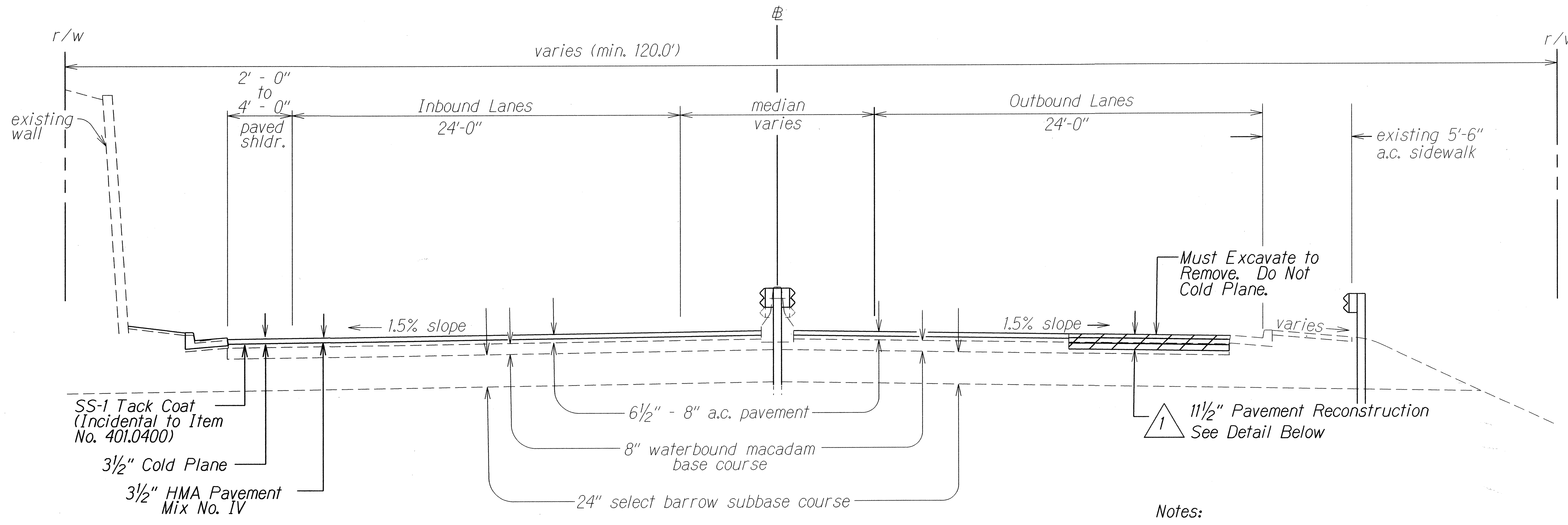
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-063-1(023)	2015	ADD. 11	111



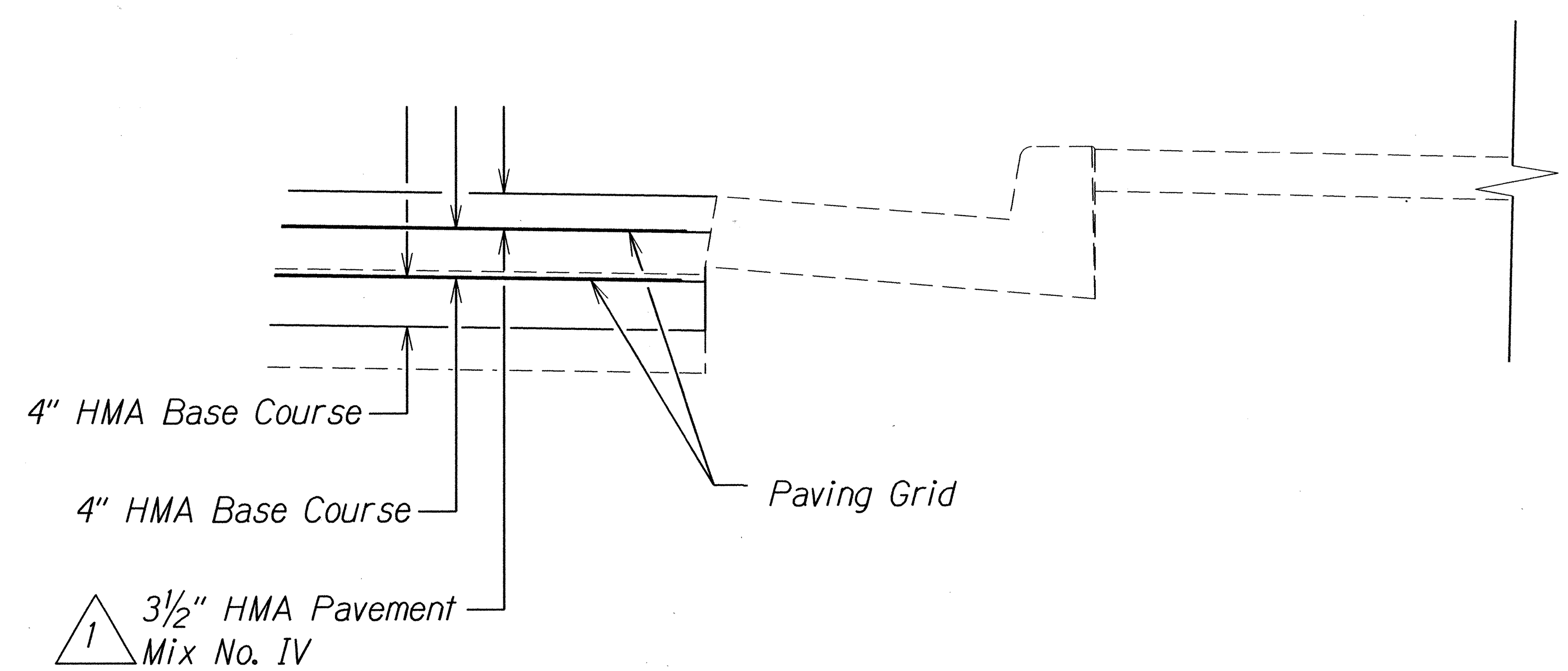
TYPICAL SECTION

℄ Sta. 68+50± to ℄ Sta. 72+40±

Scale: ¼" = 1'

Notes:

1. Contractor may elect to reconstruct the entire depth of pavement reconstruction with base course in preparation of cold planing as a separate operation, but the State will not pay for the extra base course and excavation.
2. Prior to placement of the asphalt base course, the exposed subbase or subgrade shall be recompacted to a dense and unyielding condition. The work shall be considered incidental to the Hot Mix Asphalt Base Course.



RIGHT LANE RECONSTRUCTION DETAIL

℄ Sta. 68+50± to ℄ Sta. 72+40±

℄ Sta. 75+20± to ℄ Sta. 79+50±

Not to Scale

ORIGINAL PLAN	
SURVEY PLOTTED BY	
DRAWN BY	
TRACED BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	
NOTE BOOK	
DATE	6/06/95

	DATE	REVISION
1	10/27/15	Revised Pavement Thickness.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TYPICAL SECTION

LIKELIKE HIGHWAY RESURFACING

School Street to Emmeline Place

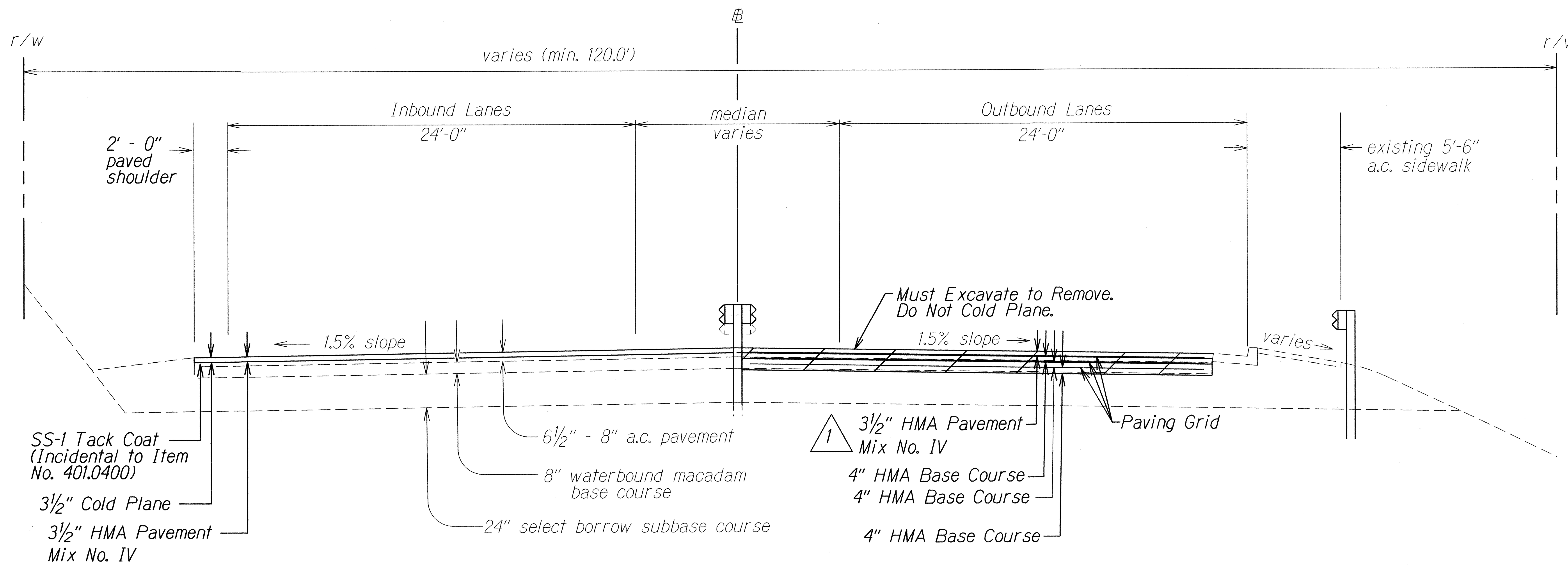
Federal Aid Project No. NH-063-1(023)

Scale: As Shown Date: Sept., 2015

SHEET No. 4 OF 7 SHEETS

ADD. 11

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-063-1(023)	2015	ADD. 12	111



TYPICAL SECTION

℄ Sta. 72+40± to ℄ Sta. 75+20±

Scale: ¼" = 1'

Notes:

1. Contractor may elect to reconstruct the entire depth of pavement reconstruction with base course in preparation of cold planing as a separate operation, but the State will not pay for the extra base course and excavation.
2. Prior to placement of the asphalt base course, the exposed subbase or subgrade shall be recompacted to a dense and unyielding condition. The work shall be considered incidental to the Hot Mix Asphalt Base Course.

DATE	REVISION
1 10/27/15	Revised Pavement Thickness.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TYPICAL SECTION

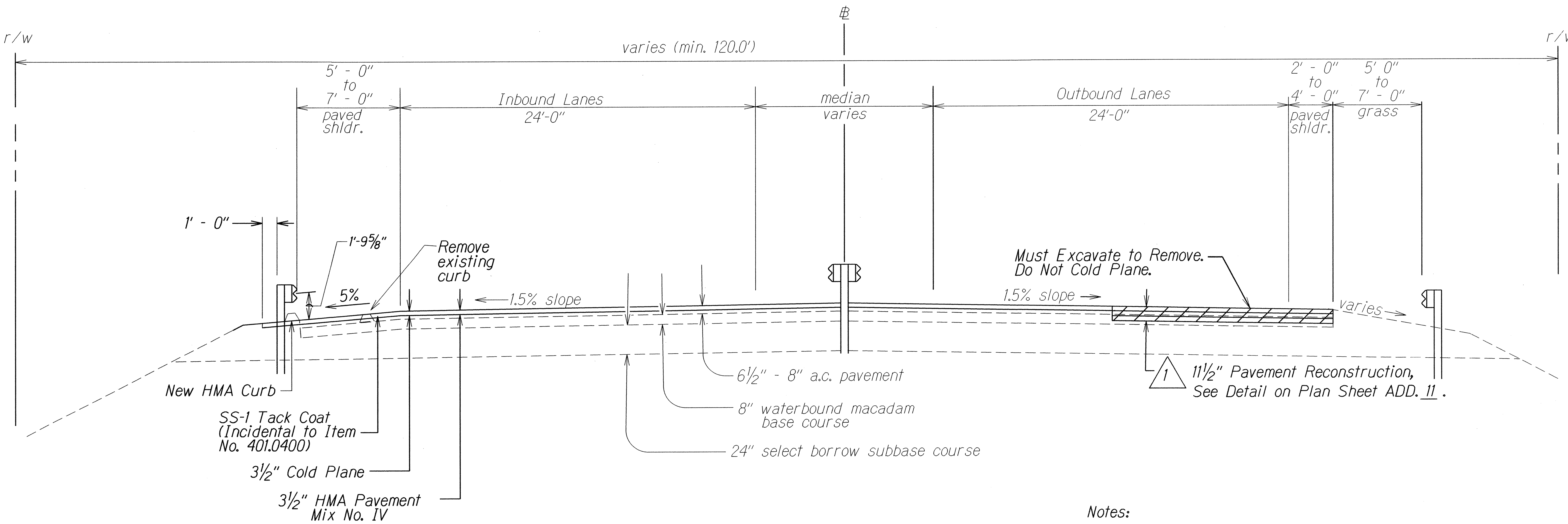
LIKELIKE HIGHWAY RESURFACING
School Street to Emmeline Place
Federal Aid Project No. NH-063-1(023)

Scale: As Shown Date: Sept., 2015

SHEET No. 5 OF 10 SHEETS

ORIGINAL PLAN | SURVEY PLOTTED BY | DRAWN BY | TRACED BY | DESIGNED BY | QUANTITIES BY | CHECKED BY | NOTE BOOK | DATE 6/06/95

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-063-1(023)	2015	ADD. 13	111



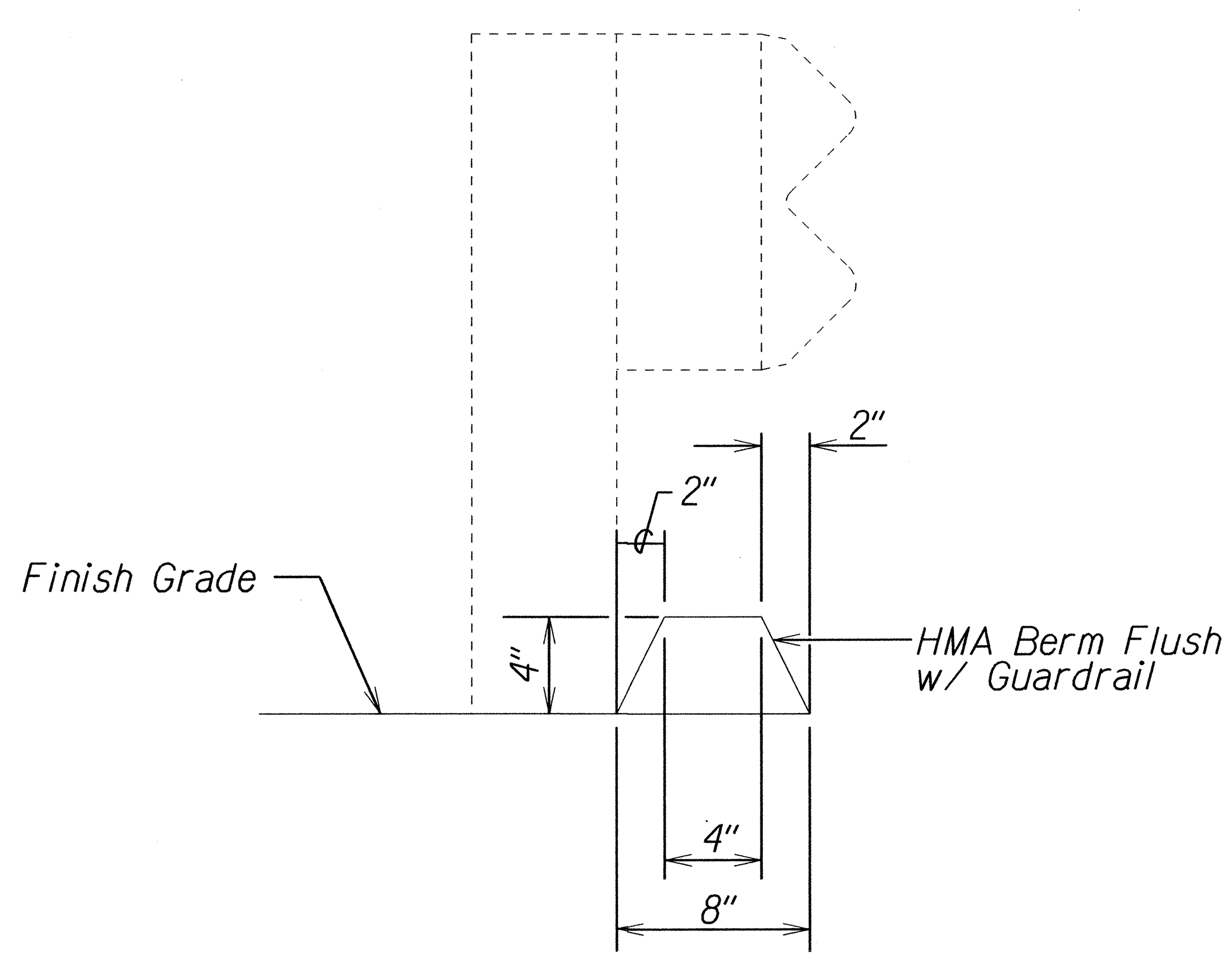
TYPICAL SECTION
℄ Sta. 75+20± to ℄ Sta. 79+50±

Scale: ¼" = 1'

Notes:

1. Contractor may elect to reconstruct the entire depth of pavement reconstruction with base course in preparation of cold planing as a separate operation, but the State will not pay for the extra base course and excavation.

2. Prior to placement of the asphalt base course, the exposed subbase or subgrade shall be recompacted to a dense and unyielding condition. The work shall be considered incidental to the Hot Mix Asphalt Base Course.



HMA BERM DETAIL

Scale: Not to Scale

	DATE	REVISION
1	10/27/15	Revised Pavement Thickness.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TYPICAL SECTION

LIKELIKE HIGHWAY RESURFACING
School Street to Emmeline Place
Federal Aid Project No. NH-063-1(023)

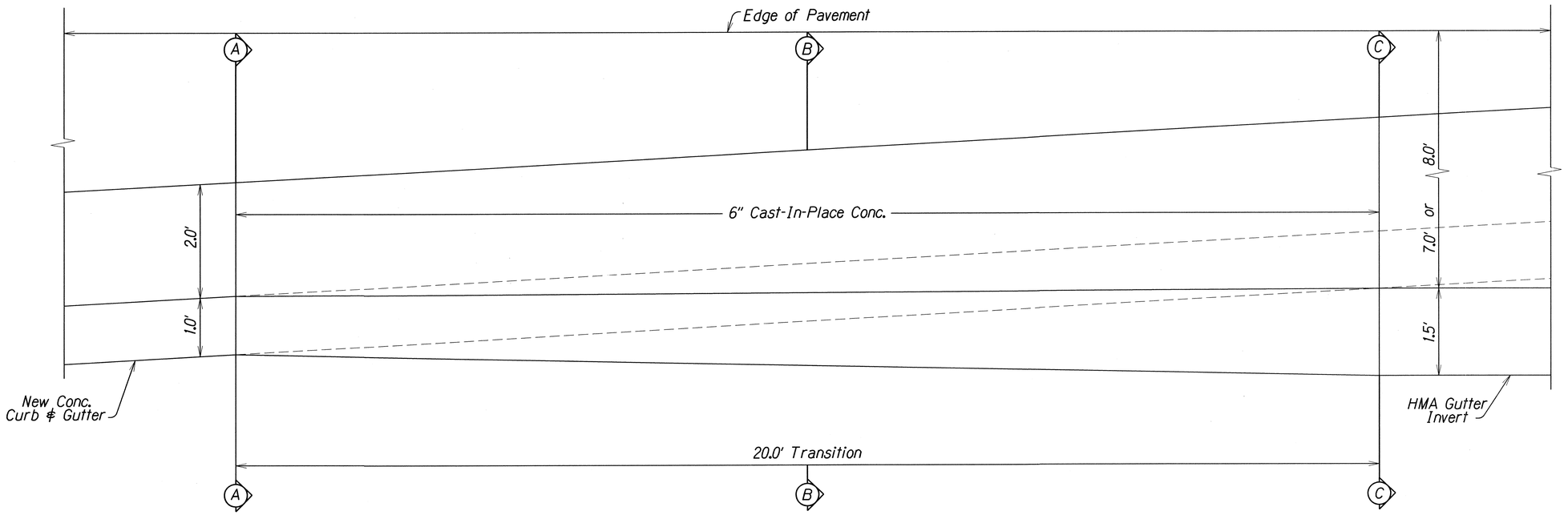
Scale: As Shown   Date: Sept., 2015

SHEET No. 6 OF 7 SHEETS

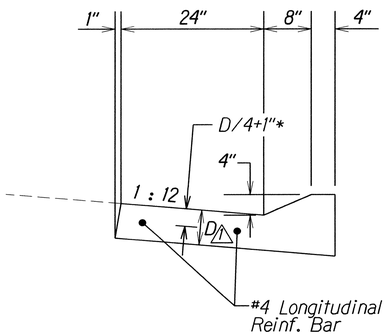
ADD. 13

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

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-063-1(023)	2015	ADD. 15	111

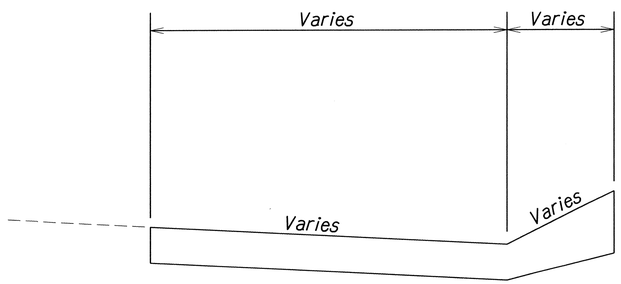


PLAN
Scale: 1"=1.0'

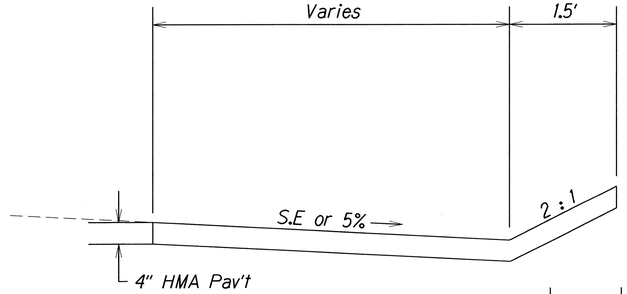


⚠ * D equals thickness of HMA & HMA Base, but not less than 10"

SECTION A-A
CURB & GUTTER, TYPE 2GG
Scale: 1"=1.0'



SECTION B-B
Scale: 1"=1.0'



SECTION C-C
Scale: 1"=1.0'

TYPICAL TRANSITION
HMA SHOULDER TO CONCRETE CURB & GUTTER
Scale: 1"=1.0'

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

DATE	REVISION
⚠ 10/29/15	Revised Gutter Dimensions.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TYPICAL SECTION & DETAILS

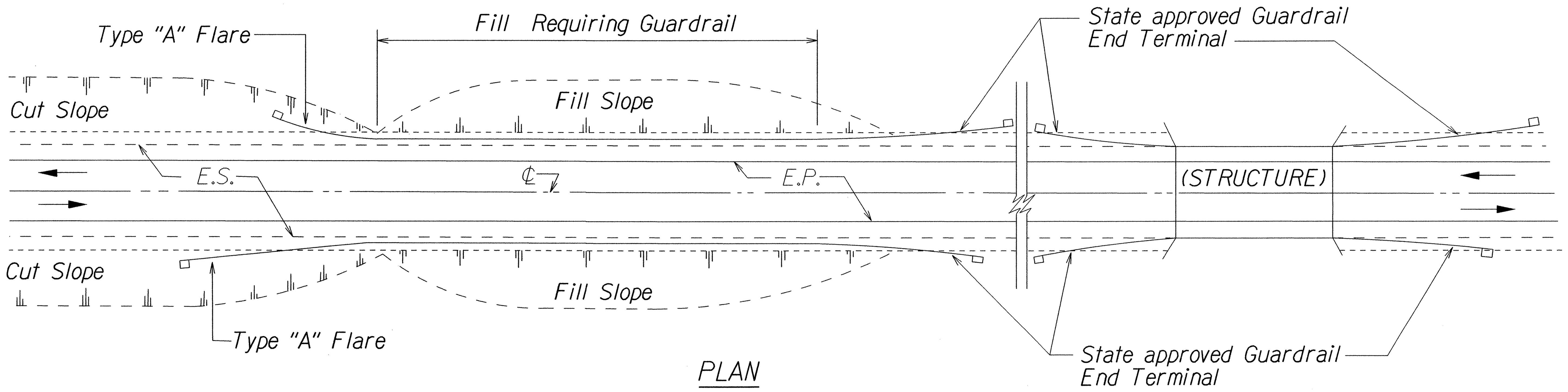
LIKELIKE HIGHWAY RESURFACING
School Street to Emmeline Place
Federal Aid Project No. NH-063-1(023)

Scale: 1" = 1.0' Date: Sept., 2015

SHEET No. 8 OF 8 SHEETS

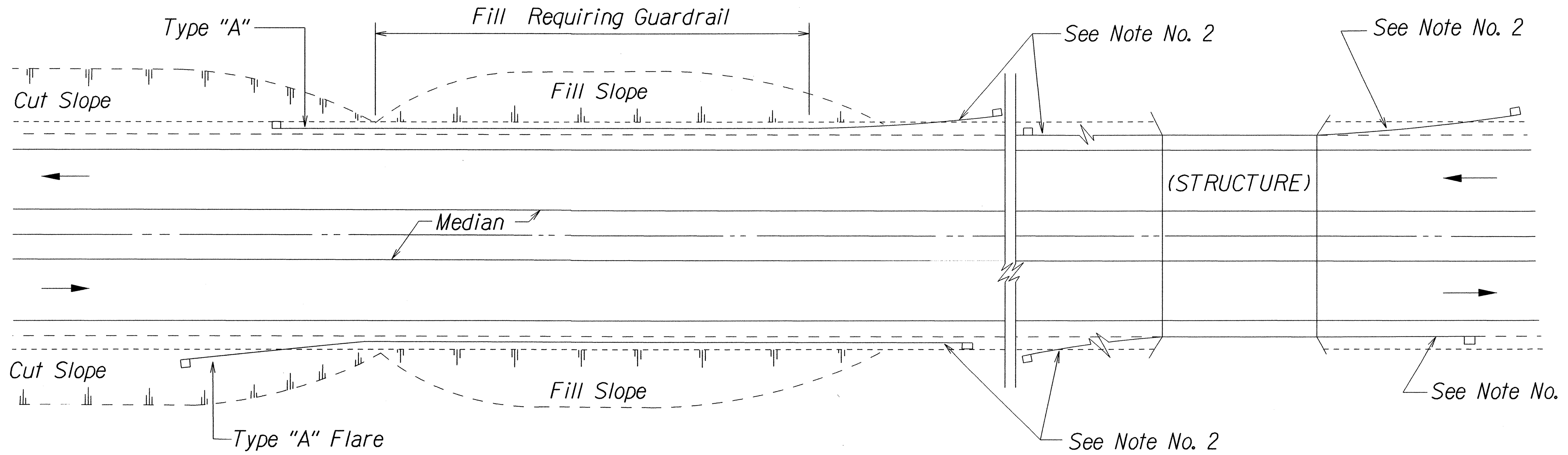
ADD. 15

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-063-1(023)	2015	ADD. 37	111



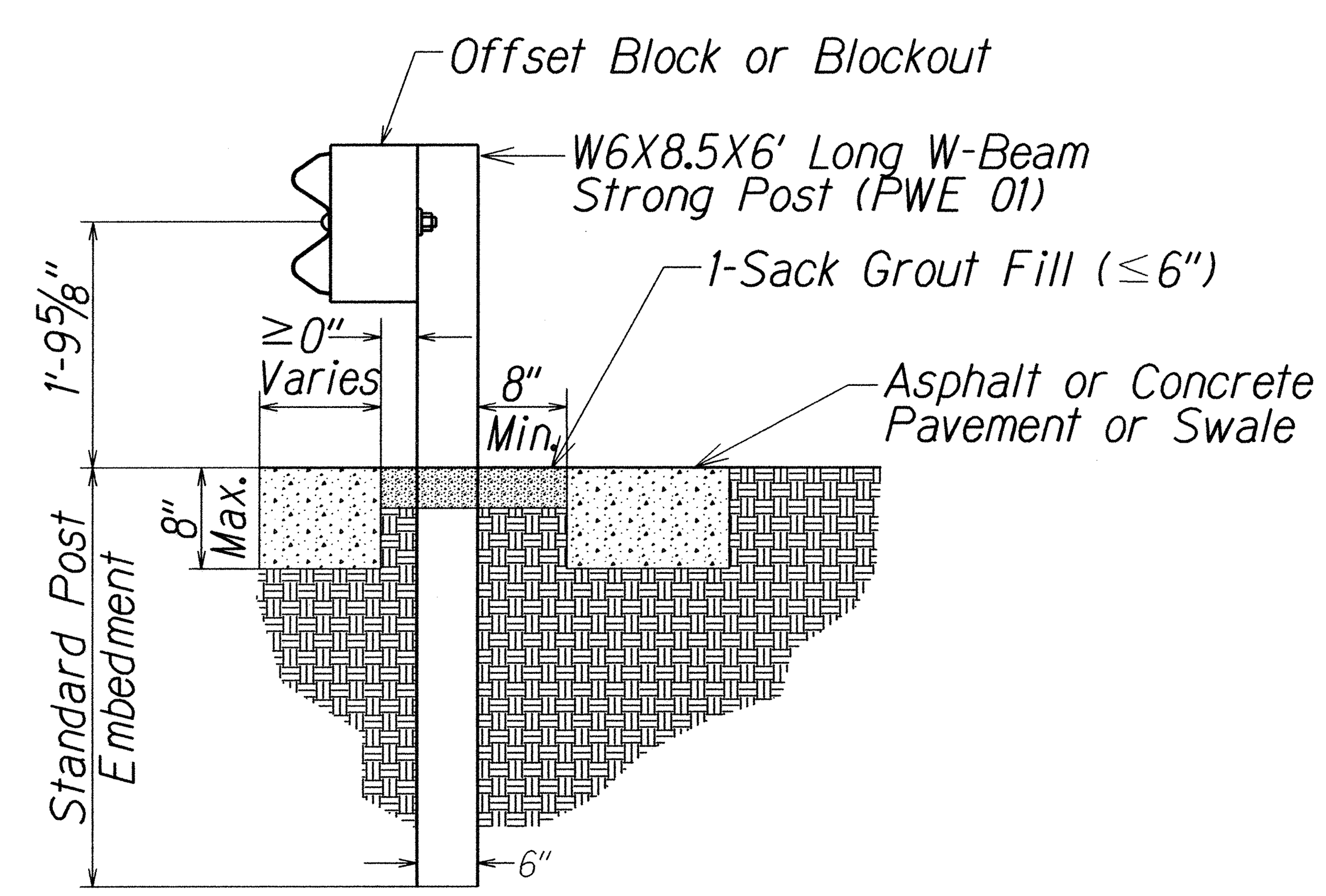
PLAN

TWO WAY ROADWAY

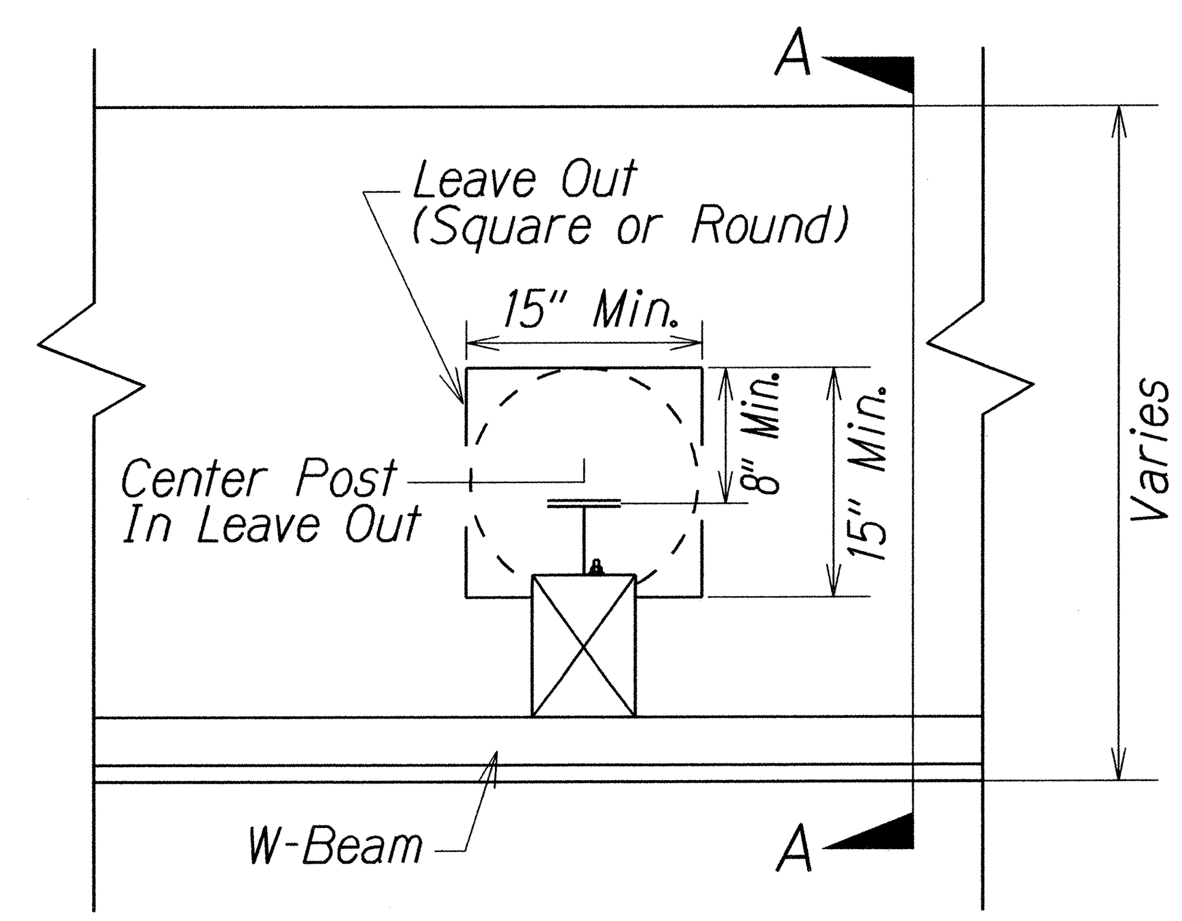


PLAN

ONE WAY ROADWAY (DIVIDED HIGHWAY)



SECTION A-A



STEEL POST DETAIL

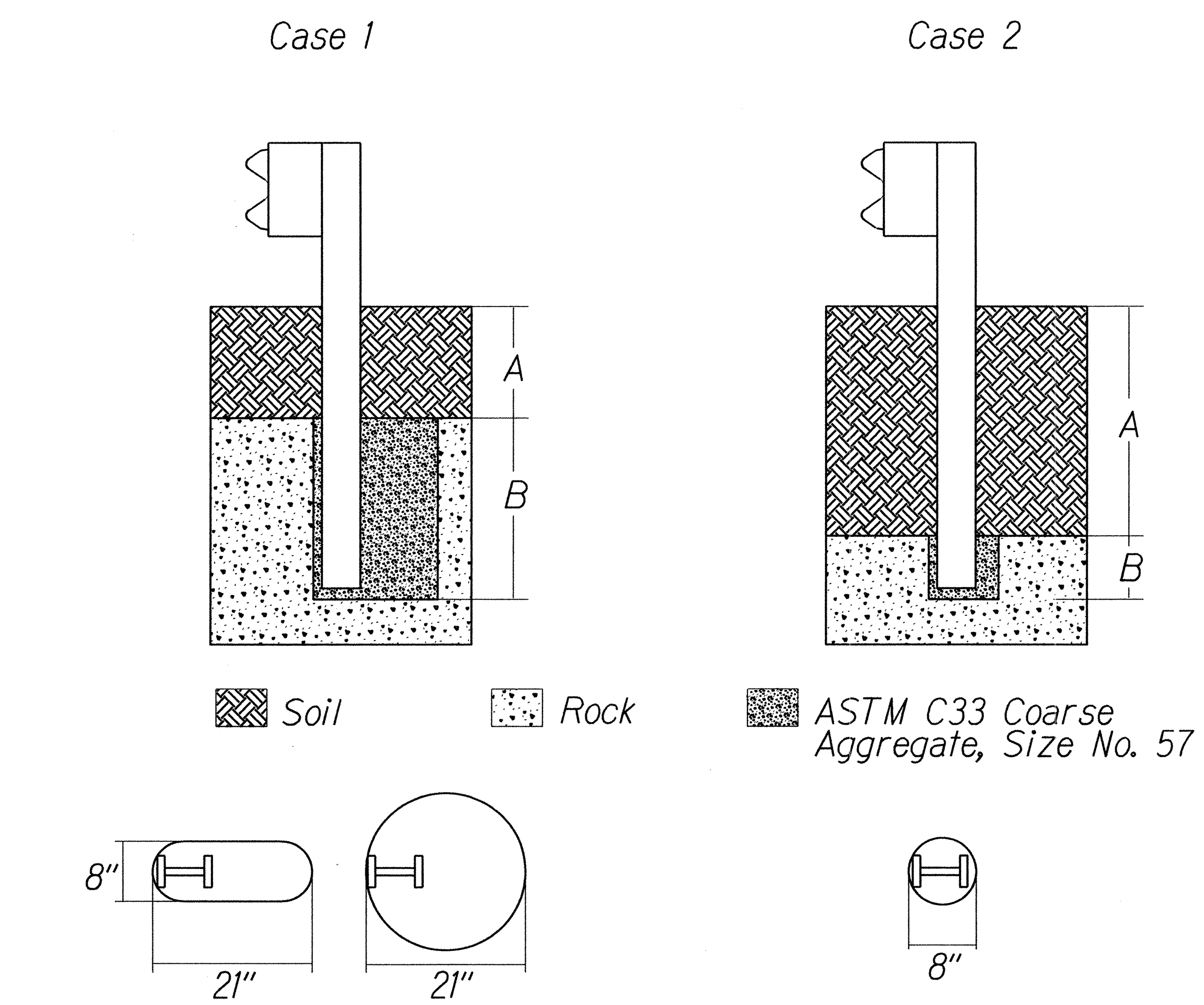
STRONG POST W-BEAM GUARDRAIL
POST IN PAVEMENT OR DRAINAGE SWALE

NOTES:

1. Metal Guardrail connection to concrete structures requires End Post Connection. See Structure Plans.
2. Depending on the existing field conditions, the Engineer shall determine which guardrail end terminal should be installed.
3. Refer to State's most current approved Product List for NCHRP 350 approved Guardrail End Terminals.

NOTES (STRONG POST W-BEAM IN ROCK):

1. Backfill of drilled holes shall be with compressible material, ASTM C33 Coarse Aggregate, Size No. 57.
2. Elongated 21-inch long hole can be accomplished by drilling three 8-inch diameter holes at 6 1/2-inches on center.



Plan View Steel Posts
Either hole configuration acceptable

(A) ranging from 0 to 18-inches, the depth of required drilling (B) is equal to 24-inches.

Overlying Soil Depths of 0 to 18-inches

(A) ranging from 18-inches to the embedment depth of the post, depth of required drilling (B) is equal to either 12-inches or the desired embedment depth minus the depth of soil whichever is less.

Overlying Soil Depths of 18 to 42-inches

STRONG POST W-BEAM GUARDRAIL IN ROCK

	DATE	REVISION
1	10/28/15	Replace Sheet.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GUARDRAIL DETAILS

LIKELIKE HIGHWAY RESURFACING
School Street to Emmeline Place
Federal Aid Project No. NH-063-1(023)

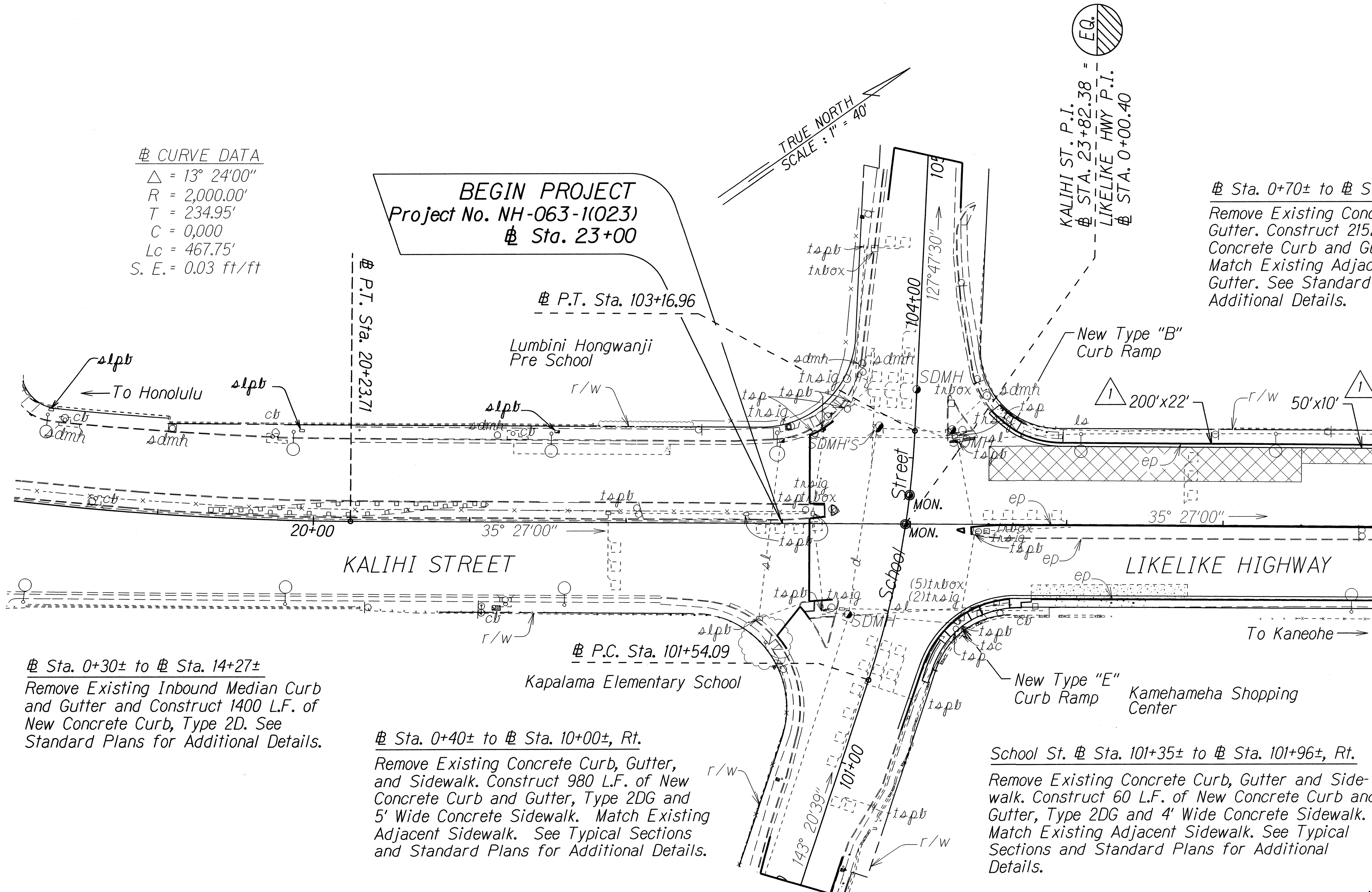
Scale: NTS   Date: Sept., 2015

SHEET No. 6 OF 12 SHEETS

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

r10/22/15 tdl/ruby/guardrail/te58rev_87.dgn

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-063-1(023)	2015	ADD. 44	111



℄ Sta. 0+70± to ℄ Sta. 22+22±, Lt.
Remove Existing Concrete Curb and Gutter. Construct 2152 LF of New Concrete Curb and Gutter, Type 2DG. Match Existing Adjacent Curb and Gutter. See Standard Plans for Additional Details.

℄ Sta. 0+30± to ℄ Sta. 14+27±
Remove Existing Inbound Median Curb and Gutter and Construct 1400 L.F. of New Concrete Curb, Type 2D. See Standard Plans for Additional Details.

℄ Sta. 0+40± to ℄ Sta. 10+00±, Rt.
Remove Existing Concrete Curb, Gutter, and Sidewalk. Construct 980 L.F. of New Concrete Curb and Gutter, Type 2DG and 5' Wide Concrete Sidewalk. Match Existing Adjacent Sidewalk. See Typical Sections and Standard Plans for Additional Details.

School St. ℄ Sta. 101+35± to ℄ Sta. 101+96±, Rt.
Remove Existing Concrete Curb, Gutter and Sidewalk. Construct 60 L.F. of New Concrete Curb and Gutter, Type 2DG and 4' Wide Concrete Sidewalk. Match Existing Adjacent Sidewalk. See Typical Sections and Standard Plans for Additional Details.

	DATE	REVISION
1	10/16/15	Revised Pavement Reconstruction Areas.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY PLANS

LIKELIKE HIGHWAY RESURFACING
School Street to Emmeline Place
Federal Aid Project No. NH-063-1(023)

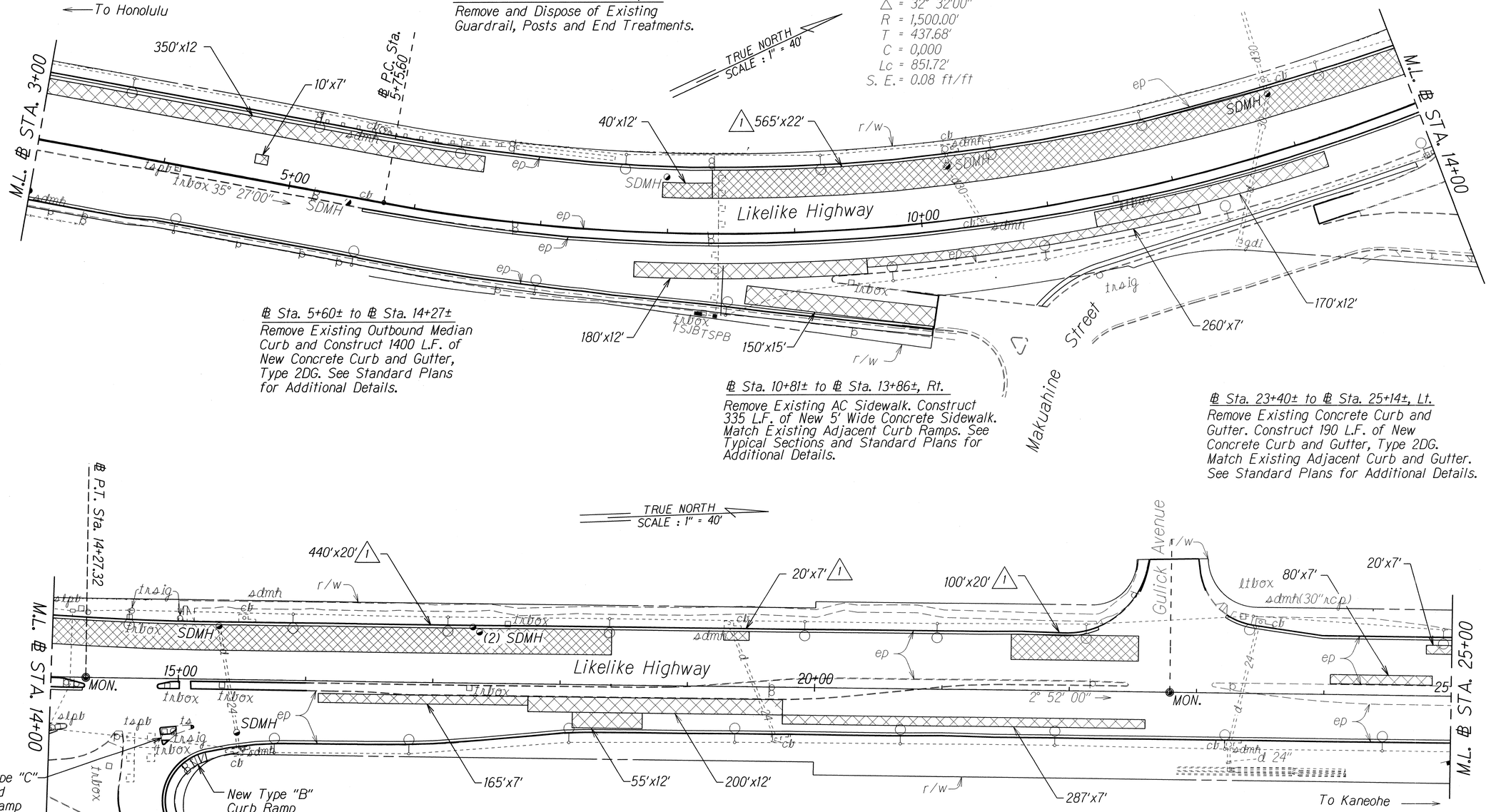
Scale: 1" = 40' Date: Sept., 2015

SHEET No. 1 OF 5 SHEETS

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

ADD. 44

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-063-1(023)	2015	ADD. 45	111



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

DATE	REVISION
1 10/16/15	Revised Pavement Reconstruction Areas.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY PLANS

LIKELIKE HIGHWAY RESURFACING

School Street to Emmeline Place
Federal Aid Project No. NH-063-1(023)

Scale: 1" = 40' Date: Sept., 2015

SHEET No. 2 OF 5 SHEETS

ADD. 45

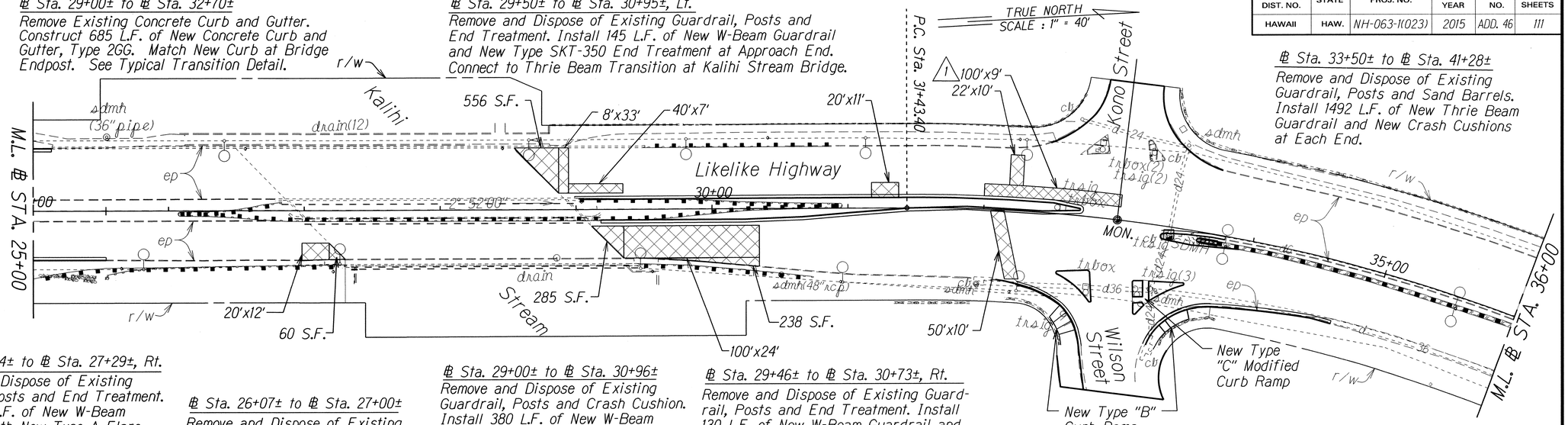
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-063-1(023)	2015	ADD. 46	111

℄ Sta. 29+00± to ℄ Sta. 32+70±

Remove Existing Concrete Curb and Gutter. Construct 685 L.F. of New Concrete Curb and Gutter, Type 2GG. Match New Curb at Bridge Endpost. See Typical Transition Detail.

℄ Sta. 29+50± to ℄ Sta. 30+95±, Lt.

Remove and Dispose of Existing Guardrail, Posts and End Treatment. Install 145 L.F. of New W-Beam Guardrail and New Type SKT-350 End Treatment at Approach End. Connect to Thrie Beam Transition at Kalihi Stream Bridge.



℄ Sta. 33+50± to ℄ Sta. 41+28±

Remove and Dispose of Existing Guardrail, Posts and Sand Barrels. Install 1492 L.F. of New Thrie Beam Guardrail and New Crash Cushions at Each End.

℄ Sta. 25+54± to ℄ Sta. 27+29±, Rt.

Remove and Dispose of Existing Guardrail, Posts and End Treatment. Install 175 L.F. of New W-Beam Guardrail with New Type A Flare at Approach End. Connect to Thrie Beam Transition at Trailing End.

℄ Sta. 26+07± to ℄ Sta. 27+00±

Remove and Dispose of Existing Guardrail, Posts and Crash Cushion. Install 177 L.F. of New Thrie Beam Guardrail and New Crash Cushion. Connect to Thrie Beam on Kalihi Stream Bridge.

℄ Sta. 29+00± to ℄ Sta. 30+96±

Remove and Dispose of Existing Guardrail, Posts and Crash Cushion. Install 380 L.F. of New W-Beam Guardrail and New Crash Cushion. Connect to Thrie Beam Transitions at Kalihi Stream Bridge.

℄ Sta. 29+46± to ℄ Sta. 30+73±, Rt.

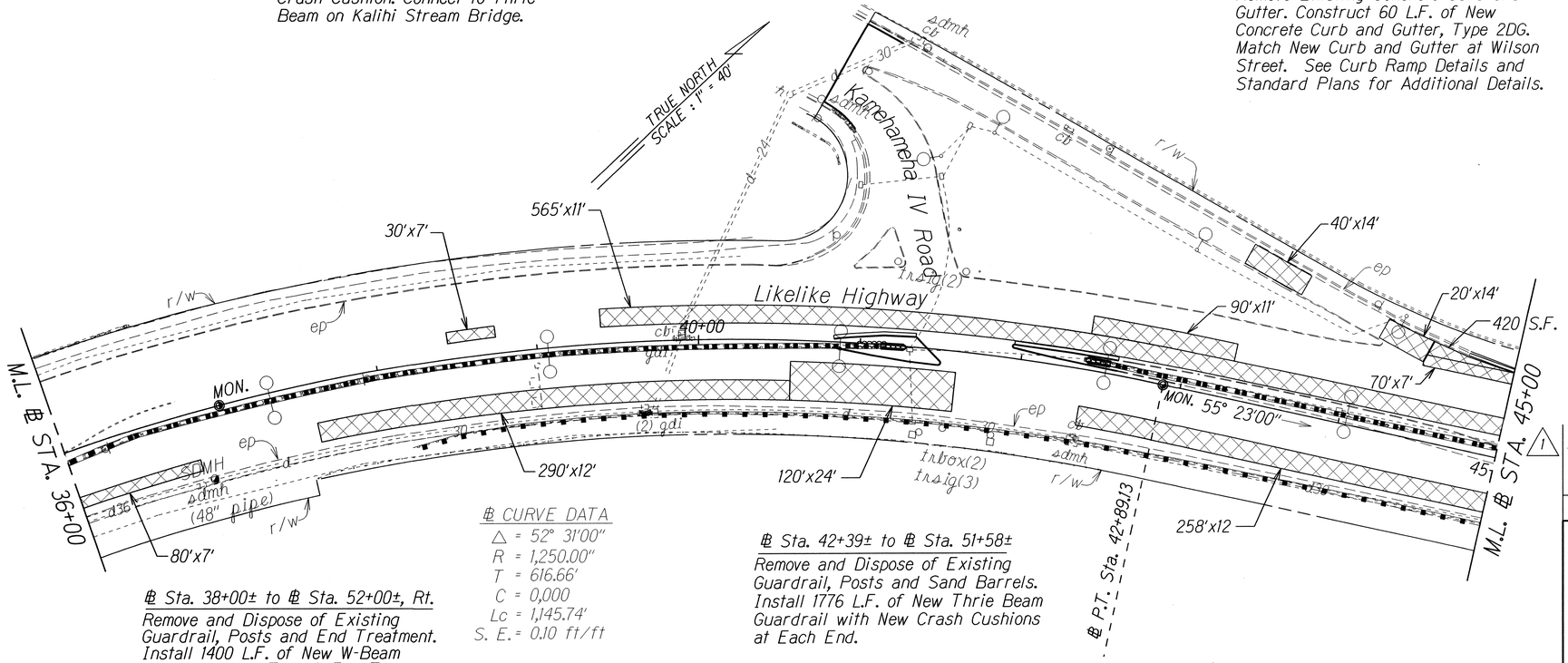
Remove and Dispose of Existing Guardrail, Posts and End Treatment. Install 130 L.F. of New W-Beam Guardrail and New Type G End Treatment at Trailing End. Connect to Thrie Beam Transition at Kalihi Stream Bridge.

℄ Sta. 32+00± to ℄ Sta. 32+60±, Rt.

Remove Existing Concrete Curb and Gutter. Construct 60 L.F. of New Concrete Curb and Gutter, Type 2DG. Match New Curb and Gutter at Wilson Street. See Curb Ramp Details and Standard Plans for Additional Details.

℄ Sta. 33+63± to ℄ Sta. 34+70±, Rt.

Remove Existing Concrete Curb and Gutter. Construct 110 L.F. of New Concrete Curb and Gutter, Type 2GG. Match New Curb and Gutter at Wilson Street and Transition to HMA Shoulder. See Curb Ramp Details and Typical Transition Detail.



℄ Sta. 38+00± to ℄ Sta. 52+00±, Rt.

Remove and Dispose of Existing Guardrail, Posts and End Treatment. Install 1400 L.F. of New W-Beam Guardrail, New Type A End Treatment at Approach End and New Type G End Treatment at Trailing End.

℄ CURVE DATA

△ = 52° 31'00"
R = 1,250.00'
T = 616.66'
C = 0,000
Lc = 1,145.74'
S. E. = 0.10 ft/ft

℄ Sta. 42+39± to ℄ Sta. 51+58±

Remove and Dispose of Existing Guardrail, Posts and Sand Barrels. Install 1776 L.F. of New Thrie Beam Guardrail with New Crash Cushions at Each End.

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

DATE	REVISION
10/16/15	Revised Pavement Reconstruction Areas.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY PLANS

LIKELIKE HIGHWAY RESURFACING
School Street to Emmeline Place
Federal Aid Project No. NH-063-1(023)

Scale: 1" = 40' Date: Sept., 2015

SHEET No. 3 OF 5 SHEETS

ADD. 46

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-063-1(023)	2015	ADD. 47	111

℄ Sta. 44+71± to ℄ Sta. 51+83±, Lt.

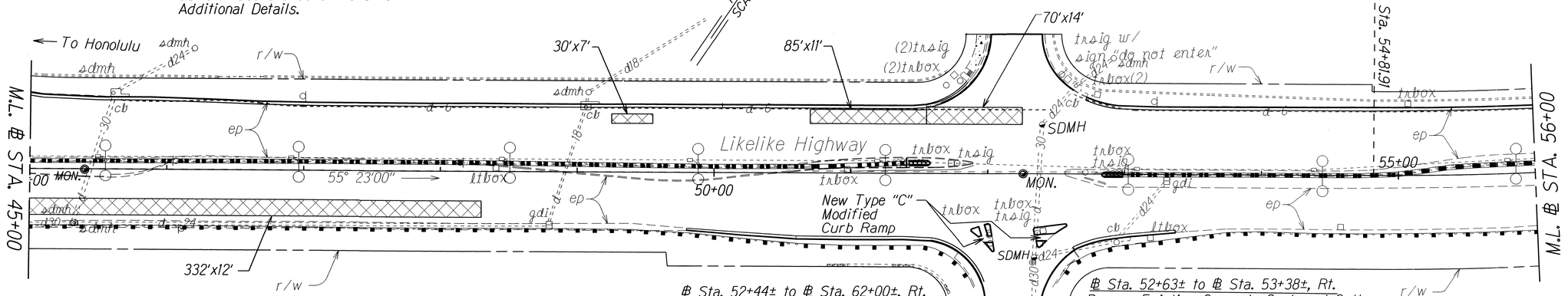
Remove Existing Concrete Curb and Gutter. Construct 720 LF of New Concrete Curb and Gutter, Type 2DG. Match Existing Adjacent Curb and Gutter. See Standard Plans for Additional Details.

℄ Sta. 52+72± to ℄ Sta. 61+46±, Lt.

Remove Existing Concrete Curb and Gutter. Construct 855 L.F. of New Concrete Curb and Gutter, Type 2DG. Match Existing Adjacent Curb and Gutter. See Standard Plans for Additional Details.

℄ Sta. 52+78± to ℄ Sta. 61+66±

Remove and Dispose of Existing Guardrail, Posts and Sand Barrels. Install 1653 L.F. of New Thrie Beam Guardrail with New Crash Cushions at Each End.



℄ Sta. 49+64± to ℄ Sta. 51+78±, Rt.

Remove Existing Concrete Curb and Gutter. Construct 220 LF of New Concrete Curb and Gutter, Type 2GG. Transition from HMA Shoulder at Start of Decel Lane and Match Existing Curb and Gutter at Alu Street. See Typical Transition Detail.

℄ Sta. 52+44± to ℄ Sta. 62+00±, Rt.

Remove and Dispose of Existing Guardrail, Posts and End Treatment. Install 995 LF of New W-Beam Guardrail with New Type G End Treatment at Both Ends. Install 85 L.F. of Rubrail at Approach End from Alu Street. Use 8 Ft. Posts.

℄ Sta. 52+63± to ℄ Sta. 53+38±, Rt.

Remove Existing Concrete Curb and Gutter. Construct 75 L.F. of New Concrete Curb and Gutter, Type 2GG. Match Existing Curb and Gutter at Alu Street and Transition to HMA Shoulder. See Typical Transition Detail.

℄ Sta. 62+51± to ℄ Sta. 66+78±, Lt.

Remove and Dispose of Existing Guardrail, Posts and End Treatments. Install 415 LF of New W-Beam Guardrail with New Type G End Treatment at Trailing End and New Type SKT-350 End Treatment at Approach End.

℄ Sta. 62+38± to ℄ Sta. 71+00±, Lt.

Remove Existing Concrete Curb and Gutter. Construct 870 LF of New Concrete Curb and Gutter, Type 2DG. Match Existing Curb and Gutter at Kula Kolea Drive and Transition to HMA Shoulder. See Standard Plans for Additional Details.

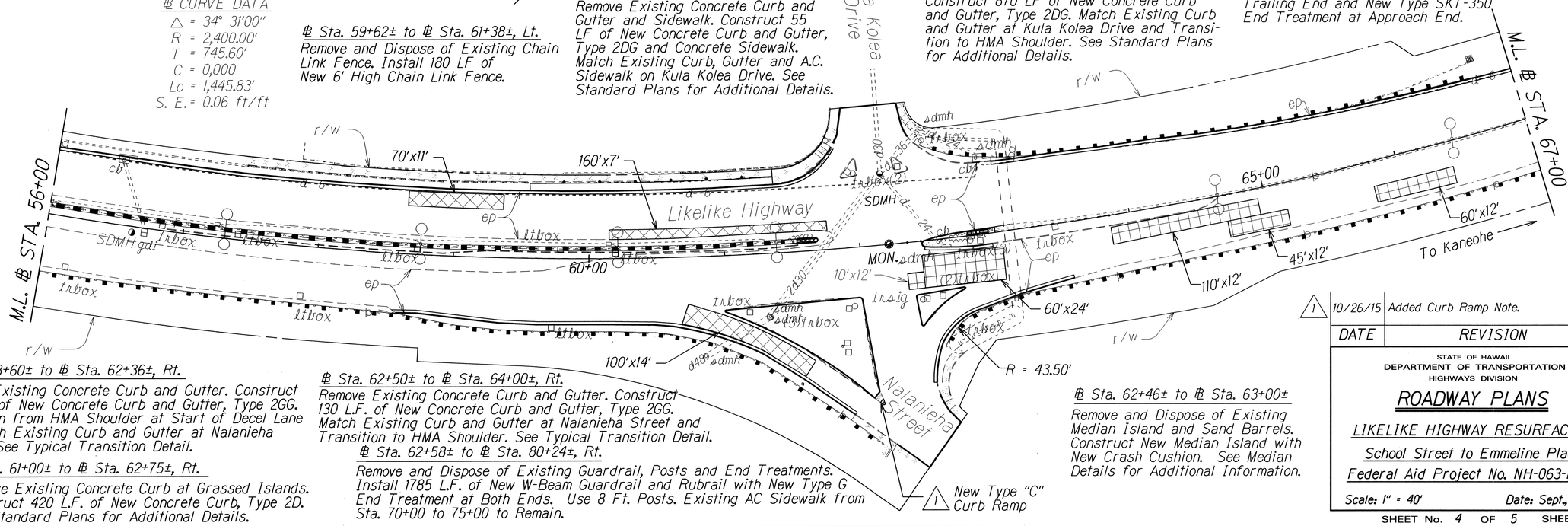
℄ CURVE DATA
△ = 34° 31'00"
R = 2,400.00'
T = 745.60'
C = 0,000
Lc = 1,445.83'
S. E. = 0.06 ft/ft

℄ Sta. 59+62± to ℄ Sta. 61+38±, Lt.

Remove and Dispose of Existing Chain Link Fence. Install 180 LF of New 6' High Chain Link Fence.

℄ Sta. 61+46± to ℄ Sta. 61+89±, Lt.

Remove Existing Concrete Curb and Gutter and Sidewalk. Construct 55 LF of New Concrete Curb and Gutter, Type 2DG and Concrete Sidewalk. Match Existing Curb, Gutter and A.C. Sidewalk on Kula Kolea Drive. See Standard Plans for Additional Details.



℄ Sta. 58+60± to ℄ Sta. 62+36±, Rt.

Remove Existing Concrete Curb and Gutter. Construct 350 L.F. of New Concrete Curb and Gutter, Type 2GG. Transition from HMA Shoulder at Start of Decel Lane and Match Existing Curb and Gutter at Nalanieha Street. See Typical Transition Detail.

℄ Sta. 61+00± to ℄ Sta. 62+75±, Rt.

Remove Existing Concrete Curb at Grassed Islands. Construct 420 L.F. of New Concrete Curb, Type 2D. See Standard Plans for Additional Details.

℄ Sta. 62+50± to ℄ Sta. 64+00±, Rt.

Remove Existing Concrete Curb and Gutter. Construct 130 L.F. of New Concrete Curb and Gutter, Type 2GG. Match Existing Curb and Gutter at Nalanieha Street and Transition to HMA Shoulder. See Typical Transition Detail.

℄ Sta. 62+58± to ℄ Sta. 80+24±, Rt.

Remove and Dispose of Existing Guardrail, Posts and End Treatments. Install 1785 L.F. of New W-Beam Guardrail and Rubrail with New Type G End Treatment at Both Ends. Use 8 Ft. Posts. Existing AC Sidewalk from Sta. 70+00 to 75+00 to Remain.

△1 New Type "C" Curb Ramp

℄ Sta. 62+46± to ℄ Sta. 63+00±

Remove and Dispose of Existing Median Island and Sand Barrels. Construct New Median Island with New Crash Cushion. See Median Details for Additional Information.

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

DATE	REVISION
10/26/15	△1 Added Curb Ramp Note.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY PLANS

LIKELIKE HIGHWAY RESURFACING
School Street to Emmeline Place
Federal Aid Project No. NH-063-1(023)

Scale: 1" = 40' Date: Sept., 2015

SHEET No. 4 OF 5 SHEETS

ADD. 47

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-063-1(023)	2015	ADD.93	111

GENERAL NOTES

DESIGN SPECIFICATIONS:

A. AASHTO LRFD Bridge Design Specifications, 7th Edition 2014 including all interim revisions.

B. State of Hawaii, Department of Transportation, Highways Division, "Design Criteria for Bridges and Structures", August 8, 2014.

MATERIALS:

A. Structural Concrete for curbs, endposts, and bridge railings shall be a minimum f'c=4,000 psi in 28 days. A corrosion inhibitor amine carboxylate water-based admixture shall be added to the concrete. The minimum dosage shall be 1.5 lbs. per cubic yard of concrete.

B. Reinforcing Steel: deformed reinforcing bars for concrete reinforcement shall meet the requirements of AASHTO M31M/M31-07 Grade 60 (ASTM A615, Grade 60).

C. Structural steel: w-beam structural steel shapes shall conform to ASTM A992. Structural steel plates and bars shall conform to ASTM A36. All structural steel shall be hot-dip galvanized in accordance with ASTM F2329 after fabrication.

D. Guardrail bolts and recessed nuts shall conform to FBB-01-5 from "A Guide to Standardized Highway Barrier Hardware" AASHTO-AGC-ARTBD Joint Committee Task Force 13 Report.

E. Carriage bolts and nuts shall conform to FBC10-20 from "A Guide to Standardized Highway Barrier Hardware" AASHTO-AGC-ARTBD Joint Committee Task Force 13 Report.

F. High strength bolts (heavy hex structural bolts) shall conform to ASTM A325, Type 3 unless otherwise specified and hot dipped galvanized in accordance with ASTM F2329.

G. Bolts (hex and heavy hex bolts) shall conform to ASTM A307 unless otherwise specified and hot-dip galvanized in accordance with ASTM F2329.

H. Anchor rods shall conform to ASTM F1554, Grade 105, Class 2A and hot-dip galvanized in accordance with ASTM F2329.

I. Threaded anchor rods for steel bridge railing anchors and steel plate on backside of endpost shall conform to ASTM A449-10 Type 1 and hot-dip galvanized in accordance with ASTM F2329.

J. Nuts for ASTM A325 bolts and ASTM F1554 anchor rods shall conform to ASTM A563-07a, Grade DH and hot-dip galvanized in accordance with ASTM F2329.

K. Nuts for ASTM A307 (hex and heavy hex) bolts shall conform to ASTM A563, Hex Grade A and Heavy Hex Grade A and hot-dip galvanized in accordance with ASTM F2329.

L. Washers for bolts shall conform to ASTM F436-11, Type 1 and hot dip galvanized in accordance with ASTM F2329.

M. Epoxy adhesive for threaded rods and anchor bolts shall be "Glass Vial" or "Double Cartridge" type. Epoxies that require manual measuring or mixing will not be allowed. Epoxy shall meet the requirements of ASTM C881, Type IV, Grade 3, Class C. See Special Provisions Section 674.

N. All welding shall be in accordance with the current edition of Bridge Welding Code ANSI/AASHTO/AWS D1.5.

O. Non-shrink grout shall be a pre-mixed product consisting of non-staining, non-metallic aggregate cement, water reducing and plasticizing agents capable of developing a minimum compressive strength of 4000 psi in 3 days and 7000 psi in 21 days. The non-shrink grout shall contain at least 10 grams of migrating amine carboxylate corrosion inhibiting per 0.4 to 0.5 cubic feet of non-shrink grout.

REFERENCE:

A. Refer to Standard Plans for additional details and notes not covered by details and typical drawings.

GENERAL:

A. The Contractor shall conduct his work in such a manner and provide such temporary shoring or other measures as may be necessary to insure the safety of all concerned and to protect existing structures.

B. In the event of over-excavation, the space between the footing or footing key and ground shall be filled with a minimum of Class D concrete at the Contractor's expense at no cost to the State.

C. Unless noted otherwise, chamfer all exposed concrete edges three-quarters (3/4) of an inch.

D. The Contractor shall verify all dimensions & grades in the field before commencing with work.

E. The Contractor shall verify the location of all existing utility lines near the work and notify their respective owners before commencing with work.

F. All items noted incidental will not be paid for separately.

G. For further clarification of this project, the Contractor can access the As-Built drawings from the previous associated projects in this area. The project nos. are US-S-0630(11), S-0630(9), F-063-1(17) and NH-063-1(19). The As-Builts are available at the Highway Design Section which is located in Room 609, 601 Kamokila Blvd, Kapolei Hi 96707. /1

CONSTRUCTION REQUIREMENTS:

A. Refer to Hawaii Standard Specifications for Road and Bridge Construction, 2005 edition and Special Provisions.

B. Except as noted otherwise, all vertical dimensions are measured plumb.

C. For steel reinforcing , stagger all splices where possible.

D. Steel reinforcing shall be supported, bent and placed as per LFRD Bridge Design Specifications.

E. For cast-in-place concrete, minimum reinforcement cover:
Concrete cast against earth: 3"
Curbs and Railings: 2"
Slab top: 2"

F. At time concrete is placed, reinforcing shall be free from mud, oil laitance or other coatings adversely affecting bond capacity.

G. Reinforcement, dowels & other embedded items shall be positively secured before pouring.

H. Minimum clear spacing between parallel bars shall be one and one-half (1½) times the diameter of the bars (for non-bundled bars), but in no case shall the clear distance between the bars be less than one and one-half (1½) times the maximum size of the coarse aggregate.

I. All dimensions relating to reinforcing bars (e.g. spacing of bars, etc.) are to centers of bars unless noted otherwise.

J. All footings and concrete slabs shall bear on firm undisturbed natural soils or properly compacted structural fill.

CONSTRUCTION REQUIREMENTS, Con't:

K. The Contractor shall verify all existing conditions as specified on the plans and shall verify all dimensions in the field prior to commencing with the work.

L. Concrete removal shall be done in such a manner as to preclude any damage to the existing structures. Saw cut 1" deep along cut line of existing structure.

M. Large vibratory type of equipment will not be permitted in the concrete removal operation nor for drilling holes. Only small vibratory hand tools (15 lbs. max.) approved by the Engineer will be allowed.

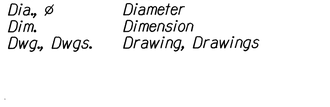
N. Any damage to the existing structure due to the Contractor's operation or negligence shall be repaired by the Contractor at his expense to the satisfaction of the Engineer, with no additional cost to the State.

O. All existing reinforcing and anchor bolts that can be incorporated in the new work shall be bent or cut as required and cleaned before being utilized in the new work.

P. All existing reinforcing or anchor bolts that cannot be incorporated in the new work shall be completely removed or removed to a minimum depth of 1" below finish grade and the area patched with non-shrink grout.

Q. All existing concrete faces receiving new concrete in the finish product shall be roughened and cleaned prior to placement of new pour, unless indicated otherwise or as directed by the Engineer.

SYMBOLS AND ABBREVIATIONS



(XX) - ℄ Bearing Abutment Seat Line

- Boring No. & Designation

Abut.	Abutment
AC	Asphaltic Concrete
Adj.	Adjacent
Alt.	Alternate
Approx.	Approximate
Az.	Azimuth
℄	Baseline
Bal.	Balance
Bet., Btwn.	Between
B.F.	Both faces
B.F.E.	Bottom Footing Elevation
Bk.	Back
Blt.	Bolt
Bm.	Beam
B, Bot., Bott.	Bottom
Br.	Bridge
Brg., Brgs.	Bearing, Bearings
B.V.C.	Beginning of Vertical Curve
℄	Center Line
Cant.	Cantilever
C.F.	Cubic Feet
CiP	Cast in Place
C.I.P.	Cast Iron Pipe
C.J.	Construction Joint
Cl., Clr.	Clear
Col.	Column
Conc.	Concrete
Conn.	Connection
Const.	Construction
Cont.	Continuous
CRM	Cement Rubble Masonry
C.Y., Cu. Yd.	Cubic Yards
Det.	Detail
Dia., ø	Diameter
Dim.	Dimension
Dwg., Dwgs.	Drawing, Drawings
EA, Ea., ea.	Each
E.F.	Each Face
Elec.	Electrical
El., Elev.	Elevation
Emb.	Embankment
E.P.	Edge of Pavement
Eq.	Equal
Est.	Estimated
E.W.	Each Way
Exc.	Excavation
Exist.	Existing
Exp., (E)	Expansion
Ext.	Exterior
(F)	Fixed
F'c	Specified Strength of Concrete
F'ci	Strength of Concrete at Time of Initial Prestress
F.F.	Front Face
Fig.	Figure
Fin.	Finish
Fin. Gr.	Finish Grade
Ftg.	Footing
Ga.	Gage, Gauge
Galv.	Galvanized
Gir., G	Girder
G.R.P.	Grouted Rubble Paving
Gr.	Grade
Grd.	Ground
(H)	Hinge
Horiz.	Horizontal
HS	High Strength
Ht.	Height
Hwy.	Highway
I.B.	Inbound
I.F.	Inside Face
In.	Inch
Int.	Interior
Inv.	Invert
Jt.	Joint
L	Length
LBS., lb., lbs.	Pound, Pounds
L.F., Lin. Ft.	Linear Feet
Lg.	Long
Longit.	Longitudinal
L.S.	Lump Sum
Lt.	Left
Ltg. Std.	Lighting Standard
Max.	Maximum
Mech.	Mechanical
Min.	Minimum
Misc.	Miscellaneous
N	North
N.B.	Northbound
N.F.	Near Face
No., #	Number
N.T.S.	Not To Scale
O.B.	Outbound
o.c.	On Center
O.G.	Outside Girder
Opn'g	Opening
o/s, O/S	Offset
P.B.	Pull Box
P.C.	Point of Curvature
P.C.C.	Portland Cement Concrete
Perf.	Perforated
PG-( )	Prestressed Girder-(Type)
PL	Plate
P/S	Prestressed Strands
Pt.	Point
Pvmt.	Pavement
R	Radius
Rdwy	Roadway
Ref.	Reference
Reinf.	Reinforcement
Ret.	Retaining
Req'd	Required
R.F.	Rear Face
Rt.	Right
R/W	Right Of Way
S	South
S.B.	Southbound
Sect.	Section
SF	Square Feet
Shldr.	Shoulder
Sht.	Sheet
Spc.	Space
Spcd.	Spaced
Spcg.	Spacing
Spec.	Specification
Sprd.	Spread
Sta.	Station
Std.	Standard
Stirr.	Stirrup
Str.	Straight
Struct.	Structural
Symm.	Symmetrical
T	Top
Temp.	Temporary
Thk.	Thick, Thickness
T.O.D.	Top Of Deck
Tot.	Total
Transv.	Transverse
Typ.	Typical
Var.	Varies
V.C.	Vertical Curve
Vert.	Vertical
W	West
w/	With
W.W.	Wingwall

ORIGINAL PLAN		SURVEY PLOTTED BY	ATV	DATE	SEP 2013
		DRAWN BY			
		TRACED BY	NH		SEP 2013
NOTE BOOK		DESIGNED BY			SEP 2013
		QUANTITIES BY	NH		SEP 2013
No. -		CHECKED BY	XXX		SEP 2013

d:\3/kate/Tikbq2-ADD1.dgn

/1	10/27/15	Added General Note G.
	DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

KALIHI STREAM BRIDGE AND PEDESTRIAN OVERPASS AT KULA KOLEA DRIVE

GENERAL NOTES, SYMBOLS & ABBREVIATIONS

LIKELIKE HIGHWAY RESURFACING

School Street to Emmeline Place

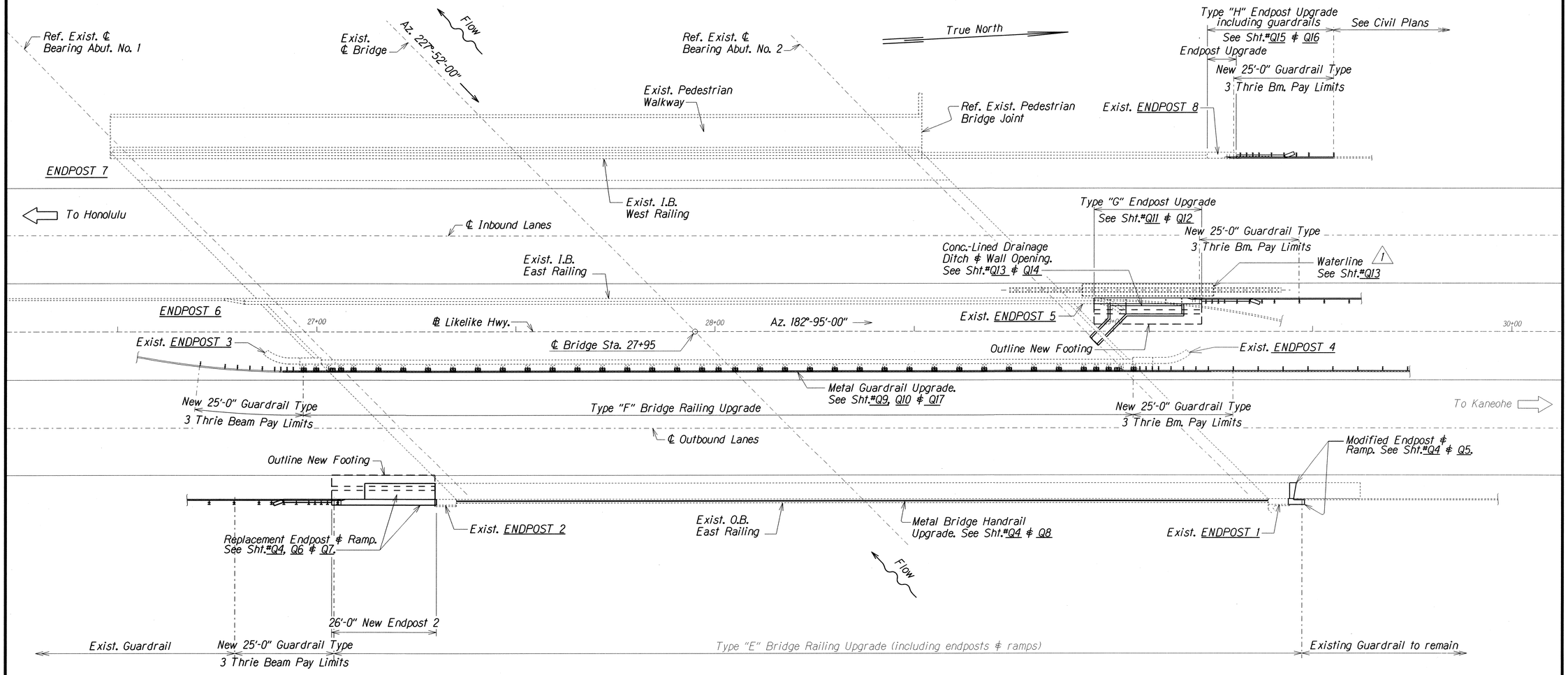
F.A. Project No. NH-063-1(023)

Scale: As Noted Date: June, 2015

SHEET No. Q2 OF 20 SHEETS

ADD. 93

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-063-1(023)	2016	ADD.94	111



LAYOUT PLAN--KALIHI STREAM BRIDGE

Not to Scale

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

db3/ust2/kote/ksb_q3-ADD1.dgn

DATE	REVISION
1 10/27/15	Changed Call-out.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

KALIHI STREAM BRIDGE

LAYOUT PLAN

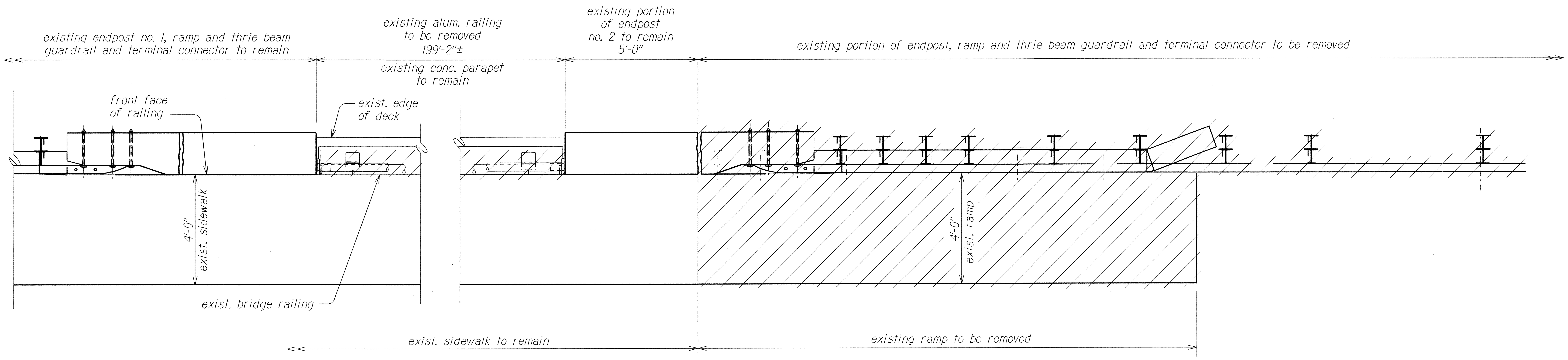
LIKELIKE HIGHWAY RESURFACING
School Street to Emmeline Place
Federal Aid Project No. NH-063-1(023)

Scale: As Noted Date: June, 2015

SHEET No. Q3 OF 20 SHEETS

ADD. 94

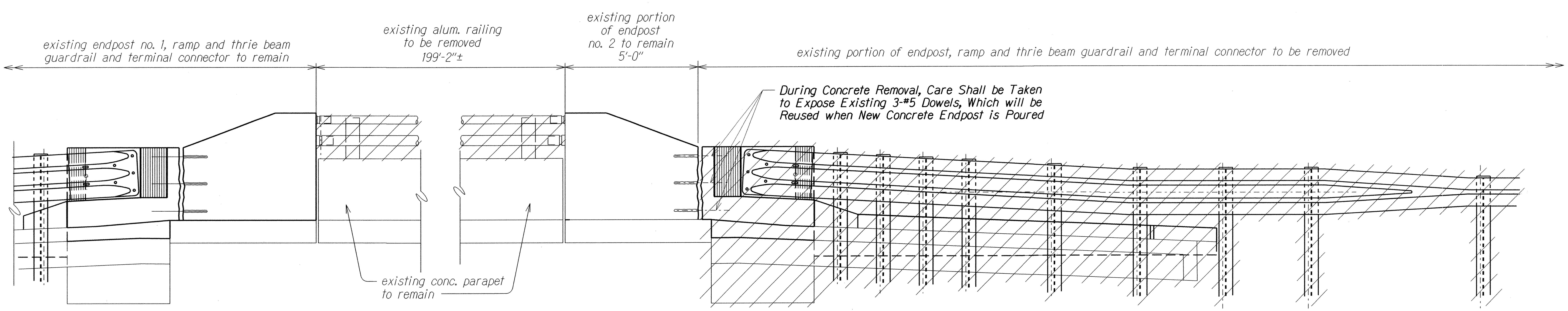
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-063-1(023)	2015	ADD.95	111



PLAN

1 Note:

Denotes removal.



ELEVATION

ENDPOST No. 1 & ENDPOST No. 2 DEMOLITION

Scale: ½" = 1'-0"

	DATE	REVISION
1	10/27/15	Removed Note.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

KALIHI STREAM BRIDGE

ENDPOST No. 1 AND ENDPOST No. 2 DEMOLITION PLAN

LIKELIKE HIGHWAY RESURFACING
School Street to Emmeline Place
F.A. Project No. NH-063-1(023)

Scale: As Noted Date: June, 2015

SHEET No. Q4 OF 20 SHEETS

ORIGINAL PLAN | SURVEY PLOTTED BY ATV | DATE SEP 2014
DRAWN BY | TRACED BY
NOTE BOOK | DESIGNED BY JFU SEP 2014 | QUANTITIES BY JFU SEP 2014 | CHECKED BY DCO SEP 2014
No.

db3/kate/11ikbq4-ADD1.dgn