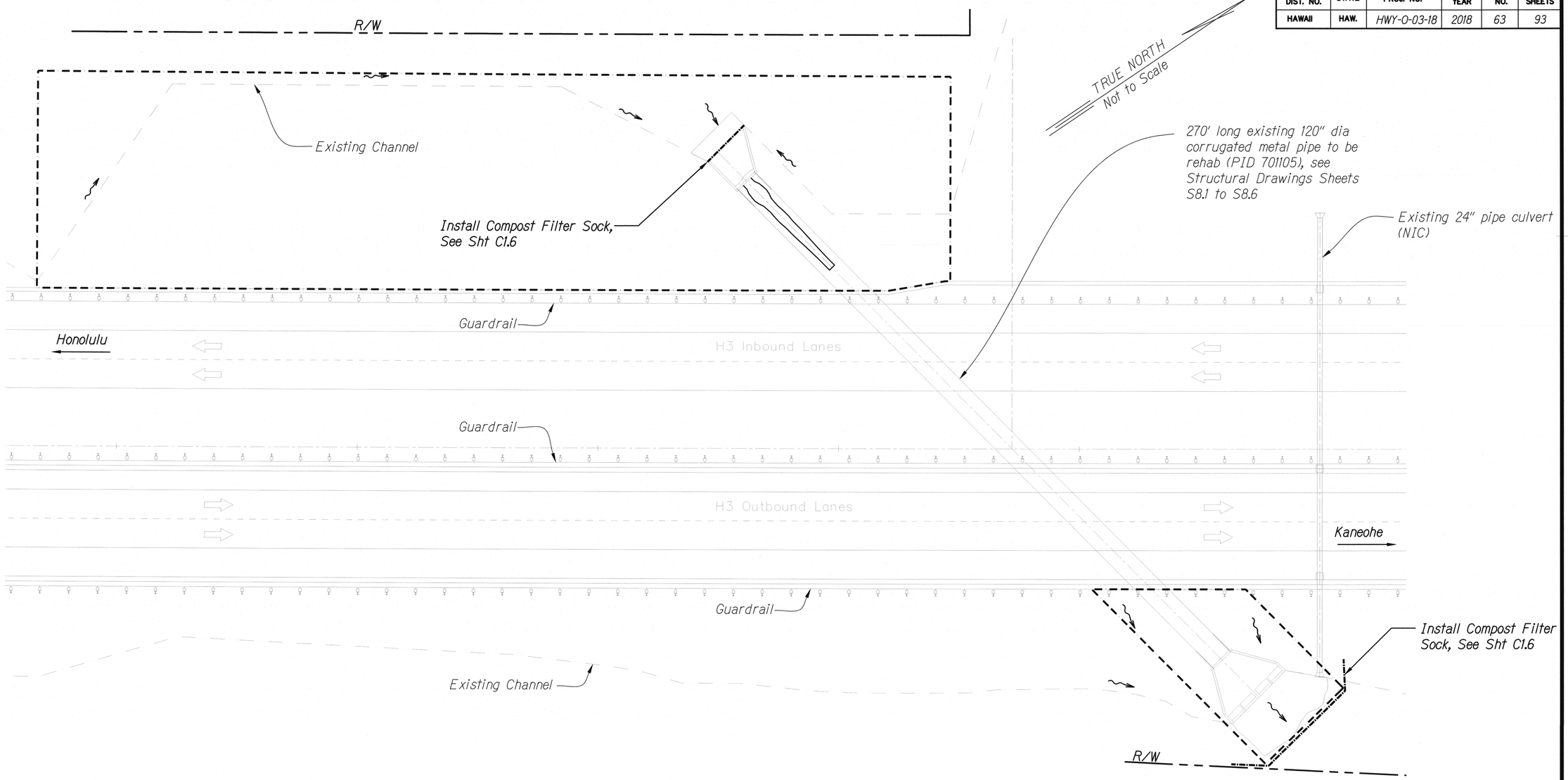
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-0-03-18	2018	63	93



Notes:

1. Proposed BMP plan is provided to show general intent. Contractor shall submit BMP plan for review and approval by the Engineer prior to performing the work.
2. BMP's shall be in place and functional prior to the start of construction work and in accordance with sheet C1.6 and manufacturer's recommendations, whichever is more stringent.

MILEPOST 12.56 (H3) SITE SPECIFIC BMP

Not to Scale

1
C8.1 | C8.1

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EXPIRATION DATE OF THE LICENSE 4/30/2018
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

Site Specific BMP, Milepost 12.56 (H3) PID No. 701105

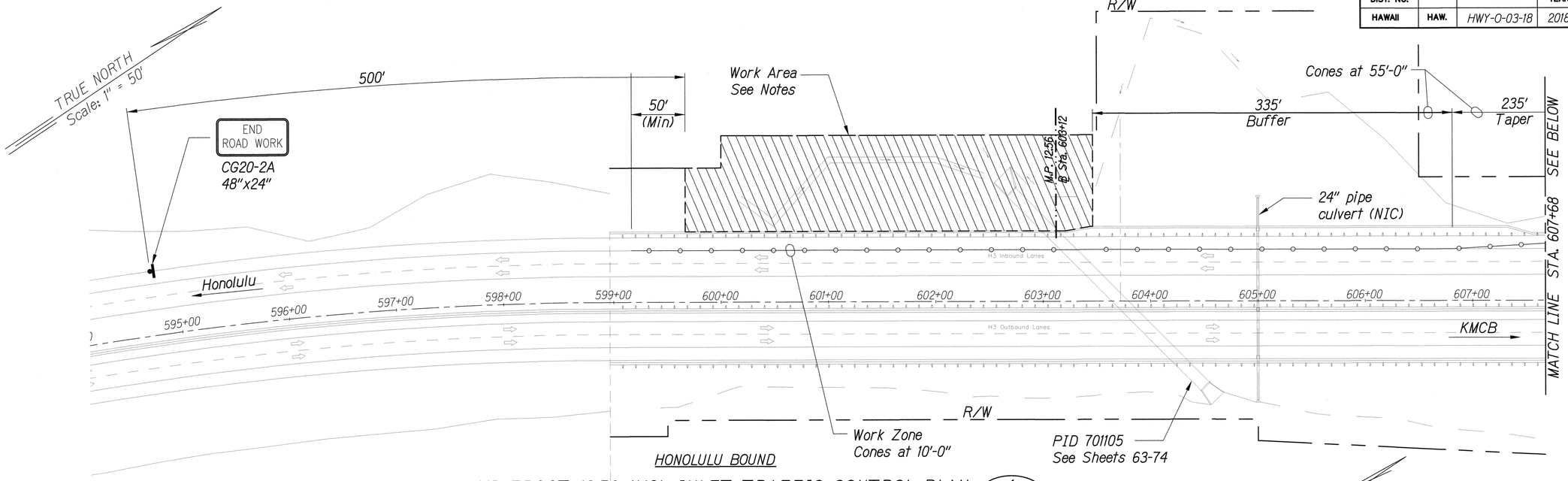
CULVERT REMEDIATION AT VARIOUS LOCATIONS ON OAHU, PHASE 2

Project No. HWY-0-03-18

Scale: As Shown Date: March 2018

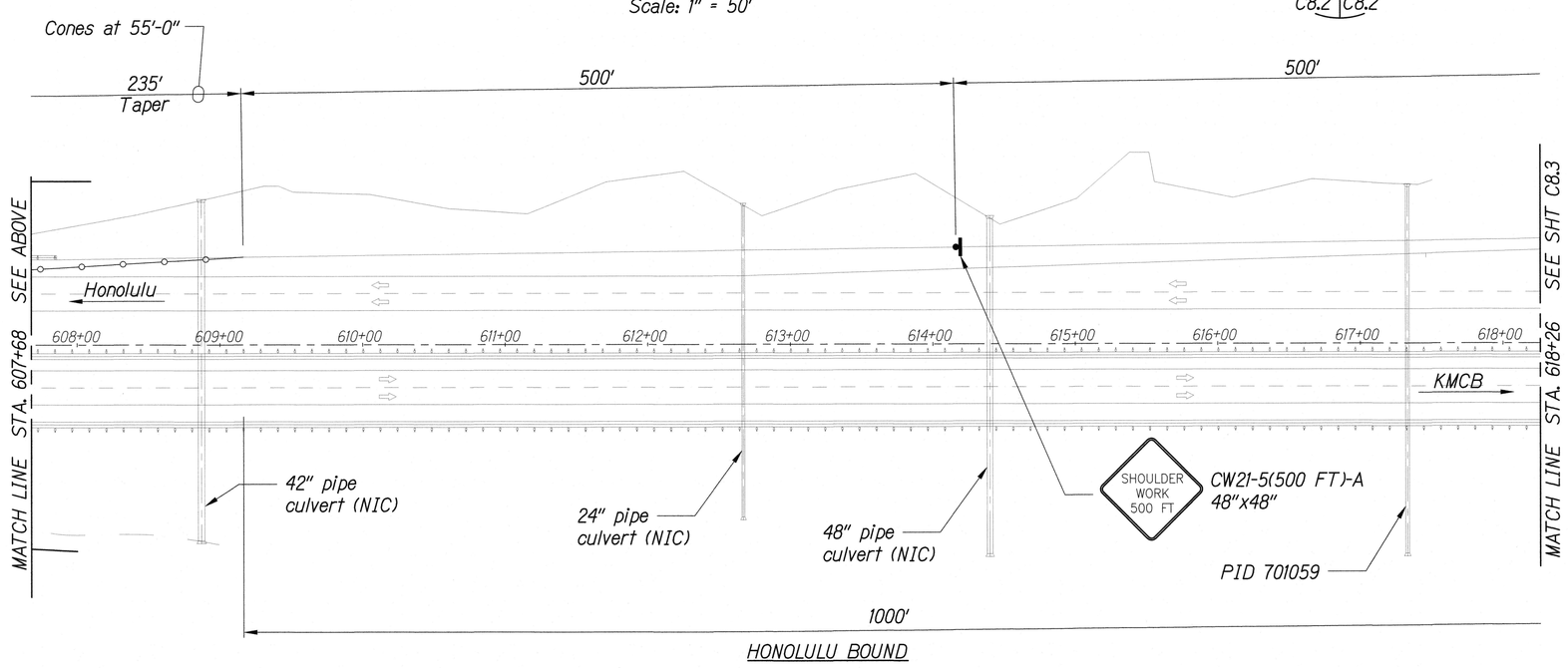
SHEET No. C8.1 OF 12 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-0-03-18	2018	ADD. 64	93



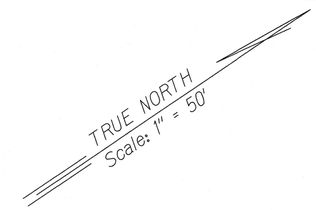
⚠ MILEPOST 12.56 (H3), INLET TRAFFIC CONTROL PLAN (1) C8.2 | C8.2

Scale: 1" = 50'



⚠ MILEPOST 12.56 (H3), INLET TRAFFIC CONTROL PLAN (2) C8.2 | C8.2

Scale: 1" = 50'



Note:
1. Work areas shown here are approximate. Contractor shall submit a traffic control plan reflecting the proposed work areas to the Engineer for review and approval prior to starting construction.

Note:
See Traffic Control Notes and Table on Sheet C1.7

0 50 100 150
Scale: 1" = 50' Feet

DATE	REVISION
5/30/18	⚠ Revised Date, R/W and Work Area.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

Traffic Control Plan-01, Milepost 12.56 (H3) PID No. 701105

CULVERT REMEDIATION AT VARIOUS LOCATIONS ON OAHU, PHASE 2

Project No. HWY-0-03-18 ⚠

Scale: As Shown Date: May 2018

RYAN M. OKAHASHI
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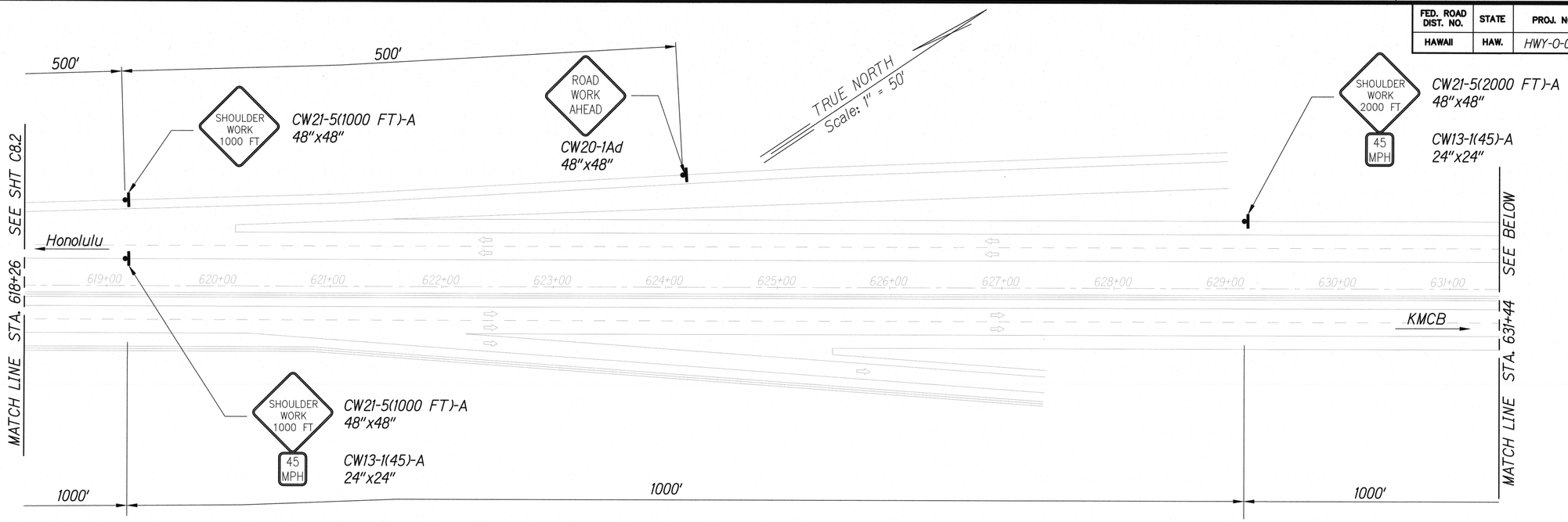
SHEET No. C8.2 OF 12 SHEETS

ADD. 64

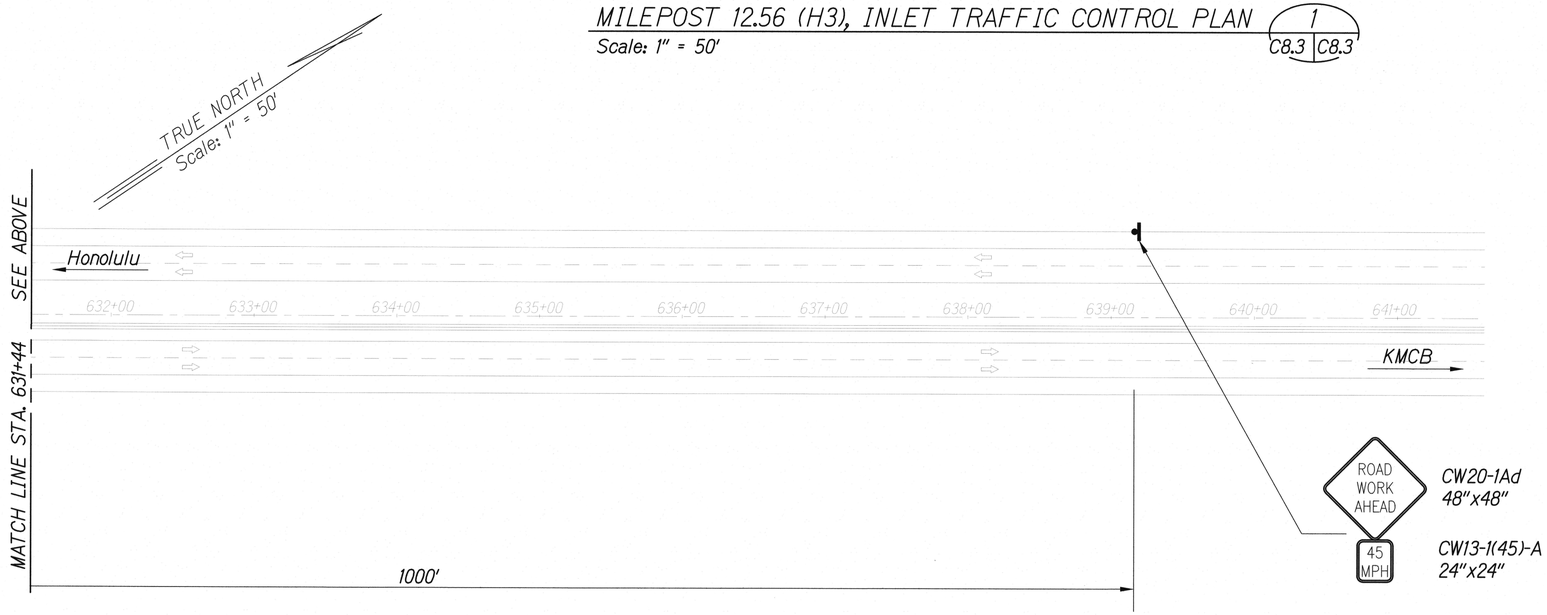
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-0-03-18	2018	65	93



HONOLULU BOUND

MILEPOST 12.56 (H3), INLET TRAFFIC CONTROL PLAN (1 / C8.3 | C8.3)

Scale: 1" = 50'



HONOLULU BOUND

MILEPOST 12.56 (H3), INLET TRAFFIC CONTROL PLAN (2 / C8.3 | C8.3)

Scale: 1" = 50'

Note:
See Traffic Control Notes and Table on Sheet C1.7

0 50 100 150
Scale: 1" = 50' Feet

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

Traffic Control Plan-02, Milepost 12.56 (H3) PID No. 701105

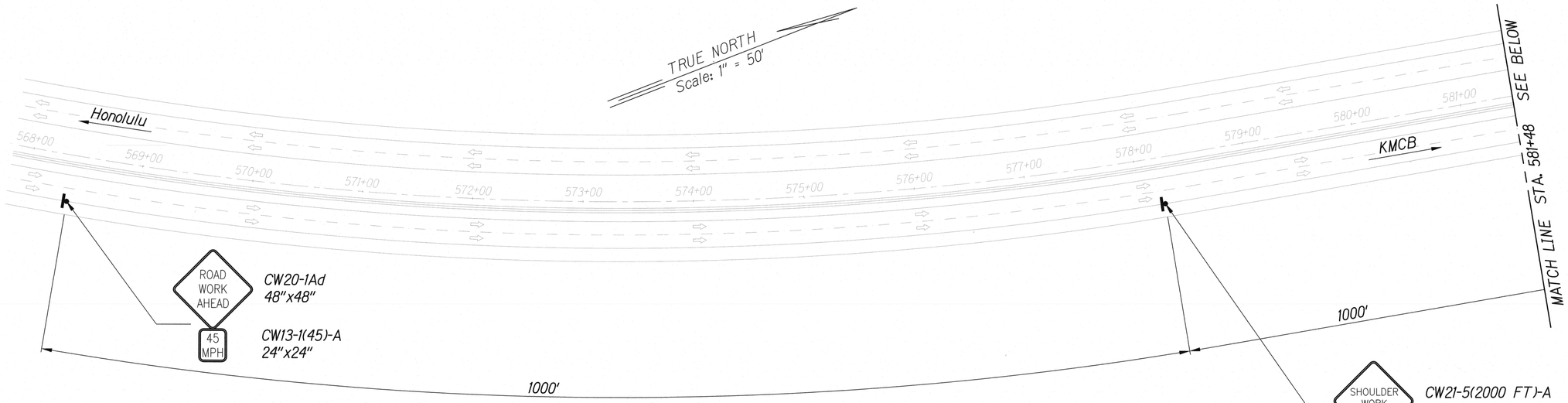
CULVERT REMEDIATION AT VARIOUS LOCATIONS ON OAHU, PHASE 2

Project No. HWY-0-03-18

Scale: As Shown Date: March 2018

SHEET No. C8.3 OF 12 SHEETS

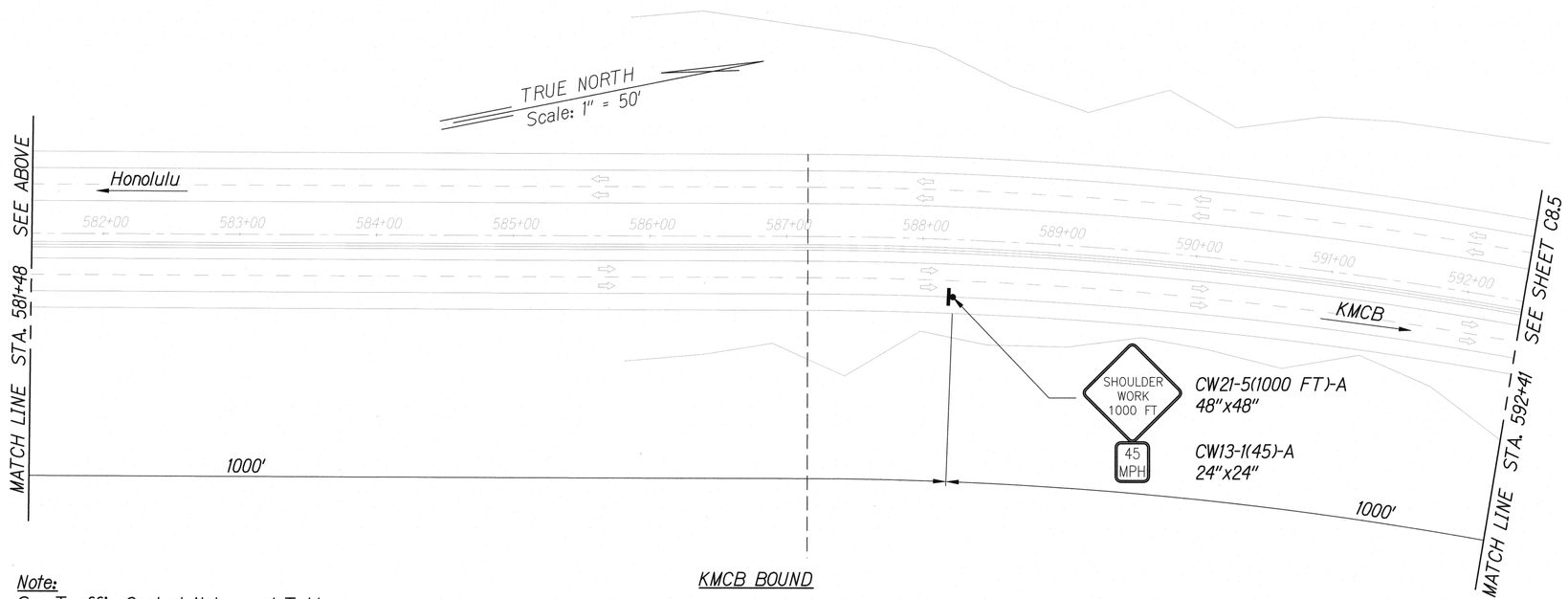
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-0-03-18	2018	66	93



KMCB BOUND

MILEPOST 12.56 (H3), OUTLET TRAFFIC CONTROL PLAN (1 / C8.4 | C8.4)

Scale: 1" = 50'



Note:
See Traffic Control Notes and Table on Sheet C1.7

KMCB BOUND

MILEPOST 12.56 (H3), OUTLET TRAFFIC CONTROL PLAN (2 / C8.4 | C8.4)

Scale: 1" = 50'

0 50 100 150
Scale: 1" = 50' Feet

RYAN M. OKAHASHI
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EXPIRATION DATE OF THE LICENSE 4/30/2018
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

Traffic Control Plan-03, Milepost 12.56 (H3) PID No. 701105

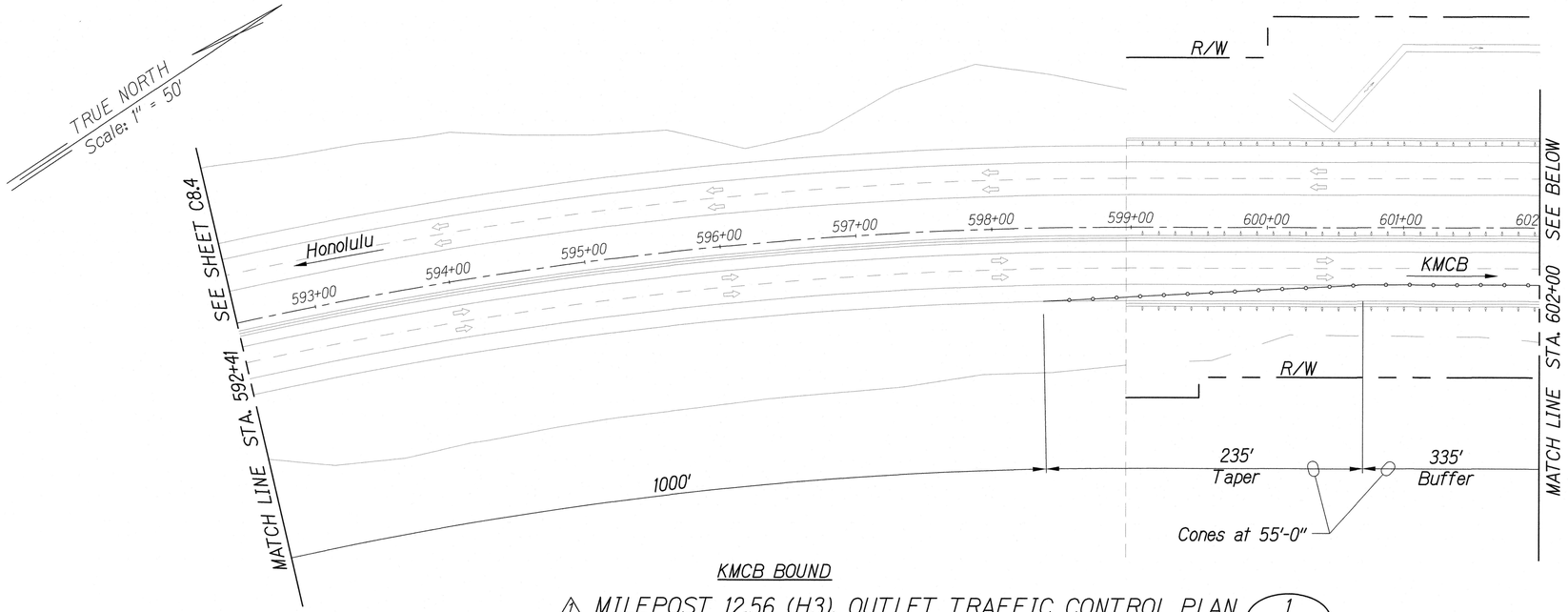
CULVERT REMEDIATION AT VARIOUS LOCATIONS ON OAHU, PHASE 2

Project No. HWY-0-03-18

Scale: As Shown Date: March 2018

SHEET No. C8.4 OF 12 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-0-03-18	2018	ADD. 67	93

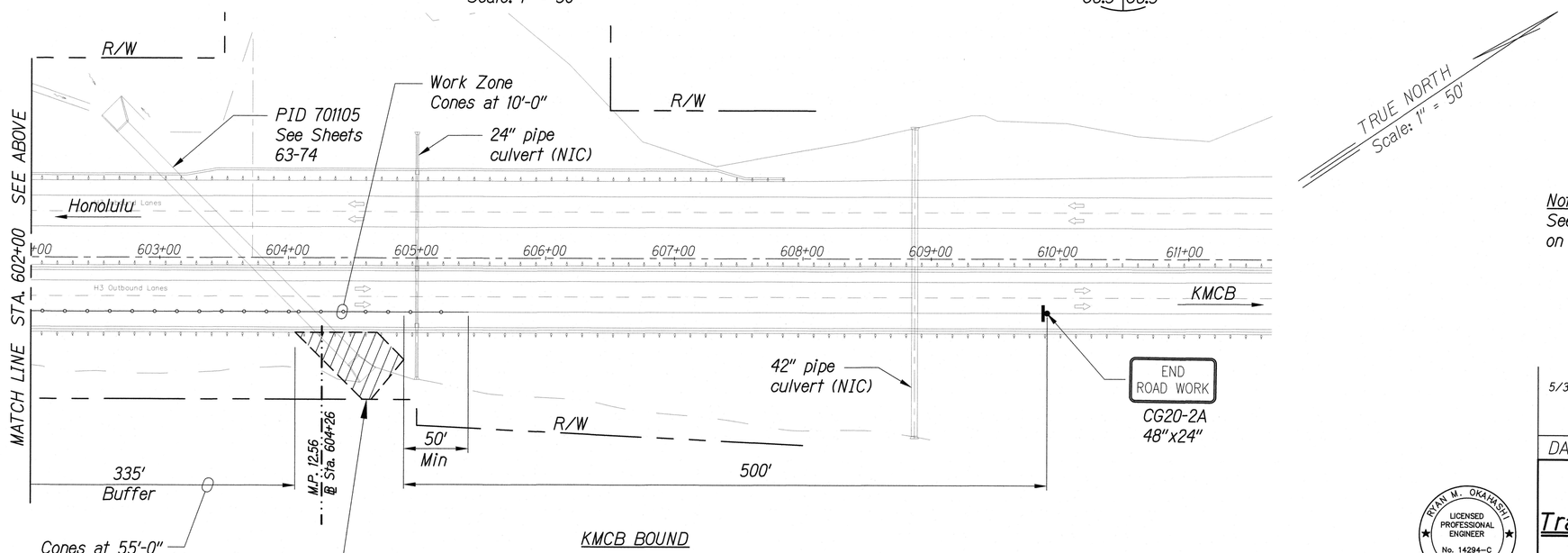


KMCB BOUND

⚠1 MILEPOST 12.56 (H3), OUTLET TRAFFIC CONTROL PLAN (1 / C8.5 | C8.5)

Scale: 1" = 50'

Note:
1. Work areas shown here are approximate. Contractor shall submit a traffic control plan reflecting the proposed work areas to the Engineer for review and approval prior to starting construction.



KMCB BOUND

⚠1 MILEPOST 12.56 (H3), OUTLET TRAFFIC CONTROL PLAN (1 / C8.5 | C8.5)

Scale: 1" = 50'

Note:
See Traffic Control Notes and Table on Sheet C1.7

0 50 100 150
Scale: 1" = 50' Feet

DATE	REVISION
5/30/18	⚠1 Revised Date and R/W.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

Traffic Control Plan-04, Milepost 12.56 (H3) PID No. 701105

CULVERT REMEDIATION AT VARIOUS LOCATIONS ON OAHU, PHASE 2

Project No. HWY-0-03-18 ⚠1

Scale: As Shown Date: May 2018

RYAN M. OKAHASHI
LICENSED PROFESSIONAL ENGINEER
No. 14294-C
HAWAII, U.S.A.

EXPIRATION DATE OF THE LICENSE 4/30/2020
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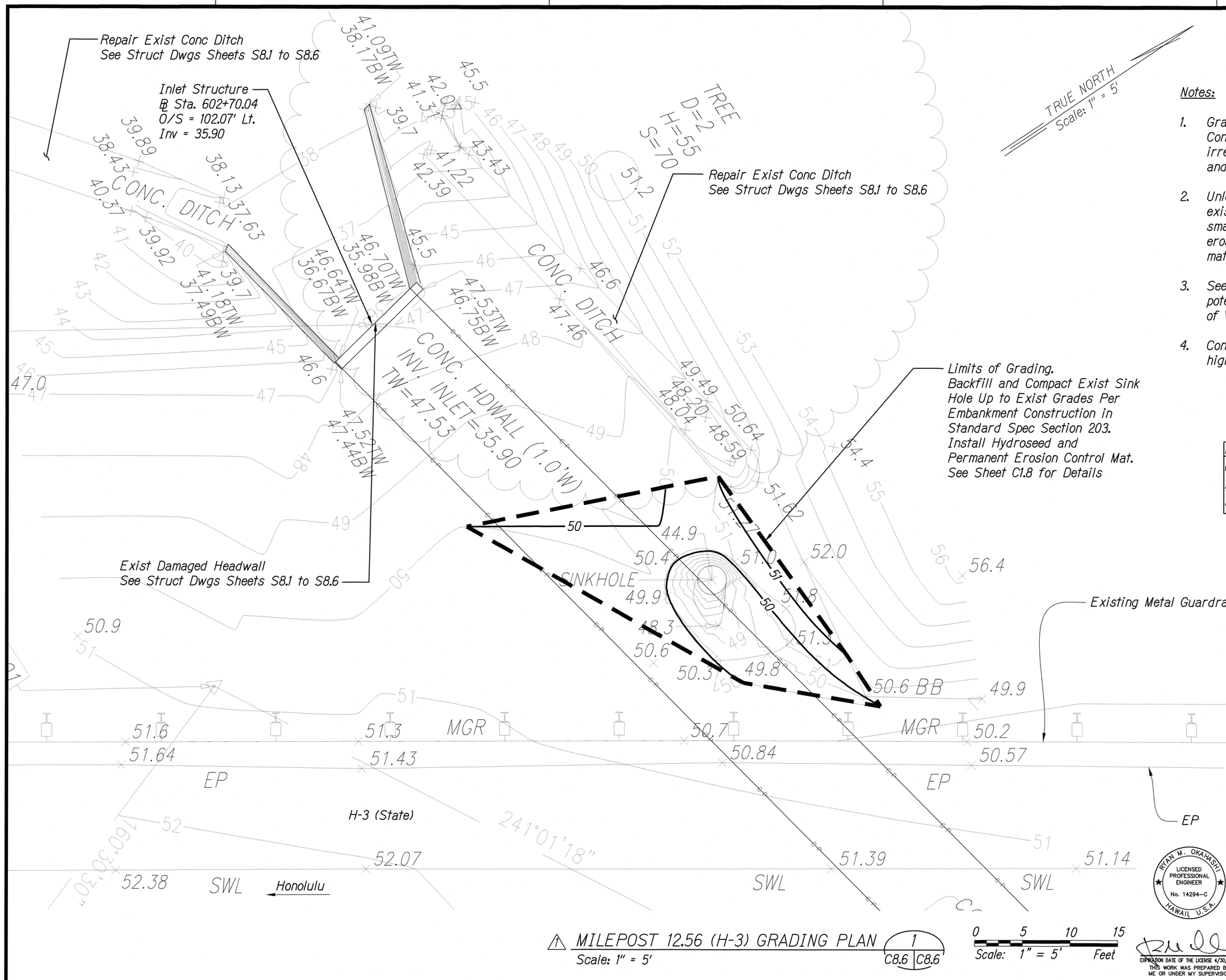
SHEET No. C8.5 OF 12 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-0-03-18	2018	ADD. 68	93



Notes:

1. Grading limits are shown in plan view. Contractor shall account for all slope irregularities when performing grading work and installing construction materials.
2. Unless otherwise noted on the plans, remove existing trees at ground (12" diameter or smaller) and vegetation within grading and erosion mat limits. Hydroseed prior to erosion mat installation.
3. See H-3 MP 14.10 Site Plan on Sheet C3.4 for potential staging areas within the State Right of Way
4. Contractor shall protect all existing signs, highway lighting and conduits in the work area.

Estimated Quantities	
Cut	2.49 CY
Fill	5.06 CY
Earthwork	7.55 CY

⚠ MILEPOST 12.56 (H-3) GRADING PLAN (1 / C8.6 | C8.6)
Scale: 1" = 5'

0 5 10 15
Scale: 1" = 5' Feet

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DATE	REVISION
5/30/18	⚠ Revised Date and Plan with Topo.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

Grading Plan, Milepost 12.56 (H3) PID No. 701015

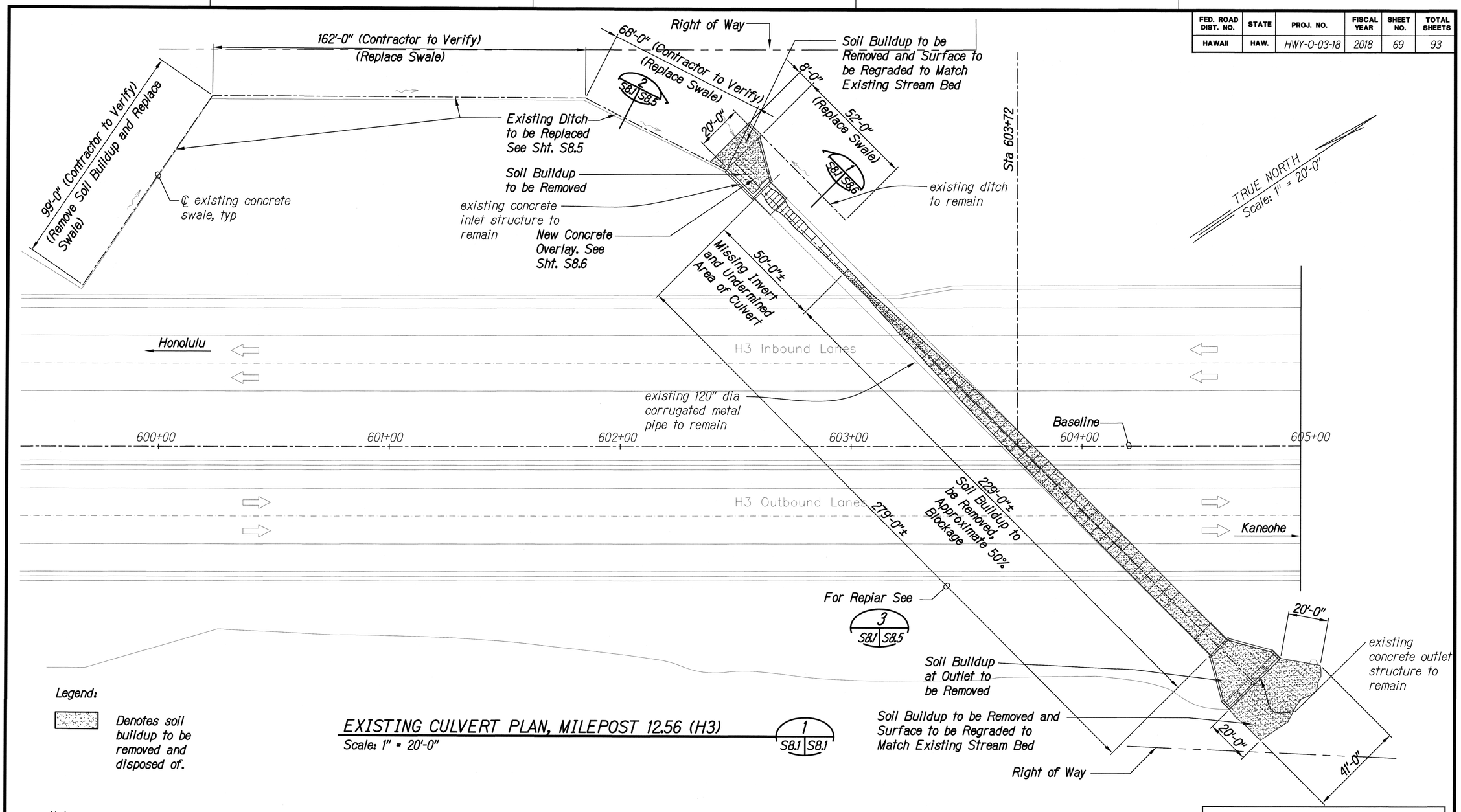
CULVERT REMEDIATION AT VARIOUS LOCATIONS ON OAHU, PHASE 2

Project No. HWY-0-03-18 ⚠

Scale: As Shown Date: May 2018

SHEET No. C8.6 OF 12 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-0-03-18	2018	69	93



EXISTING CULVERT PLAN, MILEPOST 12.56 (H3)

Scale: 1" = 20'-0"

1
S8.1 S8.1

Legend:

Denotes soil buildup to be removed and disposed of.

Notes:

1. Inside the CMP culvert the soil shall be completely removed, including between corrugations. The entire pipe surface shall be uncovered and free of soil and debris prior to installing the slip liner.

2. All soil and debris that is removed as part of this project shall be removed from the project site and disposed of in accordance with County and State laws.

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

Culvert Plan, Milepost 12.56 (H3), PID No. 701105

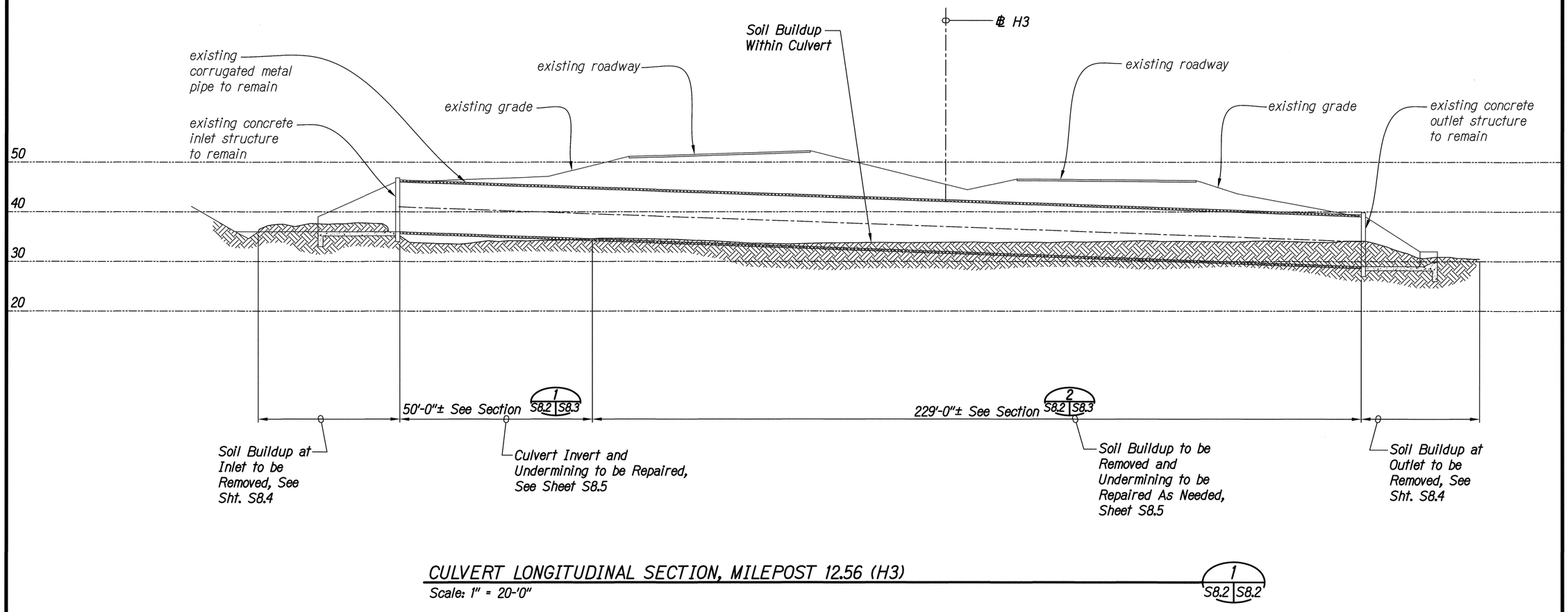
CULVERT REMEDIATION AT VARIOUS LOCATIONS ON OAHU, PHASE 2

Project No. HWY-0-03-18

Scale: As Shown Date: March 2018

SHEET No. S8.1 OF 12 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-0-03-18	2018	70	93



CULVERT LONGITUDINAL SECTION, MILEPOST 12.56 (H3)

Scale: 1" = 20'-0"

1 S8.2 S8.2

KEN KAZUO HAYASHI LICENSED PROFESSIONAL ENGINEER No. 6818-S HAWAII, U.S.A.

EXPIRATION DATE OF THIS LICENSE 4/30/2020

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

Culvert Section
M.P.12.56 (H3) PID No. 701105
CULVERT REMEDIATION AT VARIOUS LOCATIONS ON OAHU, PHASE 2
Project No. HWY-0-03-18

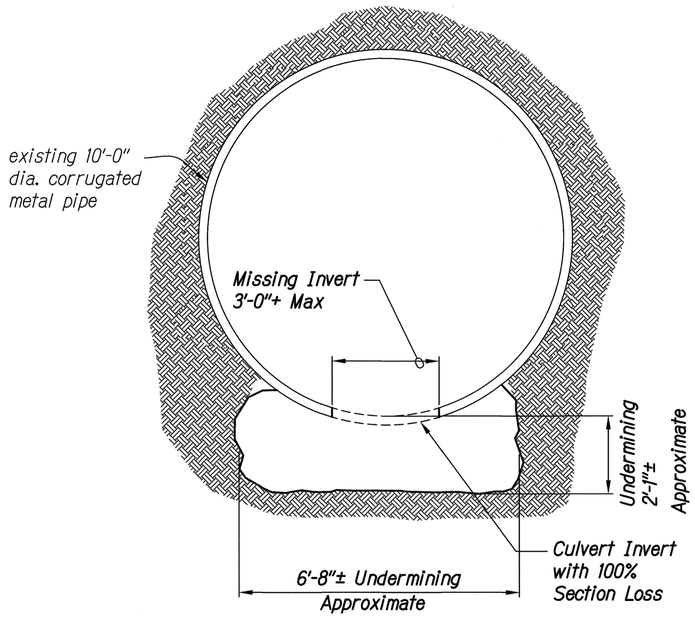
Scale: As Shown Date: March 2018

SHEET No. S8.2 OF 12 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-0-03-18	2018	71	93

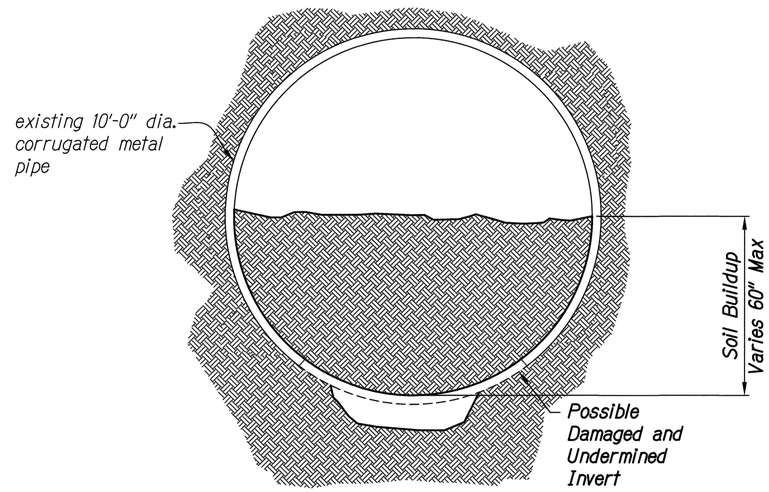
Note:

Provide temporary supports as needed after soil removal and prior to installation of sliplining pipe.



EXISTING CULVERT SECTION AT UNDERMINING (1 / S8.2 | S8.3)

Scale: 1" = 2'-0"



EXISTING CULVERT SECTION AT SOIL BUILDUP (2 / S8.2 | S8.3)

Scale: 1" = 2'-0"

Note:

After the removal of the soil from the culvert is complete, the Engineer will conduct an inspection of the culvert invert. If additional invert repairs are required, beyond what is quantified herein, the contractor shall make the repairs in accordance with Sht. S8.5.

KEN KAZUO HAYASHIDA LICENSED PROFESSIONAL ENGINEER No. 6818-S HAWAII, U.S.A.

EXPIRATION DATE OF THE LICENSE 4/30/2020
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

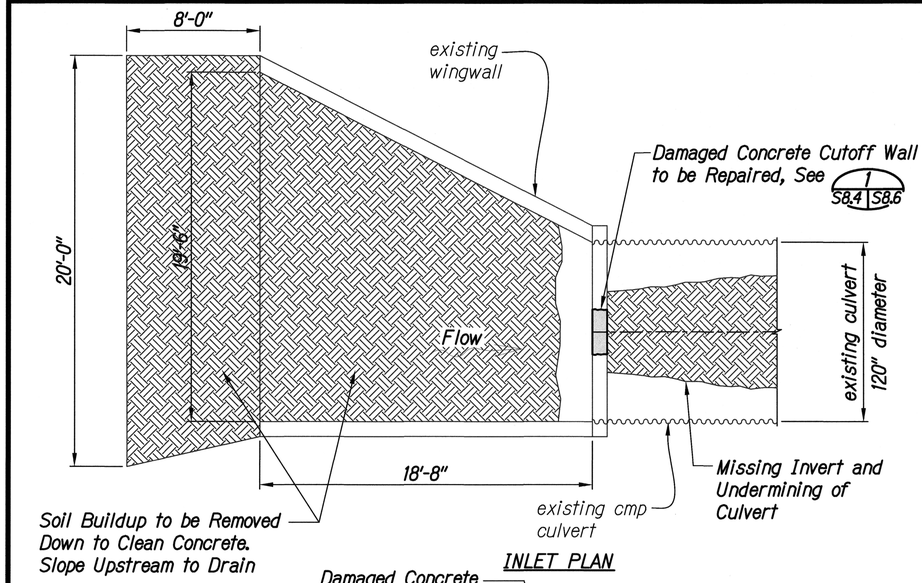
Existing Culvert Sections
M.P.T 12.56 (H3) PID No. 701105

CULVERT REMEDIATION AT VARIOUS LOCATIONS ON OAHU, PHASE 2
Project No. HWY-0-03-18

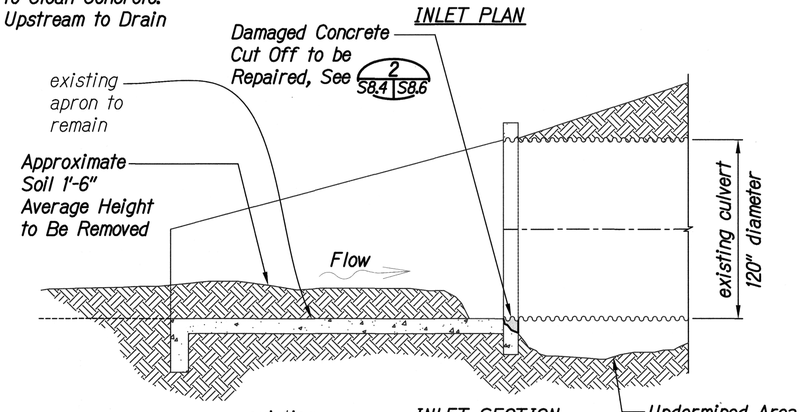
Scale: As Shown Date: March 2018

SHEET No. S8.3 OF 12 SHEETS

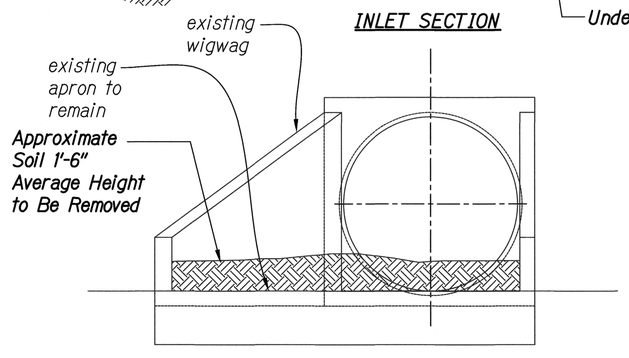
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-0-03-18	2018	72	93



INLET PLAN



INLET SECTION

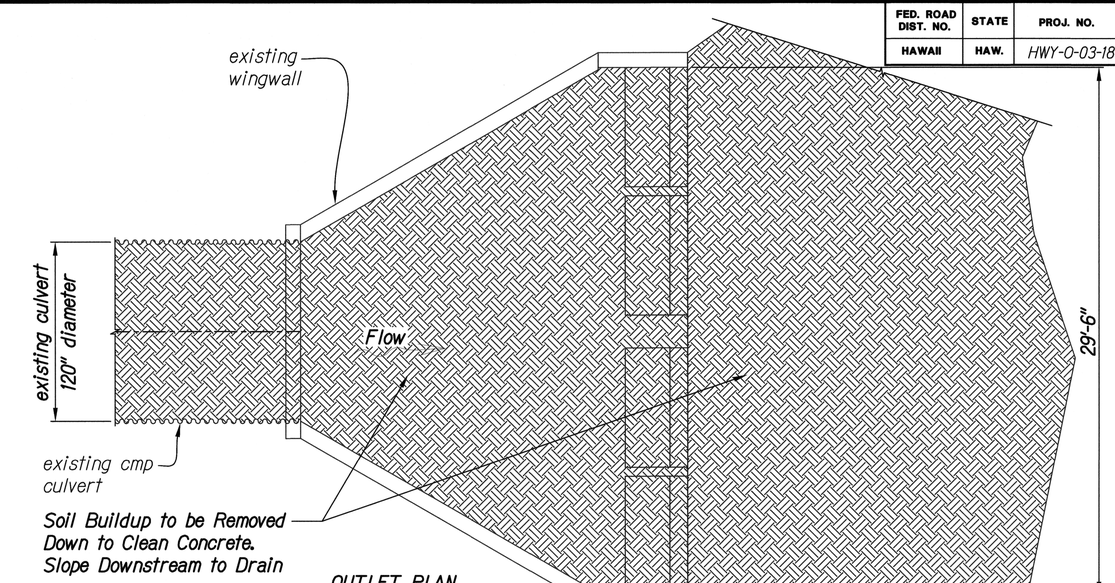


INLET ELEVATION

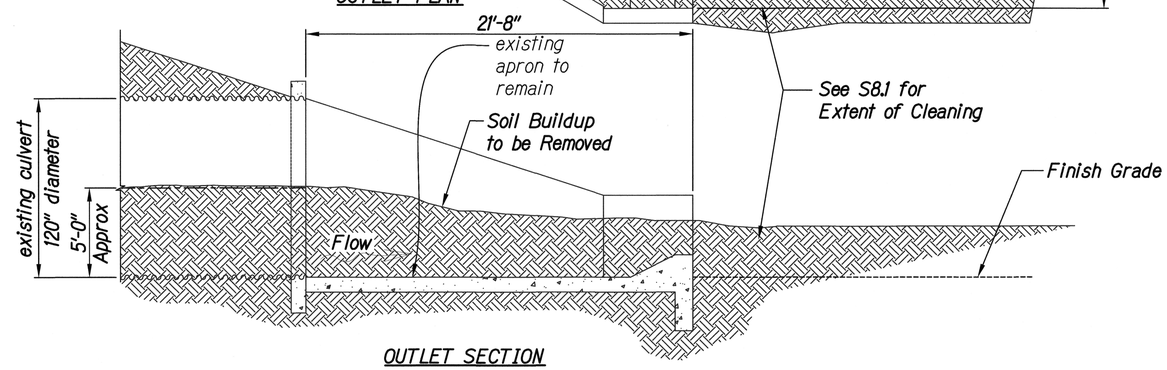
INLET STRUCTURE EXISTING CONDITION

Scale: 1" = 4'-0"

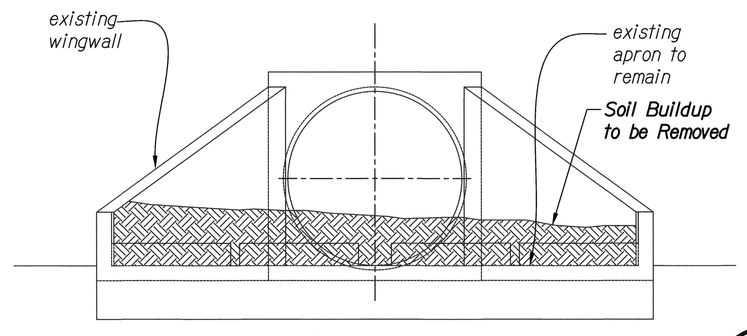
1 S8.4 S8.4



OUTLET PLAN



OUTLET SECTION



OUTLET ELEVATION

OUTLET STRUCTURE EXISTING CONDITION

Scale: 1" = 4'-0"

2 S8.4 S8.4

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EXPIRATION DATE OF THE LICENSE 4/30/2020
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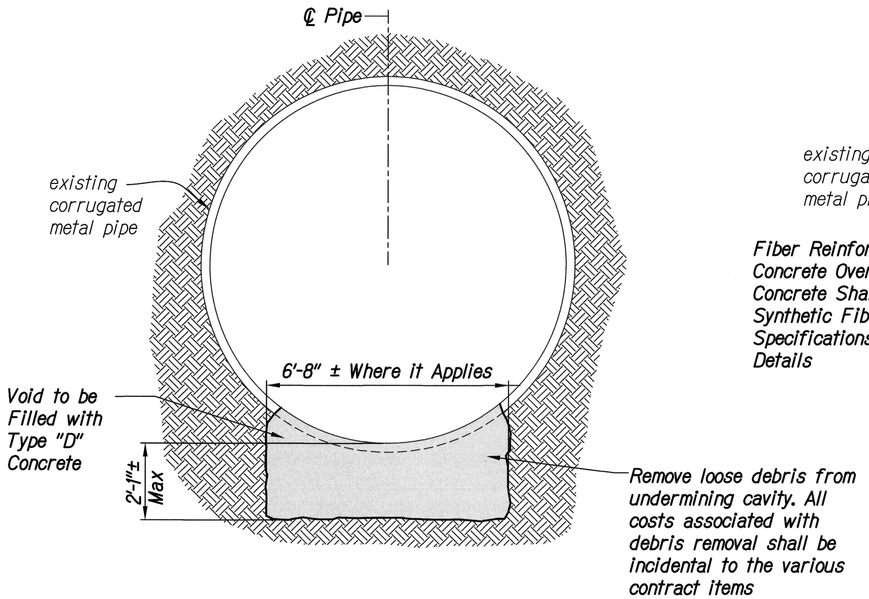
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

Culvert Inlet/Outlet Details
M.P. 12.56 (H3) PID No. 701105
CULVERT REMEDIATION AT VARIOUS LOCATIONS ON OAHU, PHASE 2
Project No. HWY-0-03-18

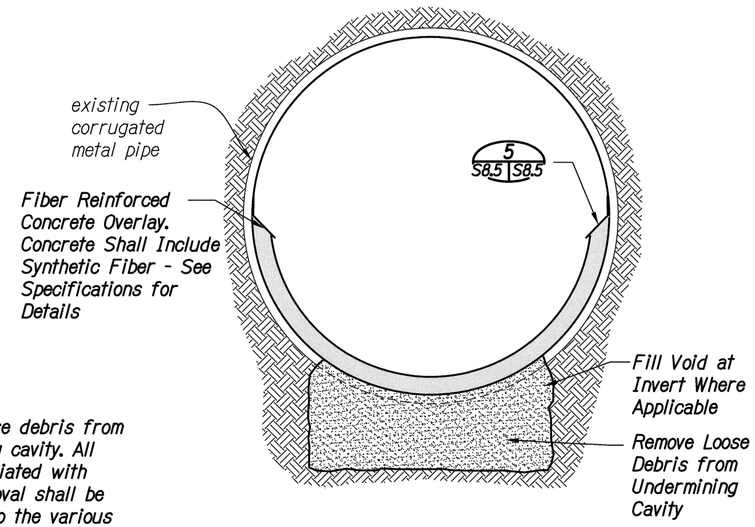
Scale: As Shown Date: March 2018

SHEET No. S8.4 OF 12 SHEETS

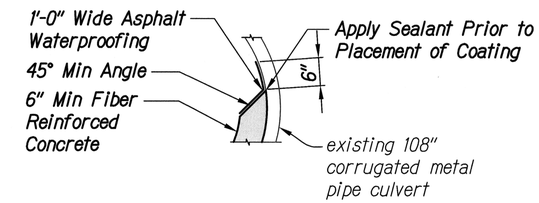
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-0-03-18	2018	73	93



TYPICAL VOID AND UNDERMINING REPAIR SECTION (1)
Scale: 1" = 2'-0"
S8.1, S8.2 | S8.5



TYPICAL PIPE REPAIR SECTION (3)
Scale: 1" = 2'-0"
S8.1, S8.2 | S8.5



DETAIL (5)
Scale: 1" = 2'-0"
S8.5 | S8.5

Notes:
1. Voids under the structural plate shall be filled with fiber reinforced concrete. The concrete shall be troweled to form a smooth, dense surface finish.
2. Apply two coats of one-foot wide asphalt waterproofing to both sides of the concrete lining and scores after the new concrete lining has cured. The finish coating shall be a continuous film free of voids, gaps or pin holes.

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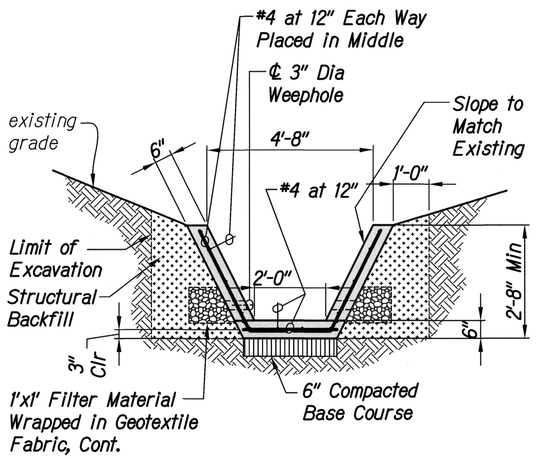
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

Culvert Repair Details
M.P.12.56 (H3) PID. No. 701105
CULVERT REMEDIATION AT VARIOUS LOCATIONS ON OAHU, PHASE 2
Project No. HWY-0-03-18
Scale: As Shown Date: March 2018

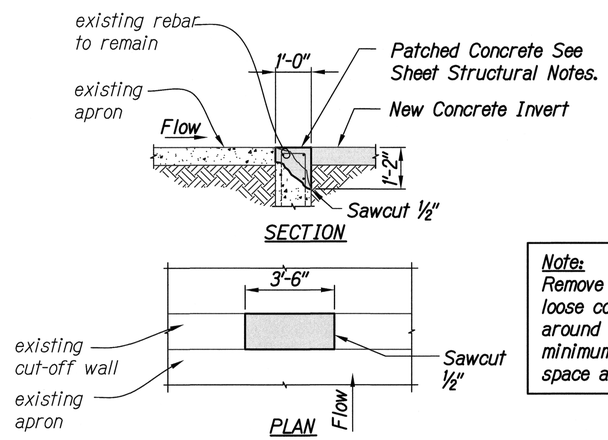
SHEET No. S8.5 OF 12 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-0-03-18	2018	74	93



NEW CONCRETE DITCH DETAIL (1 / S8.1 | S8.6)

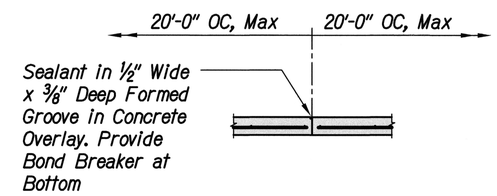
Scale: 1" = 2'-0"



INVERT SPALL REPAIR (2 / S8.4 | S8.6)

Scale: 1" = 2'-0"

Note:
Remove all unsound and loose concrete from around rebar. Create minimum ¾" annular space around rebar.



EXPANSION JOINT DETAIL (3 / S8.6 | S8.6)

Scale: 1" = 2'-0"

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HAWAII, U.S.A.

EXPIRATION DATE OF THE LICENSE 4/30/2020
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

Culvert Inlet Detail
M.P.12.56 (H3) PID No. 701105
CULVERT REMEDIATION AT VARIOUS LOCATIONS ON OAHU, PHASE 2
Project No. HWY-0-03-18

Scale: As Shown Date: March 2018

SHEET No. S8.6 OF 12 SHEETS