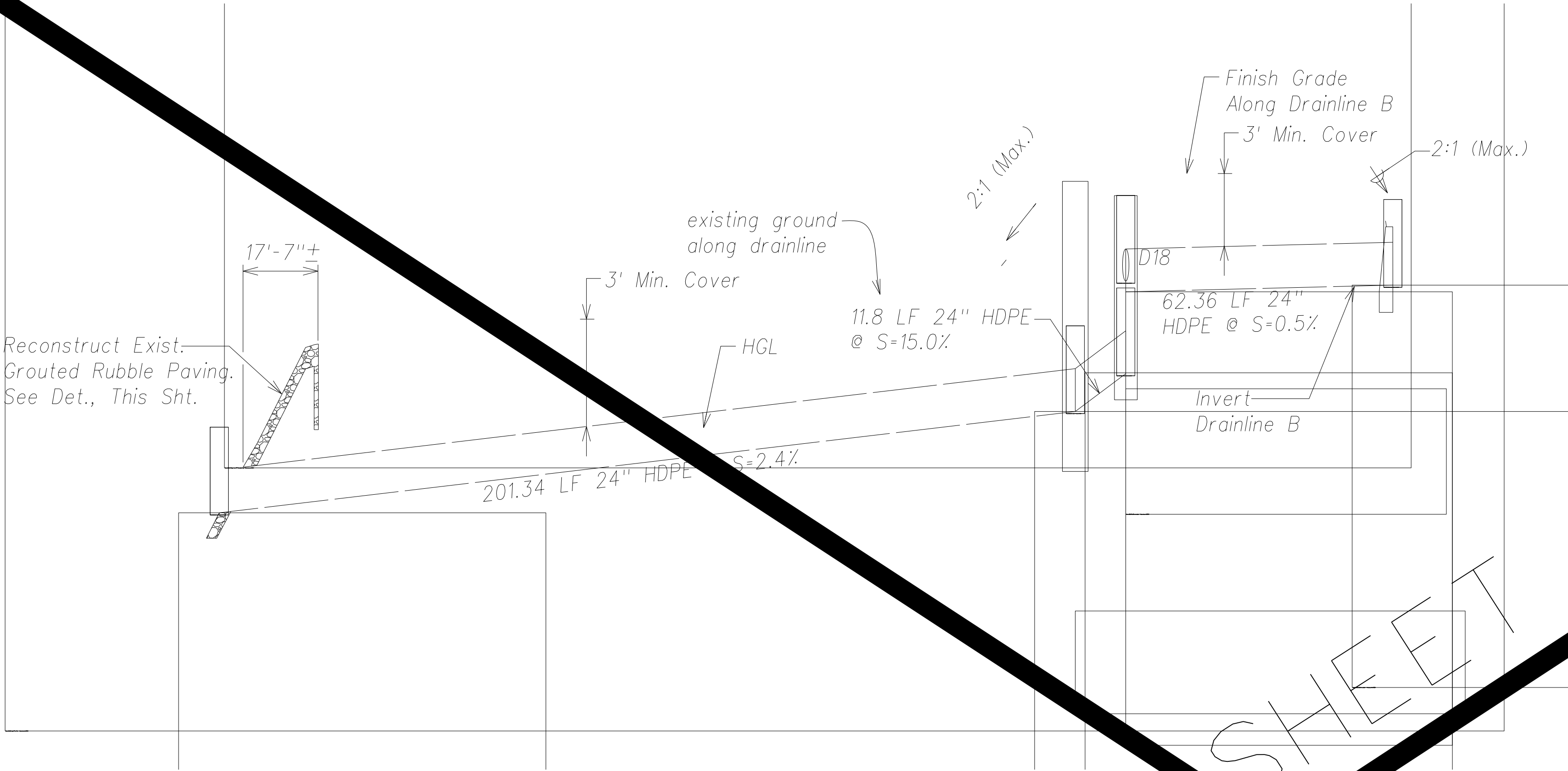
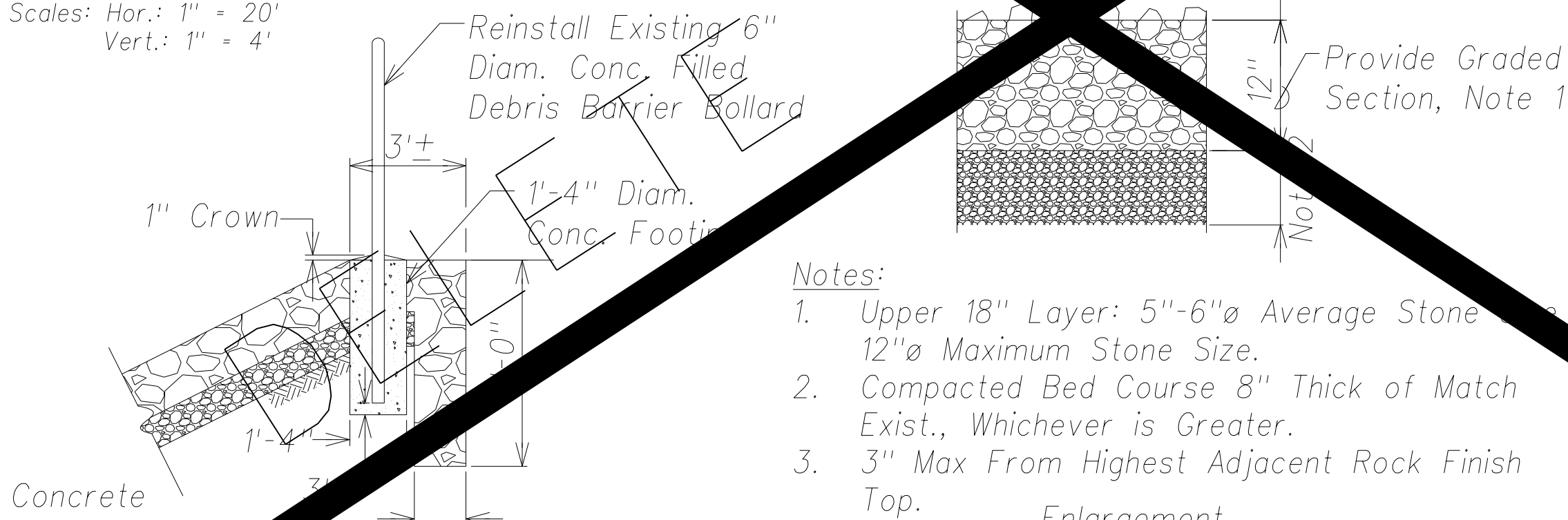


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ARR-050-1(036)	FY13/14	50	50



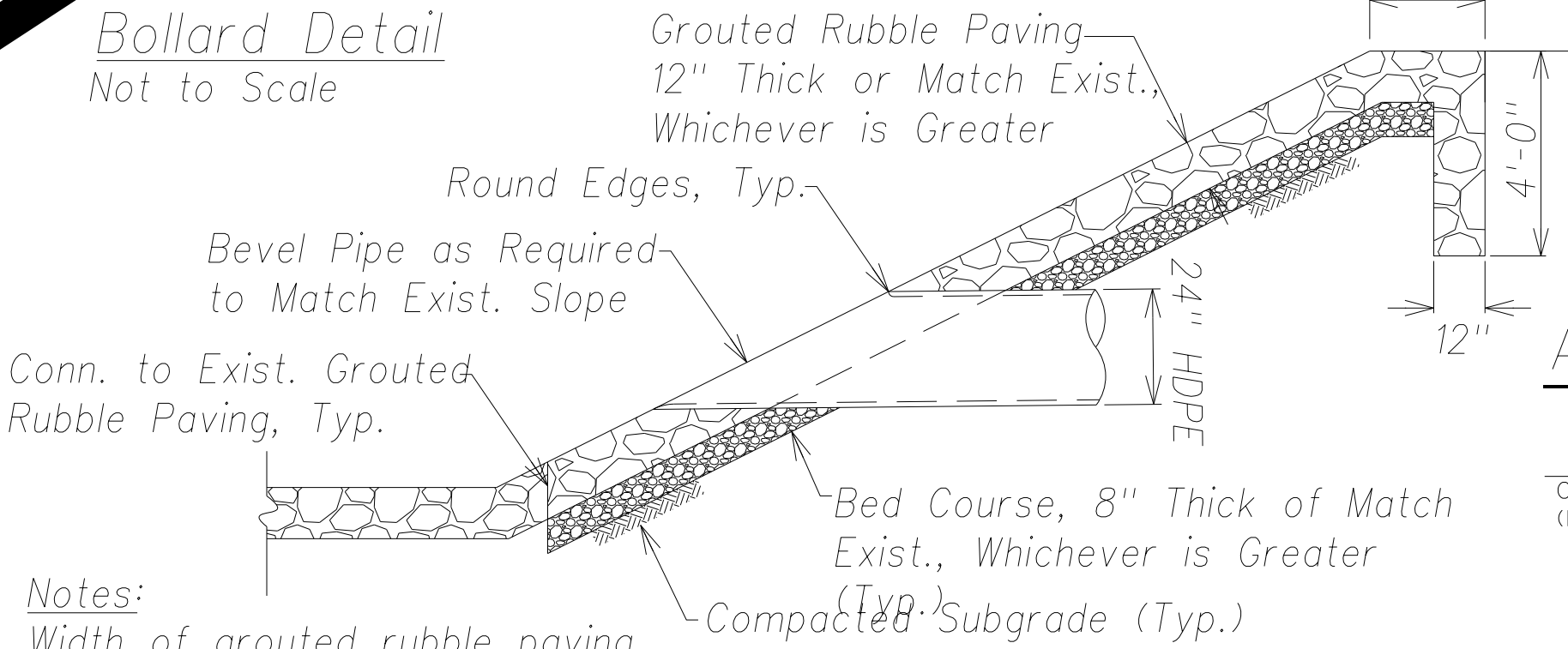
Profile: Drainline B
Scales: Hor.: 1" = 20'
Vert.: 1" = 4'



- Notes:
- Upper 18" Layer: 5"-6"Ø Average Stone, 12"Ø Maximum Stone Size.
 - Compacted Bed Course 8" Thick of Match Exist., Whichever is Greater.
 - 3" Max From Highest Adjacent Rock Finish Top.

Enlargement

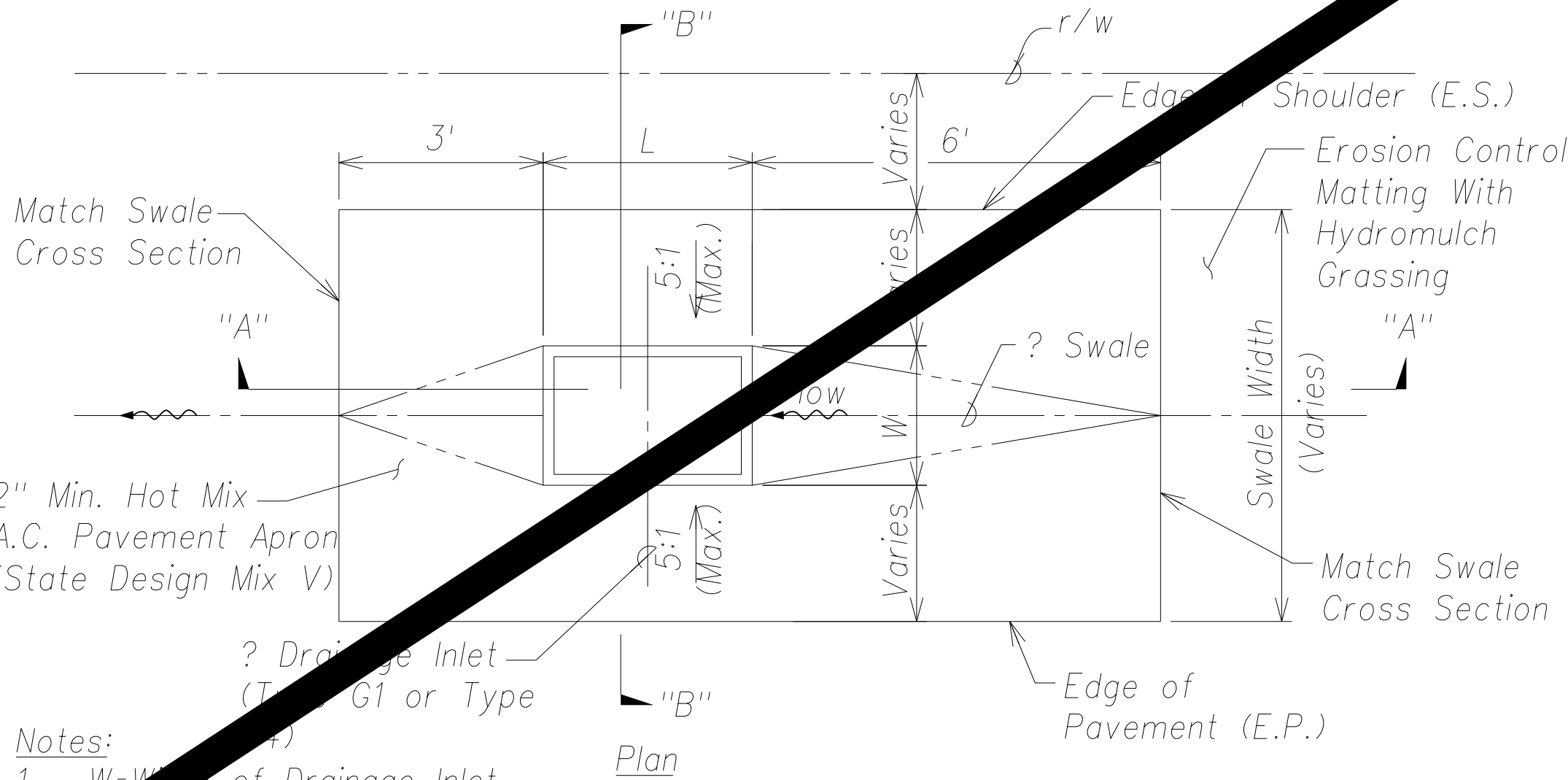
Bollard Detail
Not to Scale



- Notes:
- Width of grouted rubble paving repair shall be equal to the width of the drain line trench.

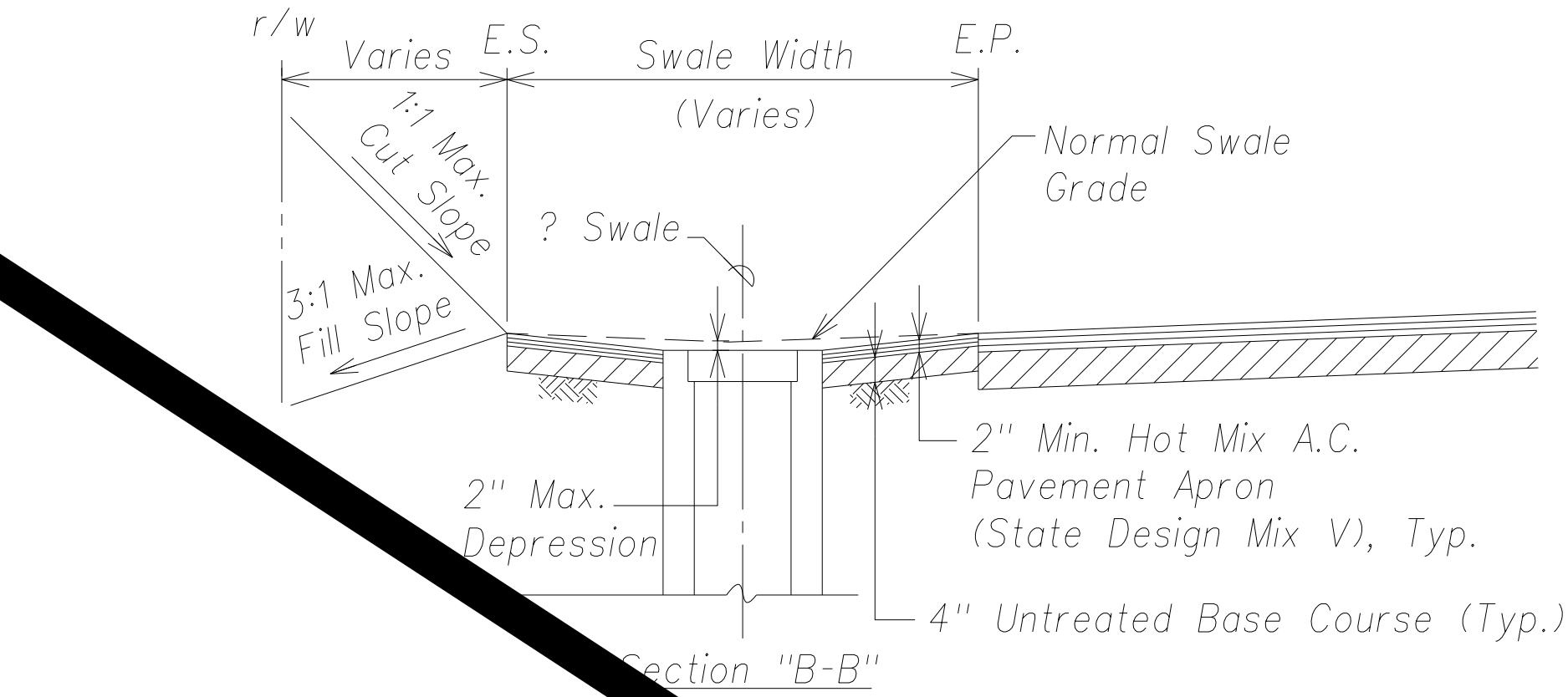
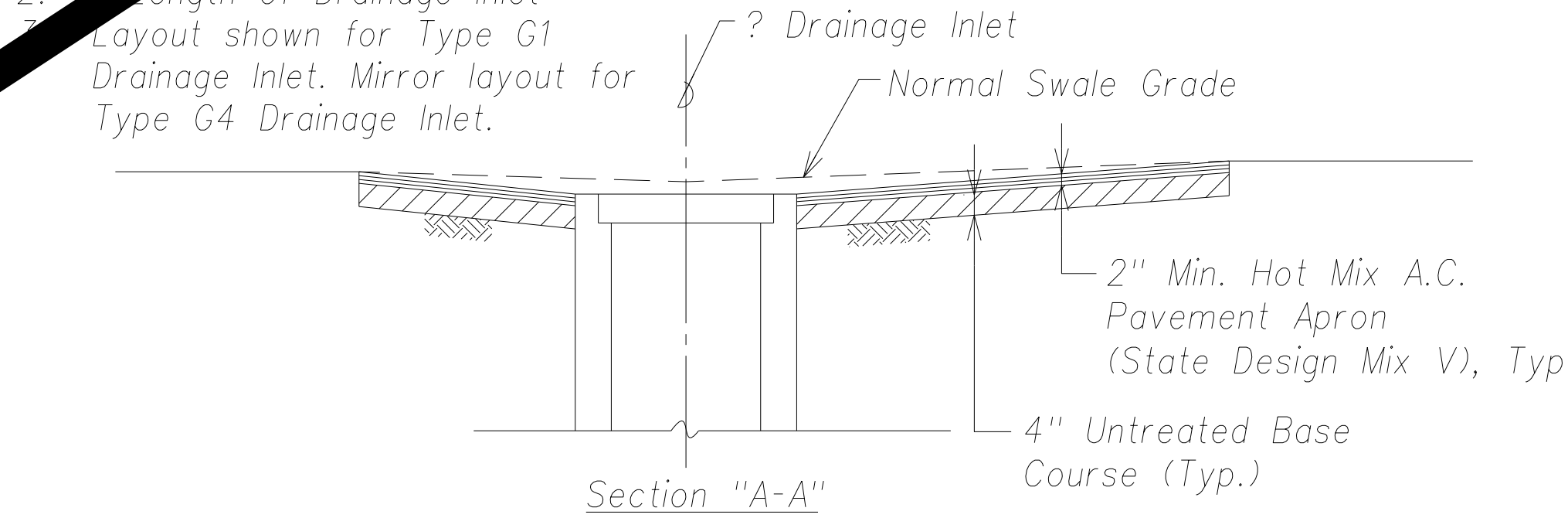
Section View

Grouted Rubble Paving Detail
Not to Scale



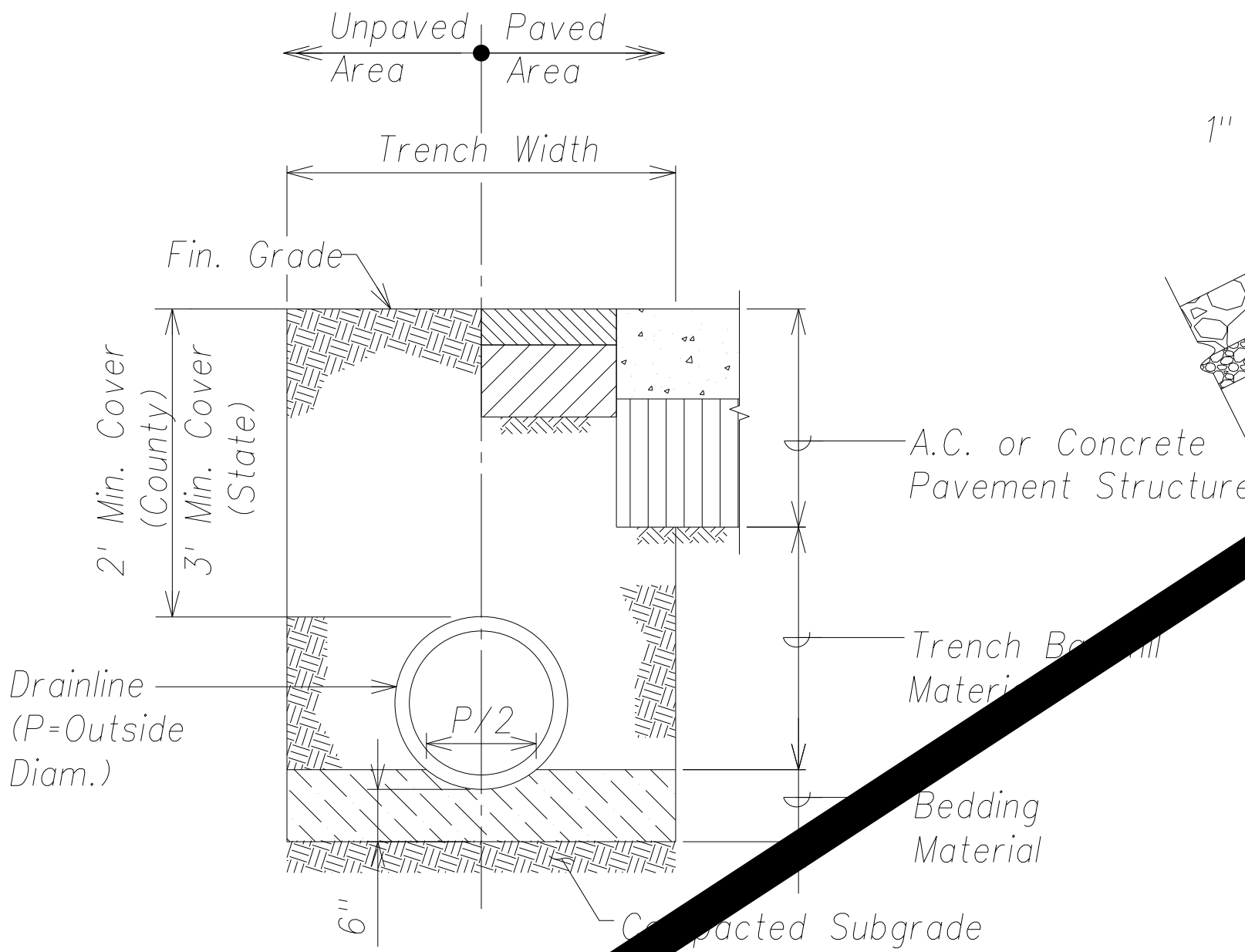
Notes:

- W=Width of Drainage Inlet
- L=Length of Drainage Inlet
- Layout shown for Type G1 Drainage Inlet. Mirror layout for Type G4 Drainage Inlet.



Local Depression Without Curb and Gutter
Not to Scale

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



Drain Pipe Size	Trench Width
18"	36"
24"	48"

Drain Pipe Trenching Detail
Not to Scale

APPROVED BY:

COUNTY ENGINEER, DEPT. OF PUBLIC WORKS
(FOR WORK WITHIN THE COUNTY RIGHT-OF-WAY)

DATE

Graphic Scales:

Horizontal: 1" = 20'

Vertical: 1" = 4'



Scale in Feet

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SIGNATURE
April 30, 2014
EXPIRATION DATE
OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAINAGE DETAILS - 1

PHASE 1 - KAUMOA HIGHWAY
LIHU'E MILL BRIDGE TO THE STREET
PHASE 1 - HO'OMANA ROAD

Scale: As Shown
Date: December 1, 2012

SHEET No. C-29 OF 50 SHEETS

"AS-BUILT"

Model

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ARR-050-1(036)	FY13/14	Model	50

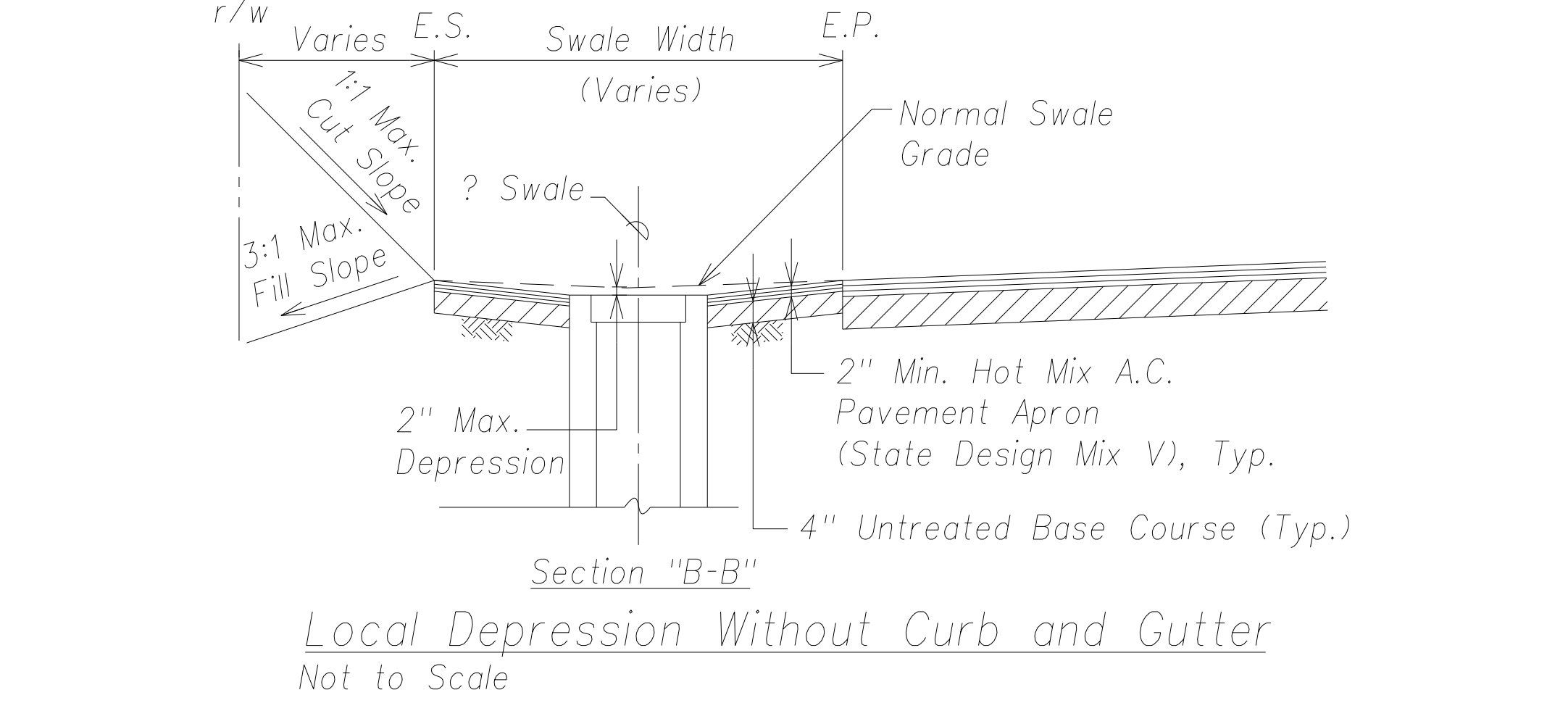
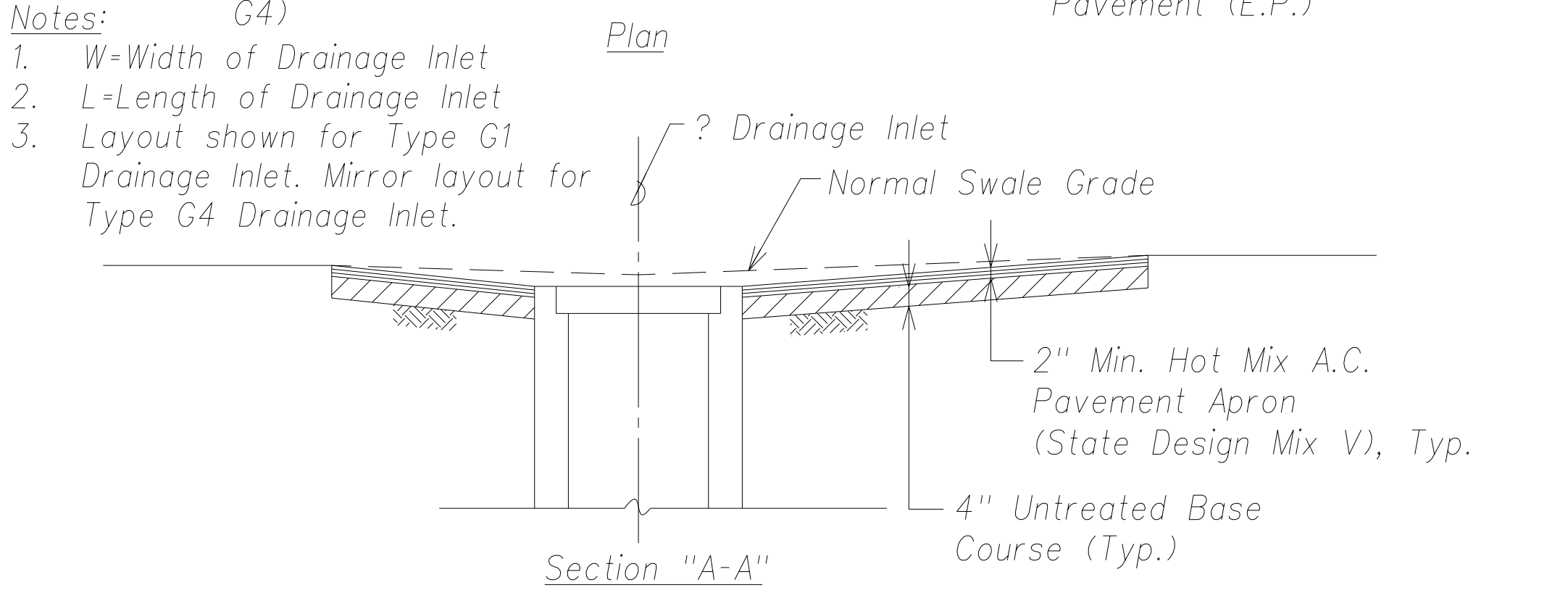
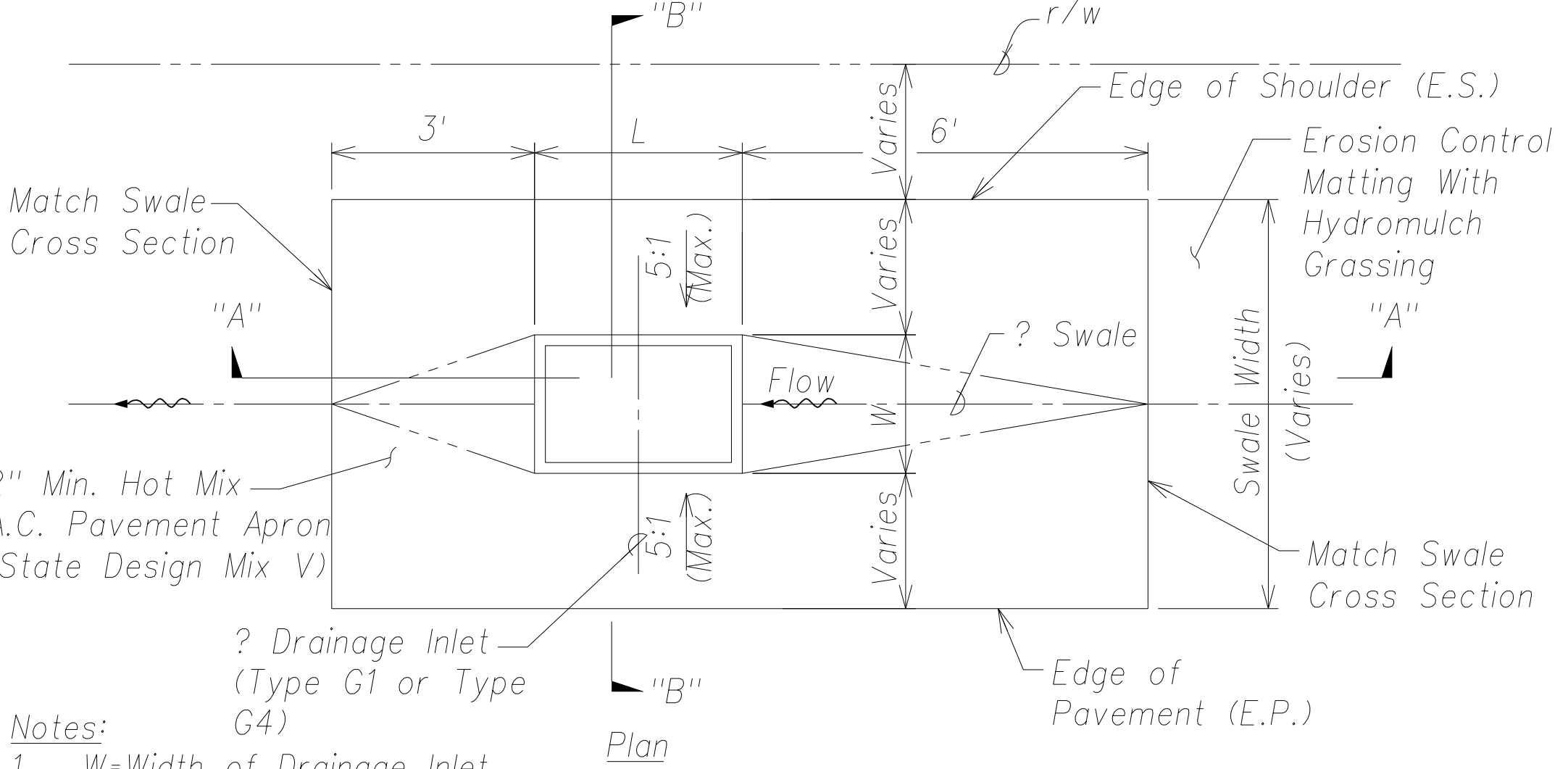
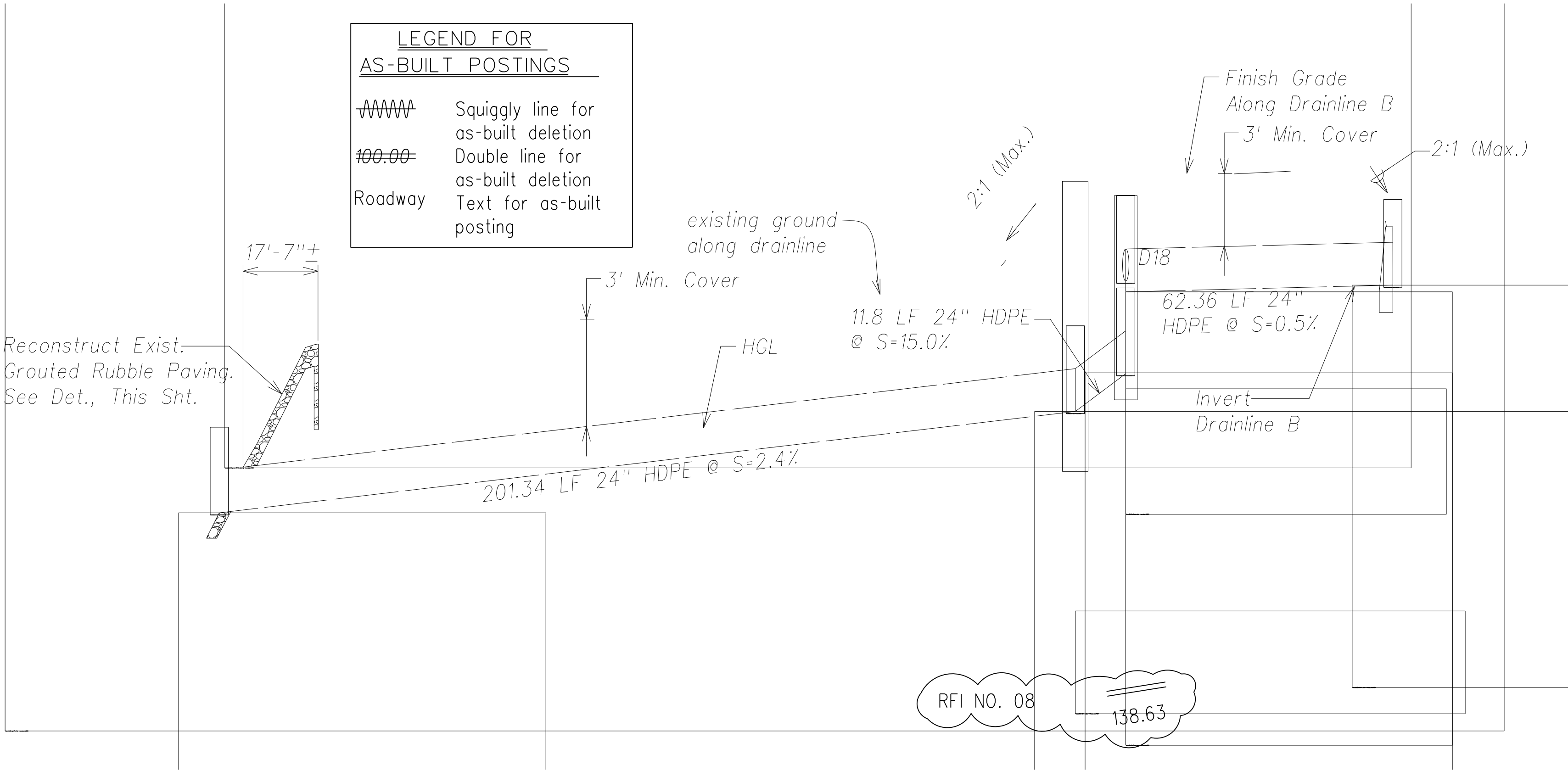
LEGEND FOR
AS-BUILT POSTINGS

Roadway

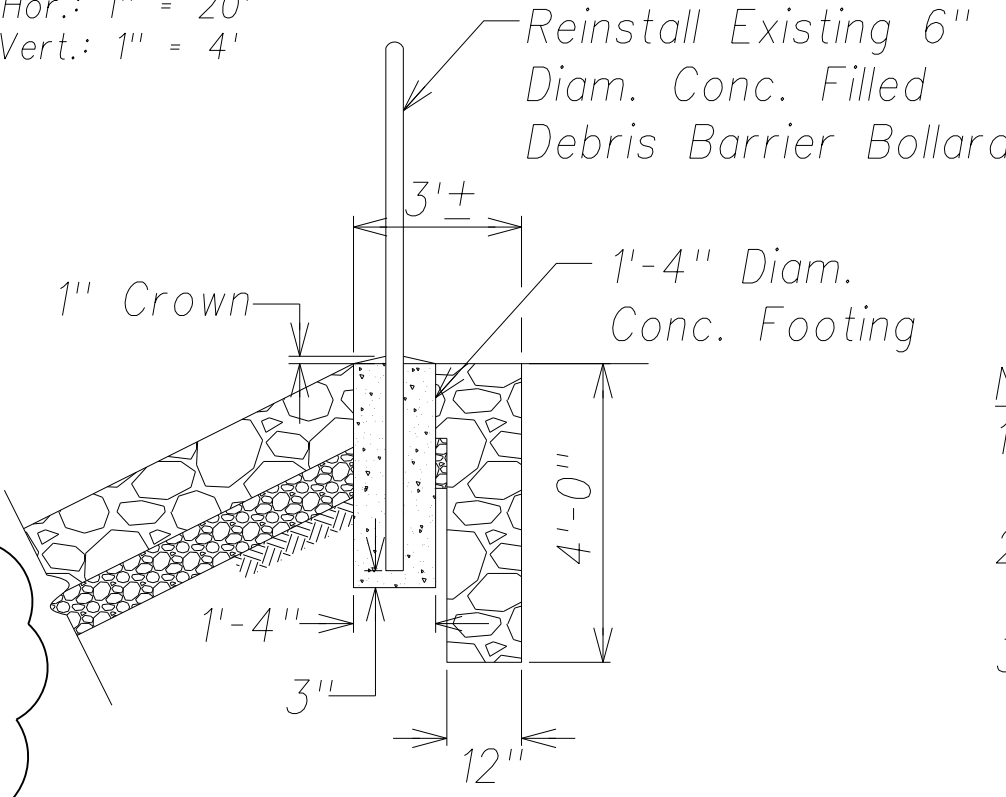
Squiggly line for as-built deletion

Double line for as-built deletion

Text for as-built posting



Profile: Drainline B
Scales: Hor.: 1" = 20'
Vert.: 1" = 4'

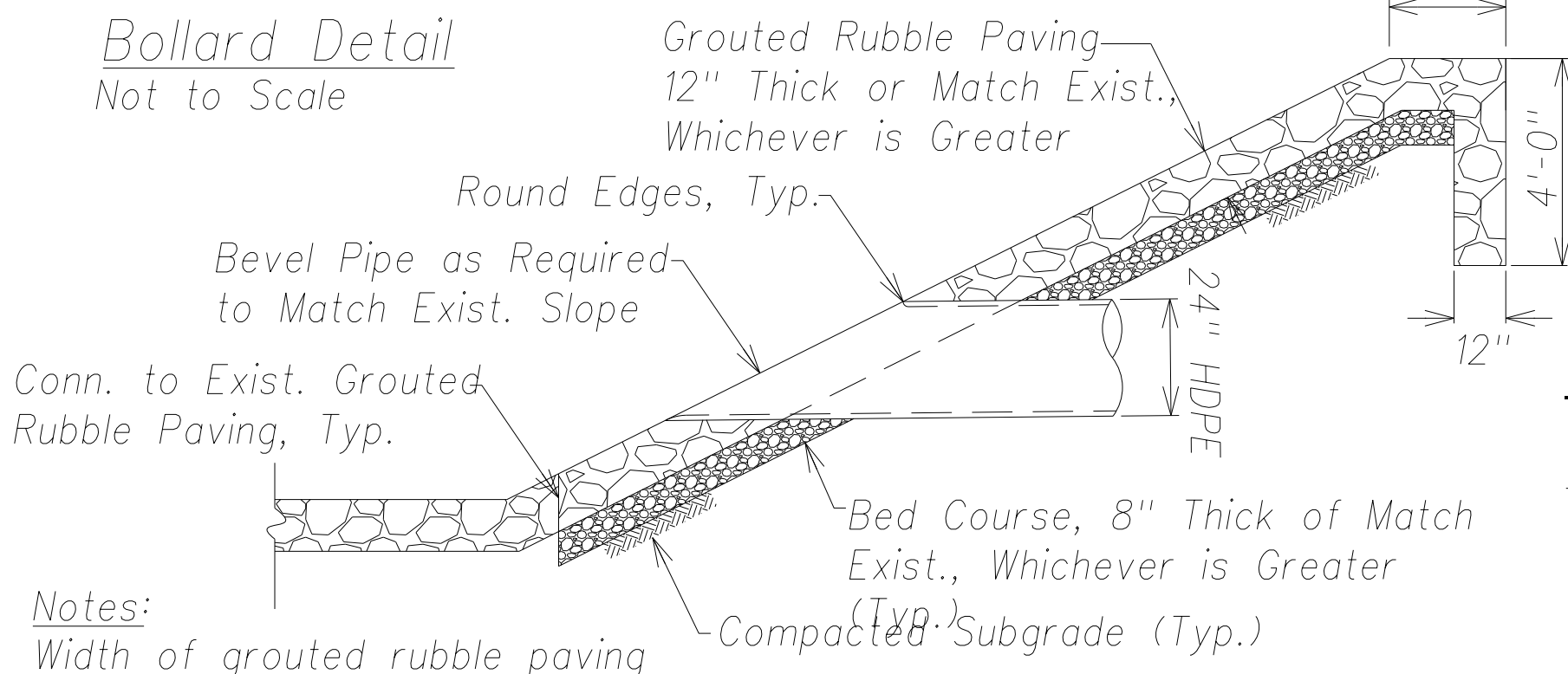


- Notes:
1. Upper 18" Layer: 5"-6"ø Average Stone Size
12"ø Maximum Stone Size.

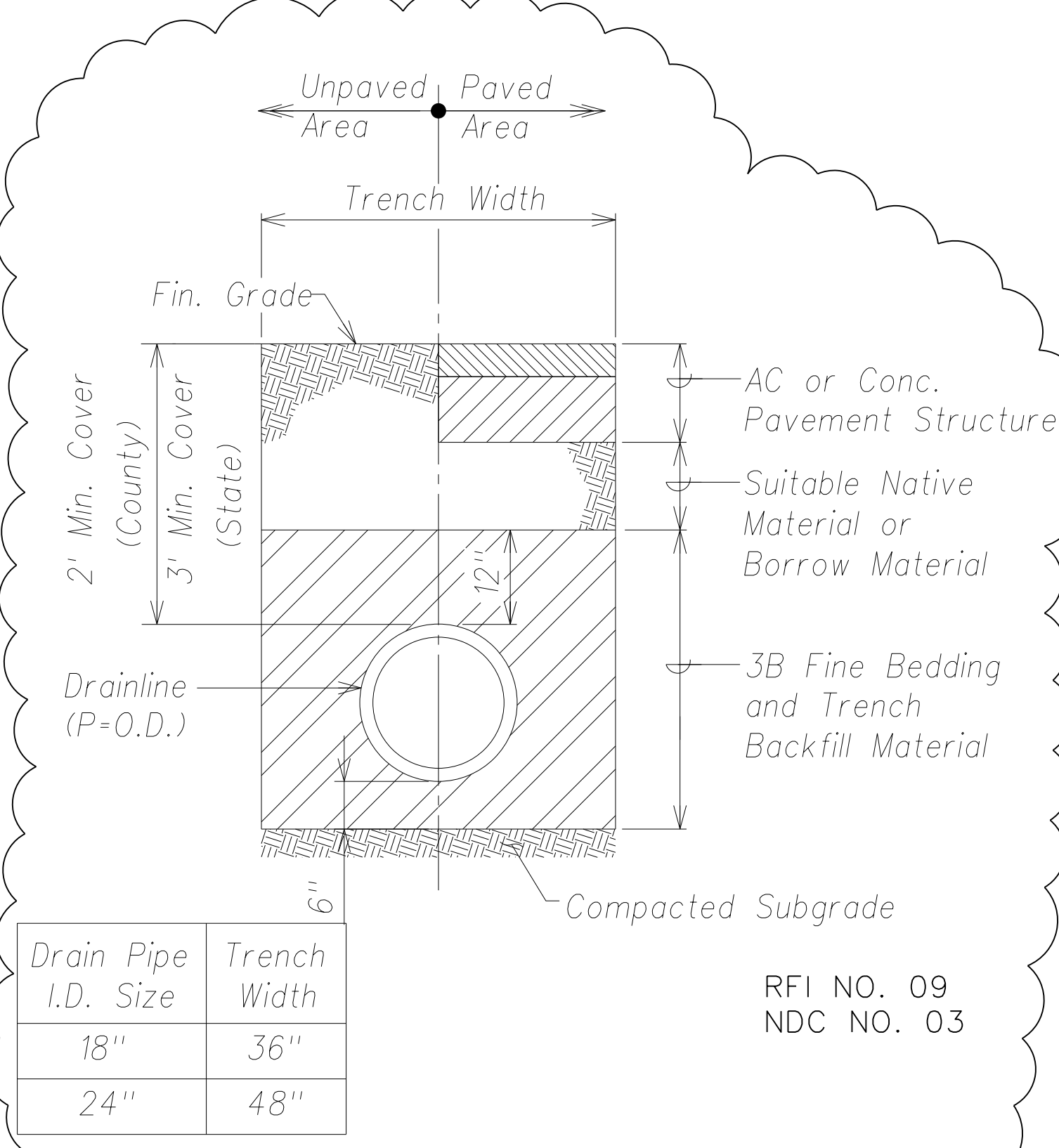
2. Compacted Bed Course 8" Thick of Match Exist., Whichever is Greater.

3. 3" Max From Highest Adjacent Rock Finish Top.

Bollard Detail
Not to Scale



Grouted Rubble Paving Detail
Not to Scale



Drain Pipe Trenching Detail
Not to Scale

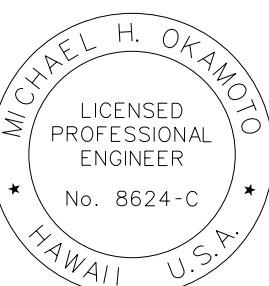
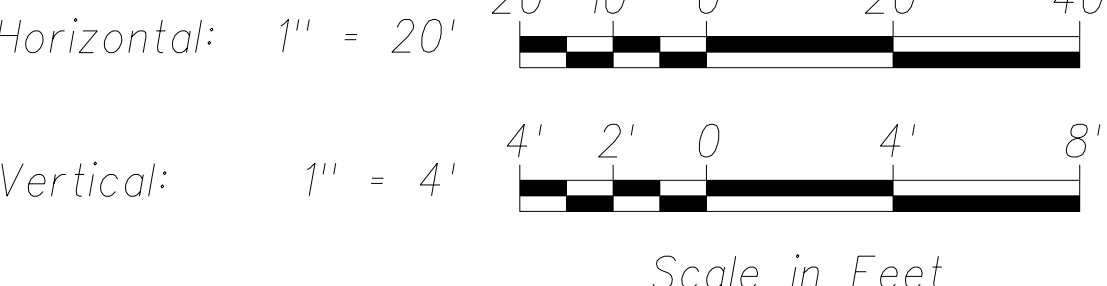
Drain Pipe I.D. Size	Trench Width
18"	36"
24"	48"

RFI NO. 09
NDC NO. 03

APPROVED BY:

COUNTY ENGINEER, DEPT. OF PUBLIC WORKS
(FOR WORK WITHIN THE COUNTY RIGHT-OF-WAY)

Graphic Scales:



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EXPIRATION DATE
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04/05/13
Date

Revise Drain Pipe Trenching Detail
Revision

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAINAGE DETAILS - 1

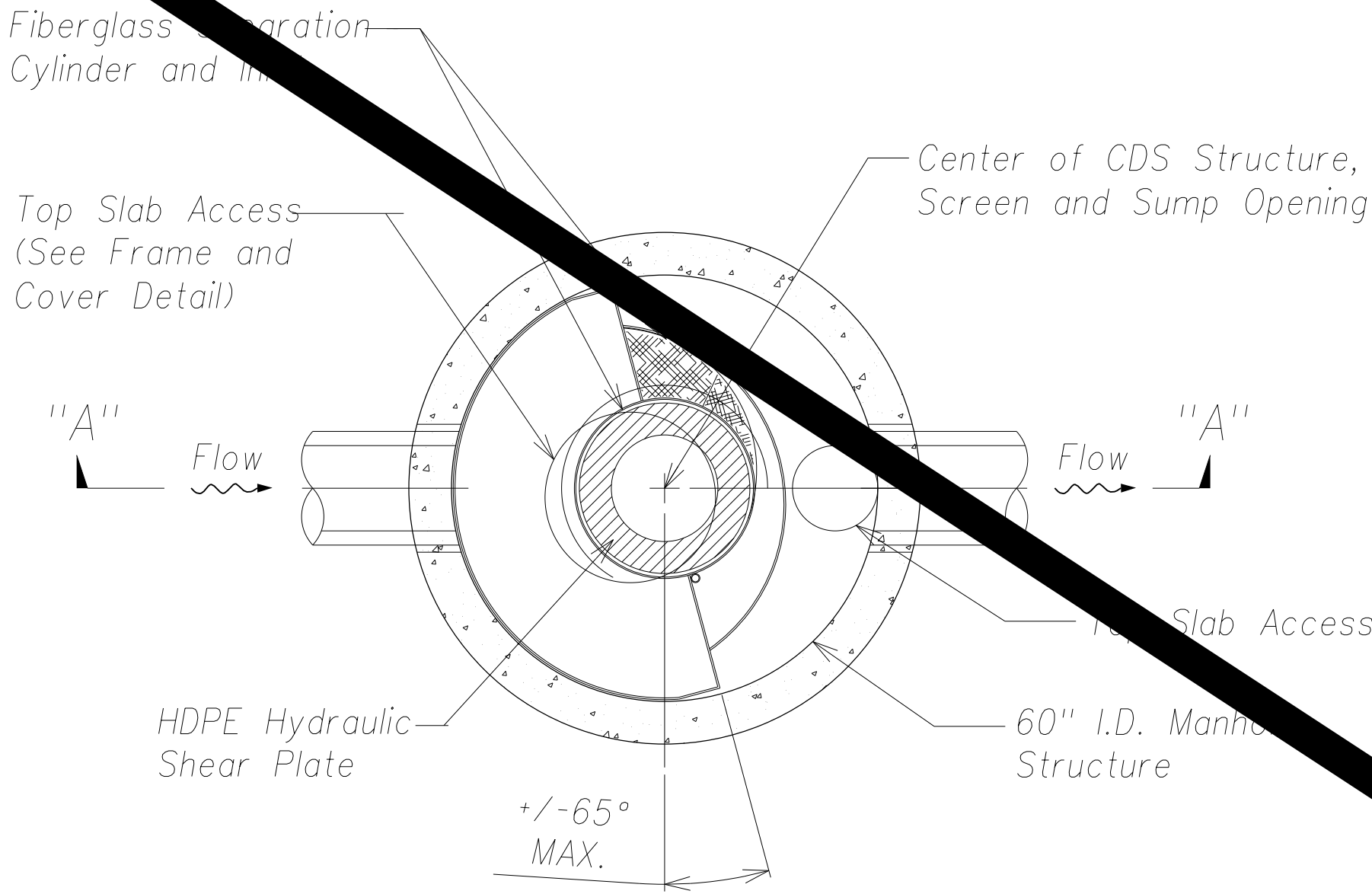
PHASE 1 - KAUMUALI'Y HIGHWAY
LIHU'E MILL BRIDGE TO RICE STREET
PHASE 1 - HO'OMANA ROAD

Scale: As Shown

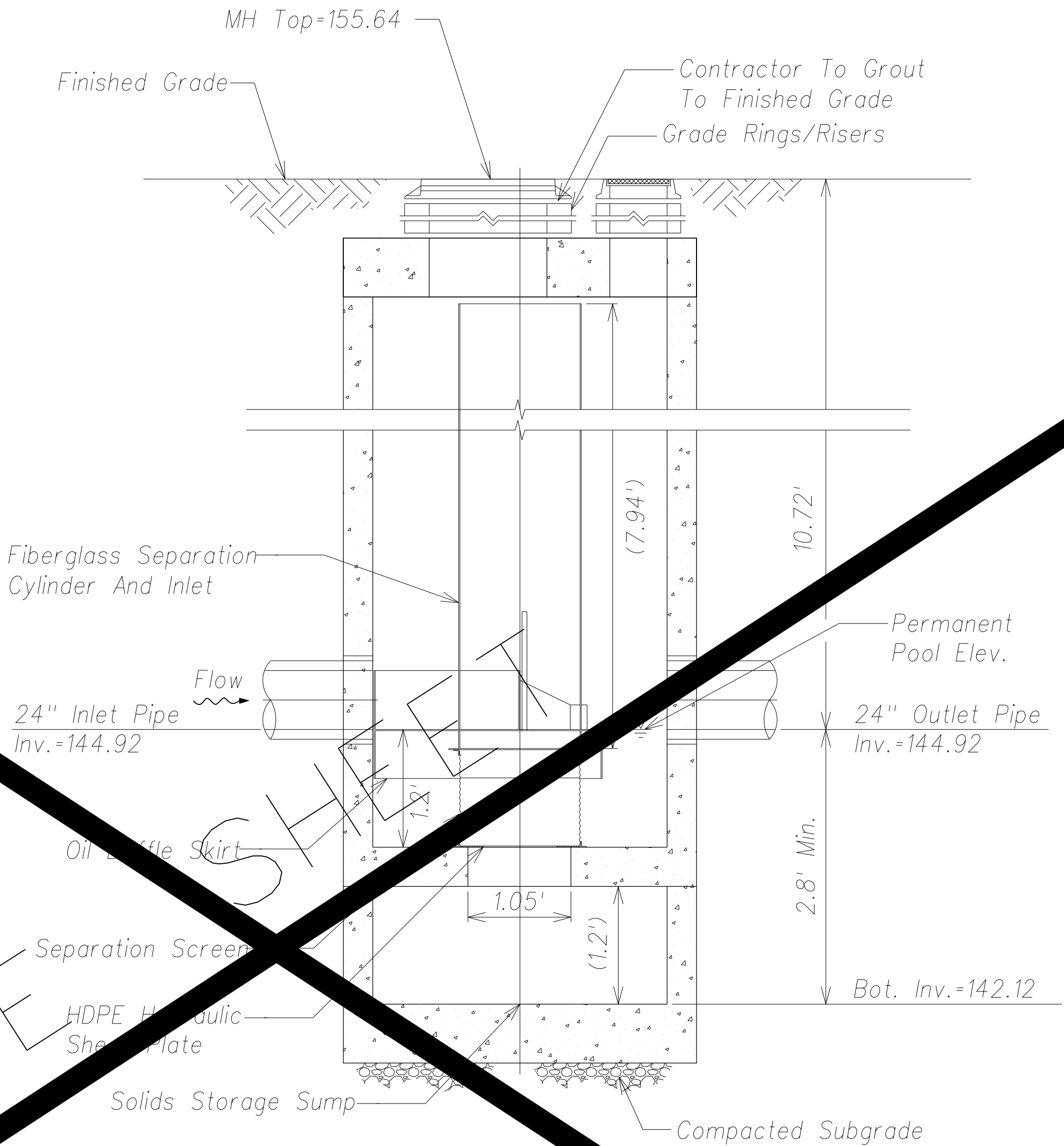
Date: December 4, 2012

SHEET No. C-29 OF 50 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ARR-050-1(036)	FY13/14	50	50



Plan View
Not to Scale



Section "A-A"
Not to Scale



Frame and Cover
Not to Scale

General Notes:

- Contech to provide all materials unless noted otherwise.
- For fabrication drawings with detailed structure dimensions and weight, please contact your Contech Representative. www.contech-cpi.com
- CDS water quality structure shall be in accordance with all design data and information contained in this drawing. Contractor to confirm structure meets requirements of project.
- Structure shall meet AASHTO HS-20 load rating. Castings shall meet AASHTO M306, cast with the Contech Stormwater Solutions logo.
- PVC hydraulic shear plate is placed on shelf at bottom of screen cylinder. Remove and replace as necessary during maintenance cleaning.

Installation Notes:

- Any sub-base, backfill depth, and/or anti-flotation provisions are site-specific design considerations and shall be specified by Engineer of Record.
- Contractor to provide equipment with sufficient lifting and reach capacity to lift and set the CDS manhole structure.
- Contractor to install joint sealant between all structure sections and assemble structure.
- Contractor to provide, install, and grout pipes. Match pipe inverts with elevations shown.
- Contractor to take appropriate measures to assure unit is water tight, holding water to flowline invert minimum. All joints below pipe inverts shall be grouted.

Materials List

Count	Description	Installed By
1	Fiberglass Inlet & Cylinder	Contech
1	2400 Micron Separation Screen	Contech
1	Sealant for Joints	Contractor
1	Grade Rings/Risers	Contractor
1	ø74"X4" Frame and Cover (Vented)	Contractor
1	Rubberizer Oil Sorbent	Contractor

Contech CDS2015 Details
Not to Scale

Site Design Data

Water Quality Flow Rate (WQFR)	0.33 CFS
Peak Flow Rate	11.00 CFS
Storm Recurrence Interval	25 Years

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

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EXPIRATION DATE
OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAINAGE DETAILS - 2

PHASE 1 - KAUMOA HIGHWAY
LIHU'E MILL BRIDGE TO HAWAII STREET
PHASE 1 - HO'OMANA ROAD

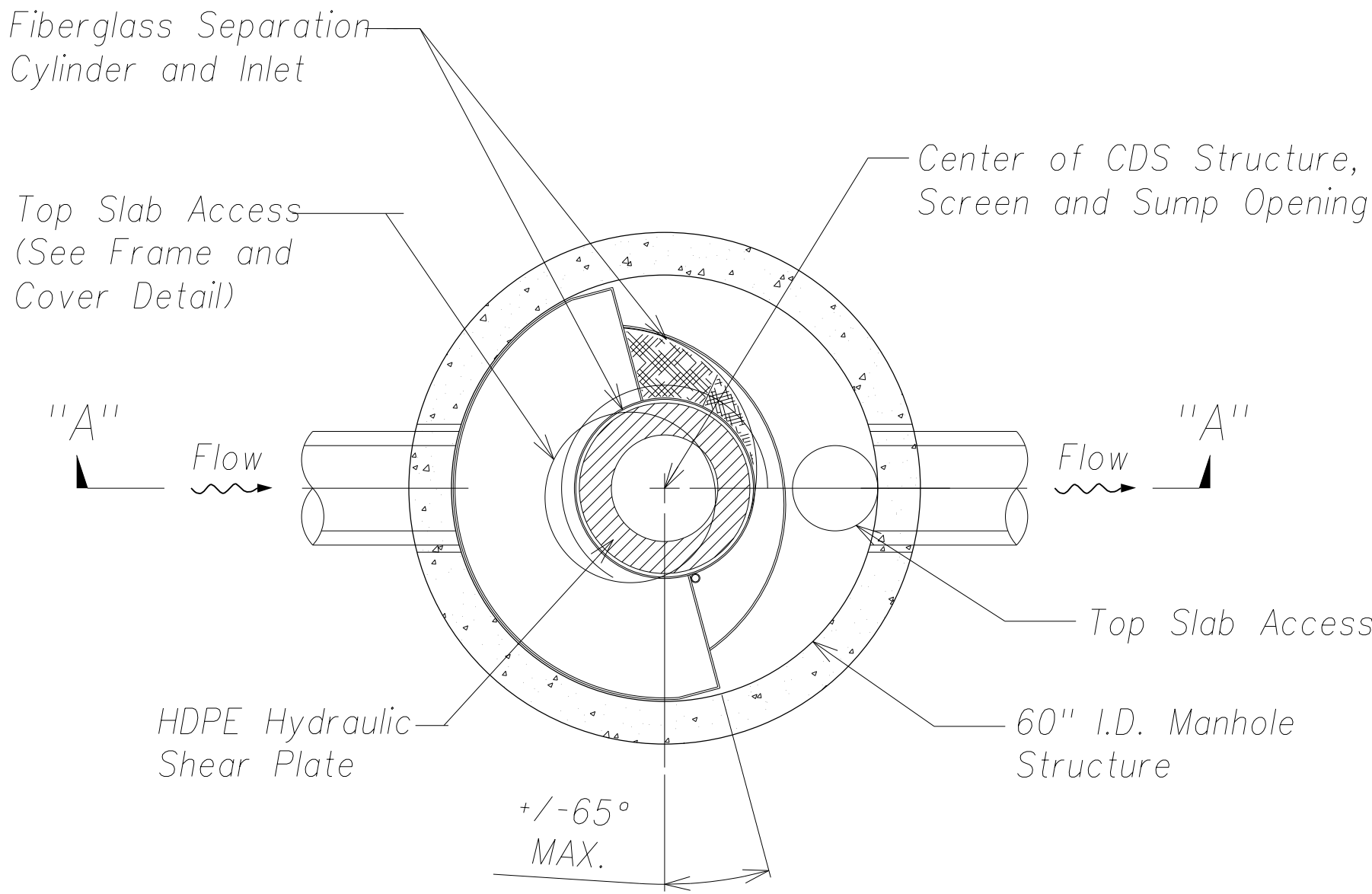
Scale: As Shown
Date: December 1, 2012

SHEET No. C-30 OF 50 SHEETS

"AS-BUILT"

Model

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ARR-050-1(036)	FY13/14	Model	50



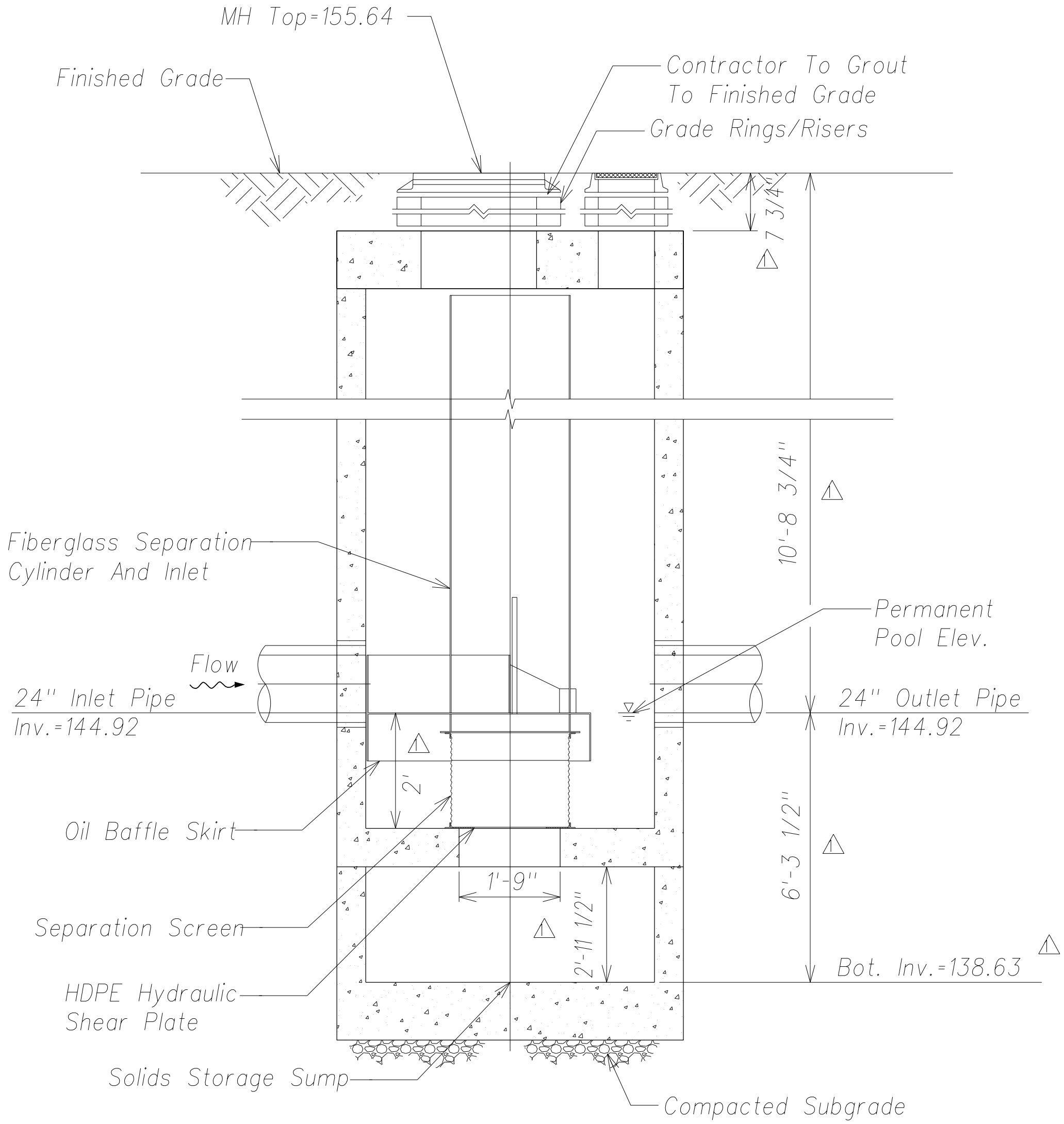
Plan View
Not to Scale

General Notes:

1. Contech to provide all materials unless noted otherwise.
2. For fabrication drawings with detailed structure dimensions and weight, please contact your Contech Representative. www.contech-cpi.com
3. CDS water quality structure shall be in accordance with all design data and information contained in this drawing. Contractor to confirm structure meets requirements of project.
4. Structure shall meet AASHTO HS-20 load rating. Castings shall meet AASHTO M306, cast with the Contech Stormwater Solutions logo.
5. PVC hydraulic shear plate is placed on shelf at bottom of screen cylinder. Remove and replace as necessary during maintenance cleaning.

Installation Notes:

1. Any sub-base, backfill depth, and/or anti-flotation provisions are site-specific design considerations and shall be specified by Engineer of record.
2. Contractor to provide equipment with sufficient lifting and reach capacity to lift and set the CDS manhole structure.
3. Contractor to install joint sealant between all structure sections and assemble structure.
4. Contractor to provide, install, and grout pipes. Match pipe inverts with elevations shown.
5. Contractor to take appropriate measures to assure unit is water tight, holding water to flowline invert minimum. All joints below pipe inverts shall be grouted.



Section "A-A"
Not to Scale



Frame and Cover
Not to Scale

Site Design Data

Water Quality Flow Rate (WQFR)	0.33 CFS
Peak Flow Rate	11.00 CFS
Storm Recurrence Interval	25 Years

Materials List

Count	Description	Installed By
1	Fiberglass Inlet & Cylinder	Contech
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1	Grade Rings/Risers	Contractor
1	ø74"X4" Frame and Cover (Vented)	Contractor
1	Rubberizer Oil Sorbent	Contractor

Contech CDS2015 Details
Not to Scale

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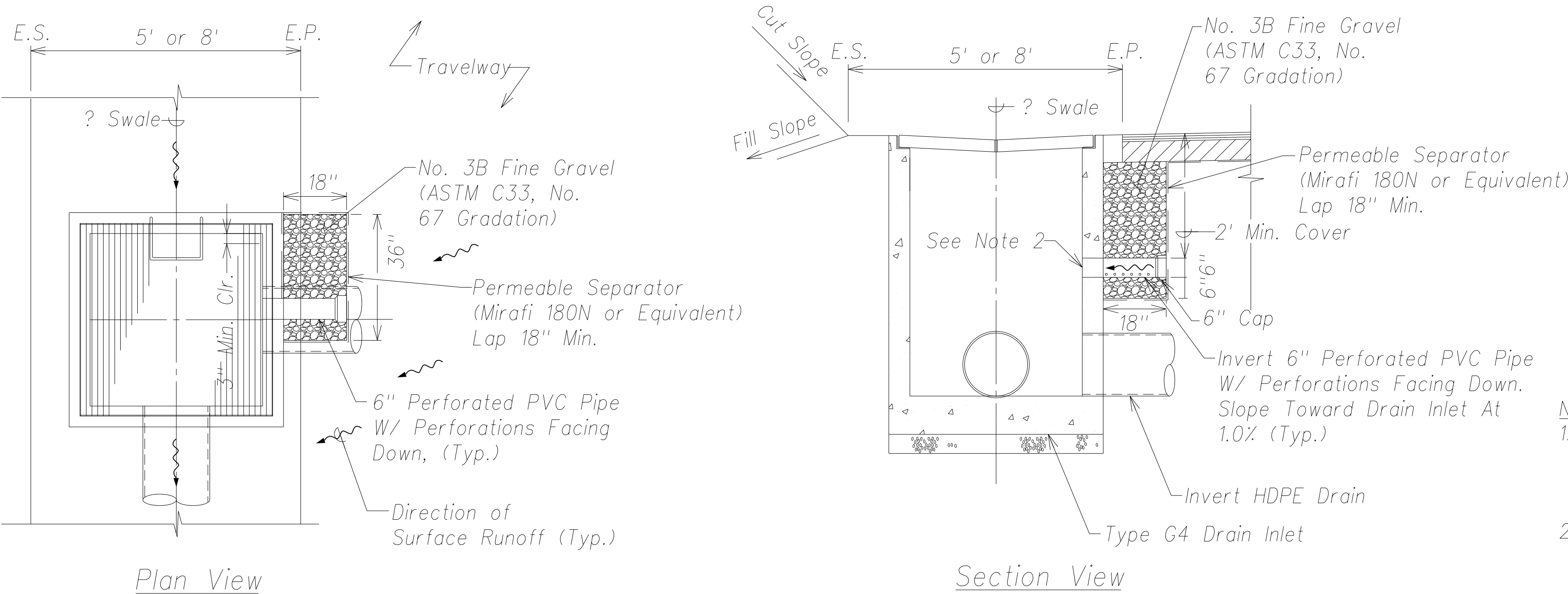
04/05/13	Revise CDS2015 Invert.
Date	Revision
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
DRAINAGE DETAILS - 2	
PHASE 1 - KAUMUALI'I HIGHWAY LIHU'E MILL BRIDGE TO RICE STREET PHASE 1 - HO'OMANA ROAD	
Scale: As Shown	Date: December 4, 2012

SHEET No. C-30 OF 50 SHEETS

"AS-BUILT"

C. Model S1

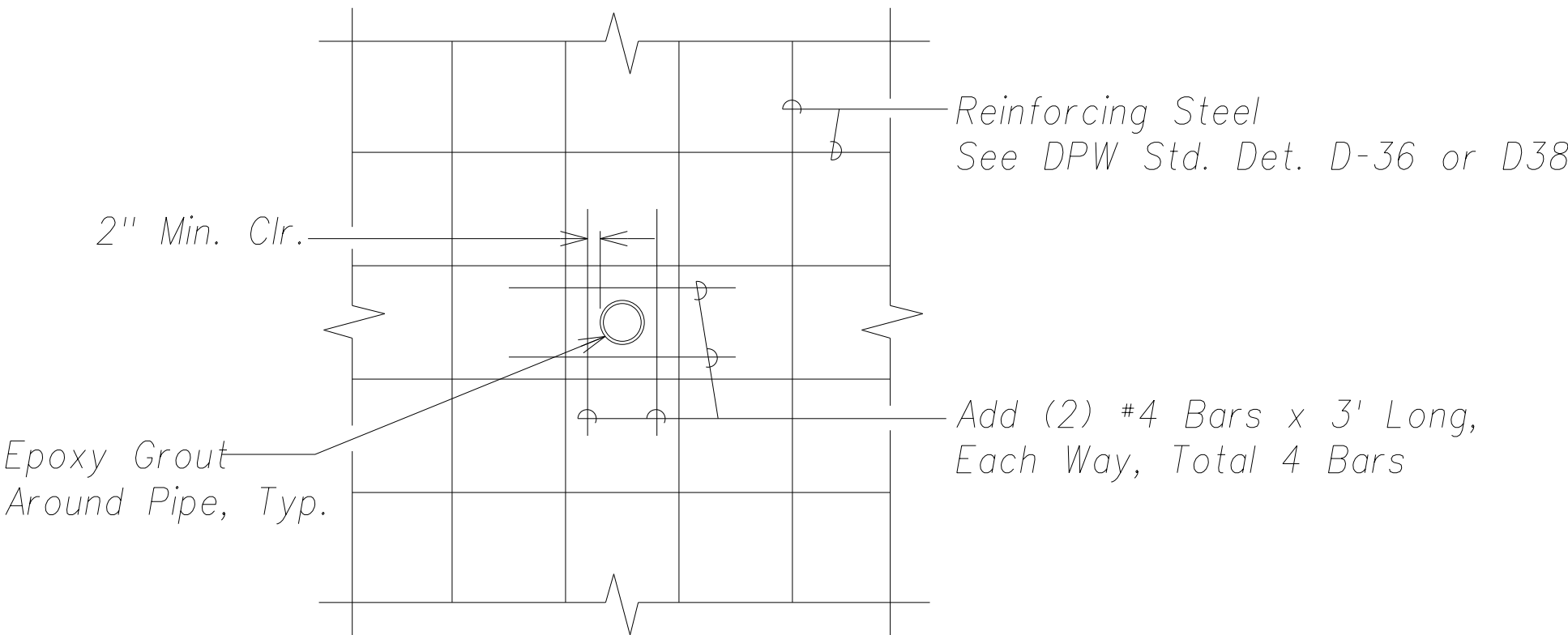
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ARR-050-1(036)	FY13/14	Model	50



- Notes:
1. Typical drain structure weep hole connection shall be installed at all drain inlets within the County of Kaua'i Right-of-Way.
 2. See Added Reinforcement detail on this sheet.

Typical Drain Structure Weep Hole Connection (County)

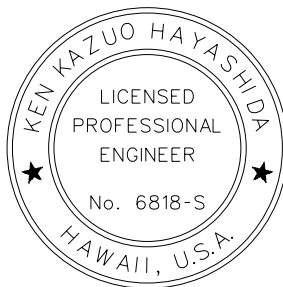
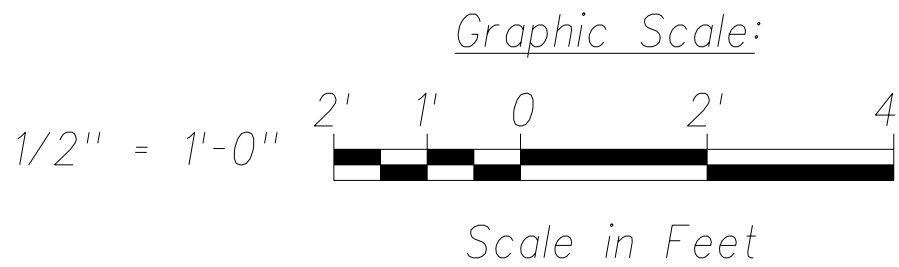
Scale: 1/2" = 1'-0"



Added Reinforcement (County)

Scale: 1/2" = 1'-0"

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



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SIGNATURE: [Signature] EXPIRATION DATE OF THE LICENSE: April 30, 2014



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SIGNATURE: [Signature] EXPIRATION DATE OF THE LICENSE: April 30, 2014

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAINAGE DETAILS - 3

PHASE 1 - KAUMUALI'I HIGHWAY
LIHU'E MILL BRIDGE TO RICE STREET
PHASE 1 - HO'OMANA ROAD

Scale: As Shown Date: December 4, 2012
SHEET No. C-31 OF 50 SHEETS

"AS-BUILT"

Model