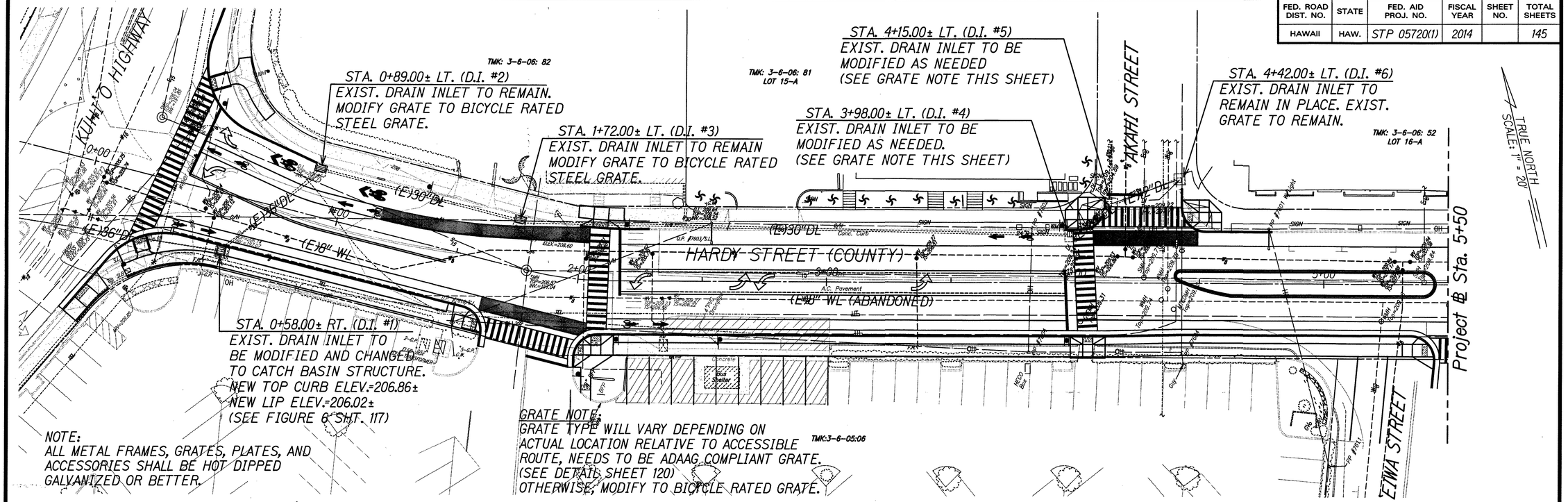
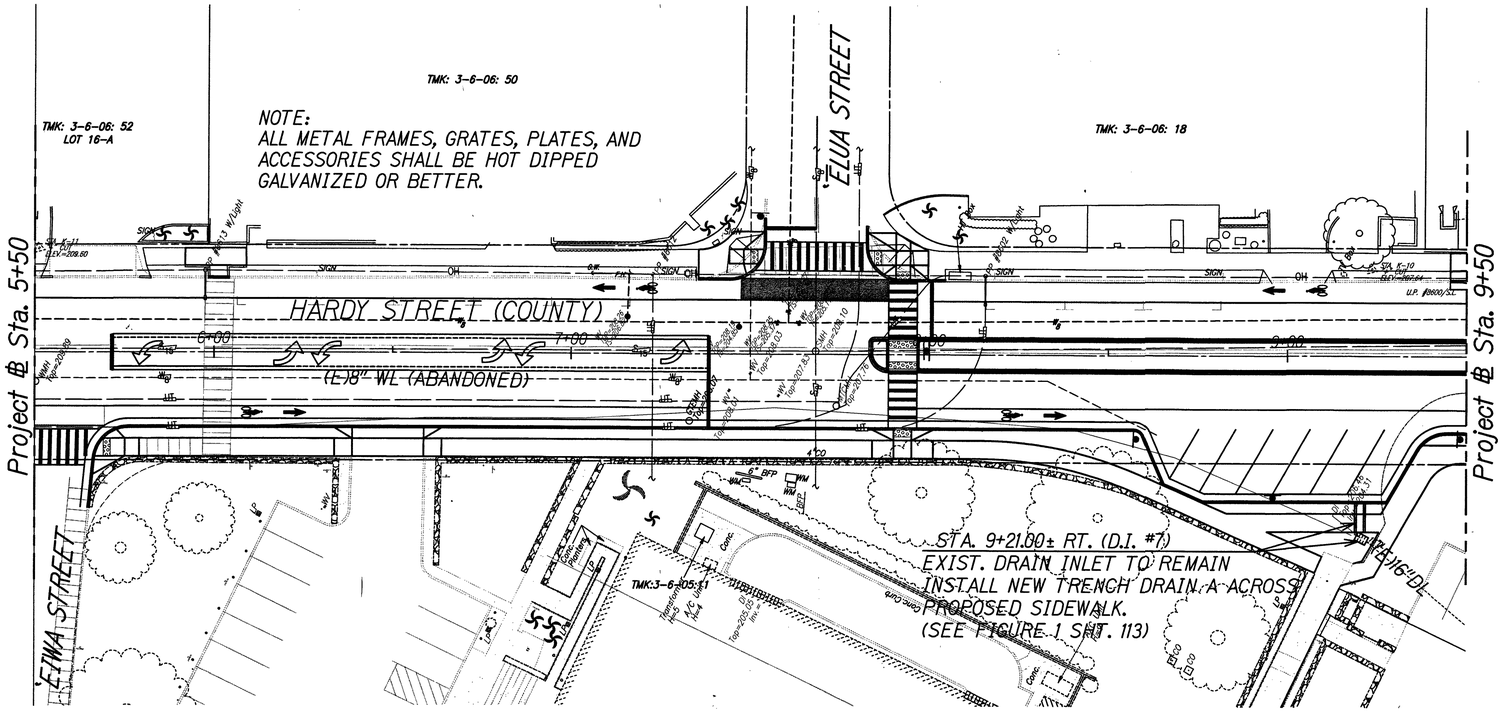
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | STP 05720(1) | 2014 | | 145 |




GRAPHICAL SCALE:

20' 10' 0 20' 40'

Scale: 1" = 20'

DEPARTMENT OF PUBLIC WORKS
COUNTY OF KAUAI

APPROVED:

COUNTY ENGINEER — DATE

WAYNE T. WADA
LICENSED PROFESSIONAL ENGINEER
No. 5281-C
HAWAII, USA

EXPIRES: APRIL 30, 2016
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Wayne T. Wada

COUNTY OF KAUAI
DEPARTMENT OF PUBLIC WORKS
BUILDING DIVISION

# DRAIN SITE PLAN ENLARGEMENT

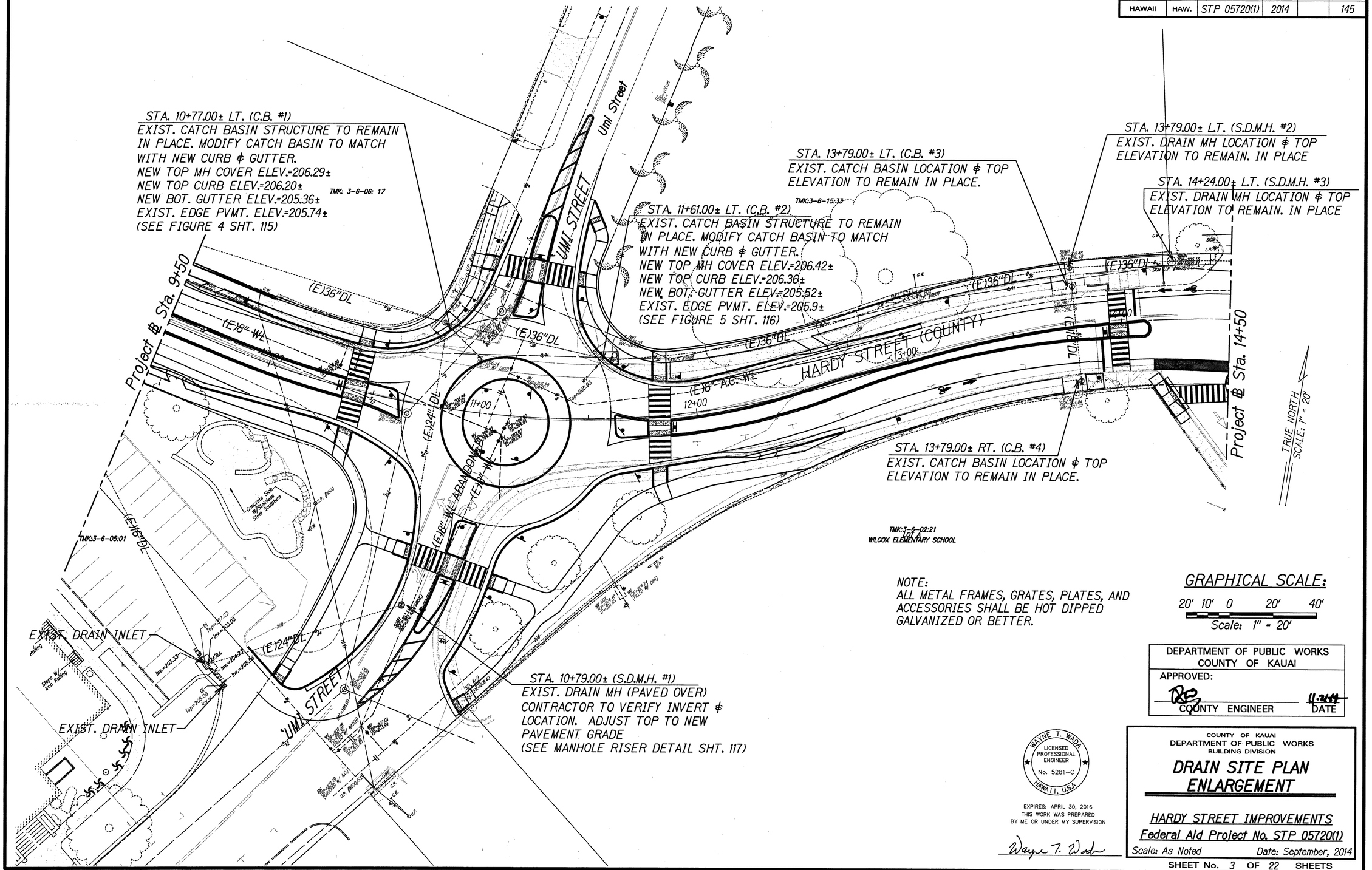
HARDY STREET IMPROVEMENTS
Federal Aid Project No. STP 05720(1)

Scale: As Noted — Date: September, 2014

SHEET No. 2 OF 22 SHEETS

100% SUBMITTAL

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | STP 05720(1) | 2014 | | 145 |




NOTE:
ALL METAL FRAMES, GRATES, PLATES, AND ACCESSORIES SHALL BE HOT DIPPED GALVANIZED OR BETTER.

GRAPHICAL SCALE:

20' 10' 0 20' 40'

Scale: 1" = 20'

DEPARTMENT OF PUBLIC WORKS
COUNTY OF KAUAI
APPROVED:

COUNTY ENGINEER — DATE 11-2014

WAYNE T. WADA
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EXPIRES: APRIL 30, 2016
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Wayne T. Wada

COUNTY OF KAUAI
DEPARTMENT OF PUBLIC WORKS
BUILDING DIVISION

# DRAIN SITE PLAN ENLARGEMENT

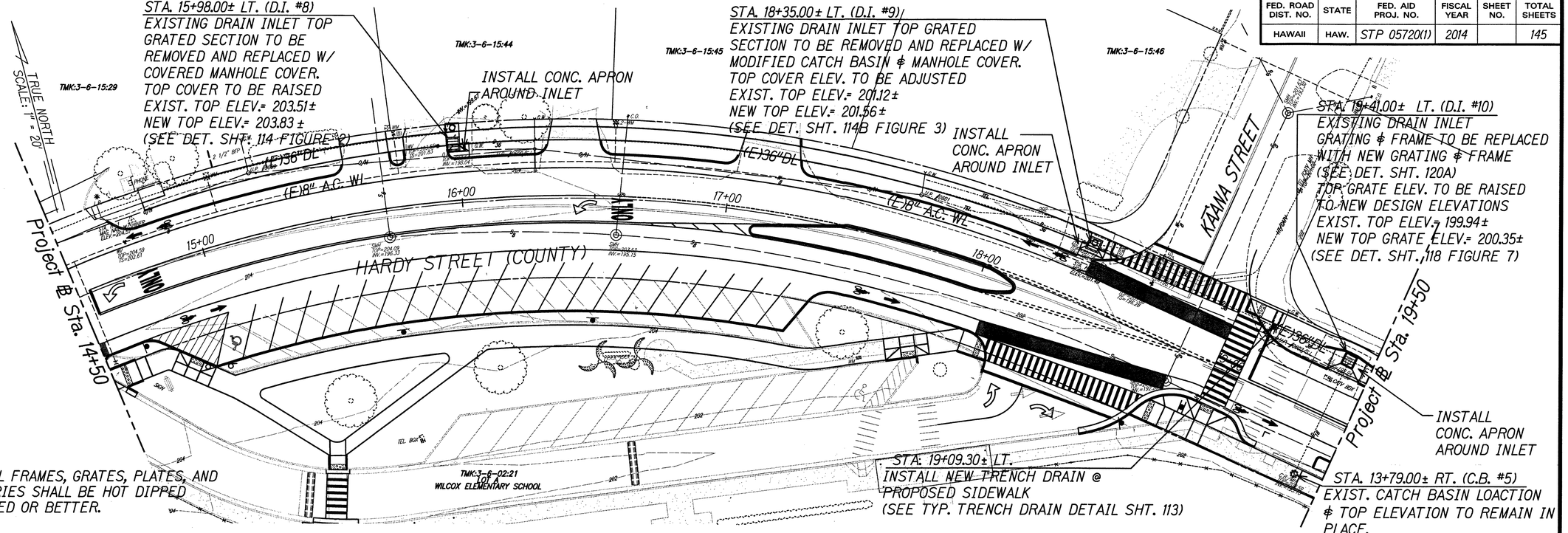
HARDY STREET IMPROVEMENTS
Federal Aid Project No. STP 05720(1)

Scale: As Noted Date: September, 2014

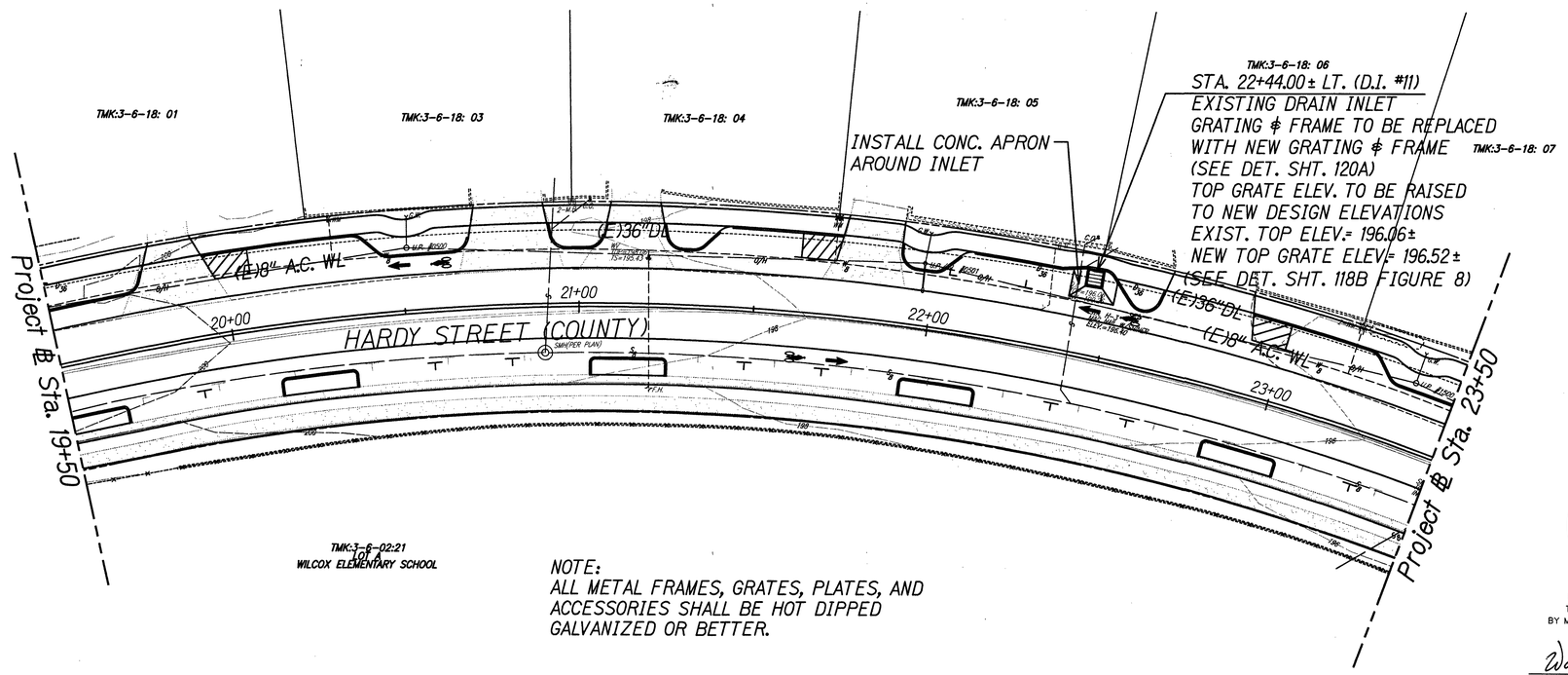
SHEET No. 3 OF 22 SHEETS

100% SUBMITTAL

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | STP 05720(1) | 2014 | | 145 |




NOTE:
ALL METAL FRAMES, GRATES, PLATES, AND ACCESSORIES SHALL BE HOT DIPPED GALVANIZED OR BETTER.




NOTE:
ALL METAL FRAMES, GRATES, PLATES, AND ACCESSORIES SHALL BE HOT DIPPED GALVANIZED OR BETTER.

TRUE NORTH
SCALE: 1" = 20'

GRAPHICAL SCALE:

20' 10' 0 20' 40'

Scale: 1" = 20'

DEPARTMENT OF PUBLIC WORKS
COUNTY OF KAUAI
APPROVED:

COUNTY ENGINEER — DATE 4.24.14

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COUNTY OF KAUAI
DEPARTMENT OF PUBLIC WORKS
BUILDING DIVISION

# DRAIN SITE PLAN ENLARGEMENT

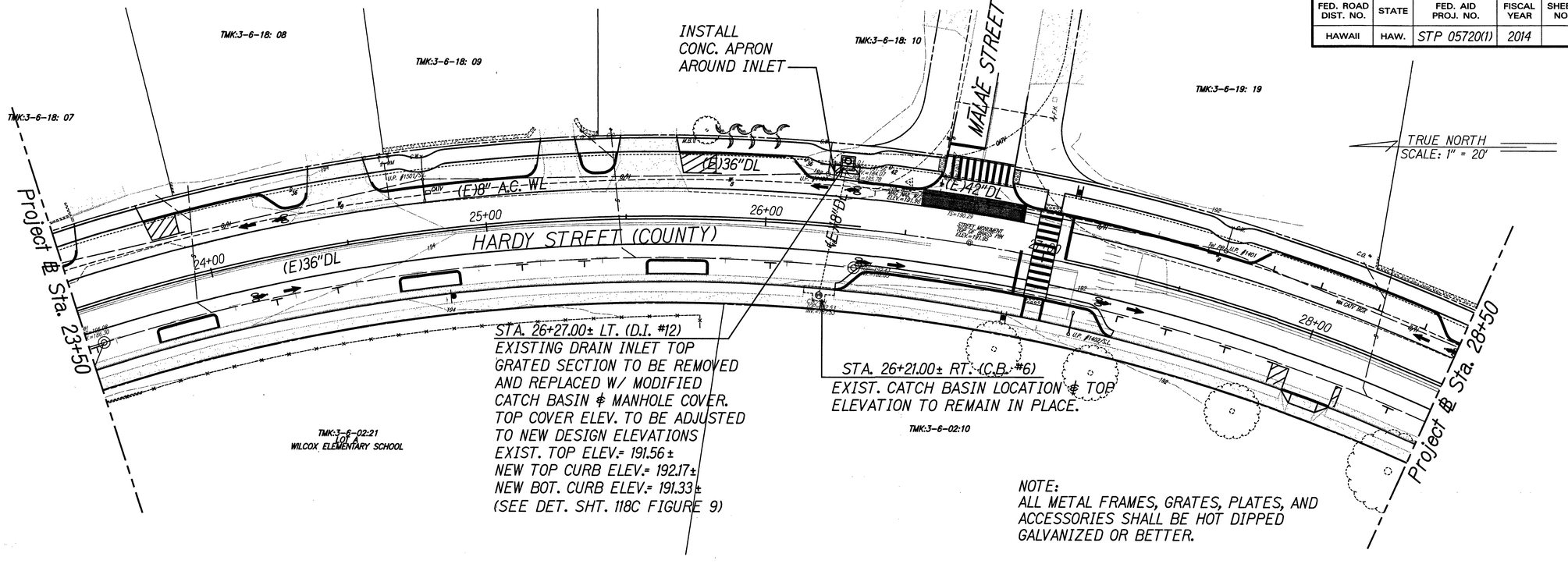
HARDY STREET IMPROVEMENTS
Federal Aid Project No. STP 05720(1)

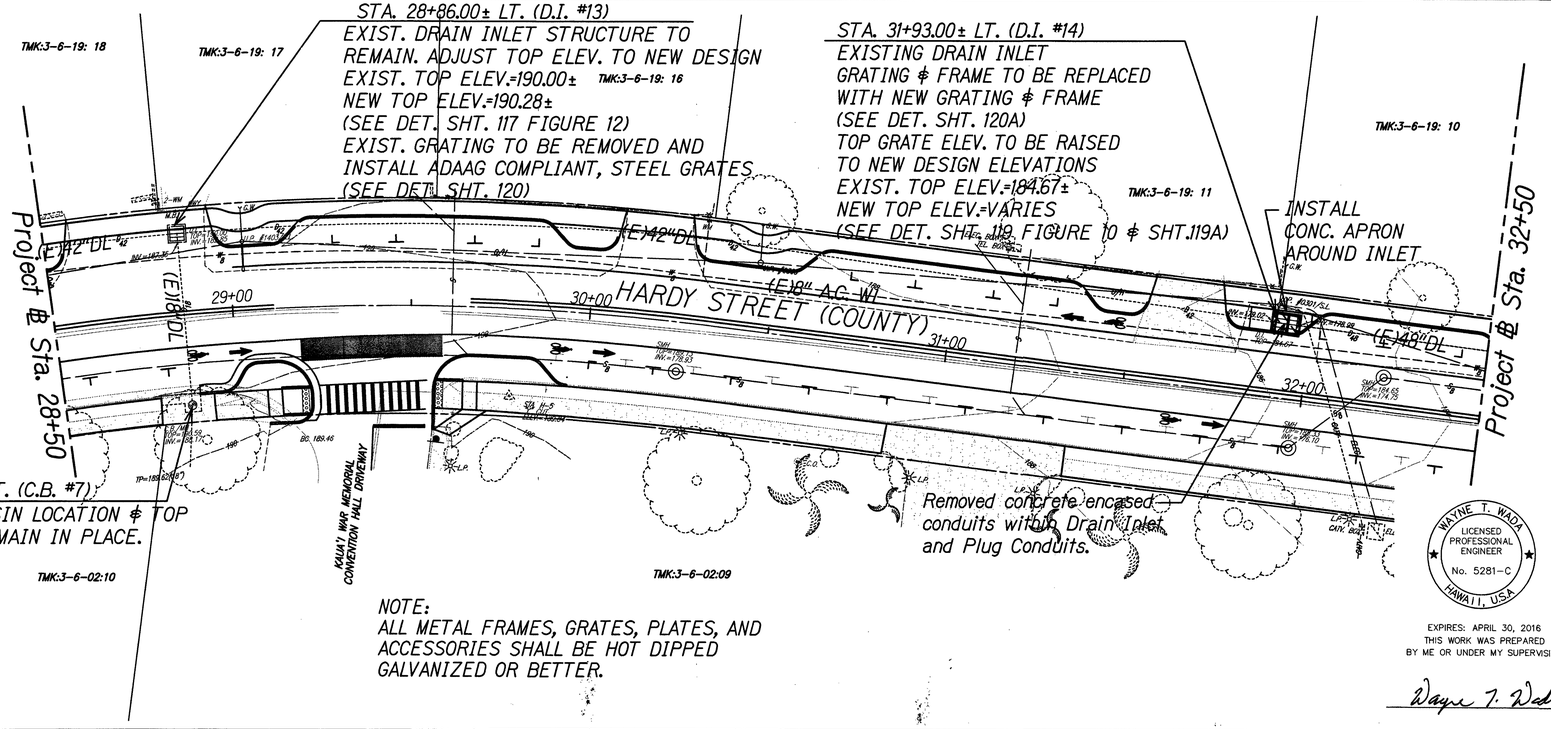
Scale: As Noted — Date: September, 2014

SHEET No. 4 OF 22 SHEETS

100% SUBMITTAL

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | STP 05720(1) | 2014 | | 145 |




GRAPHICAL SCALE:

20' 10' 0 20' 40'

Scale: 1" = 20'

TRUE NORTH
SCALE: 1" = 20'

DEPARTMENT OF PUBLIC WORKS
COUNTY OF KAUAI
APPROVED:

COUNTY ENGINEER — DATE 12/1/14

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Wayne T. Wada

COUNTY OF KAUAI
DEPARTMENT OF PUBLIC WORKS
BUILDING DIVISION

# DRAIN SITE PLAN ENLARGEMENT

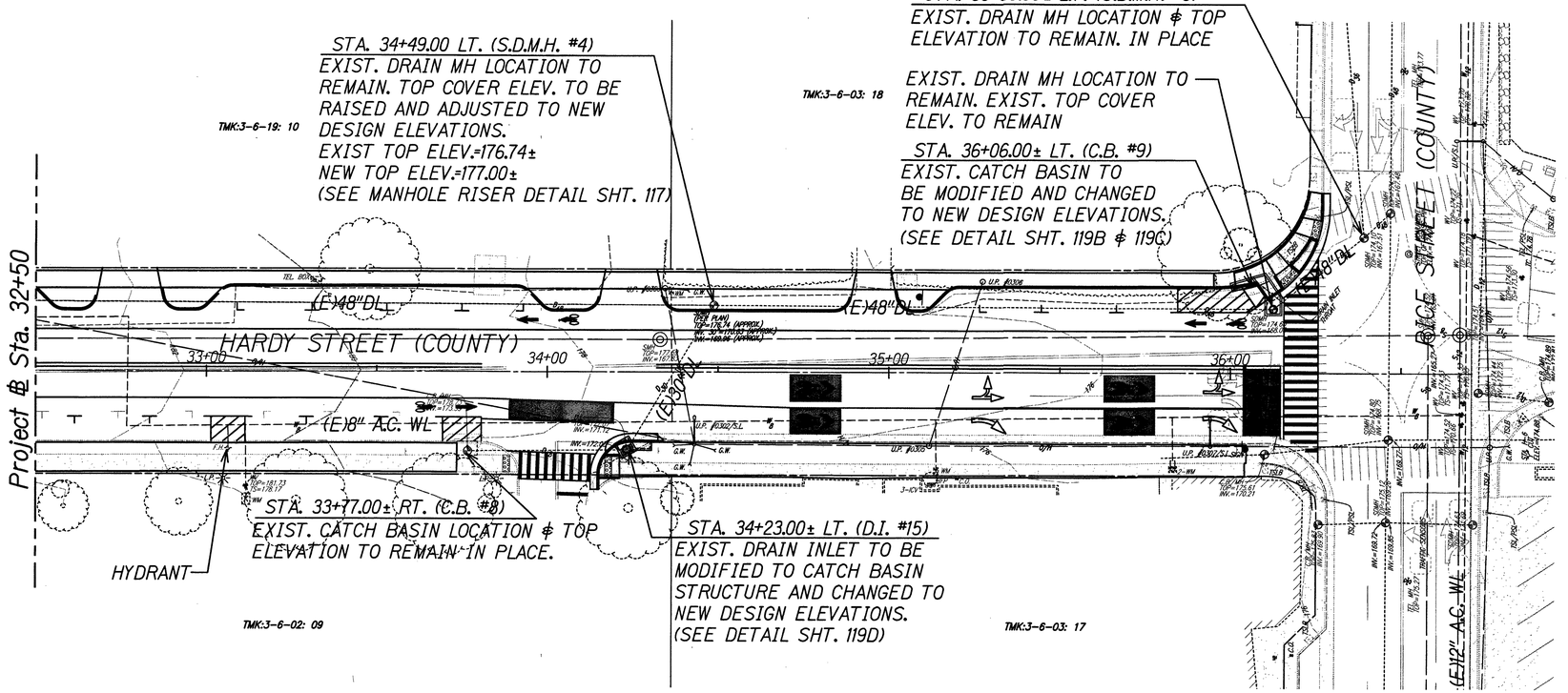
HARDY STREET IMPROVEMENTS
Federal Aid Project No. STP 05720(1)

Scale: As Noted — Date: September, 2014

SHEET No. 5 OF 22 SHEETS

100% SUBMITTAL

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | STP 05720(1) | 2014 | | 145 |




TRUE NORTH
SCALE: 1" = 20'

GRAPHICAL SCALE:

20' 10' 0 20' 40'

Scale: 1" = 20'

NOTE:
ALL METAL FRAMES, GRATES, PLATES, AND ACCESSORIES SHALL BE HOT DIPPED GALVANIZED OR BETTER.

DEPARTMENT OF PUBLIC WORKS
COUNTY OF KAUAI
APPROVED:

COUNTY ENGINEER — DATE 11-24-14

WAYNE T. WADA
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No. 5281-C
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EXPIRES: APRIL 30, 2016
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

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COUNTY OF KAUAI
DEPARTMENT OF PUBLIC WORKS
BUILDING DIVISION

# DRAIN SITE PLAN ENLARGEMENT

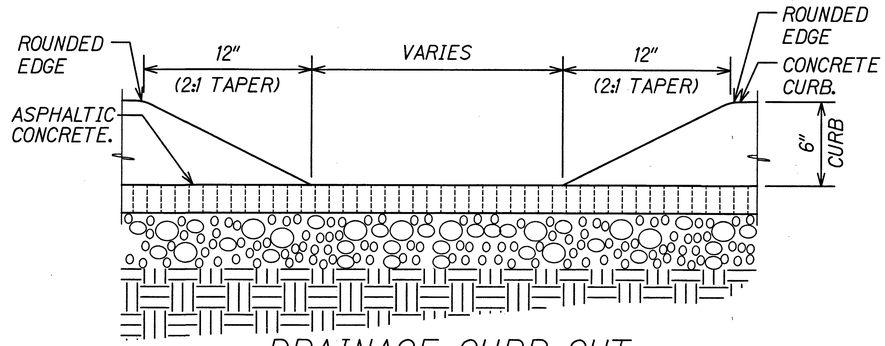
HARDY STREET IMPROVEMENTS
Federal Aid Project No. STP 05720(1)

Scale: As Noted Date: September, 2014

SHEET No. 6 OF 22 SHEETS

100% SUBMITTAL

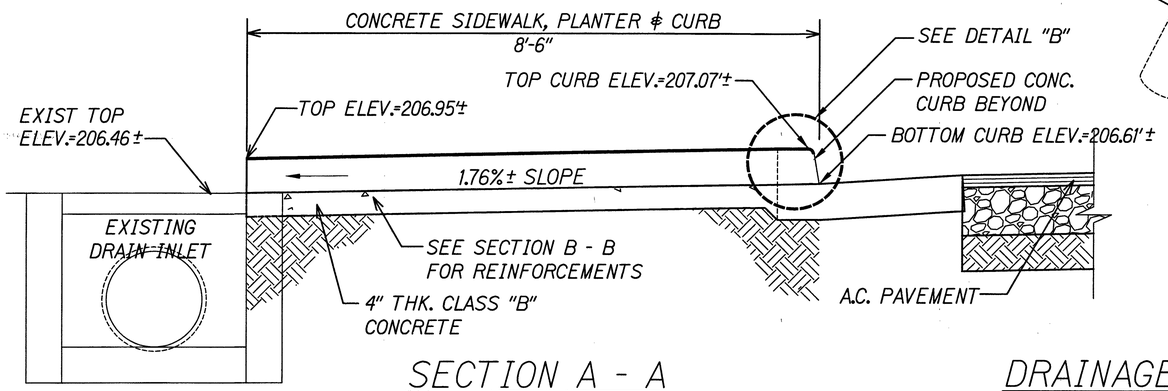
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | STP 05720(1) | 2014 | | 145 |




## DRAINAGE CURB CUT

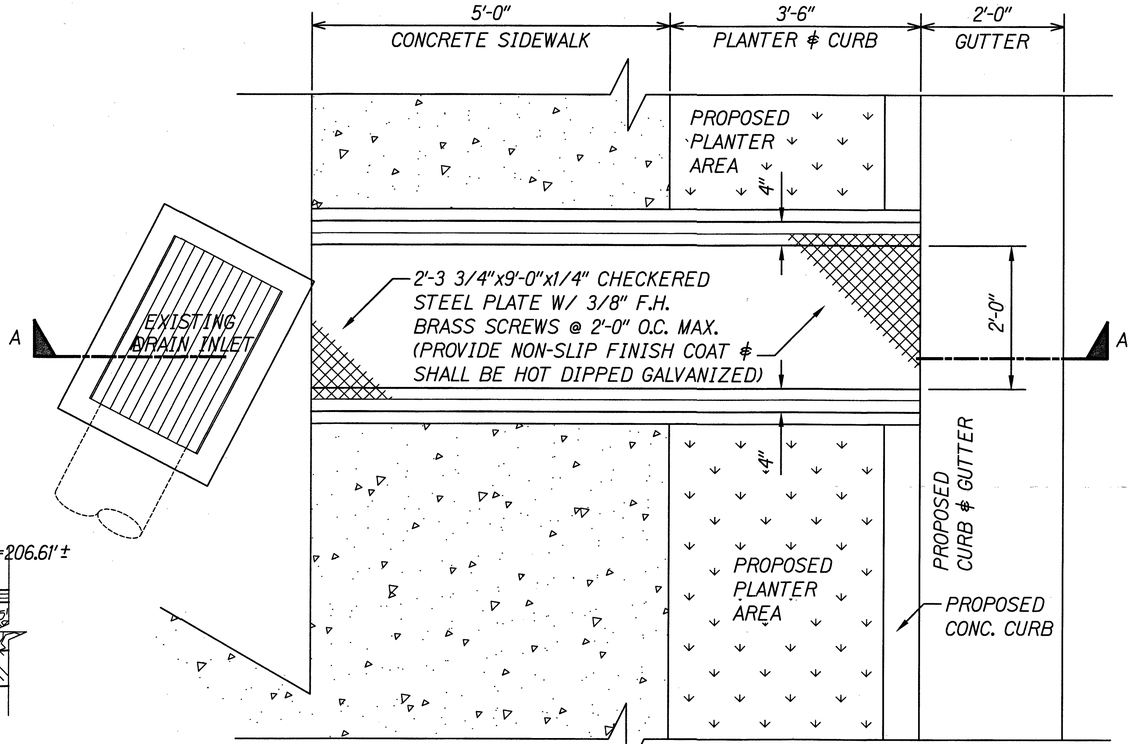
SEE DRIVEWAY DETAILS SHEETS 67-73

NTS




## SECTION A - A

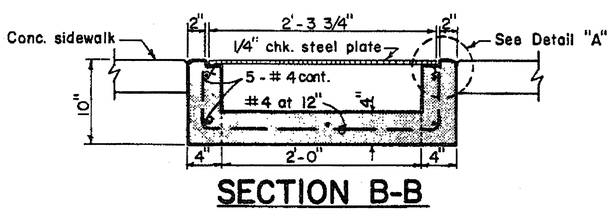
SCALE: N.T.S.



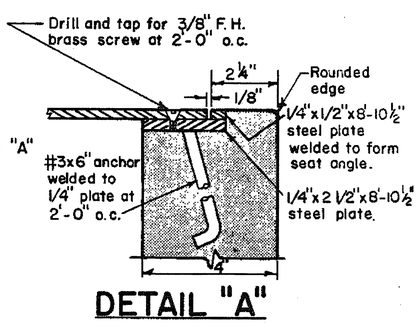

## DRAINAGE IMPROVEMENT FIGURE 1 @ STA. 9+21.00± (D.I. #7)

SCALE: N.T.S.

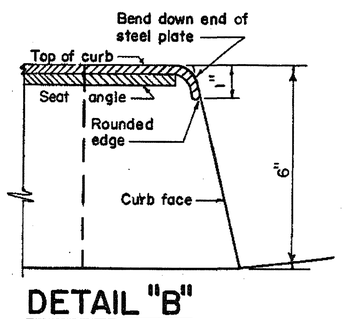
NOTE:
ALL METAL PLATES, AND ACCESSORIES SHALL BE HOT DIPPED GALVANIZED OR BETTER.




## SECTION B-B




## DETAIL "A"




## DETAIL "B"

## TYPICAL TRENCH DRAIN DETAIL

SCALE: N.T.S.

DEPARTMENT OF PUBLIC WORKS
COUNTY OF KAUAI
APPROVED:

COUNTY ENGINEER — DATE 11/24/14

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COUNTY OF KAUAI
DEPARTMENT OF PUBLIC WORKS
BUILDING DIVISION

# DRAIN DETAILS

STA. 9+21.00

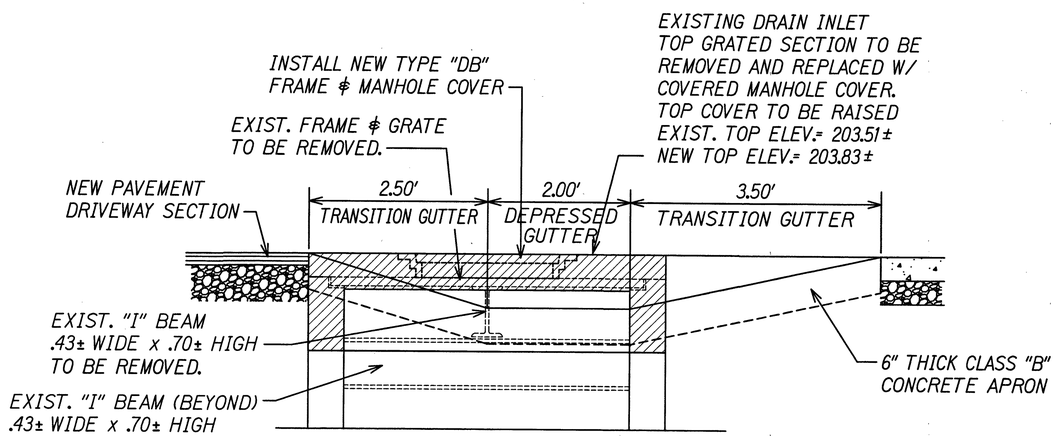
HARDY STREET IMPROVEMENTS
Federal Aid Project No. STP 0572001)

Scale: As Noted — Date: September, 2014

SHEET No. 7 OF 22 SHEETS

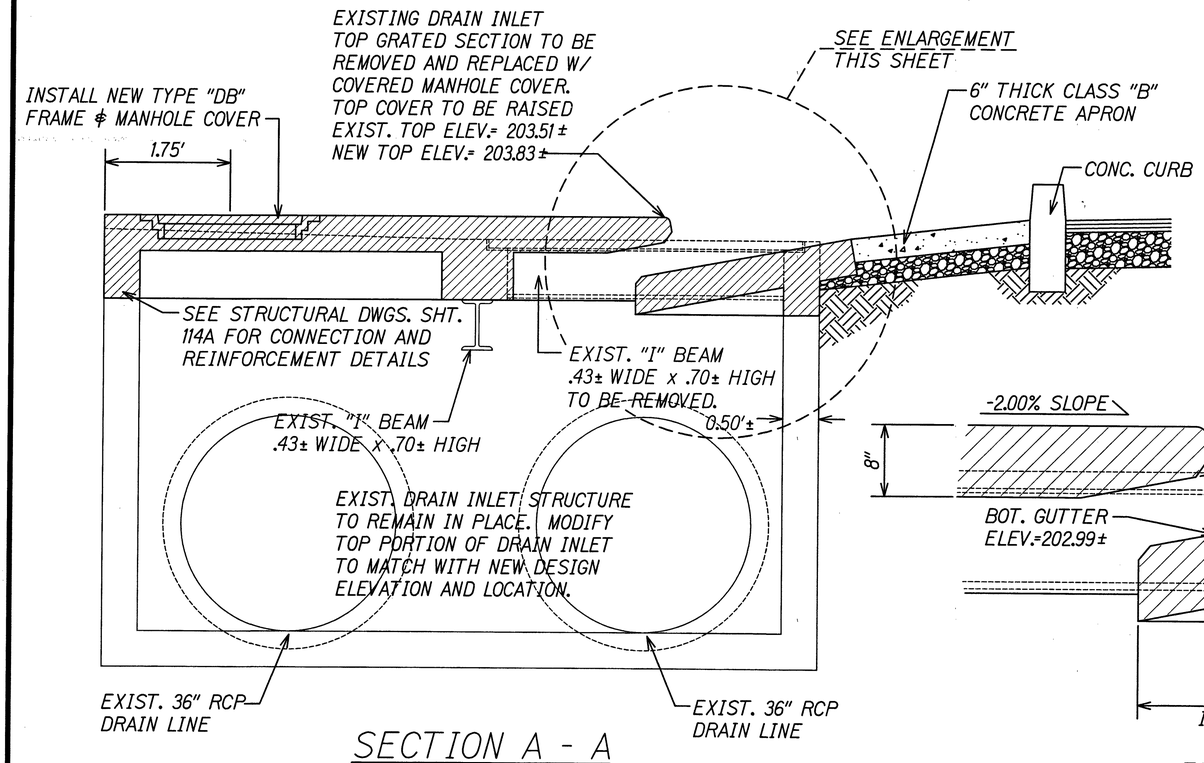
100% SUBMITTAL

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | STP 05720(1) | 2014 | | 145 |



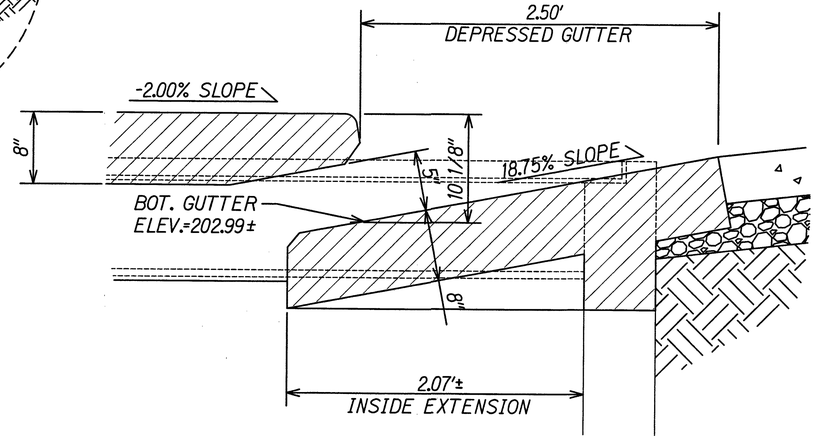

SECTION B - B

SCALE: N.T.S.



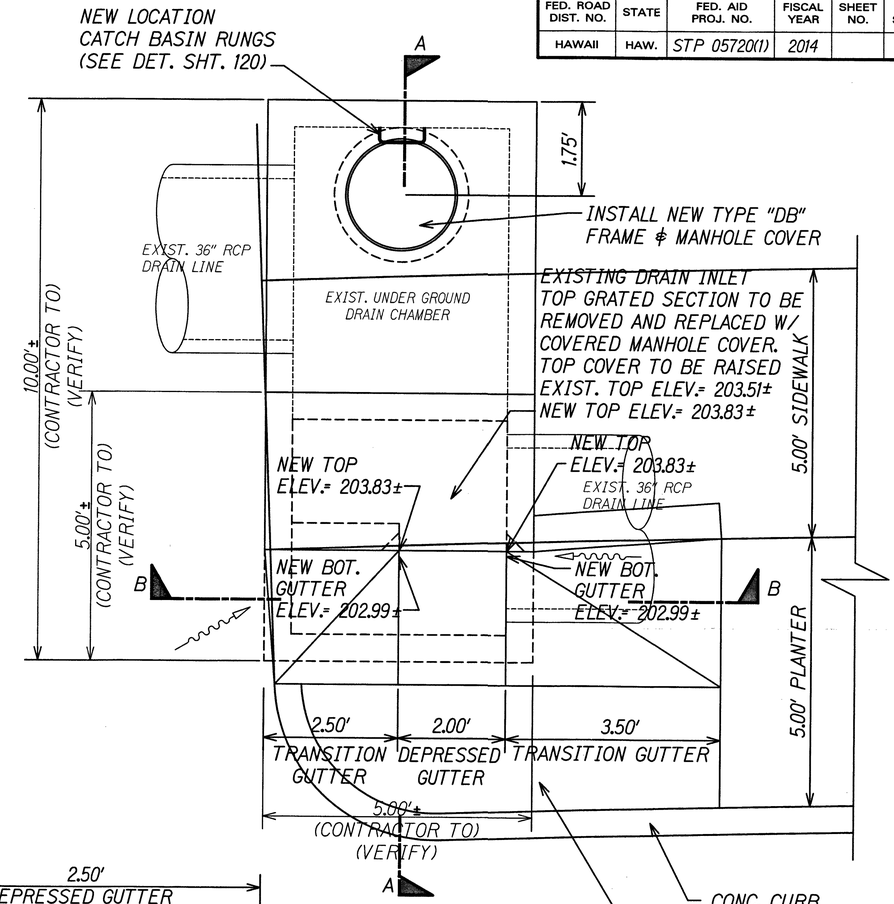

SECTION A - A

SCALE: N.T.S.




ENLARGEMENT

SCALE: N.T.S.




PLAN VIEW

SCALE: N.T.S.

DEPARTMENT OF PUBLIC WORKS
COUNTY OF KAUAI
APPROVED:

COUNTY ENGINEER — DATE 11-21-14

WAYNE T. WADA
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EXPIRES: APRIL 30, 2016
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Wayne T. Wada

COUNTY OF KAUAI
DEPARTMENT OF PUBLIC WORKS
BUILDING DIVISION

**DRAIN DETAILS**

STA. 15+98.00

HARDY STREET IMPROVEMENTS
Federal Aid Project No. STP 0572O(1)

Scale: As Noted — Date: September, 2014

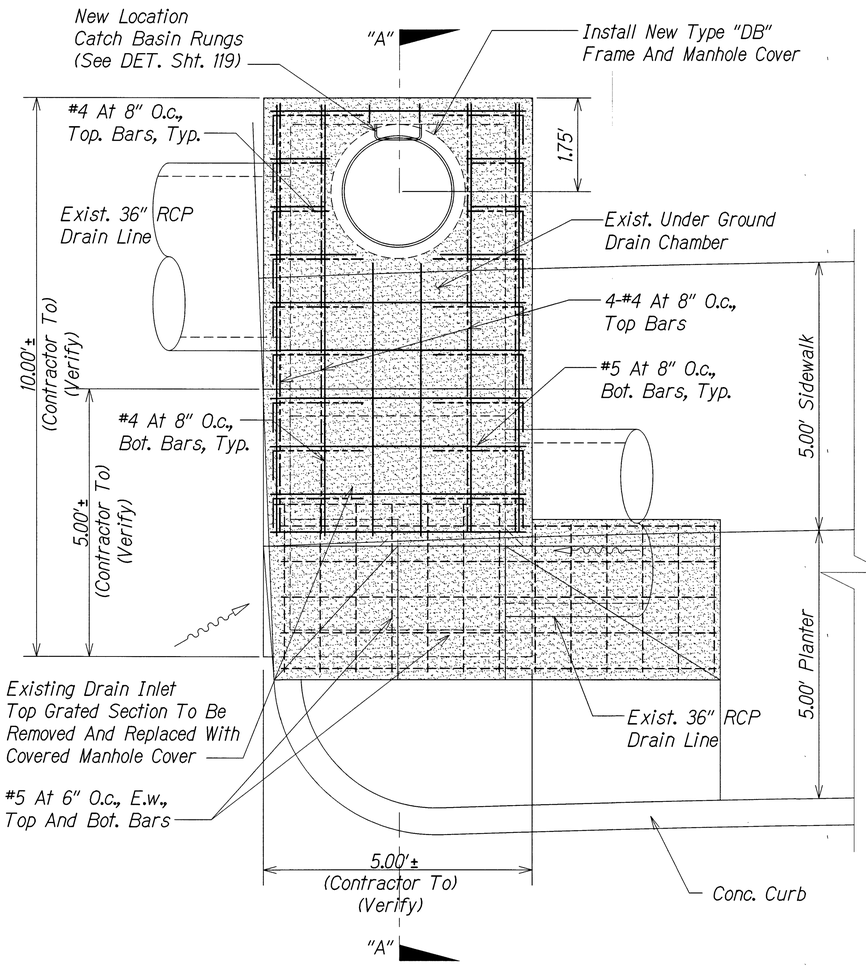
SHEET No. 8 OF 22 SHEETS

# DRAINAGE IMPROVEMENT FIGURE 2 @ STA. 15+98.00± (D.I. #8)

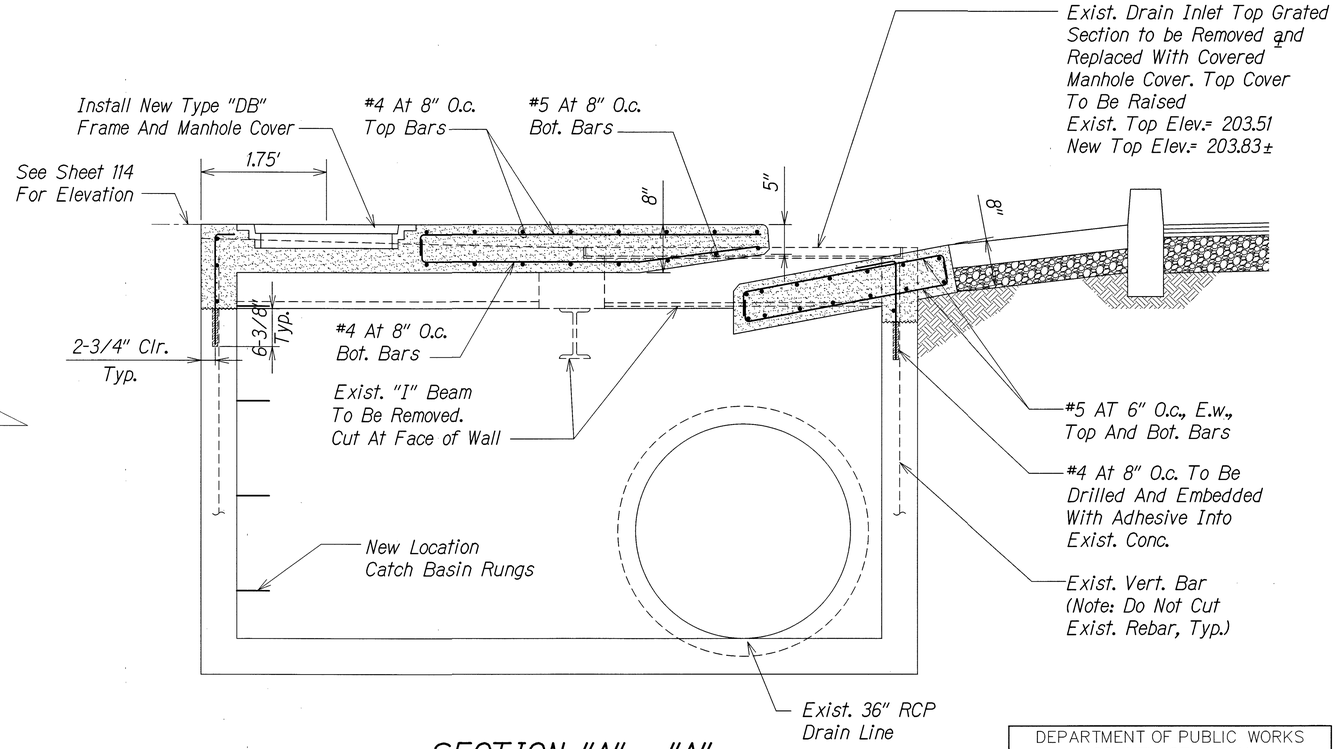
SCALE: N.T.S.

100% SUBMITTAL

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | STP 05720(1) | 2014 | | 145 |




PLAN
Scale: N.T.S.




SECTION "A" - "A"
Scale: N.T.S.

DRAIN INLET #8 DETAIL (STA. 15+98.00±)
Scale: N.T.S.

DEPARTMENT OF PUBLIC WORKS
COUNTY OF KAUAI
APPROVED:
COUNTY ENGINEER — DATE 11-21-14

KEVIN K. NAKAMOTO
LICENSED PROFESSIONAL ENGINEER
NO. 10304-S
HAWAII USA

EXPIRES: 04/30/16
THIS WORK WAS PREPARED
BY ME OR UNDER MY SUPERVISION

COUNTY OF KAUAI
DEPARTMENT OF PUBLIC WORKS
BUILDING DIVISION

# DRAIN STRUCTURAL DETAILS
## STA. 15+98.00±

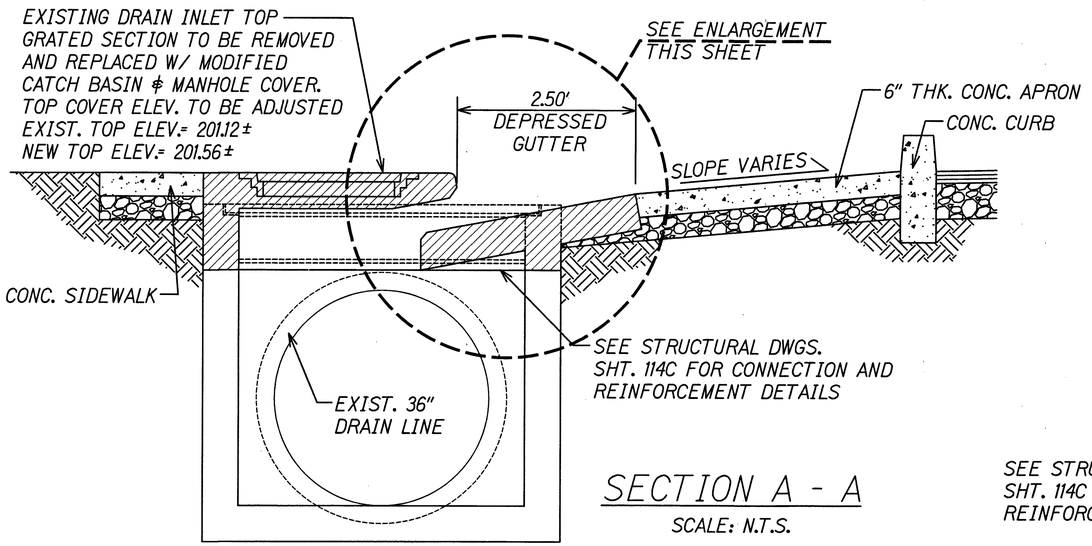
HARDY STREET IMPROVEMENTS
Federal Aid Project No. STP 05720(1)

Scale: As Noted — Date: September, 2014

SHEET No. OF SHEETS

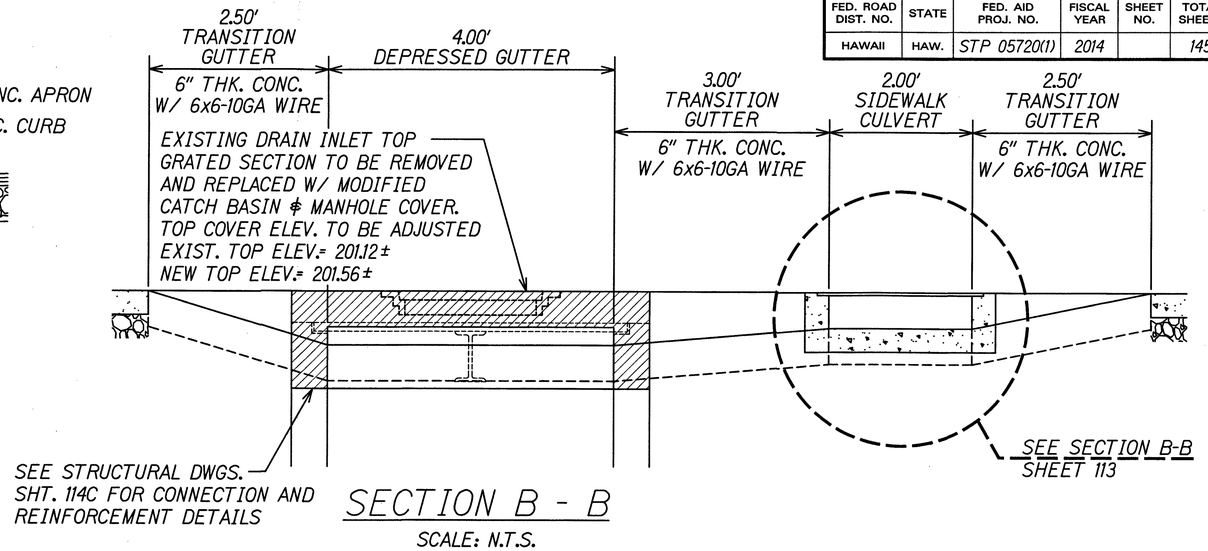
100% SUBMITTAL

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | STP 05720(1) | 2014 | | 145 |



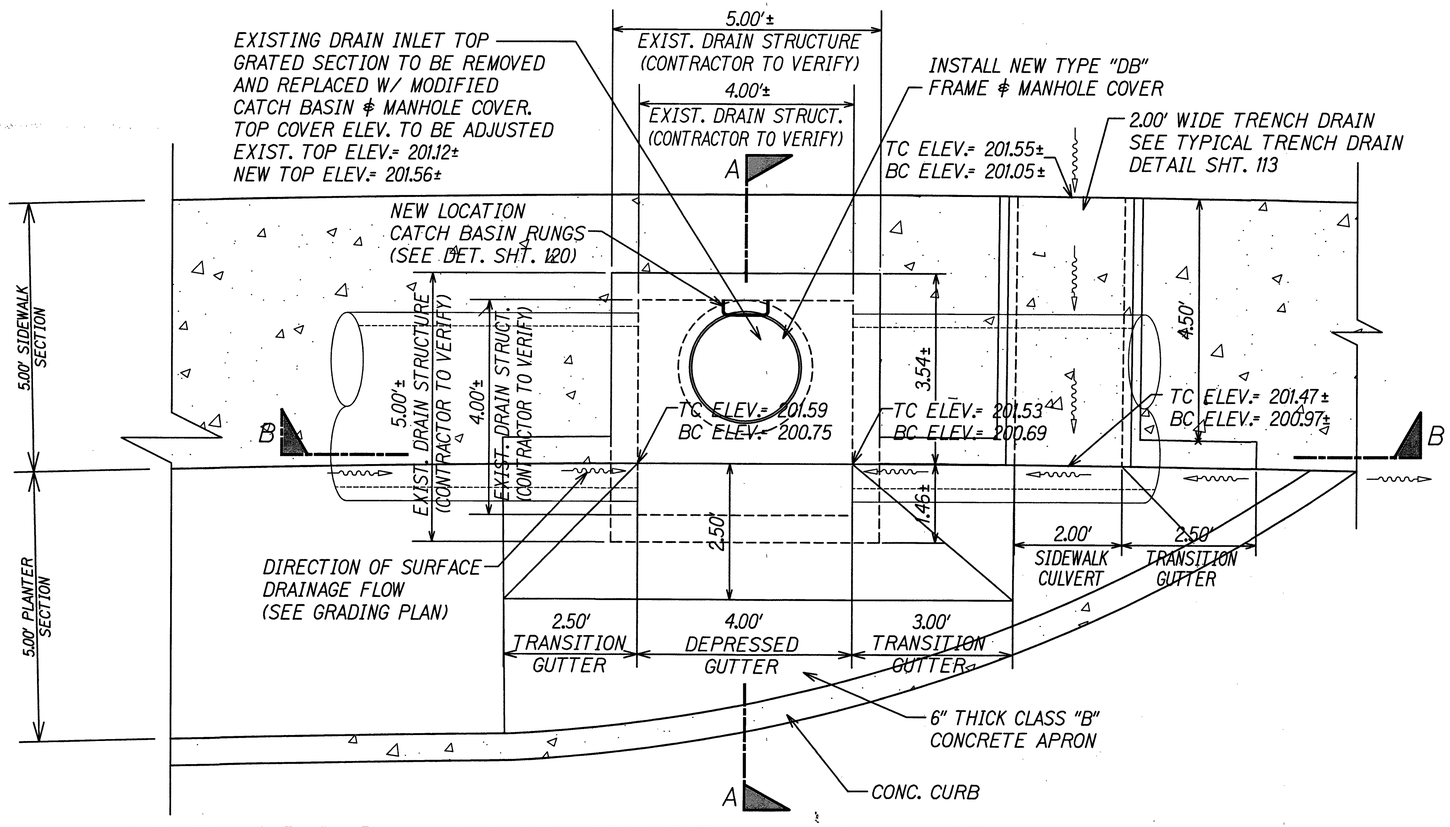

SECTION A - A

SCALE: N.T.S.



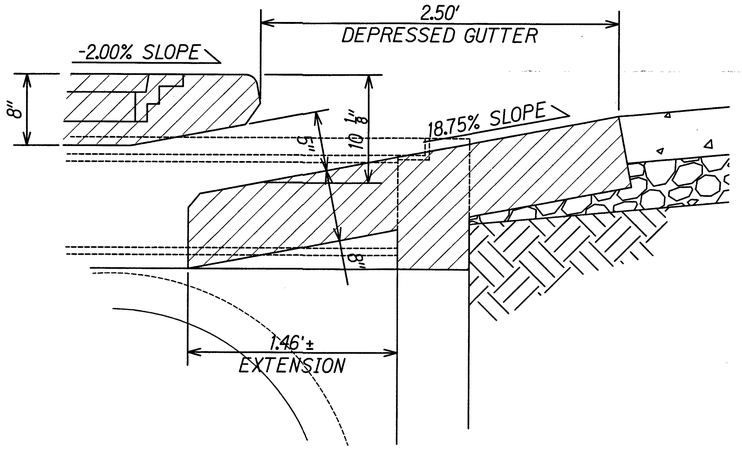

SECTION B - B

SCALE: N.T.S.




DRAINAGE IMPROVEMENT FIGURE 3 @ STA. 18+35.00± (D.I. #9)

SCALE: N.T.S.




ENLARGEMENT

SCALE: N.T.S.

DEPARTMENT OF PUBLIC WORKS
COUNTY OF KAUAI
APPROVED:
COUNTY ENGINEER — DATE 11.24.14

WAYNE T. WADA
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No. 5281-C
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EXPIRES: APRIL 30, 2016
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Wayne T. Wada

COUNTY OF KAUAI
DEPARTMENT OF PUBLIC WORKS
BUILDING DIVISION

# DRAIN DETAILS

STA. 18+35.00

HARDY STREET IMPROVEMENTS
Federal Aid Project No. STP 05720(1)

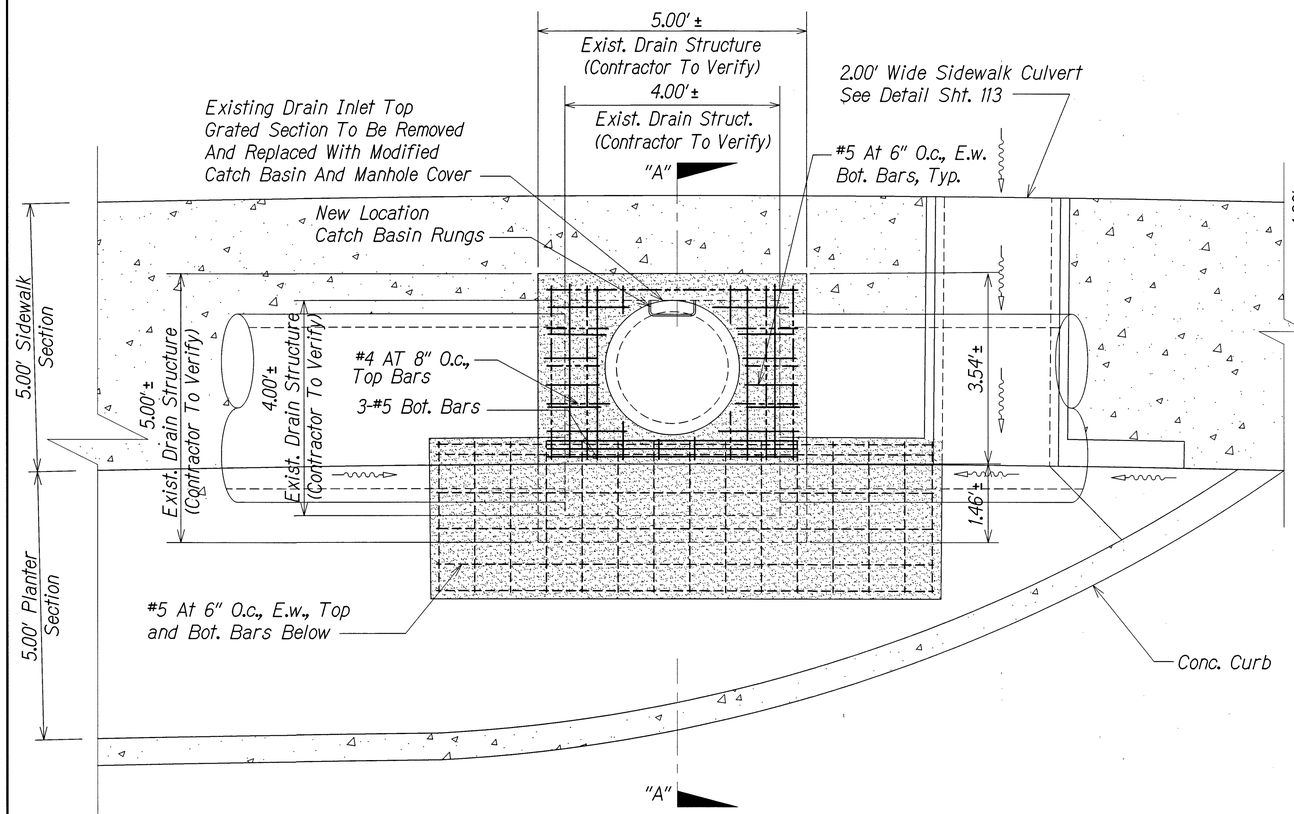
Scale: As Noted — Date: September, 2014

SHEET No. 9 OF 22 SHEETS

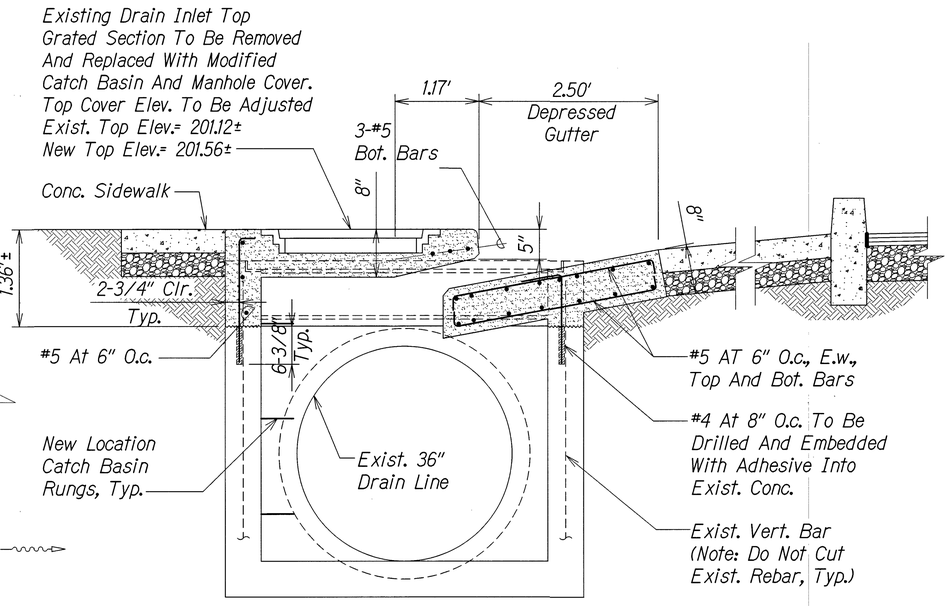
100% SUBMITTAL

114B

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | STP 05720(1) | 2014 | | 145 |




## PLAN
Scale: N.T.S.




## SECTION "A" - "A"
Scale: N.T.S.

## DRAIN INLET #9 DETAIL (STA. 18+35.00±)
Scale: N.T.S.

DEPARTMENT OF PUBLIC WORKS
COUNTY OF KAUAI
APPROVED:
COUNTY ENGINEER — DATE 11.21.14

KEVIN K. NAKAMOTO
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NO. 10304-S
HAWAII USA

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COUNTY OF KAUAI
DEPARTMENT OF PUBLIC WORKS
BUILDING DIVISION

# DRAIN STRUCTURAL DETAILS
## STA. 18+35.00±

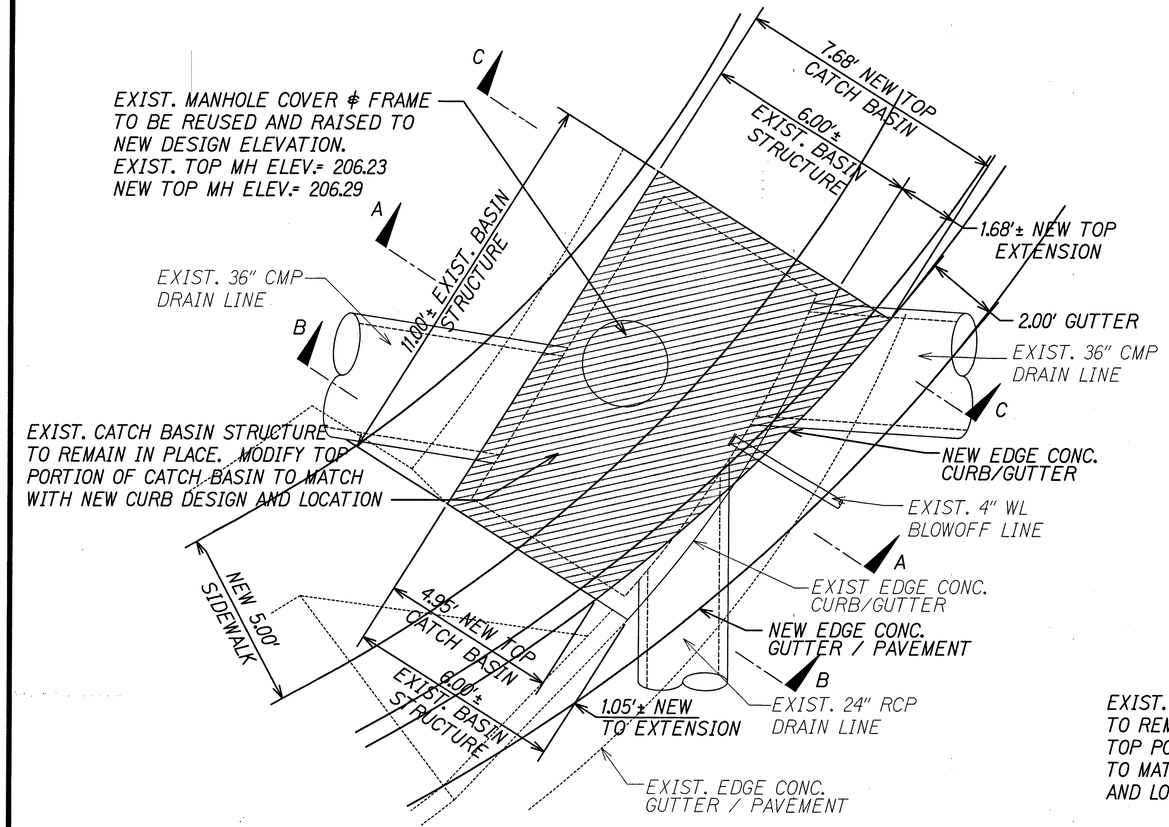
HARDY STREET IMPROVEMENTS
Federal Aid Project No. STP 05720(1)

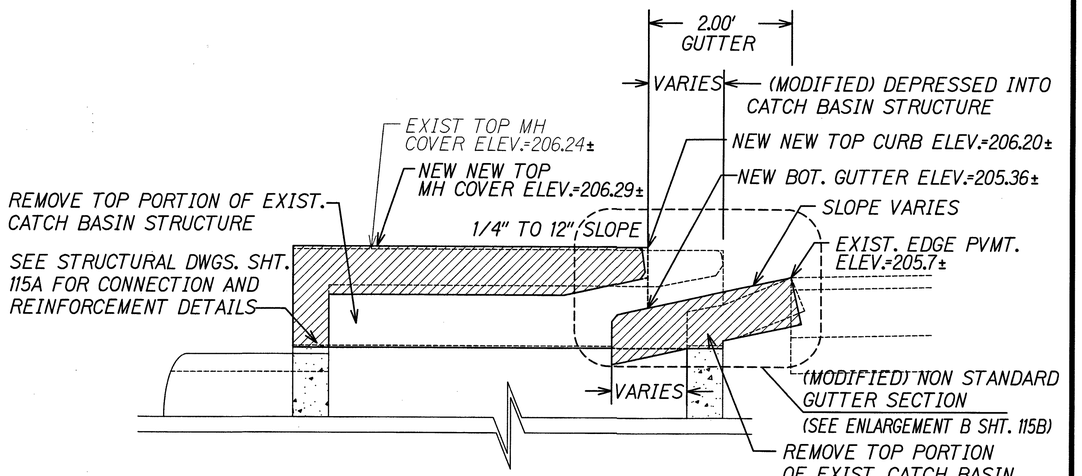
Scale: As Noted — Date: September, 2014

SHEET No. OF SHEETS

100% SUBMITTAL

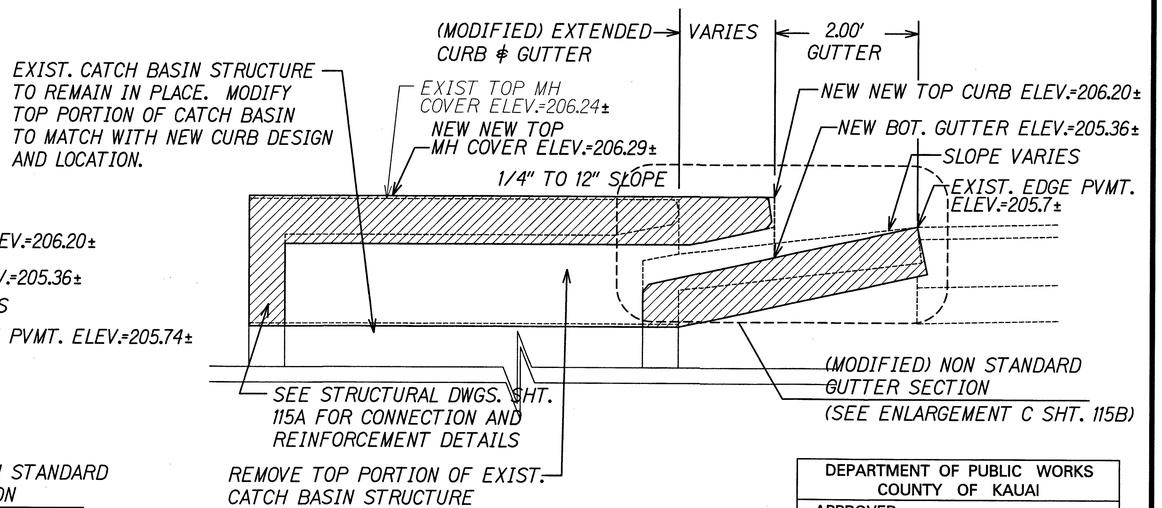
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | STP 05720(1) | 2014 | | 145 |



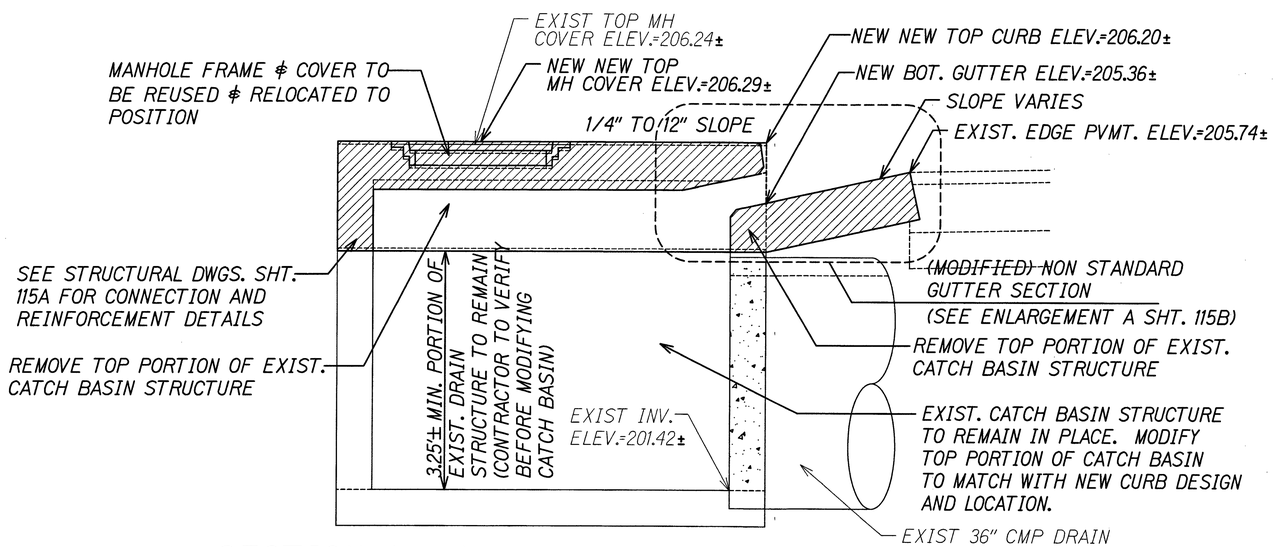

## SECTION B - B

SCALE: N.T.S.




## SECTION C - C

SCALE: N.T.S.




## SECTION A - A

SCALE: N.T.S.

## DRAINAGE IMPROVEMENT FIGURE 4 @ STA. 10+77.00± (C.B. #1)

SCALE: N.T.S.

DEPARTMENT OF PUBLIC WORKS
COUNTY OF KAUAI
APPROVED:
COUNTY ENGINEER — DATE 11-24-15

WAYNE T. WADA
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No. 5281-C
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THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Wayne T. Wada

COUNTY OF KAUAI
DEPARTMENT OF PUBLIC WORKS
BUILDING DIVISION

# DRAIN DETAILS

STA. 10+77.00

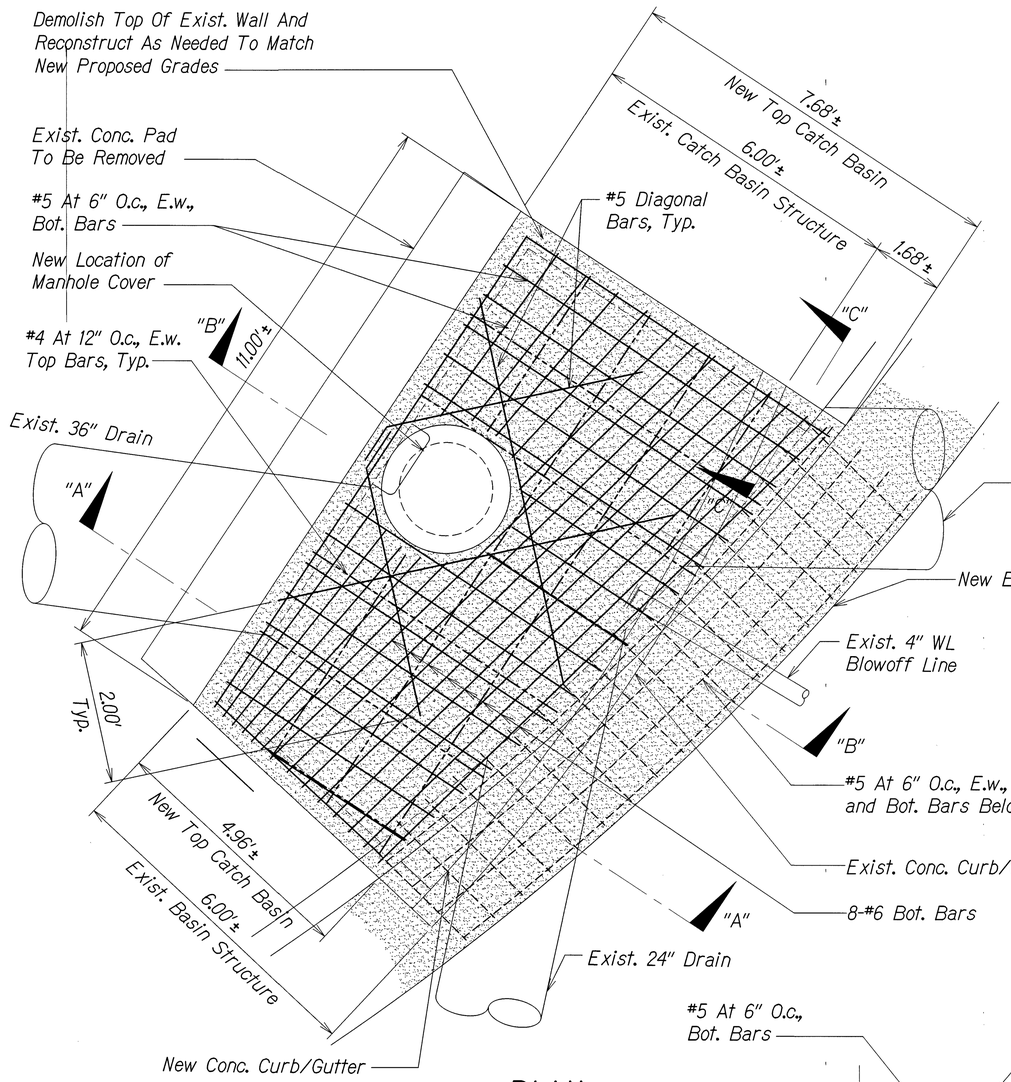
HARDY STREET IMPROVEMENTS
Federal Aid Project No. STP 05720(1)

Scale: As Noted — Date: September, 2014

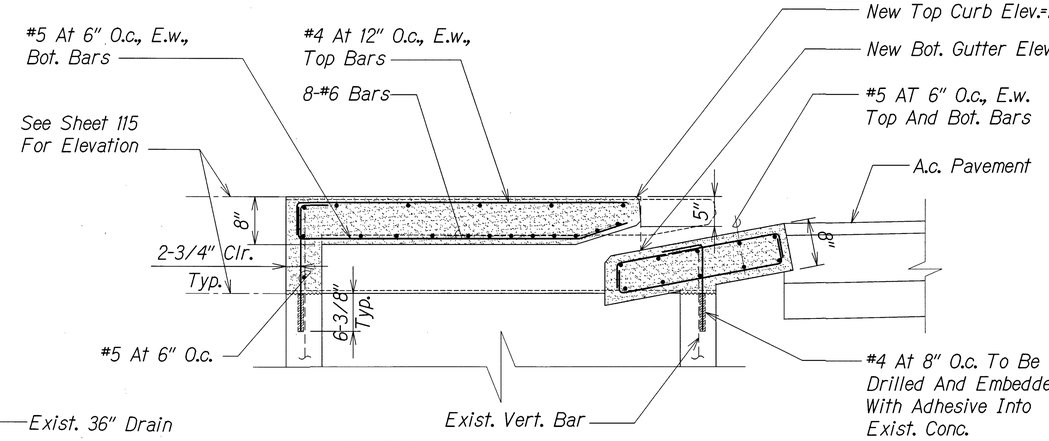
SHEET No. 10 OF 22 SHEETS

100% SUBMITTAL

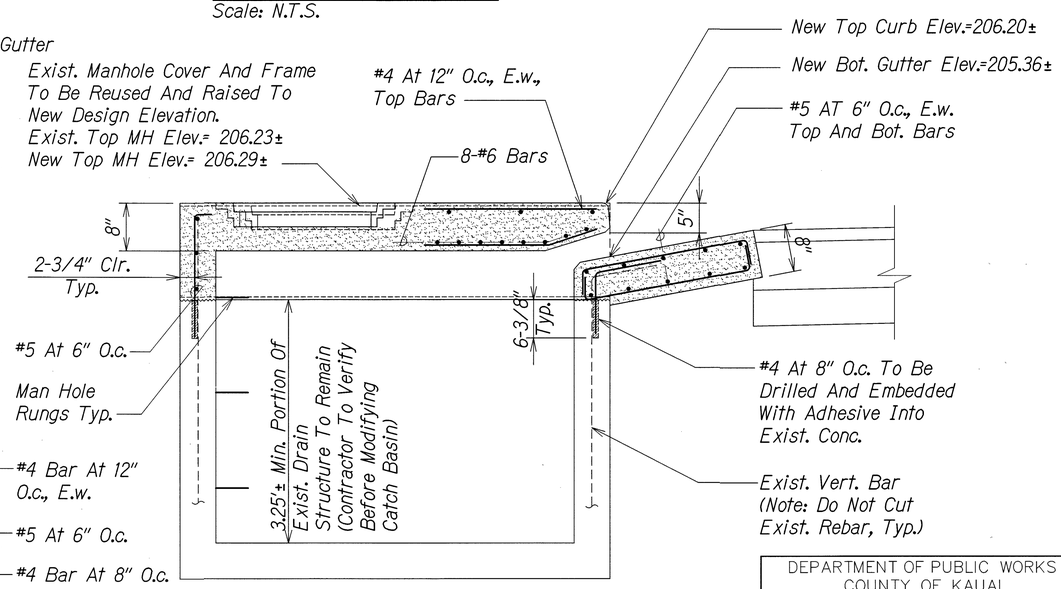
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | STP 05720(1) | 2014 | | 145 |



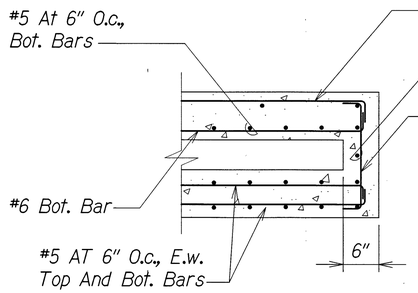

PLAN
Scale: N.T.S.




SECTION "A" - "A"
Scale: N.T.S.




SECTION "B" - "B"
Scale: N.T.S.




SECTION "C" - "C"
Scale: N.T.S.

CATCH BASIN #1 DETAIL (STA. 10+77.00±)
Scale: N.T.S.

DEPARTMENT OF PUBLIC WORKS
COUNTY OF KAUAI
APPROVED:
COUNTY ENGINEER — DATE 11.4.14

KEVIN K. NAKAMOTO
LICENSED PROFESSIONAL ENGINEER
NO. 10304-S
HAWAII USA

EXPIRES: 04/30/16
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

COUNTY OF KAUAI
DEPARTMENT OF PUBLIC WORKS
BUILDING DIVISION

# DRAIN STRUCTURAL DETAILS
## STA. 10+77.00±

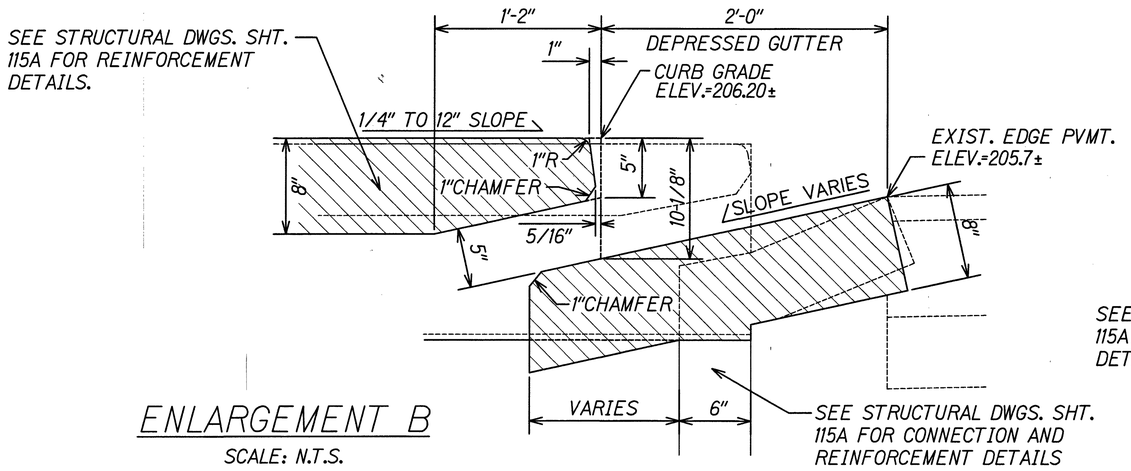
HARDY STREET IMPROVEMENTS
Federal Aid Project No. STP 05720(1)

Scale: As Noted — Date: September, 2014

SHEET No. OF SHEETS

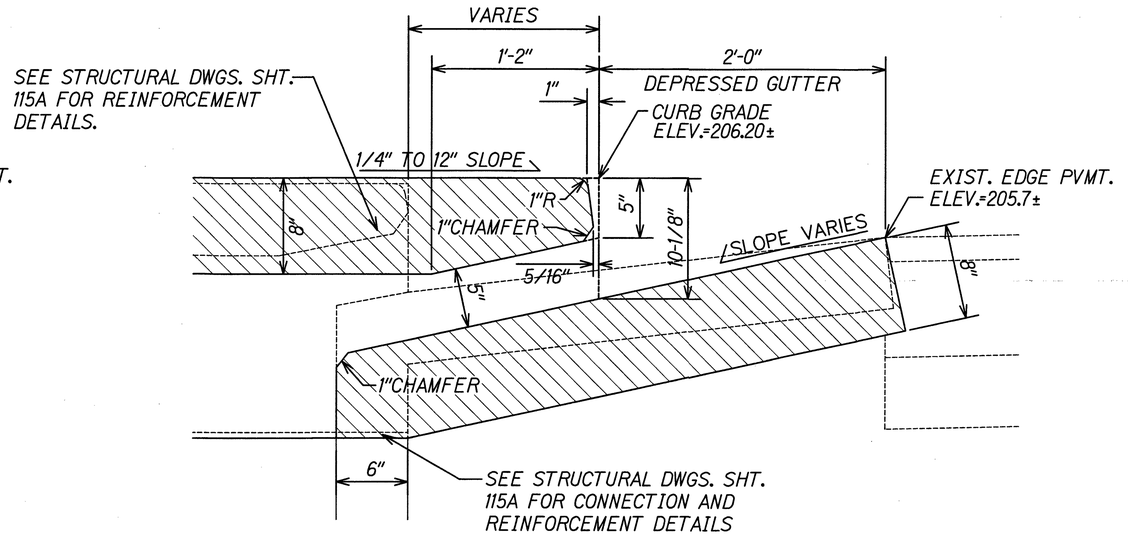
100% SUBMITTAL

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | STP 05720(1) | 2014 | | 145 |



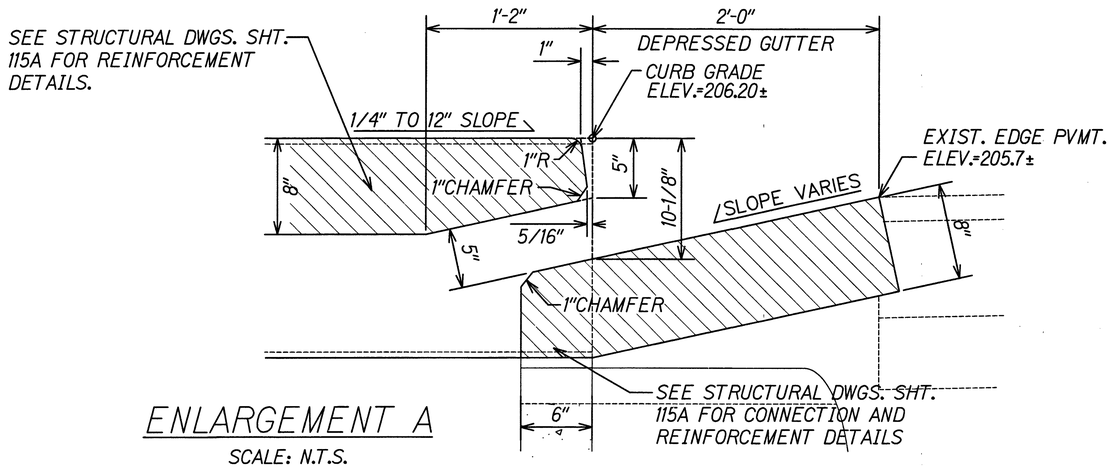

ENLARGEMENT B

SCALE: N.T.S.




ENLARGEMENT C

SCALE: N.T.S.




ENLARGEMENT A

SCALE: N.T.S.

DEPARTMENT OF PUBLIC WORKS
COUNTY OF KAUAI

APPROVED:

COUNTY ENGINEER — DATE 11-24-14

WAYNE T. WADA
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No. 5281-C
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EXPIRES: APRIL 30, 2016
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Wayne T. Wada

COUNTY OF KAUAI
DEPARTMENT OF PUBLIC WORKS
BUILDING DIVISION

# DRAIN DETAILS

STA. 10+77.00

HARDY STREET IMPROVEMENTS
Federal Aid Project No. STP 05720(1)

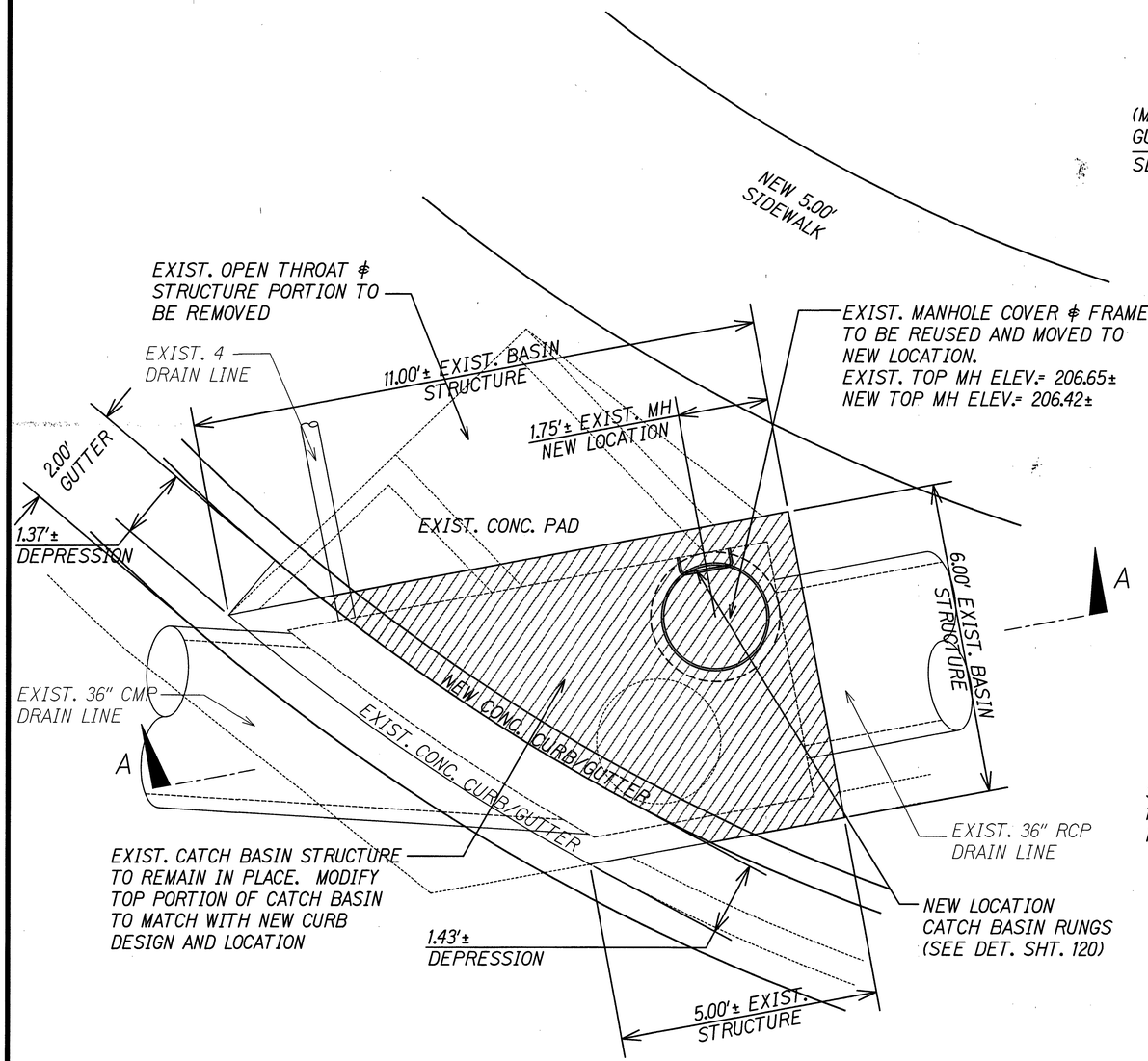
Scale: As Noted — Date: September, 2014

SHEET No. 11 OF 22 SHEETS

100% SUBMITTAL

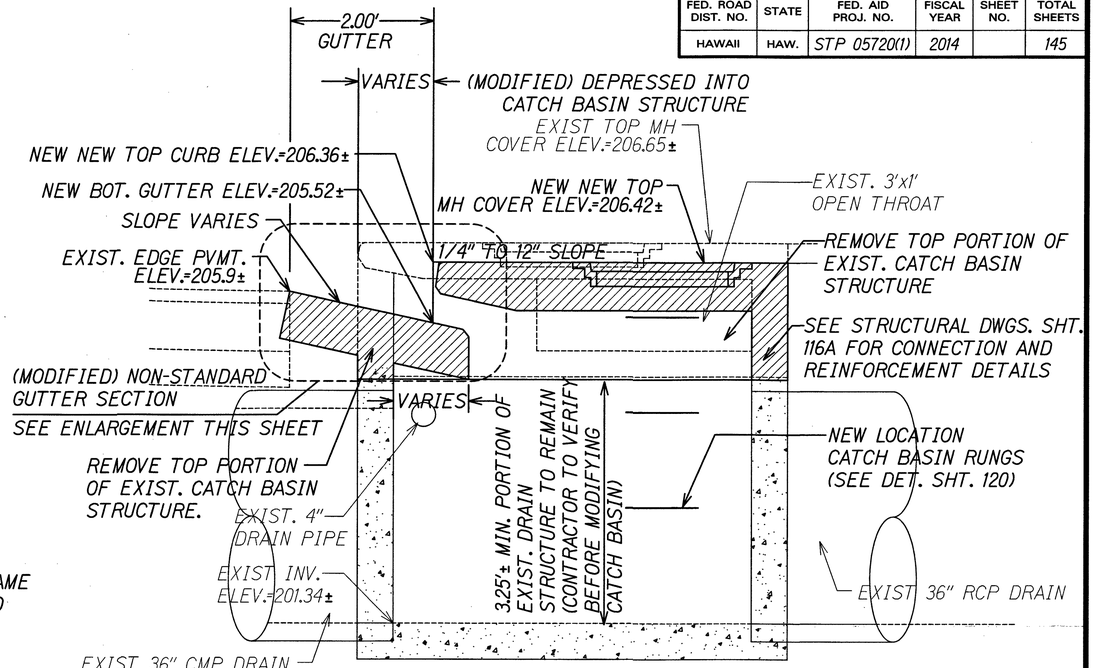
115B

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | STP 05720(1) | 2014 | | 145 |



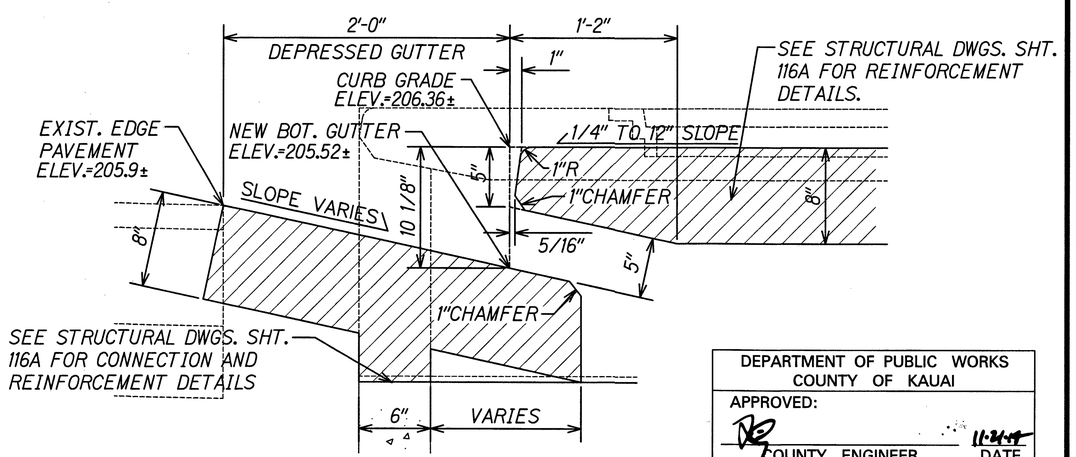

## DRAINAGE IMPROVEMENT FIGURE 5 @ STA. 11+61.00± (C.B. #2)

SCALE: N.T.S.




## SECTION A - A

SCALE: N.T.S.




## ENLARGEMENT

SCALE: N.T.S.

DEPARTMENT OF PUBLIC WORKS
COUNTY OF KAUAI
APPROVED:

COUNTY ENGINEER — DATE 11-24-14

WAYNE T. WADA
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THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Wayne T. Wada

COUNTY OF KAUAI
DEPARTMENT OF PUBLIC WORKS
BUILDING DIVISION

**DRAIN DETAILS**

STA. 11+61.00

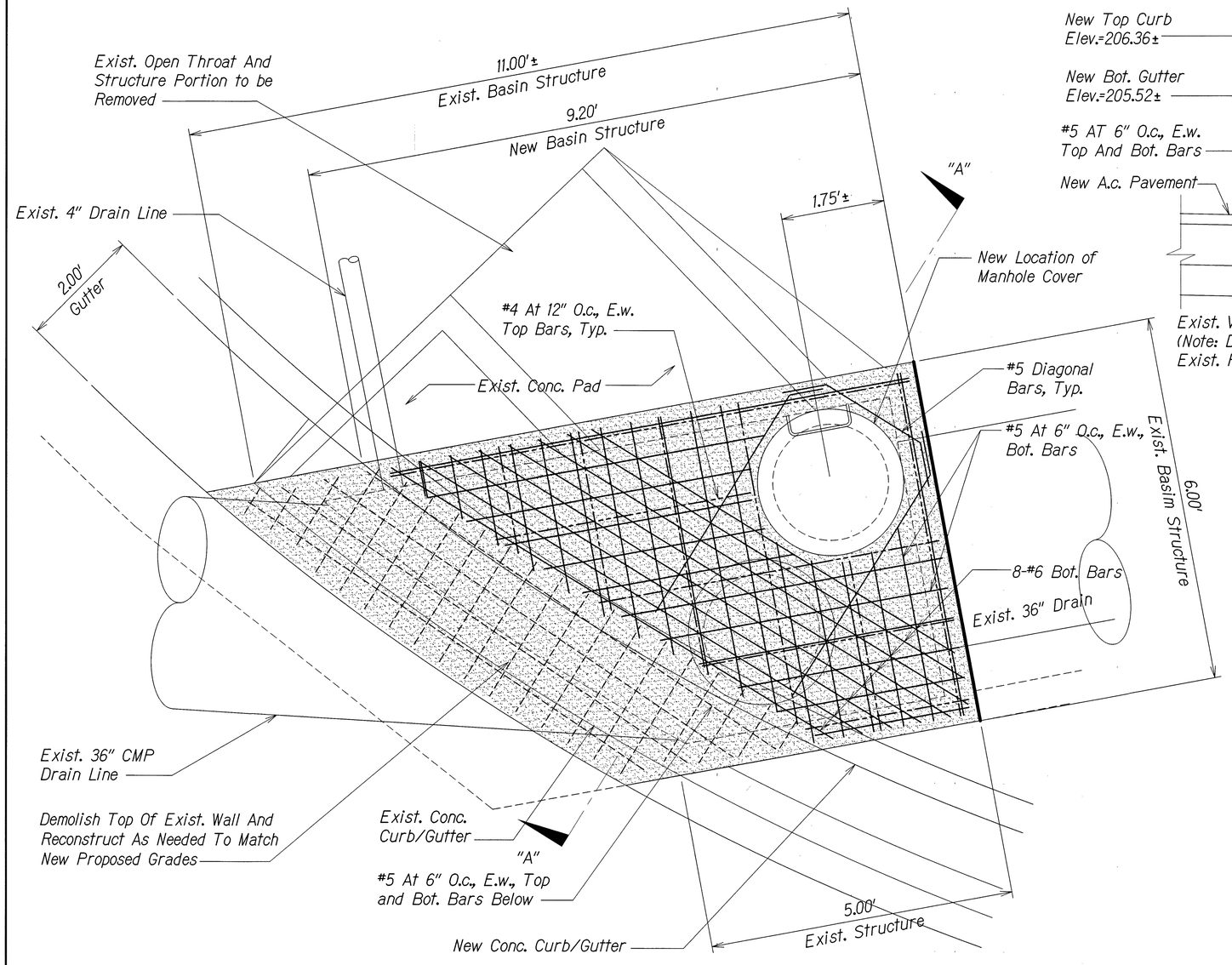
HARDY STREET IMPROVEMENTS
Federal Aid Project No. STP 05720(1)

Scale: As Noted — Date: September, 2014

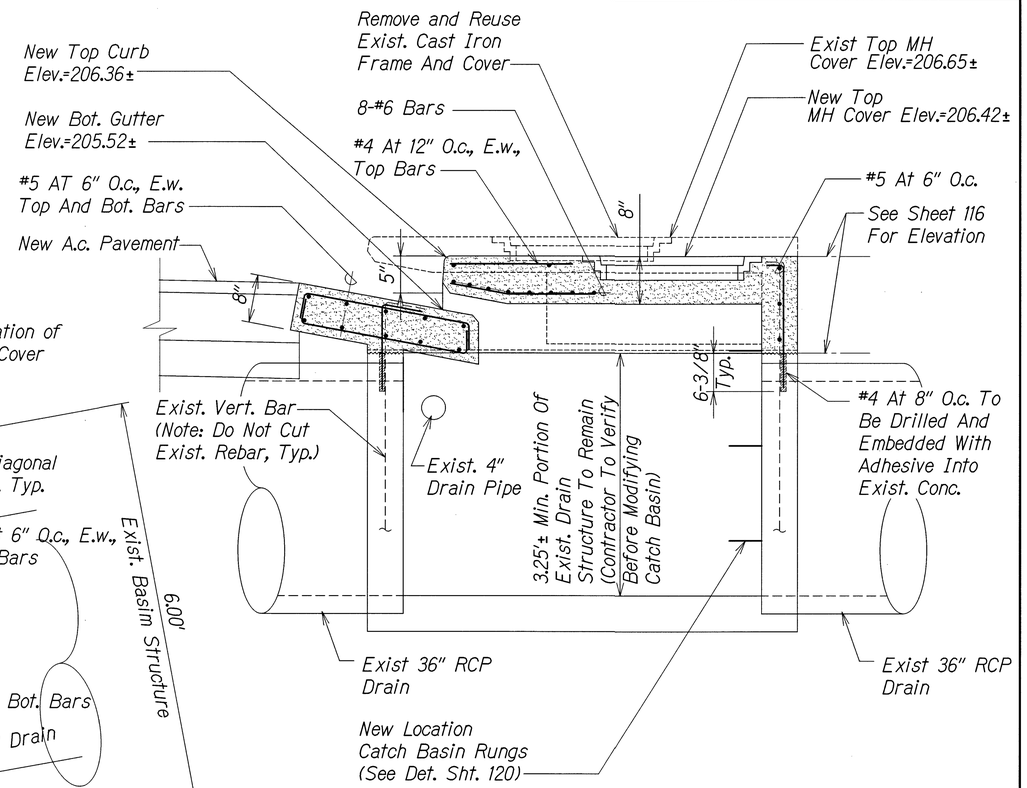
SHEET No. 12 OF 19 SHEETS

100% SUBMITTAL

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | STP 05720(1) | 2014 | | 145 |




## PLAN
Scale: N.T.S.




## SECTION "A" - "A"
Scale: N.T.S.

## CATCH BASIN #2 DETAIL (STA. 11+61.00±)
Scale: N.T.S.

DEPARTMENT OF PUBLIC WORKS
COUNTY OF KAUAI
APPROVED:
COUNTY ENGINEER — DATE 11-21-14

KEVIN K. NAKAMOTO
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NO. 10304-S
HAWAII USA

EXPIRES: 04/30/16
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

COUNTY OF KAUAI
DEPARTMENT OF PUBLIC WORKS
BUILDING DIVISION

# DRAIN STRUCTURAL DETAILS
## STA. 11+61.00±

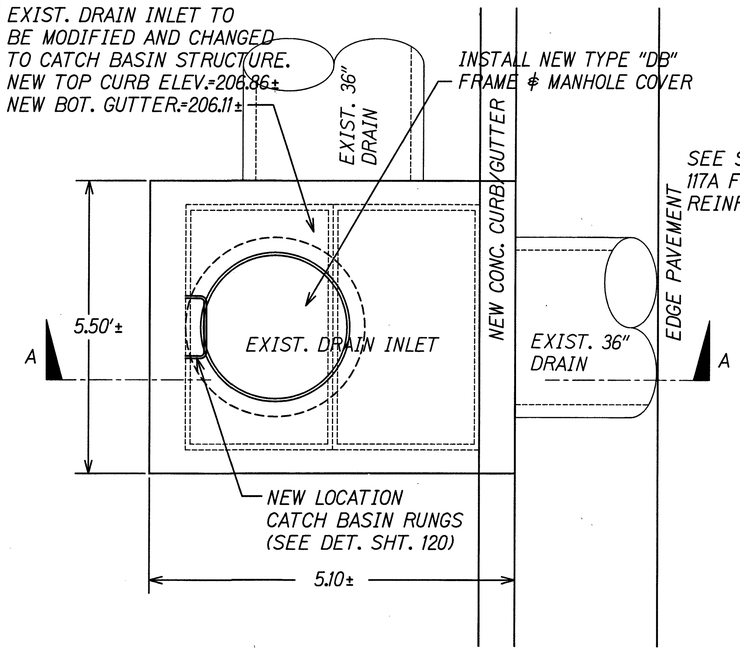
HARDY STREET IMPROVEMENTS
Federal Aid Project No. STP 05720(1)

Scale: As Noted — Date: September, 2014

SHEET No. OF SHEETS

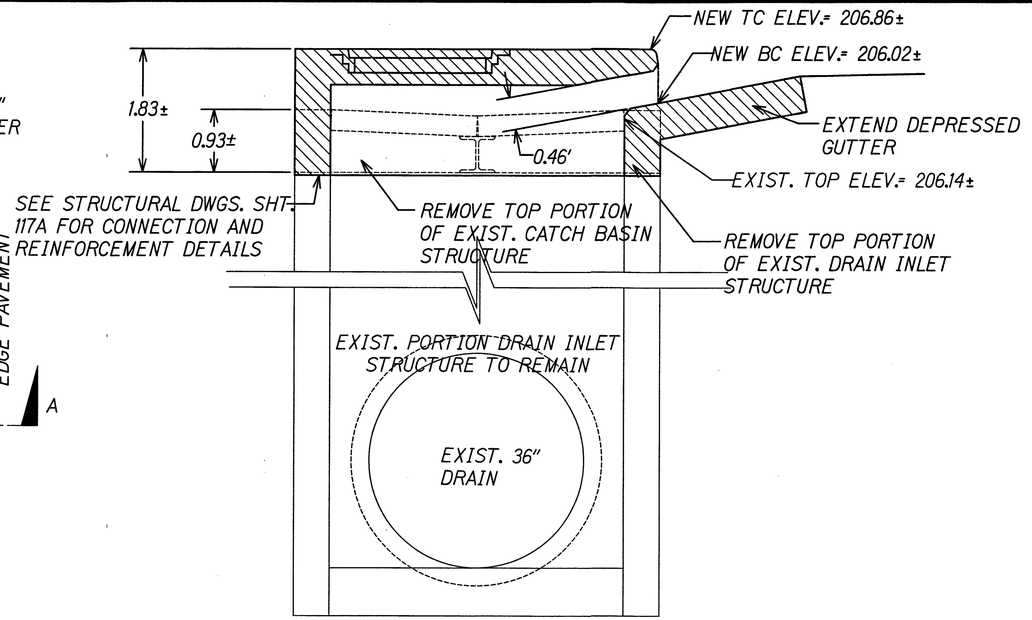
100% SUBMITTAL

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | STP 05720(1) | 2014 | | 145 |



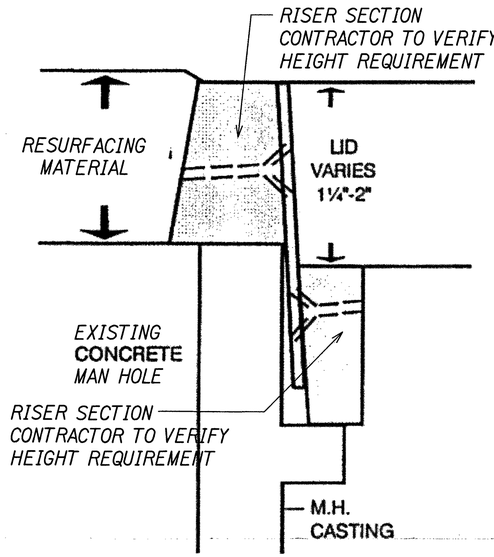

## DRAINAGE IMPROVEMENT FIGURE 6 @ STA. 0+58.00± (D.I. #1)

SCALE: N.T.S.




## SECTION A - A

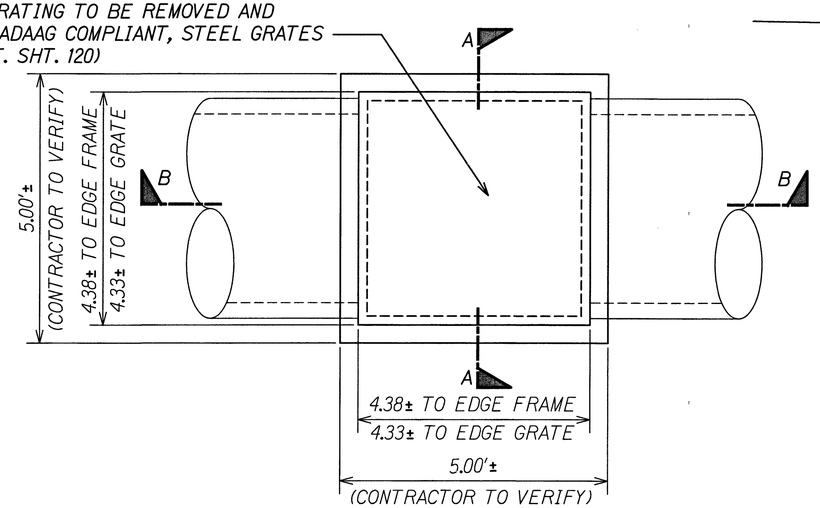
SCALE: N.T.S.




## MANHOLE RISER DETAIL (S.D.M.H. #1 & #4)

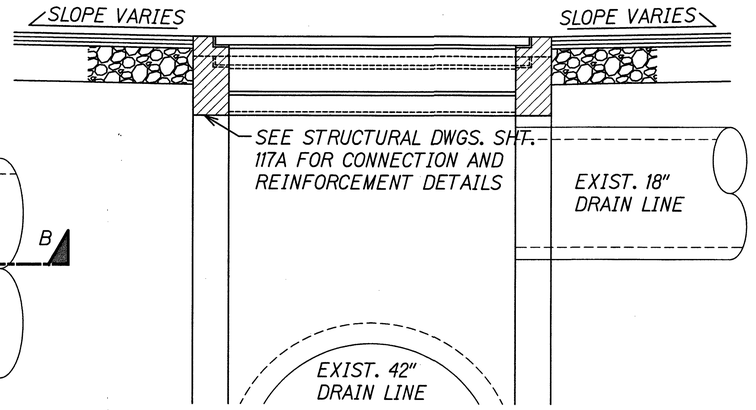
SCALE: N.T.S.

EXIST. DRAIN INLET STRUCTURE TO REMAIN. RAISE TOP ELEV. TO NEW DESIGN
EXIST. TOP ELEV.=190.00±
NEW TOP ELEV.=190.28±
EXIST. GRATING TO BE REMOVED AND INSTALL ADAAG COMPLIANT, STEEL GRATES (SEE DET. SHT. 120)



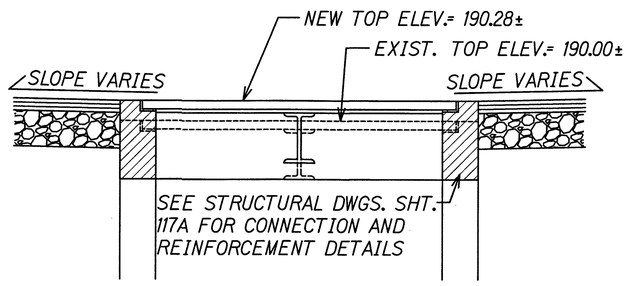

## DRAINAGE IMPROVEMENT FIGURE 12 @ STA. 28+86.00 (D.I. #13)

SCALE: N.T.S.




## SECTION A - A

SCALE: N.T.S.




## SECTION B - B

SCALE: N.T.S.

DEPARTMENT OF PUBLIC WORKS
COUNTY OF KAUAI
APPROVED:
COUNTY ENGINEER — DATE

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EXPIRES: APRIL 30, 2016
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Wayne T. Wada

COUNTY OF KAUAI
DEPARTMENT OF PUBLIC WORKS
BUILDING DIVISION

**DRAIN DETAILS**

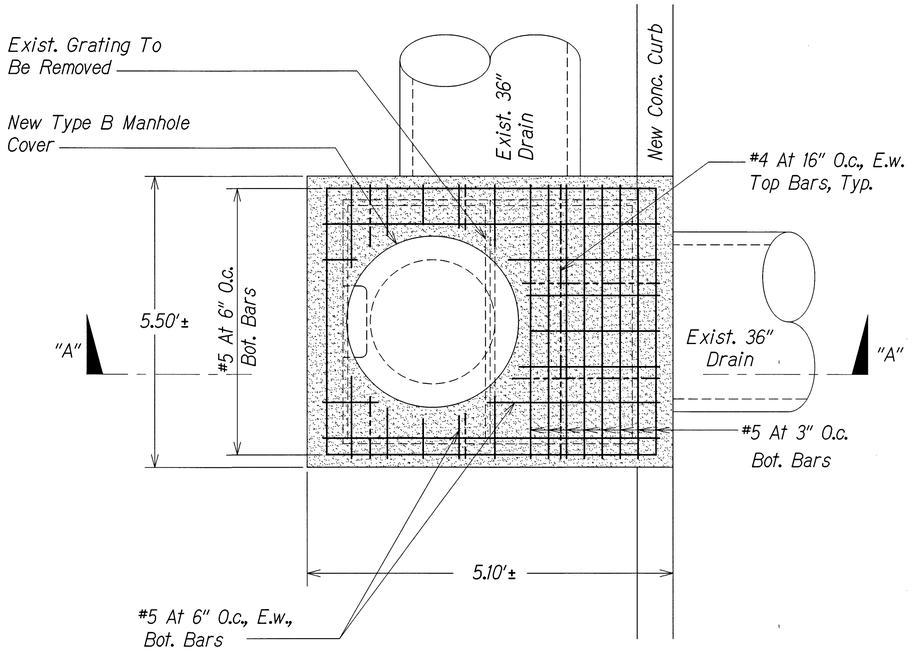
STA. 0+58.00 & 28+86.00

HARDY STREET IMPROVEMENTS
Federal Aid Project No. STP 05720(1)

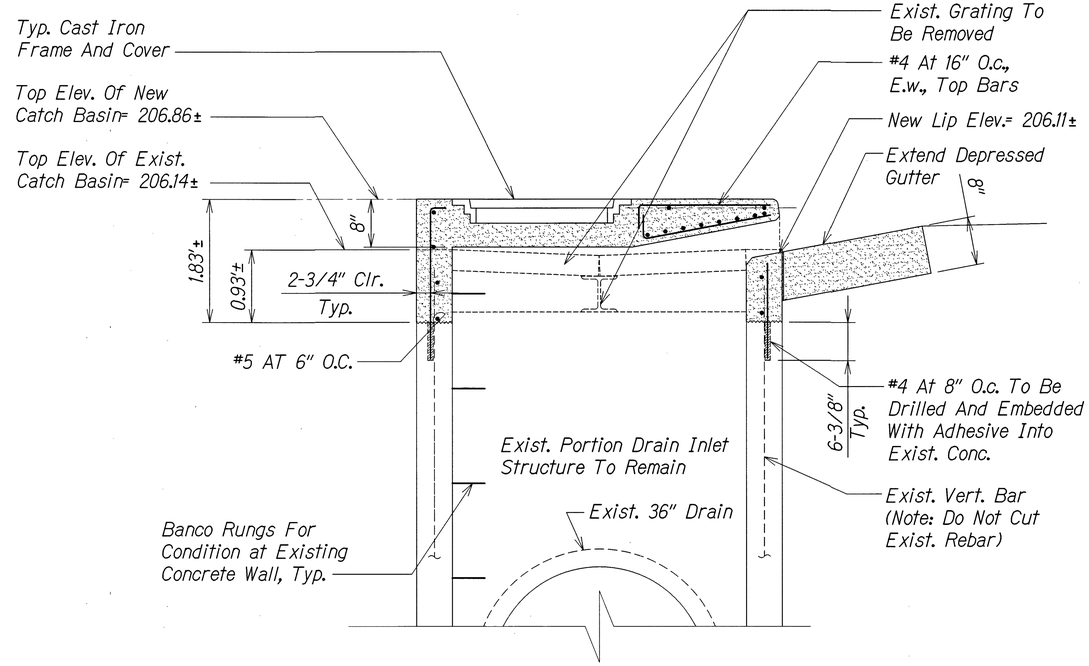
Scale: As Noted — Date: September, 2014

SHEET No. 13 OF 19 SHEETS

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | STP 05720(1) | 2014 | | 145 |

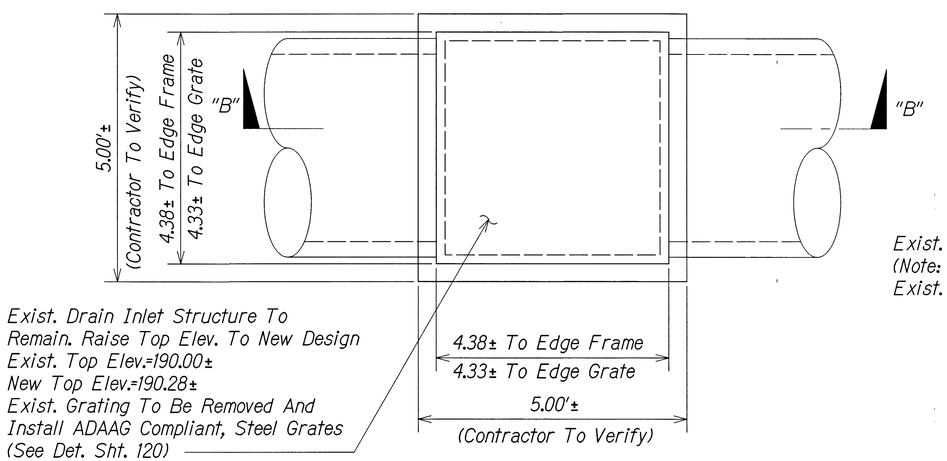



PLAN
Scale: N.T.S.

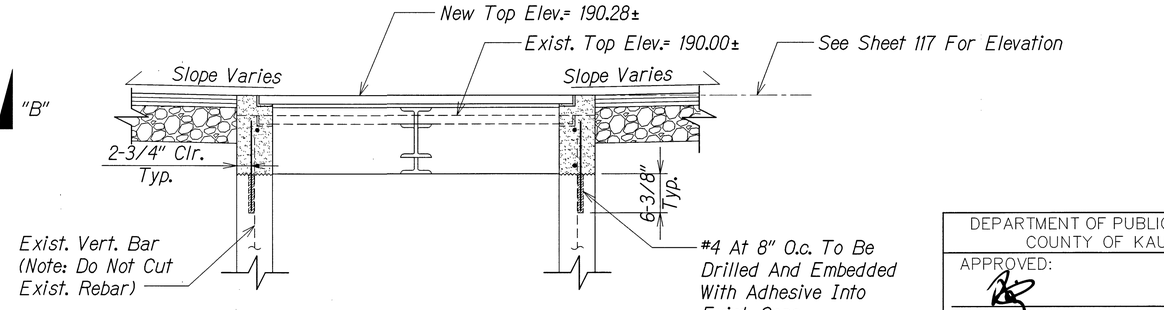



SECTION "A" - "A"
Scale: N.T.S.

## DRAIN INLET #1 DETAIL (STA. 0+58.00±)
Scale: N.T.S.




PLAN
Scale: N.T.S.




SECTION "B" - "B"
Scale: N.T.S.

## DRAIN INLET #13 DETAIL (STA. 28+86.00±)
Scale: N.T.S.

DEPARTMENT OF PUBLIC WORKS
COUNTY OF KAUAI
APPROVED:
COUNTY ENGINEER — DATE 11.24.14

KEVIN K. NAKAMOTO
LICENSED PROFESSIONAL ENGINEER
NO. 10304-S
HAWAII USA

EXPIRES: 04/30/16
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

COUNTY OF KAUAI
DEPARTMENT OF PUBLIC WORKS
BUILDING DIVISION

# DRAIN STRUCTURAL DETAILS
## STA. 0+58.00±/STA. 28+86.00±

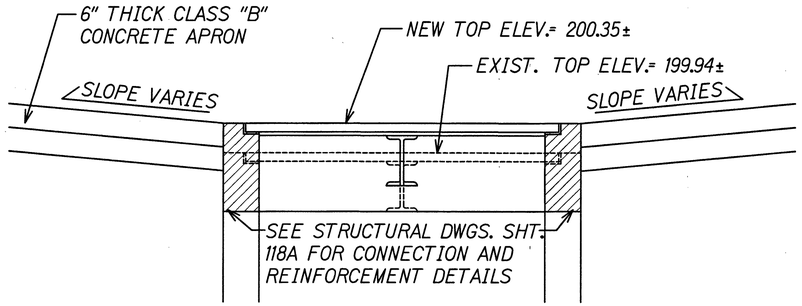
HARDY STREET IMPROVEMENTS
Federal Aid Project No. STP 05720(1)

Scale: As Noted — Date: September, 2014

SHEET No. OF SHEETS

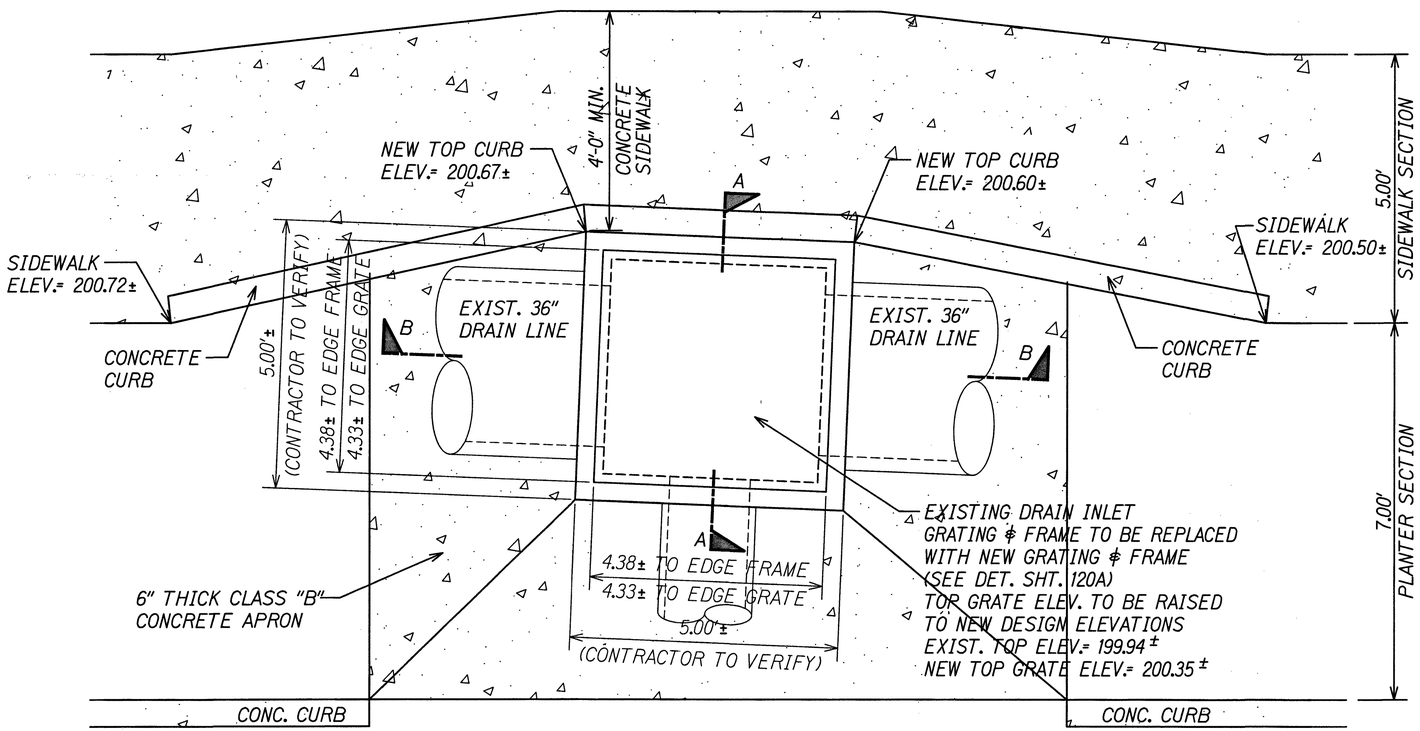
100% SUBMITTAL

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | STP 05720(1) | 2014 | | 145 |



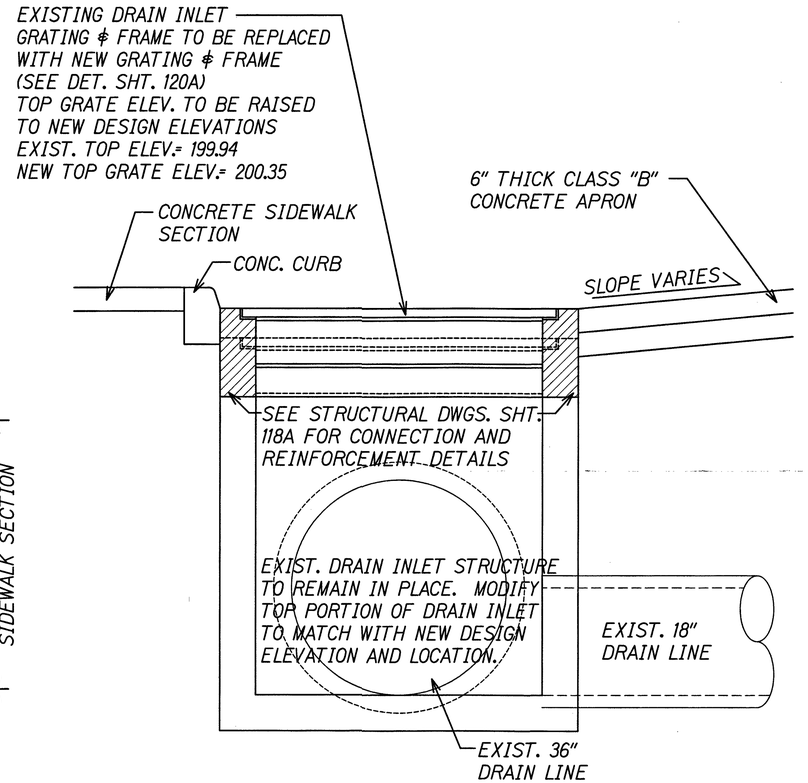

## SECTION B - B

SCALE: N.T.S.




## PLAN VIEW

SCALE: N.T.S.




## SECTION A - A

SCALE: N.T.S.

# DRAINAGE IMPROVEMENT FIGURE 7 @ STA. 19+41.00 (D.I. #10)

SCALE: N.T.S.

DEPARTMENT OF PUBLIC WORKS
COUNTY OF KAUAI
APPROVED:
COUNTY ENGINEER — DATE 4-24-14

WAYNE T. WADA
LICENSED PROFESSIONAL ENGINEER
No. 5281-C
HAWAII, U.S.A.

EXPIRES: APRIL 30, 2016
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Wayne T. Wada

COUNTY OF KAUAI
DEPARTMENT OF PUBLIC WORKS
BUILDING DIVISION

**DRAIN DETAILS**

STA. 19+41.00

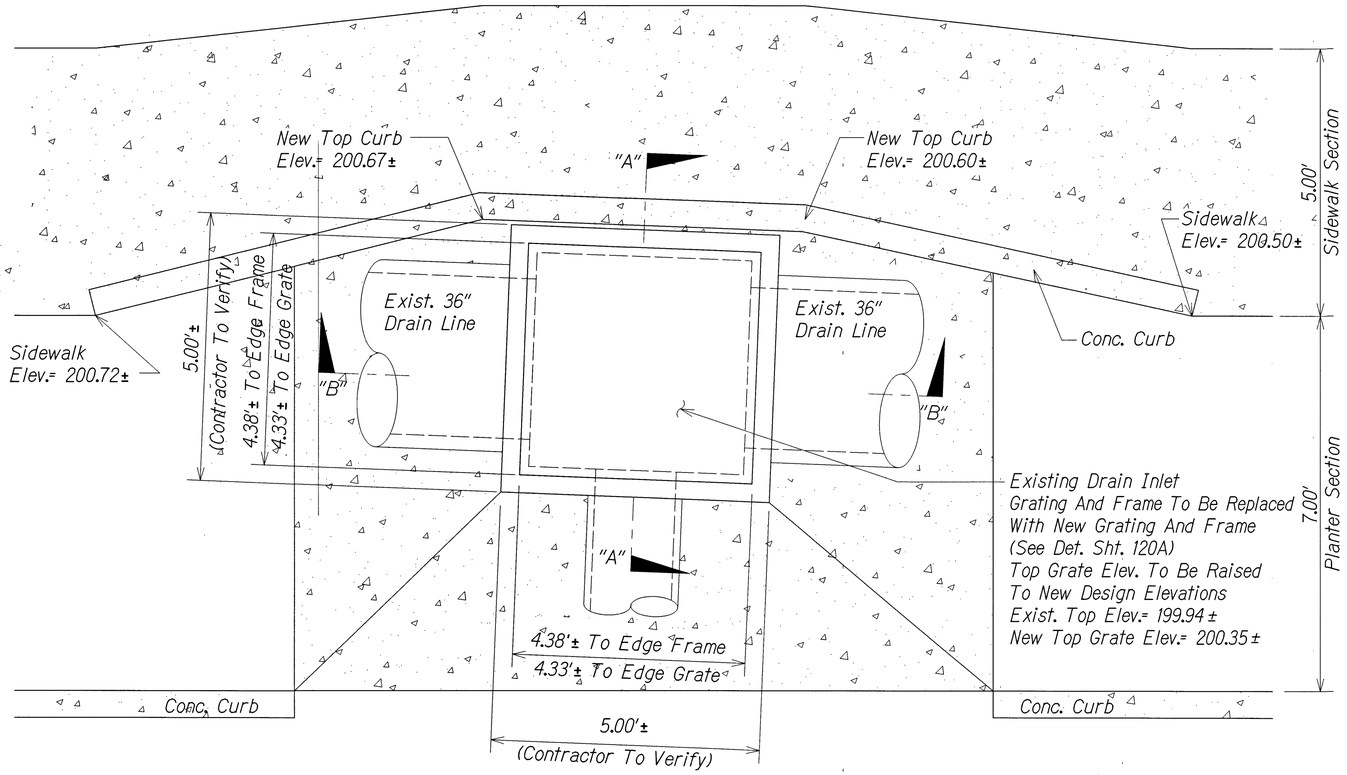
HARDY STREET IMPROVEMENTS
Federal Aid Project No. STP 05720(1)

Scale: As Noted — Date: September, 2014

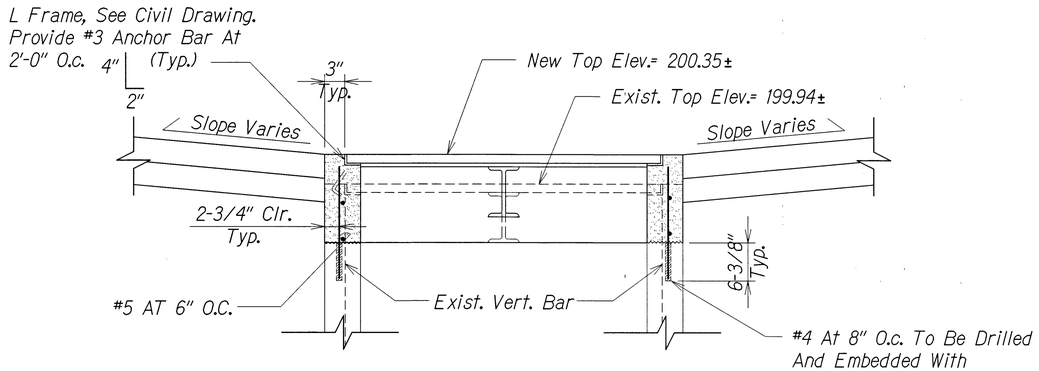
SHEET No. 14 OF 19 SHEETS

100% SUBMITTAL

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | STP 05720(1) | 2014 | | 145 |

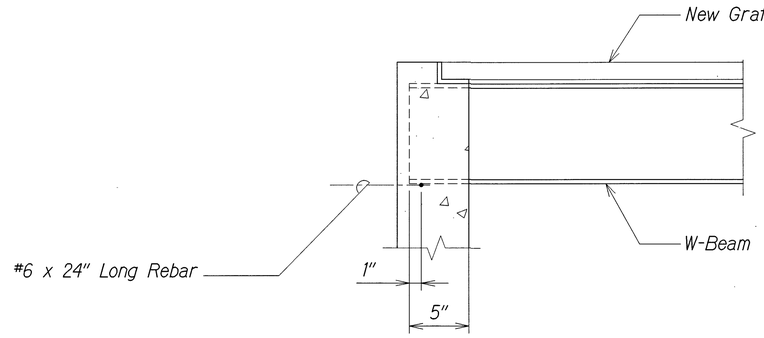



## PLAN
Scale: N.T.S.

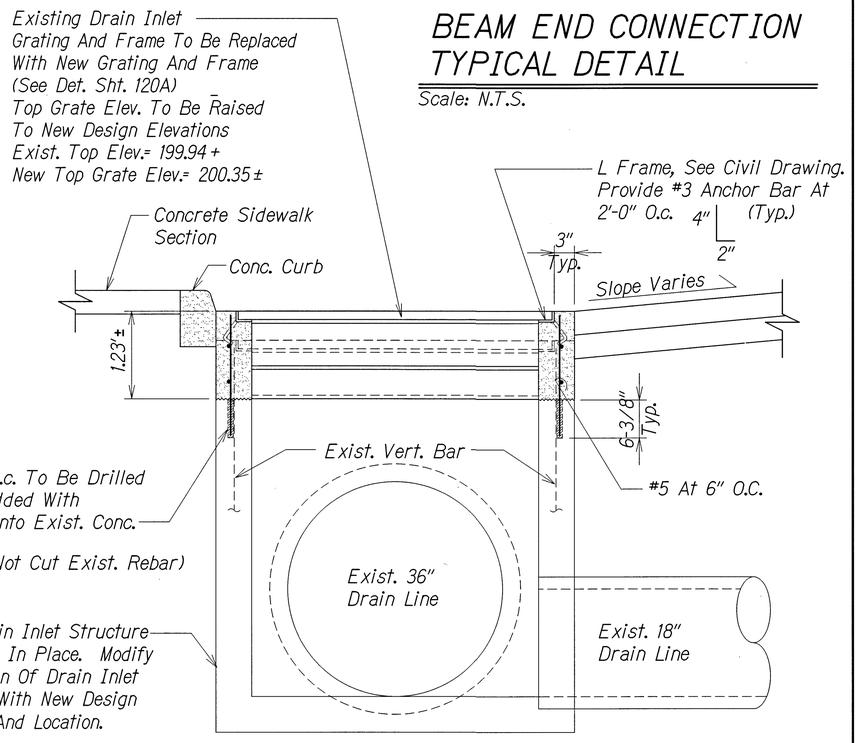



## SECTION "B" - "B"
Scale: N.T.S.

## DRAIN INLET #10 DETAIL (STA. 19+41.00±)
Scale: N.T.S.




## BEAM END CONNECTION TYPICAL DETAIL
Scale: N.T.S.




## SECTION "A" - "A"
Scale: N.T.S.

DEPARTMENT OF PUBLIC WORKS
COUNTY OF KAUAI
APPROVED:
COUNTY ENGINEER — DATE 11-24-14

KEVIN K. NAKAMOTO
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NO. 10304-S
HAWAII, USA
EXPIRES: 04/30/16
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

COUNTY OF KAUAI
DEPARTMENT OF PUBLIC WORKS
BUILDING DIVISION

# DRAIN STRUCTURAL DETAILS
## STA. 19+41.00±

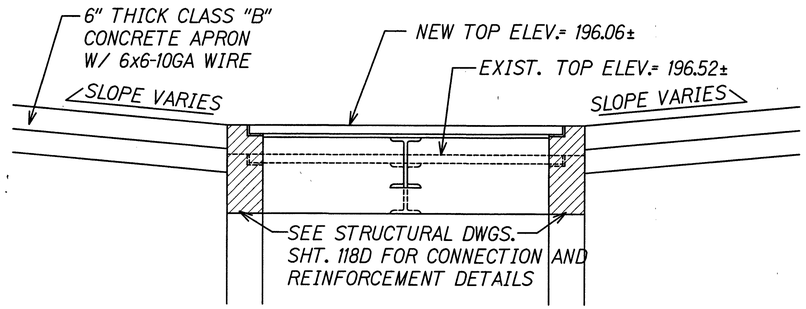
HARDY STREET IMPROVEMENTS
Federal Aid Project No. STP 05720(1)

Scale: As Noted — Date: September, 2014

SHEET No. 118A OF SHEETS

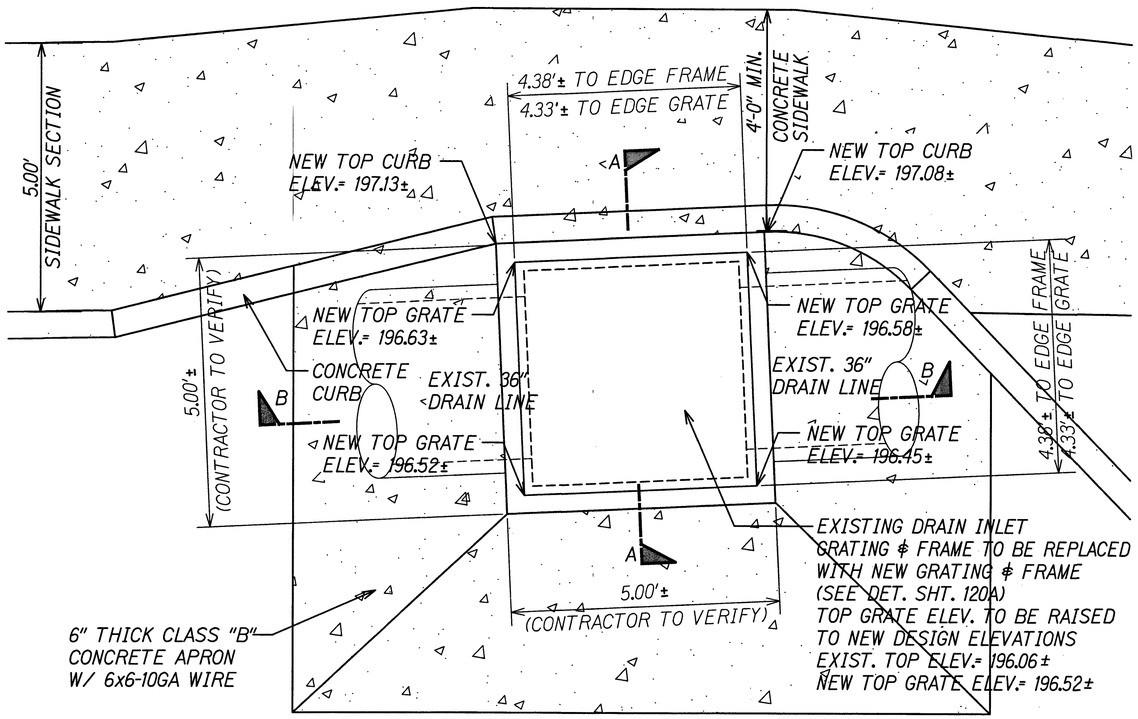
100% SUBMITTAL

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | STP 05720(1) | 2014 | | 145 |



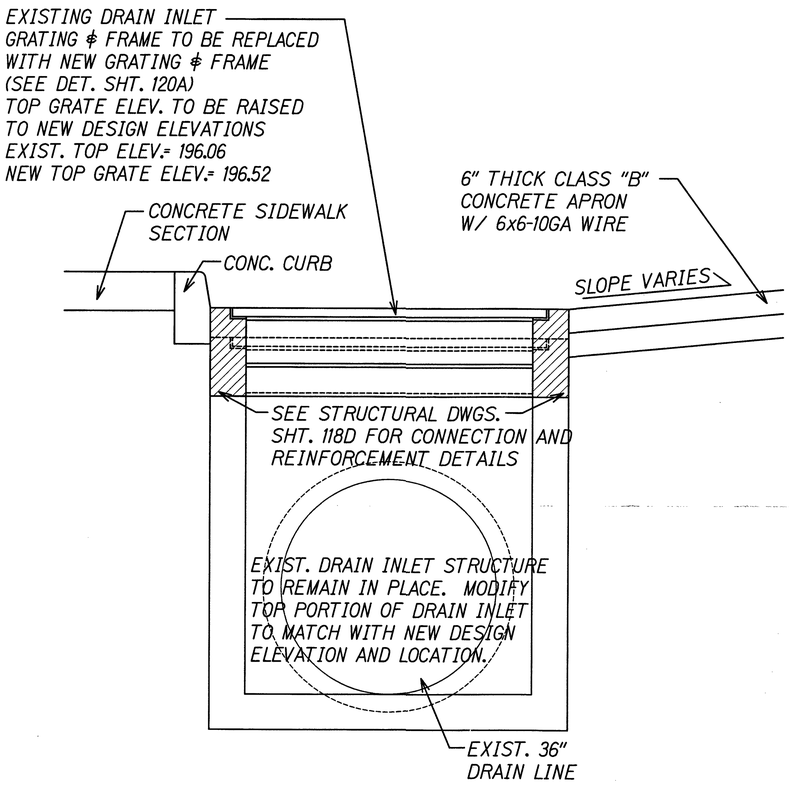

## SECTION B - B

SCALE: N.T.S.




## PLAN VIEW

SCALE: N.T.S.




## SECTION A - A

SCALE: N.T.S.

## DRAINAGE IMPROVEMENT FIGURE 8 @ STA. 22+44.00± (D.I. #11)

SCALE: N.T.S.

DEPARTMENT OF PUBLIC WORKS
COUNTY OF KAUAI
APPROVED:
COUNTY ENGINEER — DATE 11.24.14

WAYNE T. WADA
LICENSED PROFESSIONAL ENGINEER
No. 5281-C
HAWAII, USA

EXPIRES: APRIL 30, 2016
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Wayne T Wada

COUNTY OF KAUAI
DEPARTMENT OF PUBLIC WORKS
BUILDING DIVISION

# DRAIN DETAILS

STA. 22+44.00

HARDY STREET IMPROVEMENTS
Federal Aid Project No. STP 05720(1)

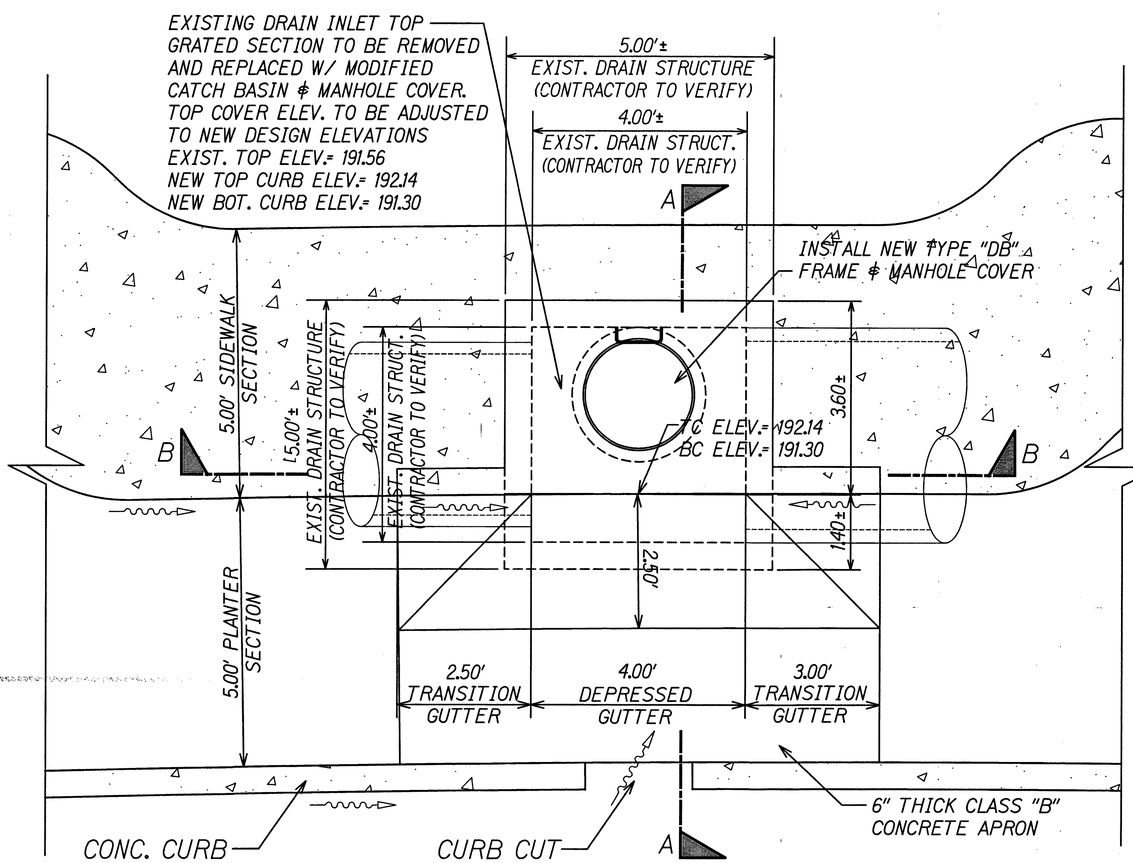
Scale: As Noted — Date: September, 2014

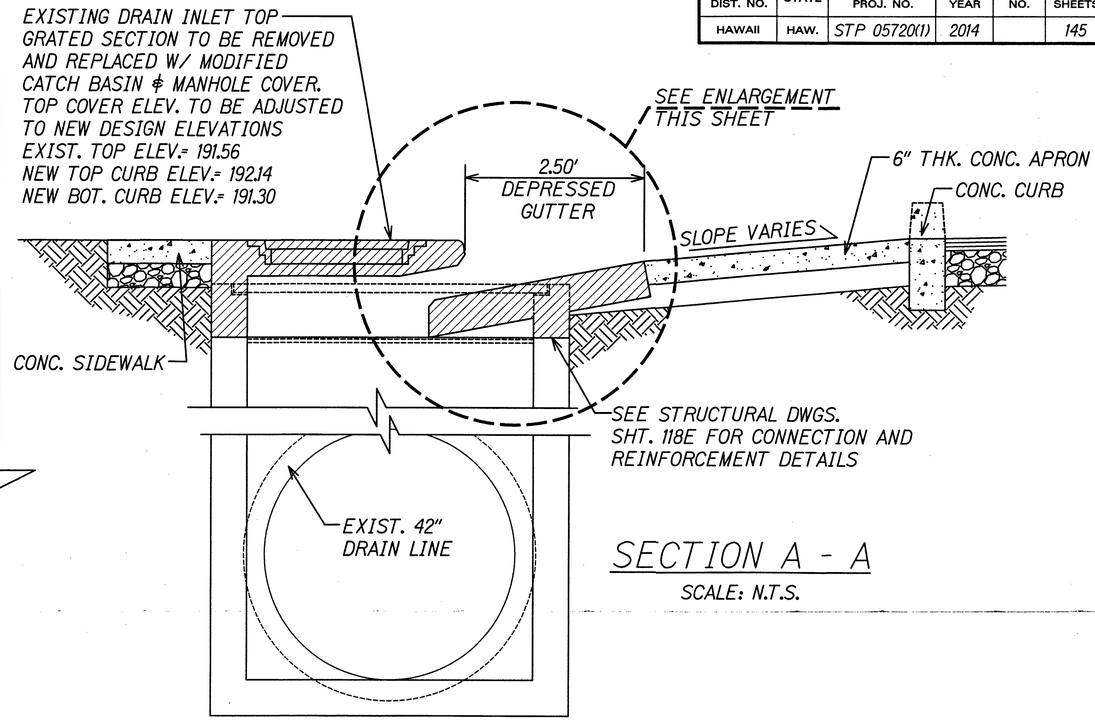
SHEET No. 15 OF 22 SHEETS

100% SUBMITTAL

118B

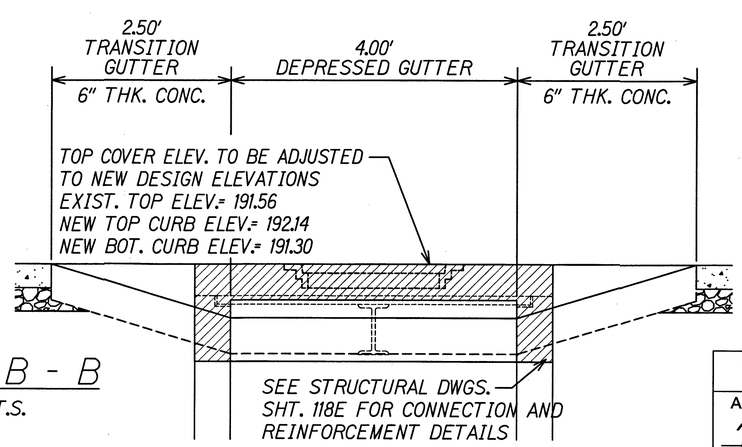
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | STP 05720(1) | 2014 | | 145 |



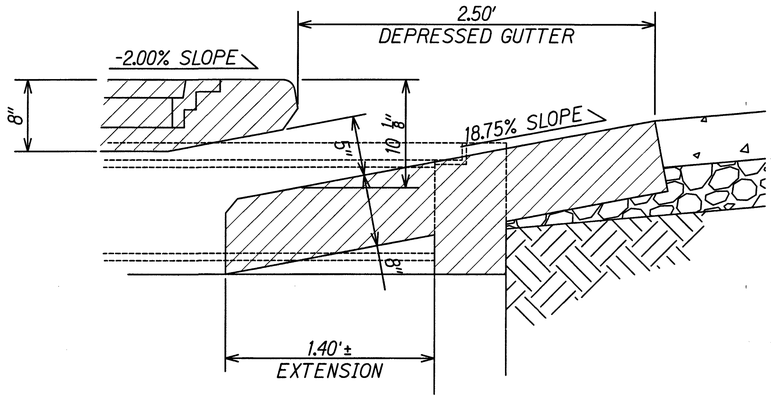

## SECTION A - A

SCALE: N.T.S.




## SECTION B - B

SCALE: N.T.S.




## ENLARGEMENT

SCALE: N.T.S.

DEPARTMENT OF PUBLIC WORKS
COUNTY OF KAUAI
APPROVED:
COUNTY ENGINEER — DATE 11-24-14

WAYNE T. WADA
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EXPIRES: APRIL 30, 2016
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Wayne T. Wada

COUNTY OF KAUAI
DEPARTMENT OF PUBLIC WORKS
BUILDING DIVISION

# DRAIN DETAILS

STA. 26+27.00

HARDY STREET IMPROVEMENTS
Federal Aid Project No. STP 05720(1)

Scale: As Noted — Date: September, 2014

SHEET No. 16 OF 22 SHEETS

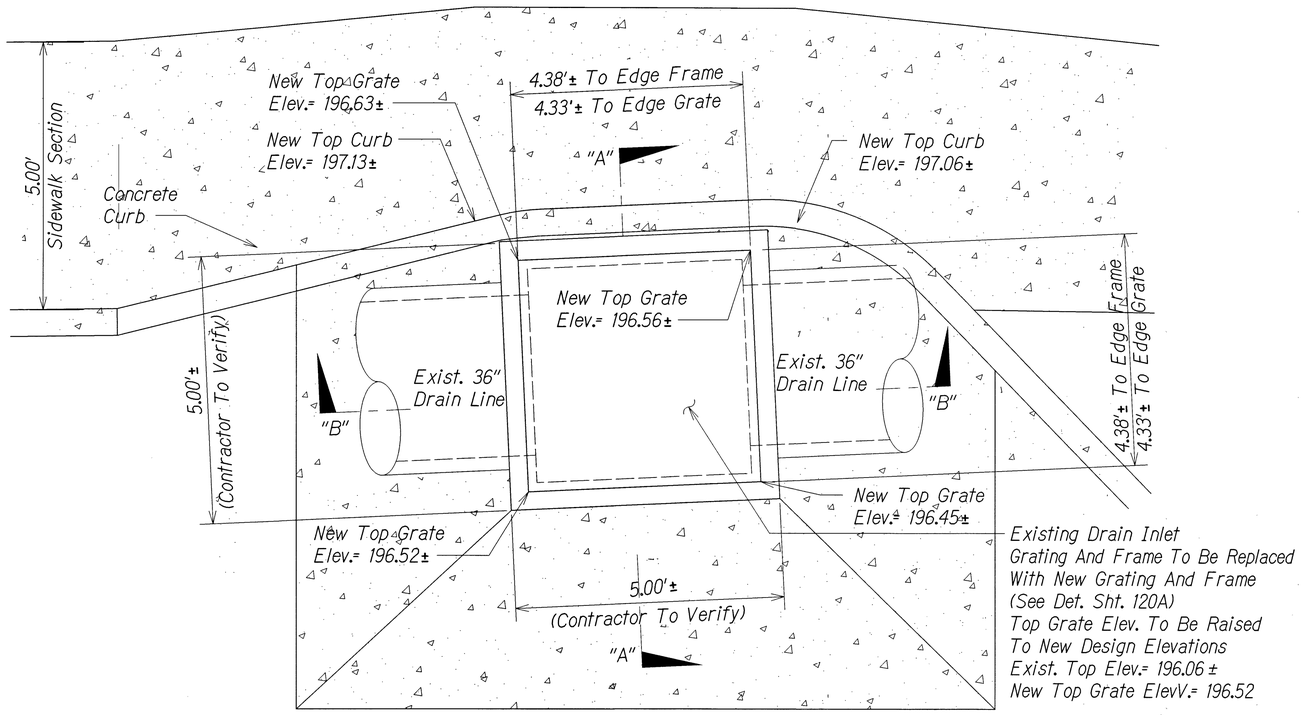
## DRAINAGE IMPROVEMENT FIGURE 9 @ STA. 26+27.00± (D.I. #12)

SCALE: N.T.S.

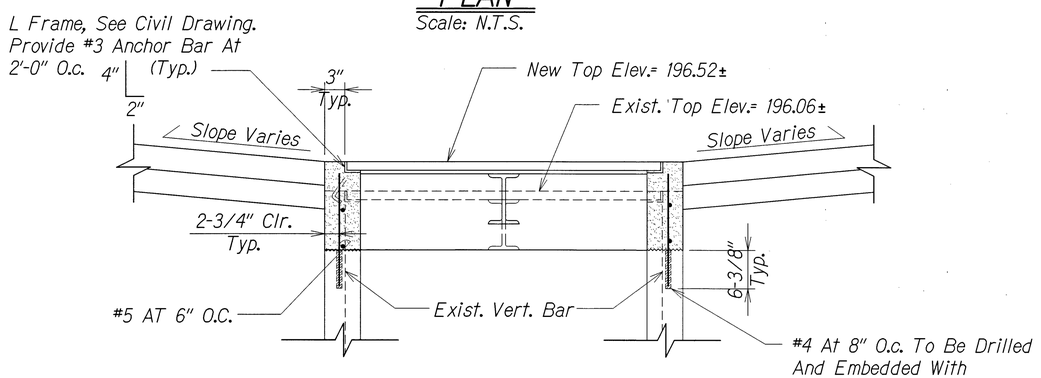
100% SUBMITTAL

118C

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | STP 05720(1) | 2014 | | 145 |

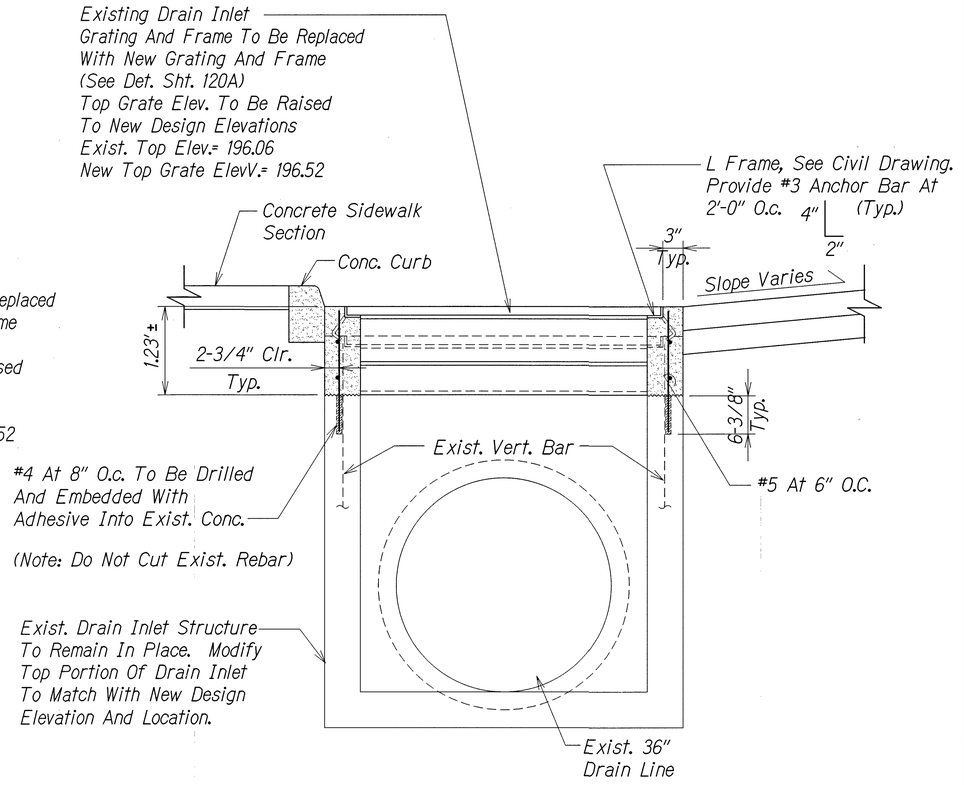



## PLAN
Scale: N.T.S.




## SECTION "B" - "B"
Scale: N.T.S.

## DRAIN INLET #11 DETAIL (STA. 22+44.00±)
Scale: N.T.S.




## SECTION "A" - "A"
Scale: N.T.S.

**Note:**
See 118A For Beam End Connection Detail.

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COUNTY OF KAUAI
APPROVED:
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COUNTY OF KAUAI
DEPARTMENT OF PUBLIC WORKS
BUILDING DIVISION

# DRAIN STRUCTURAL DETAILS
## STA. 22+44.00±

HARDY STREET IMPROVEMENTS
Federal Aid Project No. STP 0572O(1)

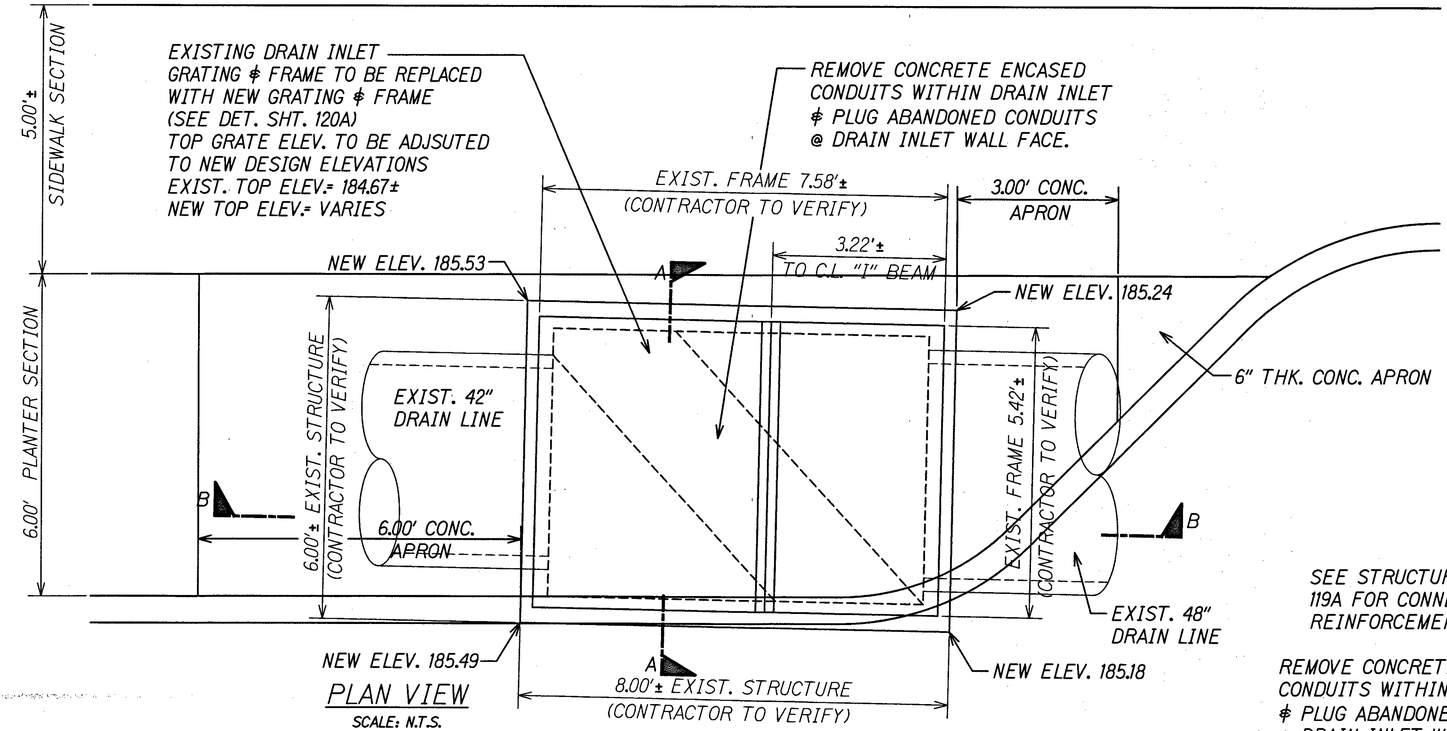
Scale: As Noted — Date: September, 2014

SHEET No. OF SHEETS

100% SUBMITTAL

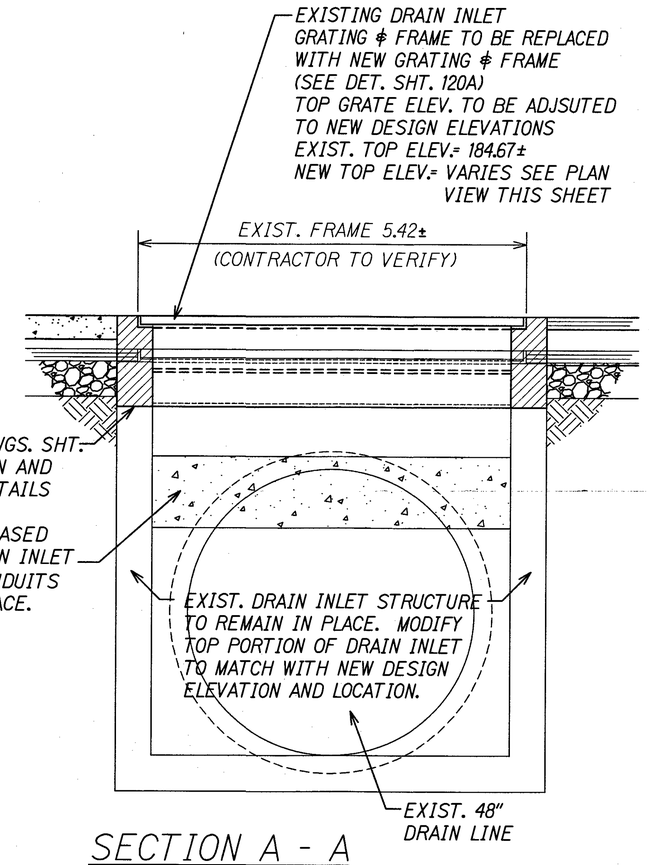
118D

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | STP 05720(1) | 2014 | | 145 |



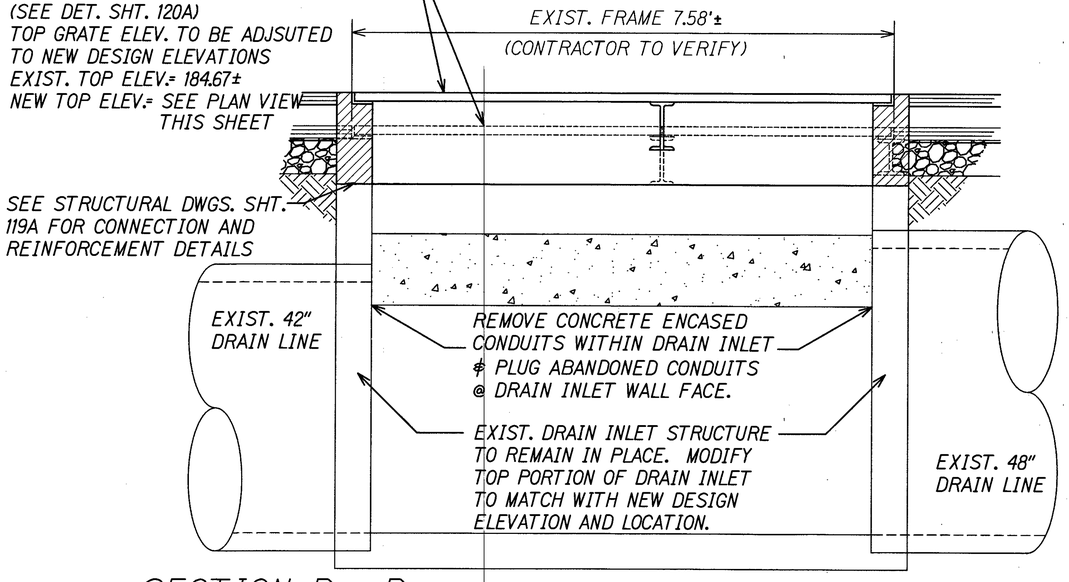

PLAN VIEW

SCALE: N.T.S.




SECTION A - A

SCALE: N.T.S.




SECTION B - B

SCALE: N.T.S.

DRAINAGE IMPROVEMENT FIGURE 10 @ STA. 31+93.00± (D.I. #14)

SCALE: N.T.S.

DEPARTMENT OF PUBLIC WORKS
COUNTY OF KAUAI

APPROVED:

COUNTY ENGINEER — DATE 11-2014

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BUILDING DIVISION

# DRAIN DETAILS

STA. 31+93.00

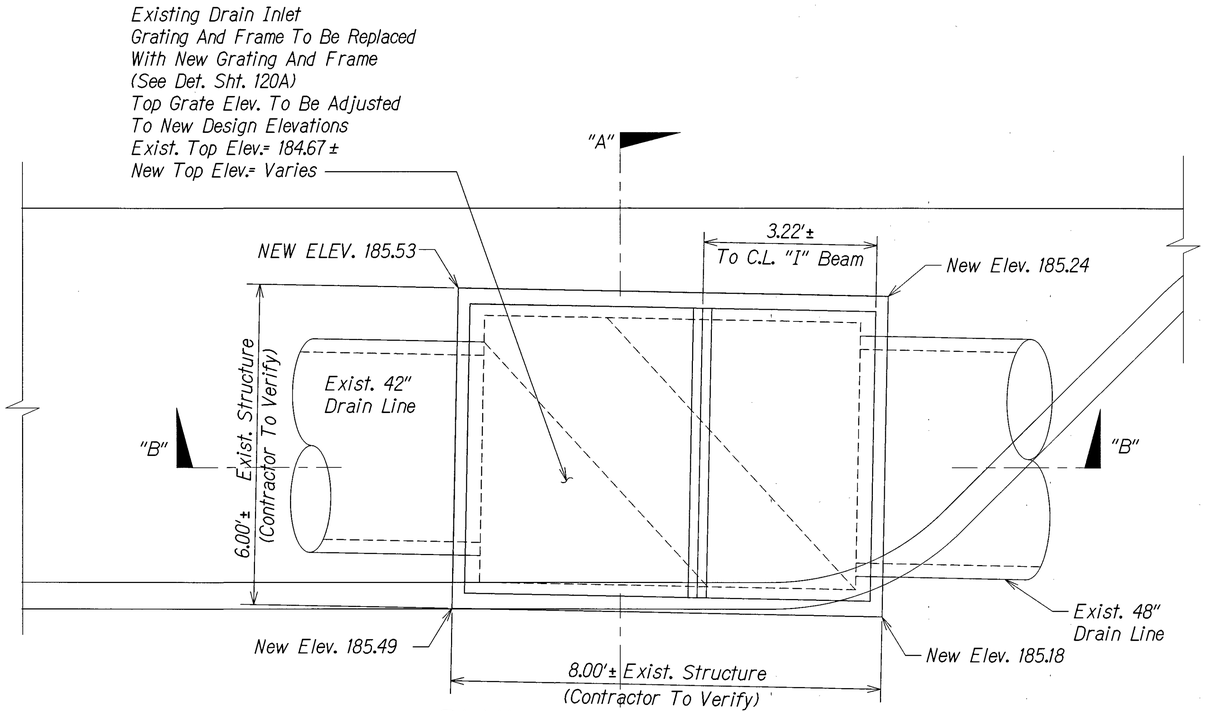
HARDY STREET IMPROVEMENTS
Federal Aid Project No. STP 0572O(1)

Scale: As Noted — Date: September, 2014

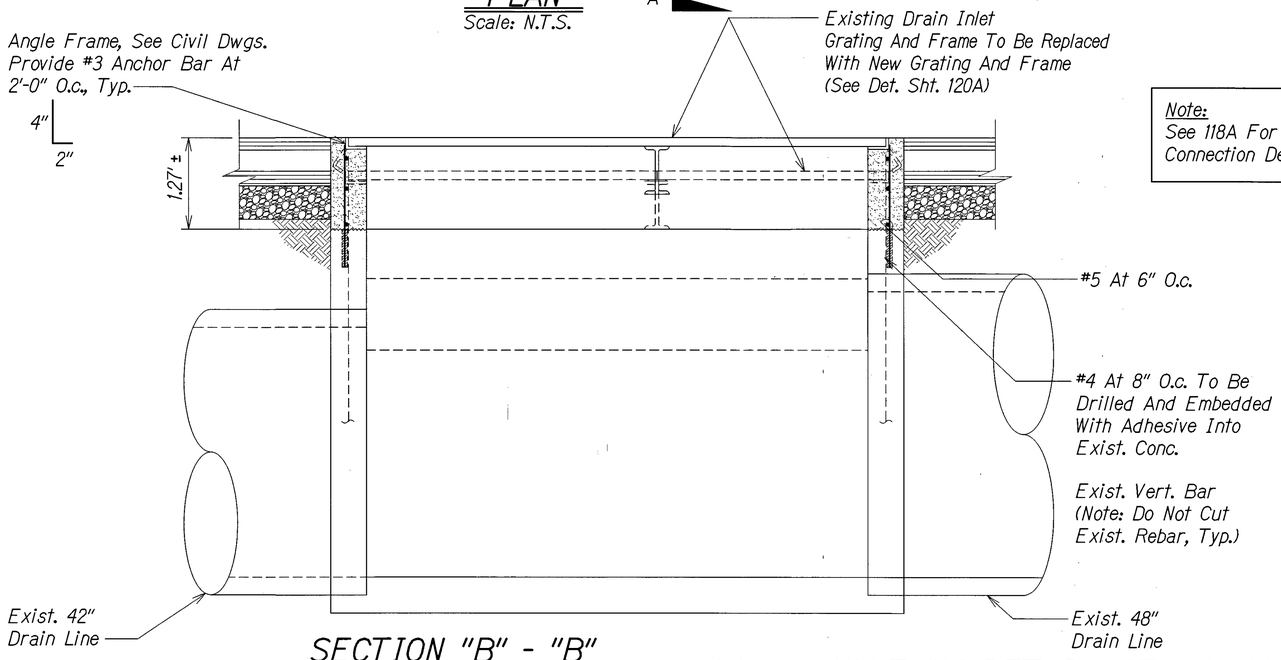
SHEET No. 17 OF 22 SHEETS

100% SUBMITTAL

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | STP 05720(1) | 2014 | | 145 |



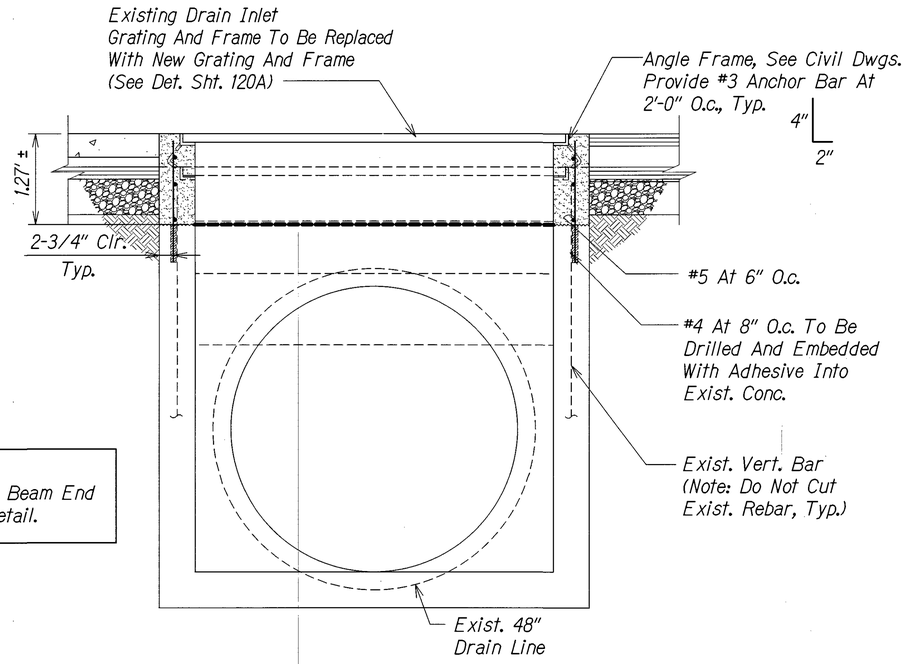

PLAN
Scale: N.T.S.




SECTION "B" - "B"
Scale: N.T.S.

DRAIN INLET #14 DETAIL (STA. 31+93.00±)
Scale: N.T.S.

Note:
See 118A For Beam End
Connection Detail.




SECTION "A" - "A"
Scale: N.T.S.

DEPARTMENT OF PUBLIC WORKS
COUNTY OF KAUAI
APPROVED:
COUNTY ENGINEER DATE 11.24.14

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COUNTY OF KAUAI
DEPARTMENT OF PUBLIC WORKS
BUILDING DIVISION

# DRAIN STRUCTURAL DETAILS
## STA. 31+93.00±

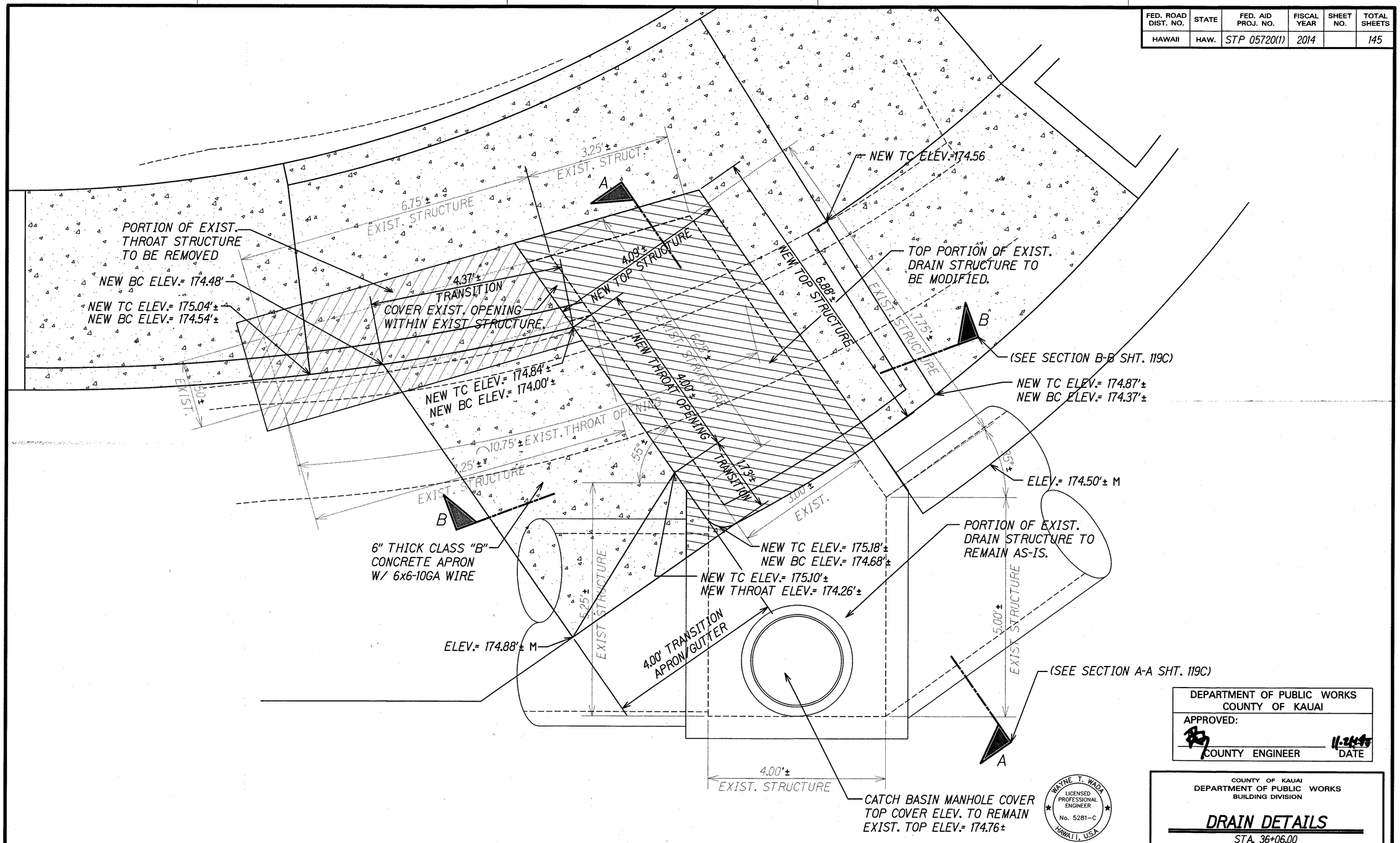
HARDY STREET IMPROVEMENTS
Federal Aid Project No. STP 05720(1)

Scale: As Noted Date: September, 2014

SHEET No. OF SHEETS

100% SUBMITTAL 119A

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | STP 05720(1) | 2014 | | 145 |




DRAINAGE IMPROVEMENT FIGURE 11 @ STA. 36+06.00± (C.B. #9)

SCALE: 1" = 1'-0"

DEPARTMENT OF PUBLIC WORKS
COUNTY OF KAUAI
APPROVED:
COUNTY ENGINEER — DATE 11.24.15

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BUILDING DIVISION

# DRAIN DETAILS

STA. 36+06.00

HARDY STREET IMPROVEMENTS
Federal Aid Project No. STP 05720(1)

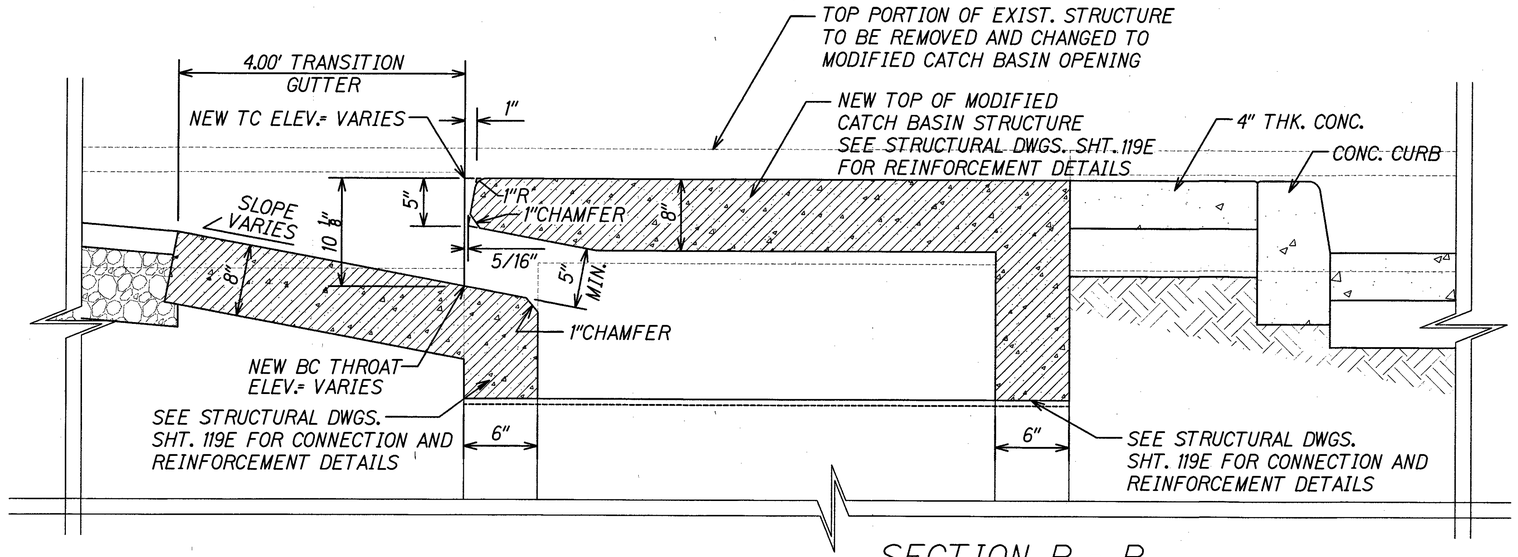
Scale: As Noted — Date: September, 2014

SHEET No. 18 OF 22 SHEETS

100% SUBMITTAL

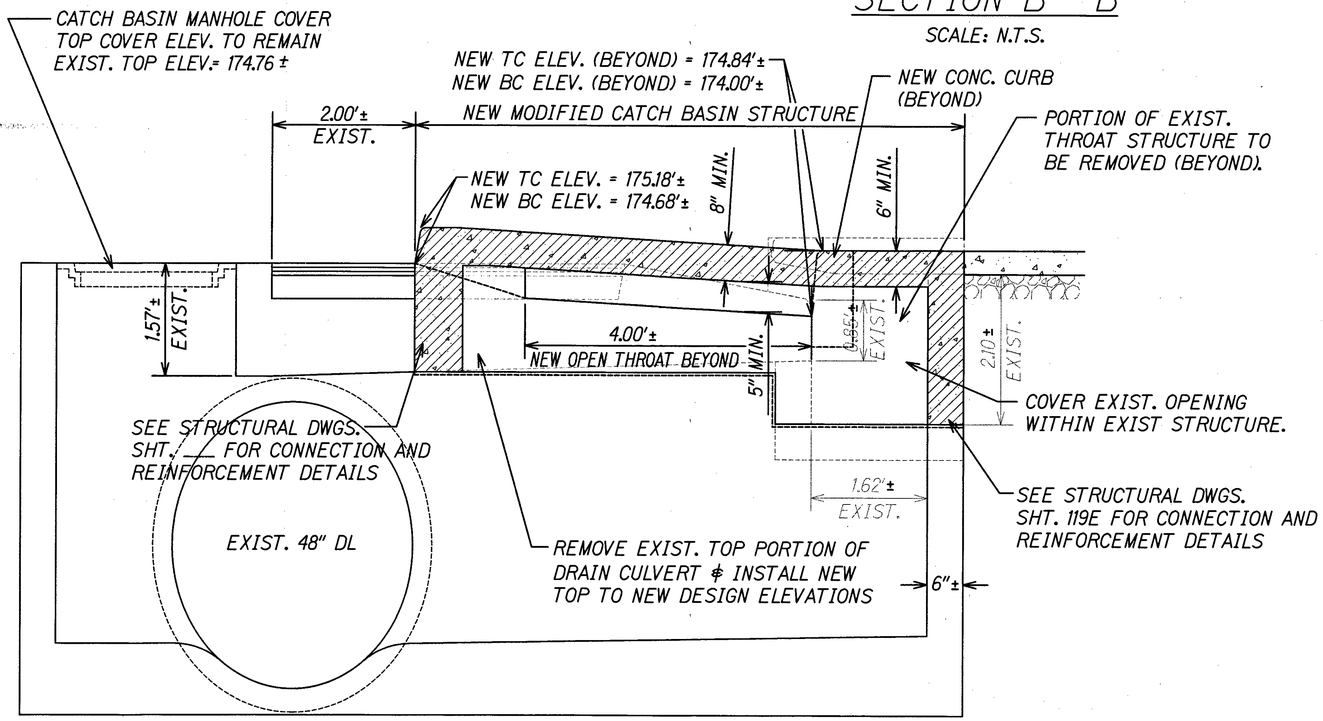
119B

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | STP 0572O(1) | 2014 | | 145 |




## SECTION B - B

SCALE: N.T.S.




## SECTION A - A

SCALE: N.T.S.

# DRAINAGE IMPROVEMENT FIGURE 11 @ STA. 36+06.00 ± (C.B. #9) CONTINUATION

SCALE: AS NOTED

DEPARTMENT OF PUBLIC WORKS
COUNTY OF KAUAI
APPROVED:

COUNTY ENGINEER — DATE 11-24-14

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COUNTY OF KAUAI
DEPARTMENT OF PUBLIC WORKS
BUILDING DIVISION

**DRAIN DETAILS**

STA. 36+06.00

HARDY STREET IMPROVEMENTS
Federal Aid Project No. STP 0572O(1)

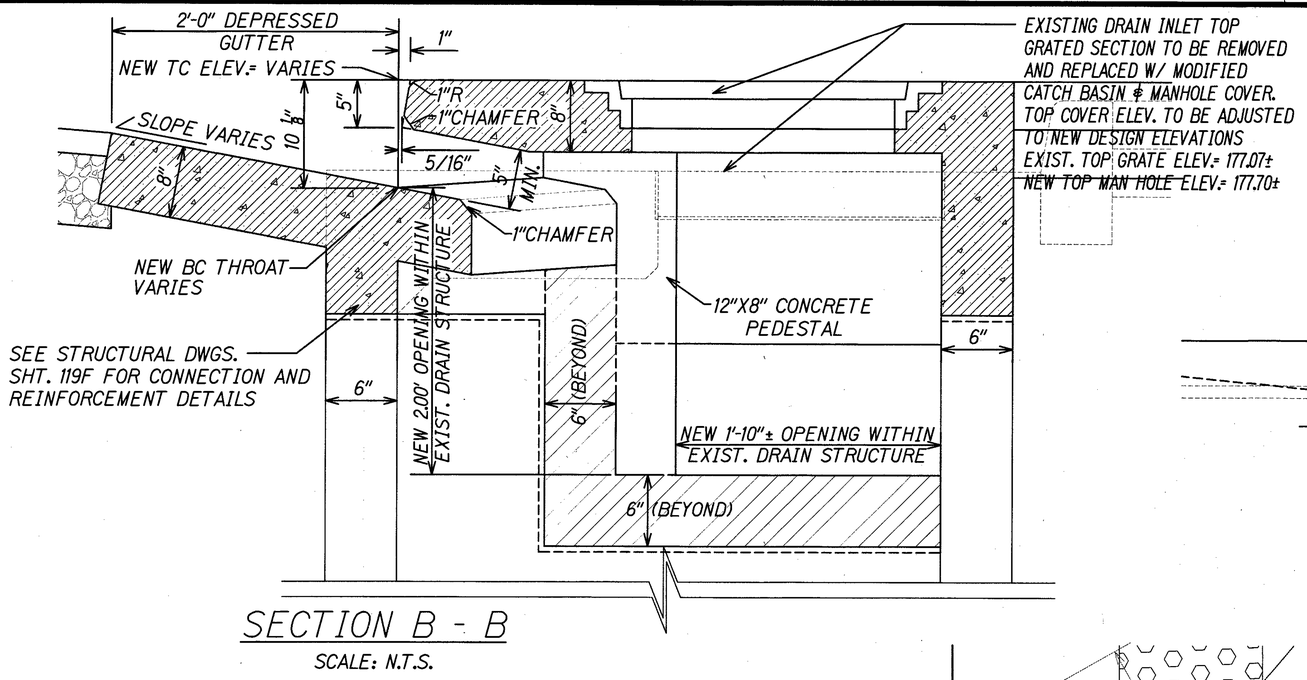
Scale: As Noted — Date: September, 2014

SHEET No. 19 OF 22 SHEETS

100% SUBMITTAL

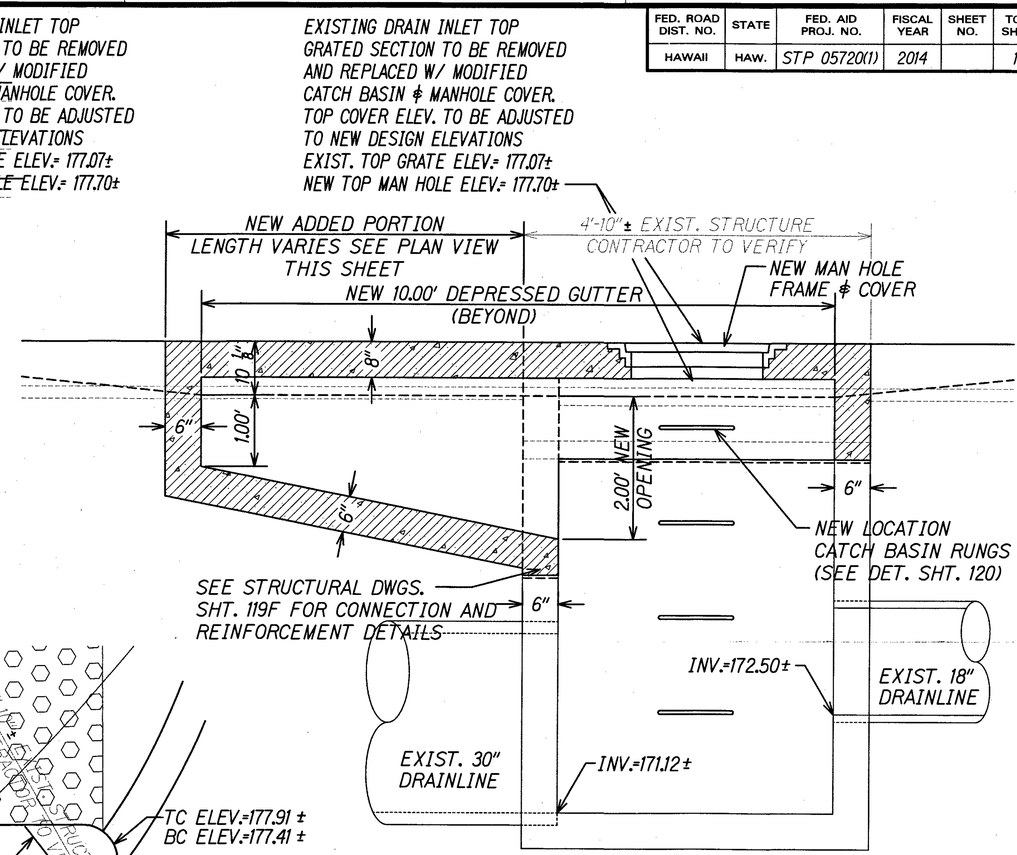
119C

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | STP 0572O(1) | 2014 | | 145 |



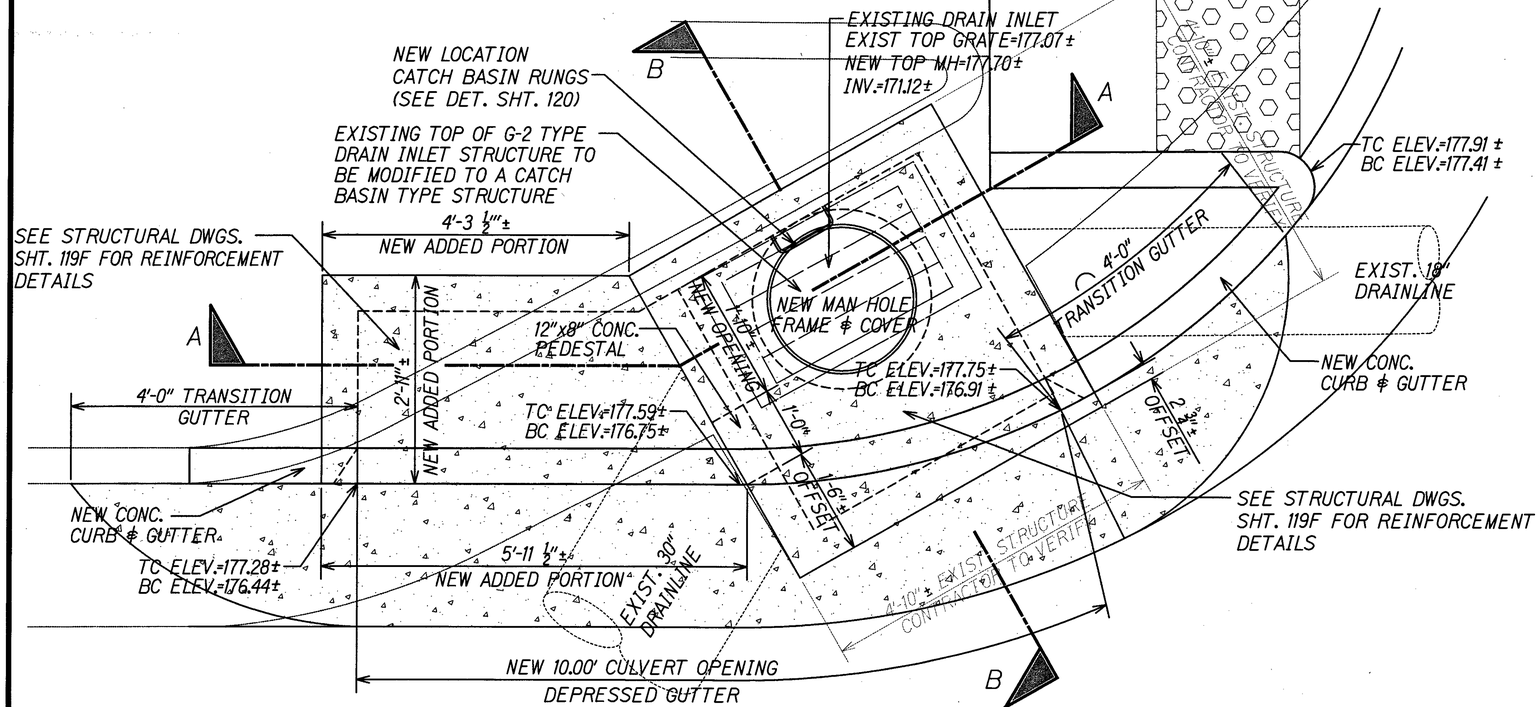

## SECTION B - B

SCALE: N.T.S.




## SECTION A - A

SCALE: N.T.S.




## DRAINAGE IMPROVEMENT FIGURE 12 @ STA. 34+23.00± (D.I. #15)

SCALE: 1" = 1'-0"

DEPARTMENT OF PUBLIC WORKS
COUNTY OF KAUAI
APPROVED:

COUNTY ENGINEER — DATE 11-21-14

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BUILDING DIVISION

# DRAIN DETAILS

HARDY STREET IMPROVEMENTS
Federal Aid Project No. STP 0572O(1)

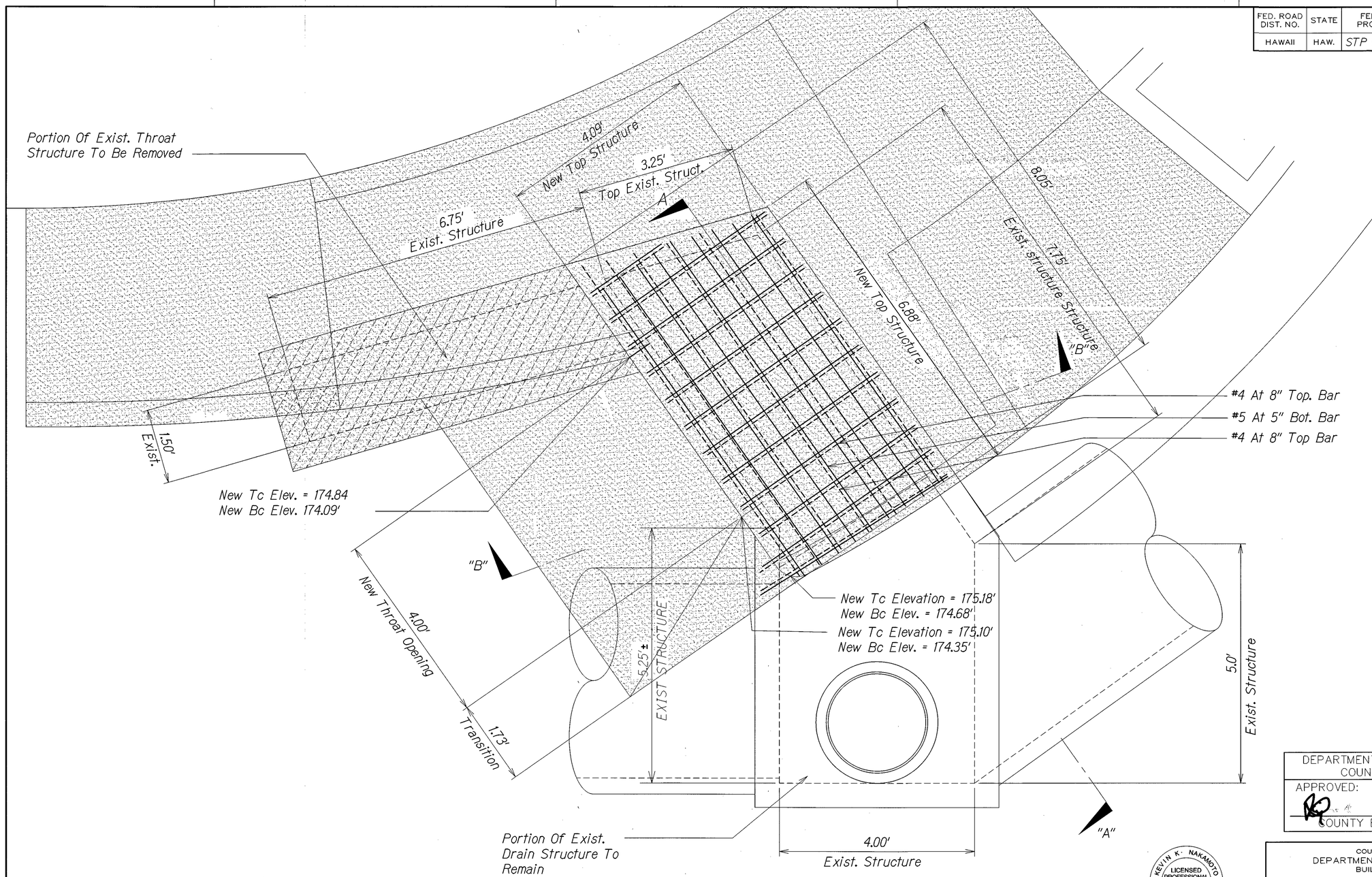
Scale: As Noted — Date: September, 2014

SHEET No. 20 OF 22 SHEETS

100% SUBMITTAL

119D

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | STP 05720(1) | 2014 | | 145 |




PLAN
Scale: N.T.S.

CATCH BASIN #9 DETAIL (STA. 36+06.00±)
Scale: N.T.S.

DEPARTMENT OF PUBLIC WORKS
COUNTY OF KAUAI
APPROVED:
COUNTY ENGINEER — DATE 11-24-14

KEVIN K. NAKAMOTO
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COUNTY OF KAUAI
DEPARTMENT OF PUBLIC WORKS
BUILDING DIVISION

# DRAIN STRUCTURAL DETAILS
## STA. 36+06.00±

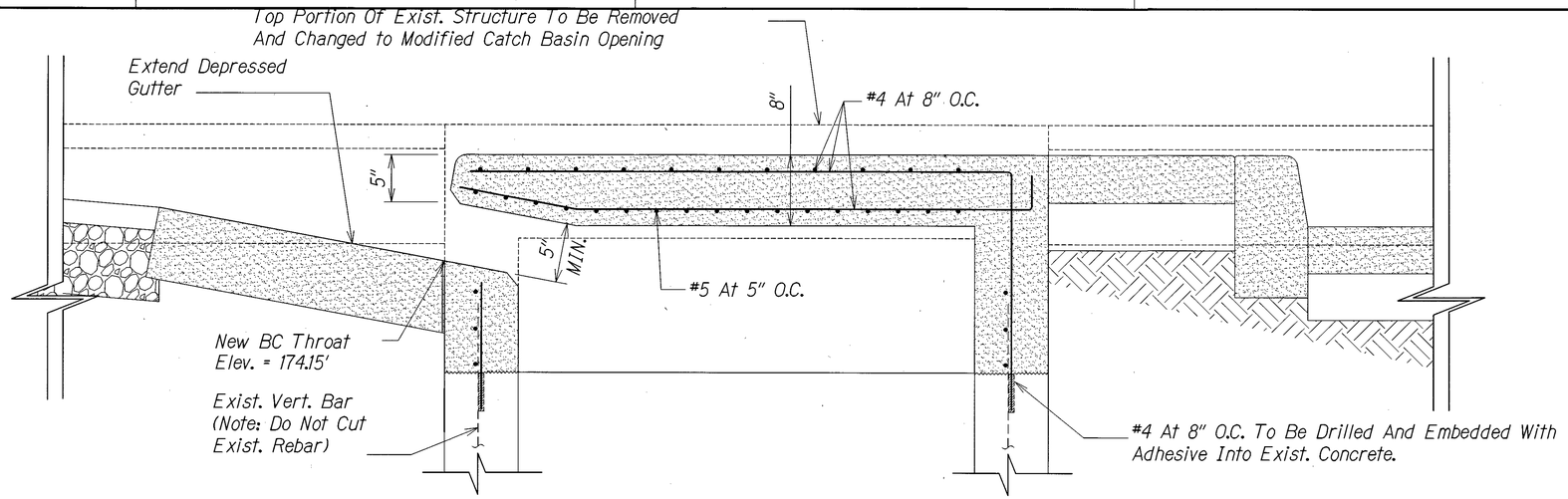
HARDY STREET IMPROVEMENTS
Federal Aid Project No. STP 05720(1)

Scale: As Noted — Date: September, 2014

SHEET No. OF SHEETS

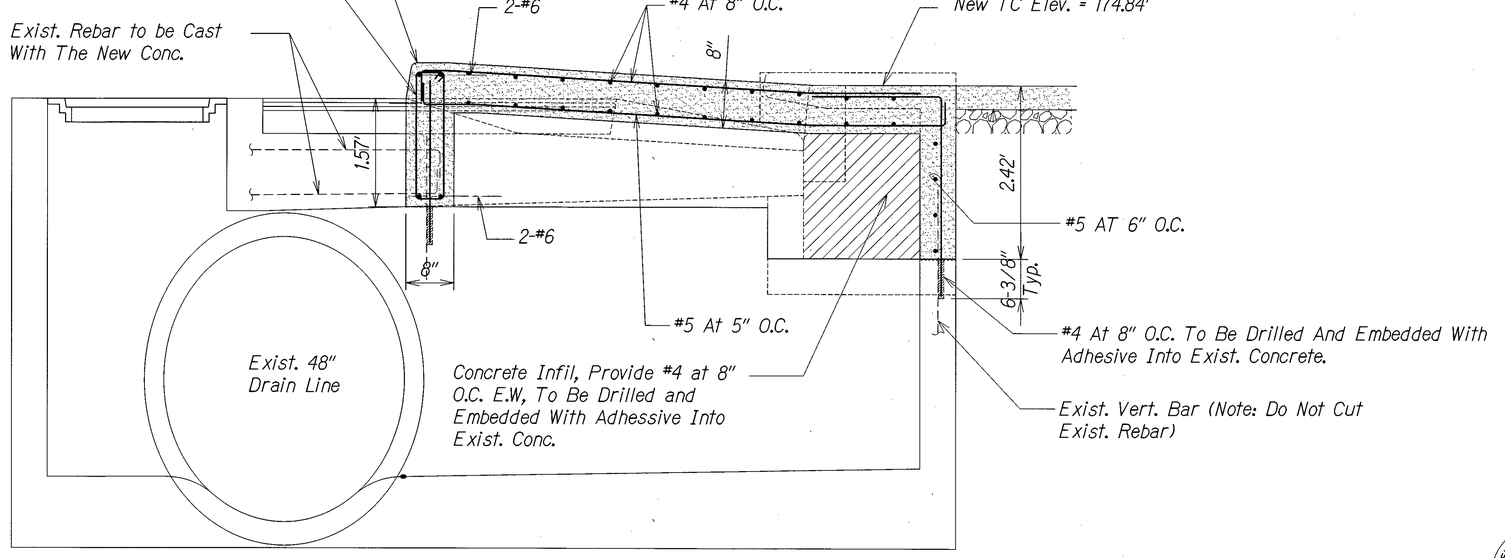
100% SUBMITTAL

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | STP 05720(1) | 2014 | | 145 |




## SECTION "B" - "B"

Scale: N.T.S.




## SECTION "A" - "A"

Scale: N.T.S.

## CATCH BASIN #9 DETAIL (STA. 36+06.00±)

Scale: N.T.S.

DEPARTMENT OF PUBLIC WORKS
COUNTY OF KAUAI
APPROVED:
COUNTY ENGINEER — DATE 11-24-15

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COUNTY OF KAUAI
DEPARTMENT OF PUBLIC WORKS
BUILDING DIVISION

# DRAIN STRUCTURAL DETAILS STA. 36+06.00±

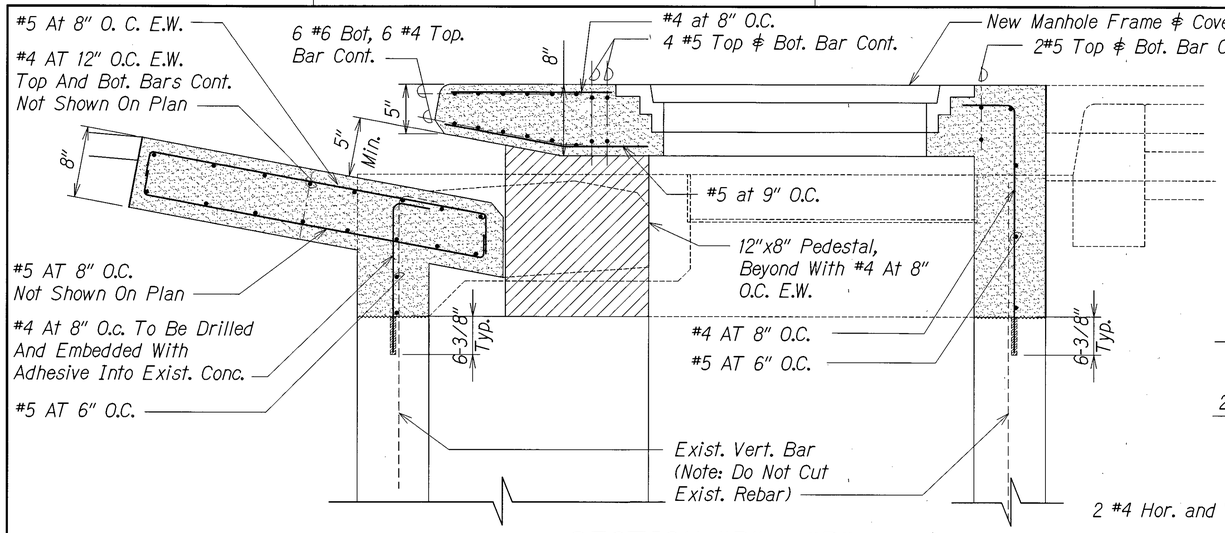
HARDY STREET IMPROVEMENTS
Federal Aid Project No. STP 05720(1)

Scale: As Noted  Date: September, 2014

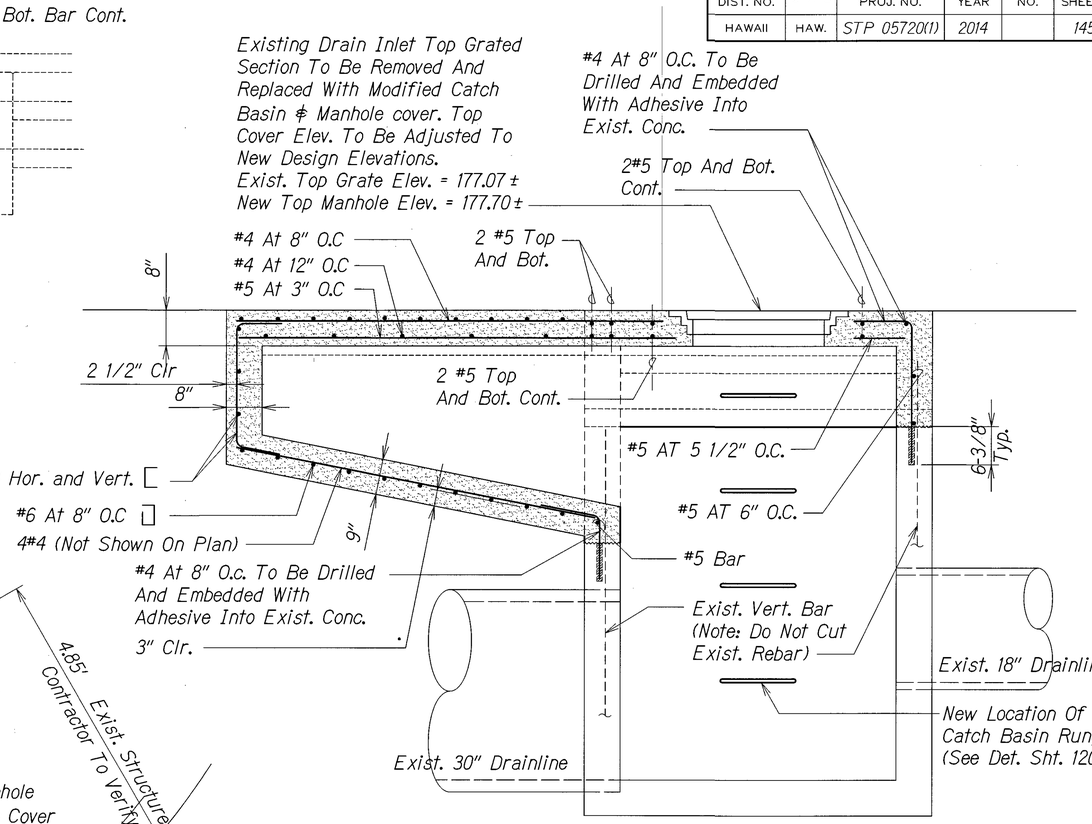
SHEET No. OF SHEETS

100% SUBMITTAL

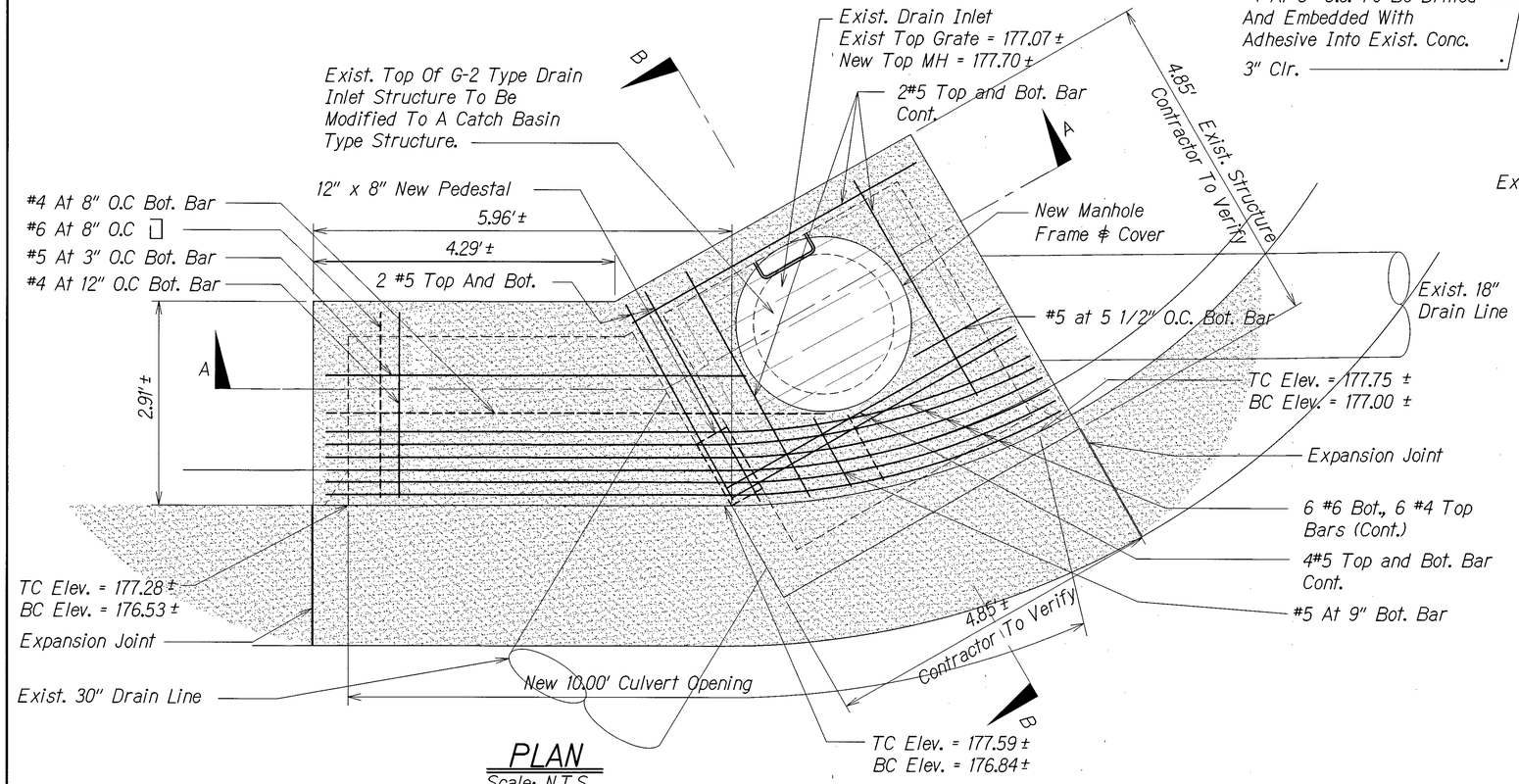
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | STP 05720(1) | 2014 | | 145 |




## SECTION "B" - "B"
Scale: N.T.S.




## SECTION "A" - "A"
Scale: N.T.S.




## PLAN
Scale: N.T.S.

## CATCH BASIN #15 DETAIL (STA. 34+23.00±)
Scale: N.T.S.

DEPARTMENT OF PUBLIC WORKS
COUNTY OF KAUAI
APPROVED:
COUNTY ENGINEER — DATE 11-21-14

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HAWAII USA

EXPIRES: 04/30/16
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COUNTY OF KAUAI
DEPARTMENT OF PUBLIC WORKS
BUILDING DIVISION

# DRAIN STRUCTURAL DETAILS STA. 34+23.00±

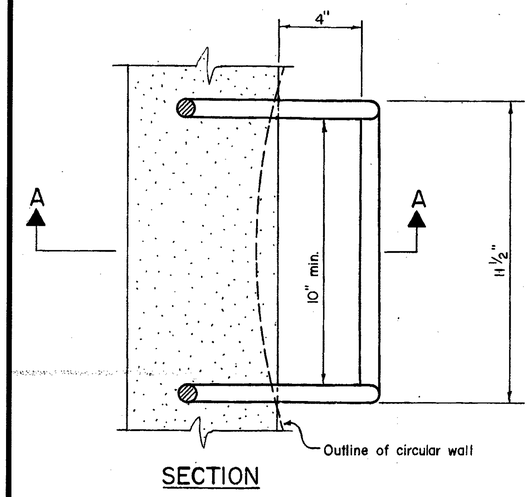
HARDY STREET IMPROVEMENTS
Federal Aid Project No. STP 0572011)

Scale: As Noted — Date: September, 2014

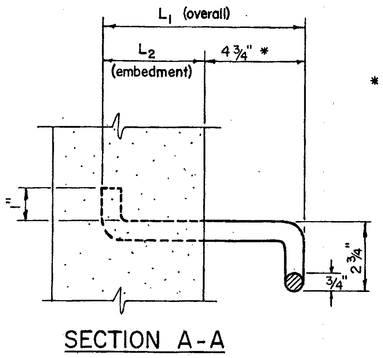
SHEET No. 119G OF SHEETS

100% SUBMITTAL

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | STP 05720(1) | 2014 | | 145 |




SECTION




* 3" for one rung at top of opening.

SECTION A-A

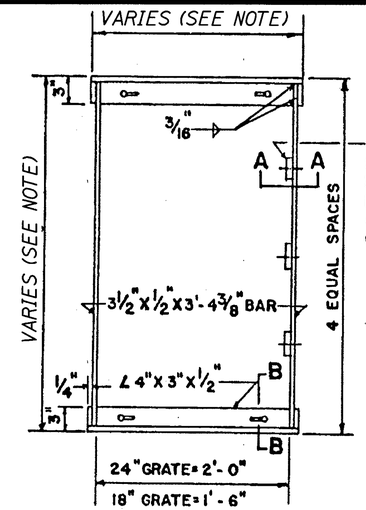
NOTES:

1. Rungs shall be 3/4" diameter wrought iron or ASTM A36 steel rods and shall be hot-dipped galvanized or cadmium plated after bending.
2. Any deviation from these details must be approved by the Chief Engineer.

| TYPE | WALLS | $L_1$ | $L_2$ |
|---|---|---|---|
| Type A | Brick | 13 1/8" | 7 5/8" |
| Type B | Concrete | 9" | 4 1/4" |
| Type C | Precast | 7 3/4" | 3" |

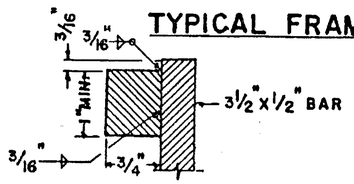
## RUNG DETAIL FOR CATCH BASIN

SCALE: N.T.S.

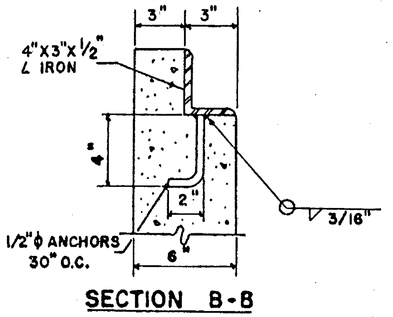



ON FRAMES FOR TYPES 24-18 GRATES PROVIDE 3-3"X1"X3/4" BLOCKS. PLACE ON ROADWAY SIDE OR HIGH SIDE OF GRATE OPENING.

TYPICAL FRAME




SECTION A-A

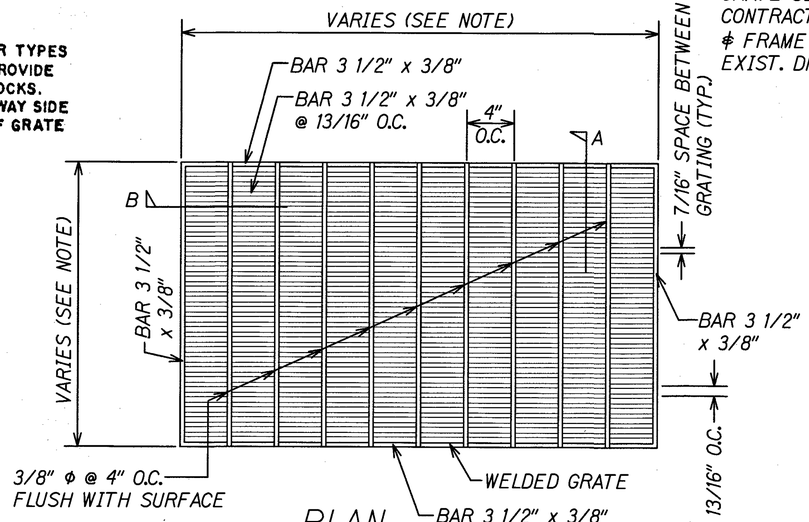



SECTION B-B

## STANDARD FRAME DETAIL

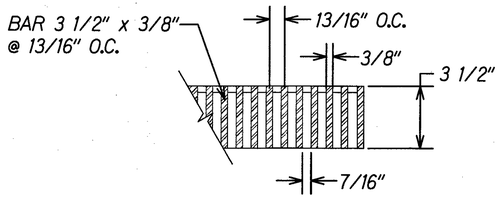
N.T.S.

GRATE SIZE NOTE:
CONTRACTOR TO VERIFY GRATE & FRAME SIZE IN RELATION TO EXIST. DRAIN INLET STRUCTURE.



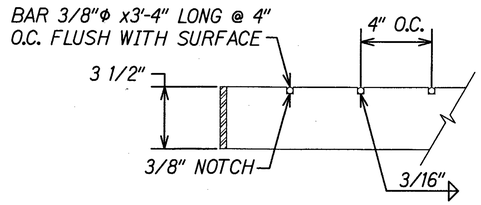

PLAN

N.T.S.




SECTION A

N.T.S.




SECTION B

N.T.S.

## ADAAG COMPLIANT STEEL GRATE DETAIL

N.T.S.

GENERAL NOTES FOR STEEL FRAME AND GRATE:

1. GRATING SHALL BE HEAVY-DUTY WELDED STEEL WITH 3 1/2"x3/8" BEARING BARS AT 13/16" ON CENTER AND 3/8" ROUND CROSS BARS AT 4" ON CENTER.
2. THE MAXIMUM SPACE BETWEEN BEARING BARS SHALL BE 1/2" AND BETWEEN THE GRATING AND FRAME SHALL BE 1/4" TO MEET THE REQUIREMENTS OF ADAAG SECTION 4.5.4.
3. FRAME AND GRATINGS SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION.
4. ALL WELDS FOR THE FRAME AND GRATE SHALL BE 3/16" UNLESS OTHERWISE NOTED
5. GRATINGS SHALL BE INSTALLED SO THAT THE BEARING BARS REST ON THE 3" LEDGE AND ARE PERPENDICULAR TO THE PATH OF TRAVEL.

DEPARTMENT OF PUBLIC WORKS
COUNTY OF KAUAI
APPROVED:
COUNTY ENGINEER — DATE 11-4-14

WAYNE T. WADA
LICENSED PROFESSIONAL ENGINEER
No. 5281-C
HAWAII, U.S.A.

EXPIRES: APRIL 30, 2016
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Wayne T. Wada

COUNTY OF KAUAI
DEPARTMENT OF PUBLIC WORKS
BUILDING DIVISION

# DRAIN DETAILS

HARDY STREET IMPROVEMENTS
Federal Aid Project No. STP 05720(1)

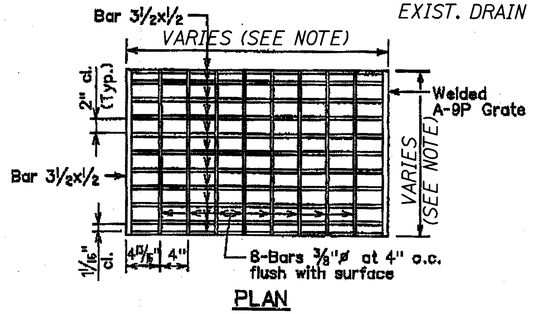
Scale: As Noted — Date: September, 2014

SHEET No. 21 OF 22 SHEETS

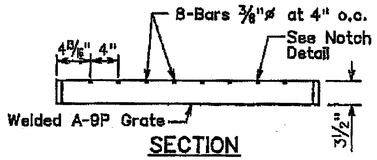
100% SUBMITTAL

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | STP 0572001) | 2014 | | 145 |

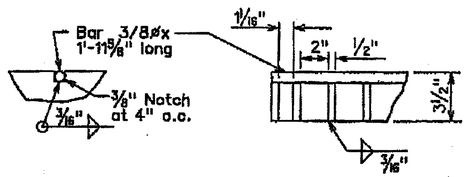
GRATE SIZE NOTE:
CONTRACTOR TO VERIFY GRATE & FRAME SIZE IN RELATION TO EXIST. DRAIN INLET STRUCTURE.




PLAN




SECTION




NOTCH DETAIL

SECTION

TYPE A-9P STEEL GRATES

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD PLAN H-11

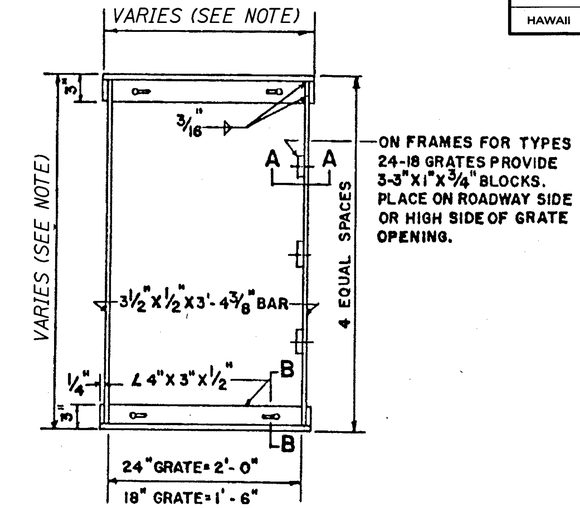
TYPE A-9 AND A-9P STEEL GRATES

STANDARD PLAN H-11 05/31/07

BICYCLE LANE STEEL GRATE DETAIL
N.T.S.

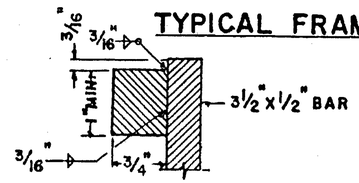
GENERAL NOTES FOR STEEL FRAME AND GRATE:

1. GRATING SHALL BE HEAVY-DUTY WELDED STEEL WITH 3 1/2"x1/2" BEARING BARS AT 2 1/2" ON CENTER AND 3/8" ROUND CROSS BARS AT 4" ON CENTER.
2. THE MAXIMUM SPACE BETWEEN BEARING BARS SHALL BE 2" CLEARANCE.
3. FRAME AND GRATINGS SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION.
4. ALL WELDS FOR THE FRAME AND GRATE SHALL BE 3/16" UNLESS OTHERWISE NOTED.
5. GRATINGS SHALL BE INSTALLED SO THAT THE BEARING BARS REST ON THE 3" LEDGE AND ARE PERPENDICULAR TO THE PATH OF TRAVEL.

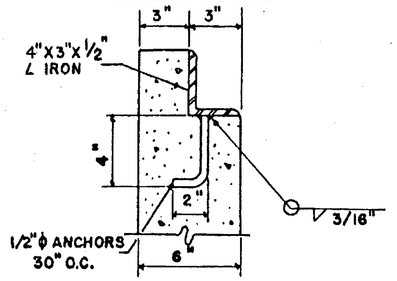



ON FRAMES FOR TYPES 24-18 GRATES PROVIDE 3-3"x1"x¾" BLOCKS. PLACE ON ROADWAY SIDE OR HIGH SIDE OF GRATE OPENING.

TYPICAL FRAME




SECTION A-A




SECTION B-B

STANDARD FRAME DETAIL
N.T.S.

DEPARTMENT OF PUBLIC WORKS
COUNTY OF KAUAI
APPROVED:
COUNTY ENGINEER — DATE 11-24-14

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EXPIRES: APRIL 30, 2016
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Wayne T. Wada

COUNTY OF KAUAI
DEPARTMENT OF PUBLIC WORKS
BUILDING DIVISION

DRAIN DETAILS

HARDY STREET IMPROVEMENTS
Federal Aid Project No. STP 0572001)

Scale: As Noted — Date: September, 2014

SHEET No. 22 OF 22 SHEETS

100% SUBMITTAL 120A