PROTECTION NOTES

1. The Contractor shall incorporate the following measures to avoid and minimize project-related adverse effects to the Hawaiian hoary bat:
 - A. 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).
 - B. Barbed wire shall not be used for fencing.

AVIAN PROTECTION NOTES

1. 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):
 - A. Before beginning any work at the project site, the Contractor shall:
 - I. Collect information regarding the protection of seabirds and seabird fallout.
 - II. 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.
 - III. 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.

AVIAN PROTECTION NOTES (CONT.)

- IV. 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:
 - I. 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.
 - II. No permanent streetlights shall be installed as part of the project.
 - III. 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.
 - IV. Nighttime construction and the use of all temporary lights shall cease during the peak seabird fledgling period (September 15 through December 15).
 - V. 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.
 - VI. If a downed dead seabird is found, the Contractor shall contact the USFWS (Ms. Megan Laut at 808-792-9400) within 24 hours.
 - VII. If the downed seabird is alive, the Contractor shall:
 - i. 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.
 - ii. 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.
 - iii. Deliver the seabird to the location determined by the coordinator of the SOS program and as directed by the Engineer.
 - iv. Keep the seabird in a cool, quiet location and out of direct sunlight with adequate ventilation
 - v. The Contractor and any personnel on-site shall not feed, provide water, handle or release the seabird
 - vi. 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.

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NOTE BOOK	DRAWN BY	X
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

HISTORIC PRESERVATION AND ENVIRONMENTAL PROTECTION NOTES

KUHOI HIGHWAY (ROUTE 560)
DRAINAGE IMPROVEMENTS
Vicinity of Mile Post 5.50
Project No. 560A-01-23M

Scale: NA Date: May 2023

SHEET No. 1 OF 2 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	560A-01-23M	2023	8	11

AVIAN PROTECTION NOTES (CONT.)

2. 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):
 - A. 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.
 - B. Because water resources occur in the project site, employ USFWS Best Management Practices for Work in Aquatic Environments.
 - C. Survey for Hawaiian waterbirds and nests within the vicinity of the project area 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.
 - I. Surveys for species and nests should be repeated when a delay of work occurs that is three days or more (during which the birds may attempt to nest).
 - II. If a nest or active brood is found, contact USFWS within 24 hours for further guidance
 - III. 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.
 - IV. 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.
 - D. A biological monitor is required during Hawaiian stilt nesting season from February 15 through August 31.
 - I. A biological monitor that is familiar with the species biology and approved by the Federal Highways Administration will conduct Hawaiian stilt nest surveys where appropriate habitat occurs within the proposed maintenance site prior to cleaning culverts and drainage structures.
 - II. Surveys will take place within three days of project initiation and after any subsequent delay of work of three or more days (during which the birds may attempt to nest).
3. The Contractor shall incorporate these measures to avoid and minimize project-related adverse effects to Hawaiian goose or nene:
 - A. Nene in or near the project area shall not be approached, fed, or disturbed in any way.
 - B. 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 will survey the area in and around the project area for nests prior to work each day. Surveys will be repeated after any subsequent delay of work of three or more days (during which the birds may attempt to nest).
 - C. 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 and the USFWS will be contacted immediately for further guidance.
 - D. 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.
 - E. There shall be no feeding of birds or dogs on the project site.

BIOLOGICAL RESOURCE PROTECTION NOTES

1. The Contractor shall take measures to reduce the spread of invasive species (e.g. Rapid Ohia Death):
 - A. Minimize the movement of plant or soil material between work sites.
 - B. 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.
2. 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.

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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

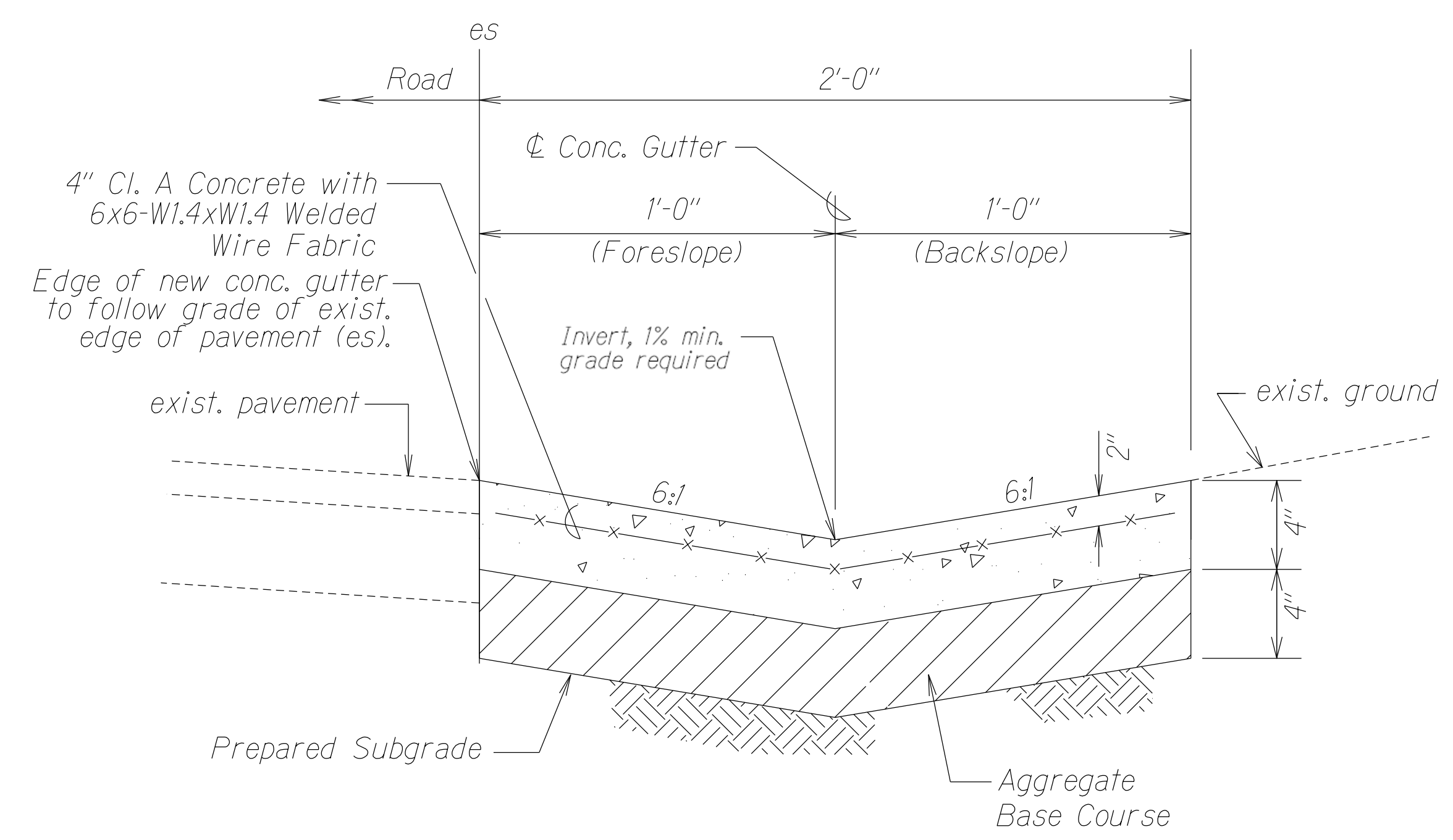
HISTORIC PRESERVATION AND ENVIRONMENTAL PROTECTION NOTES

KUHIO HIGHWAY (ROUTE 560)
DRAINAGE IMPROVEMENTS
Vicinity of Mile Post 5.50
Project No. 560A-01-23M

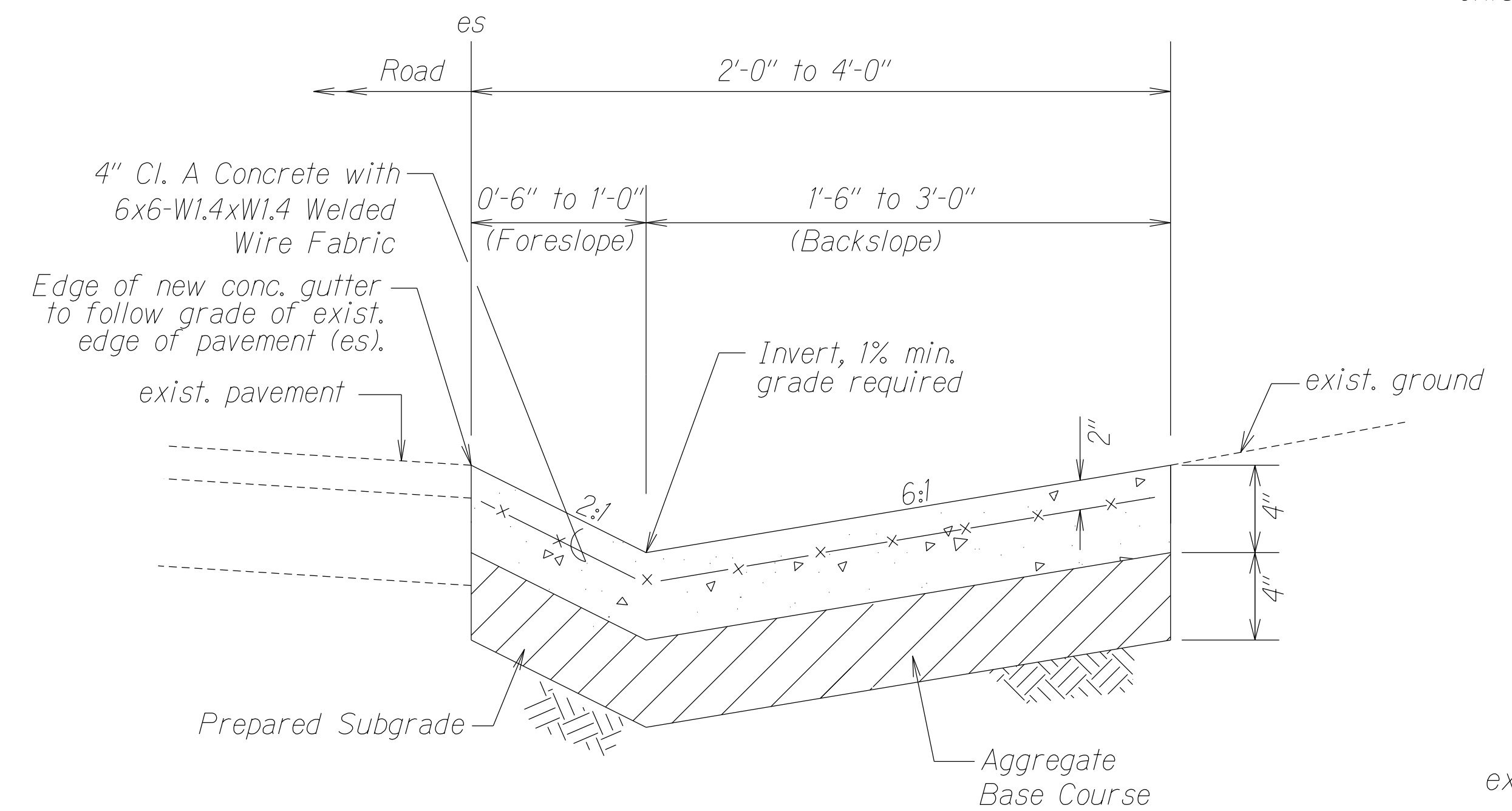
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SHEET No. 2 OF 2 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	560A-01-23M	2023	9	11

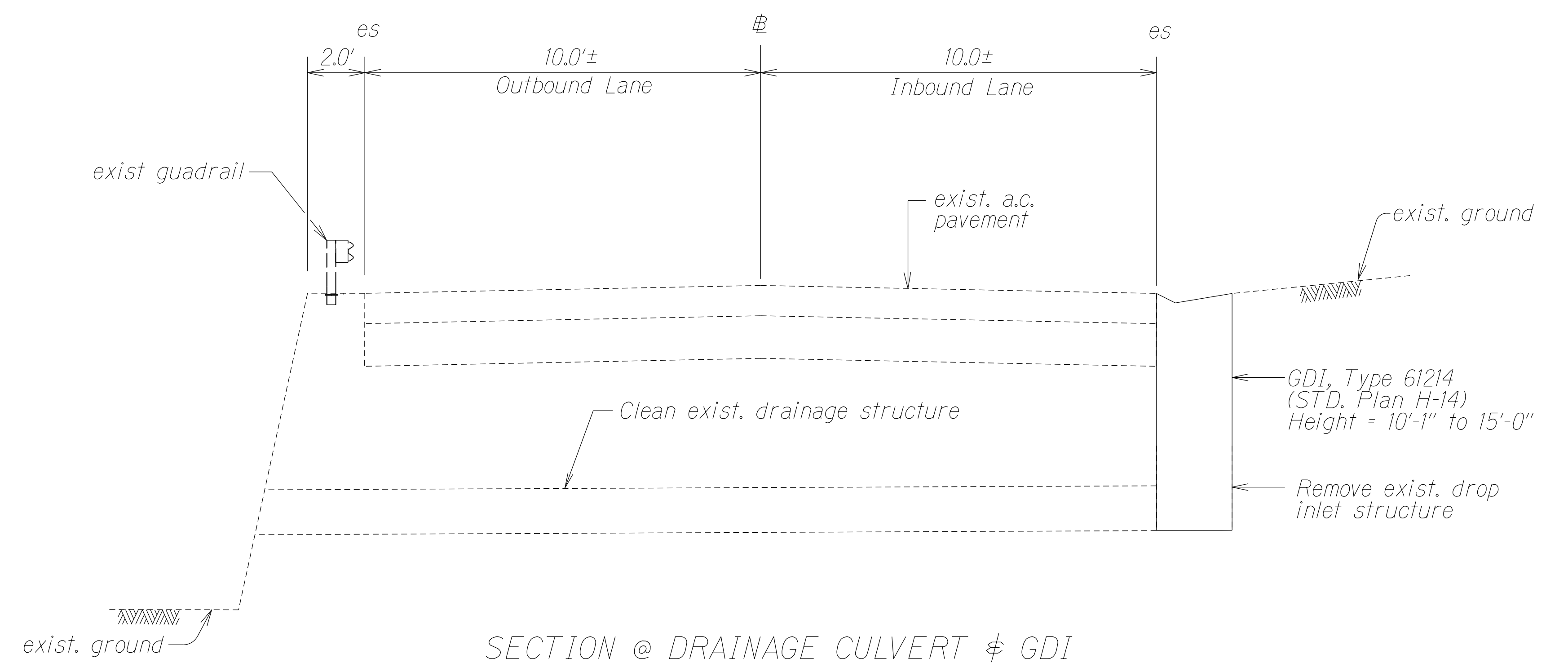


CONCRETE GUTTER, TYPE 2 (61612)
NOT TO SCALE

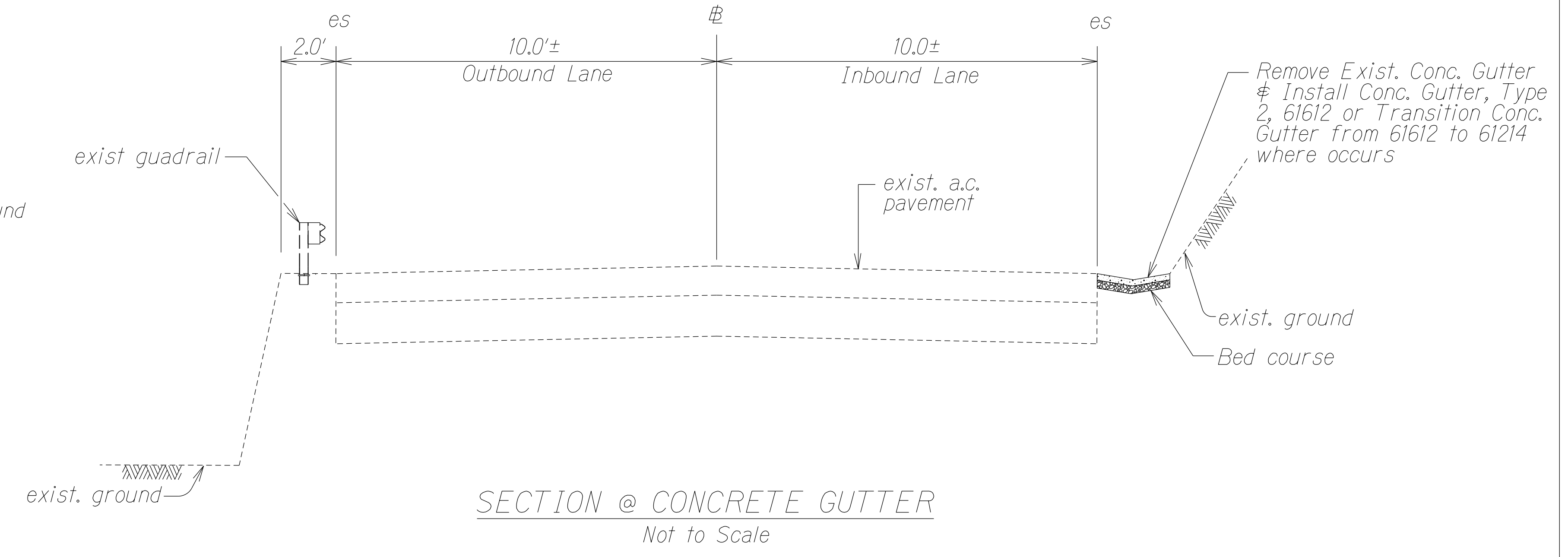


CONCRETE GUTTER, TYPE 2 (61214)
NOT TO SCALE

Note: Concrete gutter foreslope and backslope shall be adjusted in order to maintain a 1% grade minimum of concrete gutter invert.



SECTION @ DRAINAGE CULVERT & GDI
Not to Scale



SECTION @ CONCRETE GUTTER
Not to Scale

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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

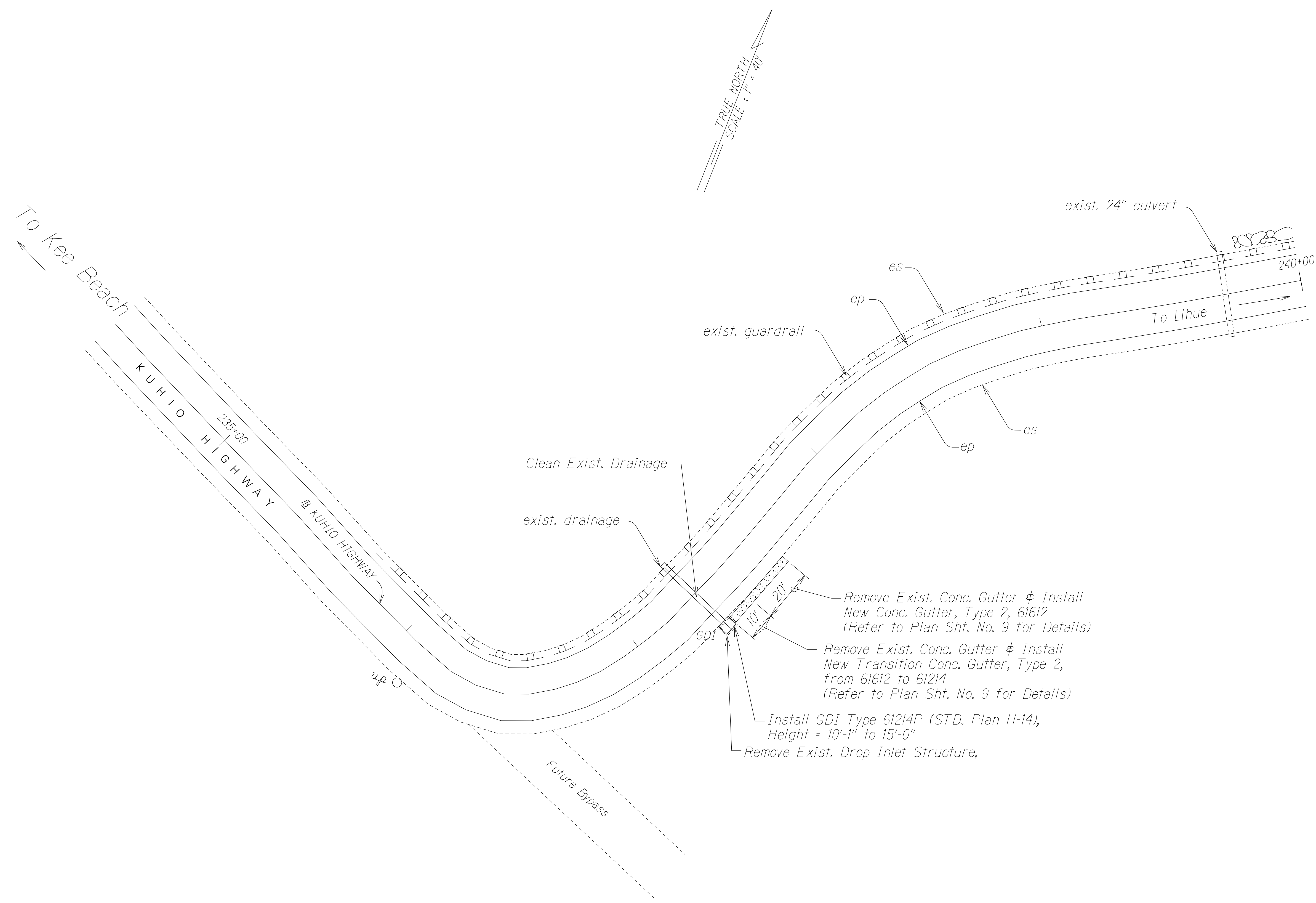
TYPICAL SECTIONS & DETAILS

KUHIO HIGHWAY (ROUTE 560)
DRAINAGE IMPROVEMENTS
Vicinity of Mile Post 5.50
Project No. 560A-01-23M

Scale: Not to Scale Date: May 2023

SHEET No. 1 OF 1 SHEETS

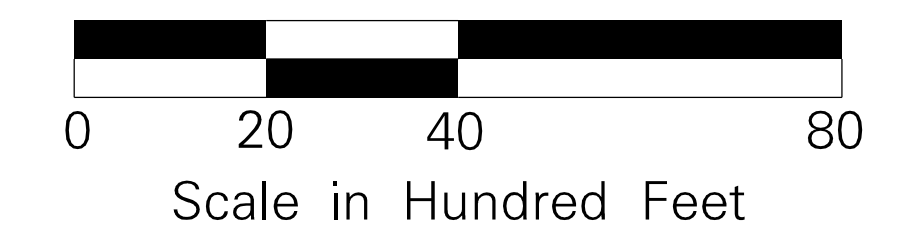
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	560A-01-23M	2023	10	11



TRUE NORTH
SCALE : 1" = 40'

- Clean Exist. Drainage
- exist. drainage
- Remove Exist. Conc. Gutter & Install New Conc. Gutter, Type 2, 61612 (Refer to Plan Sht. No. 9 for Details)
- Remove Exist. Conc. Gutter & Install New Transition Conc. Gutter, Type 2, from 61612 to 61214 (Refer to Plan Sht. No. 9 for Details)
- Install GDI Type 61214P (STD. Plan H-14), Height = 10'-1" to 15'-0"
- Remove Exist. Drop Inlet Structure,

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



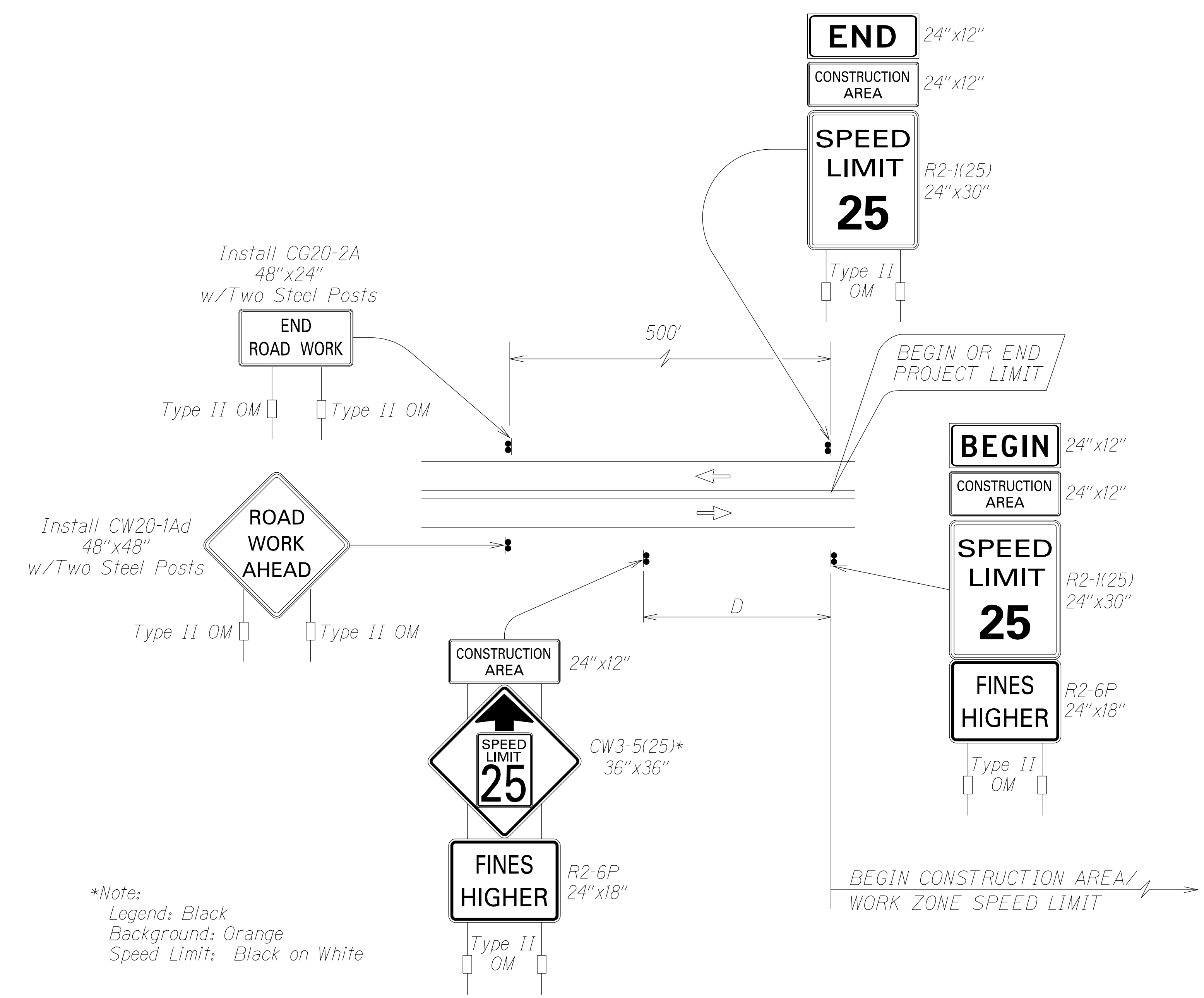
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY PLAN
KUHIO HIGHWAY (ROUTE 560)
DRAINAGE IMPROVEMENTS
Vicinity of Mile Post 5.50
Project No. 560A-01-23M

Scale: 1"=20' Date: May 2023

SHEET No. 1 OF 1 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	560A-01-23M	2023	11	11

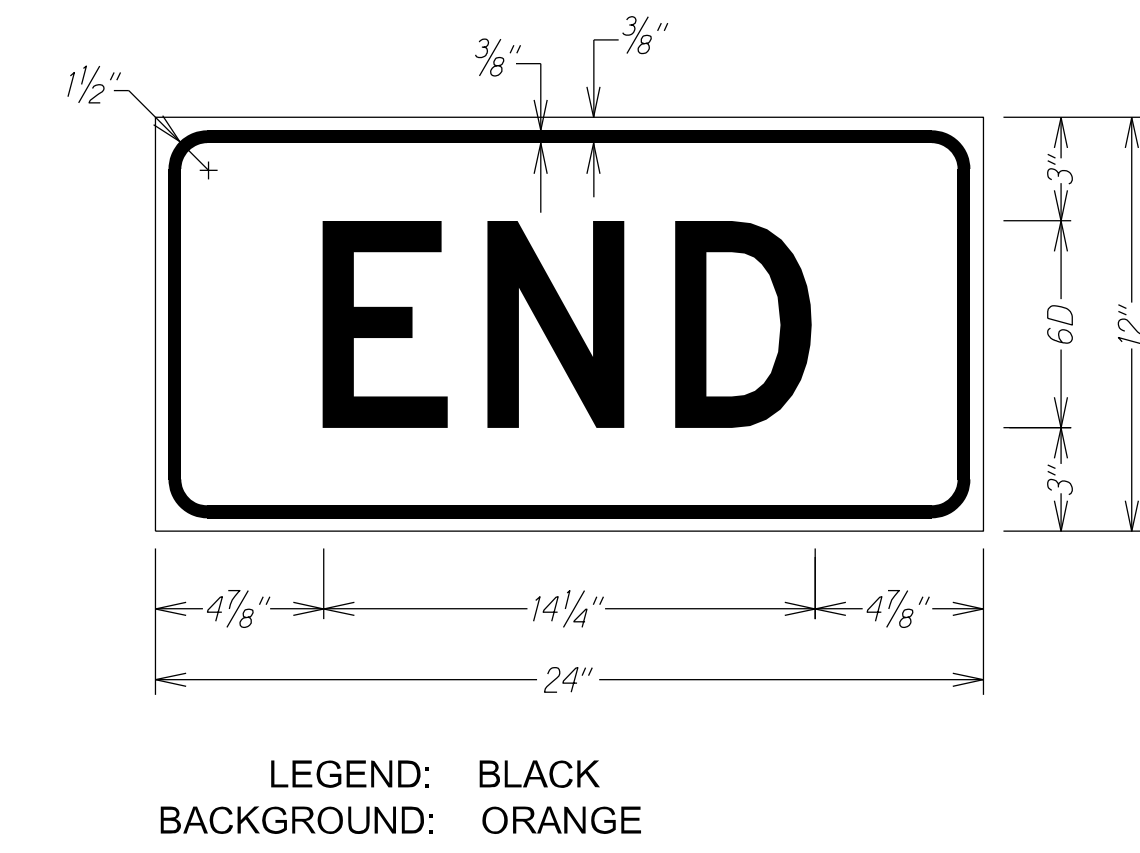
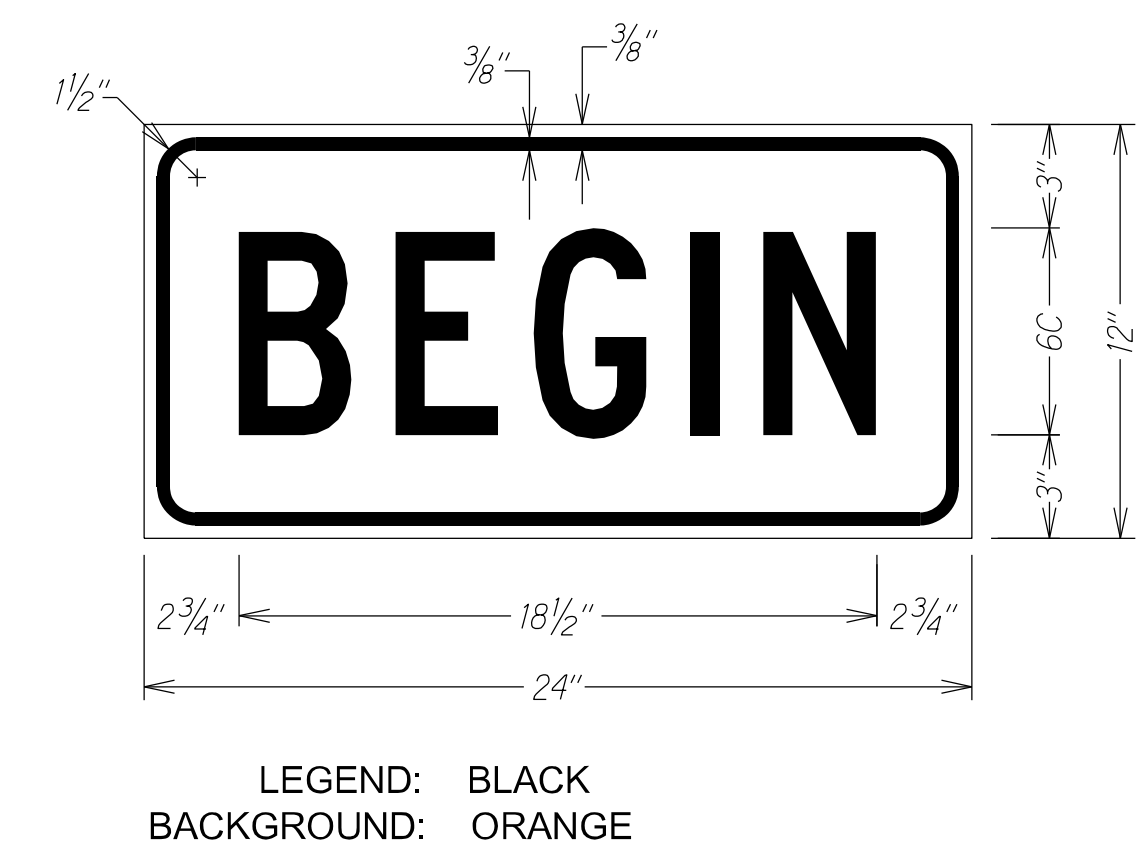
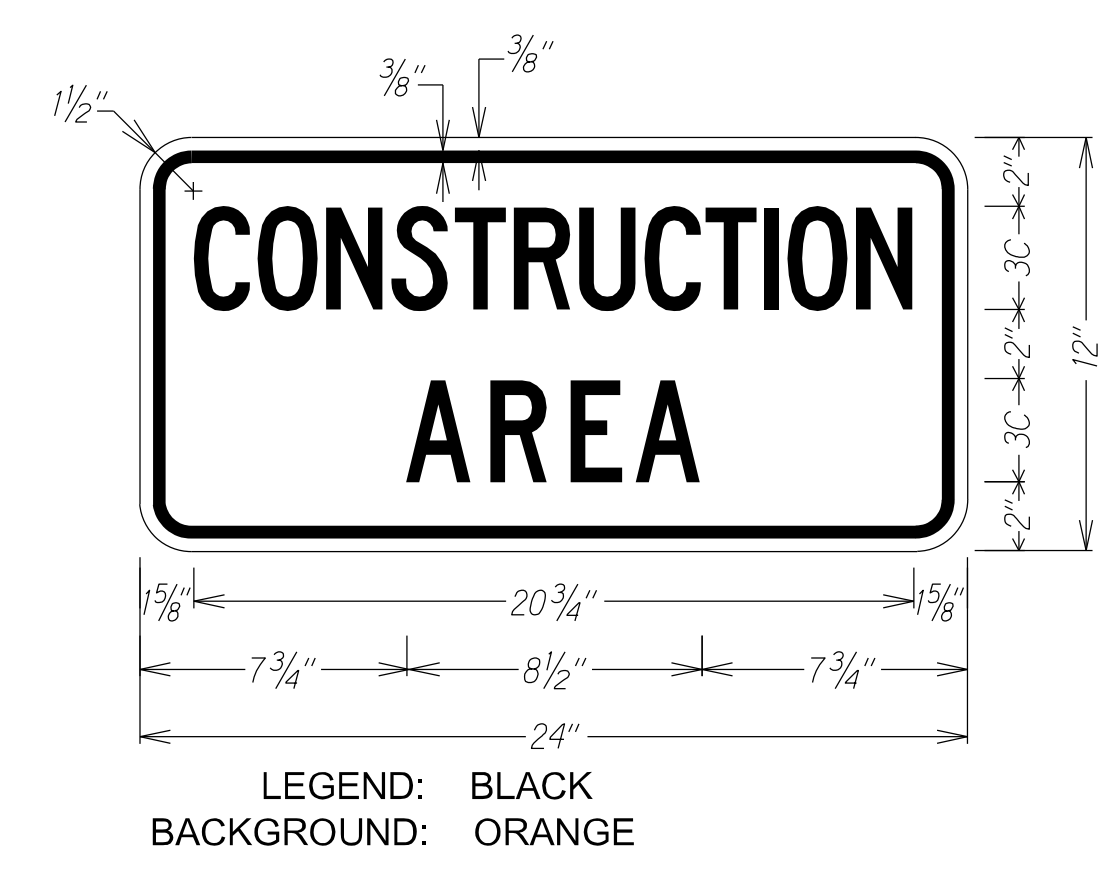


Work Zone Notes:

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(25) and CW3-5(25) 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.

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

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



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

16/8/15 /usr2/ymee/stew/constr_signs/consignshw2inlp-ca-5.dgn

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION
LOW SPEED UNDIVIDED HIGHWAY
 WORK ZONE SIGNING PLAN, NOTES & DETAILS
 KUHIO HIGHWAY (ROUTE 560)
 DRAINAGE IMPROVEMENTS
 Vicinity of Mile Post 5.50
 Project No. 560A-01-23M
 Not To Scale Date: May 2023
 SHEET No. 1 OF 1 SHEETS