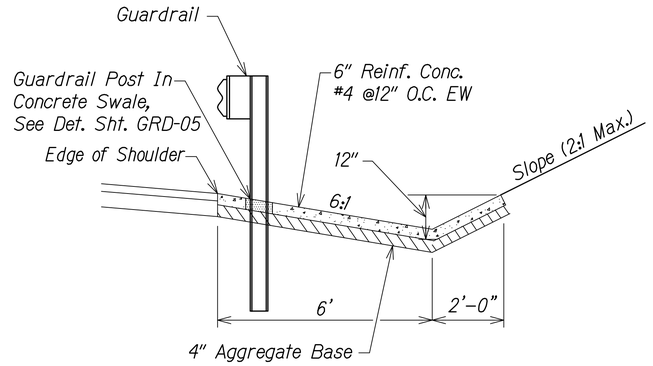
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1 (260)	2014	189	605

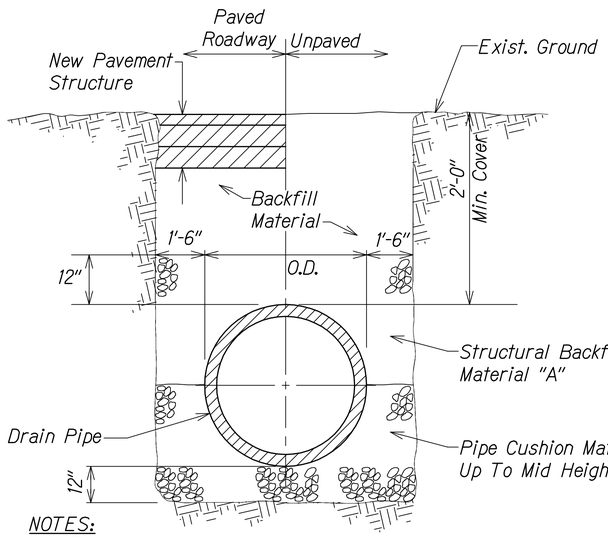


NOTES:
1. The use of 6x6 - W2.9xW2.9 WWF in lieu of #4 reinforcing is permitted at the following locations:

   a. Sta. 463+00 (Rt.) to Sta. 480+38 (Lt.)
   b. Sta. 493+96 (Rt.) to Sta. 498+75 (Rt.)
   c. Sta. 499+40 (Lt.) to Sta. 505+75 (Lt.)
   d. Sta. 530+79 (Lt.) to Sta. 531+81 (Lt.)

TYPICAL SECTION CONC. SWALE - 61218

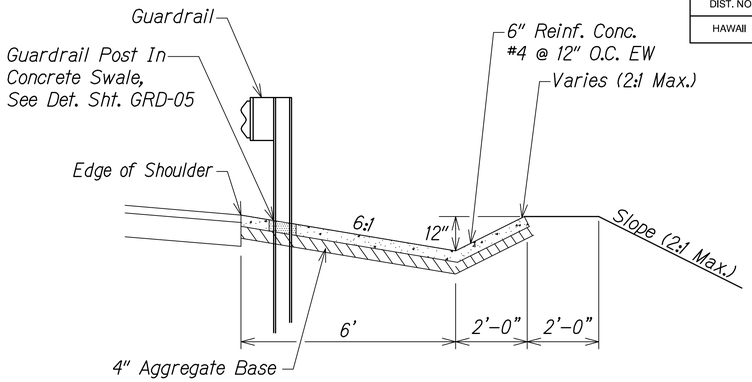
Scale: 1/2" = 1'-0"



NOTES:
1. Place Seleect Material In 8" Max. Layers, Loose Thickness, Moisten And Compact Each Layer To 95% Of Max. Density.
2. Place Satisfactory Backfill Material In 12" Max. Layers, Loose Thickness, Moisten And Compact Each Layer To 90% Of Max. Density.

DRAINLINE TRENCH DETAIL

Not to Scale

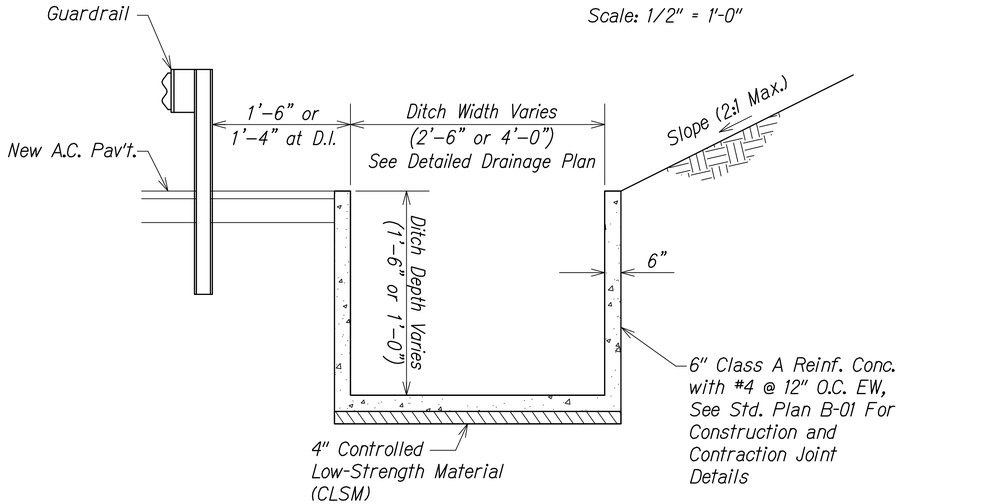


NOTES:
1. The use of 6x6 - W2.9xW2.9 WWF in lieu of #4 reinforcing is permitted at the following locations:

   a. Sta. 463+00 (Rt.) to Sta. 480+38 (Lt.)
   b. Sta. 493+96 (Rt.) to Sta. 498+75 (Rt.)
   c. Sta. 499+40 (Lt.) to Sta. 505+75 (Lt.)
   d. Sta. 530+79 (Lt.) to Sta. 531+81 (Lt.)

TYPICAL SECTION FILL SLOPE CONC. SWALE - 61218

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



NOTES:
1. The use of 6x6 - W2.9xW2.9 WWF in lieu of #4 reinforcing is permitted at the following locations:

   a. Sta. 463+00 (Rt.) to Sta. 480+38 (Lt.)
   b. Sta. 493+96 (Rt.) to Sta. 498+75 (Rt.)
   c. Sta. 499+40 (Lt.) to Sta. 505+75 (Lt.)
   d. Sta. 530+79 (Lt.) to Sta. 531+81 (Lt.)

CONCRETE DITCH

Not To Scale

LEGEND FOR AS-BUILT POSTINGS

~~	Squiggly line for as-built deletion
~~100.00~~	Double line for as-built deletion
Roadway	Text for as-built posting

QC/QA REVIEW 100% DATE MARCH 23, 2017
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ORIGINAL PLAN
SURVEY PLOTTED BY
DRAWN BY
TRACED BY
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NOTE BOOK
No.

MATTHEW K. FUJIOKA LICENSED PROFESSIONAL ENGINEER No. 11473-C HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

APRIL 30, 2018
WILSON OKAMOTO CORPORATION LIC. EXP. DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAINAGE DETAILS

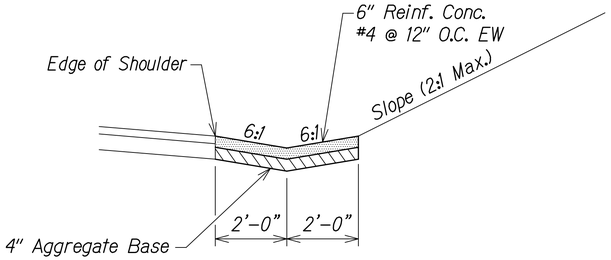
INTERSTATE ROUTE H-1
PM CONTRAFLOW LANE, PHASE 1 & 2
FEDERAL AID PROJECT NO. NH-H1-1 (260)

Scale: As Noted Date: July, 2016

SHEET No. DRD-01 OF 9 SHEETS

"AS-BUILT"

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1 (260)	2014	190	605

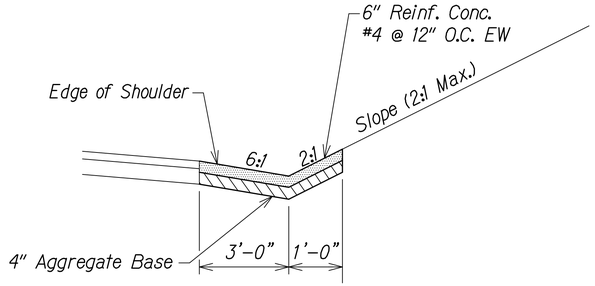


NOTES:
1. The use of 6x6 - W2.9xW2.9 WWF in lieu of #4 reinforcing is permitted at the following locations:

   a. Sta. 463+00 (Rt.) to Sta. 480+38 (Lt.)
   b. Sta. 493+96 (Rt.) to Sta. 498+75 (Rt.)
   c. Sta. 499+40 (Lt.) to Sta. 505+75 (Lt.)
   d. Sta. 530+79 (Lt.) to Sta. 531+81 (Lt.)

TYPICAL SECTION CONC. SWALE - 61614

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

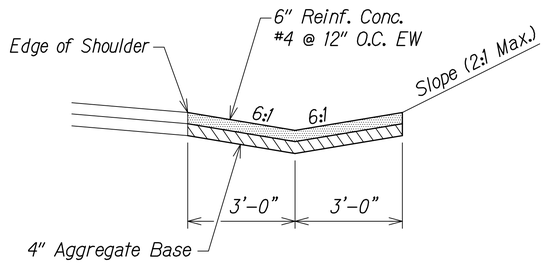


NOTES:
1. The use of 6x6 - W2.9xW2.9 WWF in lieu of #4 reinforcing is permitted at the following locations:

   a. Sta. 463+00 (Rt.) to Sta. 480+38 (Lt.)
   b. Sta. 493+96 (Rt.) to Sta. 498+75 (Rt.)
   c. Sta. 499+40 (Lt.) to Sta. 505+75 (Lt.)
   d. Sta. 530+79 (Lt.) to Sta. 531+81 (Lt.)

TYPICAL SECTION CONC. SWALE - 61214

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

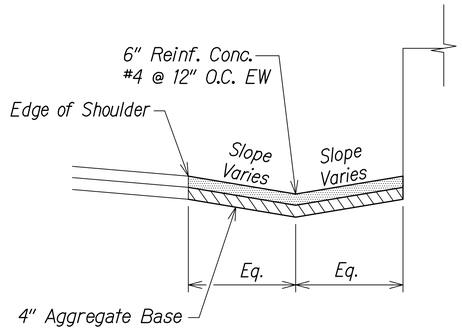


NOTES:
1. The use of 6x6 - W2.9xW2.9 WWF in lieu of #4 reinforcing is permitted at the following locations:

   a. Sta. 463+00 (Rt.) to Sta. 480+38 (Lt.)
   b. Sta. 493+96 (Rt.) to Sta. 498+75 (Rt.)
   c. Sta. 499+40 (Lt.) to Sta. 505+75 (Lt.)
   d. Sta. 530+79 (Lt.) to Sta. 531+81 (Lt.)

TYPICAL SECTION CONC. SWALE - 61616

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



Note:
1. See Grading Plan For Swale Elevations
2. The use of 6x6 - W2.9xW2.9 WWF in lieu of #4 reinforcing is permitted at the following locations:

   a. Sta. 463+00 (Rt.) to Sta. 480+38 (Lt.)
   b. Sta. 493+96 (Rt.) to Sta. 498+75 (Rt.)
   c. Sta. 499+40 (Lt.) to Sta. 505+75 (Lt.)
   d. Sta. 530+79 (Lt.) to Sta. 531+81 (Lt.)

TYPICAL SECTION TRANSITION AND VARYING WIDTH CONC. SWALE

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

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MATTHEW K. FUJIOKA
LICENSED PROFESSIONAL ENGINEER
No. 11473-C
HAWAII, U.S.A.

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LEGEND FOR AS-BUILT POSTINGS

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Roadway	Text for as-built posting

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAINAGE DETAILS

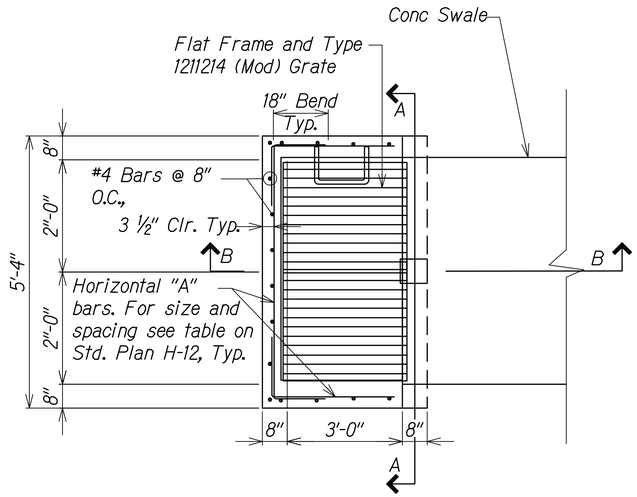
INTERSTATE ROUTE H-1
PM CONTRAFLOW LANE, PHASE 1 & 2
FEDERAL AID PROJECT NO. NH-H1-1 (260)

Scale: 1/2" = 1'-0" Date: July, 2016

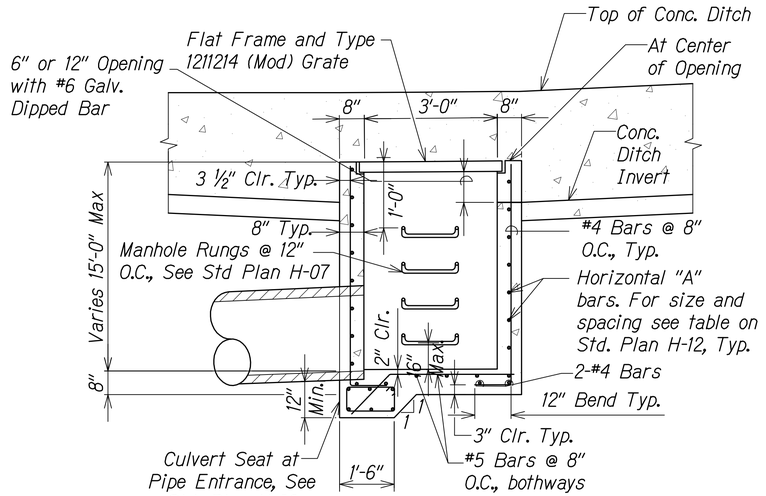
SHEET No. DRD-02 OF 9 SHEETS

"AS-BUILT"

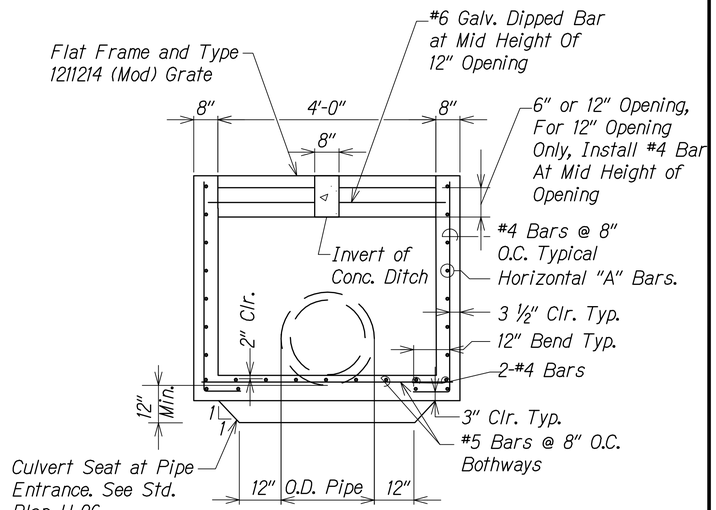
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1 (260)	2014	191	605



PLAN VIEW



SECTION B–B



SECTION A–A

Structural Notes

1. Concrete Shall be 4,000 PSI Compressive Strength at 28 Days.
2. Reinforcing Steel be deformed bars, ASTM A615, Grade 60, and shall be placed per Standard Plan H-12
3. Provide added Reinforcing Steel at Pipe entrance. See Std. Plan H-06

MODIFIED GRATED DRAIN INLET DETAIL

Not To Scale

QC/QA REVIEW 100%
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◇ BY
DATE MARCH 23, 2017

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LEGEND FOR AS-BUILT POSTINGS

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Roadway	Text for as-built posting

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WILSON OKAMOTO CORPORATION — APRIL 30, 2018 LIC. EXP. DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAINAGE DETAILS

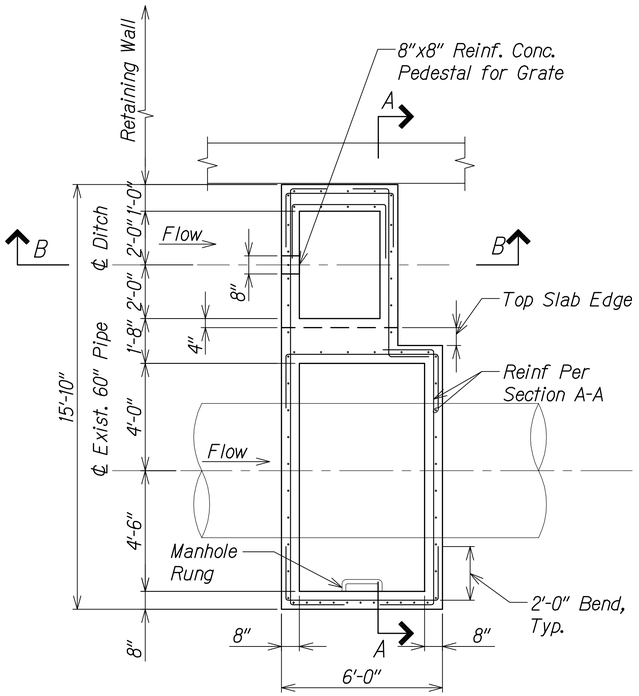
INTERSTATE ROUTE H-1
PM CONTRAFLOW LANE, PHASE 1 & 2
FEDERAL AID PROJECT NO. NH-H1-1 (260)

Scale: None Date: July, 2016

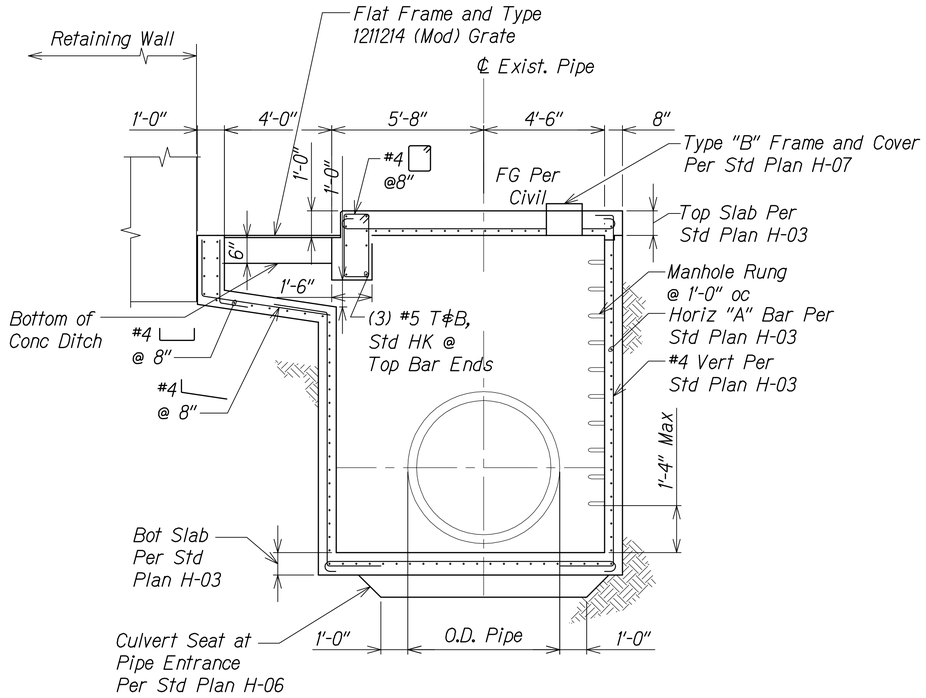
SHEET No. DRD-03 OF 9 SHEETS

"AS-BUILT"

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1 (260)	2014	192	605



PLAN VIEW



SECTION A-A

Structural Notes

1. Perform Detailed Condition Survey of the Existing 60" Corrugated Metal Pipe (CMP) Prior to Construction. Provide Photo Graphs or Video and Document the Condition of the Pipe.
2. Concrete shall be 4,000 PSI Compressive Strength at 28 Days.
3. Reinforcing Steel be Deformed Bars, ASTM A615, Grade 60, and shall be Placed Per Standard Plan H-03.
4. Reinforcing Steel be Deformed Bars, ASTM A615, Grade 60, and shall be Placed Per Standard Plan H-06.
5. Contractor shall Verify Dimensions in Field and Submit Shop Drawings to Engineer for Review Prior to Construction.

TYPE 1 DRAIN VAULT DETAIL

Not To Scale

QC/QA REVIEW 100% DATE MARCH 23, 2017
□ BY ○ BY ○ BY ○ BY ◇ BY

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NOTE BOOK | No.

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Roadway	Text for as-built posting

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAINAGE DETAILS

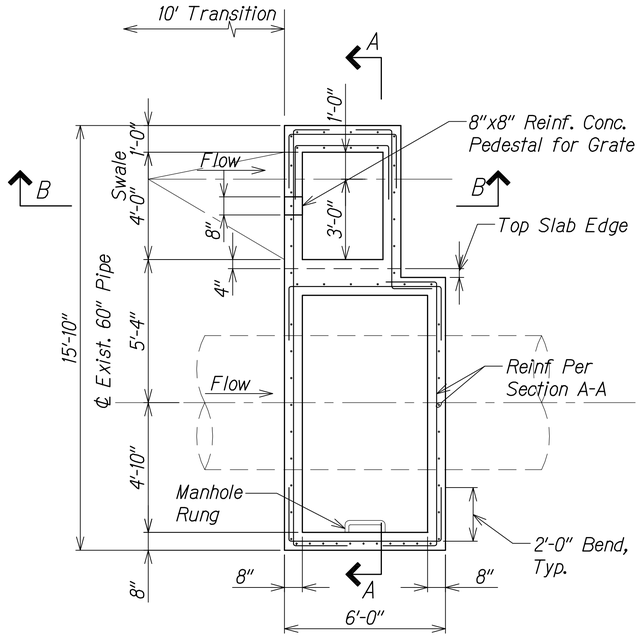
INTERSTATE ROUTE H-1
PM CONTRAFLOW LANE, PHASE 1 & 2
FEDERAL AID PROJECT NO. NH-H1-1 (260)

Scale: None Date: July, 2016

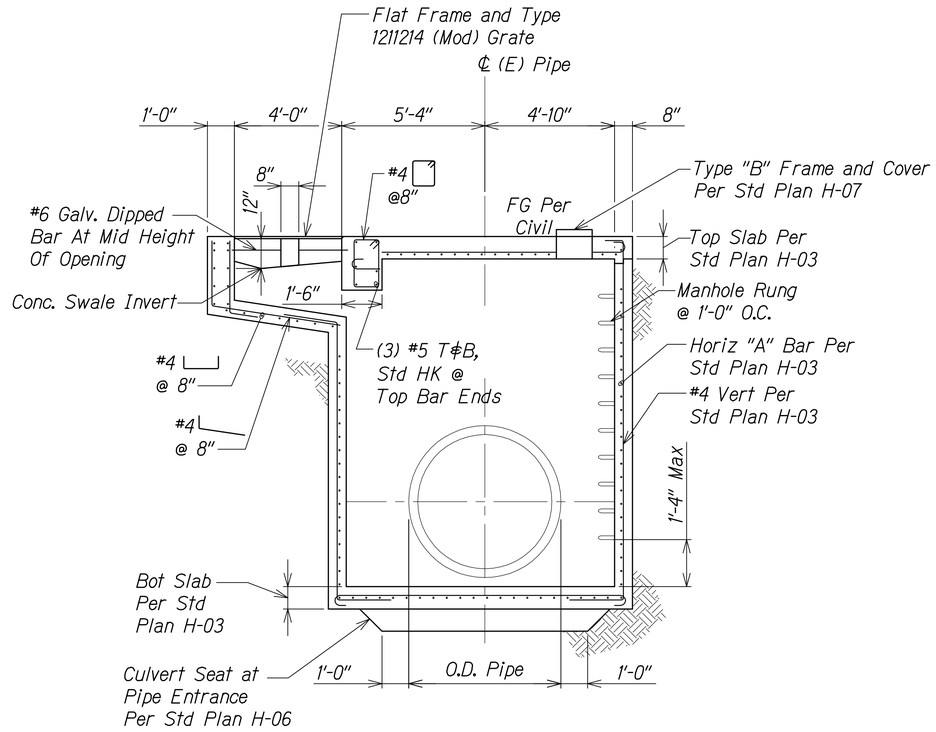
SHEET No. DRD-04 OF 9 SHEETS

"AS-BUILT"

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1 (260)	2014	193	605



PLAN VIEW



SECTION A-A

Structural Notes

1. Perform Detailed Condition Survey of the Existing 60" Corrugated Metal Pipe (CMP) Prior to Construction. Provide Photo Graphs or Video and Document the Condition of the Pipe.
2. Concrete shall be 4,000 PSI Compressive Strength at 28 Days.
3. Reinforcing Steel be Deformed Bars, ASTM A615, Grade 60, and shall be Placed per Standard Plan H-03.
4. Reinforcing Steel be Deformed Bars, ASTM A615, Grade 60, and shall be Placed per Standard Plan H-06.
5. Contractor shall Verify Dimensions in Field and Submit Shop Drawings to Engineer for Review Prior to Construction.

TYPE 2 DRAIN VAULT DETAIL

Not To Scale

QC/QA REVIEW 100% DATE MARCH 23, 2017
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DATE

LEGEND FOR AS-BUILT POSTINGS

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Roadway	Text for as-built posting

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APRIL 30, 2018
LIC. EXP. DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAINAGE DETAILS

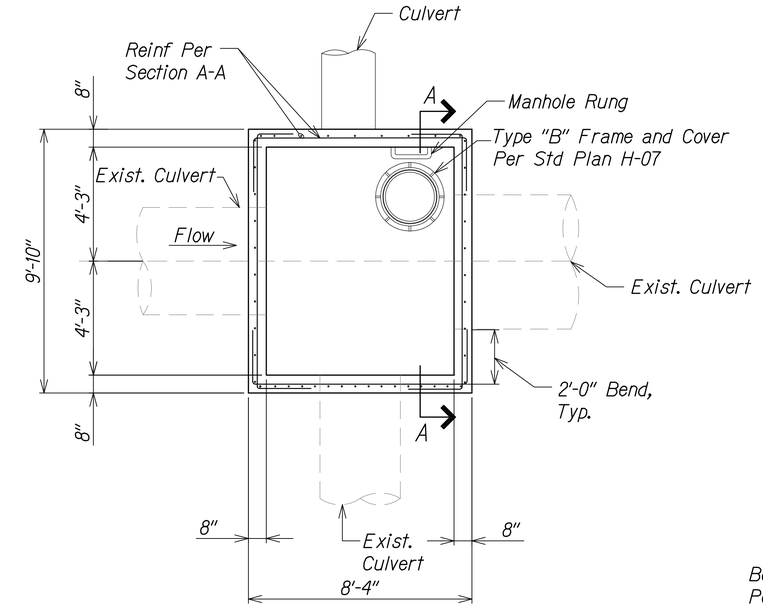
INTERSTATE ROUTE H-1
PM CONTRAFLOW LANE, PHASE 1 & 2
FEDERAL AID PROJECT NO. NH-H1-1 (260)

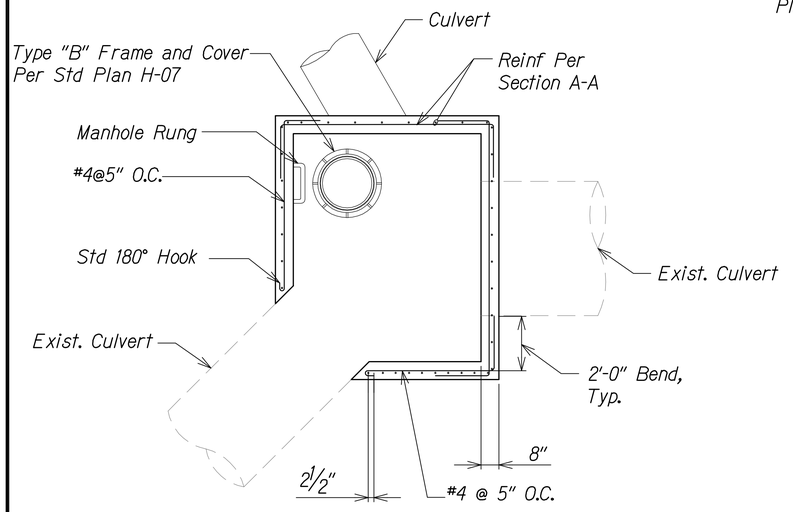
Scale: None Date: July, 2016

SHEET No. DRD-05 OF 9 SHEETS

"AS-BUILT"

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1 (260)	2014	194	605



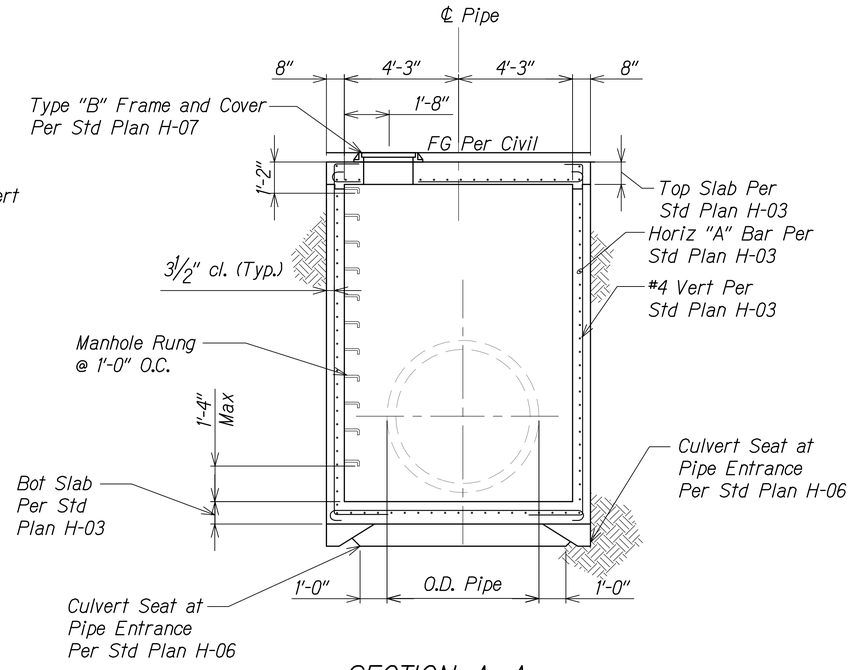


CORNER PENETRATION PLAN VIEW

Notes

1. See Above for Information not Shown.
2. Horizontal Reinforcing Steel at Corner Opening shall be #4@5" oc Hooked at Ends.
3. Horizontal Reinforcing Steel Above Corner Opening shall be as shown on Section A-A.
4. Additional Diagonal Reinforcing Around Corner Opening shall be Placed per Standard Plan H-06.

PLAN VIEW



SECTION A–A

Structural Notes

1. Perform Detailed Condition Survey of the Existing 48" and 60" Corrugated Metal Pipe (CMP) Prior to Construction. Provide Photo Graphs or Video and Document the Condition of the Pipe.
2. Concrete shall be 5,000 PSI Compressive Strength at 28 Days.
3. Reinforcing Steel be Deformed Bars, ASTM A615, Grade 60, and shall be Placed Per Standard Plan H-03.
4. Reinforcing Steel be Deformed Bars, ASTM A615, Grade 60, and shall be Placed Per Standard Plan H-06.
5. Contractor shall Verify Dimensions in Field and Submit Shop Drawings to Engineer for Review Prior to Construction.

MODIFIED TYPE C SDMH DETAIL

Not To Scale

QC/QA REVIEW 100% DATE MARCH 23, 2017
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NOTE BOOK | No.

MATTHEW K. FUJIOKA LICENSED PROFESSIONAL ENGINEER No. 11473-C HAWAII, U.S.A.

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LEGEND FOR AS-BUILT POSTINGS

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Roadway	Text for as-built posting

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAINAGE DETAILS

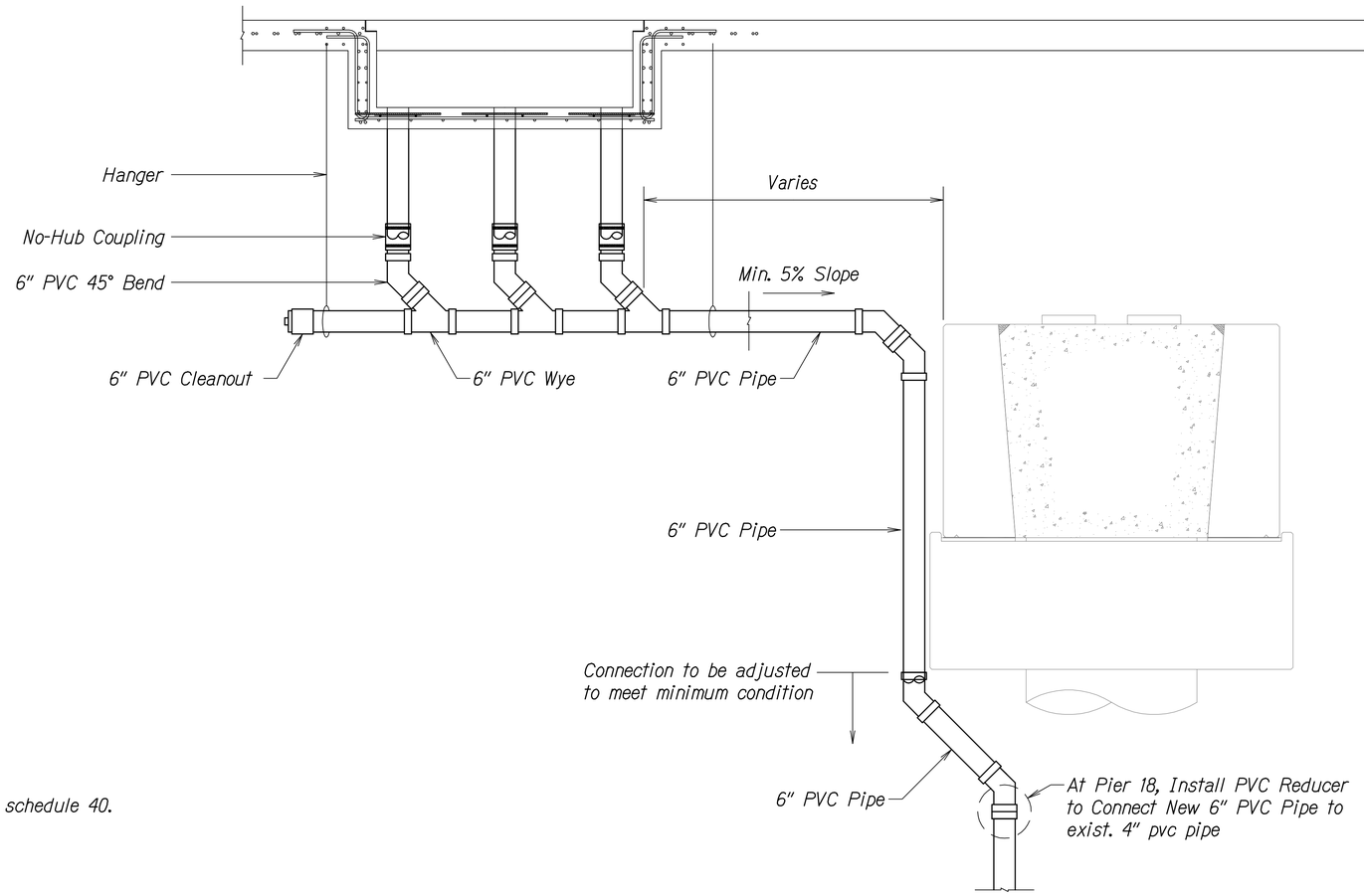
INTERSTATE ROUTE H-1
PM CONTRAFLOW LANE, PHASE 1 & 2
FEDERAL AID PROJECT NO. NH-H1-1 (260)

Scale: None Date: July, 2016

SHEET No. DRD-06 OF 9 SHEETS

"AS-BUILT" 194

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1 (260)	2014	195	605



Notes:

1. All PVC fittings & pipe to be schedule 40.

Bridge Deck Drain Connection

Scale: Not to Scale

LEGEND FOR AS-BUILT POSTINGS

~~	Squiggly line for as-built deletion
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Roadway	Text for as-built posting

QC/QA REVIEW 100% DATE MARCH 23, 2017
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MATTHEW K. FUJIOKA LICENSED PROFESSIONAL ENGINEER No. 11473-C HAWAII, U.S.A.

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WILSON OKAMOTO CORPORATION APRIL 30, 2018 LIC. EXP. DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

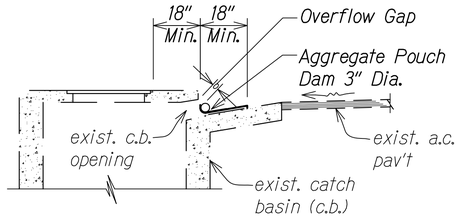
DRAINAGE DETAILS

INTERSTATE ROUTE H-1
PM CONTRAFLOW LANE, PHASE 1 & 2
FEDERAL AID PROJECT NO. NH-H1-1 (260)

Scale: None Date: July, 2016

SHEET No. DRD-07 OF 9 SHEETS

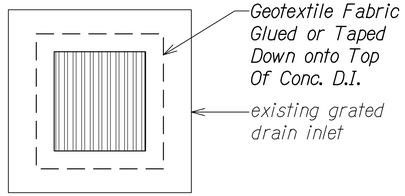
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-HI-1 (260)	2014	196	605



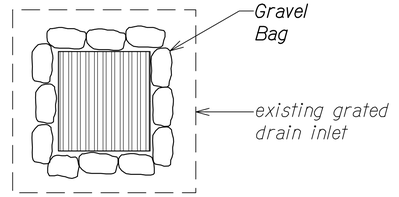
ELEVATION

AGGREGATE POUCH

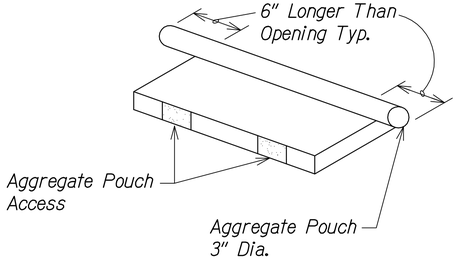
Not to Scale



PLAN VIEW

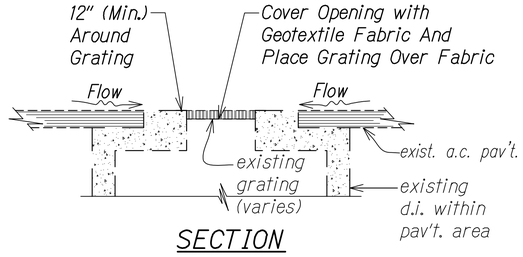


PLAN VIEW



AGGREGATE POUCH AT CATCH BASIN OPENING

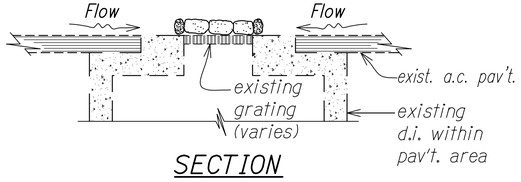
Not to Scale



SECTION

FILTER FABRIC AT GRATED DRAIN INLET

Not to Scale



SECTION

SAND OR GRAVEL BAGS AT GRATED DRAIN INLET

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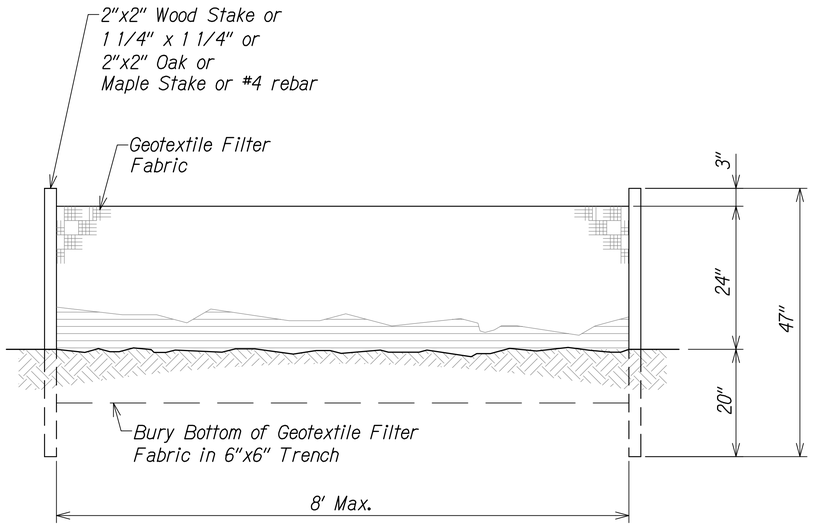

SILT FENCE DETAIL

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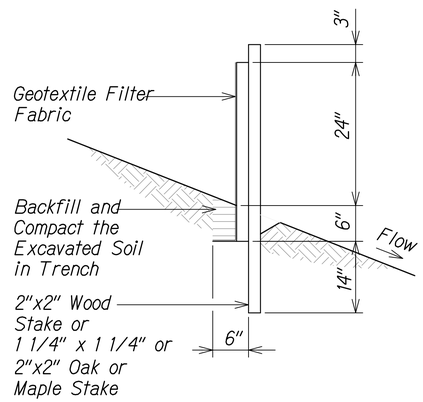


QC/QA REVIEW 100%
☐ BY DATE MARCH 23, 2017
○ BY
○ BY
◇ BY

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

LEGEND FOR AS-BUILT POSTINGS

~~	Squiggly line for as-built deletion
~~100.00~~	Double line for as-built deletion
Roadway	Text for as-built posting

MATTHEW K. FUJIOKA LICENSED PROFESSIONAL ENGINEER No. 11473-C HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

APRIL 30, 2018
WILSON OKAMOTO CORPORATION LIC. EXP. DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

EROSION CONTROL DETAILS

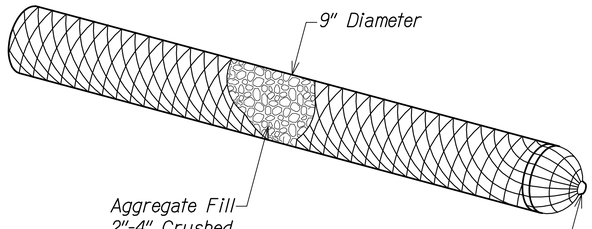
INTERSTATE ROUTE H-1
PM CONTRAFLOW LANE, PHASE 1 & 2
FEDERAL AID PROJECT NO. NH-HI-1 (260)

Scale: None Date: July, 2016

SHEET No. DRD-08 OF 9 SHEETS

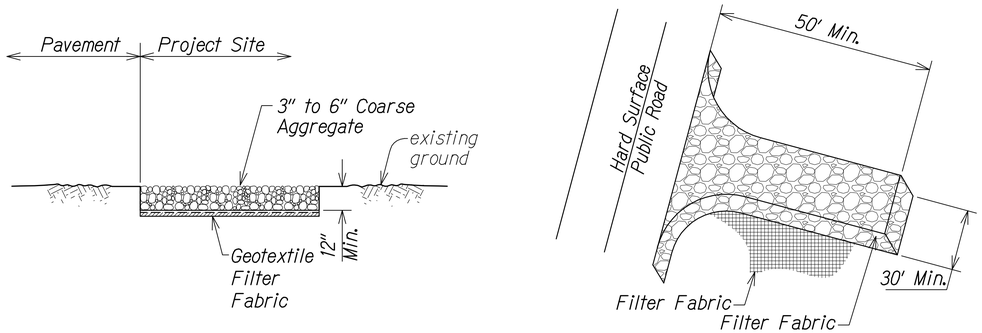
"AS-BUILT"

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-HI-1 (260)	2014	197	605



AGGREGATE FILTER BERM

Not to Scale



TEMPORARY STABILIZED CONSTRUCTION INGRESS/EGRESS

Not to Scale

QC/QA REVIEW 100%
□ BY DATE MARCH 23, 2017
○ BY
○ BY
◇ BY

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

LEGEND FOR AS-BUILT POSTINGS

∿∿∿	Squiggly line for as-built deletion
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MATTHEW K. FUJIOKA
LICENSED PROFESSIONAL ENGINEER
No. 11473-C
HAWAII, U.S.A.

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WILSON OKAMOTO CORPORATION — APRIL 30, 2018 LIC. EXP. DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

EROSION CONTROL DETAILS

INTERSTATE ROUTE H-1
PM CONTRAFLOW LANE, PHASE 1 & 2
FEDERAL AID PROJECT NO. NH-HI-1 (260)

Scale: None Date: July, 2016

SHEET No. DRD-09 OF 9 SHEETS

"AS-BUILT"