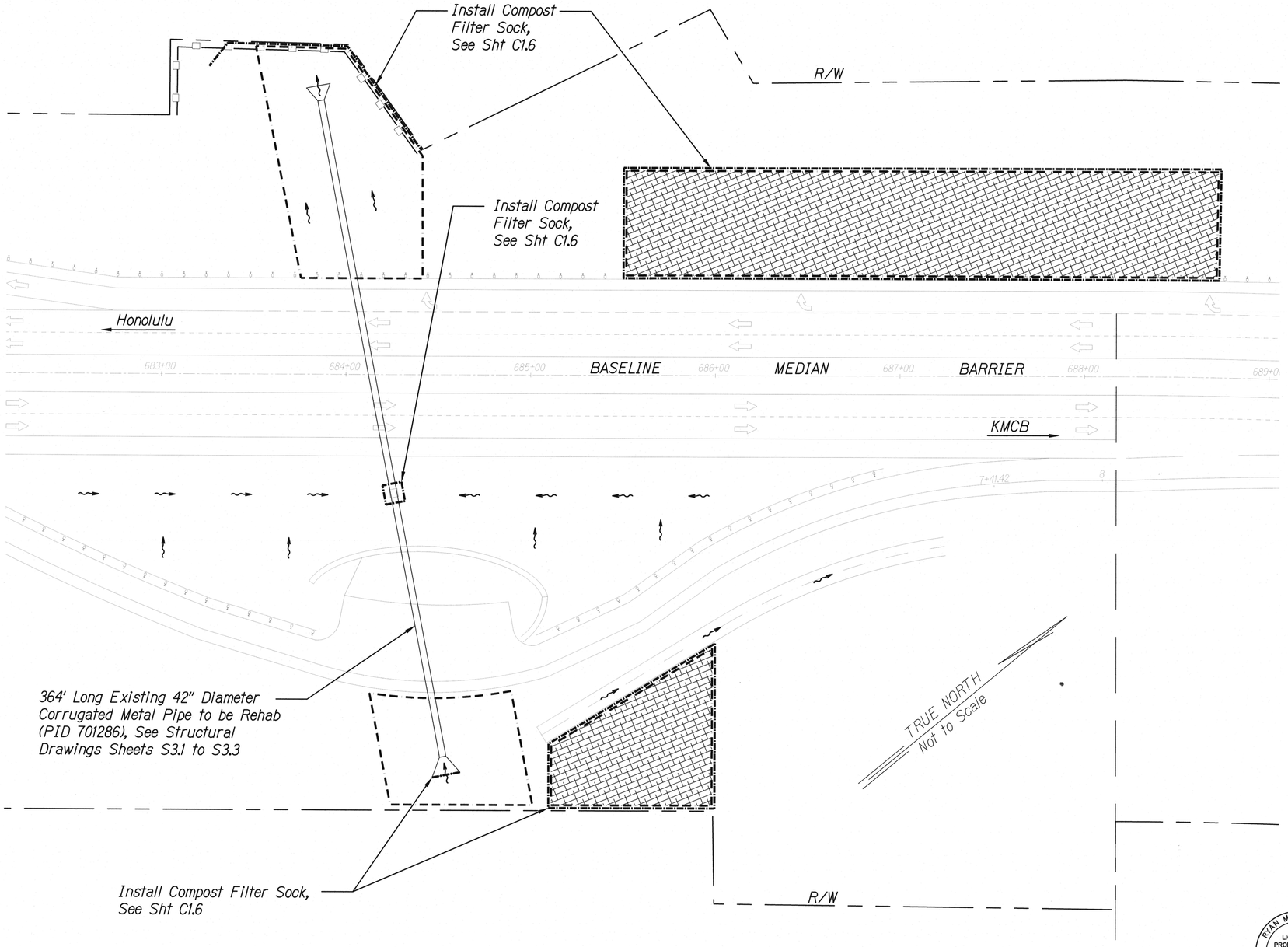
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-0-03-18	2018	24	93



MILEPOST 14.10 (H3) SITE SPECIFIC BMP
Not to Scale

1
C3.1 | C3.1

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.*

RYAN M. OKAHASHI
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No. 14294-C
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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 14.10 (H3) PID No. 701286

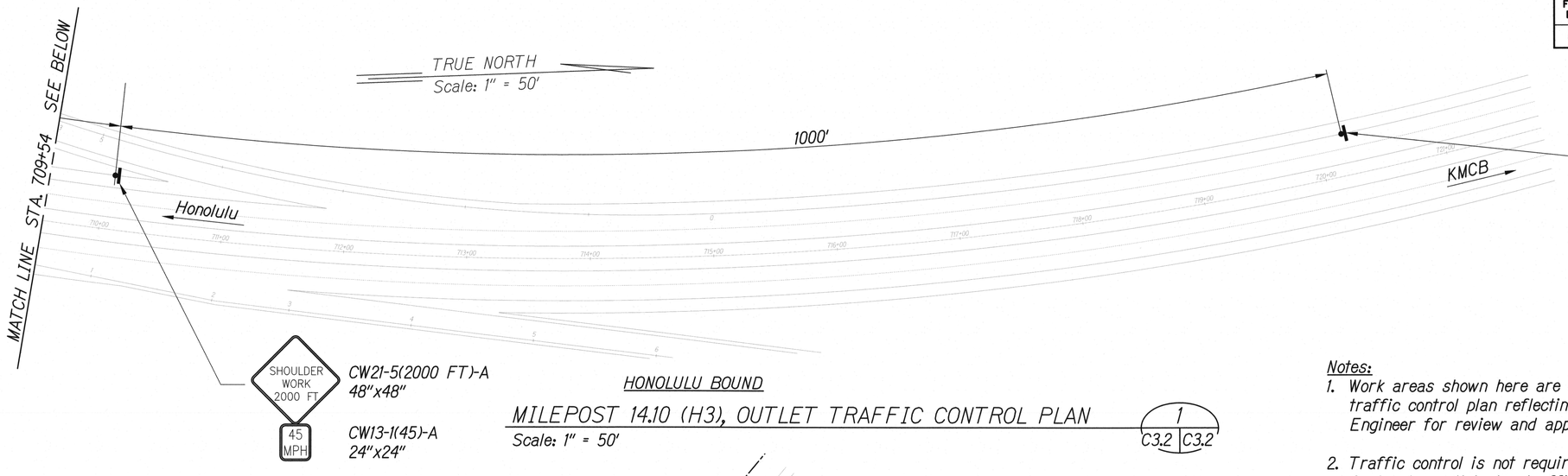
CULVERT REMEDIATION AT VARIOUS LOCATIONS ON OAHU, PHASE 2

Project No. HWY-0-03-18

Scale: As Shown Date: March 2018

SHEET No. C3.1 OF 8 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-0-03-18	2018	25	93



HONOLULU BOUND

MILEPOST 14.10 (H3), OUTLET TRAFFIC CONTROL PLAN

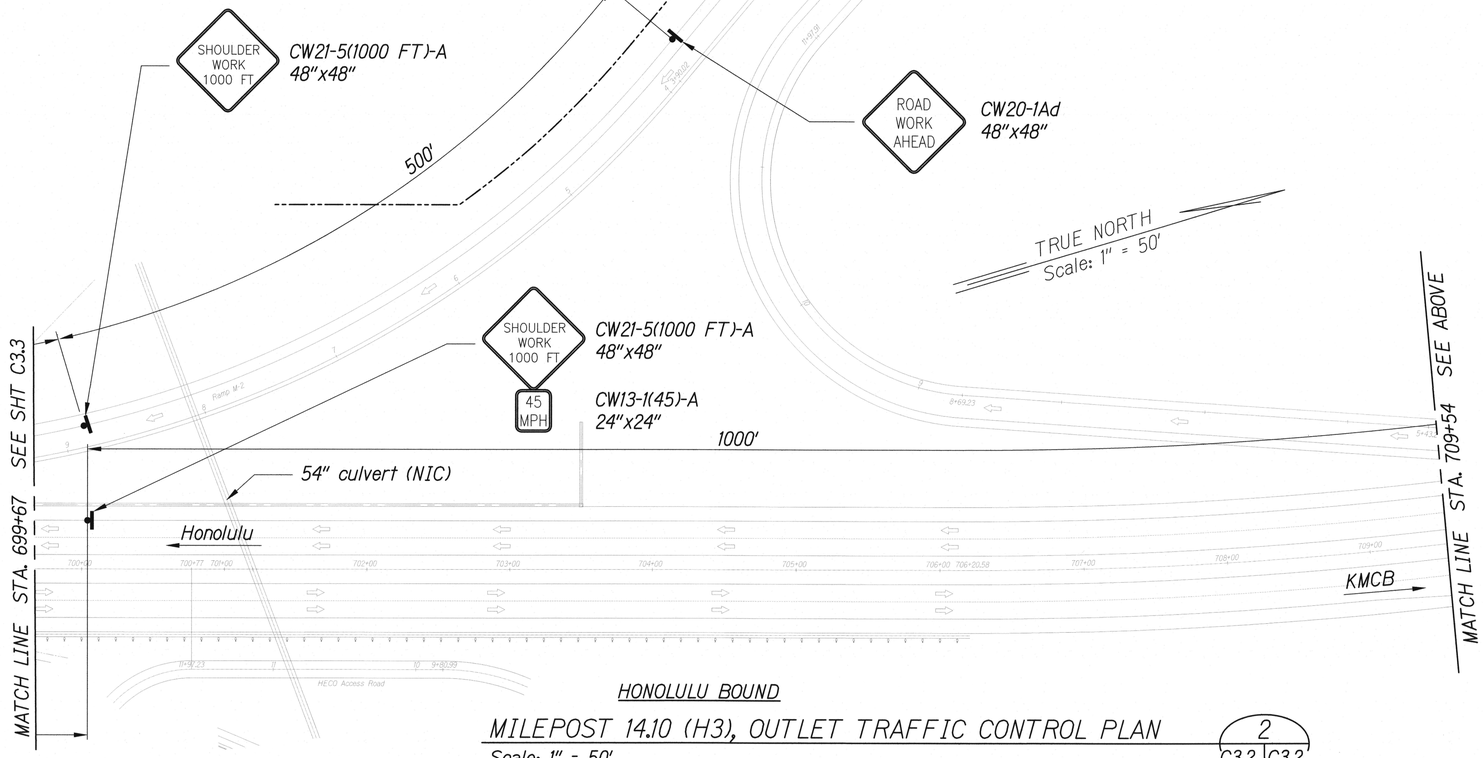
Scale: 1" = 50'

1 | C3.2 | C3.2

Notes:

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.*

2. *Traffic control is not required for KMCB bound direction. If Contractor anticipates traffic control is necessary for this direction, a traffic control plan shall be submitted to the Engineer for review and approval prior to beginning work at no additional cost to HDOT.*



HONOLULU BOUND

MILEPOST 14.10 (H3), OUTLET TRAFFIC CONTROL PLAN

Scale: 1" = 50'

2 | C3.2 | C3.2

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

0 50 100 150

Scale: 1" = 50' Feet

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

Traffic Control Plan-01, Milepost 14.10 (H3) PID No. 701286

CULVERT REMEDIATION AT VARIOUS LOCATIONS ON OAHU, PHASE 2

Project No. HWY-0-03-18

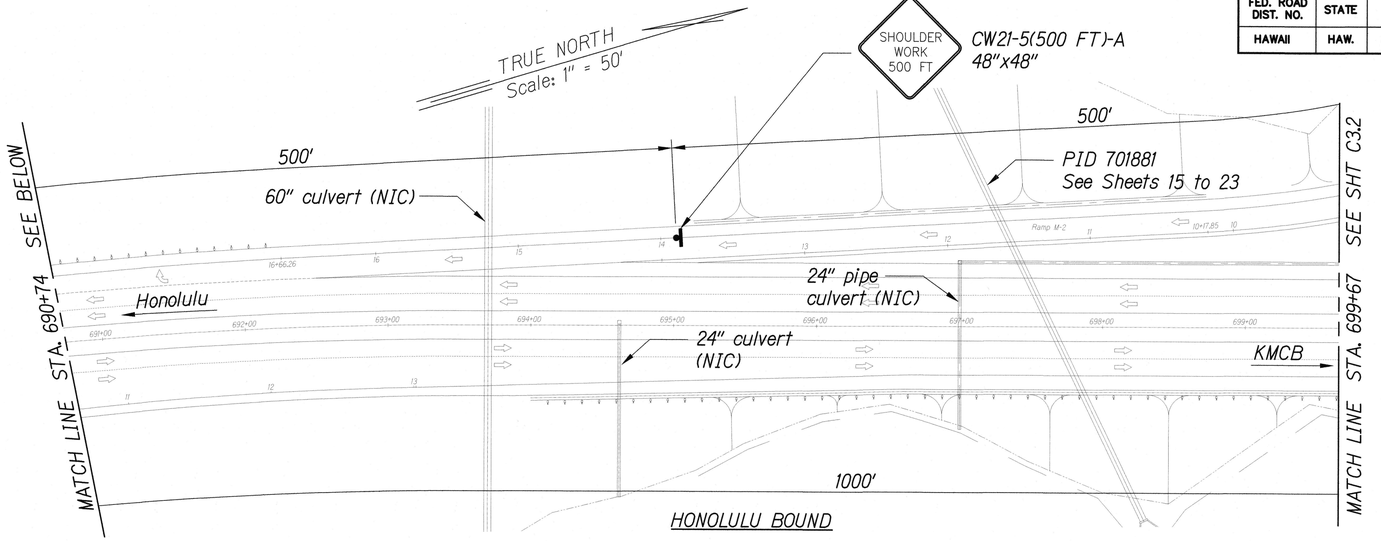
Scale: As Shown Date: March 2018

RYAN M. OKAHASHI
LICENSED PROFESSIONAL ENGINEER
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HAWAII, U.S.A.

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

SHEET No. C3.2 OF 8 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-0-03-18	2018	ADD. 26	93

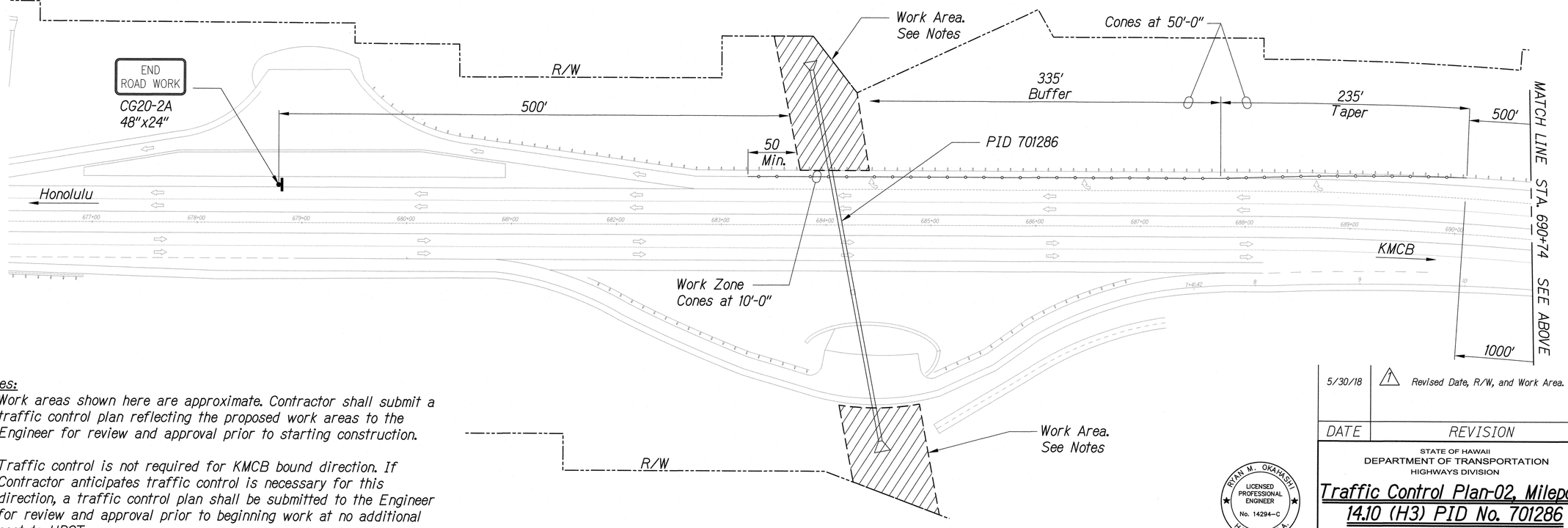


MILEPOST 14.10 (H3), OUTLET TRAFFIC CONTROL PLAN

Scale: 1" = 50'

1 C3.3 | C3.3

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



Notes:

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.
2. Traffic control is not required for KMCB bound direction. If Contractor anticipates traffic control is necessary for this direction, a traffic control plan shall be submitted to the Engineer for review and approval prior to beginning work at no additional cost to HDOT.

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

⚠1 HONOLULU BOUND

MILEPOST 14.10 (H3), OUTLET TRAFFIC CONTROL PLAN

Scale: 1" = 50'

2 C3.3 | C3.3

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

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

EXPIRATION DATE OF THE LICENSE 4/30/2020
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

Traffic Control Plan-02, Milepost 14.10 (H3) PID No. 701286

CULVERT REMEDIATION AT VARIOUS LOCATIONS ON OAHU, PHASE 2

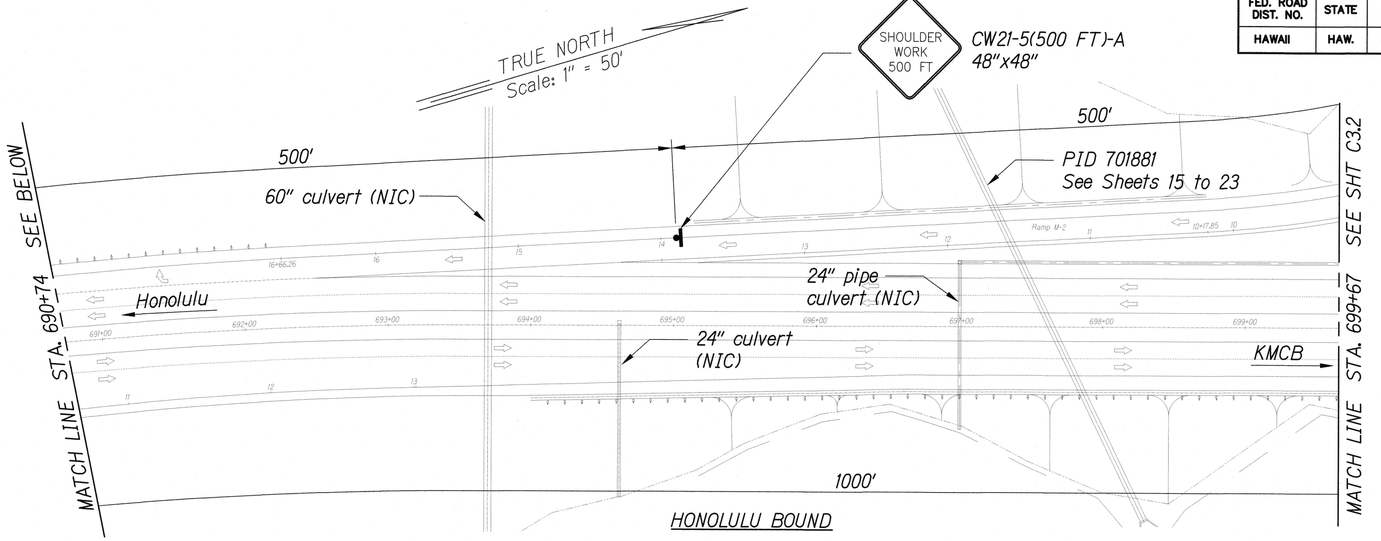
Project No. HWY-0-03-18 ⚠1

Scale: As Shown Date: May 2018

SHEET No. C3.3 OF 8 SHEETS

ADD. 26

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-0-03-18	2018	ADD. 26	93

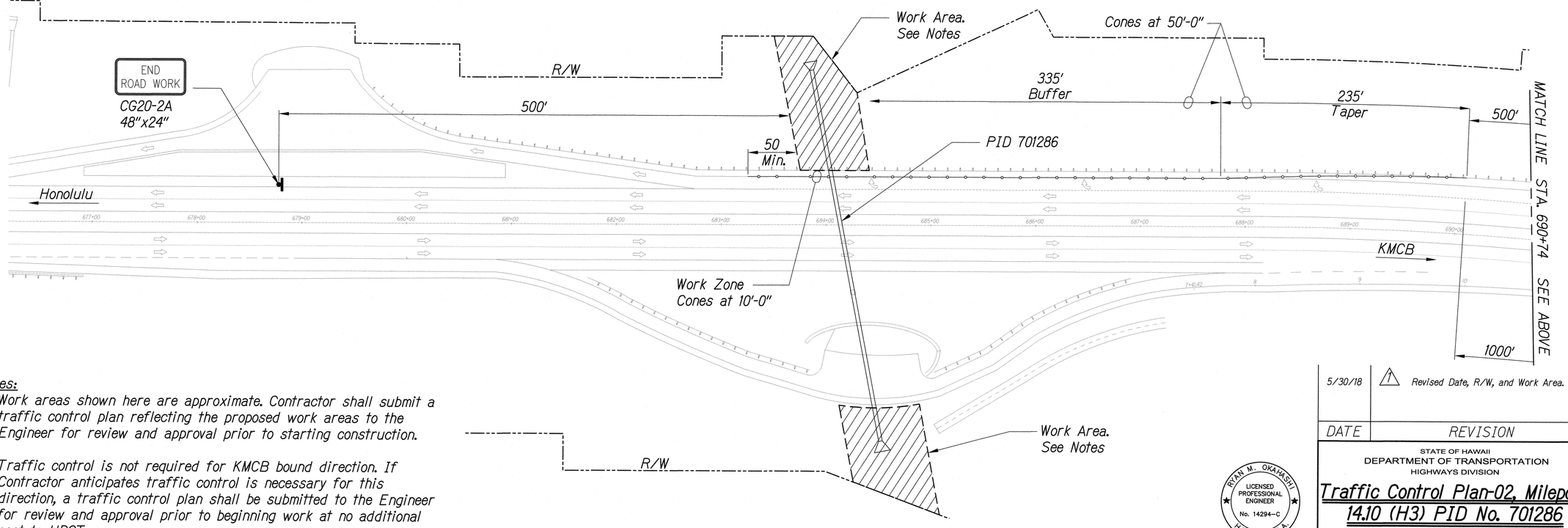


MILEPOST 14.10 (H3), OUTLET TRAFFIC CONTROL PLAN

Scale: 1" = 50'

1 C3.3 | C3.3

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



Notes:

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.
2. Traffic control is not required for KMCB bound direction. If Contractor anticipates traffic control is necessary for this direction, a traffic control plan shall be submitted to the Engineer for review and approval prior to beginning work at no additional cost to HDOT.

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

⚠1 HONOLULU BOUND

MILEPOST 14.10 (H3), OUTLET TRAFFIC CONTROL PLAN

Scale: 1" = 50'

2 C3.3 | C3.3

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

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

EXPIRATION DATE OF THE LICENSE 4/30/2020
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

Traffic Control Plan-02, Milepost 14.10 (H3) PID No. 701286

CULVERT REMEDIATION AT VARIOUS LOCATIONS ON OAHU, PHASE 2

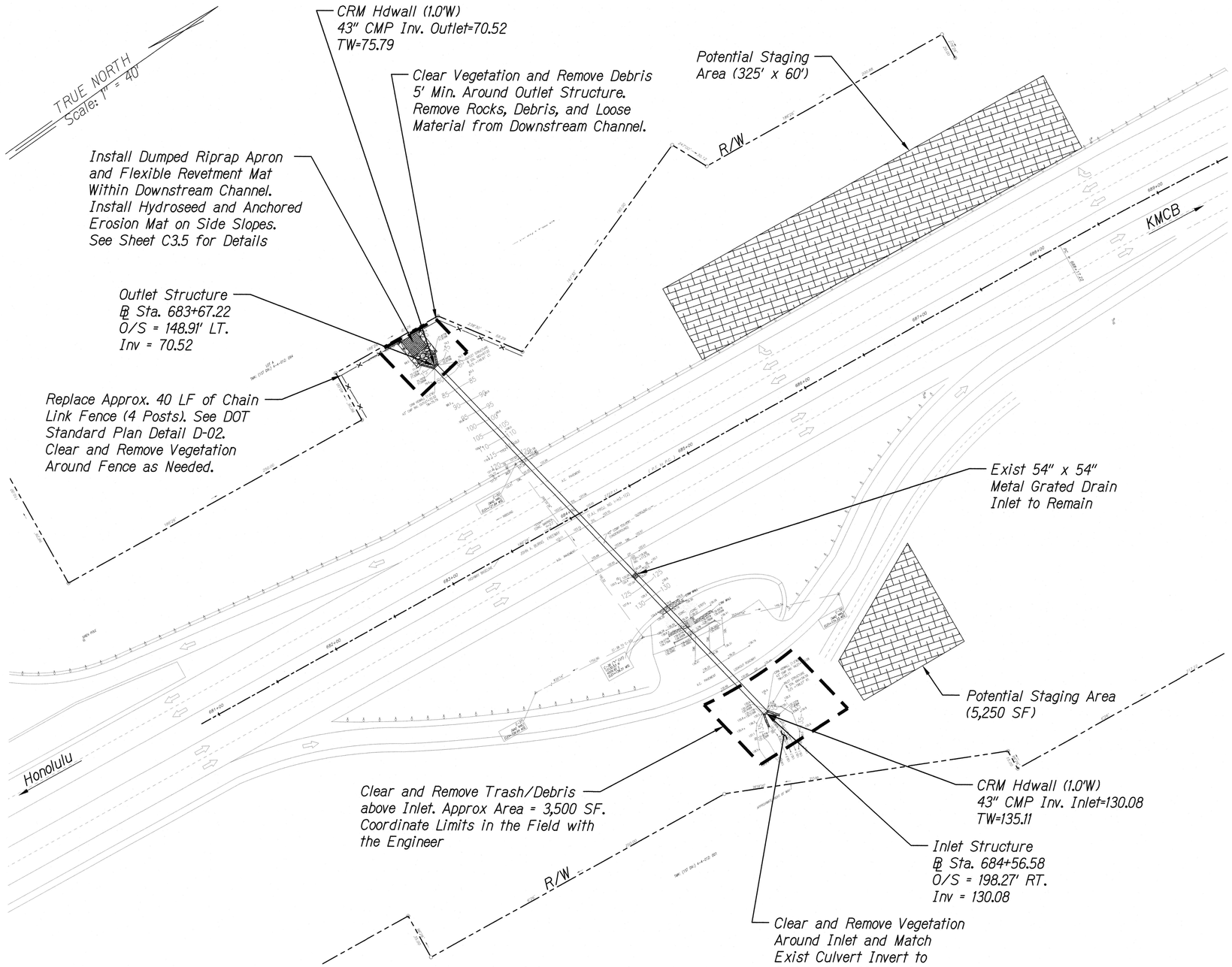
Project No. HWY-0-03-18 ⚠1

Scale: As Shown Date: May 2018

SHEET No. C3.3 OF 8 SHEETS

ADD. 26

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-0-03-18	2018	ADD. 27	93



⚠ MILEPOST 14.10 (H-3) SITE PLAN
Scale: 1" = 40'

1
C3.4 | C3.4

0 40 80 120
Scale: 1" = 40' Feet

Notes:

1. Contractor shall confirm all locations for mitigation with the Engineer prior to beginning work. All dimensions and details shown shall be checked and verified by the Contractor prior to the start of construction.
2. Erosion Mat limits are shown in plan view and are approximate. Contractor shall coordinate actual limits with the Engineer in the field and account for all slope irregularities when performing work and ordering construction materials.
3. Large rocks within the downstream channel may be relocated on site with approval from the Engineer. Coordinate rock relocation with the Engineer in the field.
4. Contractor shall protect all existing signs, highway lighting and conduits in the work area.

RYAN M. OKAHASHI
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EXPIRATION DATE OF THE LICENSE 4/30/2020
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

Site Plan, Milepost 14.10 (H3) PID No. 701286

CULVERT REMEDIATION AT VARIOUS LOCATIONS ON OAHU, PHASE 2

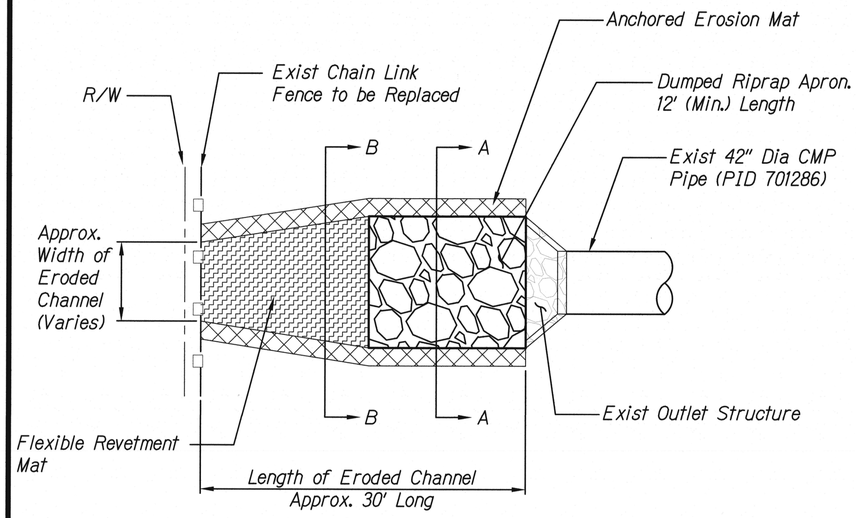
Project No. HWY-0-03-18 ⚠

Scale: As Shown Date: May 2018

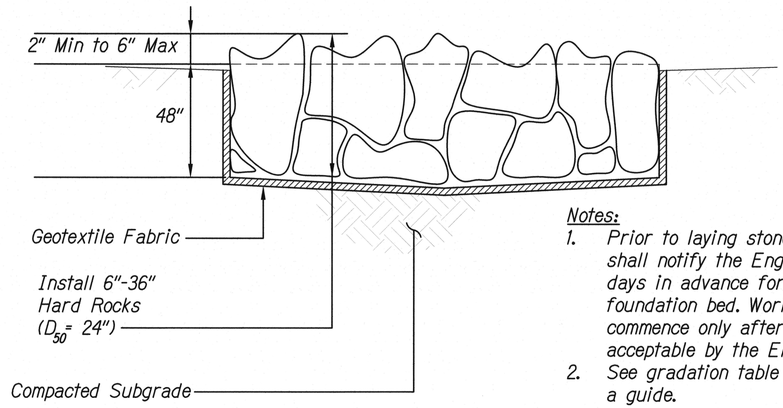
SHEET No. C3.4 OF 8 SHEETS

ADD. 27

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-0-03-18	2018	28	93



OUTLET PLAN VIEW
Not to Scale



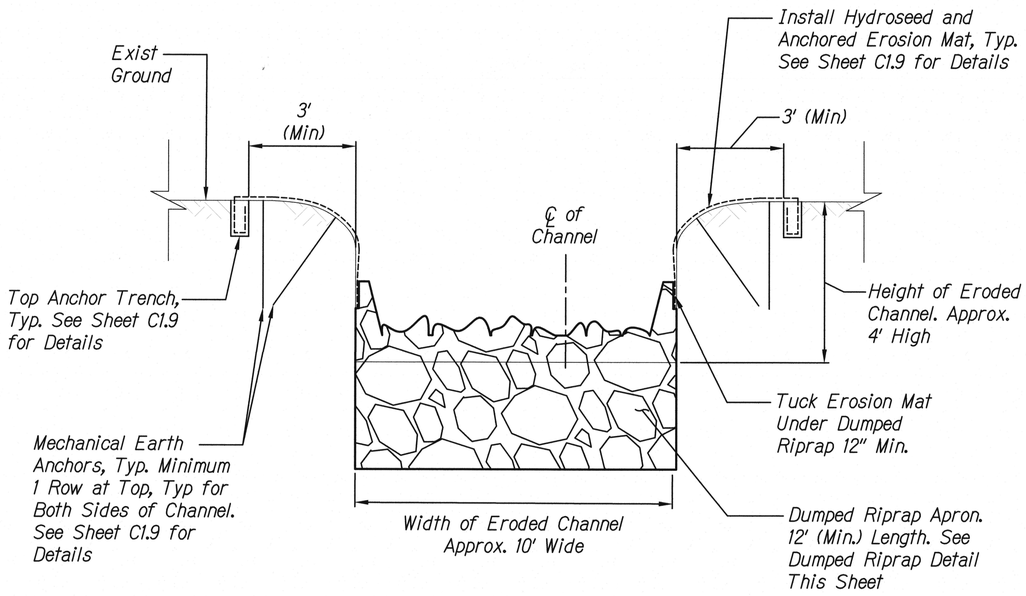
DUMPED RIPRAP DETAIL
NOT TO SCALE

Notes:
1. Prior to laying stones, Contractor shall notify the Engineer 3 working days in advance for inspection of foundation bed. Work shall commence only after foundation is acceptable by the Engineer.
2. See gradation table this sheet as a guide.

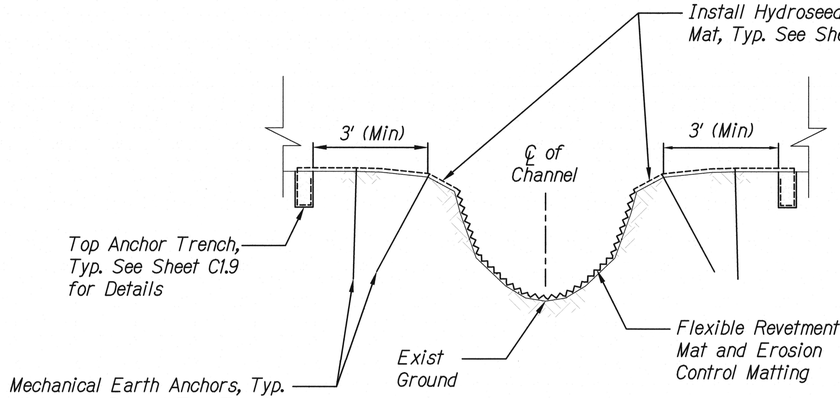
GRADATION TABLE:

D_{50} (in)	Well-Graded from	Min. of 50% by weight larger than	Max. of 10% by weight smaller than
24	6" to 36"	30"	8"

Note: Gradation table is provided as a guide. Contractor shall submit the well-graded stone gradation to the Engineer for review and approval prior to laying of stone.



DOWNSTREAM CHANNEL SECTION A-A
Not to Scale



DOWNSTREAM CHANNEL SECTION B-B
Not to Scale

Note:
1. Approximate dimensions of the eroded channel is 6' wide x 3.5' high (average).

MILEPOST 14.10 (H-3) SECTION & DETAIL
Not to Scale

1
C3.5 | C3.5

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

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

Section & Detail, Milepost 14.10 (H3) PID No. 701286

CULVERT REMEDIATION AT VARIOUS LOCATIONS ON OAHU, PHASE 2

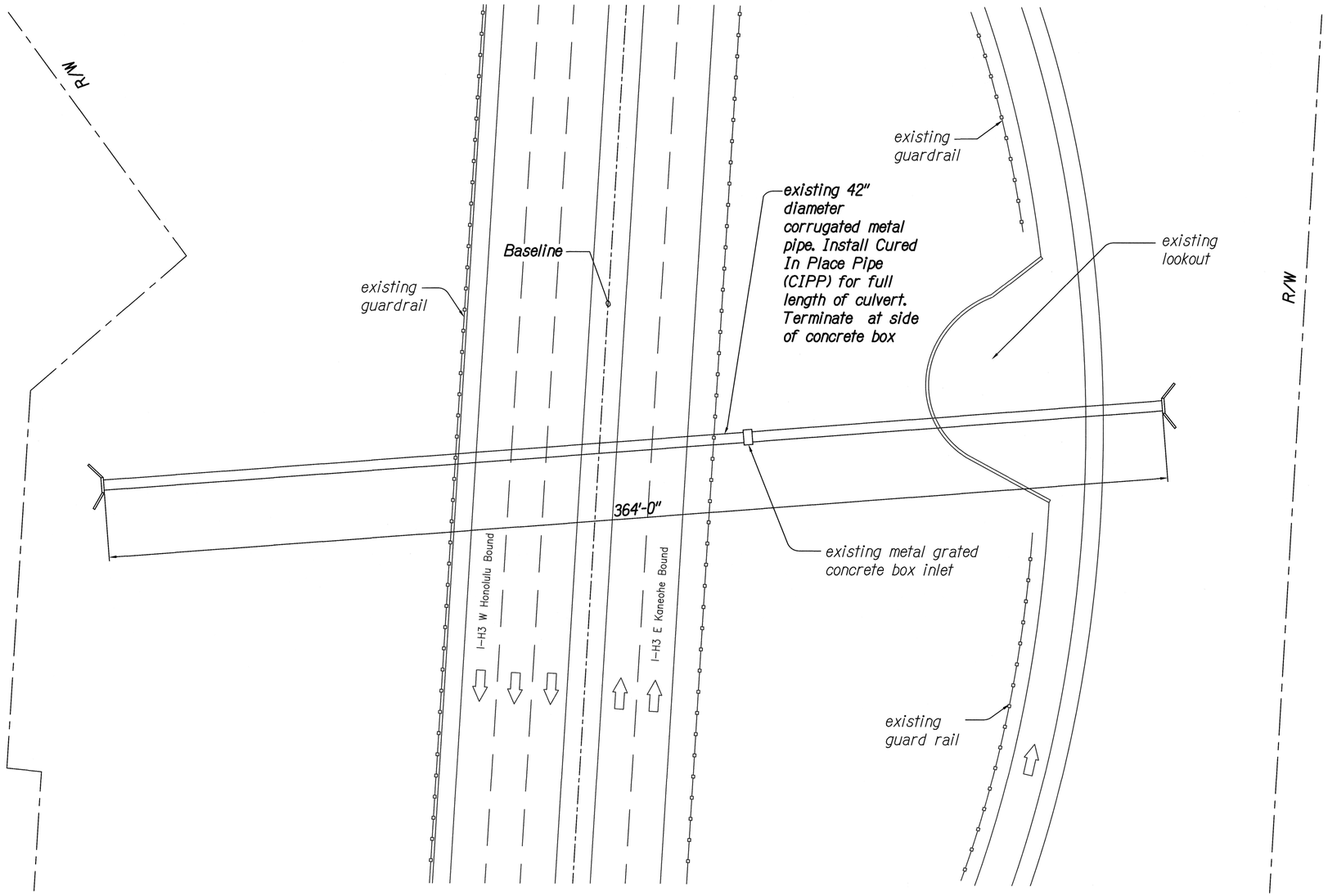
Project No. HWY-0-03-18

Scale: As Shown Date: March 2018

SHEET No. C3.5 OF 8 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-0-03-18	2018	29	93

TRUE NORTH
SCALE: 1" = 20'-0"



EXISTING CULVERT PLAN, MILEPOST 14.10 (H3) 1 S3.1 | S3.1
Scale: 1" = 20'-0"

KEN KAZUO HAYASHIDA
LICENSED PROFESSIONAL ENGINEER
No. 6818-S
HAWAII, U.S.A.
EXPIRATION DATE OF THE LICENSE 4/30/2020
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

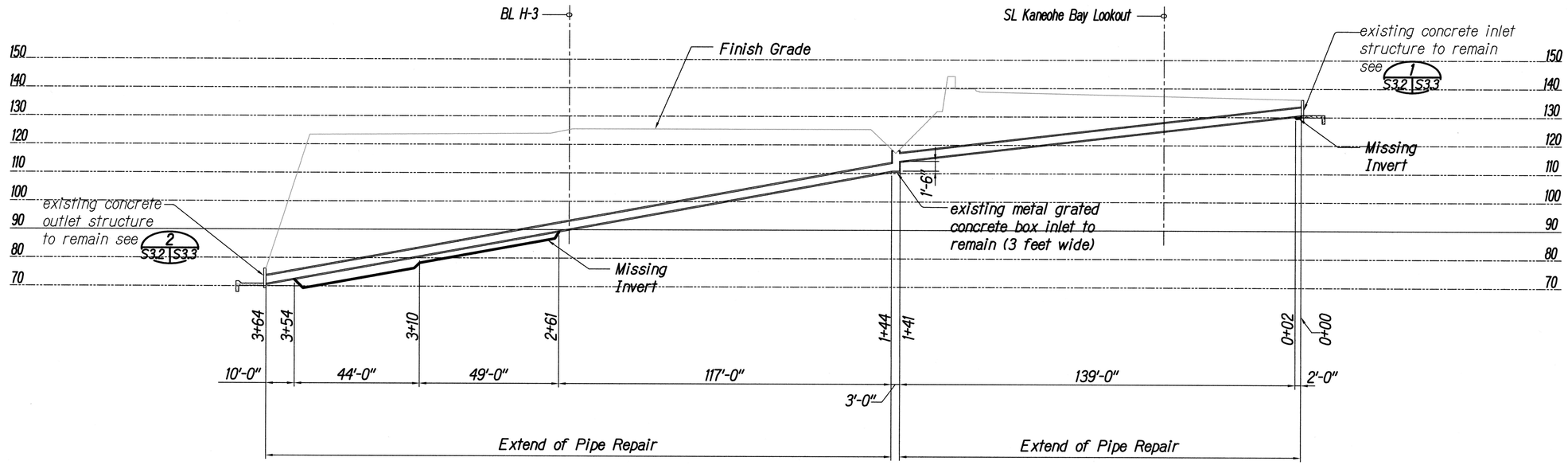
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

Culvert Plan View,
M.P. 14.10 (H3) PID No. 701286
CULVERT REMEDIATION AT VARIOUS LOCATIONS ON OAHU, PHASE 2
Project No. HWY-0-03-18
Scale: As Shown Date: March 2018

SHEET No. S3.1 OF 8 SHEETS

P:\370\3738 DOT Highways - Culvert Crossing Assessment Program\004 Drawings\Structural\Package one\Auto Cad\2018-04-15_3738\S3-1.dwg, 4/16/2018 9:40:49 AM, tamanaha

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-0-03-18	2018	ADD.30	93



EXISTING CULVERT SECTION, MILEPOST 14.10 (H3)

1 S3.2 | S3.2

Scale: 1" = 20'-0"

Existing Culvert Undermining Schedule. For Information Only, Measurements Taken at Time of Inpsection		
Station	Undermining Width"W"	Undermining Depth "D"
Sta. 0+00 to 0+02	36"	6"
Sta. 0+02 to 0+61	12"	0"
Sta. 0+61 to 0+62	36"	2"
Sta. 0+62 to 1+40	18"	0"
Sta. 1+44 to 2+61	36"	0"
Sta. 2+61 to 3+10	36"	24"
Sta. 3+10 to 3+54	48"	36"
Sta. 3+54 to 3+64	36"	4"

For Existing Culvert Section and Repair Details See Sheet S1.2

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

EXPIRATION DATE OF THE LICENSE 4/30/2020
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

DATE	REVISION
5/30/18	⚠ Revised Notes

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

Culvert Section, Milepost 14.10 (H3) PID No. 701286

CULVERT REMEDIATION AT VARIOUS LOCATIONS ON OAHU, PHASE 2

Project No. HWY-0-03-18

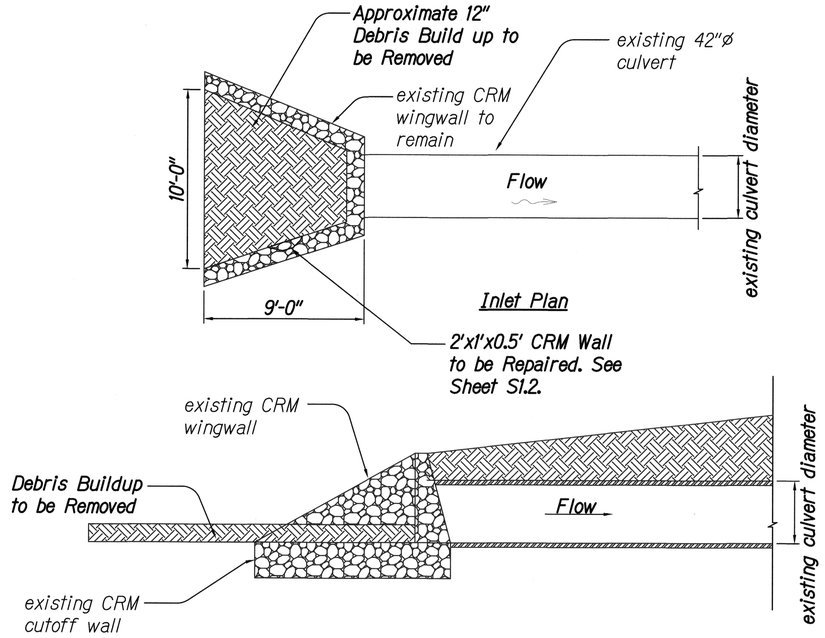
Scale: As Shown Date: May 2018

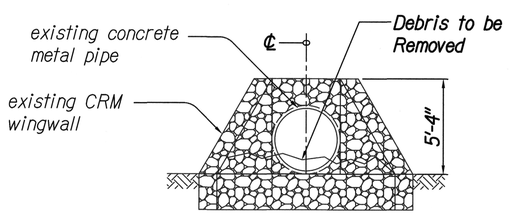
SHEET No. S3.2 OF 8 SHEETS

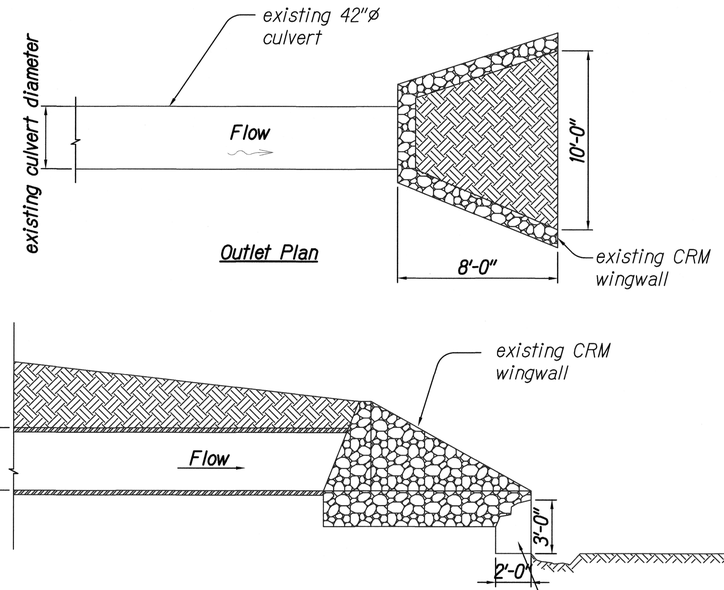
ADD. 30

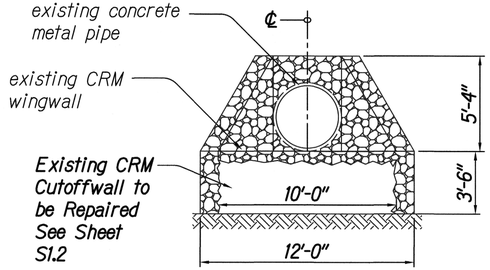
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FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-0-03-18	2018	31	93









INLET STRUCTURE
EXISTING CONDITION
Scale: 1/4" = 1'-0"

1
S3.1, S3.2, S3.3

OUTLET STRUCTURE
EXISTING CONDITION
Scale: 1/4" = 1'-0"

2
S3.1, S3.2, S3.3

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

EXPIRATION DATE OF THE LICENSE 4/30/2020
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

Culvert Outlet/Inlet Details
M.P. 14.10 (H3) PID No. 701286
CULVERT REMEDIATION AT VARIOUS LOCATIONS ON OAHU, PHASE 2
Project No. HWY-0-03-18

Scale: As Shown Date: March 2018

SHEET No. S3.3 OF 8 SHEETS

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