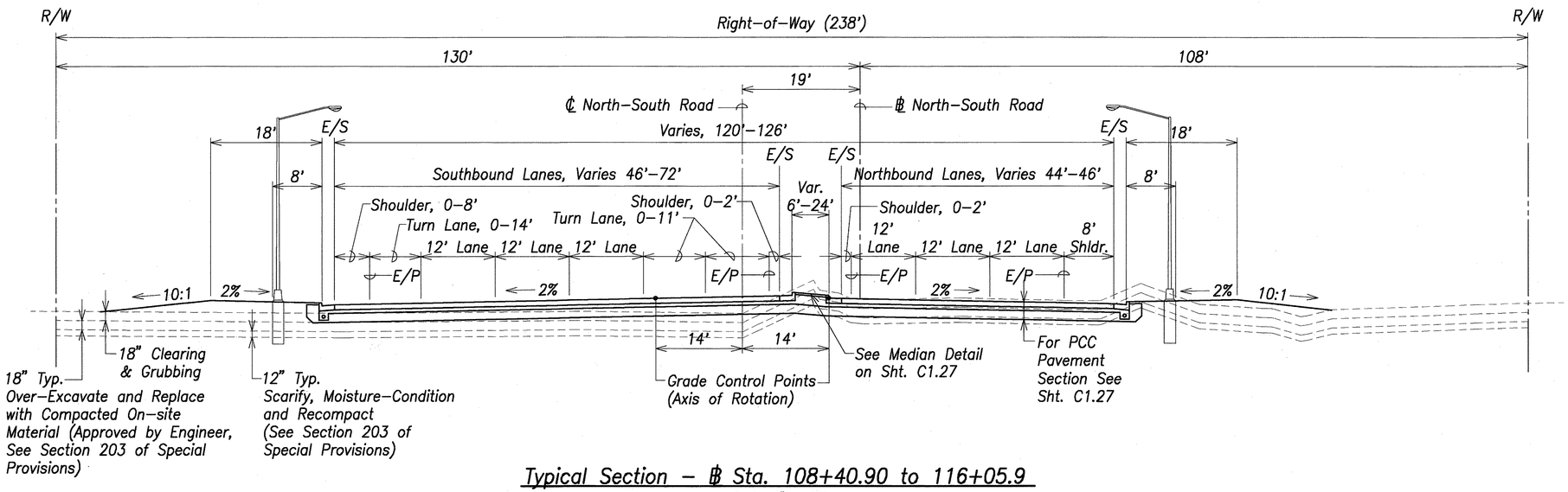
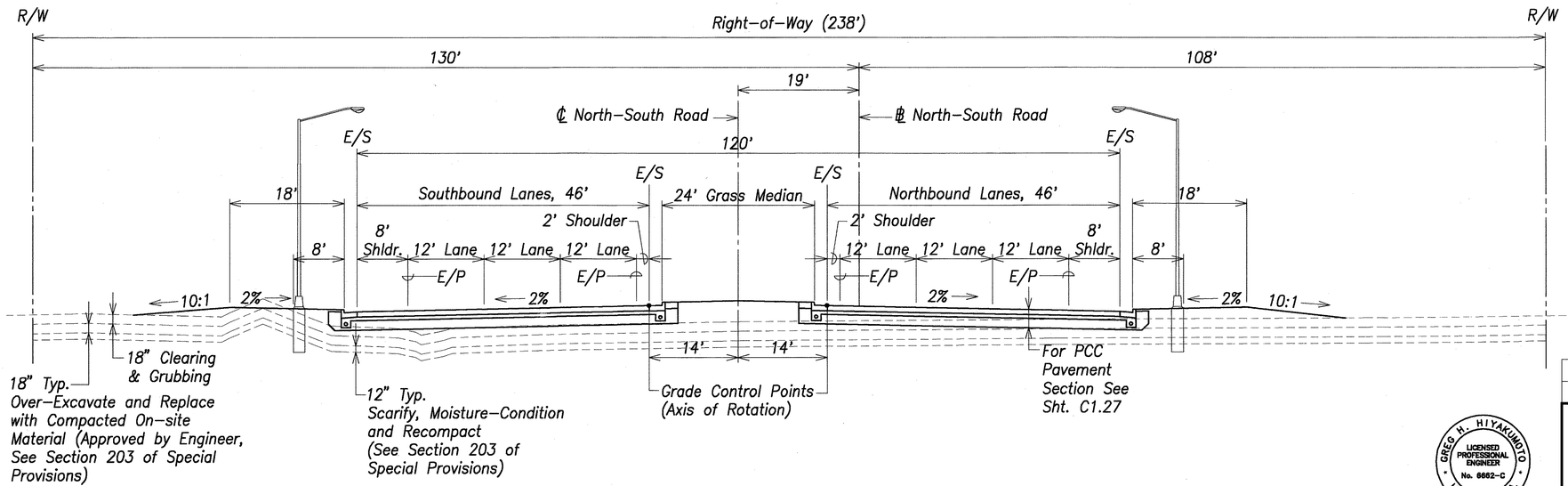
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	ADD. 15	380



Typical Section – ℄ Sta. 108+40.90 to 116+05.9

Scale: 1" = 10'



Typical Section – ℄ Sta. 116+05.9 to 124+00

Scale: 1" = 10'

Graphic Scale:

1" = 10' 10' 5' 0 10' 20'

Scale in Feet

GREG H. HIYAKUMOTO LICENSED PROFESSIONAL ENGINEER No. 6662-C HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE 4/24/07 APR 30, 2008 DATE OF LICENSE EXPIRY

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

DATE	REVISION
4/20/07	2 Revised Sections

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

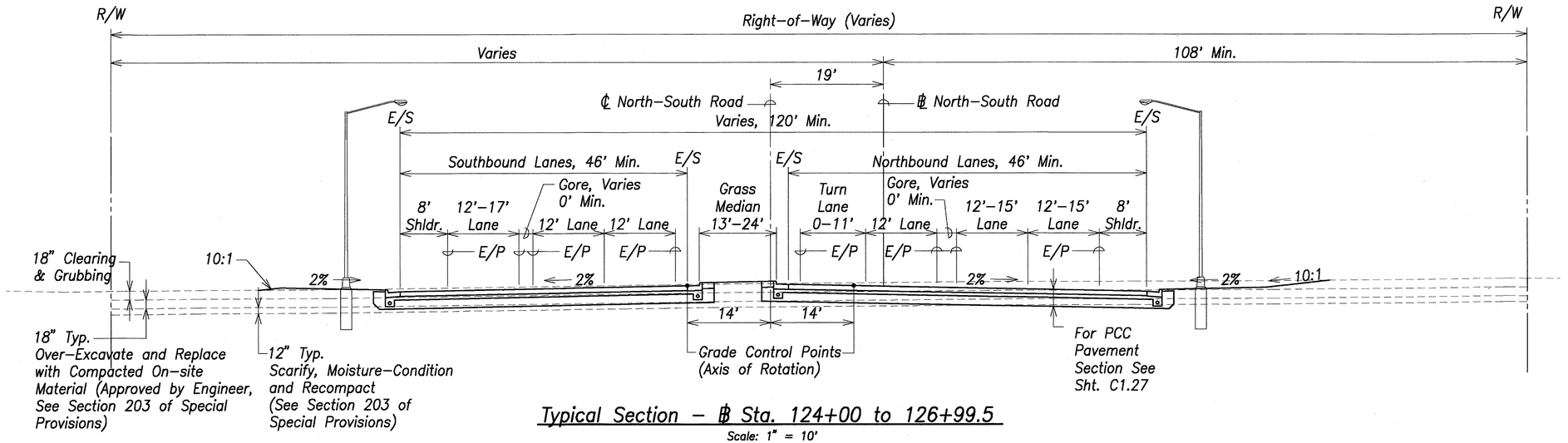
ROADWAY
TYPICAL SECTIONS – 1
North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

Scale: 1" = 10' Date: Feb 21, 2007

SHEET No. C1.1 OF 179 SHEETS

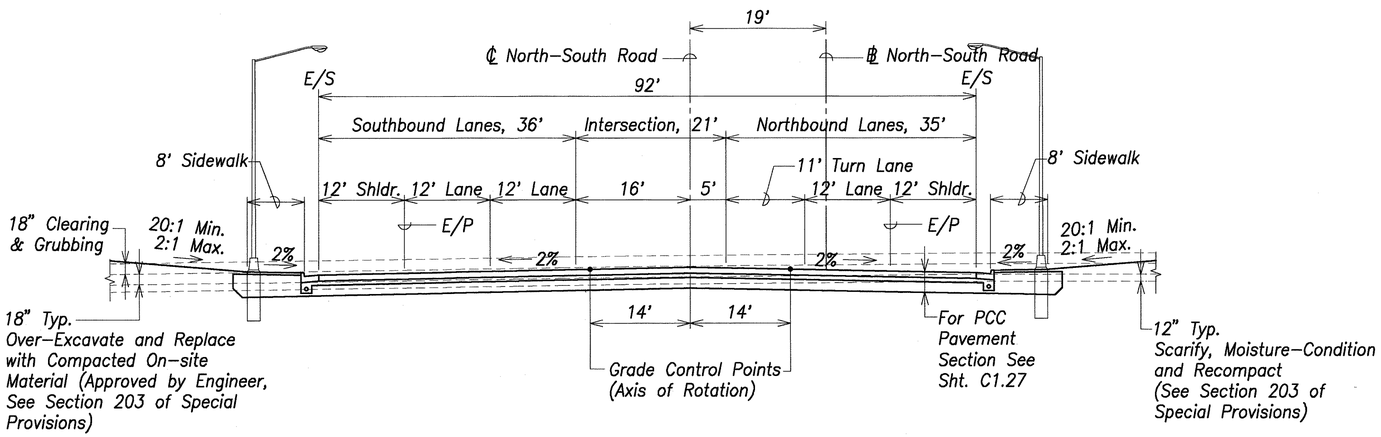
ADD. 15

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	ADD. 16	380



Typical Section – ℄ Sta. 124+00 to 126+99.5

Scale: 1" = 10'



Notes:

1. Shoulder section not applicable at areas where Interchange Ramps intersect with North-South Rd. See Roadway Plans.
2. See Interchange Grading & Drainage Plans, C3.11–C3.14 for actual slopes beyond sidewalk.

Typical Section – ℄ Sta. 126+99.5 to 127+96 & ℄ Sta. 132+95.3 to 134+00

Scale: 1" = 10'

Graphic Scale:

1" = 10' 10' 5' 0 10' 20'

Scale in Feet

SURVEY PLOTTED BY
DRAWN BY
TRACED BY
DESIGNED BY
QUANTITIES BY
CHECKED BY
DATE

ORIGINAL PLAN
NOTE BOOK
No.

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE APR 30, 2008 DATE OF LICENSE EXPIRY

4/20/07	2 Revised Sections
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

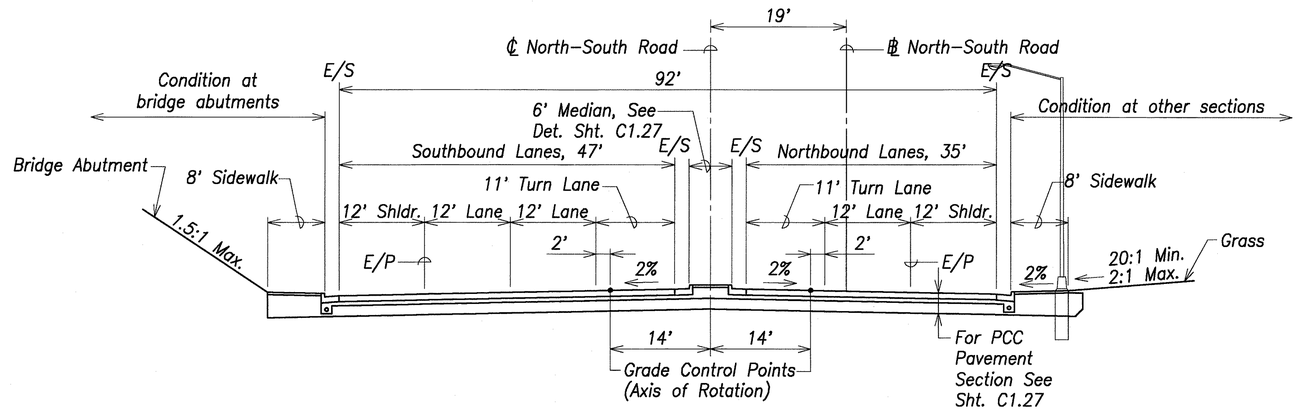
ROADWAY
TYPICAL SECTIONS – 2
North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

Scale: 1" = 10' Date: Feb 21, 2007

SHEET No. C1.2 OF 179 SHEETS

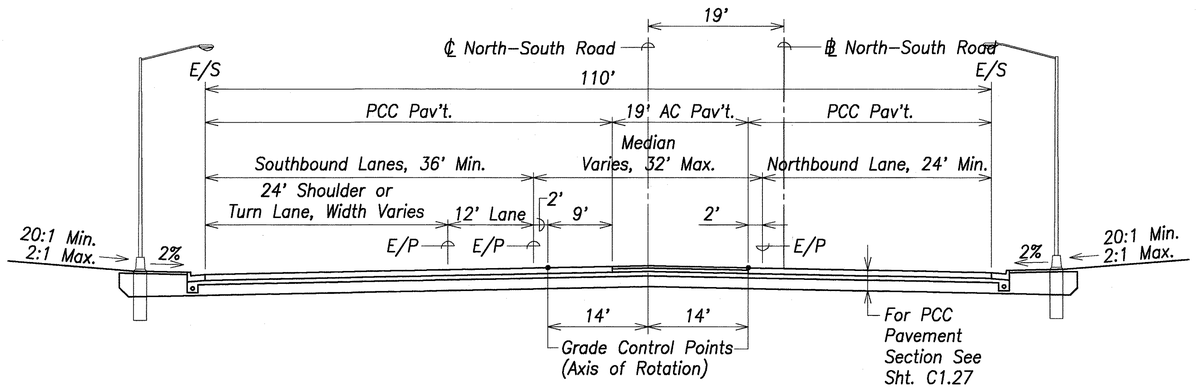
ADD. 16

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	ADD. 17	380



Typical Section – ℄ Sta. 127+96 to 132+95.3

Scale: 1" = 10'



Typical Section – ℄ Sta. 134+00 to 134+75

Scale: 1" = 10'

Notes:

1. See Interchange Grading & Drainage Plans, C3.11–C3.14 for actual slopes beyond sidewalk.
2. See Section 203 of the Special Provisions for overexcavation requirements & subgrade treatment.

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

Graphic Scale:

1" = 10' 10' 5' 0 10' 20'

Scale in Feet

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

APR 30, 2008
DATE OF LICENSE EXPIRY

4/20/07	2 Revised Sections
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

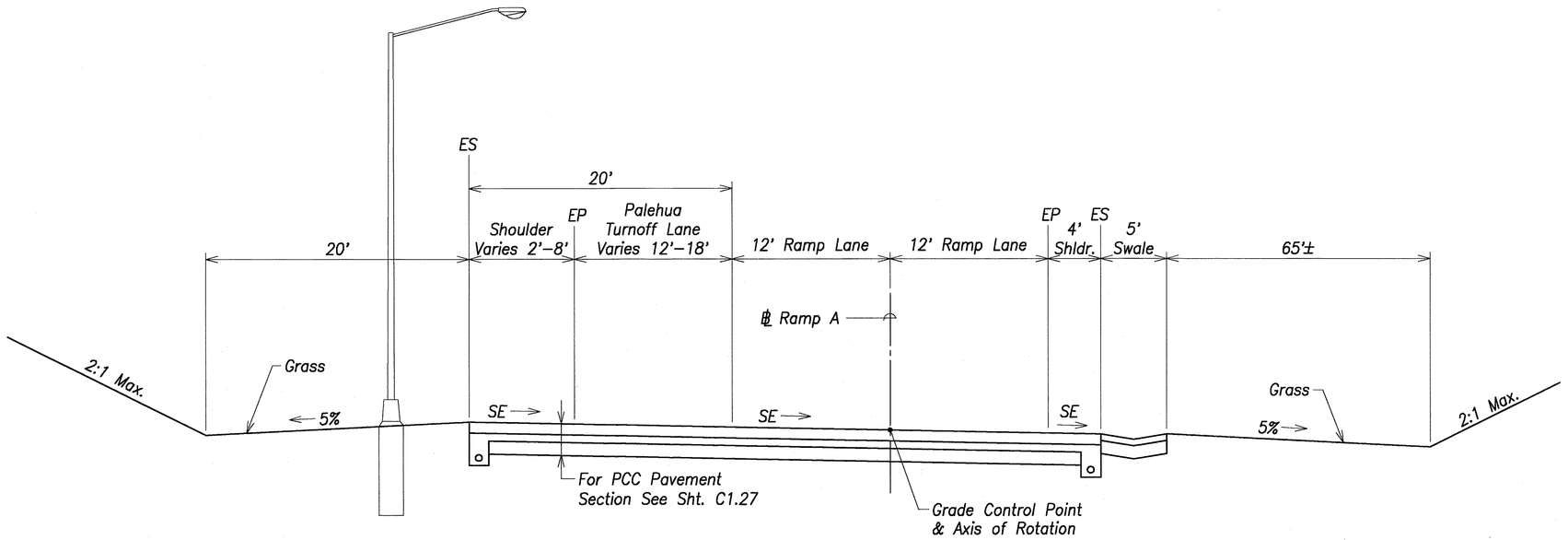
ROADWAY
TYPICAL SECTIONS – 3
North–South Road
Phase 1C
F.A.I. Proj. No. STP–8930(4)

Scale: 1" = 10' Date: Feb 21, 2007

SHEET No. C1.3 OF 179 SHEETS

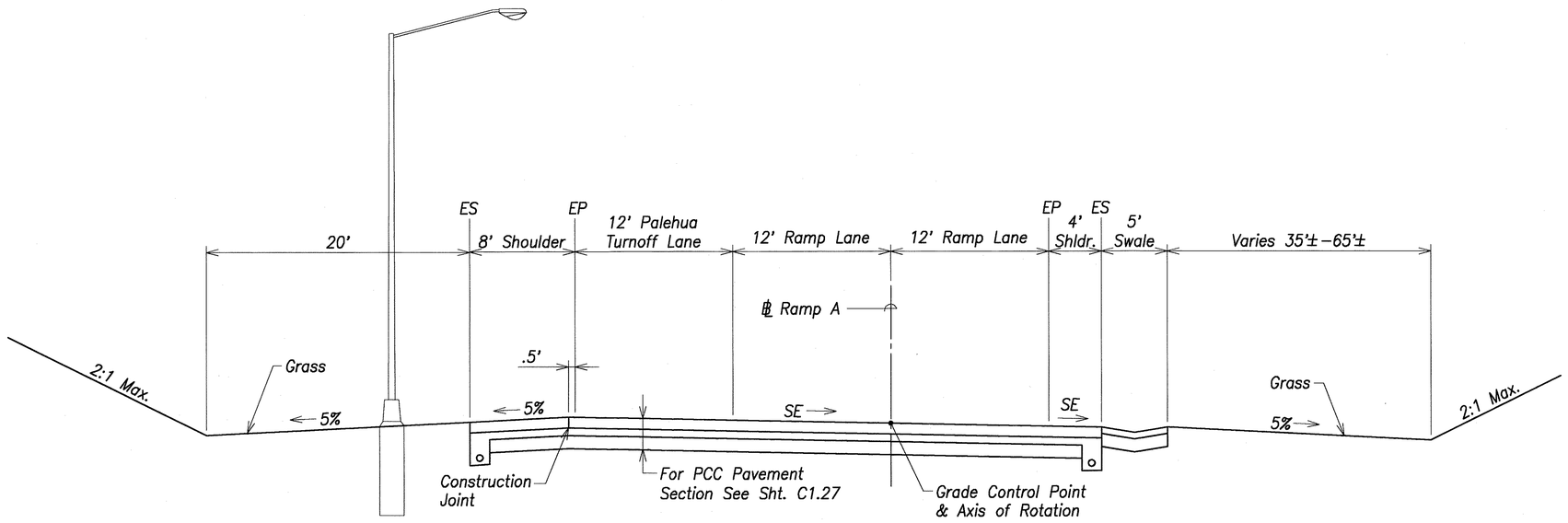
ADD. 17

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	ADD. 18	380



Typical Section – Ramp A ℄ Sta. 1+21.47 to 2+60.68

Scale: 1" = 5'



Typical Section – Ramp A ℄ Sta. 2+60.68 to 5+31.62

Scale: 1" = 5'

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

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6862-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE 4/20/07 DATE OF LICENSE EXPIRY APR 30, 2008

Graphic Scale:

1" = 5' 5' 2.5' 0 5' 10'

Scale in Feet

4/20/07	2 Revised Sections
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

INTERCHANGE RAMP A TYPICAL SECTIONS – 1

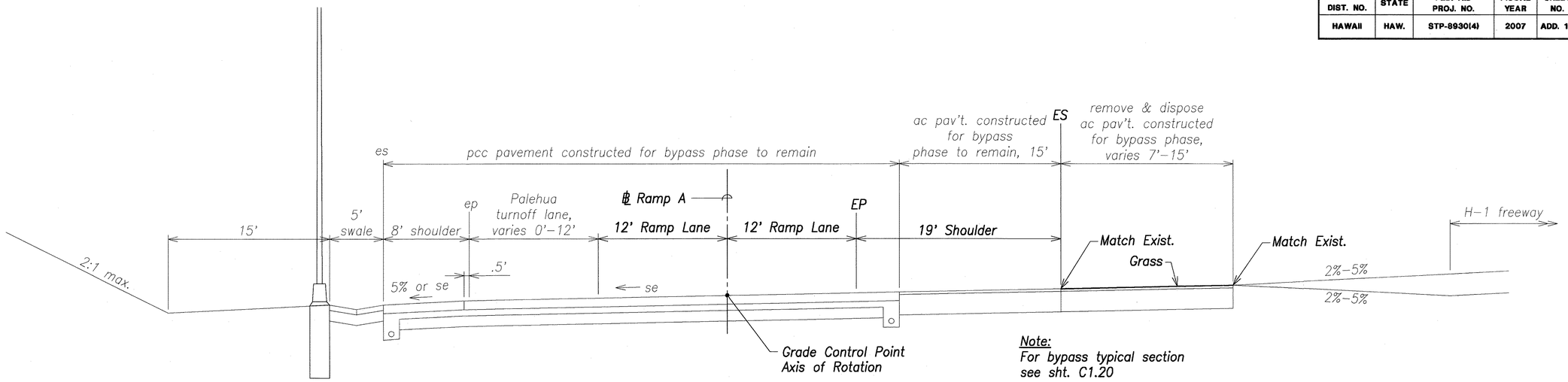
North–South Road
Phase 1C
F.A.I. Proj. No. STP–8930(4)

Scale: 1" = 5' Date: Feb 21, 2007

SHEET No. C1.4 OF 179 SHEETS

ADD. 18

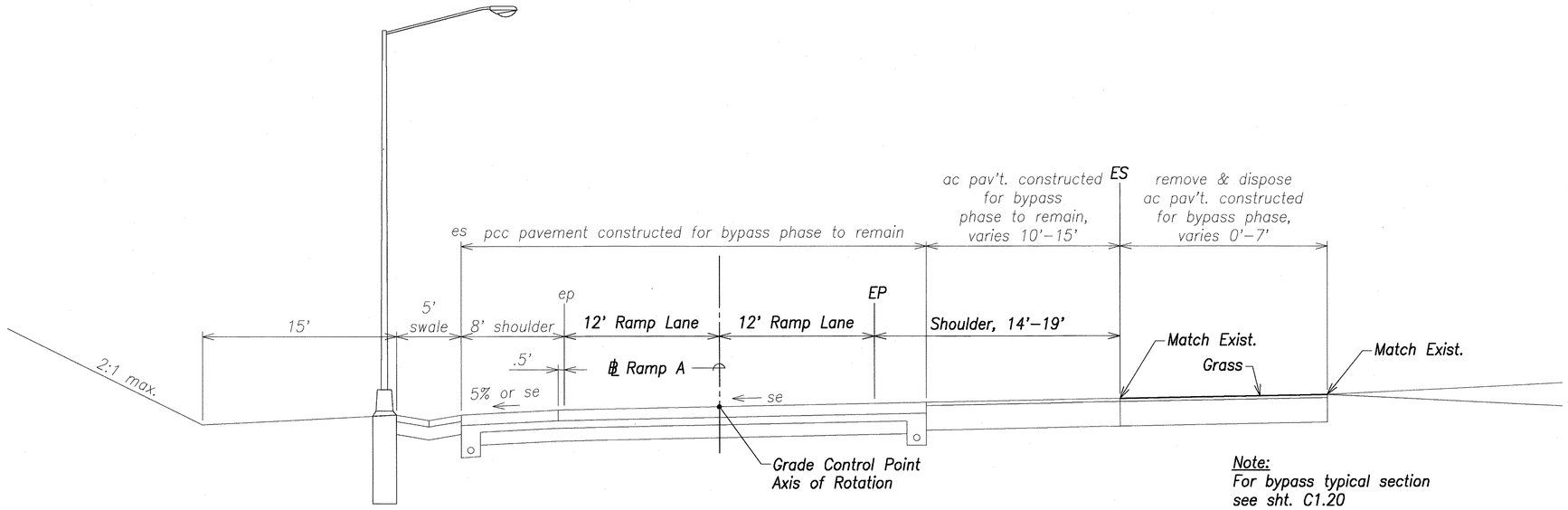
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	ADD. 19	380



Note:
For bypass typical section see sht. C1.20

Typical Section – Ramp A ℄ Sta. ℄ Sta. 5+31.62 to 7+11.36

Scale: 1" = 5'



Note:
For bypass typical section see sht. C1.20

Typical Section – Ramp A ℄ Sta. ℄ Sta. 7+11.36 to ℄ Sta. 12+73.25

Scale: 1" = 5'

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

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 8862-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE of Engineer — APR 30, 2008 DATE OF LICENSE EXPIRY

Graphic Scale:
1" = 5'
5' 2.5' 0 5' 10'
Scale in Feet

DATE	REVISION
4/20/07	2 Revised Sections

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

INTERCHANGE RAMP A TYPICAL SECTIONS – 2

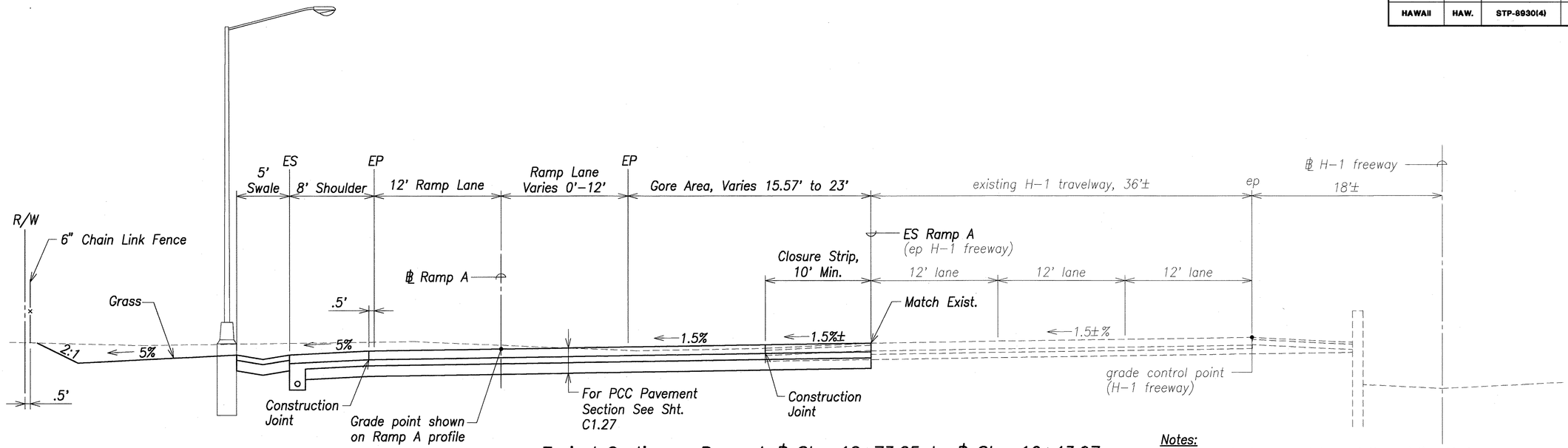
North–South Road
Phase 1C
F.A.I. Proj. No. STP–8930(4)

Scale: 1" = 5' Date: Feb 21, 2007

SHEET No. C1.5 OF 179 SHEETS

ADD. 19

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	ADD. 20	380

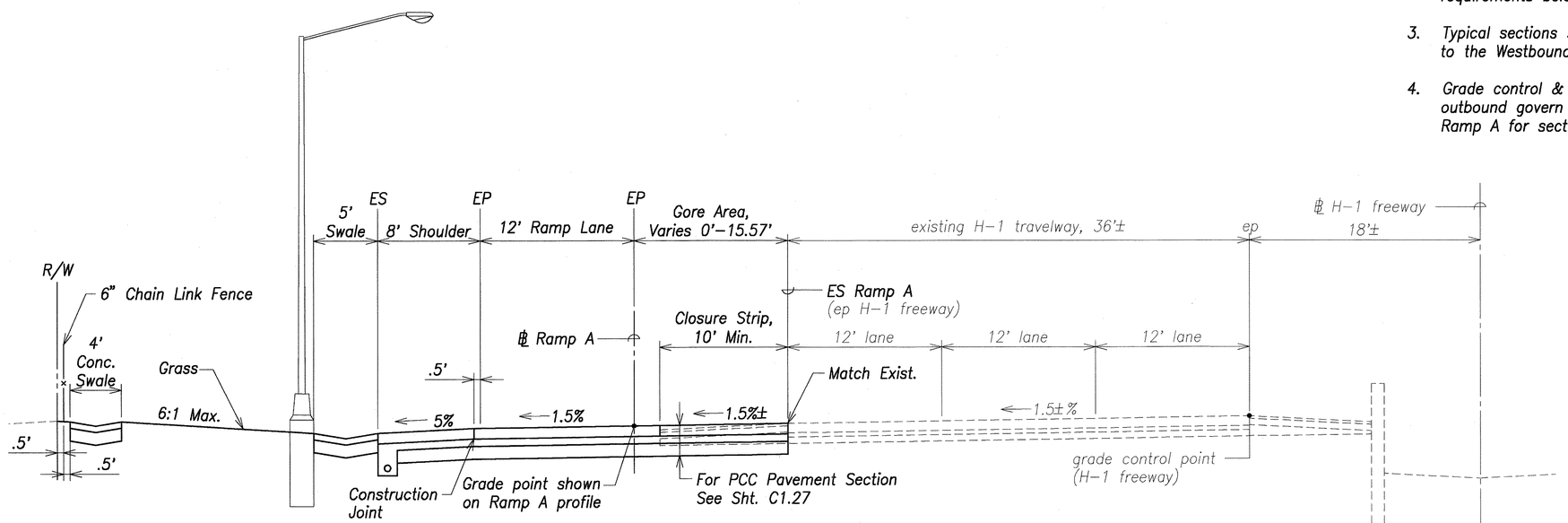


Typical Section – Ramp A ℄ Sta. 12+73.25 to ℄ Sta. 16+43.97
(H–1 ℄ Sta. 221+73.22 to ℄ Sta. 225+44.27)

Scale: 1" = 5'

Notes:

1. Areas to be graded beyond the existing H–1 shoulder shall be cleared & grubbed to 18" below existing grade.
2. See Section 203 of the Special Provisions for over–excavation & subgrade preparation requirements below the 18" clearing & grubbing.
3. Typical sections shown on this sheet also apply to the Westbound Bypass.
4. Grade control & cross–slope of exist. H–1 outbound govern cross–slope & elevations of Ramp A for sections shown on this sheet.



Typical Section – Ramp A ℄ Sta. 16+43.97 to ℄ Sta. 19+41.47
(H–1 ℄ Sta. 225+44.27 to ℄ Sta. 228+41.36)

Scale: 1" = 5'

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662–C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE — DATE OF LICENSE EXPIRY: APR 30, 2008

Graphic Scale:

1" = 5' (5' 2.5' 0 5' 10')

Scale in Feet

DATE	REVISION
4/20/07	2 Revised Sections

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

INTERCHANGE RAMP A
TYPICAL SECTIONS – 3
North–South Road
Phase 1C
F.A.I. Proj. No. STP–8930(4)

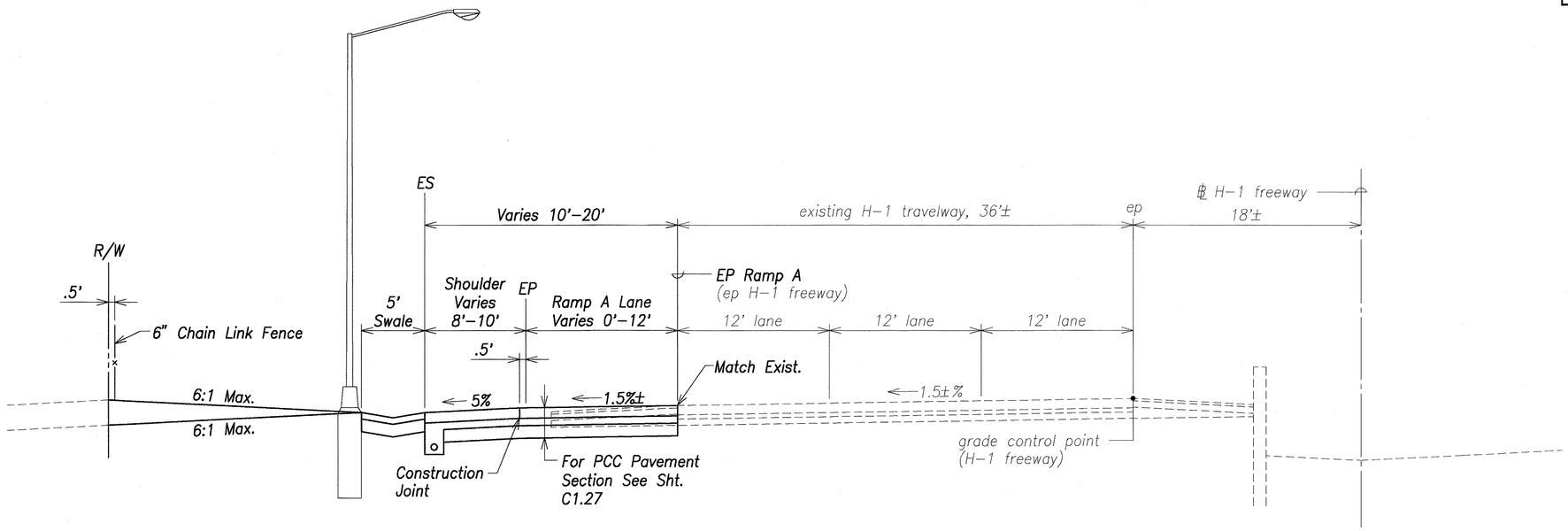
Scale: 1" = 5' Date: Feb 21, 2007

SHEET No. C1.6 OF 179 SHEETS

ADD. 20

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

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	ADD. 21	380



Typical Section – H–1 ℄ Sta. 228+41.36 to ℄ Sta. 230+75

Scale: 1" = 5'

Notes:

1. Areas to be graded beyond the existing H–1 shoulder shall be cleared & grubbed to 18" below existing grade.
2. See Section 203 of the Special Provisions for over–excavation & subgrade preparation requirements below the 18" clearing & grubbing.
3. Typical section shown on this sheet also apply to the Westbound Bypass.
4. Grade control & cross–slope of exist. H–1 outbound govern cross–slope & elevations of Ramp A for section shown on this sheet.

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662–C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE — APR 30, 2008 DATE OF LICENSE EXPIRY

Graphic Scale:

1" = 5' 5' 2.5' 0 5' 10'

Scale in Feet

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

DATE	REVISION
4/20/07	2 Revised Section

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

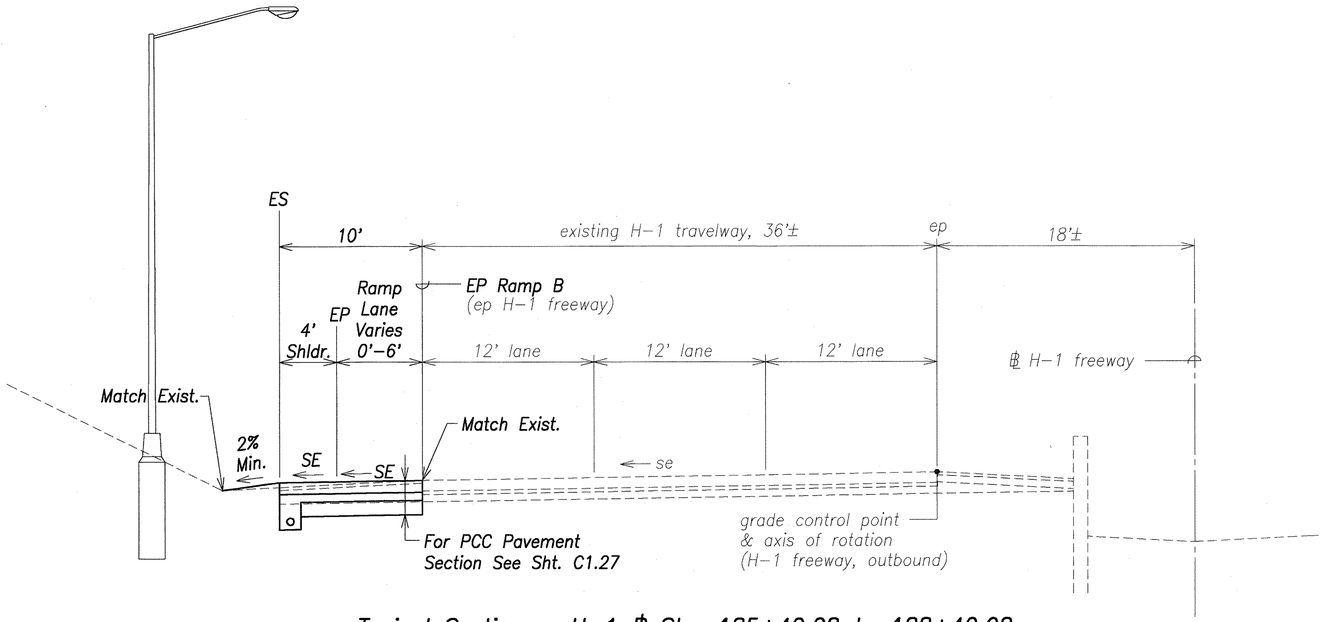
INTERCHANGE RAMP A
TYPICAL SECTIONS – 4
North–South Road
Phase 1C
F.A.I. Proj. No. STP–8930(4)

Scale: 1" = 5' Date: Feb 21, 2007

SHEET No. C1.7 OF 179 SHEETS

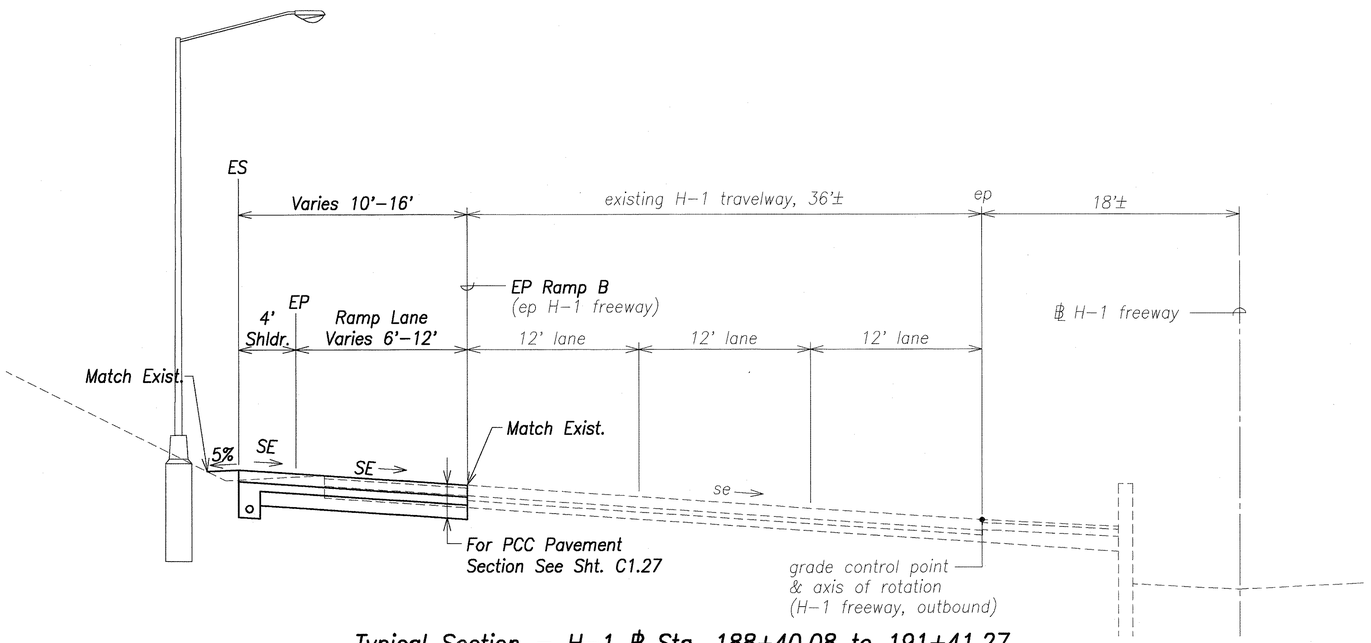
ADD. 21

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	ADD. 22	380



Typical Section – H-1 ℄ Sta. 185+40.08 to 188+40.08

Scale: 1" = 5'



Typical Section – H-1 ℄ Sta. 188+40.08 to 191+41.27

Scale: 1" = 5'

Notes:

1. Areas to be graded beyond the existing H-1 shoulder shall be cleared & grubbed to 18" below existing grade.
2. See Section 203 of the Special Provisions for over-excavation & subgrade preparation requirements below the 18" clearing & grubbing.
3. Typical sections shown on this sheet also apply to the Westbound Bypass.
4. Grade control & cross-slope of exist. H-1 outbound govern cross-slope & elevations of Ramp B for sections shown on this sheet.

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6562-C
HAWAII, U.S.A.

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SIGNATURE APR 30, 2008 DATE OF LICENSE EXPIRY

Graphic Scale:

1" = 5' 5' 2.5' 0 5' 10'

Scale in Feet

DATE	REVISION
4/20/07	2 Revised sections, added notes

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

INTERCHANGE RAMP B
TYPICAL SECTIONS – 1
North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

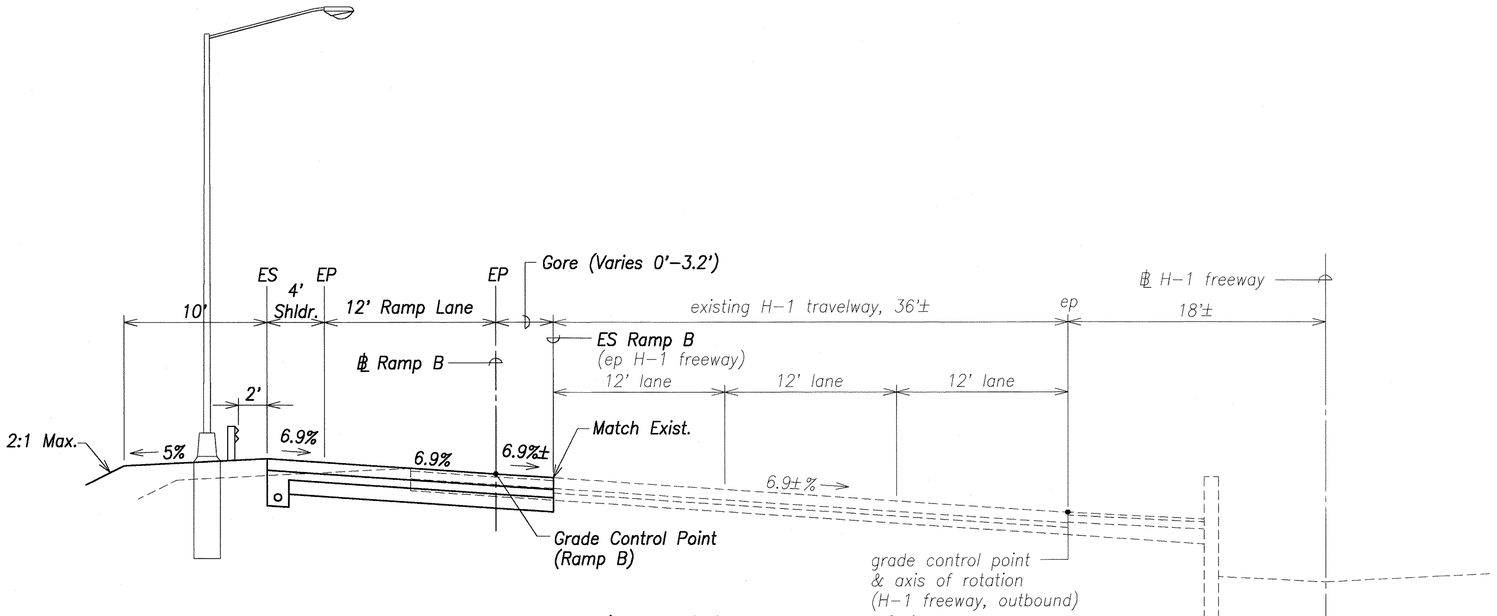
Scale: 1" = 5' Date: Feb 21, 2007

SHEET No. C1.8 OF 179 SHEETS

ADD. 22

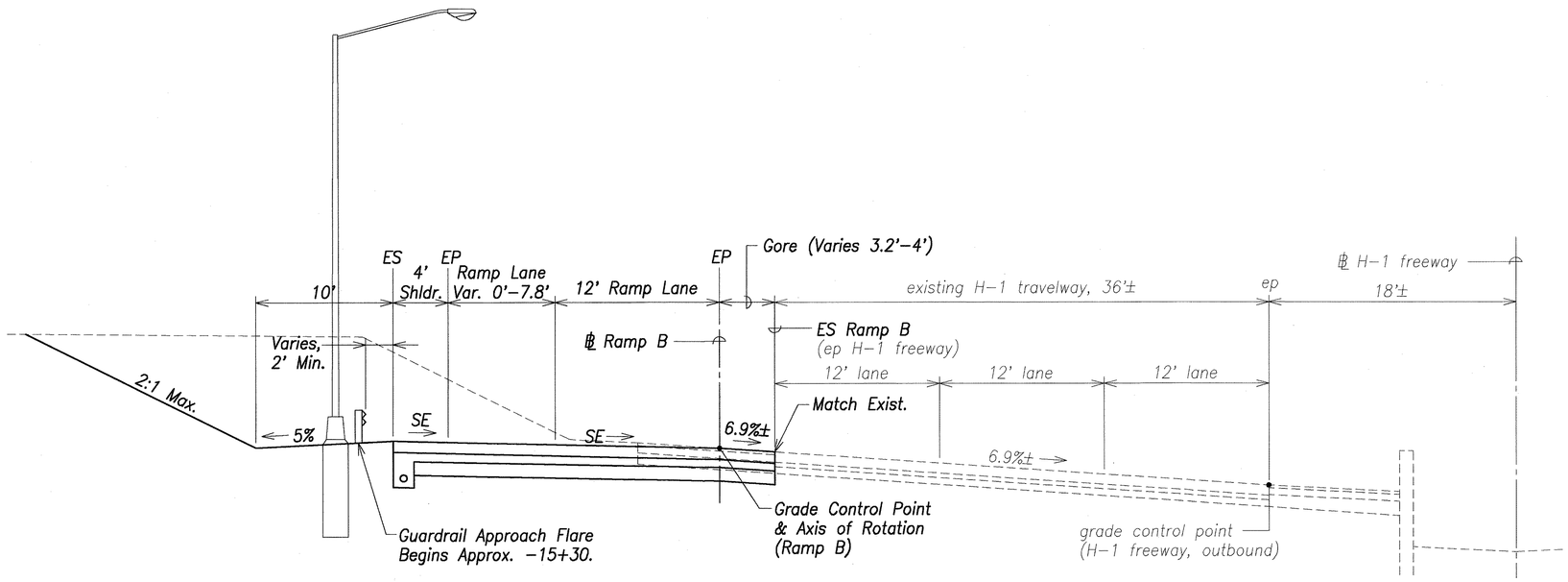
ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	
No.	TRACED BY	
	DESIGNED BY	
	QUANTITIES BY	
	CHECKED BY	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	ADD. 23	380



Typical Section – Ramp B ℄ Sta. (–)18+84.35 to (–)17+25
(H–1 ℄ Sta. 191+41.27 to 192+96.81)

Scale: 1" = 5'



Typical Section – Ramp B ℄ Sta. (–)17+25 to (–)13+35.07
(H–1 ℄ Sta. 192+96.81 to 196+76)

Scale: 1" = 5'

Notes:

1. *Areas to be graded beyond the existing H–1 shoulder shall be cleared & grubbed to 18" below existing grade.*
2. *See Section 203 of the Special Provisions for over–excavation & subgrade preparation requirements below the 18" clearing & grubbing.*
3. *Typical pavement sections shown on this sheet also apply to Westbound Bypass sta. –18+84.35 to –13+35.07.*
4. *Grade control & superelevation of exist. H–1 outbound governs grade control of Ramp B for sections shown on this sheet.*
5. *SE diagram for Ramps A & B governs cross–slope of Ramp B.*

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662–C
HAWAII, U.S.A.

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SIGNATURE — APR 30, 2008 DATE OF LICENSE EXPIRY

Graphic Scale:

1" = 5' — 5' 2.5' 0 5' 10' — Scale in Feet

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

DATE	REVISION
4/20/07	2 Revised sections, added notes

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

INTERCHANGE RAMP B TYPICAL SECTIONS – 2

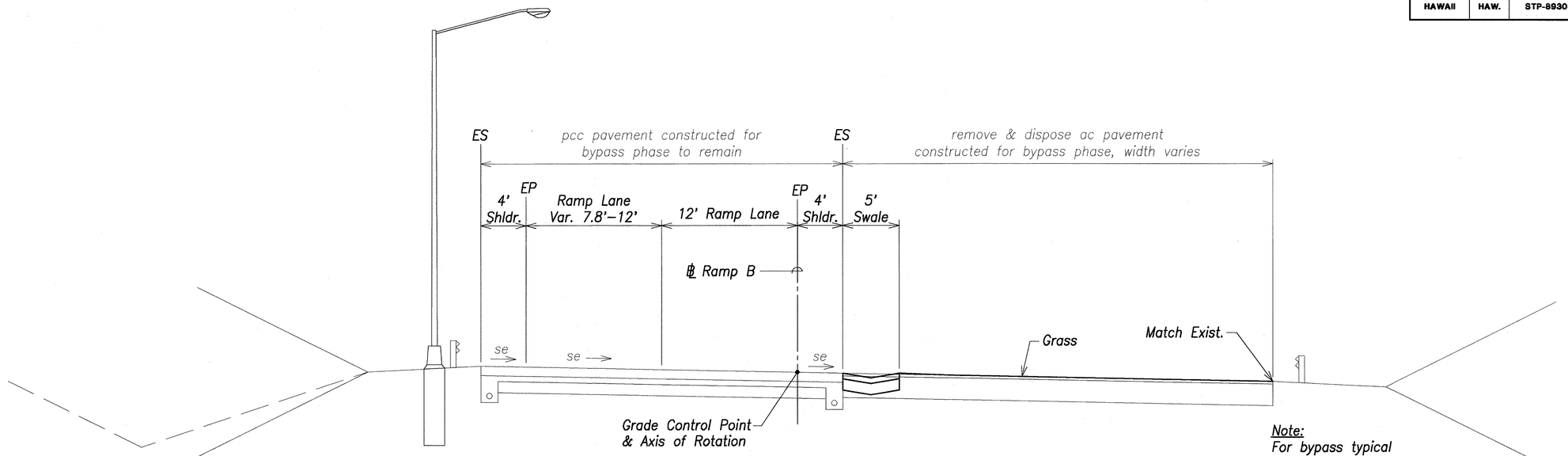
North–South Road
Phase 1C
F.A.I. Proj. No. STP–8930(4)

Scale: 1" = 5' Date: Feb 21, 2007

SHEET No. C1.9 OF 179 SHEETS

ADD. 23

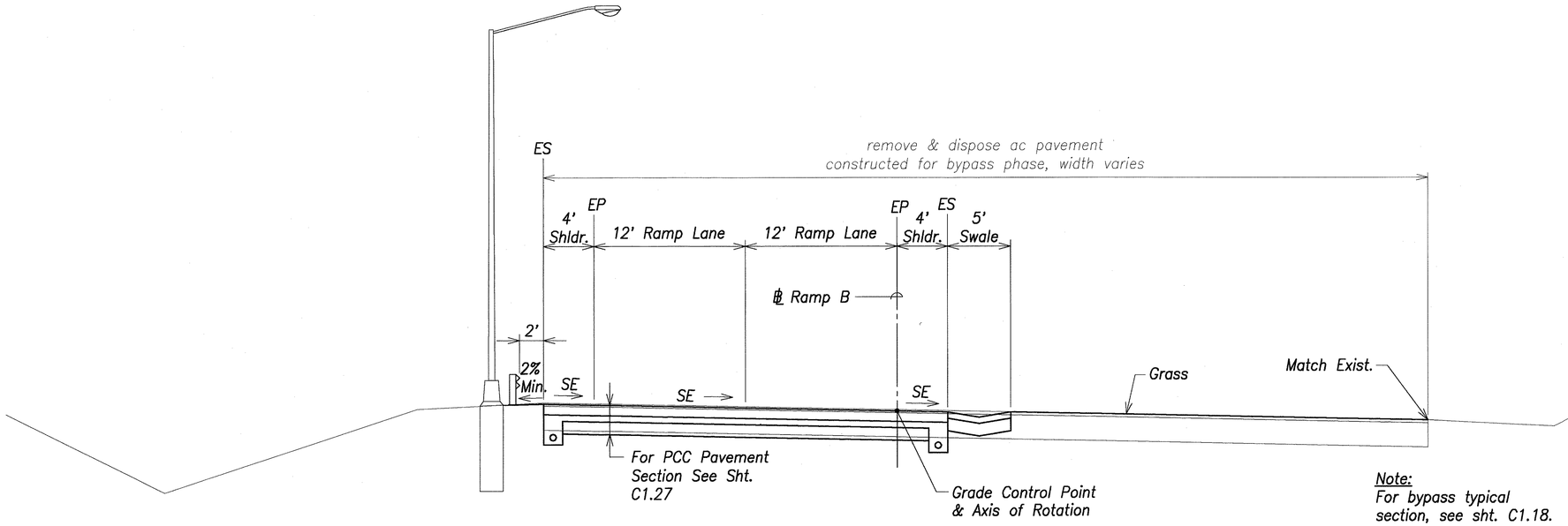
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	ADD. 24	380



Note:
For bypass typical section, see sht. C1.17.

Typical Section – Ramp B ℄ Sta. (–)13+35.07 to (–)3+59.93

Scale: 1" = 5'



Note:
For bypass typical section, see sht. C1.18.

Typical Section – Ramp B ℄ Sta. (–)3+59.93 to (–)1+64.89

Scale: 1" = 5'

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE 4/20/07 — APR 30, 2008 DATE OF LICENSE EXPIRY

Graphic Scale:

1" = 5' 5' 2.5' 0 5' 10'

Scale in Feet

DATE	REVISION
4/20/07	2 Revised sections

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

INTERCHANGE RAMP B TYPICAL SECTIONS – 3

North–South Road
Phase 1C
F.A.I. Proj. No. STP–8930(4)

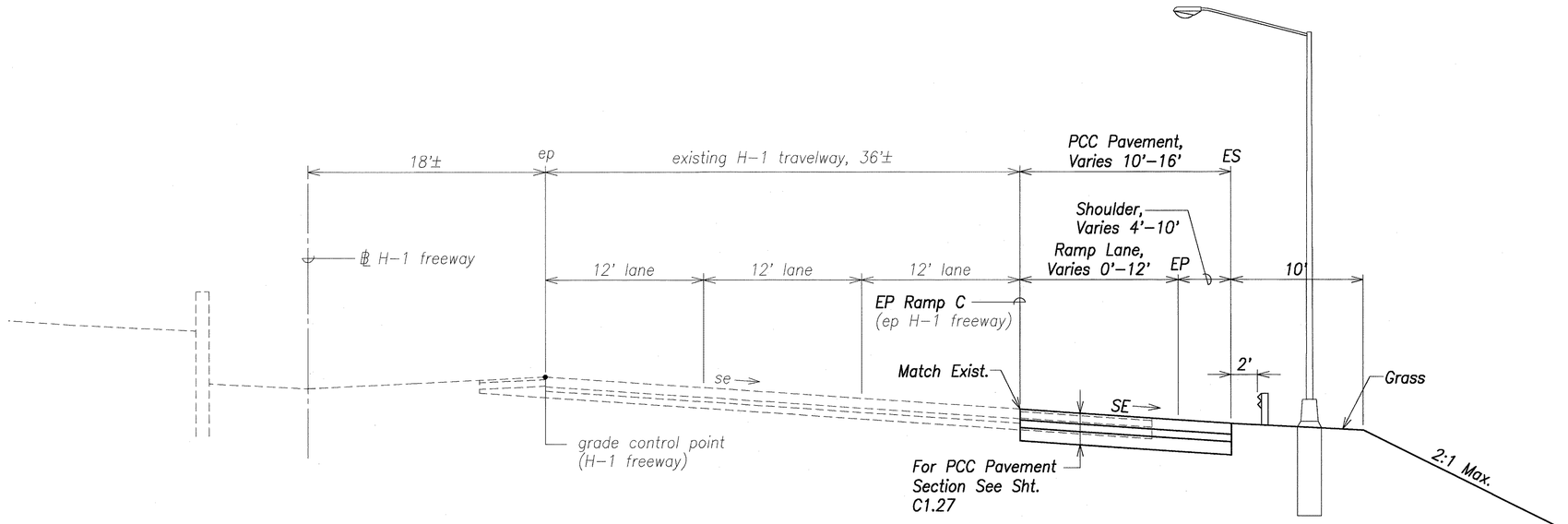
Scale: 1" = 5' Date: Feb 21, 2007

SHEET No. C1.10 OF 179 SHEETS

ADD. 24

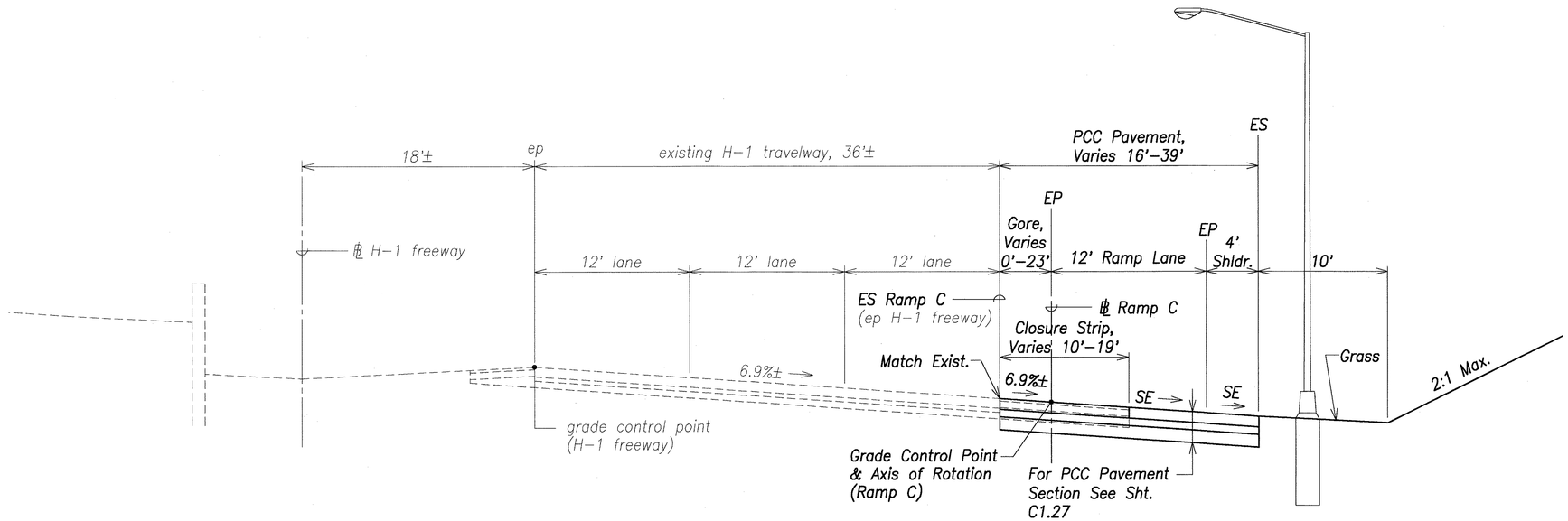
ORIGINAL PLAN
NOTE BOOK No.
SURVEY PLOTTED BY
DRAWN BY
TRACED BY
DESIGNED BY
QUANTITIES BY
CHECKED BY
DATE

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	ADD. 25	380



Typical Section – H-1 ℄ Sta. 187+28.24 to 193+49.87

Scale: 1" = 5'



Typical Section – Ramp C ℄ Sta. (–)16+00.60 to (–)11+50.13
(H-1 ℄ Sta. 193+49.87 to 198+12.39)

Scale: 1" = 5'

Notes:

1. Areas to be graded beyond the existing H-1 shoulder shall be cleared & grubbed to 18" below existing grade.
2. See Section 203 of the Special Provisions for over-excavation & subgrade preparation requirements below the 18" clearing & grubbing.
3. Typical sections shown on this sheet also apply to the Eastbound Bypass.
4. Grade control & cross-slope of exist. H-1 outbound governs elevations & grade control of Ramp C from H-1 Sta. 187+28.24 to Ramp C Sta. –12+00.
5. SE diagram for Ramps C & D governs cross-slope of Ramp C from Sta. –12+00 forward.

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662-C
HAWAII, U.S.A.

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SIGNATURE APR 30, 2008 DATE OF LICENSE EXPIRY

Graphic Scale:

1" = 5' 5' 2.5' 0 5' 10'

Scale in Feet

DATE	REVISION
4/20/07	2 Revised Sections

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

INTERCHANGE RAMP C TYPICAL SECTIONS – 1

North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

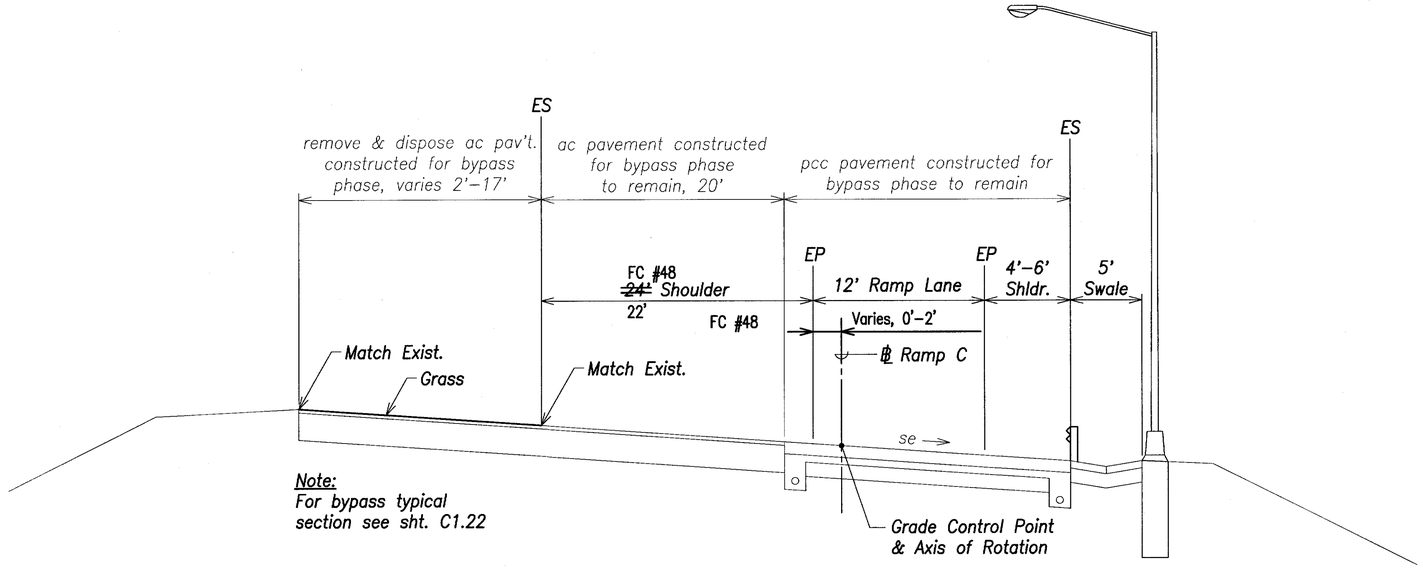
Scale: 1" = 5' Date: Feb 21, 2007

SHEET No. C1.11 OF 179 SHEETS

ADD. 25

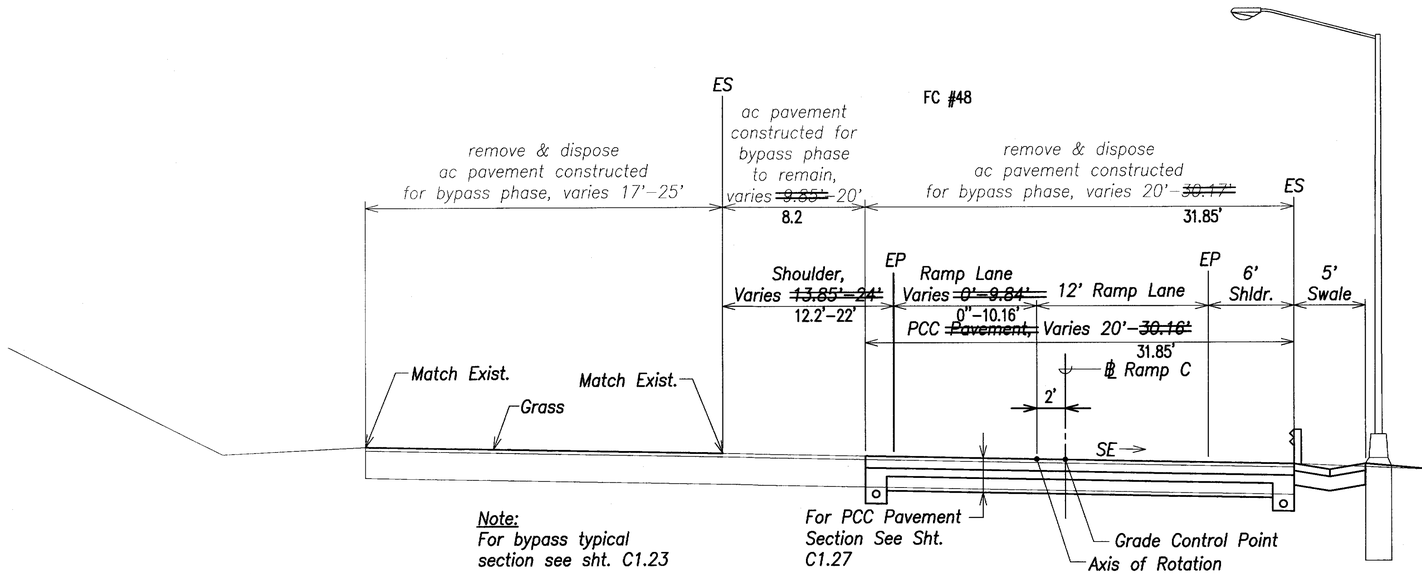
ORIGINAL PLAN
NOTE BOOK No.
SURVEY PLOTTED BY DATE
DRAWN BY
TRACED BY
DESIGNED BY
QUANTITIES BY
CHECKED BY

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	CO ADD. 26	380



Typical Section – Ramp C ℄ Sta. (–)11+50.13 to (–)6+44.74

Scale: 1" = 5'



Typical Section – Ramp C ℄ Sta. (–)6+44.74 to (–)4+~~92.34~~ 89.91 FC #48

Scale: 1" = 5'

LEGEND FOR AS–BUILT POSTINGS

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

Graphic Scale:

1" = 5' 5' 2.5' 0 5' 10'

Scale in Feet

DATE	REVISION
3/10/08	FC#48 REVISED TYPICAL HEADLINES
4/20/07	2 Revised Sections

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

INTERCHANGE RAMP C TYPICAL SECTIONS – 2

North–South Road
Phase 1C
F.A.I. Proj. No. STP–8930(4)

Scale: 1" = 5' Date: Feb 21, 2007

SHEET No. C1.12 OF 179 SHEETS

GREG H. HIYAKUMOTO LICENSED PROFESSIONAL ENGINEER No. 6662–C HAWAII, U.S.A.

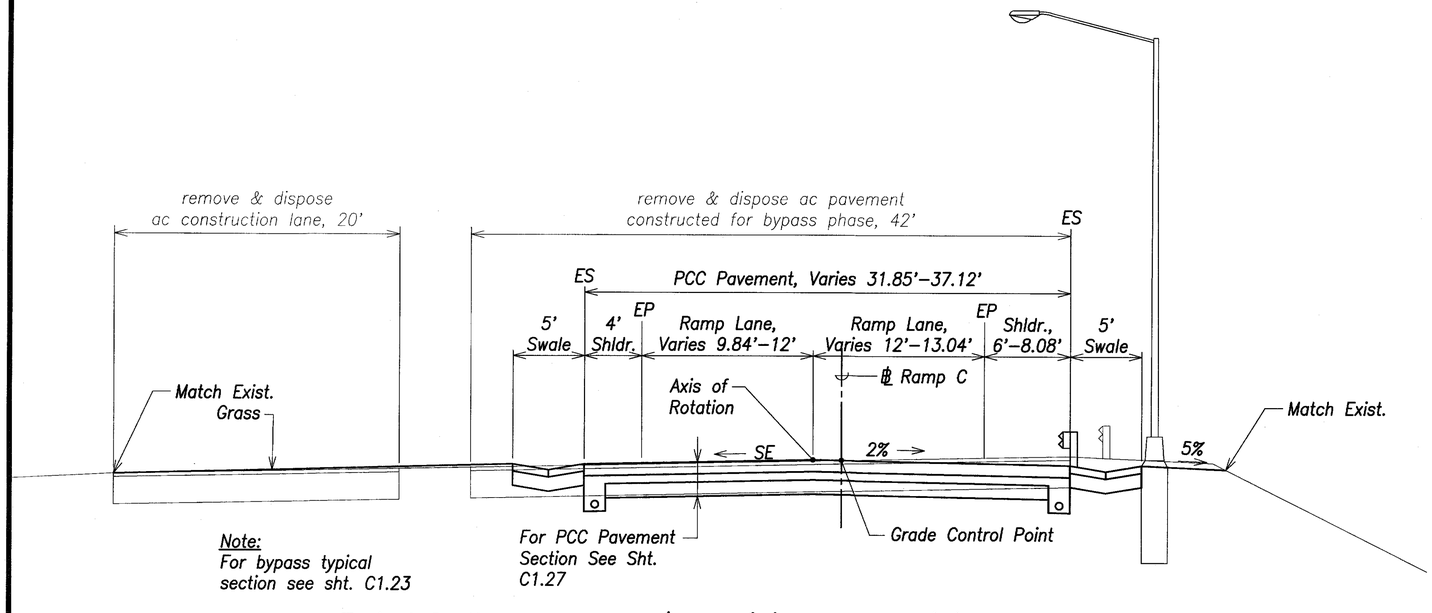
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SIGNATURE April 30, 2008 EXPIRATION DATE OF THE LICENSE

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

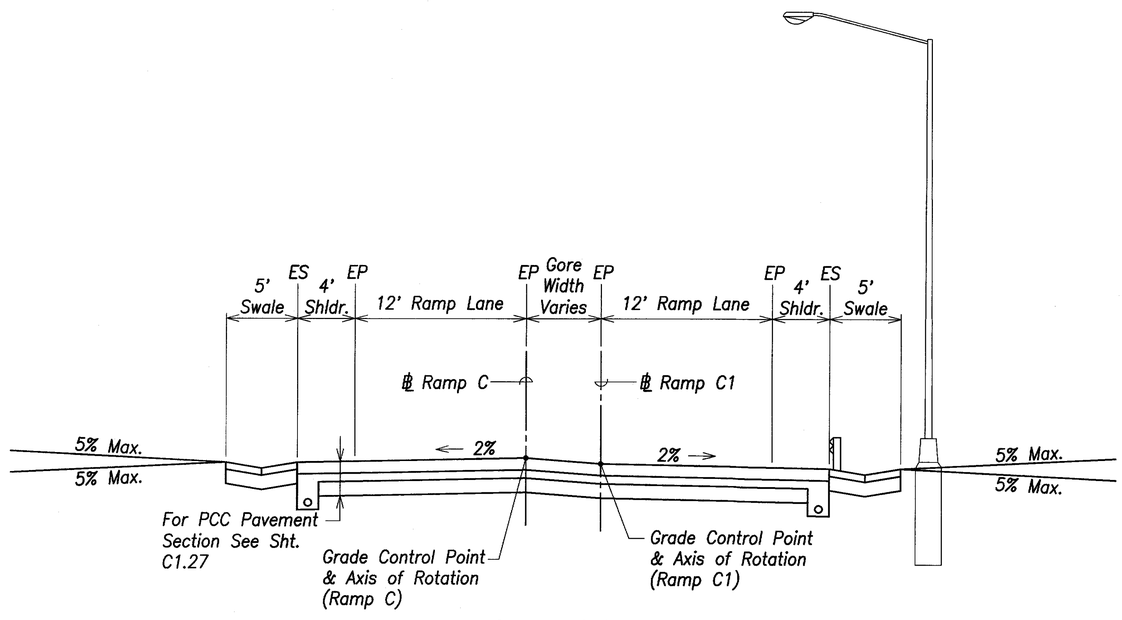
"AS–BUILT" CO ADD. 26

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	CO ADD. 27	380



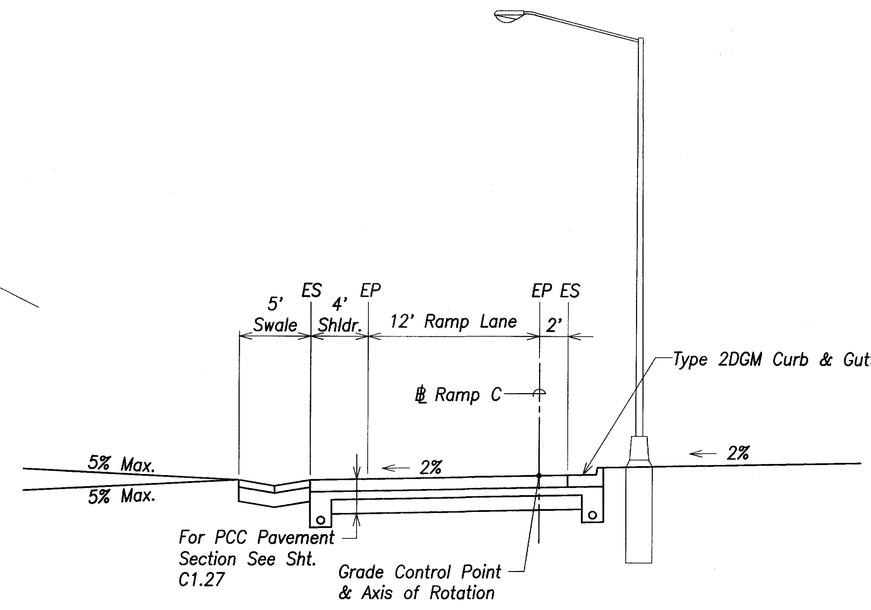
Typical Section – Ramp C ℄ Sta. (–)4+89.91 to (–)2+68.40

Scale: 1" = 5'



Typical Section – Ramp C ℄ Sta. (–)2+68.40 to (–)1+77.45 (Ramp C1 ℄ Sta. 0+00 to 0+95.61)

Scale: 1" = 5'



Typical Section – Ramp C ℄ Sta. (–)1+77.45 to (–)0+97

Scale: 1" = 5'

Graphic Scale:

1" = 5' (5' 2.5' 0 5' 10')

Scale in Feet

DATE	REVISION
3/10/2008	revised typical section
4/20/07	2 Revised Sections

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

INTERCHANGE RAMP C
TYPICAL SECTIONS – 3
North–South Road
Phase 1C
F.A.I. Proj. No. STP–8930(4)

Scale: 1" = 5' Date: Feb 21, 2007

SHEET No. C1.13 OF 179 SHEETS

GREG H. HIYAKUMOTO LICENSED PROFESSIONAL ENGINEER No. 6662–C HAWAII, U.S.A.

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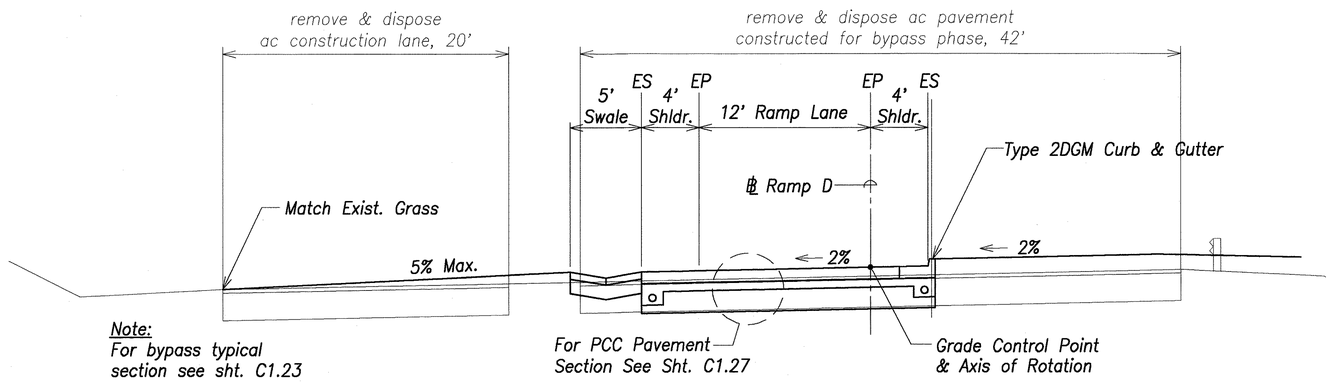
SIGNATURE

April 30, 2008
EXPIRATION DATE OF THE LICENSE

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

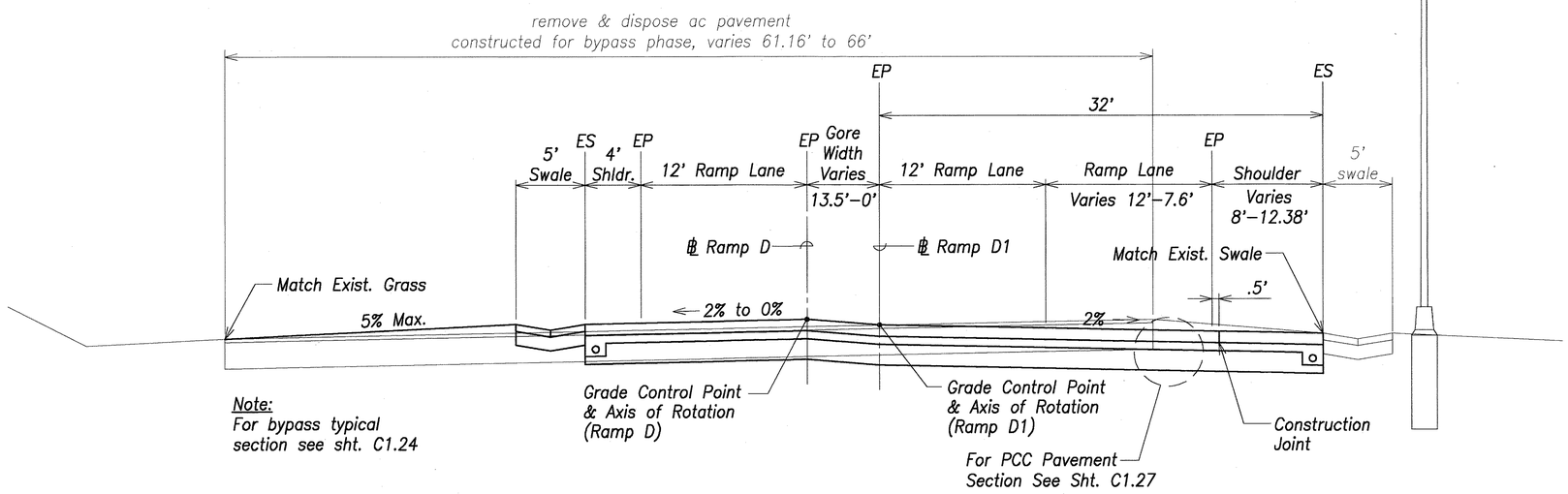
"AS–BUILT" CO ADD. 27

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	ADD. 28	380



Typical Section – Ramp D ℄ Sta. 0+47 to ℄ Sta. 1+85.45

Scale: 1" = 5'



Typical Section – Ramp D ℄ Sta. 1+85.45 to ℄ Sta. 4+28.34
(Ramp D1 ℄ Sta. 2+81.33 to ℄ Sta. 4+31)

Scale: 1" = 5'

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

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662-C
HAWAII, U.S.A.

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SIGNATURE 4/19/07 — APR 30, 2008 DATE OF LICENSE EXPIRY

Graphic Scale:

1" = 5' — 5' 2.5' 0 5' 10'

Scale in Feet

DATE	REVISION
4/20/07	2 Revised Sections

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

INTERCHANGE RAMP D
TYPICAL SECTIONS – 1

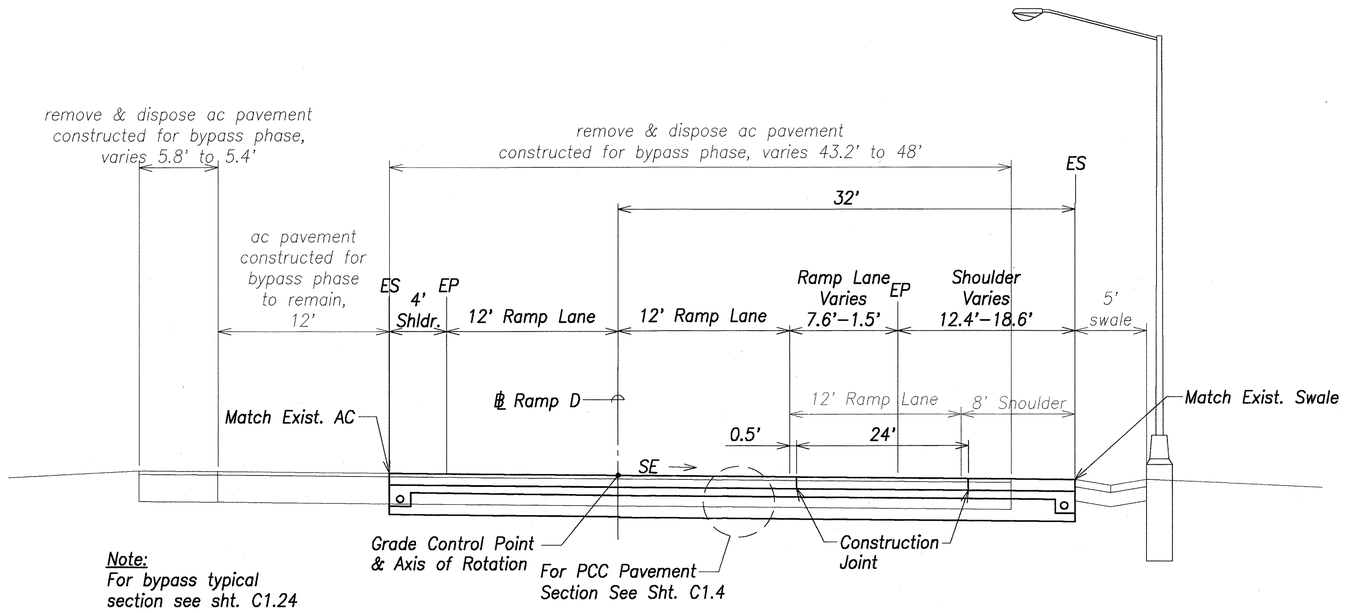
North–South Road
Phase 1C
F.A.I. Proj. No. STP–8930(4)

Scale: 1" = 5' Date: Feb 21, 2007

SHEET No. C1.14 OF 179 SHEETS

ADD. 28

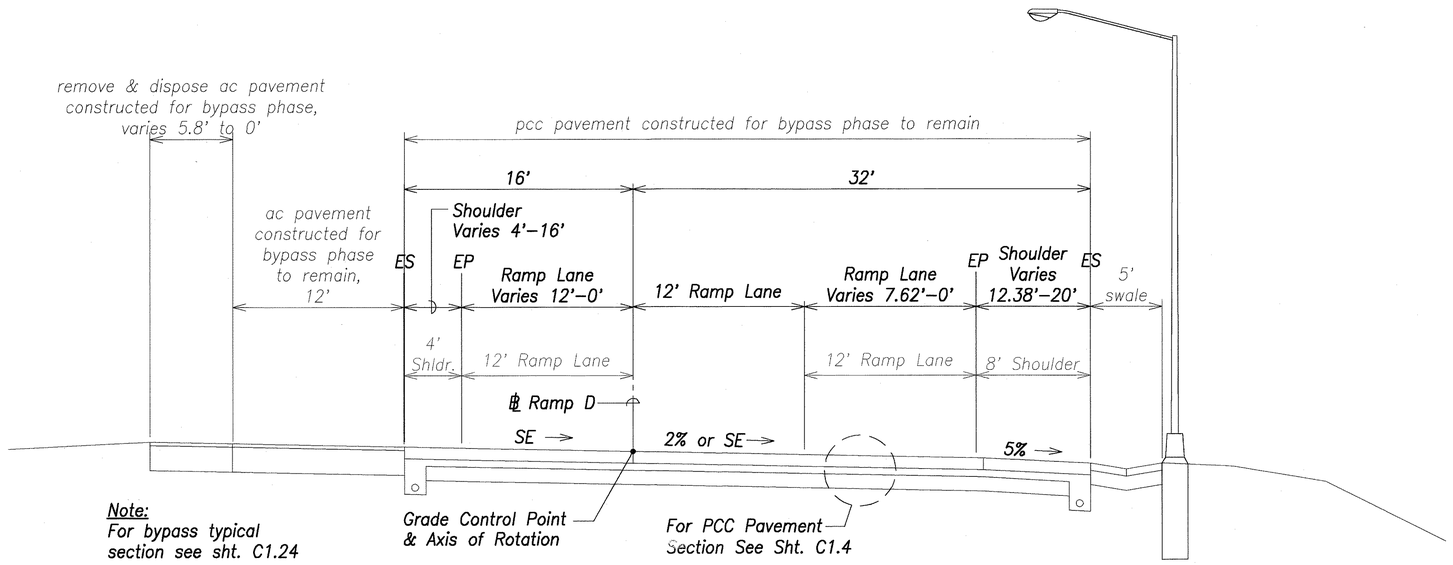
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	ADD. 29	380



Note:
For bypass typical section see sht. C1.24

Typical Section – Ramp D ℄ Sta. 4+28.34 to ℄ Sta. 5+55

Scale: 1" = 5'



Note:
For bypass typical section see sht. C1.24

Typical Section – Ramp D ℄ Sta. 5+55 to ℄ Sta. 9+20.53

Scale: 1" = 5'

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

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662-C
HAWAII, U.S.A.

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SIGNATURE 4/20/07 APR 30, 2008 DATE OF LICENSE EXPIRY

Graphic Scale:

1" = 5' 5' 2.5' 0 5' 10'

Scale in Feet

DATE	REVISION
4/20/07	2 Revised Sections

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

INTERCHANGE RAMP D TYPICAL SECTIONS – 2

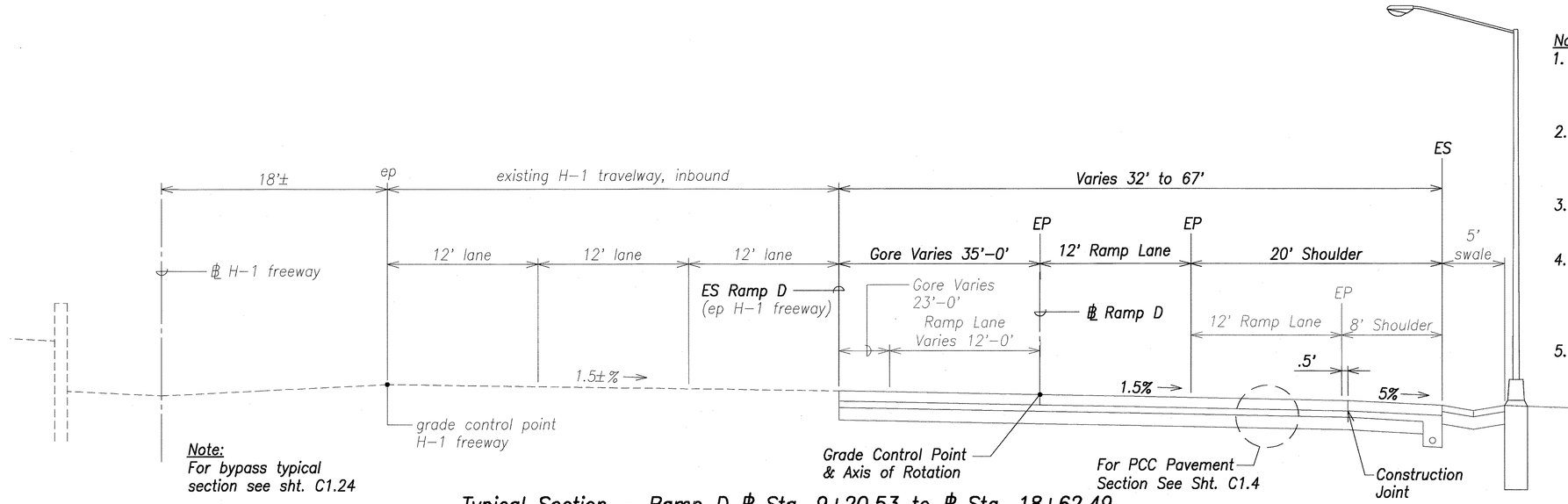
North–South Road
Phase 1C
F.A.I. Proj. No. STP–8930(4)

Scale: 1" = 5' Date: Feb 21, 2007

SHEET No. C1.15 OF 179 SHEETS

ADD. 29

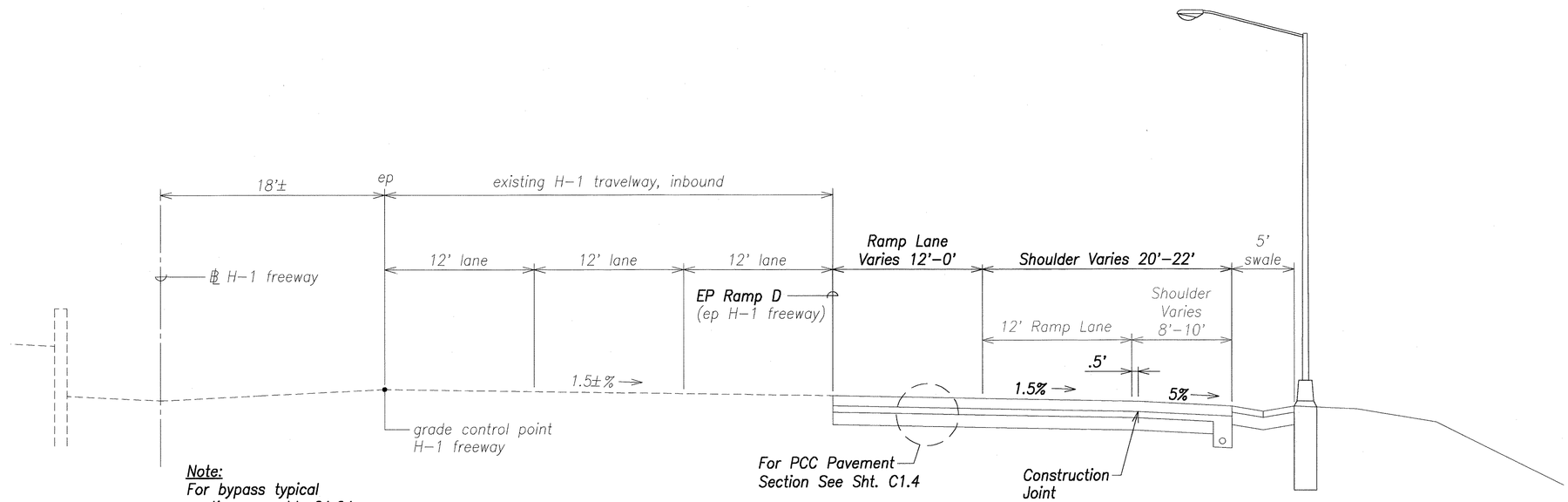
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	ADD. 30	380



Note:
For bypass typical section see sht. C1.24

Typical Section – Ramp D ℄ Sta. 9+20.53 to ℄ Sta. 18+62.49 (H-1 ℄ Sta. 218+44.79 to ℄ Sta. 227+87.09)

Scale: 1" = 5'



Note:
For bypass typical section see sht. C1.24

Typical Section – H-1 ℄ Sta. 227+87.09 to ℄ Sta. 233+90

Scale: 1" = 5'

Notes:
1. Areas to be graded beyond the existing H-1 shoulder shall be cleared & grubbed to 18" below existing grade.
2. See Section 203 of the Special Provisions for over-excavation & subgrade preparation requirements below the 18" clearing & grubbing.
3. Typical sections shown on this sheet also apply to the Eastbound Bypass.
4. Grade control & cross-slope of exist. H-1 outbound governs elevations & grade control of Ramp D from Ramp D Sta. 9+20.35 to H-1 Sta. 233+90.
5. SE diagram for Ramps C & D governs cross-slope of Ramp D up to Sta. 9+20.35.

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662-C
HAWAII, U.S.A.

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SIGNATURE 4/20/07 — APR 30, 2008 DATE OF LICENSE EXPIRY

Graphic Scale:

1" = 5' — 5' 2.5' 0 5' 10'

Scale in Feet

DATE	REVISION
4/20/07	2 Revised Sections

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

INTERCHANGE RAMP D TYPICAL SECTIONS – 3

North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

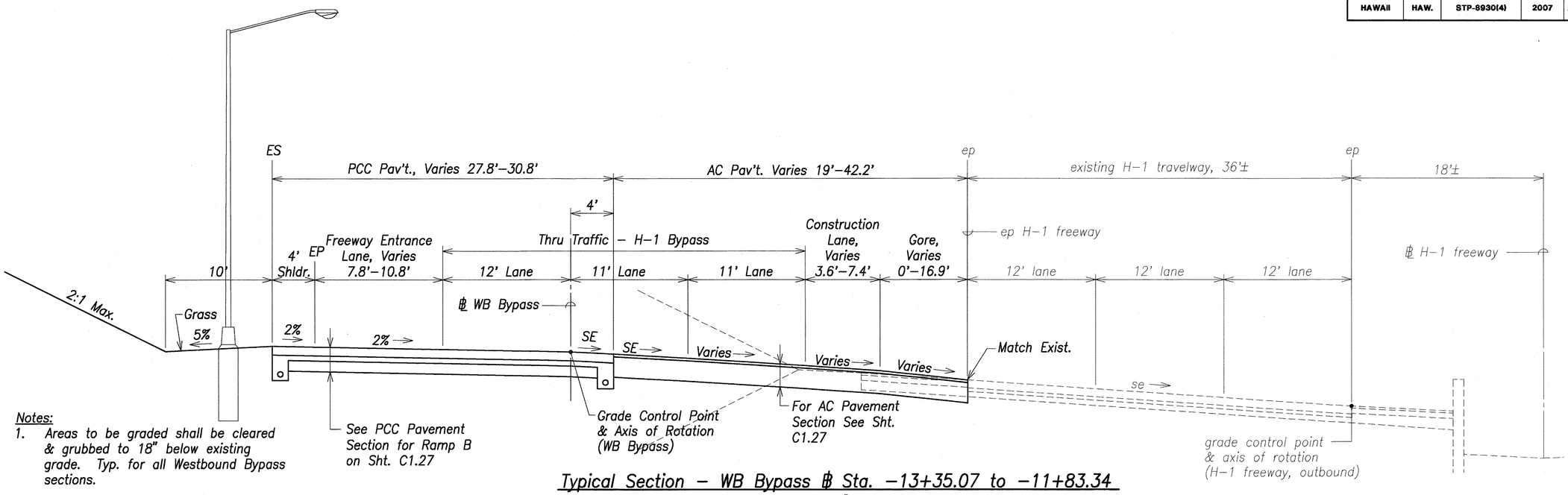
Scale: 1" = 5' Date: Feb 21, 2007

SHEET No. C1.16 OF 179 SHEETS

ADD. 30

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

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	ADD. 31	380

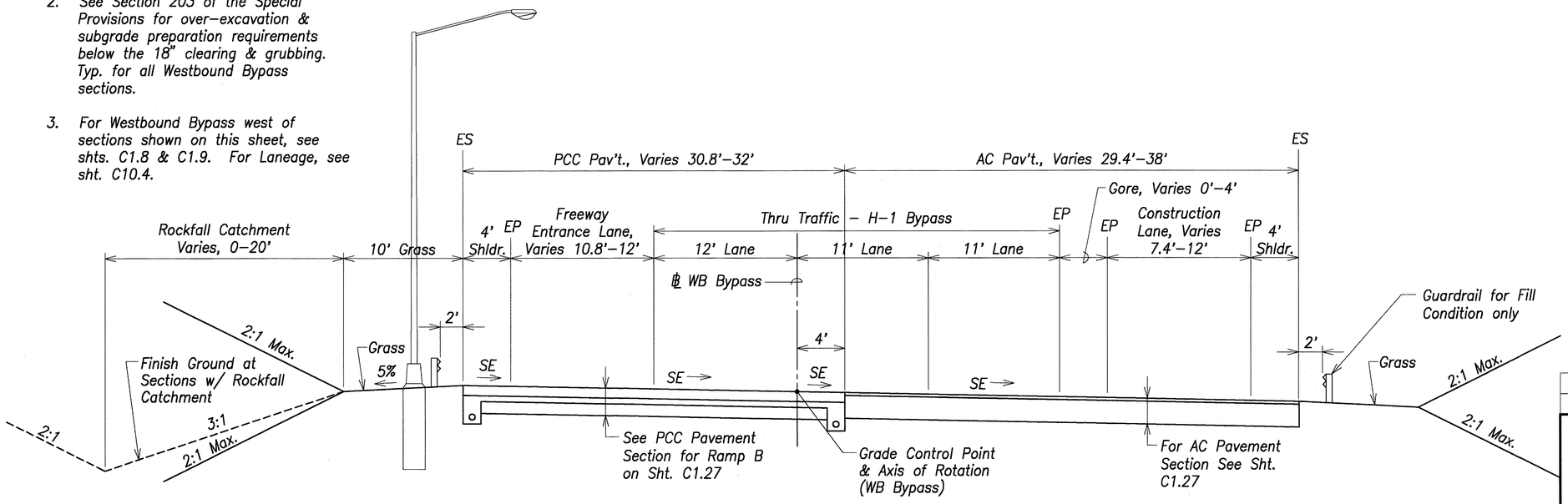


Typical Section – WB Bypass ℄ Sta. –13+35.07 to –11+83.34

Scale: 1" = 5'

Notes:

1. Areas to be graded shall be cleared & grubbed to 18" below existing grade. Typ. for all Westbound Bypass sections.
2. See Section 203 of the Special Provisions for over–excavation & subgrade preparation requirements below the 18" clearing & grubbing. Typ. for all Westbound Bypass sections.
3. For Westbound Bypass west of sections shown on this sheet, see shts. C1.8 & C1.9. For Laneage, see sht. C10.4.



Typical Section – WB Bypass ℄ Sta. –11+83.34 to –3+59.93

Scale: 1" = 5'

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LICENSED PROFESSIONAL ENGINEER
No. 8662–C
HAWAII, U.S.A.

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SIGNATURE 4/20/07 — APR 30, 2008 DATE OF LICENSE EXPIRY

Graphic Scale:

1" = 5' 5' 2.5' 0 5' 10'

Scale in Feet

DATE	SURVEY PLOTTED BY
	DRAWN BY
	TRACED BY
	DESIGNED BY
	QUANTITIES BY
	CHECKED BY

ORIGINAL PLAN

NOTE BOOK No.

4/20/07	2 Revised Sections
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

WESTBOUND BYPASS TYPICAL SECTIONS – 1

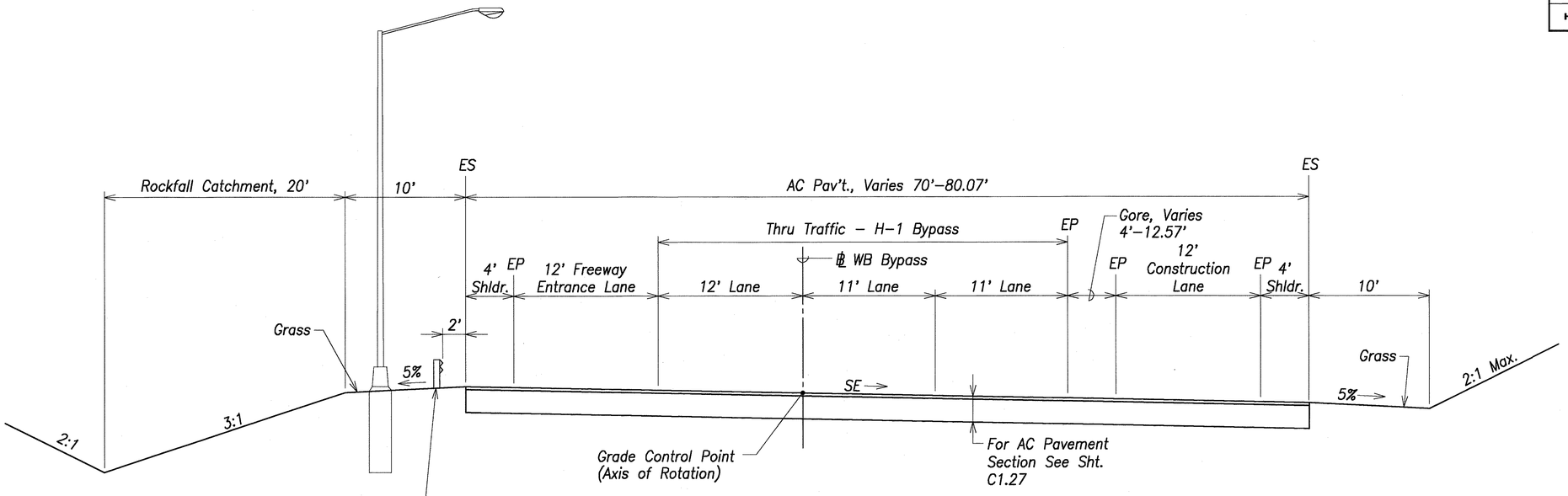
North–South Road
Phase 1C
F.A.I. Proj. No. STP–8930(4)

Scale: 1" = 5' Date: Feb 21, 2007

SHEET No. C1.17 OF 179 SHEETS

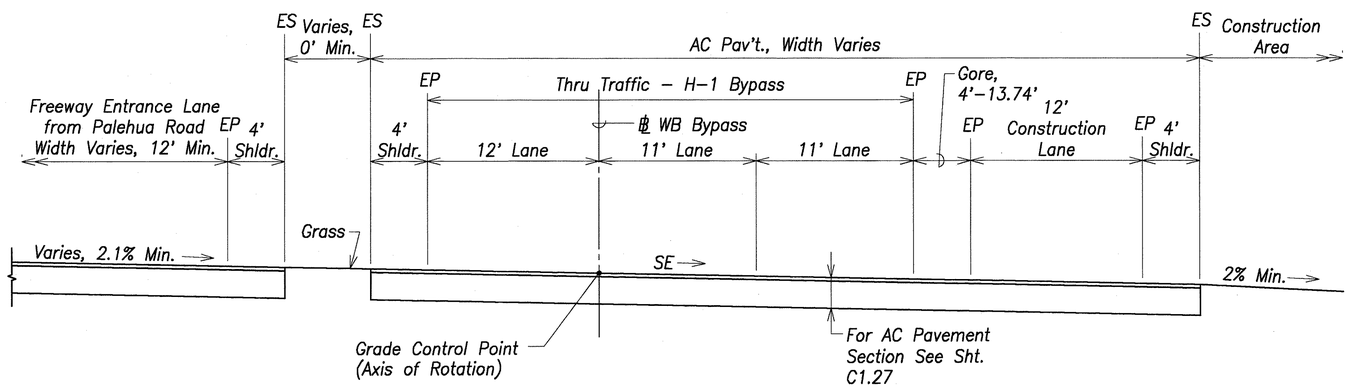
ADD. 31

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	ADD. 32	380



Typical Section – WB Bypass ℄ Sta. –3+59.93 to –1+51.12

Scale: 1" = 5'



Typical Section – WB Bypass ℄ Sta. –1+51.12 to –0+10.23

Scale: 1" = 5'

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

GREG H. HIYAKUMOTO
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No. 6662–C
HAWAII, U.S.A.

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SIGNATURE APR. 30, 2008 DATE OF LICENSE EXPIRY

Graphic Scale:

1" = 5' 5' 2.5' 0 5' 10'

Scale in Feet

DATE	REVISION
4/20/07	2 Revised Sections

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

WESTBOUND BYPASS TYPICAL SECTIONS – 2

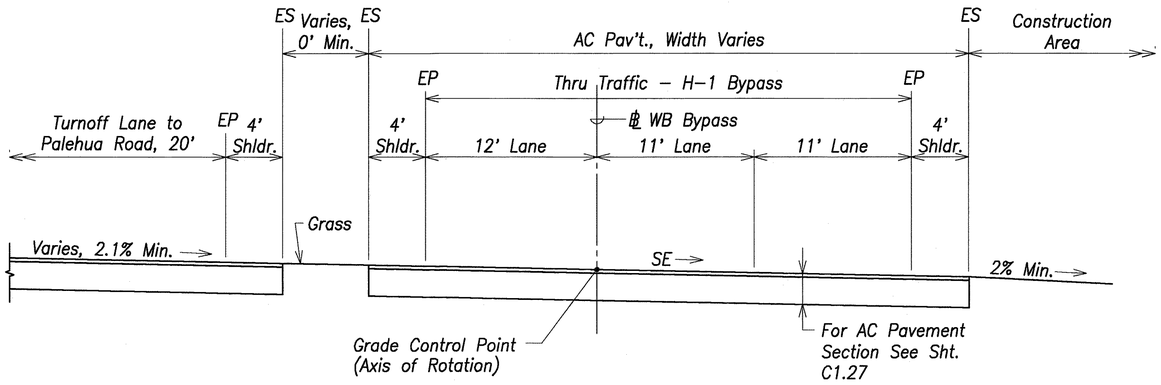
North–South Road
Phase 1C
F.A.I. Proj. No. STP–8930(4)

Scale: 1" = 5' Date: Feb 21, 2007

SHEET No. C1.18 OF 179 SHEETS

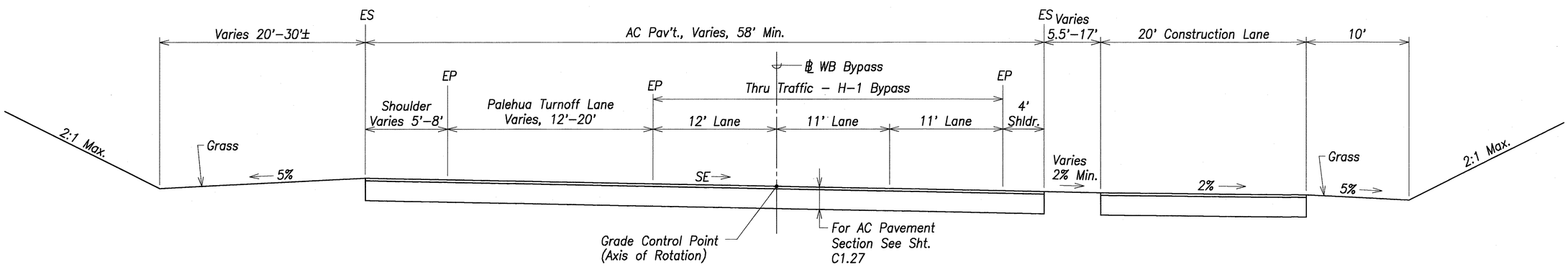
ADD. 32

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	ADD. 33	380



Typical Section – WB Bypass ℄ Sta. –0+10.23 to 1+03.04

Scale: 1" = 5'



Typical Section – WB Bypass ℄ Sta. 1+03.04 to 4+50

Scale: 1" = 5'

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

Graphic Scale:
1" = 5'
5' 2.5' 0 5' 10'
Scale in Feet

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 8882-C
HAWAII, U.S.A.

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SIGNATURE 4/20/07 APR 30, 2008 DATE OF LICENSE EXPIRY

DATE	REVISION
4/20/07	2 Revised Sections

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

WESTBOUND BYPASS TYPICAL SECTIONS – 3

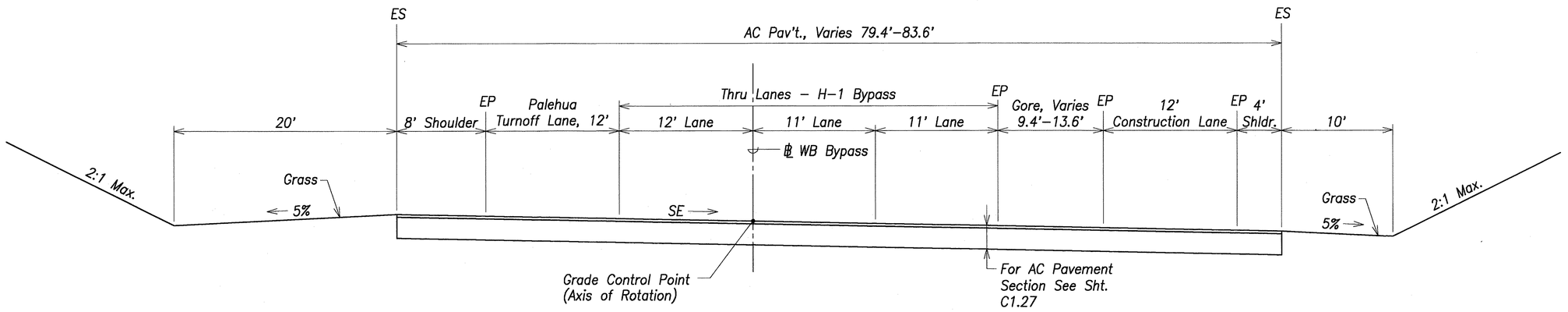
North–South Road
Phase 1C
F.A.I. Proj. No. STP–8930(4)

Scale: 1" = 5' Date: Feb 21, 2007

SHEET No. C1.19 OF 179 SHEETS

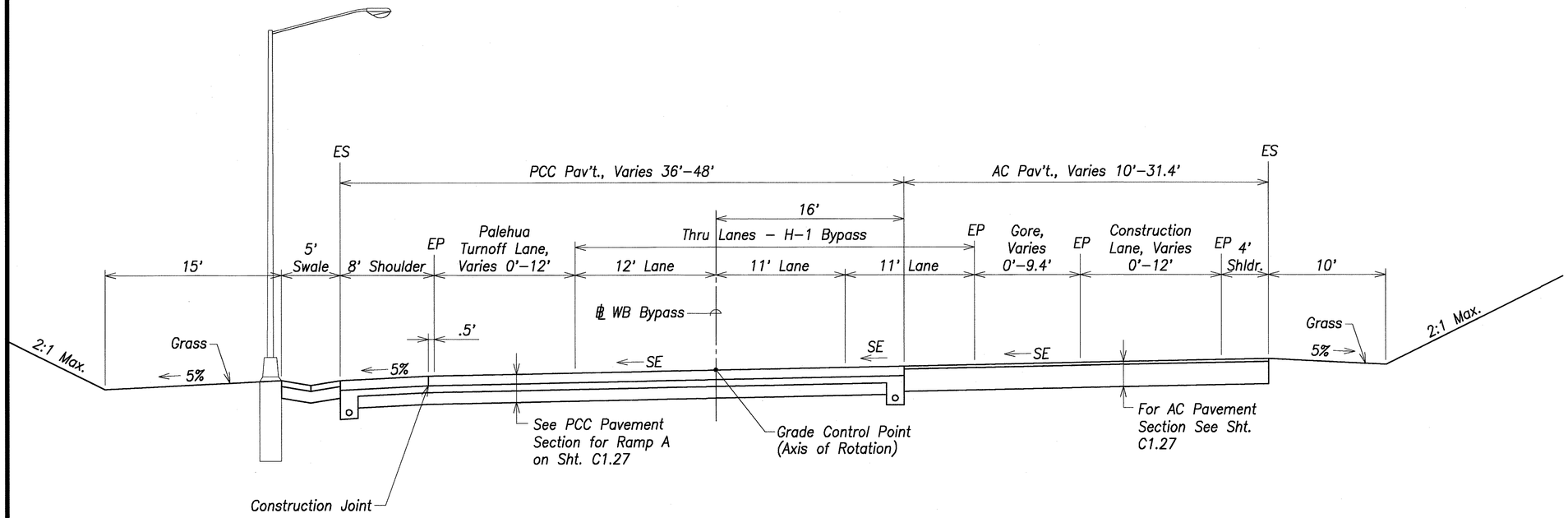
ADD. 33

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	ADD. 34	380



Typical Section – WB Bypass ℄ Sta. 4+50 to 5+28.71

Scale: 1" = 5'



Typical Section – WB Bypass ℄ Sta. 5+28.71 to 11+94.22

Scale: 1" = 5'

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

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SIGNATURE APR 30, 2008 DATE OF LICENSE EXPIRY

Graphic Scale:

1" = 5' 5' 2.5' 0 5' 10'

Scale in Feet

4/20/07	2 Revised Sections
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

WESTBOUND BYPASS TYPICAL SECTIONS – 4

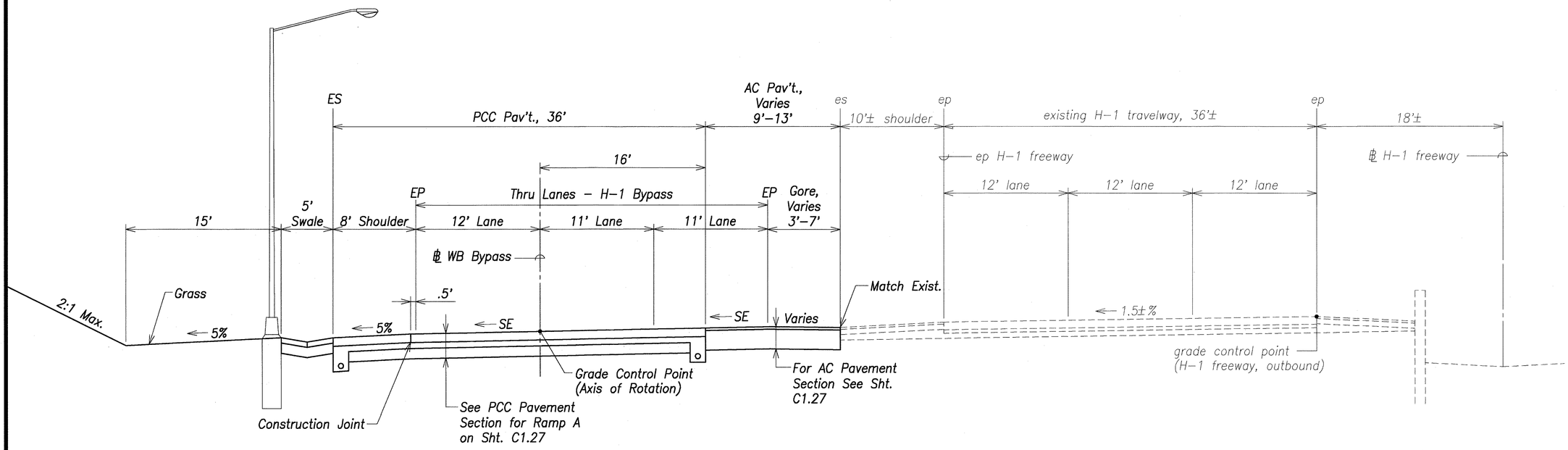
North–South Road
Phase 1C
F.A.I. Proj. No. STP–8930(4)

Scale: 1" = 5' Date: Feb 21, 2007

SHEET No. C1.20 OF 179 SHEETS

ADD. 34

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	ADD. 35	380



Typical Section – WB Bypass ℄ Sta. 11+94.22 to 12+70.80

Scale: 1" = 5'

Note:
For Westbound Bypass east of sections shown on this sheet, see shts. C1.6 & C1.7. For Laneage, see sht. C10.7 & C10.8.

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 8662-C
HAWAII, U.S.A.

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SIGNATURE — APR 30, 2008 DATE OF LICENSE EXPIRY

Graphic Scale:

1" = 5' 5' 2.5' 0 5' 10'

Scale in Feet

DATE	REVISION
4/20/07	2 Revised Section

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

WESTBOUND BYPASS TYPICAL SECTIONS – 5

North–South Road
Phase 1C
F.A.I. Proj. No. STP–8930(4)

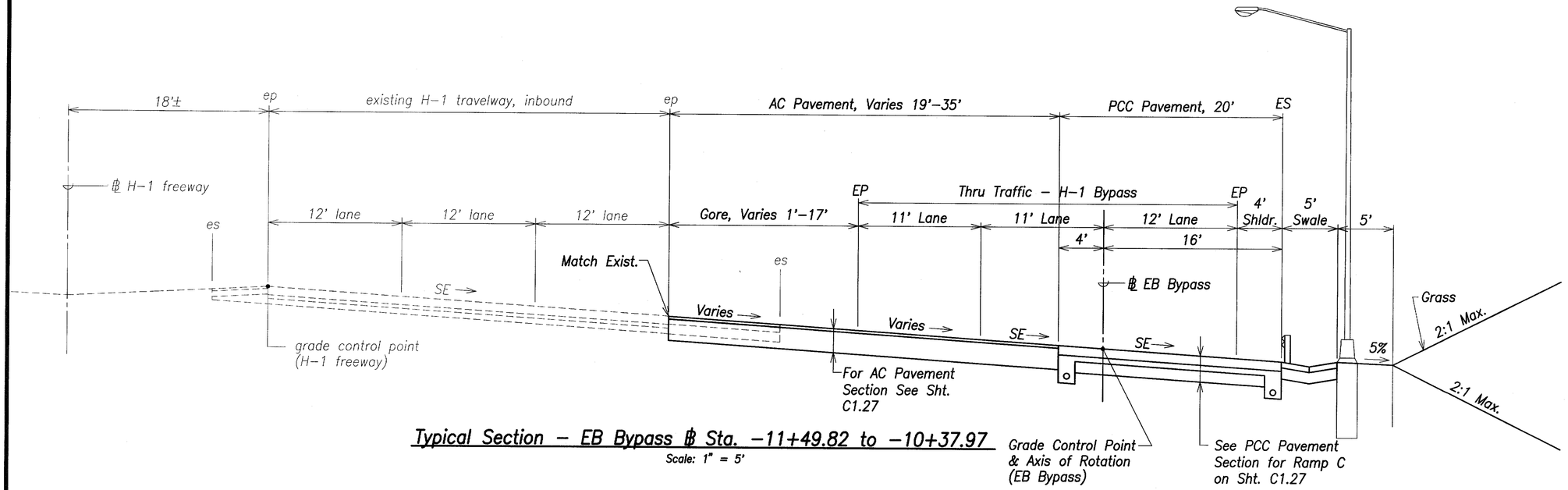
Scale: 1" = 5' Date: Feb 21, 2007

SHEET No. C1.21 OF 179 SHEETS

ADD. 35

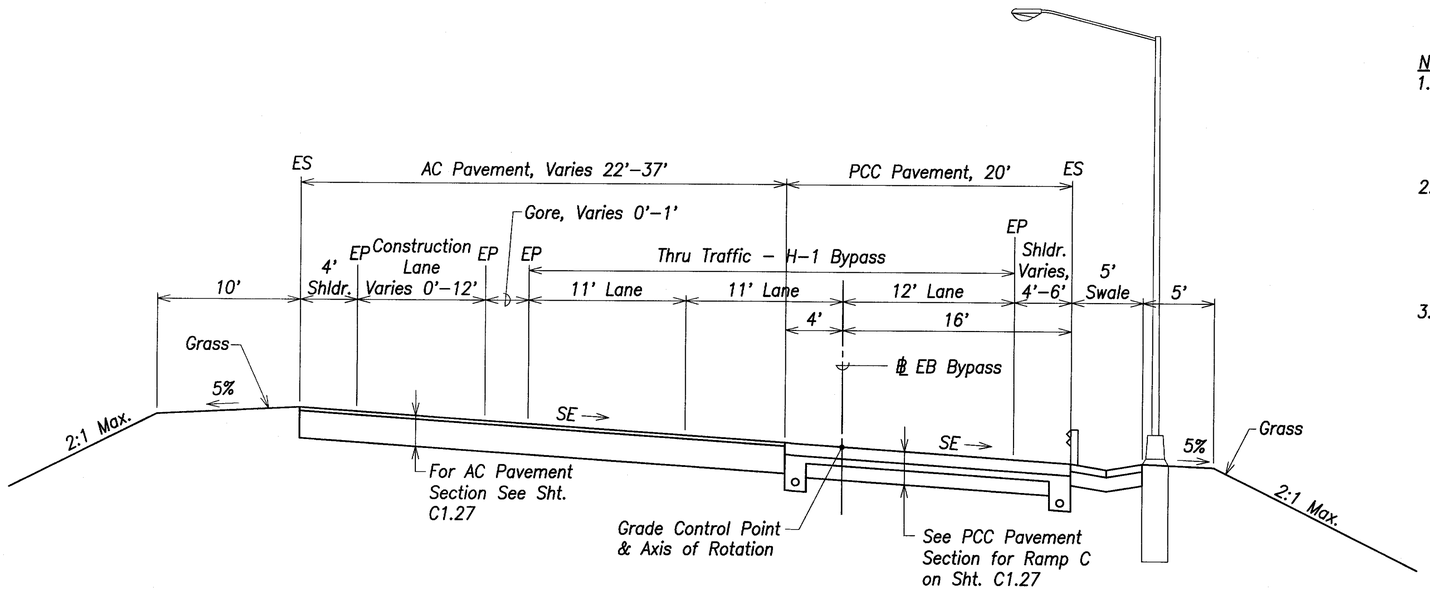
ORIGINAL PLAN
NOTE BOOK No.
SURVEY PLOTTED BY
DRAWN BY
TRACED BY
DESIGNED BY
QUANTITIES BY
CHECKED BY
DATE

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	CO ADD. 36	380



Typical Section - EB Bypass ℄ Sta. -11+49.82 to -10+37.97

Scale: 1" = 5'



Typical Section - EB Bypass ℄ Sta. -10+37.97 to -6+42.22

Scale: 1" = 5'

Notes:

1. Areas to be graded shall be cleared & grubbed to 18" below existing grade. Typ. for all Eastbound Bypass sections.
2. See Section 203 of the Special Provisions for over-excavation & subgrade preparation requirements below the 18" clearing & grubbing. Typ. for all Eastbound Bypass sections.
3. For Eastbound Bypass west of sections shown on this sheet, see shts. C1.11 & C1.16. For Laneage, see sht. C10.9.

Graphic Scale:

1" = 5' (5' 2.5' 0 5' 10')

Scale in Feet

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

GREG H. HIYAKUMOTO LICENSED PROFESSIONAL ENGINEER No. 6662-C HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

April 30, 2008
SIGNATURE — EXPIRATION DATE OF THE LICENSE

DATE	REVISION
3/10/2008	revised typical section
4/20/07	2 Revised Sections

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

EASTBOUND BYPASS TYPICAL SECTIONS - 1

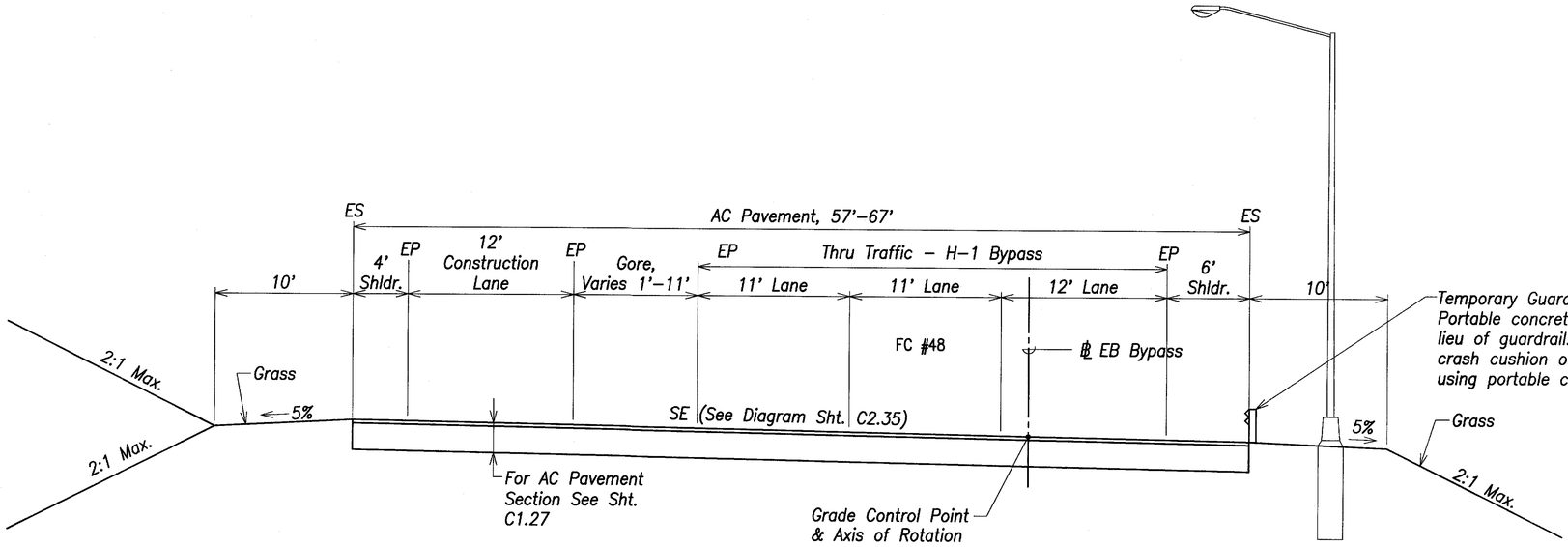
North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

Scale: 1" = 5' Date: Feb 21, 2007

SHEET No. C1.22 OF 179 SHEETS

"AS-BUILT" CO ADD. 36

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	CO ADD. 37	380



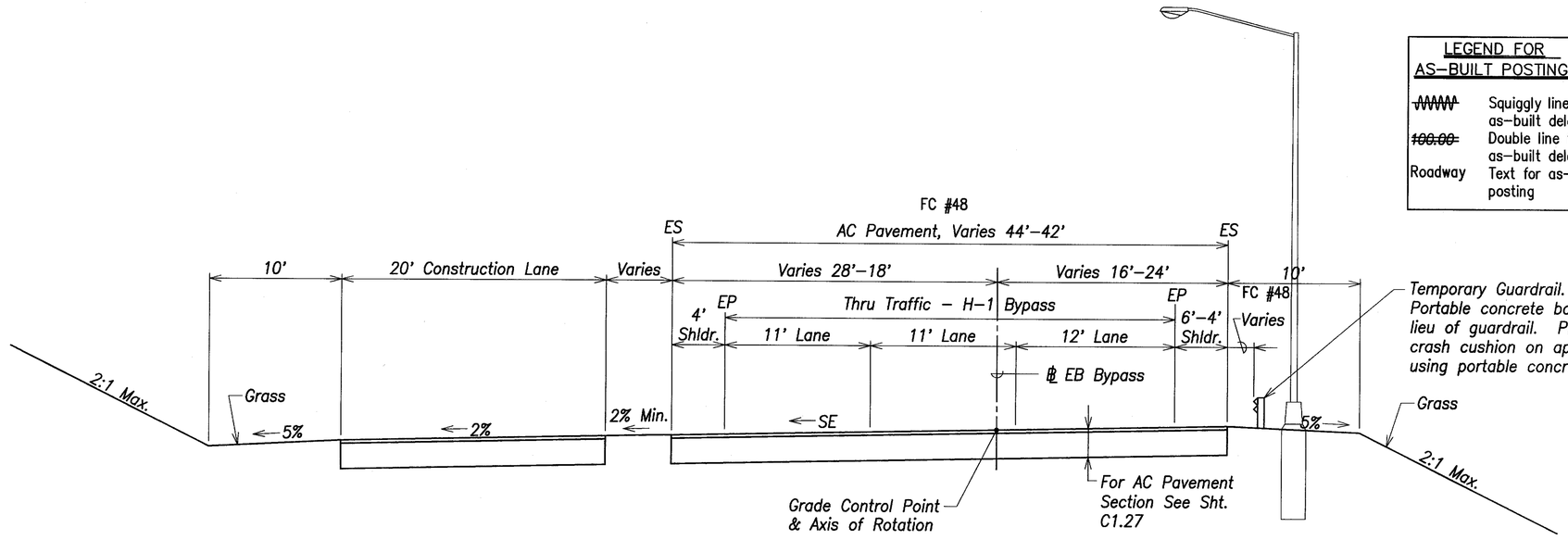
Typical Section – EB Bypass ℄ Sta. –6+42.22 to –4+50

Scale: 1" = 5'

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662–C
HAWAII, U.S.A.

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SIGNATURE — April 30, 2008 EXPIRATION DATE OF THE LICENSE



Typical Section – EB Bypass ℄ Sta. –4+50 to 2+00

Scale: 1" = 5'

LEGEND FOR AS–BUILT POSTINGS	
~~WWWW~~	Squiggly line for as–built deletion
~~100.00~~	Double line for as–built deletion
Roadway	Text for as–built posting

Graphic Scale:

1" = 5' — 5' 2.5' 0 5' 10'

Scale in Feet

DATE	REVISION
3/10/08	FC#48 REVISED TYPICAL SECTIONS
4/20/07	2 Revised Sections

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

EASTBOUND BYPASS TYPICAL SECTIONS – 2

North–South Road
Phase 1C
F.A.I. Proj. No. STP–8930(4)

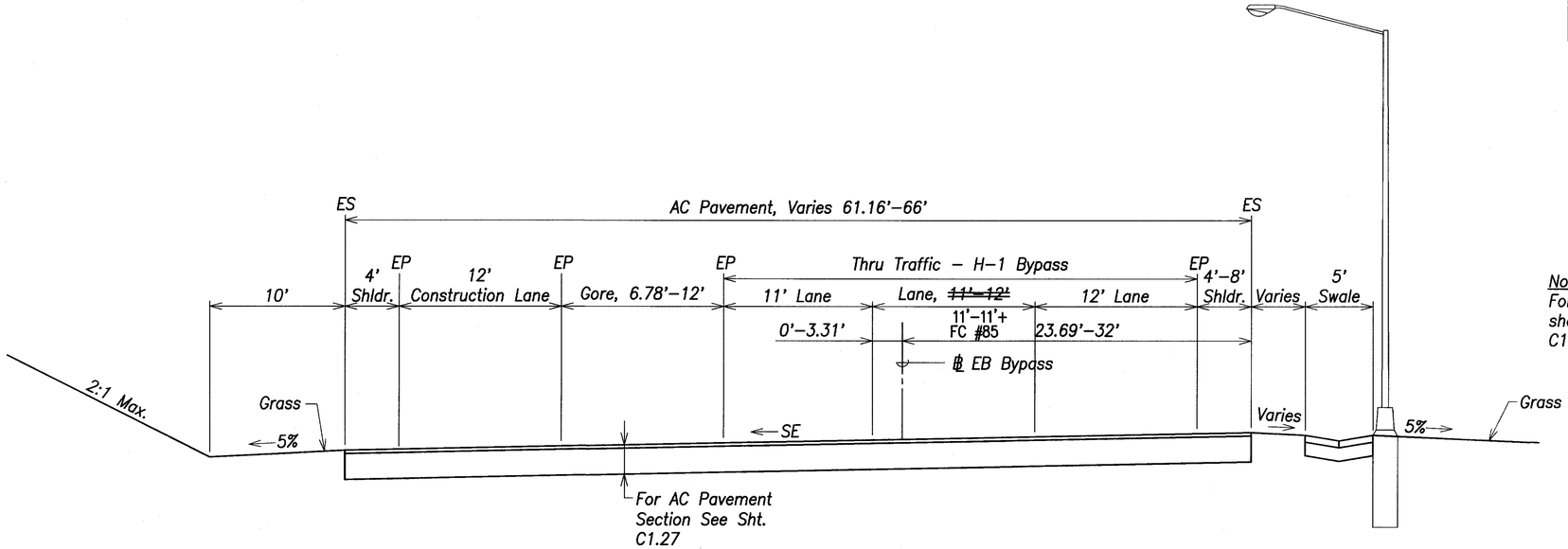
Scale: 1" = 5' Date: Feb 21, 2007

SHEET No. C1.23 OF 179 SHEETS

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

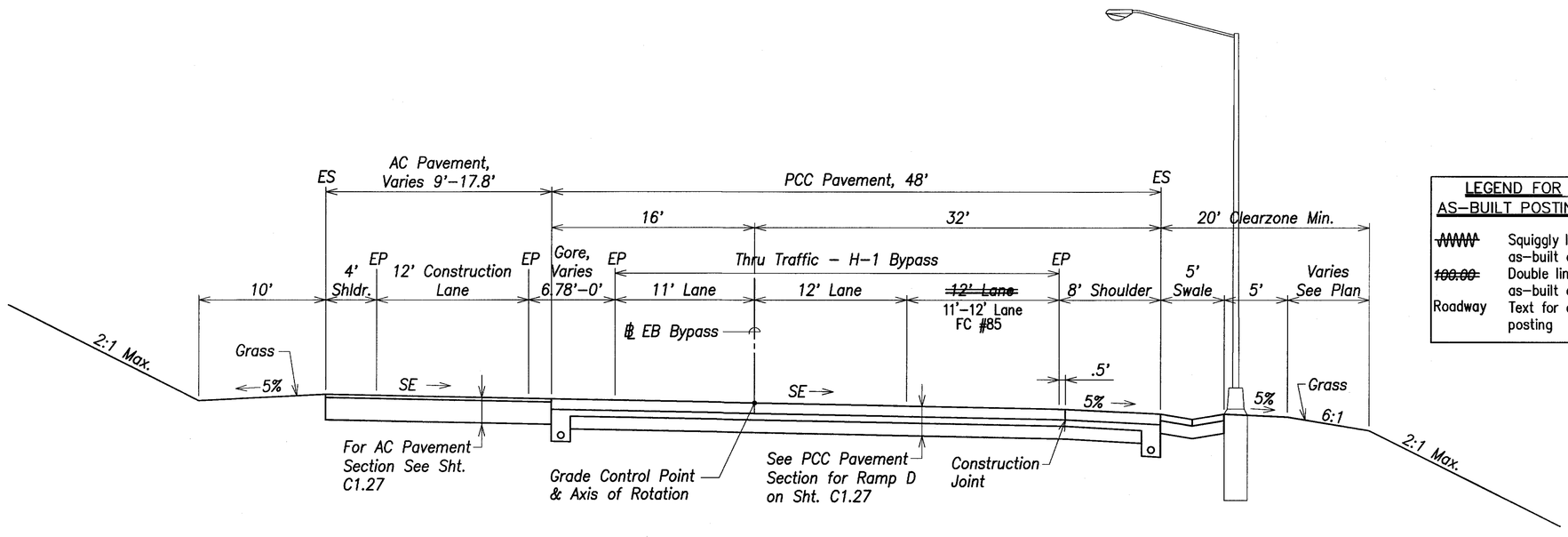
"AS–BUILT" CO ADD. 37

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	ADD. 38	380



Typical Section – EB Bypass ℄ Sta. 2+00 to 5+54.77

Scale: 1" = 5'



Typical Section – EB Bypass ℄ Sta. 5+54.77 to 9+20.30

Scale: 1" = 5'

Note:
For Eastbound Bypass east of sections shown on this sheet, see shts. C1.15 & C1.16. For Laneage, see sht. C10.12.

GREGG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE — April 30, 2008 EXPIRATION DATE OF THE LICENSE

LEGEND FOR AS–BUILT POSTINGS

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

Graphic Scale:

1" = 5' 5' 2.5' 0 5' 10'

Scale in Feet

DATE	REVISION
5/29/08	FC#85 REVISED LANE WIDTHS
3/10/2008	revised striping
4/20/07	2 Revised Sections

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

EASTBOUND BYPASS TYPICAL SECTIONS – 3

North–South Road
Phase 1C
F.A.I. Proj. No. STP–8930(4)

Scale: 1" = 5' Date: Feb 21, 2007

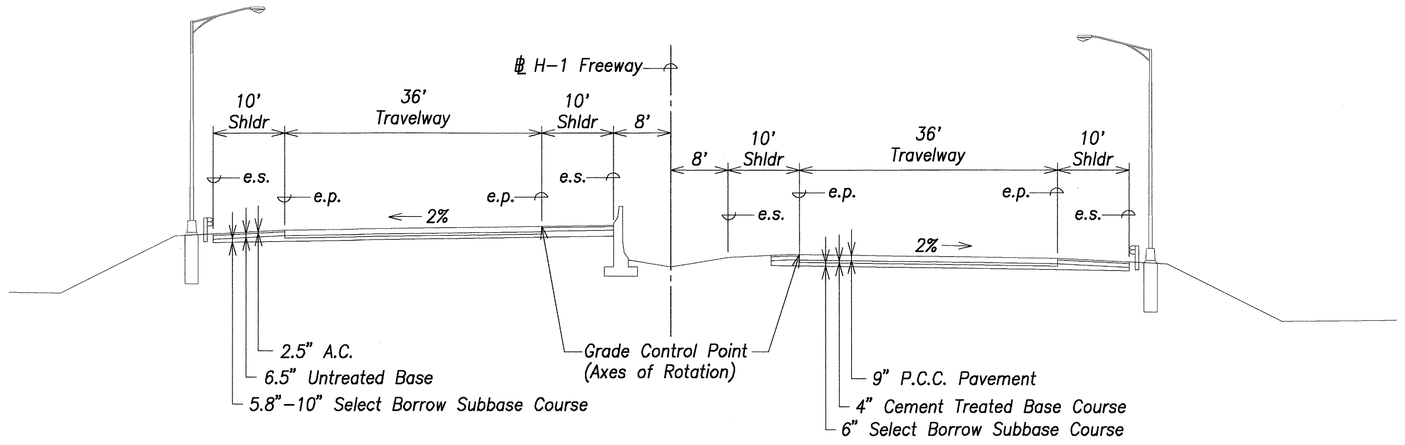
SHEET No. C1.24 OF 179 SHEETS

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

"AS–BUILT"

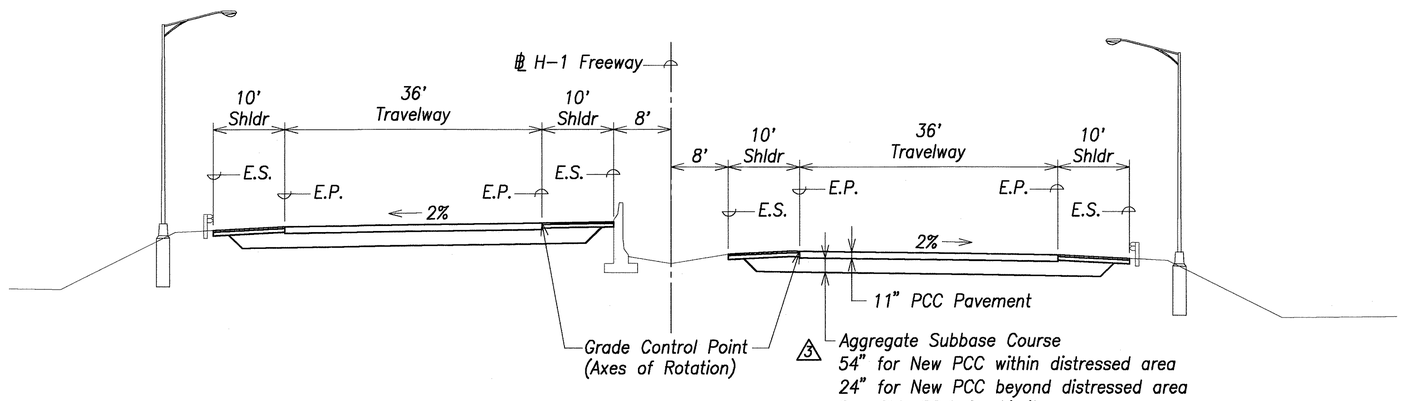
ADD. 38

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	ADD. 39	380



Exist. Tangent Section With Grade Difference

Scale: 1" = 10'



New Tangent Section With Grade Difference

Scale: 1" = 10'

Graphic Scale:

1" = 10' 10' 5' 0 10' 20'

Scale in Feet

GREG H. HIYAKUMOTO LICENSED PROFESSIONAL ENGINEER No. 6662-C HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE APR 30, 2008 DATE OF LICENSE EXPIRY

DATE	REVISION
5/4/07	3 Revised aggregate subbase course
4/20/07	2 Various revisions to sections

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

H-1 FREEWAY - TYPICAL SECTIONS

North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

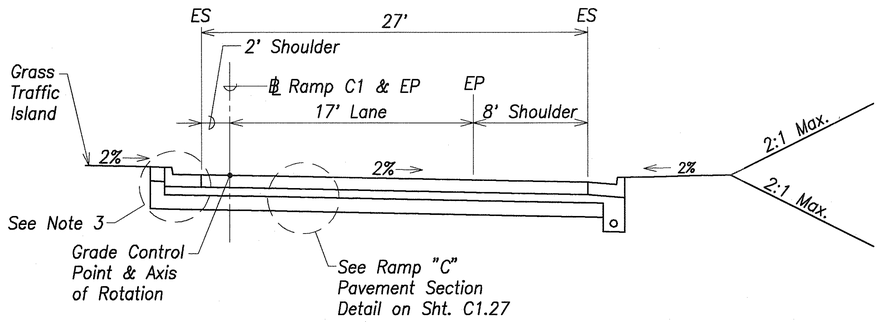
Scale: 1" = 10' Date: Feb 21, 2007

SHEET No. C1.25 OF 179 SHEETS

ADD. 39

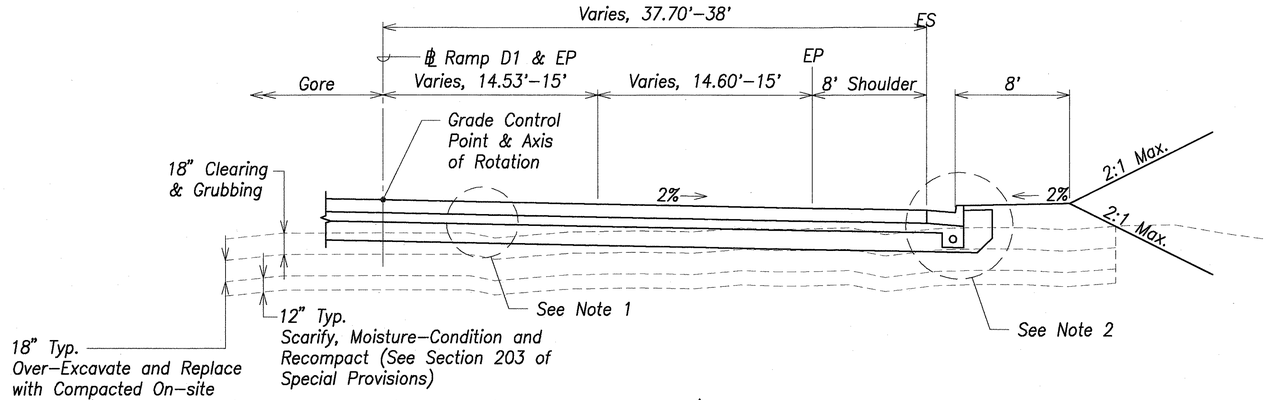
ORIGINAL PLAN
SURVEY PLOTTED BY
DRAWN BY
NOTE BOOK
TRACED BY
DESIGNED BY
QUANTITIES BY
CHECKED BY
No.
DATE

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	40	380



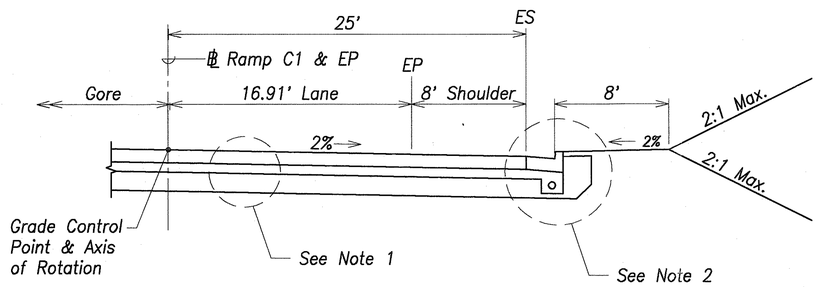
Typical Section – Ramp C1 ℄ Sta. 0+91.65 to 2+15.19

Scale: 1" = 5'



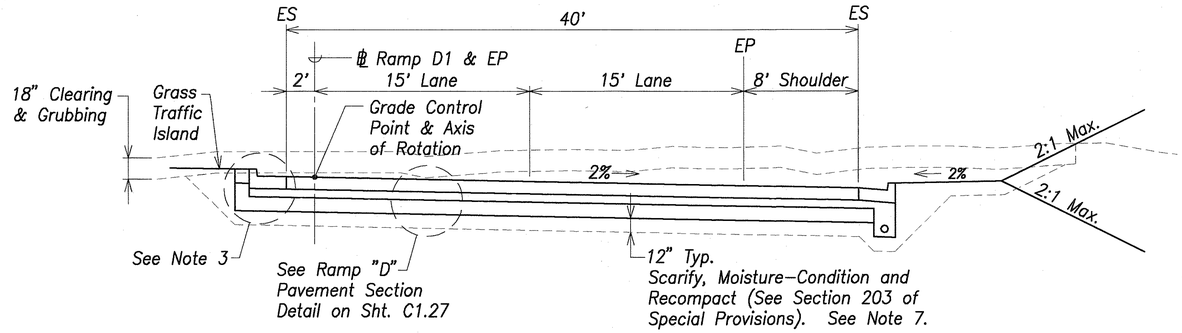
Typical Section – Ramp D1 ℄ Sta. 0+00 to 0+90.63

Scale: 1" = 5'



Typical Section – Ramp C1 ℄ Sta. 2+15.19 to 2+99.22

Scale: 1" = 5'



Typical Section – Ramp D1 ℄ Sta. 0+90.63 to 2+81.33

Scale: 1" = 5'

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

Notes:

1. Section similar to North–South Road ℄ Sta. 108+40.90 to 131+50 pavement detail shown on sht. C1.27.
2. Section similar to "North–South Road, Outside Curb" detail shown on sht. C1.27.
3. Section similar to "North–South Road, 13'–24' Medians" detail shown on sht. C1.27
4. For Ramp C1 ℄ Sta. 0+00 to 0+95.61 see sht. C1.13
5. For Ramp D1 ℄ Sta. 2+81.33 to 4+31 see sht. C1.14
6. Applies to conditions where pavement section extends less than 3' below existing ground.
7. Applies to conditions where pavement section extends 3' or more below existing ground.
8. Existing ground treatements not shown on Ramp C1 Typical Sections for clarity. Treatments to existing ground for Ramp C1 similar to that shown on Ramp D1 Typical Sections.

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 8662–C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE — DATE OF LICENSE EXPIRY: APR 30, 2008

Graphic Scale:

1" = 5' — 5' 2.5' 0 5' 10'

Scale in Feet

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

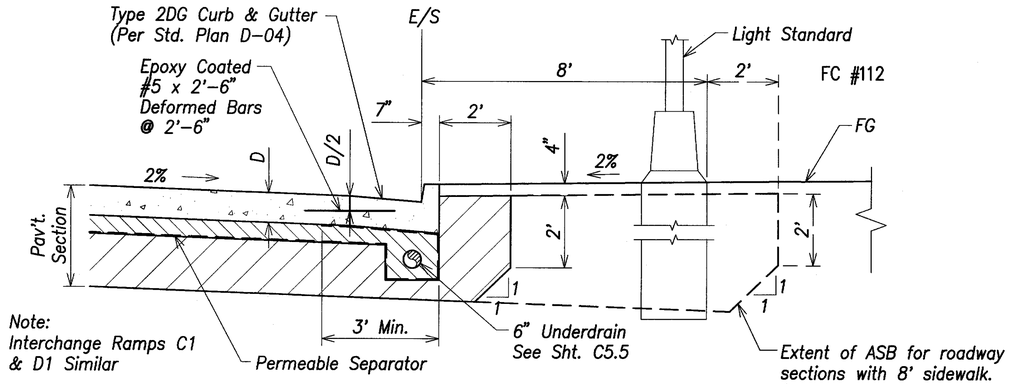
INTERCHANGE RAMPS C1 & D1 TYPICAL SECTIONS

North–South Road
Phase 1C
F.A.I. Proj. No. STP–8930(4)

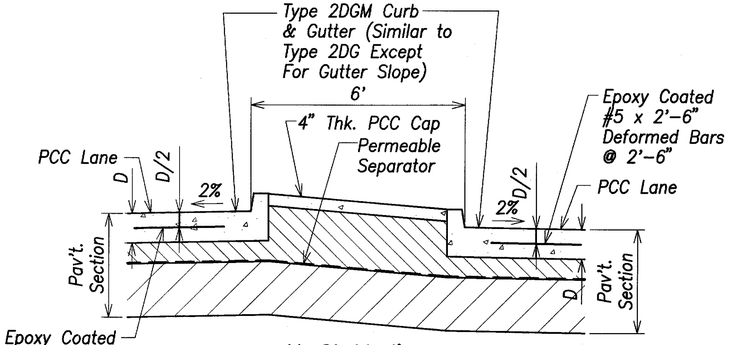
Scale: 1" = 5' Date: Feb 21, 2007

SHEET No. C1.26 OF 179 SHEETS

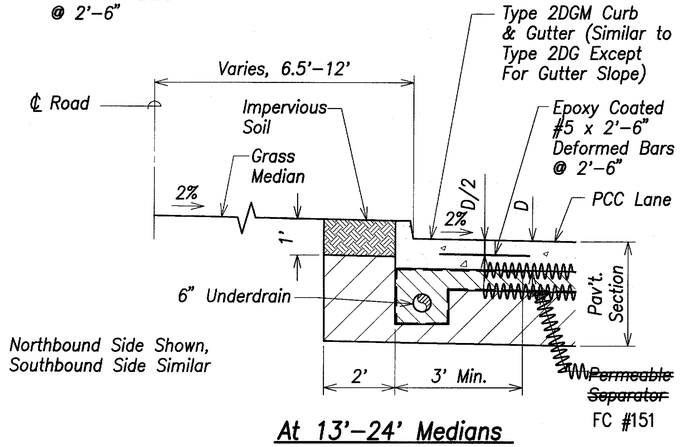
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	CO ADD. 41	380



At Outside Curb



At 6' Medians



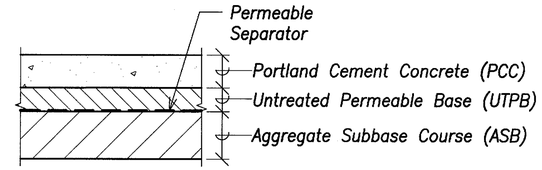
FC #151

At 13'-24' Medians

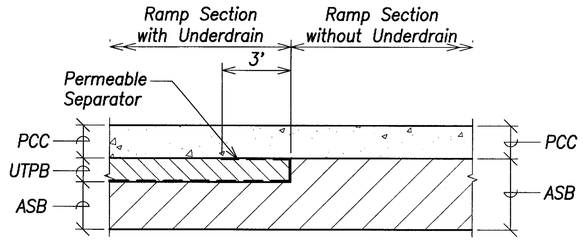
⚠2 North-South Road Typical Section Details

Scale: 1" = 2'

Notes:
1. For value of D (PCC thickness), see detail at right.
2. Details Similar for Interchange Ramps C1 & D1.



Typical Pavement Section



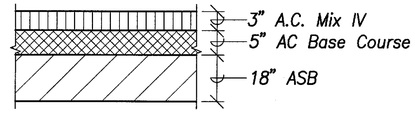
Ramp Transition Section

FC #35

PCC Pavement Sections			
Section	PCC	UTPB	ASB
NS Rd. 108+40.90 to 131+50	11"	8"	16"
NS Rd. 131+50 to 135+50	10.5"	7"	12"
Ramp A	10"	7"	12"
Ramp B – End to (–)13+35.07	10"	n/a	18"
Ramp B (–)13+35.07 to (–)0+73	10"	6"	12"
Ramp C – Begin to (–)11+50.13	10"	n/a	18"
Ramp C (–)11+50.13 to (–)0+73	10"	6"	12"
Ramp D	10.5"	7"	12"

⚠2 PCC Pavement Sections

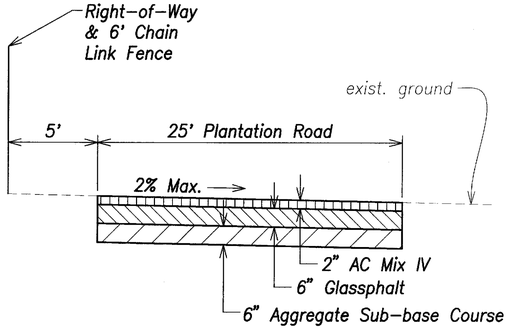
Scale: 1" = 2'



H-1 Bypasses Pavement Section

Scale: 1" = 2'

FC #35 & #5 ⚠2



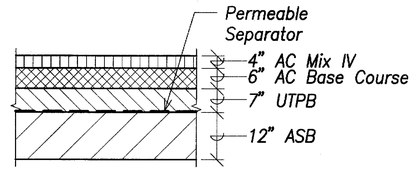
⚠2 Plantation Roads A & B Section

Not to Scale

Graphic Scale:

1" = 2' 2' 1' 0 2' 4'

Scale in Feet



AC Pav't. Section, Palehua Rd.

Scale: 1" = 2' ⚠2

LEGEND FOR AS-BUILT POSTINGS	
WWWW	Squiggly line for as-built deletion
~~100.00~~	Double line for as-built deletion
Roadway	Text for as-built posting

	FC# 5, 35 112 & 151
8/05/2009	Clarification of 4" thick PCC pvt. cap
4/19/2008	Revised AC & ASB thickness
1/28/2007	Revised PCC pavement sections
4/20/07	⚠2 Revised/Added Details
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TYPICAL SECTION DETAILS

North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

Scale: As Shown Date: Feb 21, 2007

SHEET No. C1.27 OF 179 SHEETS

GREG H. HIYAKUMOTO LICENSED PROFESSIONAL ENGINEER No. 6662-C HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE

April 30, 2008
EXPIRATION DATE OF THE LICENSE

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

"AS-BUILT" CO ADD. 41

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	42	380

True North
1" = 100'

Farrington Highway

Benchmark
"NS-MON1"
Alum. Disk
N -5430.67
E 5791.76
Elev.=154.35

Benchmark
"NORTH"
R/R Spike
N -5194.72
E 5908.07
Elev.=158.53

Benchmark
"EP4"
1/2" Pipe
N -4818.15
E 5378.25
Elev.=168.09

Benchmark
"EP8"
1/2" Pipe
N -4465.22
E 4780.17
Elev.=180.88

Benchmark
"OVERPASS"
N -3842.85
E 4066.87
Elev.=229.87

Benchmark
"GUARD"
1/2" Pipe
N -4013.70
E 4189.99
Elev.=201.65

Benchmark
"SS96C"
N -3814.97
E 3991.91
Elev.=229.87

Benchmark
"BLIND"
N -3688.86
E 3917.65
Elev.=220.02

TMK: 9-1-018:004
(Campbell Estate)

TMK: 9-1-018:005
(State of Hawaii)

TMK: 9-2-002:006
(Campbell Estate)

TMK: 9-2-002:001
(University of Hawaii)

Roadway Plan 1

Roadway Plan 2

Roadway Plan 3

R/W

Palehua Rd.

110+00

115+00

120+00

125+00

130+00

135+00

℄ North-South Road

plantation road

Palehua Rd. Connector

Kaloi Gulch

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

Graphic Scale:

1" = 100' 100' 50' 0 100' 200'

Scale in Feet

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6652-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

APR 30, 2008
DATE OF LICENSE EXPIRY

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY KEY PLAN

North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

Scale: As Shown Date: Feb 21, 2007

SHEET No. C2.1 OF 179 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	43	380

True North
1" = 100'

Palehua Road Connector
See Sht. C2.11

Palehua Road Connector

Palehua Road (existing)

Continuous chain link fence FC #184

Intersection
Sta. 0+00 ℄ Ramp A & B
=Sta. 133+61 ℄ North-South Road

Ramps A&B Plan & Profile – 3

Ramp B
(Westbound On-ramp)

Ramps A&B Plan & Profile – 4

Ramp A
(Westbound Off-ramp)

R/W

r/w

Palehua Bridge

Interstate H-1 Freeway

Westbound Lanes

Eastbound Lanes

Intersection
Sta. 0+00 ℄ Ramp C & D
=Sta. 127+29.50 ℄ North-South Road

End chain link fence at cattle fence post at H-1 Station 195+00± FC #184

Ramps A&B Plan & Profile – 2

Ramps A&B Plan & Profile – 1

Continuous chain link fence FC #184

FC #184

connect to existing wire fence FC #184

to Waianae

Ramps C&D Plan & Profile – 1

Ramp C
(Eastbound Off-ramp)

R/W

Ramps C&D Plan & Profile – 2

Ramp D
(Eastbound On-ramp)

Ramps C&D Plan & Profile – 3

North-South Road (State)

Palehua Road

LEGEND FOR AS-BUILT POSTINGS

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

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

Graphic Scale:
1" = 100' 100' 50' 0 100' 200'
Scale in Feet

SIGNATURE

April 30, 2008
EXPIRATION DATE OF THE LICENSE

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

DATE	FC#184 REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

INTERCHANGE PLAN – 1

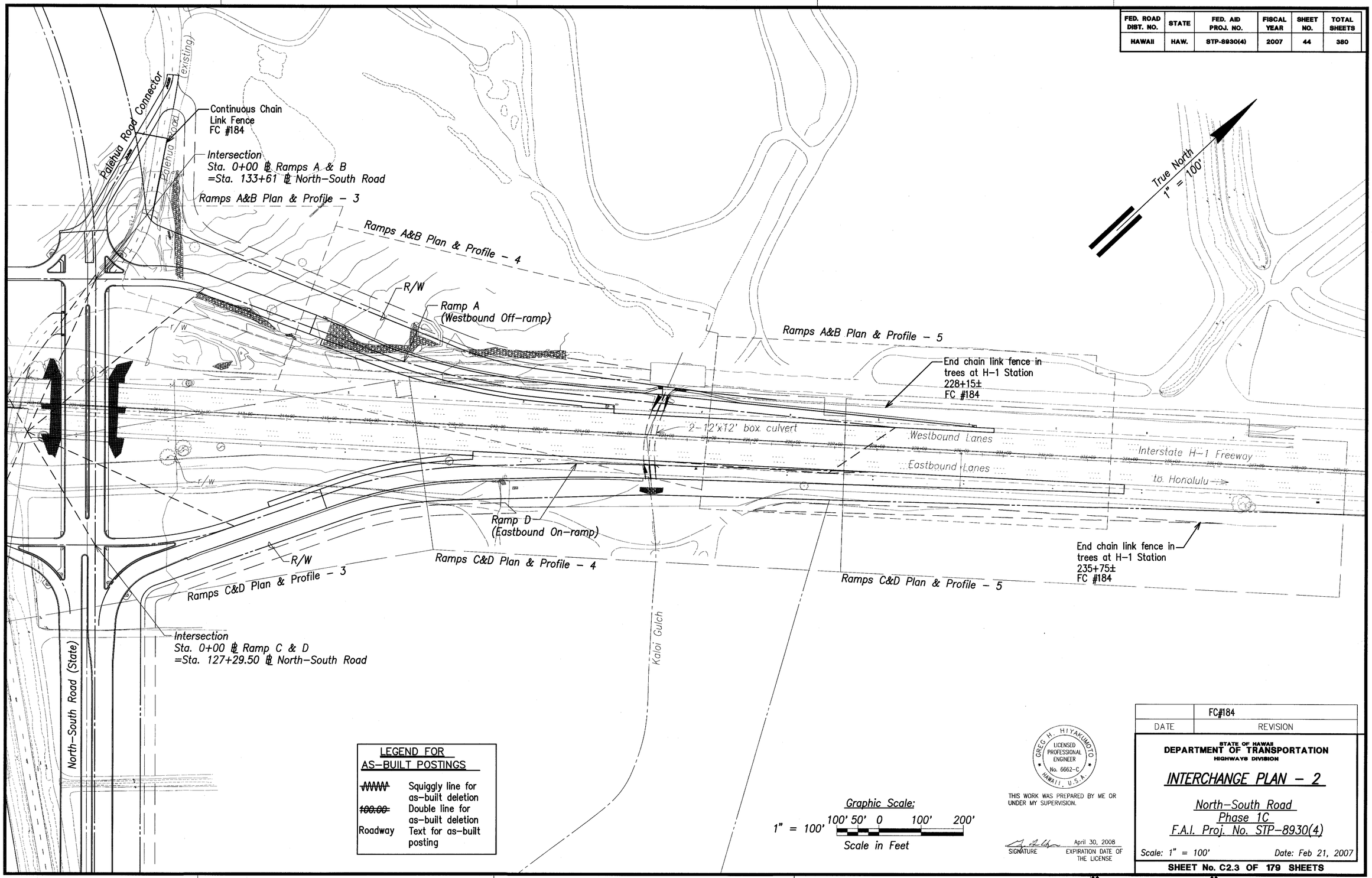
North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

Scale: 1" = 100' Date: Feb 21, 2007

SHEET No. C2.2 OF 179 SHEETS

"AS-BUILT"

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	44	380



LEGEND FOR AS-BUILT POSTINGS	
~~WWWW~~	Squiggly line for as-built deletion
~~100.00~~	Double line for as-built deletion
Roadway	Text for as-built posting

Graphic Scale:

1" = 100' 100' 50' 0 100' 200'

Scale in Feet

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

GREG H. HIYAKUMOTO LICENSED PROFESSIONAL ENGINEER No. 6662-C HAWAII, U.S.A.

SIGNATURE April 30, 2008 EXPIRATION DATE OF THE LICENSE

	FC#184
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

INTERCHANGE PLAN – 2

North–South Road
Phase 1C
F.A.I. Proj. No. STP–8930(4)

Scale: 1" = 100' Date: Feb 21, 2007

SHEET No. C2.3 OF 179 SHEETS

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

"AS-BUILT"

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	45	380

True North
1" = 100'

℄ 0+00 Eastbound Bypass
= ℄ 133+61 North–South Road

Palehua Road Connector

Palehua Road (existing)

Westbound Bypass Plan & Profile – 3

Westbound Bypass Plan & Profile – 2

℄ Westbound Bypass

(–)5+00

(–)10+00

(–)15+00

R/W

℄ H–1

Contractor's
Worksite Exit

North–South Road Bridge

Contractor's
Worksite Entrance

Westbound Lanes

Eastbound Lanes

Interstate H–1 Freeway (existing)

PC Sta. (–)18+84.35 ℄ WB Bypass
=SC Sta. 191+41.27± o/s 54'± Lt.
℄ H–1 Freeway
End ℄ WB Bypass

Westbound Bypass Plan & Profile – 1

(–)18+84.35

(–)15+98.08

190°36'50"

Eastbound Bypass Plan & Profile – 1

PC Sta. (–)15+98.08 ℄ EB Bypass
=193+49.87± o/s 54'± Rt. H–1 Freeway
Begin ℄ EB Bypass

Eastbound Bypass Plan & Profile – 2

℄ 0+00 Eastbound Bypass
= ℄ 127+25.64 North–South Road

Contractor's
Worksite Entrance

Contractor's
Worksite Exit

0+00

5+00

℄ Eastbound Bypass

℄ North–South Road

Eastbound Bypass Plan & Profile – 3

140+00

130+00

125+00

120+00

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

Graphic Scale:
1" = 100'
100' 50' 0 100' 200'
Scale in Feet

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662–C
HAWAII, U.S.A.

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SIGNATURE

APR 30, 2008
DATE OF LICENSE EXPIRY

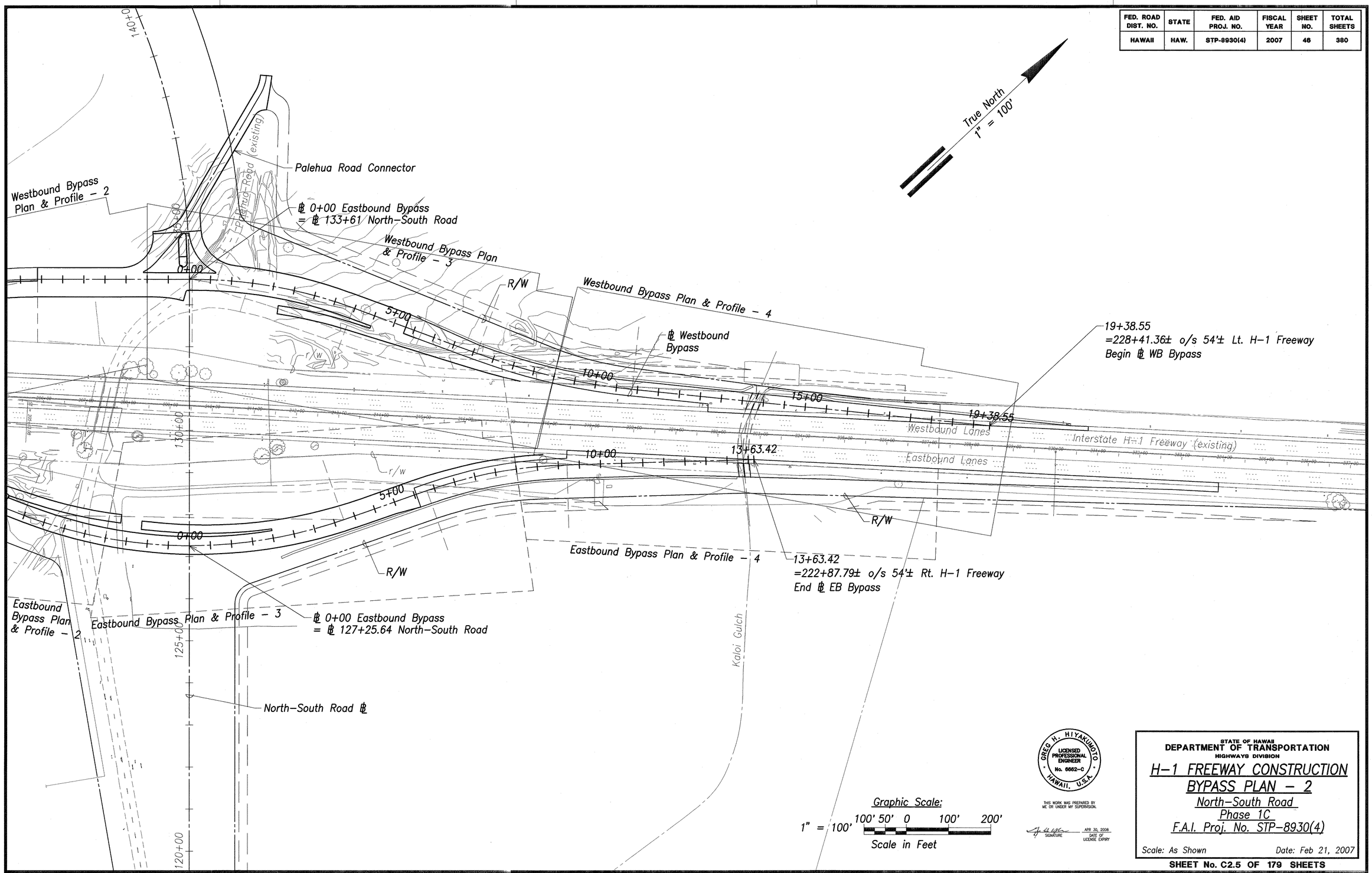
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

H–1 FREEWAY CONSTRUCTION
BYPASS PLAN – 1
North–South Road
Phase 1C
F.A.I. Proj. No. STP–8930(4)

Scale: As Shown Date: Feb 21, 2007

SHEET No. C2.4 OF 179 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	46	380



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

Graphic Scale:
1" = 100' 100' 50' 0 100' 200'
Scale in Feet

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SIGNATURE
APR 30, 2008
DATE OF LICENSE EXPIRY

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662-C
HAWAII, U.S.A.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

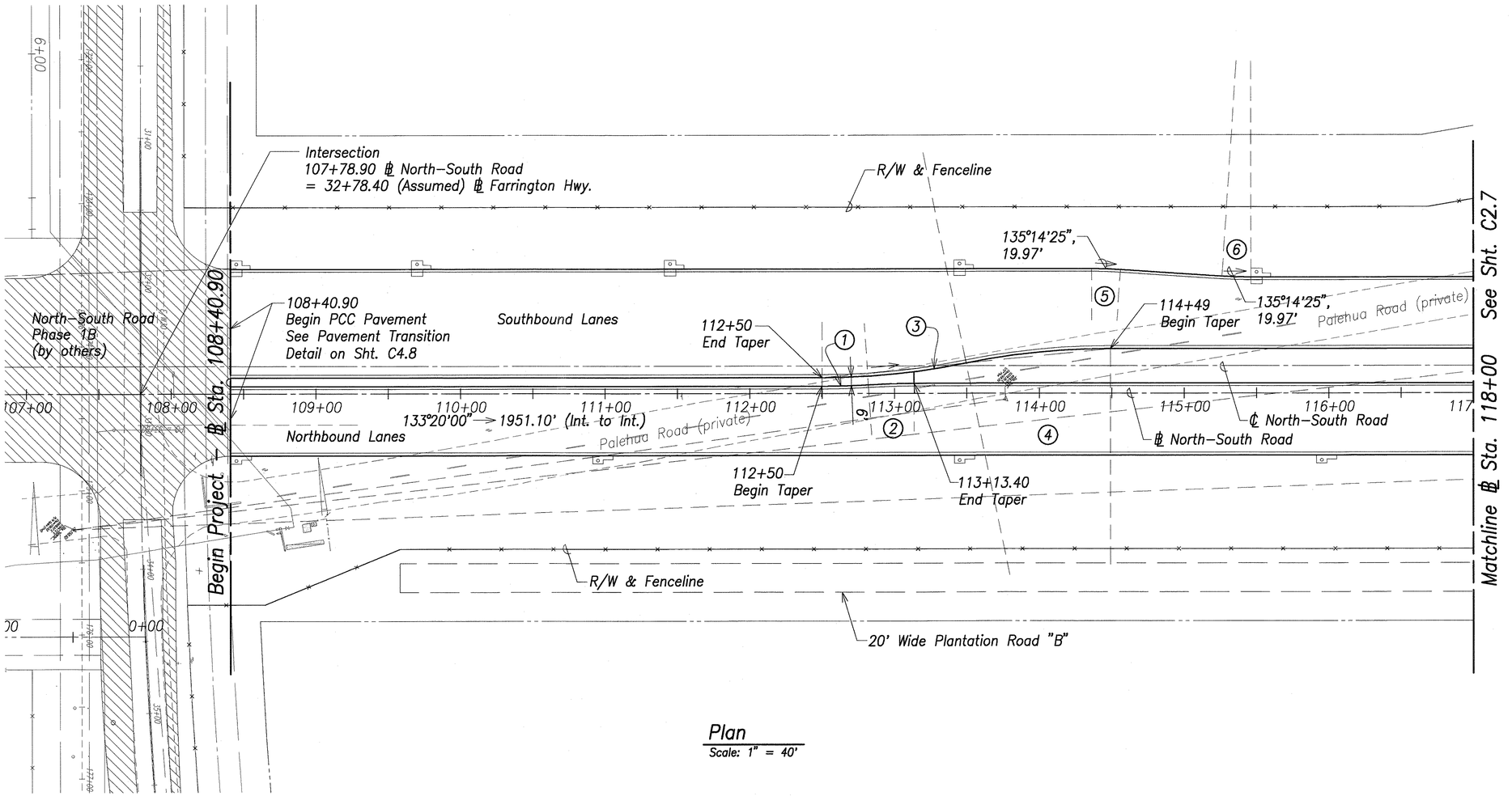
H–1 FREEWAY CONSTRUCTION
BYPASS PLAN – 2
North–South Road
Phase 1C
F.A.I. Proj. No. STP–8930(4)

Scale: As Shown Date: Feb 21, 2007

SHEET No. C2.5 OF 179 SHEETS

RWTC v.21 /Project: 3-20574-06
Filename: K:\Civil\19099 Hyatt\dgn\Hyatt.mwd (and) package_1_rdy_roadway\1)--roadway_overall_bypass_plan.dwg

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	47	380



Plan
Scale: 1" = 40'

Curb Data

①	②	③	④	⑤	⑥
△ = 3°36'49"	△ = 3°36'49"	△ = 11°28'42"	△ = 11°28'42"	△ = 3°48'51"	△ = 3°48'51"
△/2 = 1°48'24"	△/2 = 1°48'24"	△/2 = 5°44'21"	△/2 = 5°44'21"	△/2 = 1°54'25"	△/2 = 1°54'25"
R = 506.00'	R = 500.00'	R = 500.00'	R = 500.00'	R = 300.00'	R = 300.00'
T = 15.96'	T = 15.77'	T = 50.25'	T = 50.25'	T = 9.99'	T = 9.99'
C = 31.91'	C = 31.53'	C = 100.00'	C = 100.00'	C = 19.97'	C = 19.97'
L_C = 31.91'	L_C = 31.53'	L_C = 100.17'	L_C = 100.17'	L_C = 19.97'	L_C = 19.97'

Graphic Scale:
1" = 40' 40' 20' 0 40' 80'
Scale in Feet

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 8662-C
HAWAII, U.S.A.

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SIGNATURE — APR 30, 2008 DATE OF LICENSE EXPIRY

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY PLAN – 1

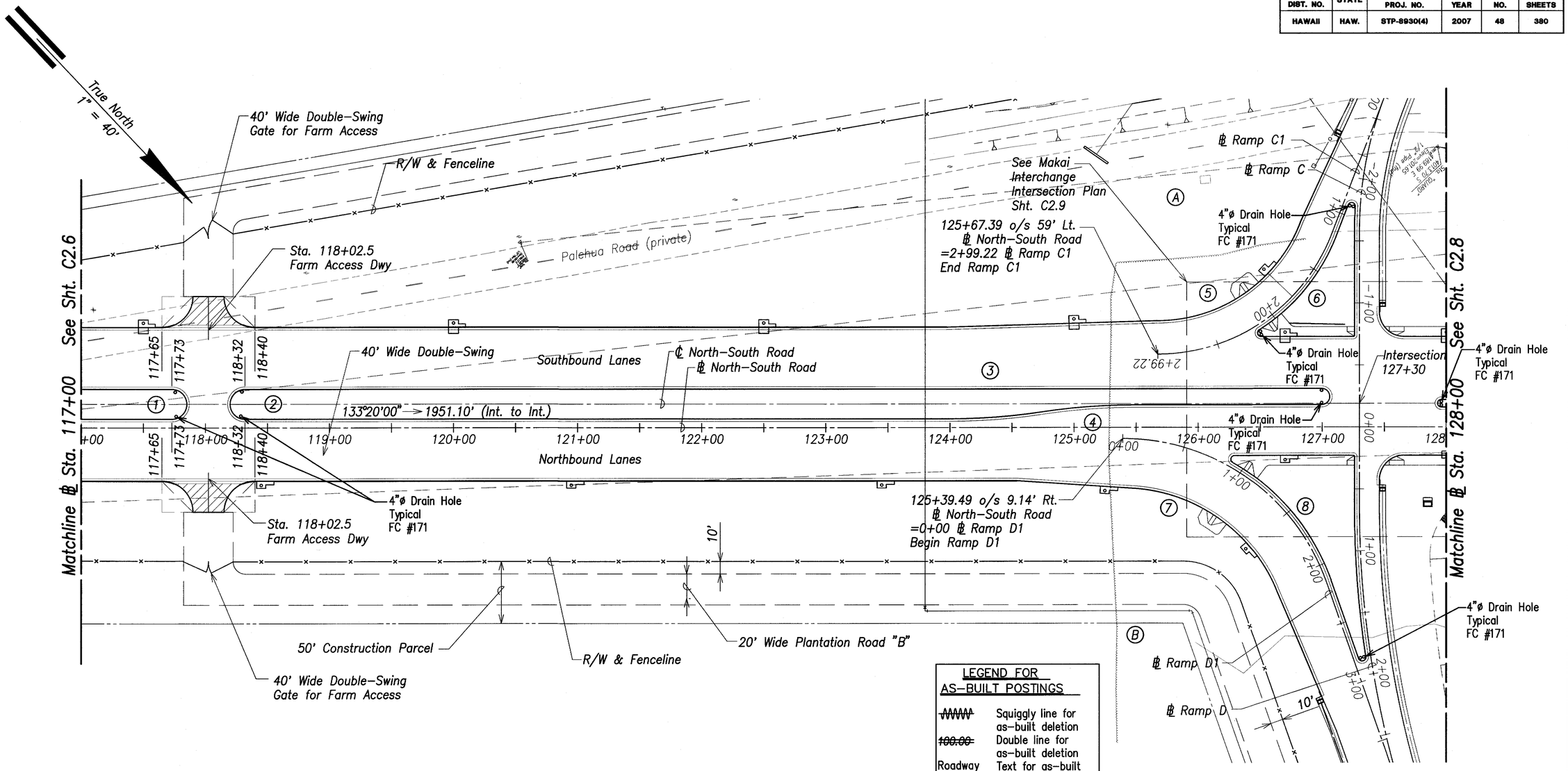
North–South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

Scale: As Shown — Date: Feb 21, 2007

SHEET No. C2.6 OF 179 SHEETS

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

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	48	380



℄ Curve Data

(A)	(B)	(1)(2)	(3)(4)
△ = 69°00'00"	△ = 70°40'00"	△ = 180°00'00"	△ = 4°44'06"
△/2 = 34°30'00"	△/2 = 35°20'00"	△/2 = 90°00'00"	△/2 = 2°22'03"
R = 150.00'	R = 174.00'	R = 12.00'	R = 500.00'
T = 103.09'	T = 123.35'	T = Infinite	T = 20.67'
C = 169.92'	C = 201.26'	C = 24.00'	C = 41.31'
L_C = 180.64'	L_C = 214.61'	L_C = 37.70'	L_C = 41.32'

Curb Data

(5)	(6)	(7)	(8)
△ = 69°13'09"	△ = 36°54'05"	△ = 63°02'19"	△ = 40°49'30"
△/2 = 34°21'19.5"	△/2 = 18°27'02.5"	△/2 = 31°16'09.5"	△/2 = 20°24'30"
R = 123.00'	R = 154.00'	R = 134.00'	R = 178.00'
T = 84.88'	T = 51.38'	T = 82.18'	T = 66.24'
C = 139.72'	C = 97.48'	C = 140.11'	C = 124.16'
L_C = 148.60'	L_C = 99.18'	L_C = 147.43'	L_C = 126.83'

LEGEND FOR AS-BUILT POSTINGS

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

Note:
See Shts. C2.17-C2.21 for Ramps C & D Plan

Graphic Scale:

1" = 40' 40' 20' 0 40' 80'

Scale in Feet

GREG H. HIYAKUMOTO LICENSED PROFESSIONAL ENGINEER No. 6662-C HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE April 30, 2008 EXPIRATION DATE OF THE LICENSE

6/29/09	FC#171 REINF. CONC. CURB DRAIN HOLES
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY PLAN - 2

North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

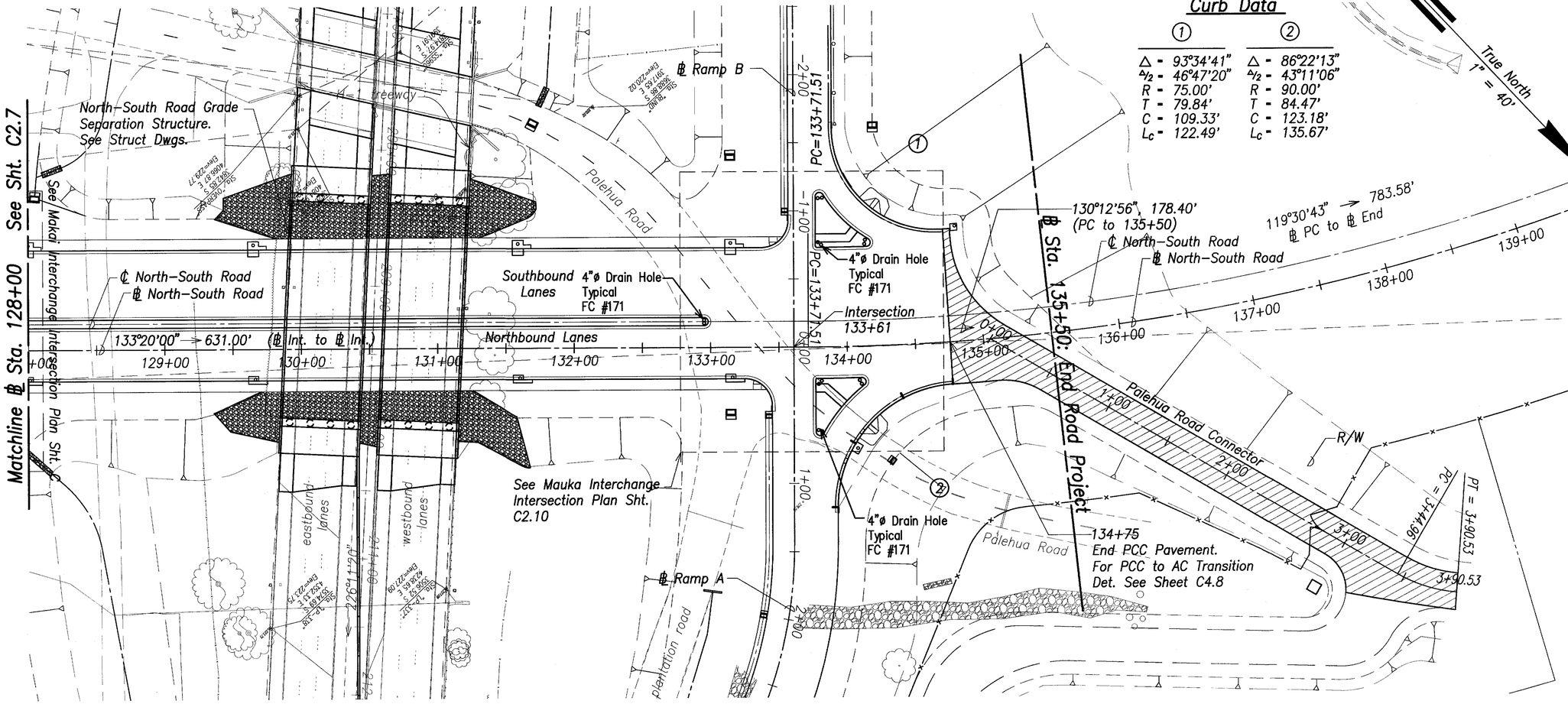
Scale: As Shown *Date: Feb 21, 2007*

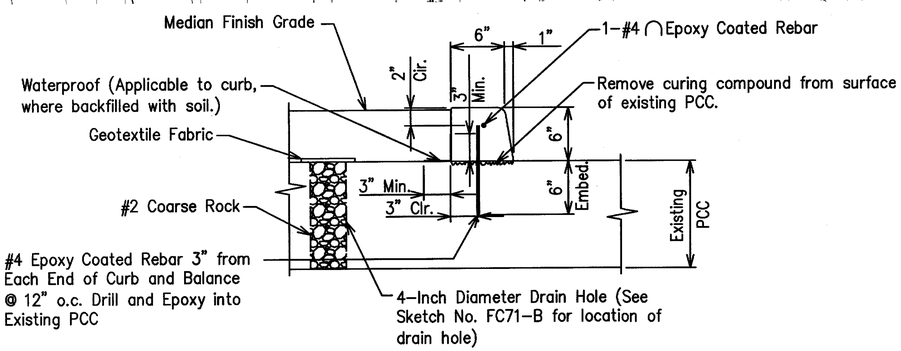
SHEET No. C2.7 OF 179 SHEETS

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

"AS-BUILT"

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	49	380





PCC Curb Detail
FC #171

LEGEND FOR AS-BUILT POSTINGS	
~~WWWW~~	Squiggly line for as-built deletion
~~100.00~~	Double line for as-built deletion
Roadway	Text for as-built posting

Note:
See Shts. C2.12-C2.16 for Ramp A & B Plan

Graphic Scale:
1" = 40' 40' 20' 0 40' 80'
Scale in Feet

GREG H. HIYAKUMOTO LICENSED PROFESSIONAL ENGINEER No. 6662-C HAWAII, U.S.A.

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SIGNATURE April 30, 2008 EXPIRATION DATE OF THE LICENSE

6/29/09	FC#171 PCC - CURB DETAIL
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY PLAN - 3

North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

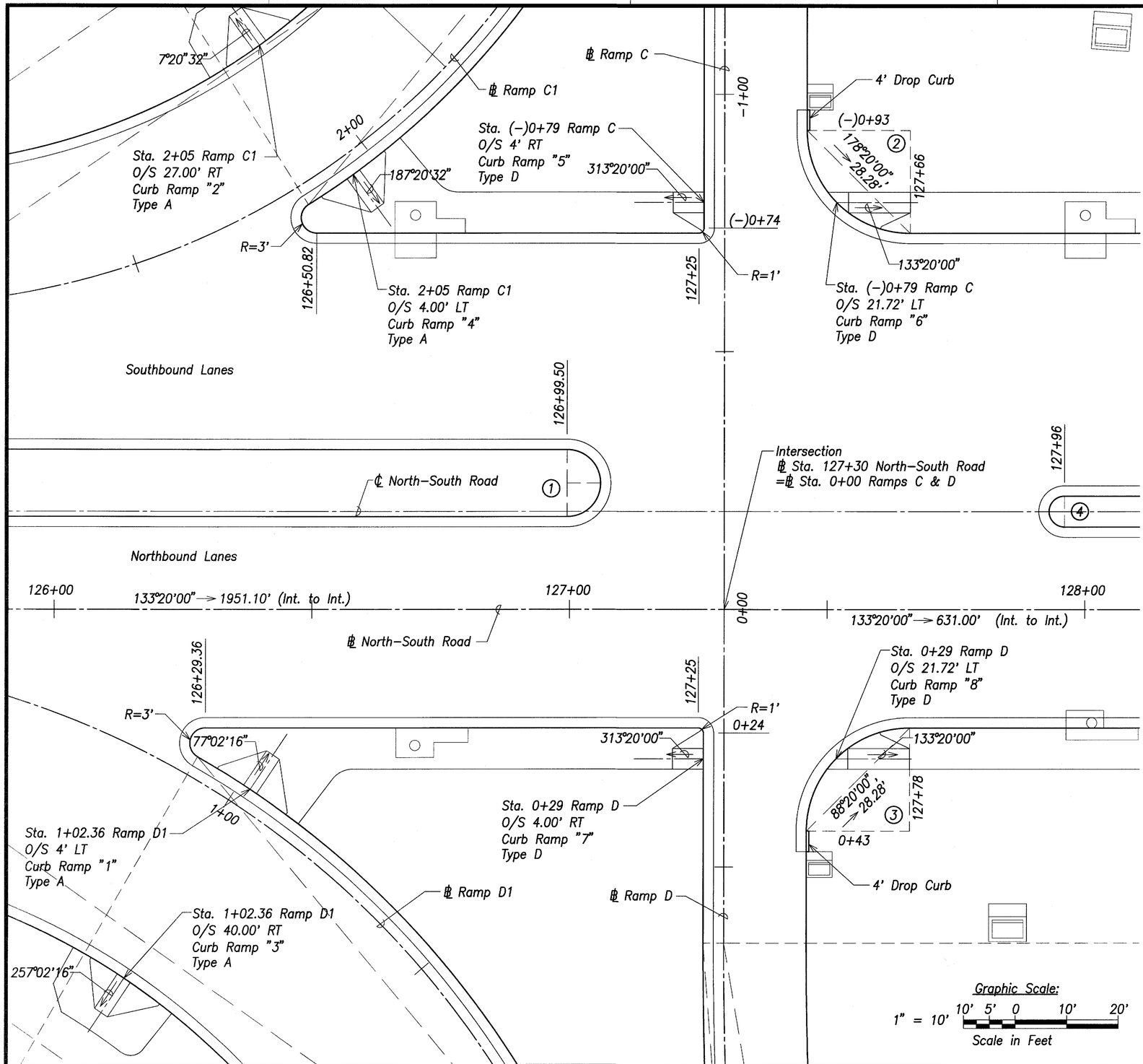
Scale: As Shown *Date: Feb 21, 2007*

SHEET No. C2.8 OF 179 SHEETS

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

"AS-BUILT"

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	CO 50	380



Curb Data

①	②③	④
Δ = 180°00'00"	Δ = 90°00'00"	Δ = 180°00'00"
Δ/2 = 90°00'00"	Δ/2 = 45°00'00"	Δ/2 = 90°00'00"
R = 6.50'	R = 20.00'	R = 3.00'
T = Infinite	T = 20.00'	T = Infinite
C = 13.00'	C = 28.28'	C = 6.00'
L_c = 23.56'	L_c = 31.42'	L_c = 9.42'

Graphic Scale:

1" = 10' 10' 5' 0 10' 20'

Scale in Feet

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

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662-C
HAWAII, U.S.A.

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SIGNATURE April 30, 2008 EXPIRATION DATE OF THE LICENSE

6/06/2008	Various Revisions
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

MAKAI INTERCHANGE INTERSECTION PLAN

North−South Road
Phase 1C
F.A.I. Proj. No. STP−8930(4)

Scale: As Shown Date: Feb 21, 2007

SHEET No. C2.9 OF 179 SHEETS

"AS−BUILT"

CO 50

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	CO 51	380

℄ Ramp B

(−)1+10.41

1+00

4' Drop Curb

(−)0+93

② 88°20'00", 28.28', R=20', 133+37

313°20'00"

(−)0+74

Sta. (−)0+79 o/s 9.72' Rt.
Ramp B
Curb Ramp "1"
Type D

Southbound Lanes

FC #80

R=1'

R=3'

0+84.10

20'

81°25'26"

FC #80

0+56 o/s 2' Rt. Ramp B
Curb Ramp "4"
Type A

0+00 Ramp B1
=134+73.93 o/s 81' Lt.
North–South Road
Begin Ramp B1

Ramp B1

0+50

0+46

261°25'26"

133°20'00"

℄ Ramp B1

0+00

R=3'

133+78.31

134+16.12

FC #80

(−)0+80 o/s 16' Lt.
Ramp B
Curb Ramp "3"
Type C

True North
1" = 20'

Curb Data

①	②③	④ (FC #80)
Δ = 180°00'00"	Δ = 90°00'00"	Δ = 180°00'00"
Δ/2 = 90°00'00"	Δ/2 = 45°00'00"	Δ/2 = 90°00'00"
R = 3.00'	R = 20.00'	R = 7.50'
T = Infinite	T = 20.00'	T = Infinite
C = 6.00'	C = 28.28'	C = 15.00'
Lc = 9.42'	Lc = 31.42'	Lc = 23.56'

132+95.30

Intersection
℄ Sta. 133+61
North–South Rd.
=℄ Sta. 0+00
Ramps A & B

① ℄ North–South Road

PC=133+71.52

134+00

119°30'43" → 783.58' (PC to ℄ End)

133+00 ℄ North–South Road

133°20'00" → 631.00' (Int. to Int.)

0+00

134+00

130°12'56" → 178.40'
(PC to 135+50)

133°20'00", 10.51'
(Int. to PC)

FC #80

133+77.91

134+10.02

Northbound Lanes

313°20'00"

Sta. 0+29 o/s 21.72' Rt.
Ramp A
Curb Ramp "2"
Type D

0+23.98

Sta. 0+30 o/s
16' Lt. Ramp A
Curb Ramp "5"
Type C

133°20'00"

R=3'

℄ Ramp A1

1+38.68

1+38.68 Ramp A1
=134+75.41 o/s 29' Rt.
North–South Road
End Ramp A1

1+00

0+83.15

24'

60.11'

355°00'00"

③ 178°20'00", 28.28', R=20', 133+25

0+43

4' Drop Curb

82°47'45"

Ramp A1

0+66.90 o/s 2' Rt. Ramp A1
Curb Ramp "6"
Type A

0+61.97

0+45.47

0+50

175°00'00"

℄ Ramp A

R=3'

LEGEND FOR AS–BUILT POSTINGS

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

DATE	REVISION
7/10/08	FC#80 NEW SHEET & FC#118
6/06/2008	Various Revisions

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

MAUKA INTERCHANGE INTERSECTION PLAN

North–South Road
Phase 1C
F.A.I. Proj. No. STP–8930(4)

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662–C
HAWAII, U.S.A.

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SIGNATURE — April 30, 2008 — EXPIRATION DATE OF THE LICENSE

Graphic Scale:
1" = 10'
10' 5' 0 10' 20'
Scale in Feet

Scale: As Shown — Date: Feb 21, 2007

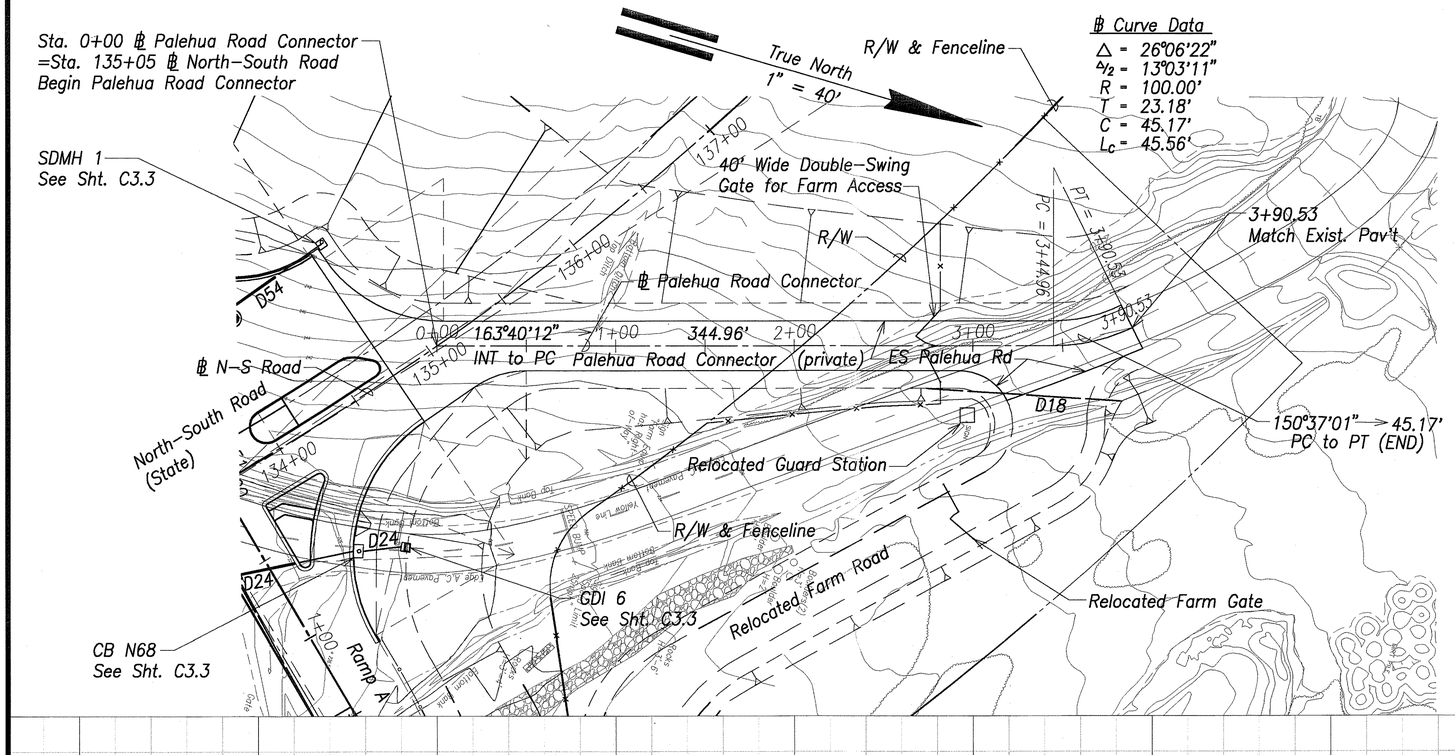
SHEET No. C2.10 OF 179 SHEETS

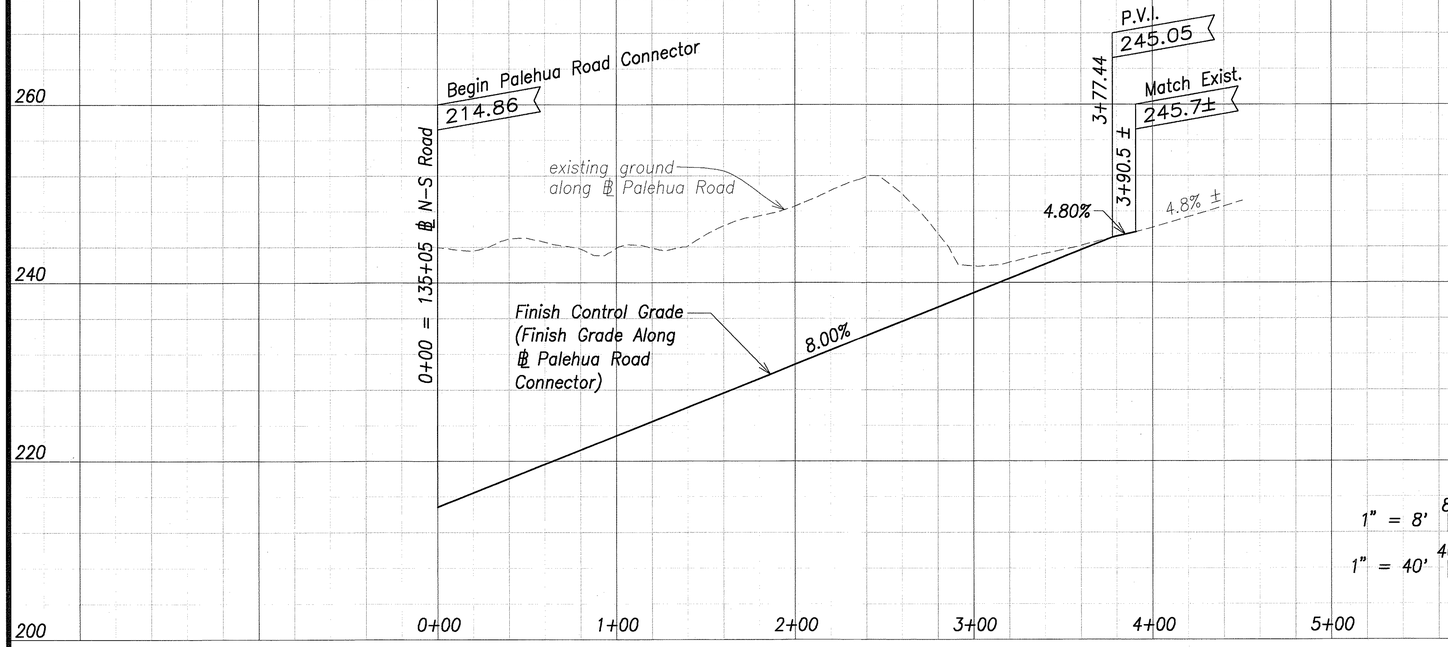
ORIGINAL PLAN
NOTE BOOK
No.
SURVEY PLOTTED BY
DRAWN BY
TRACED BY
DESIGNED BY
QUANTITIES BY
CHECKED BY
DATE

"AS–BUILT"

CO 51

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	52	380





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

Graphic Scale:

1" = 8' 8' 4' 0 8' 16'

1" = 40' 40' 20' 0 40' 80'

Scale in Feet

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662-C
HAWAII, U.S.A.

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SIGNATURE

APR 30, 2008
DATE OF LICENSE EXPIRY

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PALEHUA ROAD CONNECTOR
PLAN & PROFILE

North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

Scale: As Shown Date: Feb 21, 2007

SHEET No. C2.11 OF 179 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	ADD. 53	380

True North
1" = 40'

185+40 H-1 Freeway
Match Exist Shoulder

188+40.08 o/s 64' Lt.
℄ H-1 Freeway
End 50:1 Taper

PC Sta. (-)18+84.35 ℄ Ramp B
=SC Sta. 191+41.27 o/s 54' Lt.
℄ H-1 Freeway
End ℄ Ramp B

Repair Damaged
Invert With Fiber
Reinforced Concrete
Lining
FC #157

96" Culvert Extension
See Sht. C8.10

(-)18+84.35
o/s 16' Lt.
Begin 50:1 Taper

Ramp ℄ Curve Data
△ = 7°37'49"
△/2 = 3°48'54.5"
R = 2356.87'
T = 157.17'
C = 313.64'
L_c = 313.88'

(-)17+25 o/s 16' Lt.
End 50:1 Taper

R/W & Fenceline
End Chain Link
Fence @ Cattle
Fence Post @ H-1
Sta. 195+00±
FC #184

See Sht. C2.13

Matchline ℄ Sta. (-)15+00

westbound lanes

eastbound lanes

190°36'50" → ℄ H-1 freeway

197°03'21" → 313.64 (PC to PT)

PC=(-)18+84.35

PT=(-)15+70.47

TS = 188+40.08

SC = 191+40.08

℄ H-1 = 180.40.08

℄ Ramp B

℄ Ramp C

Connect To Existing
Wire Fence
FC #184

Match Exist. H-1 @ EP
End ℄ Ramp B
226.86±

(-)18+84.35
=191+41.27 ℄ H-1

Continuous Chain
Link Fence
FC #184

existing ground
along H-1 ep

Finish Grade Along
℄ Ramp B (Protection
of H-1 Cross-Slope to
Ramp ℄)

260
240
220

(-)19+00 (-)18+00 (-)17+00 (-)16+00

LEGEND FOR AS-BUILT POSTINGS

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

Graphic Scale:
1" = 8' 8' 4' 0 8' 16'
1" = 40' 40' 20' 0 40' 80'
Scale in Feet

DATE	REVISION
	FC#157 & 184
4/20/07	2 Revised guardrail, added 96" drain

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662-C
HAWAII, U.S.A.

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SIGNATURE — April 30, 2008 EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

RAMPS A & B
PLAN & PROFILE - 1
North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

Scale: As Shown Date: Feb 21, 2007

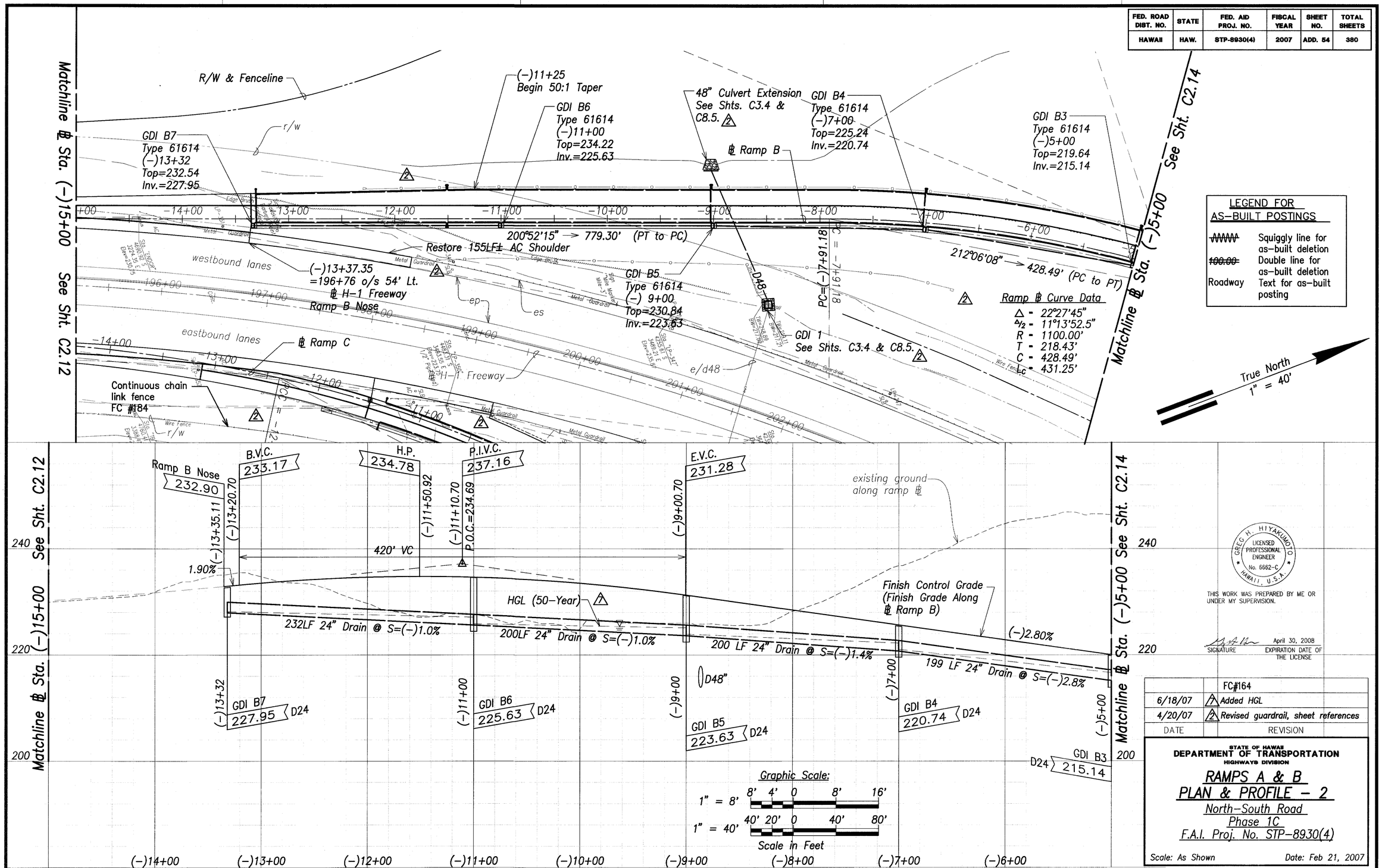
SHEET No. C2.12 OF 179 SHEETS

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

"AS-BUILT"

ADD. 53

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	ADD. 54	380



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

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE — April 30, 2008 EXPIRATION DATE OF THE LICENSE

DATE	REVISION
	FC#164
6/18/07	1 Added HGL
4/20/07	2 Revised guardrail, sheet references

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

RAMPS A & B
PLAN & PROFILE – 2

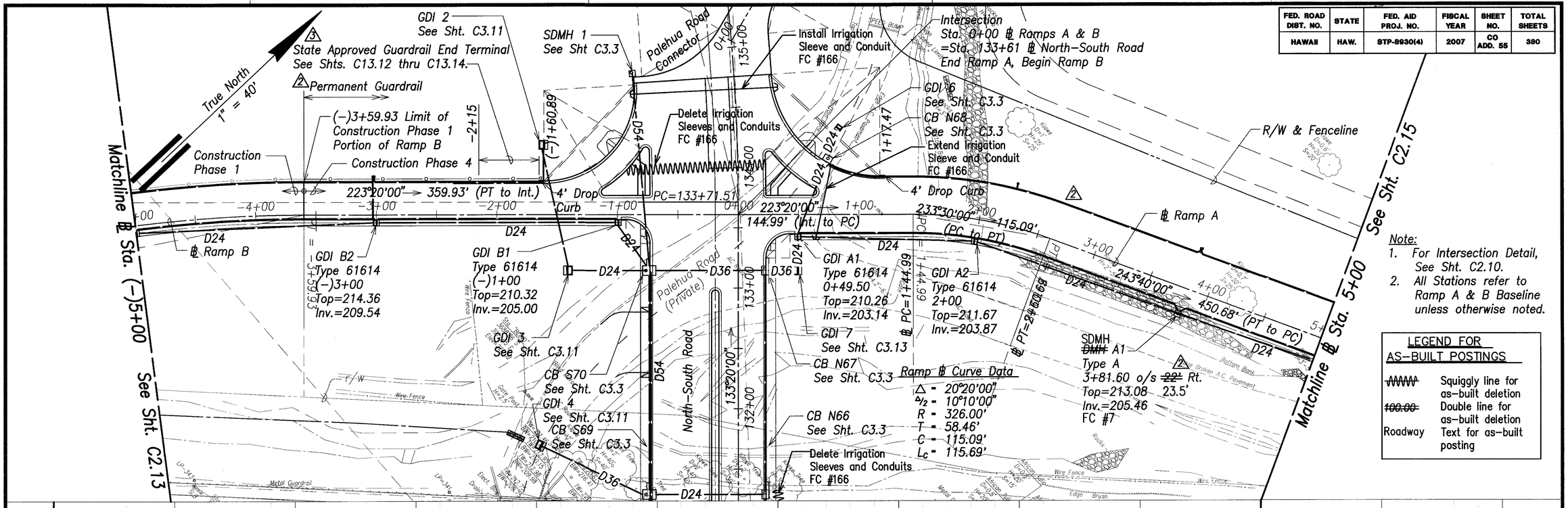
North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

Scale: As Shown — Date: Feb 21, 2007

SHEET No. C2.13 OF 179 SHEETS

"AS-BUILT" **ADD. 54**

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	CO ADD. 55	380



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

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

GREG H. HIYAKUMOTO LICENSED PROFESSIONAL ENGINEER No. 6662-C HAWAII, U.S.A.

SIGNATURE April 30, 2008 EXPIRATION DATE OF THE LICENSE

DATE	REVISION
	FC#7, 166 & 118
7/10/08	FC#80 NEW SHEET
7/07/2008	Revised profile, revised drainline
6/18/07	7 Added HGL
5/4/07	3 Revised guardrail end treatments
4/20/07	2 Revised guardrail, moved DMH A1

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

RAMPS A & B PLAN & PROFILE - 3

North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

Scale: As Shown Date: Feb 21, 2007

SHEET No. C2.14 OF 179 SHEETS

"AS-BUILT" CO ADD. 55

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	ADD. 56	380

Ramp ℄ Curve Data
Δ = 14°28'40"
Δ/2 = 7°14'20"
R = 1500.00'
T = 190.53'
C = 378.02'
Lc = 379.03'

6" Conc. Cap w/ 6x6, W1.4xW1.4 WWF
6" Agg. Base
Inset 1 – 6" Concrete Cap Detail
Scale: N.T.S
Note: 1'–3" Square around each metal guardrail post by 6" deep shall be filled with 2–sack grout
FC #149

Widen swale 12"± up to pullbox and adjust invert of swale
S.L. Pullbox
Bond Breaker
Sawcut and remove 3'± conc. swale
5' conc. swale
14.5'
11.5'
Inset 2
Scale: N.T.S
FC #149

See Sht. C2.14
Matchline ℄ Sta. 5+00
Matchline ℄ Sta. 15+00
See Sht. C2.16
True North
1" = 40'
Construction Phase 4
Construction Phase 1
5+31.62 End Taper Limit of Construction Phase 1 Portion of Ramp A
5+48 Begin Conc. Swale
℄ Ramp A
7+11.36 Begin Taper
℄ PC=8+48.45
℄ PT=10+90.38
25'
10'
Plantation Road "A"
R/W & Fenceline
Broken A.C. Pavement
243°40'00" → 450.68' (PT to PC)
236°25'40" → 378.02' (PC to PT)
229°11'20" → 851.09' (PT to End)
226°11'20" →
Refer to Inset 2 This sheet
FC #165
FC #165 Extend GRP
FC #165 6" Conc. Cap
FC #165 Install Bond Breaker
Install Bond Breaker FC #165
43'±
FC #165 Top Bank
Install 6" thick concrete cap on the embankment slope along ramp "A" shoulder from Sta. 13+45±Lt. to 13+73±Lt. & from Sta. 14+03±Lt. to 15+70±Lt. Refer to Inset 1
FC #165
GDI A3 Type 61614 5+52 Top=211.66 Inv.=207.16
D24
12+74.24 ℄ Ramp A =221+73.22 ℄ H–1 Freeway Ramp Nose
2 Double 12'x12' Box Culvert Extension See Shts. C8.7 & C8.8.
westbound lanes
eastbound lanes
℄ H–1 Freeway
Edge Broken A.C. Pavement
Metal Guardrail
Wire Fence
Boulder Wall
Rock Wall
Sta. "LP-320" 2904,74 S 4984,73 E Elev=209.67 Mktg. prob.
Sta. "LP-321" 2904,74 S 5004,44 E Elev=209.80 Mktg. prob.
Sta. "HEADWALL" 2717,45 S 5004,44 E Elev=203.80

E.V.C. 212.68
5+01.60
B.V.C. 205.48
11+02.69
P.I.V.C. 204.49
P.O.C.=204.64
11+85.19
E.V.C. 204.08
12+67.69
Ramp A Nose 204.05
12+74.24
existing ground along ramp ℄
Finish Control Grade (Finish Grade Along ℄ Ramp A)
(–)1.20%
165' VC
Finish Grade Along ℄ Ramp A (Projection of H–1 Cross–Slope to Ramp ℄)
HGL (50–Year) 7
171 LF 24" Drain @ S=1.0%
5+52 GDI A3 207.16 D24
2–12'x12' Box Culvert
230
210
190
6+00
7+00
8+00
9+00
10+00
11+00
12+00
13+00
14+00

LEGEND FOR AS–BUILT POSTINGS

~~WWWW~~	Squiggly line for as–built deletion
~~180.00~~	Double line for as–built deletion
Roadway	Text for as–built posting

DATE	REVISION
	FC#149 & 165
6/18/07	7 Added HGL
4/20/07	2 Revised guardrail, box culvert

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

GREG H. HIYAKUMOTO LICENSED PROFESSIONAL ENGINEER No. 6662–C HAWAII, U.S.A.
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
SIGNATURE
April 30, 2008 EXPIRATION DATE OF THE LICENSE

Graphic Scale:
1" = 8' 8' 4' 0 8' 16'
1" = 40' 40' 20' 0 40' 80'
Scale in Feet

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

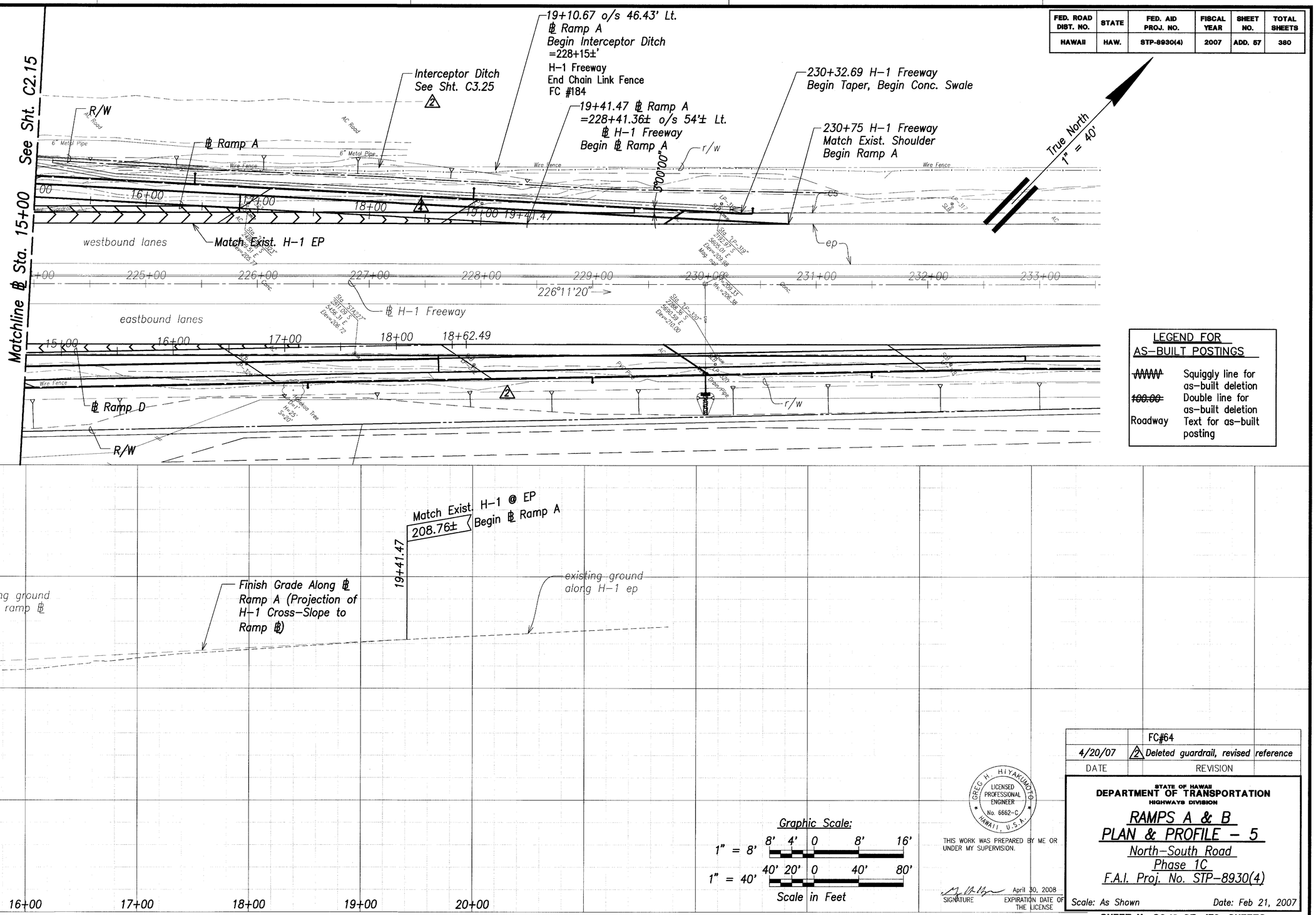
RAMPS A & B
PLAN & PROFILE – 4
North–South Road
Phase 1C
F.A.I. Proj. No. STP–8930(4)

Scale: As Shown
Date: Feb 21, 2007

SHEET No. C2.15 OF 179 SHEETS

"AS–BUILT"
ADD. 56

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	ADD. 57	380



LEGEND FOR AS-BUILT POSTINGS

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

Graphic Scale:

1" = 8' 8' 4' 0 8' 16'

1" = 40' 40' 20' 0 40' 80'

Scale in Feet

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

GREG H. HIYAKUMOTO LICENSED PROFESSIONAL ENGINEER No. 6662-C HAWAII, U.S.A.

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SIGNATURE April 30, 2008 EXPIRATION DATE OF THE LICENSE

DATE	REVISION
	FC#64
4/20/07	2 Deleted guardrail, revised reference

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

RAMPS A & B
PLAN & PROFILE - 5

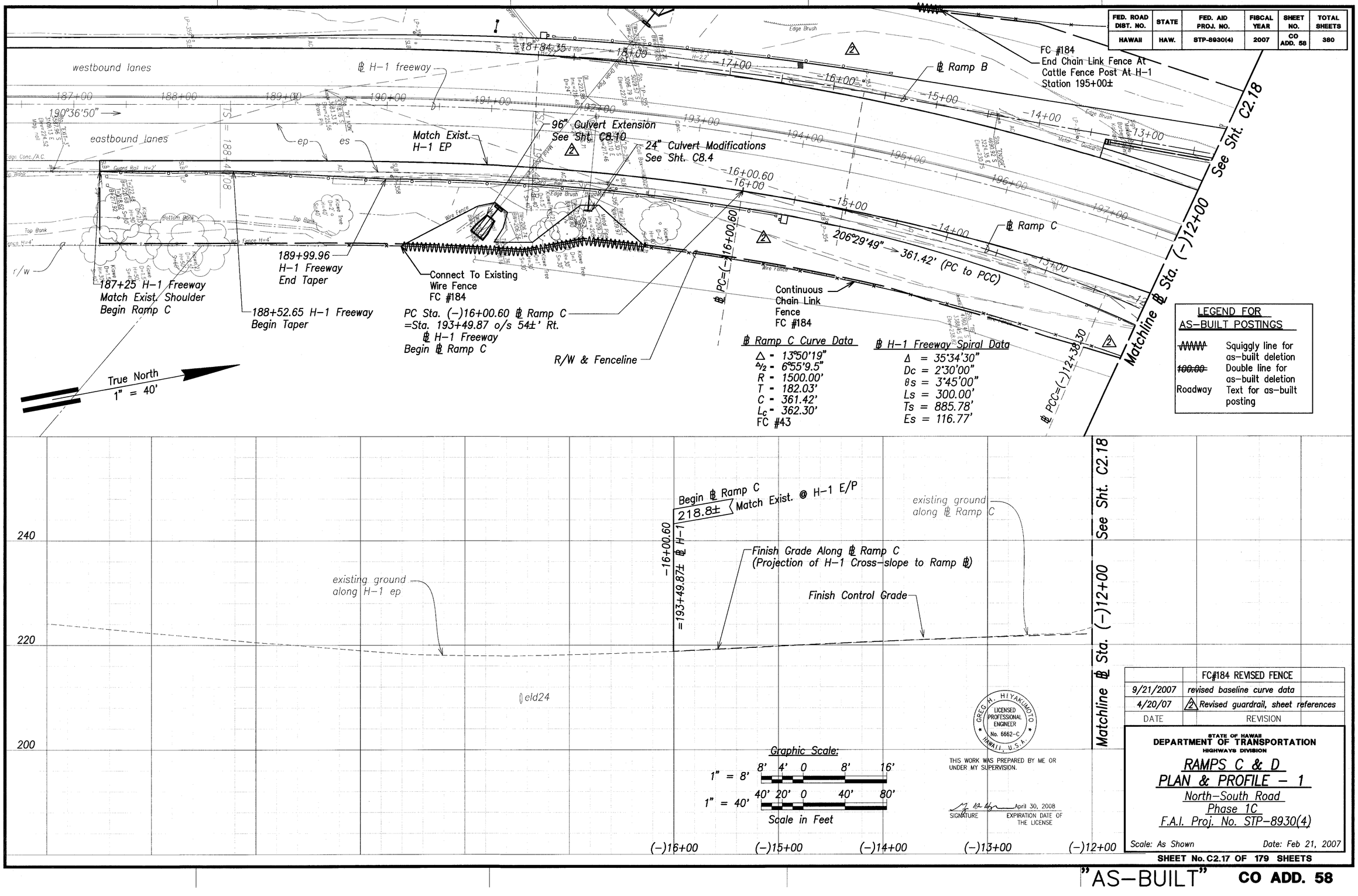
North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

Scale: As Shown Date: Feb 21, 2007

SHEET No. C2.16 OF 179 SHEETS

"AS-BUILT" ADD. 57

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	CO ADD. 58	380



Graphic Scale:

1" = 8' 8' 4' 0 8' 16'

1" = 40' 40' 20' 0 40' 80'

Scale in Feet

GREGG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662-C
HAWAII, U.S.A.

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SIGNATURE — April 30, 2008 EXPIRATION DATE OF THE LICENSE

DATE	REVISION
	FC#184 REVISED FENCE
9/21/2007	revised baseline curve data
4/20/07	2 Revised guardrail, sheet references

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

RAMPS C & D
PLAN & PROFILE - 1
North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

Scale: As Shown Date: Feb 21, 2007

SHEET No. C2.17 OF 179 SHEETS

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

"AS-BUILT" CO ADD. 58

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	CO ADD. 59	380

199+51 ℄ H-1 Freeway
Begin Flare for FLEAT-350
See Sht. C13.12 △3

Reconstruct Approx. 114LF AC Shoulder

FLEAT-350

Begin

℄ Ramp C

Demolish Exist. Headwall and Extend 48" RCP Drainline. See Sht. C3.4 & C8.6 △2

FC #48 End

Construction Phase 1

Construction Phase 4

GDI C5
Type 61614
(−)8+00
~~Top=216.07~~
Inv=211.57
Top=215.85

228°52'29" → 586.39' (PCC to PT)

FC #48 Begin

FC #184

Continuous Chain Link Fence FC #184

(−)11+51.18
=198+12.39 H-1 Freeway
Ramp C Nose

R/W & Fenceline

Construction Parcel

℄ PT=(−)6+44.74

Demolish Temp. Guardrail △2
Install Permanent Guardrail

GDI C4
Type 61614
(−)6+00
~~Top=208.37~~
Inv=203.37
Top=208.65

GDI C3
Type 61614
(−)4+00
~~Top=201.00~~
Inv=196.50
Top=201.43

GDI C2
Type 61614
(−)2+30.90
~~Top=197.54~~
Inv=193.05
Top=197.79

(−)6+44.74
Begin ~~15:1~~ Taper
Limit of Construction Phase 1 Portion of Ramp C

(−)4+64.74
End Taper

244°20'00" → 376.34' (PT to PC)

−3+16.7
△3 Begin 15:1 Taper

−2+05.5 o/s ~~39.3' Rt.~~
~~Type "G" Flare~~
See Sht. C13.8

37.3'

120' (15:1 Taper)

Install ET-2000 guardrail end treatment
FC #174

℄ Ramp C1

Ramp ℄ Curve Data
△ = 21°00'00"
½ = 10°30'00"
R = 300.00'
T = 55.60'
C = 109.34'
Lc = 109.96'

℄ PC=(−)2+62.86
ES PC=(−)2+68.40
o/s 17.95' Lt.

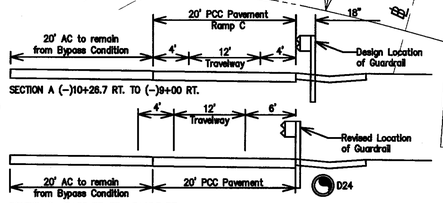
FC #48 End
233°50'00"
109.34'

233°50'00"
103.51'

Ramp C ES Data
△ = 21°00'00"
½ = 10°30'00"
R = 284.00'
T = 52.64'
C = 103.51'
Lc = 104.09'

Ramp ℄ Curve Data
△ = 30°55'01"
½ = 15°27'30.5"
R = 1100.00'
T = 304.20'
C = 586.39'
Lc = 593.56'

Note:
Realign Planned Guardrail Per Section "B" From EB Ramp Sta. (−)8+00 RT. TO (−)3+15.5 RT. Transfer Guardrail Per Section "A" Ramp (Sta. (−)10+26.7 To (−)9+00) To Section "B" Guardrail (Sta. (−)9+00 RT. To (−)8+00 RT.)



Revised Guardrail Alignment

Scale: N.T.S
FC #48

LEGEND FOR AS-BUILT POSTINGS

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

Graphic Scale:
1" = 8' (8' 4' 0 8' 16')
1" = 40' (40' 20' 0 40' 80')
Scale in Feet

True North
1" = 40'

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662-C
HAWAII, U.S.A.

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SIGNATURE — April 30, 2008 EXPIRATION DATE OF THE LICENSE

DATE	REVISION
	FC#174 & 184
3/10/08	FC#48 REVISED GUARDRAIL OFFSET
~~3/5/2008~~	~~revised ramp geometry~~
12/20/2007	revised GDI Top elevations
9/21/2007	added HGL per DOT comments
5/4/07	△3 Revised guardrail end treatments.
4/20/07	△2 Revised guardrail, revised reference

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

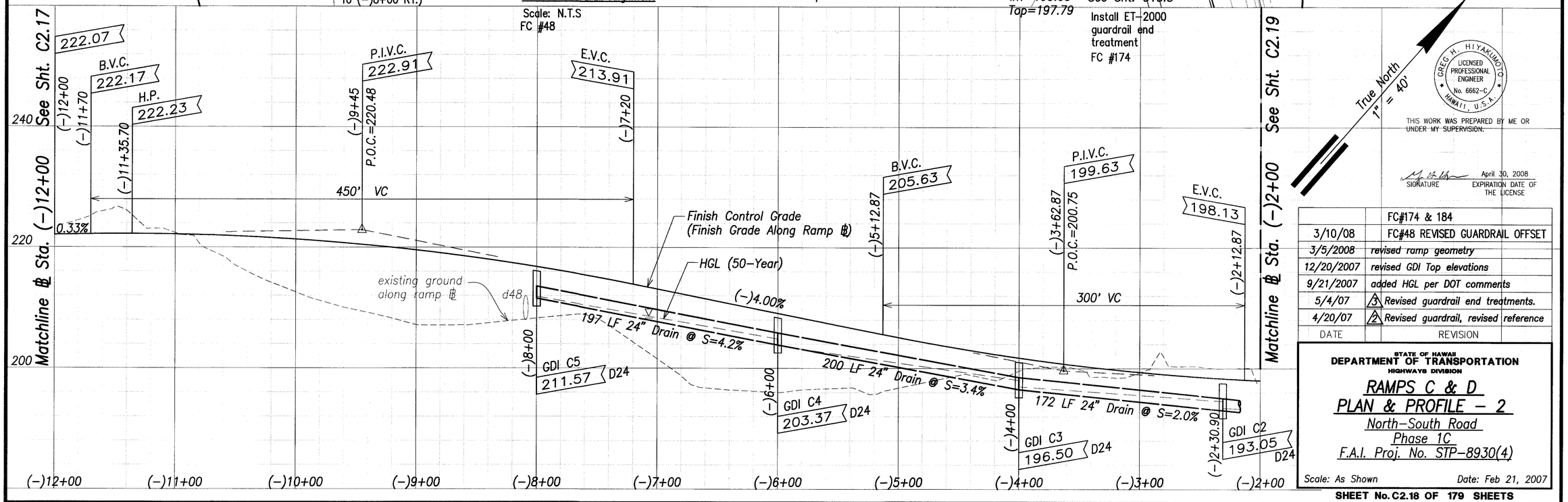
RAMPS C & D
PLAN & PROFILE - 2
North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

Scale: As Shown — Date: Feb 21, 2007

SHEET No. C2.18 OF 179 SHEETS

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

"AS-BUILT" CO ADD. 59



FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	CO ADD. 60	380

Intersection
Sta. 0+00 ℄ Ramps C & D
=Sta. 127+30 ℄ North-South Road
End Ramp C, Begin Ramp D

℄ N-S Road
℄ N-S Road
North-South Road (State)
℄ H-1 Freeway
H-1 freeway (state)
westbound lanes
eastbound lanes
Metal Guardrail
Wire Fence
Edge of Pvmt.
Matchline ℄ Sta. (-)2+00 See Sht. C2.18
Matchline ℄ Sta. 8+00 See Sht. C2.20

(-)1+77.45 ℄ PT=(-)1+58.44
ES PT=(-)1+52.86
℄ PC=0+64.73
℄ PT=3+34.68
1+85.45

GDI 5 See Sht. C3.6
GDI 8 See Sht. C3.14
GDI C1 Type 61614 (-)0+99.50 Top=196.21 Inv=189.60 Top=196.68
GDI D1 Type 61614 0+49.35 Top=196.43 Inv=190.60 Top=196.91
GDI D2 Type 61614 2+25 Top=198.50 Inv=192.75 Top=197.55
GDI D3 Type 61614 4+00 Top=200.08 Inv=194.57 Top=200.66
GDI D4 Type 61614 5+50 Top=203.80 Inv=195.32 Top=203.27
GDI D5 Type 61614 7+00 Top=206.60 Inv=196.07 Top=205.25

Ramp ℄ Curve Data
△ = 19°20'00"
½ = 9°40'00"
R = 800.00'
T = 136.27'
C = 268.67'
L_c = 269.94'

Ramp ℄ Curve Data
△ = 17°40'00"
½ = 8°50'00"
R = 1100.00'
T = 170.94'
C = 337.83'
L_c = 339.18'

℄ Ramp C
℄ Ramp C1
℄ Ramp D
℄ Ramp D1

223°20'00" → 158.44' (PT to Int.)
223°20'00", 64.74' (Int. to PC)
213°40'00" → 268.67' (PC to PT)
204°00'00" → 246.99' (PT to PC)
212°50'00" → 337.83' (PC to PT)
137°20'00"
℄ PC=5+81.67
5+55 (3) Limit of Construction Phase 1 Portion of Ramp D
3+34.68 ℄ Ramp D =4+31 ℄ Ramp D1

Construction Phase 4
Construction Phase 1
Construction Parcel
8" Farm Irrigation Water Line
R/W & Fenceline
Plantation Road "B"
10'
25'
50'

Note:
1. For Intersection Detail, See Sht. C2.9.
2. All Stations refer to Ramp C & D Baseline unless otherwise noted.

True North
1" = 40'

P.V.I. 197.53 (-)0+33
P.V.I 197.53 (-)0+05
Inters. 197.43
P.V.I. 196.73 (-)0+73
P.V.I 196.97 0+23
0+00=127+30 ℄ N-S Rd.

P.I.V.C. 200.19
B.V.C. 199.44 2+70
3+45 P.O.C.=200.38
E.V.C. 201.69 4+20
150' VC

B.V.C. 206.08 6+39.32
P.I.V.C. 209.28
7+99.32 P.O.C.=207.88
320' VC

existing ground along ramp ℄
Finish Control Grade (Finish Grade Along Ramp ℄)
HGL (50-Year)
(-)1.00%
1.00%
2.00%

to CB D1 See Sht. C3.2
175LF 24" Drain @ S=1.0%
150 LF 24" Drain @ S=0.50%
150 LF 24" Drain @ S=0.50%
243 LF 24" Drain @ S=0.50%

D54
D24 GDI C1 189.60 (-)0+99.50
0+49.35 GDI D1 190.60 D24
2+25 GDI D2 192.75 D24
4+00 GDI D3 194.57 D24
5+50 GDI D4 195.32 D24
7+00 GDI D5 196.07 D24

220
200
180

Graphic Scale:
1" = 8' 8' 4' 0 8' 16'
1" = 40' 40' 20' 0 40' 80'
Scale in Feet

(-)2+00 (-)1+00 0+00 1+00 2+00 3+00 4+00 5+00 6+00 7+00 8+00

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

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No. 6662-C
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SIGNATURE
April 30, 2008
EXPIRATION DATE OF THE LICENSE

DATE	REVISION
3/5/2008	revised ramp geometry
12/20/2007	revised GDI Top elevations
9/21/2007	added HGL per DOT comments
5/4/07	(3) Revised Phase 1 station; revised plantation road
4/20/07	(2) Revised guardrail

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

RAMPS C & D
PLAN & PROFILE - 3

North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

Scale: As Shown
Date: Feb 21, 2007

SHEET No. C2.19 OF 179 SHEETS

"AS-BUILT" CO ADD. 60

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	CO ADD. 61	380

9+20.35
=218+44.79± H-1 Freeway
Ramp D Nose

℄ Ramp A

westbound lanes

2-12'x12' box culvert

eastbound lanes

Match Exist. H-1 EP

℄ H-1 Freeway

℄ Ramp D

Matchline ℄ Sta. 8+00 See Sht. C2.19

Matchline ℄ Sta. 18+00 See Sht. C2.21

True North
1" = 40'

226°11'20" →

221°40'00" → 184.86'
(PT to PC)

223°21'18" → 176.76'
(PC to PT)

225°02'35" → 580.00' (PT to End)

FC #43

FC #25

GDI D7
Type 61614
11+25
~~Top=204.44~~
Inv=198.19
Top=203.94

Ramp ℄ Curve Data
Δ = 3°22'35"
Δ/2 = 1°41'17.5"
R = 3000.00'
T = 88.42'
C = 176.76'
L_c = 176.79'

GDI D8
Type 61614
13+12 ~~13+22~~ o/s 36.3' Rt. 2
~~Top=203.57~~
Inv=199.17
Top=203.24

Double 12'x12' Box
Culvert Extension
See Shts. C8.7 & C8.8 2

50.57'

r/w

R/W & Fenceline
Construction Parcel

Plantation Road "B"

PT=9+20.84

PC=11+05.70

PT=12+82.49

10'

25'

5'

6" Pipe

GDI D6
Type 61614
9+50
~~Top=206.00~~
Inv=197.32
Top=205.84

Existing Irrigation
Valves to be
Relocated

e/℄

LEGEND FOR AS-BUILT POSTINGS

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

E.V.C.
206.88
206.64

320' VC

H.P.
207.91

9+59.32

9+75

8+22.18

Finish Control Grade
(Finish Grade Along
Ramp ℄)

(-)1.50%

Finish Grade Along ℄ Ramp D
(Projection of H-1 Cross-slope to Ramp ℄)

existing ground
along ℄ Ramp D

HGL (50-Year)

243 LF 24" Drain @ S=0.50%

175 LF 24" Drain @ S=0.50%

186 LF 24" Drain @ S=0.50%

9+50

GDI D6
197.32
D24

11+25

GDI D7
198.19
D24

D24
GDI D8
199.17

13+12 o/s 36.3' RT

13+12

13+40±

2-12'x12'
Box Culvert
189.00±

FC #25

Graphic Scale:
1" = 8' 8' 4' 0 8' 16'
1" = 40' 40' 20' 0 40' 80'
Scale in Feet

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SIGNATURE — April 30, 2008 EXPIRATION DATE OF THE LICENSE

DATE	REVISION
9/21/2007	FC#43 REVISED GUARDRAIL OFFSET
1/10/2008	Revised GDI D8
12/20/2007	FC# 25 Revised GDI Top elevations
9/21/2007	Added HGL per DOT comments revised baseline tangent data
5/4/07	3 Revised plantation road
4/20/07	2 Revised guardrail

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

RAMPS C & D
PLAN & PROFILE - 4

North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

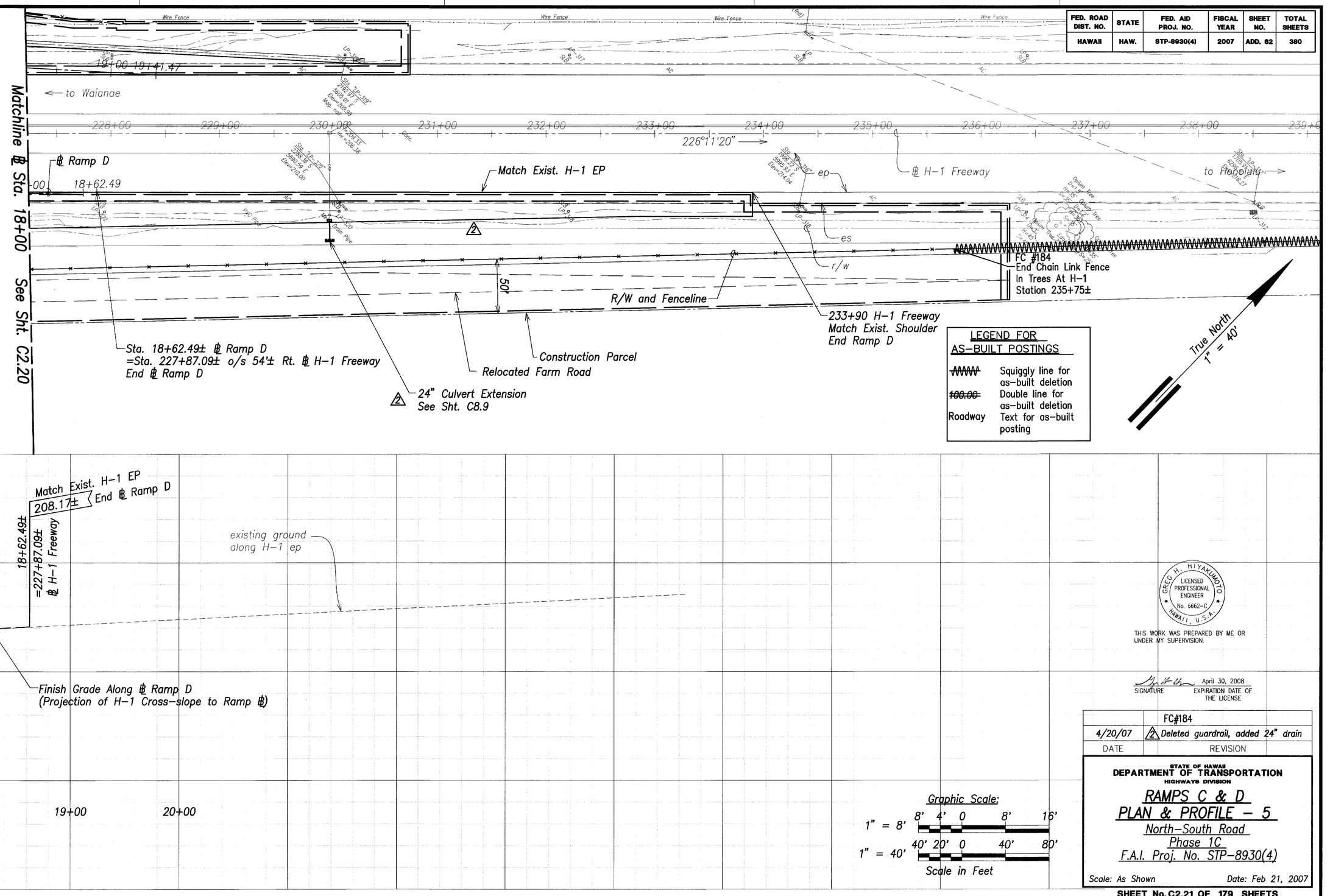
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SHEET No.C2.20 OF 179 SHEETS

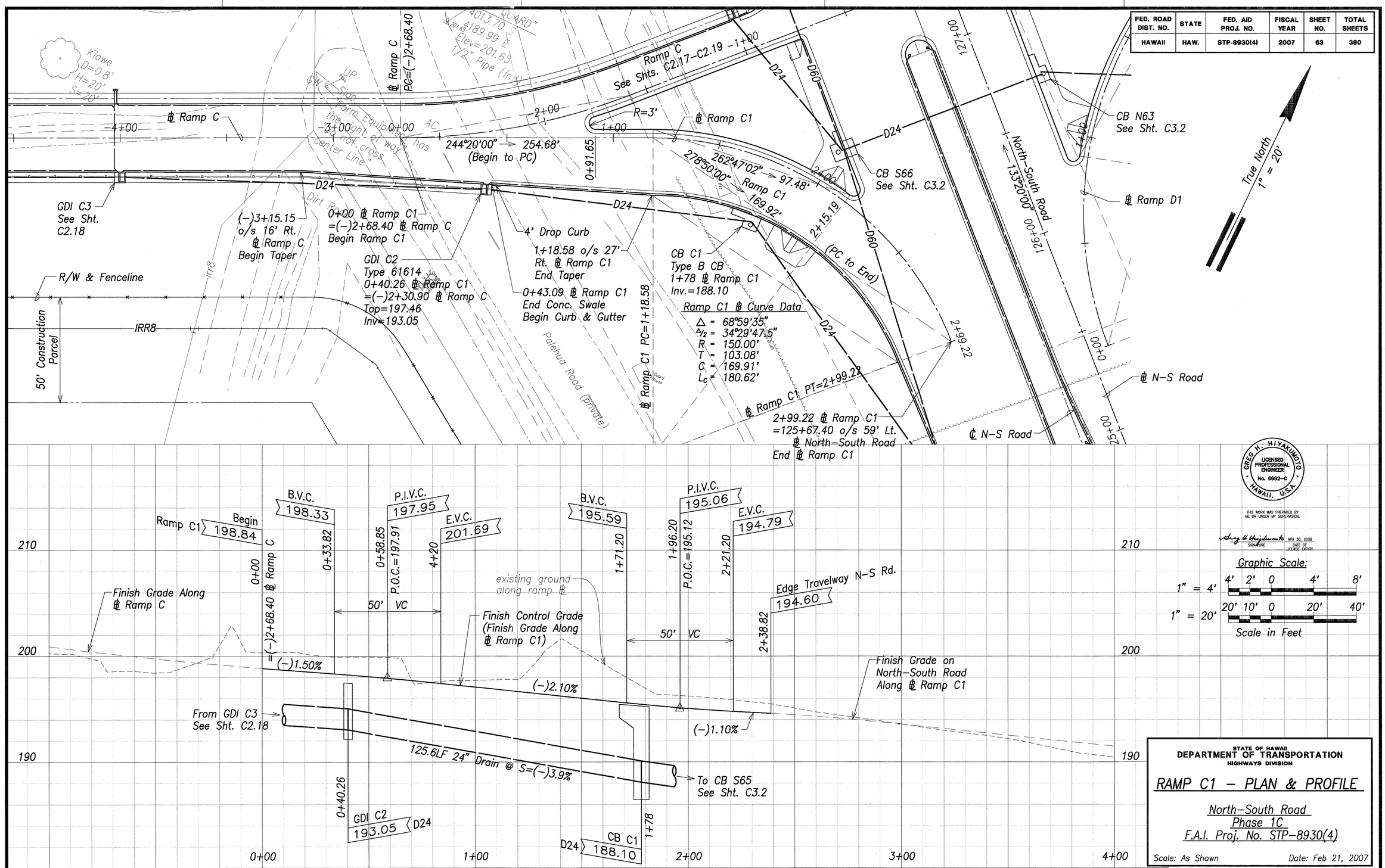
"AS-BUILT" CO ADD. 61

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

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	ADD. 62	380


Matchline ℄ Sta. 18+00 See Sht. C2.20
Wire Fence
19+00 19+41.47
to Waianae
228+00
229+00
230+00
231+00
232+00
233+00
234+00
235+00
236+00
237+00
238+00
239+00
226°11'20"
℄ Ramp D
18+62.49
Match Exist. H-1 EP
℄ H-1 Freeway
to Honolulu
ep
es
r/w
50'
R/W and Fenceline
FC #184
End Chain Link Fence
In Trees At H-1
Station 235+75±
233+90 H-1 Freeway
Match Exist. Shoulder
End Ramp D
Sta. 18+62.49± ℄ Ramp D
=Sta. 227+87.09± o/s 54'± Rt. ℄ H-1 Freeway
End ℄ Ramp D
Construction Parcel
Relocated Farm Road
24" Culvert Extension
See Sht. C8.9
Drain Pipe
PVC Pipe
Obstruction
Obstruction
Obstruction

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	63	380



GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

Signature: Greg H. Hiyakumoto Date of License Expiry: APR 30, 2008

Graphic Scale:

1" = 4' 4' 2' 0 4' 8'

1" = 20' 20' 10' 0 20' 40'

Scale in Feet

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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

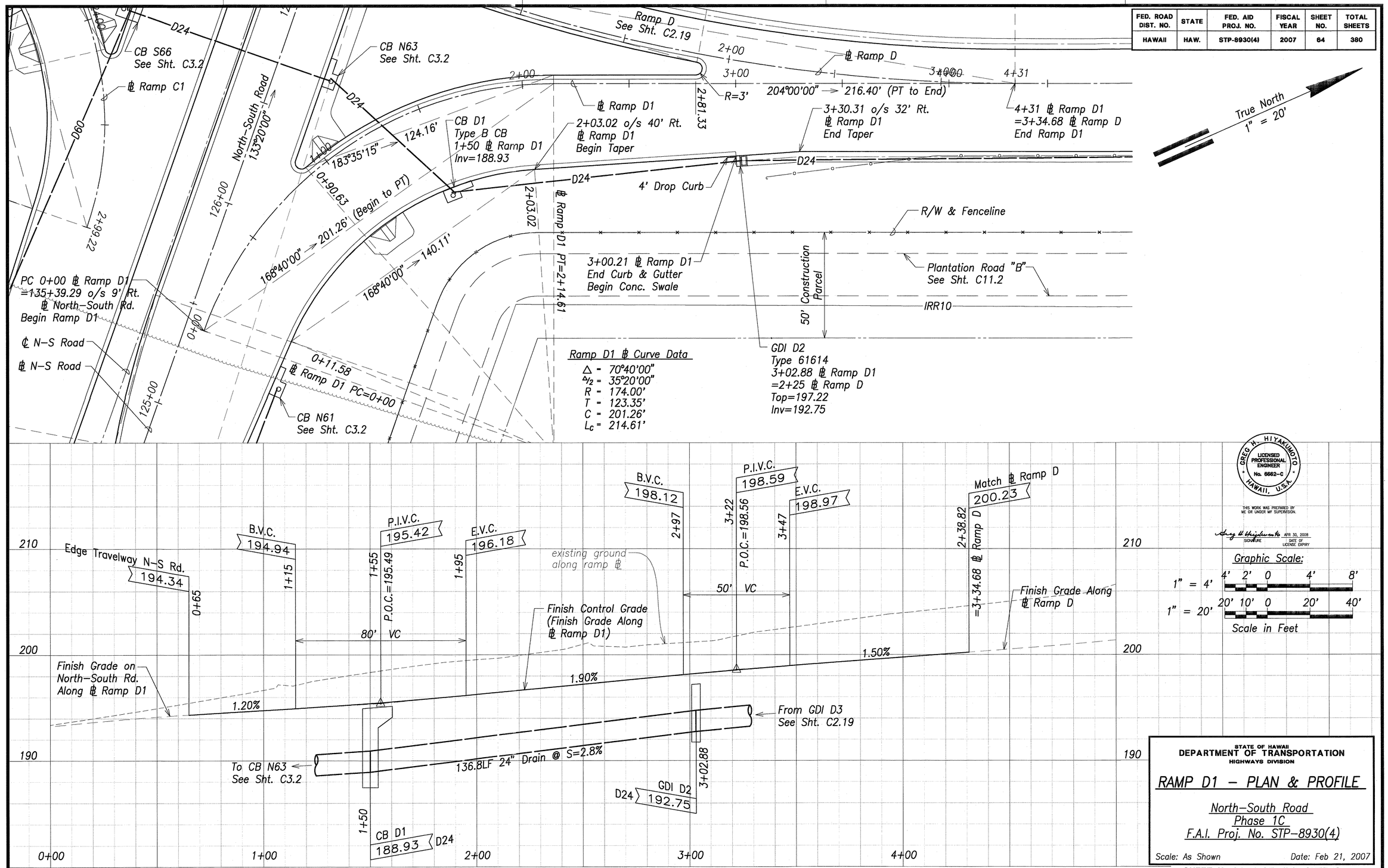
RAMP C1 – PLAN & PROFILE

North–South Road
Phase 1C
F.A.I. Proj. No. STP–8930(4)

Scale: As Shown Date: Feb 21, 2007

SHEET No. C2.22 OF 179 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	64	380



GREG H. HIYAKUMOTO
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No. 8662-C
HAWAII, U.S.A.

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SIGNATURE — APR 30, 2008 DATE OF LICENSE EXPIRY

Graphic Scale:

1" = 4' 4' 2' 0 4' 8'

1" = 20' 20' 10' 0 20' 40'

Scale in Feet

ORIGINAL PLAN
NOTE BOOK No.

SURVEY PLOTTED BY
DRAWN BY
TRACED BY
DESIGNED BY
QUANTITIES BY
CHECKED BY
DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

RAMP D1 – PLAN & PROFILE

North–South Road
Phase 1C
F.A.I. Proj. No. STP–8930(4)

Scale: As Shown Date: Feb 21, 2007

SHEET No. C2.23 OF 179 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	ADD. 65	380

True North
1" = 40'

PC Sta. (–)18+84.35 ℄ WB Bypass
=SC Sta. 191+41.27± o/s 54'± Lt.
℄ H-1 Freeway
End ℄ WB Bypass

188+40.08 H-1 Freeway
Match Exist. Shoulder

Face Of Rail To Be
In Line With E.O.P.
FC #89

ET-2000 Plus
~~State Approved Guardrail End~~ 3
Terminal
See Shts. ~~C13.12 thru C13.14.~~
C13.14

FC#89
~~17+43~~
~~Begin 15:1 Taper~~ 2 3

~~120' (15:1 Taper)~~ 2 3
FC#89

℄ Curve Data
Δ = ~~37'49"~~ 37'49"
Δ/2 = 3°48'54.5"
R = 2356.87'
T = 157.17'
C.S. = 313.64'
Lc = 313.88'

197°03'21" → 313.64'
PC to PT

Guardrail

℄ H-1 Freeway

ET-2000 Plus
~~Type "A" Flare~~ 2 3 FC#89
See Shts. ~~C13.9 thru C13.11.~~
C13.14

ES Ramp B

(–)13+35.07
Match Exist. Pav't

2 3
State Approved Guardrail
End Terminal
See Shts. C13.12 thru
C13.14.

200°52'15" → 779.30'
PT to PC
47' (15:1 Taper)

℄ Westbound Bypass

2
(–)11+76
Begin FLEAT-MT
5
See Sht. C13.15

FLEAT-MT

(–)11+85.75
=198+25.87± o/s 54'± H-1 Freeway
Match Exist. Shoulder

℄ Eastbound Bypass

Matchline ℄ Sta. (–)11+00 See Sht. C2.25

Match Exist. H-1 EP
226.86± End ℄ WB Bypass
(–)18+84.35

232.90
(–)13+35.11

B.V.C.
233.17
13+20.70

420' VC

H.P.
234.78
(–)11+50.92

P.I.V.C.
237.16
(–)11+10.70

Finish Control Grade

1.90%

260
240
220

(–)18+00 (–)17+00 (–)16+00 (–)15+00 (–)14+00 (–)13+00 (–)12+00

Graphic Scale:
1" = 8' 8' 4' 0 8' 16'
1" = 40' 40' 20' 0 40' 80'
Scale in Feet

GREG M. H. IYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662-C
HAWAII, U.S.A.

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SIGNATURE
April 30, 2008
EXPIRATION DATE OF THE LICENSE

LEGEND FOR AS-BUILT POSTINGS

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

DATE	REVISION
6/02/08	FC#89 REVISED GUARDRAIL END TREATMENT
5/4/07	3 Revised guardrail end treatments
4/20/07	2 Revised guardrail, added callouts

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

WESTBOUND BYPASS
PLAN & PROFILE – 1

North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

Scale: As Shown Date: Feb 21, 2007

SHEET No.C2.24 OF 179 SHEETS

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

"AS-BUILT"

ADD. 65

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	ADD. 66	380

℄ Curve Data
Δ = 22°27'45"
Δ/2 = 11°13'52.5"
R = 1100.00'
T = 218.43'
C = 428.49'
Lc = 431.25'

True North
1" = 40'

Matchline ℄ Sta. (–)11+00 See Sht. C2.24

Matchline ℄ Sta. (–)1+00 See Sht. C2.26

ES Ramp B

ES WB Bypass

Permanent Guardrail | Temp. Guardrail

Guardrail

2' Typ.

200°52'15" → 779.30' PT to PC

212°06'08" → 428.49' PC to PT

223°20'00" → 366.12' PT to PC

120' (15:1 Taper)

FC #89

ET-2000 Plus
~~Type "A" Flare~~
~~See Shts. C13.9 thru C13.11~~
See Shts. C13.14

Begin 15:1 Taper

-8+42

State Approved Guardrail End Terminal
See Shts. C13.12 thru C13.14.

Metal Guardrail

Wire Fence

Sta. 200+00 = Sta. (–)9+00.70

E.V.C. 231.28

420' VC

Finish Control Grade

(–)2.80%

Bypass Profile Matches Ramp B Profile

B.V.C. 214.91

(–)3+15.93

P.I.V.C. 209.03

(–)1+05.93
P.O.C.=211.02

420' VC

(–)10+00 (–)9+00 (–)8+00 (–)7+00 (–)6+00 (–)5+00 (–)4+00 (–)3+00 (–)2+00

240 220 200

Graphic Scale:
1" = 8' 8' 4' 0 8' 16'
1" = 40' 40' 20' 0 40' 80'
Scale in Feet

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE — April 30, 2008 EXPIRATION DATE OF THE LICENSE

LEGEND FOR AS-BUILT POSTINGS

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

DATE	REVISION
6/02/08	FC #89 REVISED GUARDRAIL END TREATMENT
5/4/07	3 Revised guardrail end treatments
4/20/07	2 Revised guardrail, added callouts

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

WESTBOUND BYPASS
PLAN & PROFILE – 2
North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

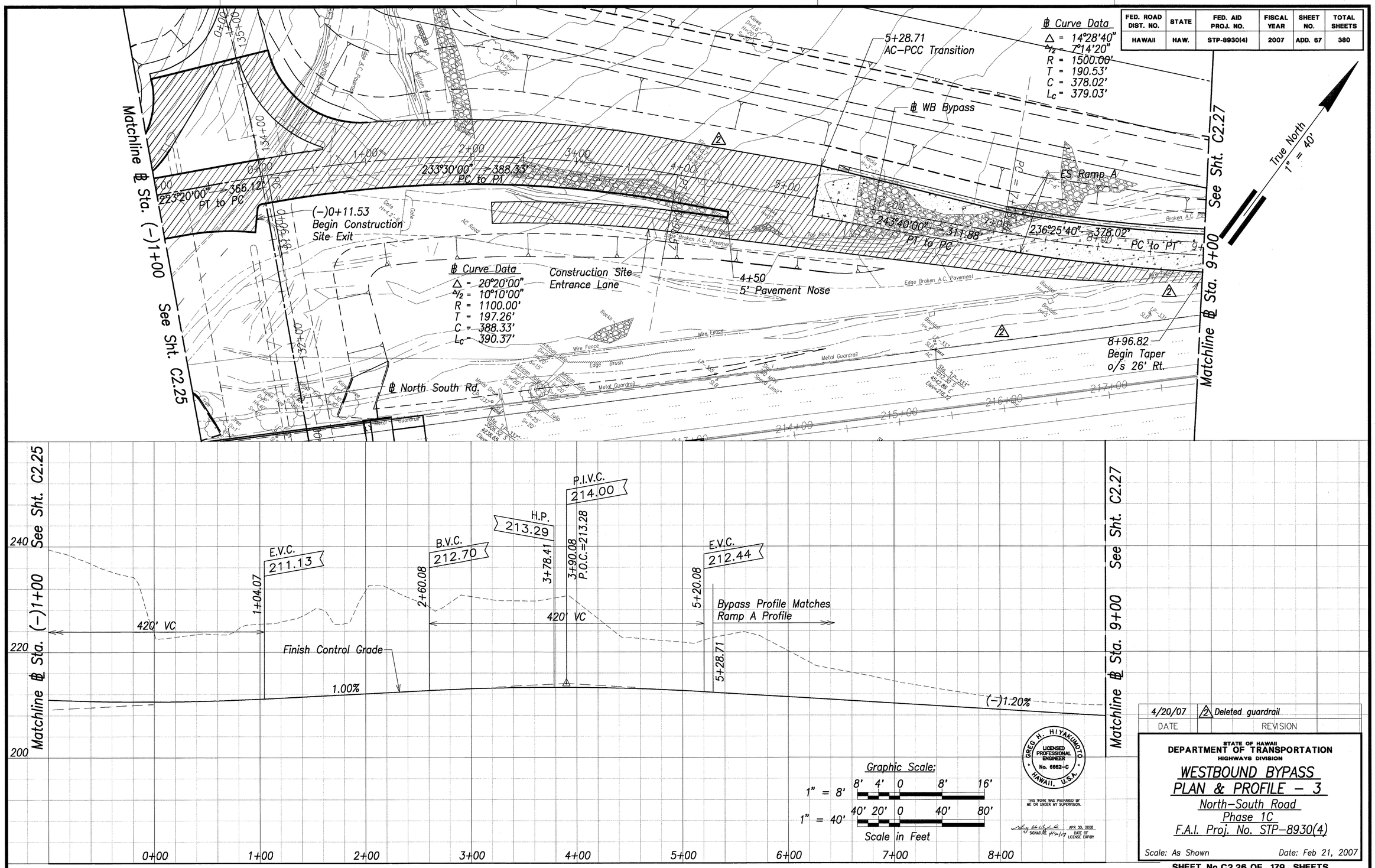
Scale: As Shown Date: Feb 21, 2007

SHEET No.C2.25 OF 179 SHEETS

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

"AS-BUILT" ADD. 66

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	ADD. 67	380



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

Graphic Scale:

1" = 8' 8' 4' 0 8' 16'

1" = 40' 40' 20' 0 40' 80'

Scale in Feet

CREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662-C
HAWAII, U.S.A.

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SIGNATURE APR 30, 2008 DATE OF LICENSE EXPIRY

DATE	REVISION
4/20/07	2 Deleted guardrail

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

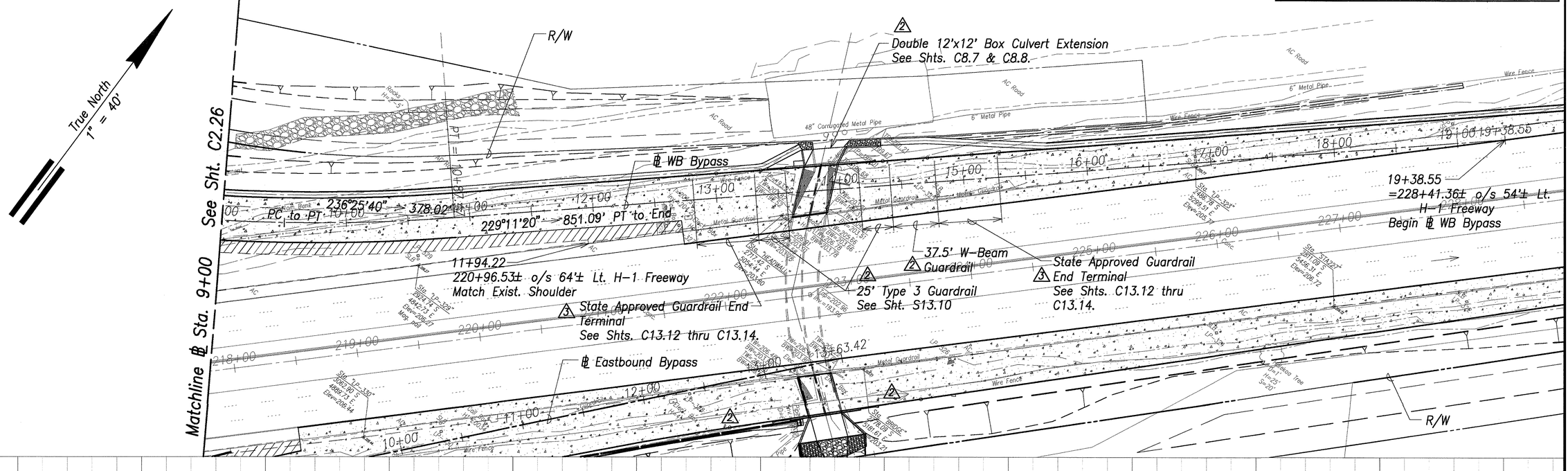
WESTBOUND BYPASS
PLAN & PROFILE – 3
North–South Road
Phase 1C
F.A.I. Proj. No. STP–8930(4)

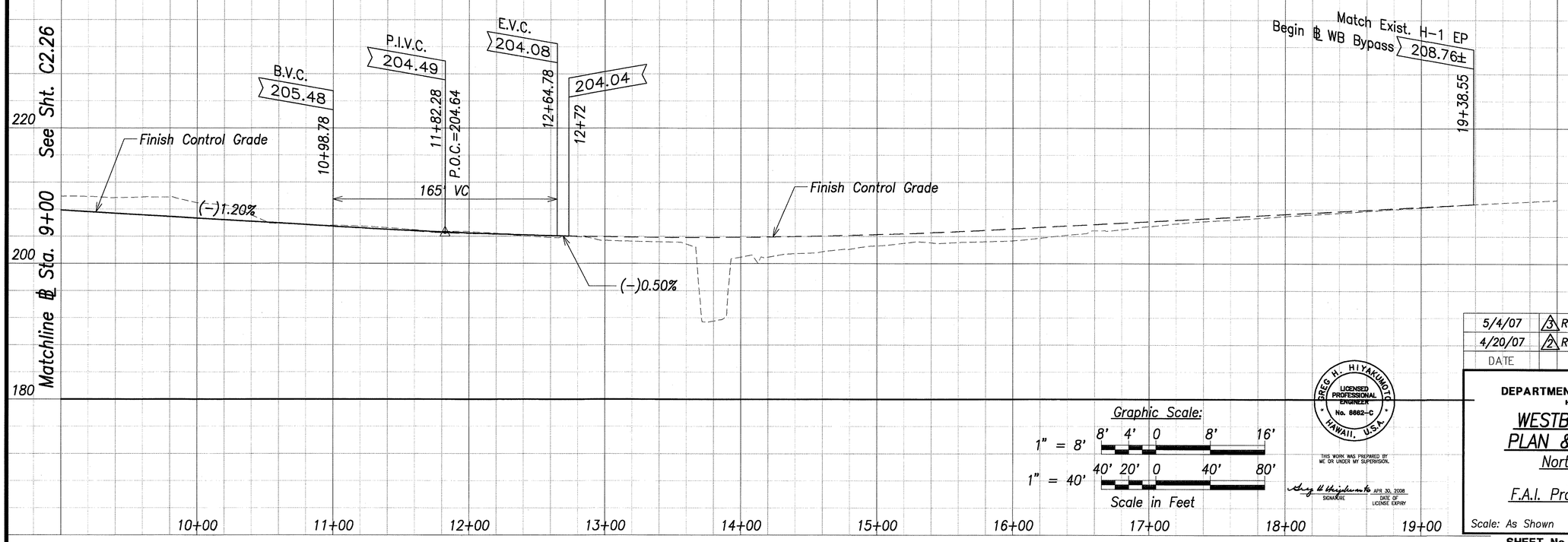
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SHEET No.C2.26 OF 179 SHEETS

ADD. 67

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	ADD. 68	380





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

Graphic Scale:
1" = 8' 8' 4' 0 8' 16'
1" = 40' 40' 20' 0 40' 80'
Scale in Feet

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662-C
HAWAII, U.S.A.
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SIGNATURE
APR 30, 2008
DATE OF LICENSE EXPIRY

DATE	REVISION
5/4/07	3 Revised guardrail end treatments
4/20/07	2 Revised guardrail, revised callouts

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

WESTBOUND BYPASS PLAN & PROFILE – 4

North–South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

Scale: As Shown
Date: Feb 21, 2007

SHEET No. C2.27 OF 179 SHEETS

ADD. 68

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	CO ADD. 69	380

True North
1" = 40'

to Waianae

Wire Fence
Conc. Barrier
Edge Brush
Guardrail
Edge Conc./A.C.
Top Bank
Bottom Bank
Wire Fence End
Kiawe Tree
Utility Pole
Metal Pipe Fence
Concrete Pipe Fence
Concrete Wall
Chain Link Fence
Metal Fence
Concrete Ditch
Concrete Curb
Concrete Gutter
Concrete Sidewalk
Asphalt Pavement
Concrete Pavement
Concrete Slope Paving
Concrete Drainage Box
Concrete Headwall
Concrete Retaining Wall
Concrete Culvert
Concrete Drainage Channel
Concrete Drainage Inlet
Concrete Drainage Manhole
Concrete Drainage Pipe
Concrete Drainage Ditch
Concrete Drainage Swale
Concrete Drainage Basin
Concrete Drainage Structure
Concrete Drainage Facility
Concrete Drainage System
Concrete Drainage Network
Concrete Drainage Area
Concrete Drainage Zone
Concrete Drainage Region
Concrete Drainage Catchment
Concrete Drainage Watershed
Concrete Drainage Basin
Concrete Drainage Structure
Concrete Drainage Facility
Concrete Drainage System
Concrete Drainage Network
Concrete Drainage Area
Concrete Drainage Zone
Concrete Drainage Region
Concrete Drainage Catchment
Concrete Drainage Watershed

PC = 184+84.35
exist. H-1 freeway
PT = 154+70.47
PC Sta. (-)15+98.08 ℄ EB Bypass
=193+49.87± o/s 54'± Rt. H-1 Freeway
Begin ℄ EB Bypass
192+13 ℄ H-1 Freeway
Begin 15:1 Taper
120' (15:1 Taper)
2' Typ.
Guardrail
40' Guardrail Taper
187+25 H-1 Freeway
Match Exist. Shoulder
Begin Ramp C
Connect to Exist. Guardrail
Edge Finish Ramp C
188+52.65 o/s 64' Rt.
℄ H-1 Freeway
Begin Taper
Match Exist. Shoulder
189+99.96 o/s 70.67'
Rt. ℄ H-1 Freeway
End taper
FC #54
ET-2000 Plus
End treatment @ H-1
Sta 193+25 to 193+85
~~Type "A" Flare~~
See Shts. ~~C13.9 thru C13.11~~
C13.14
FC #43
206°29'49"
361.42'
PC to PCC
℄ EB Bypass
to Honolulu
FC #54
ET-2000 Plus
End treatment @
Bypass Sta -12+40 to
-11+90
*
~~Type "A" Flare~~
See Shts. ~~C13.9 thru C13.11~~
C13.14
℄ WB Bypass
See Shts. C2.24
thru C2.27
See Sht. C2.29
Matchline ℄ Sta. (-)12+00

℄ Curve Data
(A)
△ = 13°50'19"
△/2 = 6°55'09.5"
R = 1500.00'
T = 182.03'
C = 361.42'
Lc = 362.30'

FC #54
Note:
Type "A" Guardrail
From Lower Ramp "C"
To Connect To
ET-2000 Plus Ending
@ Eastbound Bypass
Sta. -11 +90 RT

Note:
See "Interstate Route H-1, Barbers Point to Kunia Road, F.A.I.P. Nos. I-H1-1(18) Unit 1 and I-H1-1(17) Unit 2" for existing freeway plans.

240
220
200

Match Exist. H-1 EP
218.79±
Begin ℄ EB Bypass
(-)15+98.08
exist. ground
along H-1 ep
Finish Control Grade
existing ground
along bypass ℄
(-)16+00
(-)15+00
(-)14+00
(-)13+00
See Sht. C2.29
(-)12+00
Matchline ℄ Sta.

LEGEND FOR AS-BUILT POSTINGS

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

Graphic Scale:
1" = 8' 8' 4' 0 8' 16'
1" = 40' 40' 20' 0 40' 80'
Scale in Feet

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE
April 30, 2008
EXPIRATION DATE OF THE LICENSE

DATE	REVISION
	FC#43 & 54
9/21/2007	Revised baseline chord data
5/4/07	3 Revised guardrail end treatments
4/20/07	2 Revised guardrail, added callouts

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

EASTBOUND BYPASS PLAN & PROFILE - 1

North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

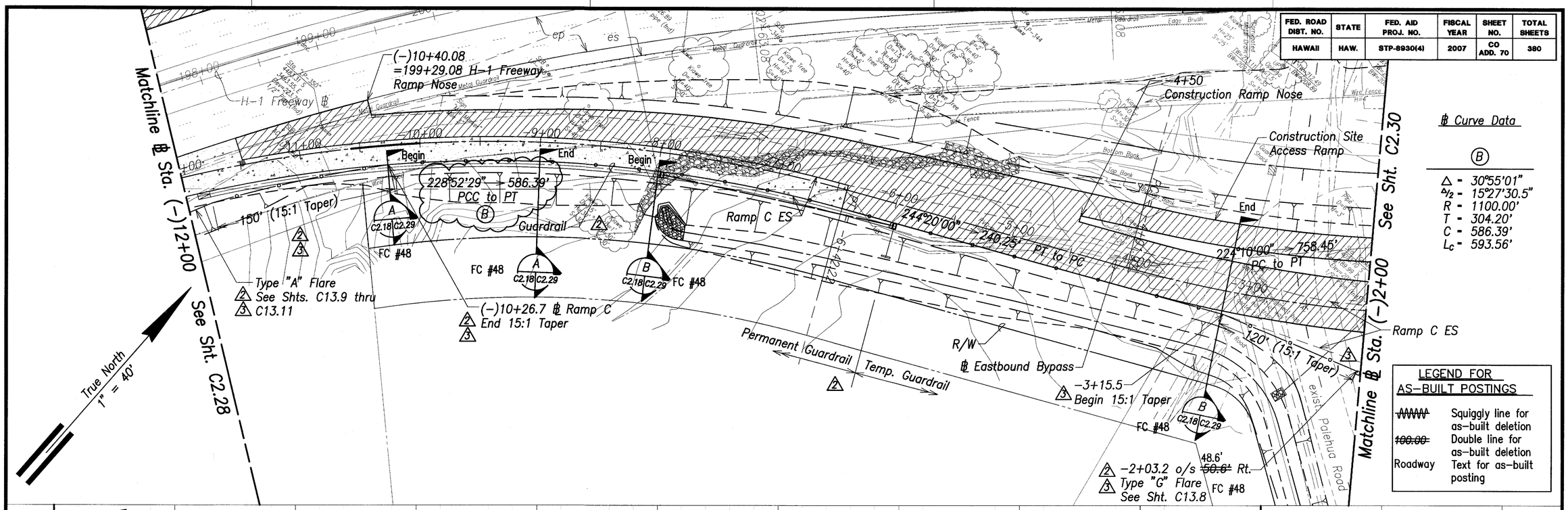
Scale: As Shown
Date: Feb 21, 2007

SHEET No.C2.28 OF 179 SHEETS

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

"AS-BUILT"
CO ADD. 69

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	CO ADD. 70	380



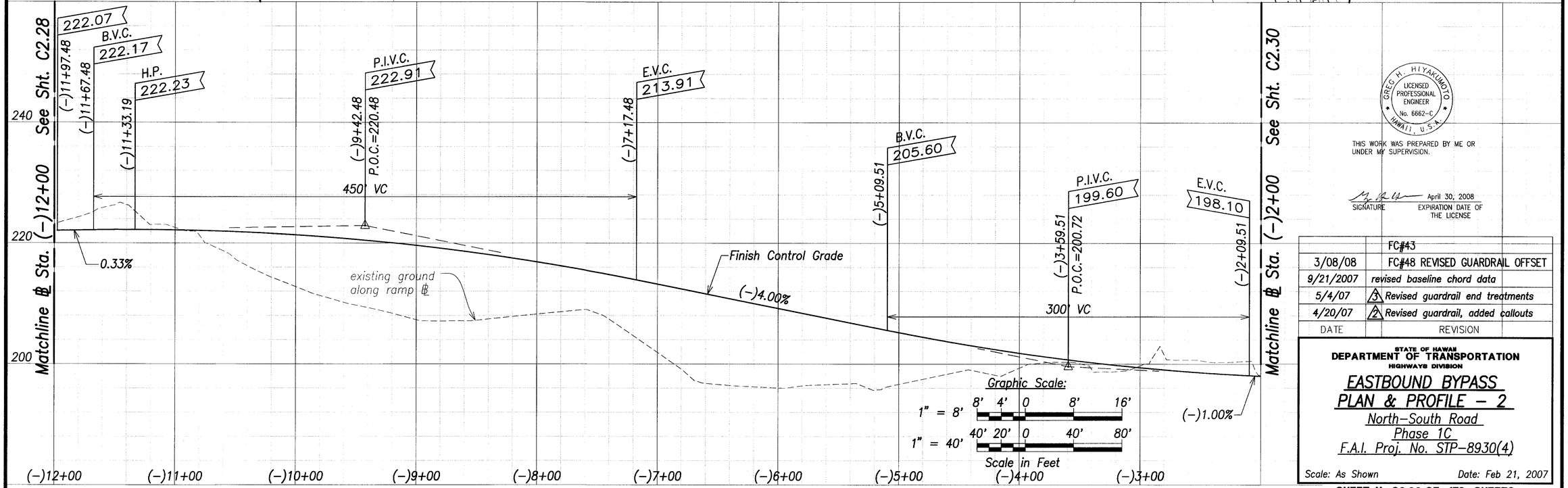
℄ Curve Data

(B)

Δ = 30°55'01"
Δ/2 = 15°27'30.5"
R = 1100.00'
T = 304.20'
C = 586.39'
L_c = 593.56'

LEGEND FOR AS-BUILT POSTINGS

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



Graphic Scale:

1" = 8' 8' 4' 0 8' 16'

1" = 40' 40' 20' 0 40' 80'

Scale in Feet

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE — April 30, 2008 EXPIRATION DATE OF THE LICENSE

DATE	REVISION
	FC#43
3/08/08	FC#48 REVISED GUARDRAIL OFFSET
9/21/2007	revised baseline chord data
5/4/07	3 Revised guardrail end treatments
4/20/07	2 Revised guardrail, added callouts

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

EASTBOUND BYPASS
PLAN & PROFILE – 2
North–South Road
Phase 1C
F.A.I. Proj. No. STP–8930(4)

Scale: As Shown Date: Feb 21, 2007

SHEET No.C2.29 OF 179 SHEETS

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

"AS–BUILT" CO ADD. 70

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	ADD. 71	380

True North
1" = 40'

See Sht. C2.29

Matchline ℄ Sta. (–)2+00

(–)1+70.45
o/s 61.55' Lt.
End Access Ramp

(–)1+17.94
o/s 52.45' Lt.
Begin Exit Ramp

Ⓒ 224°10'00" PC to PT 758.45'

Construction Site Exit

2+00
5' Pavement Nose

2 5+48±
3 Remove Exist. End Terminal
Connect to Exist. Guardrail

5+54.77
AC to PCC Transition

to Honolulu

25' Taper

exist H-1 Freeway

2' es

2 Guardrail

3 State Approved Guardrail End Terminal
See Shts. C13.12 thru C13.14.

Ⓓ 212°50'00" PC to PT 337.83'

Ⓓ 204°00'00" PT to PC 209.07'

℄ Eastbound Bypass

3+95.32
Begin Pav't. Taper

R/W

Ramp D ES

North-South Road

Matchline ℄ Sta. 8+00

See Sht. C2.31

℄ Curve Data

Ⓒ	Ⓓ
Δ = 40°20'00"	Δ = 17°40'00"
Δ/2 = 20°10'00"	Δ/2 = 8°50'00"
R = 1100.00'	R = 1100.00'
T = 403.99'	T = 170.94'
C = 758.45'	C = 337.83'
Lc = 774.34'	Lc = 339.18'

B.V.C. 197.87
(–)1+87.11
P.I.V.C. 196.37
(–)0+37.11
P.O.C.=197.12
E.V.C. 197.87
1+12.89
B.V.C. 199.44
2+69.77
P.I.V.C. 200.19
3+44.77
P.O.C.=200.38
E.V.C. 201.69
4+19.77
B.V.C. 206.08
6+39.09
P.I.V.C. 209.28
7+99.09
P.O.C.=207.88

300' VC
150' VC
320' VC

existing ground along bypass ℄

Finish Control Grade

(–)1.00%
1.00%
2.00%

220
200
180

(–)2+00 (–)1+00 0+00 1+00 2+00 3+00 4+00 5+00 6+00 7+00 8+00

Graphic Scale:
1" = 8' 8' 4' 0 8' 16'
1" = 40' 40' 20' 0 40' 80'
Scale in Feet

GREG H. HIYAKUMOTO LICENSED PROFESSIONAL ENGINEER No. 8862-C HAWAII, U.S.A.
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
Greg H. Hiyakumoto APR. 30, 2008
SIGNATURE DATE OF LICENSE EXPIRY

DATE	REVISION
5/4/07	3 Revised guardrail end treatments
4/20/07	2 Revised guardrail, added callouts

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

EASTBOUND BYPASS
PLAN & PROFILE – 3

North–South Road
Phase 1C
F.A.I. Proj. No. STP–8930(4)

Scale: As Shown Date: Feb 21, 2007

SHEET No.C2.30 OF 179 SHEETS

ADD. 71

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

PWD_job Number_1-20214-05
I:\Highway\ #'s\Job Numbers\Eastbound Bypass\Design\Sheets\dgn files\NSR_roadway\1c-exchange_eb_bypass_plan_profile.dwg

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	ADD. 72	380

Matchline ℄ Sta. 8+00 See Sht. C2.30

to Waianae

H-1 Freeway

℄ Westbound Bypass
See Shts. C2.24 thru C2.27

to Honolulu

ES of Bypass
ES Ramp D

9+21.79
=218+44.79± H-1 Freeway
Ramp Nose
Match Exist.

℄ Eastbound Bypass

℄ H-1 Freeway

exist. 2'x12'x12' box culvert

13+63.42

212°50'00" 337.83'
PC to PT

221°40'00" = 442.80'
PT to End

ES Ramp D

20.62

R/W

Dirt Road

6" Pipe

3 State Approved Guardrail End Terminal
See Shts. C13.12 thru C13.14.

2 Double 12'x12' Box Culvert Extension
See Shts. C8.7 & C8.8.

25' Type 3 Guardrail
See Sht. S13.10

13+63.42
=222+87.79± o/s 54'± Rt. H-1 Freeway
End ℄ EB Bypass

3 State Approved Guardrail End Terminal
See Shts. C13.12 thru C13.14.

True North
1" = 40'

H.P.
207.90
8+21.95

E.V.C.
206.88
9+59.09

206.65
9+74.42

Finish Control Grade

(-)1.50%

Match Exist. H-1 EP
204.13±
Begin ℄ EB Bypass
13+63.42

existing ground along H-1 ep

existing ground along bypass ℄

Matchline ℄ Sta. 8+00 See Sht. C2.30

Graphic Scale:
1" = 8' 8' 4' 0 8' 16'
1" = 40' 40' 20' 0 40' 80'
Scale in Feet

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE — APR 30, 2008 DATE OF LICENSE EXPIRY

DATE	REVISION
5/4/07	3 Revised guardrail end treatments
4/20/07	2 Revised guardrail, added callouts

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

EASTBOUND BYPASS PLAN & PROFILE - 4

North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

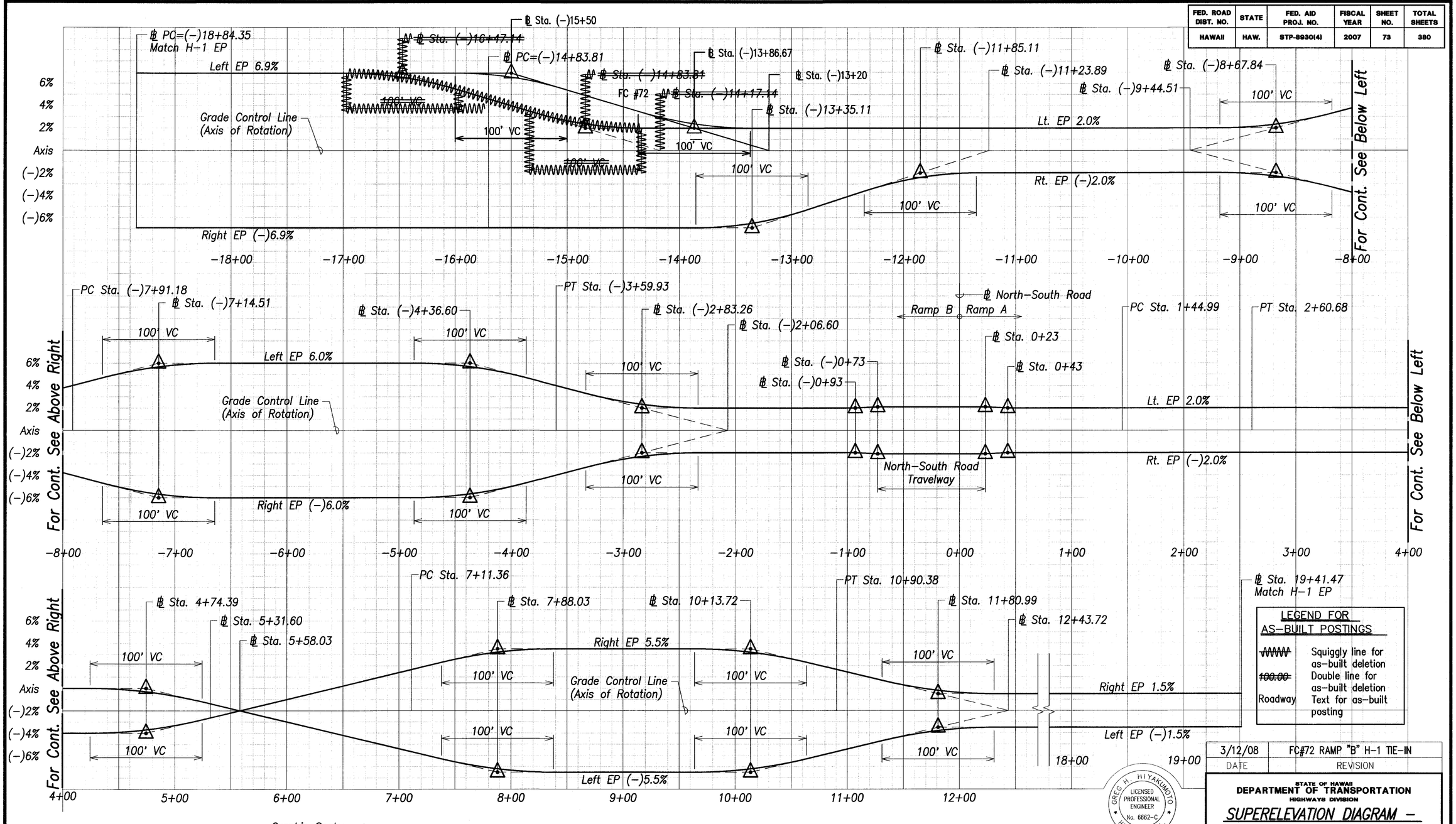
Scale: As Shown — Date: Feb 21, 2007

SHEET No. C2.31 OF 179 SHEETS

ADD. 72

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

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	73	380



LEGEND FOR AS-BUILT POSTINGS

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

Graphic Scale:

1" = 40' 40' 20' 0 40' 80'

Scale in Feet

Superelevation Diagram – Ramps A & B

Scale: 1" = 40' (Hor.)

DATE	REVISION
3/12/08	FC#72 RAMP "B" H-1 TIE-IN

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SUPERELEVATION DIAGRAM – RAMPS A & B

North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

Scale: As Shown Date: Feb 21, 2007

SHEET No.C2.32 OF 179 SHEETS

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662-C
HAWAII, U.S.A.

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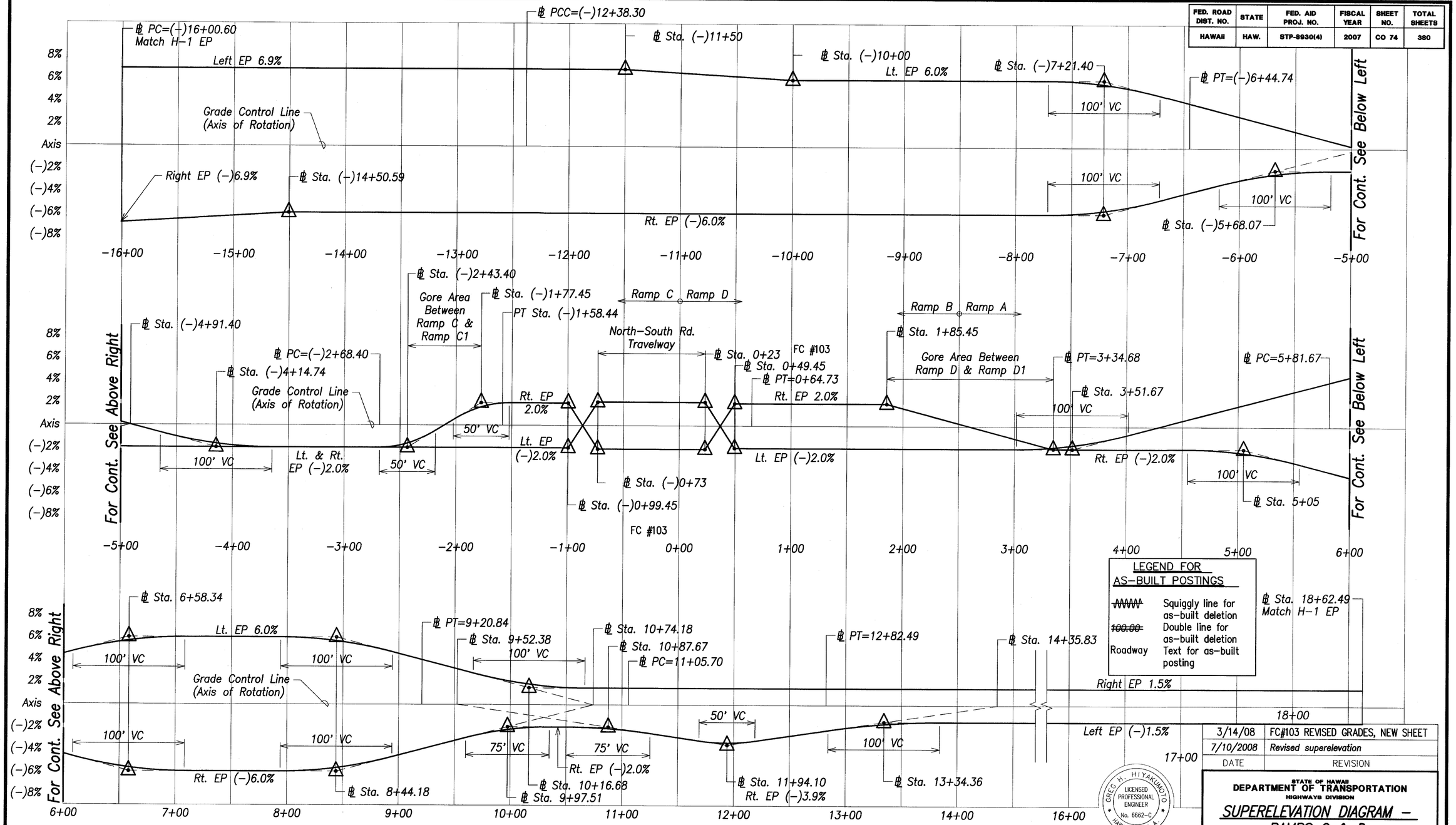
SIGNATURE

April 30, 2008
EXPIRATION DATE OF THE LICENSE

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

"AS-BUILT"

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	CO 74	380



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

DATE	REVISION
3/14/08	FC#103 REVISED GRADES, NEW SHEET
7/10/2008	*Revised superelevation*

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

Superelevation Diagram – Ramps C & D
North–South Road
Phase 1C
F.A.I. Proj. No. STP–8930(4)

Scale: As Shown — Date: Feb 21, 2007

SHEET No.C2.33 OF 179 SHEETS

Superelevation Diagram – Ramps C & D
Scale: 1" = 40' (Hor.)

Graphic Scale:
1" = 40' 40' 20' 0 40' 80'
Scale in Feet

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662–C
HAWAII, U.S.A.

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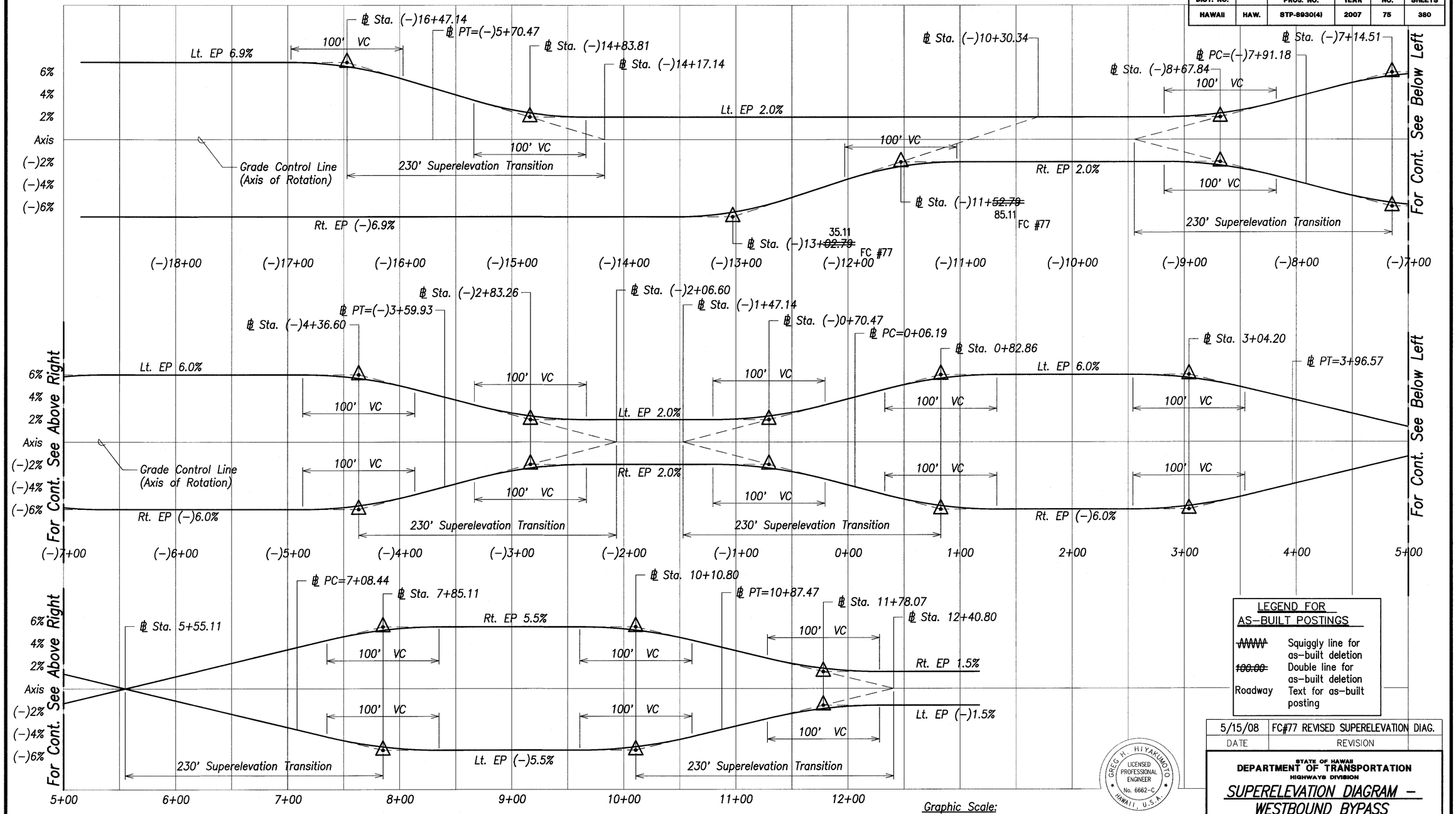
SIGNATURE — April 30, 2008 EXPIRATION DATE OF THE LICENSE

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

"AS–BUILT"

CO 74

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	75	380



LEGEND FOR AS-BUILT POSTINGS

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

Superelevation Diagram – Westbound Bypass

Scale: 1" = 40' (Hor.)

Graphic Scale: 1" = 40' (40' 20' 0 40' 80' — Scale in Feet)

DATE	REVISION
5/15/08	FC#77 REVISED SUPERELEVATION DIAG.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SUPERELEVATION DIAGRAM – WESTBOUND BYPASS

North–South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

Scale: As Shown — Date: Feb 21, 2007

SHEET No.C2.34 OF 179 SHEETS

GREG H. HIYAKUMOTO — LICENSED PROFESSIONAL ENGINEER — No. 6662-C — HAWAII, U.S.A.

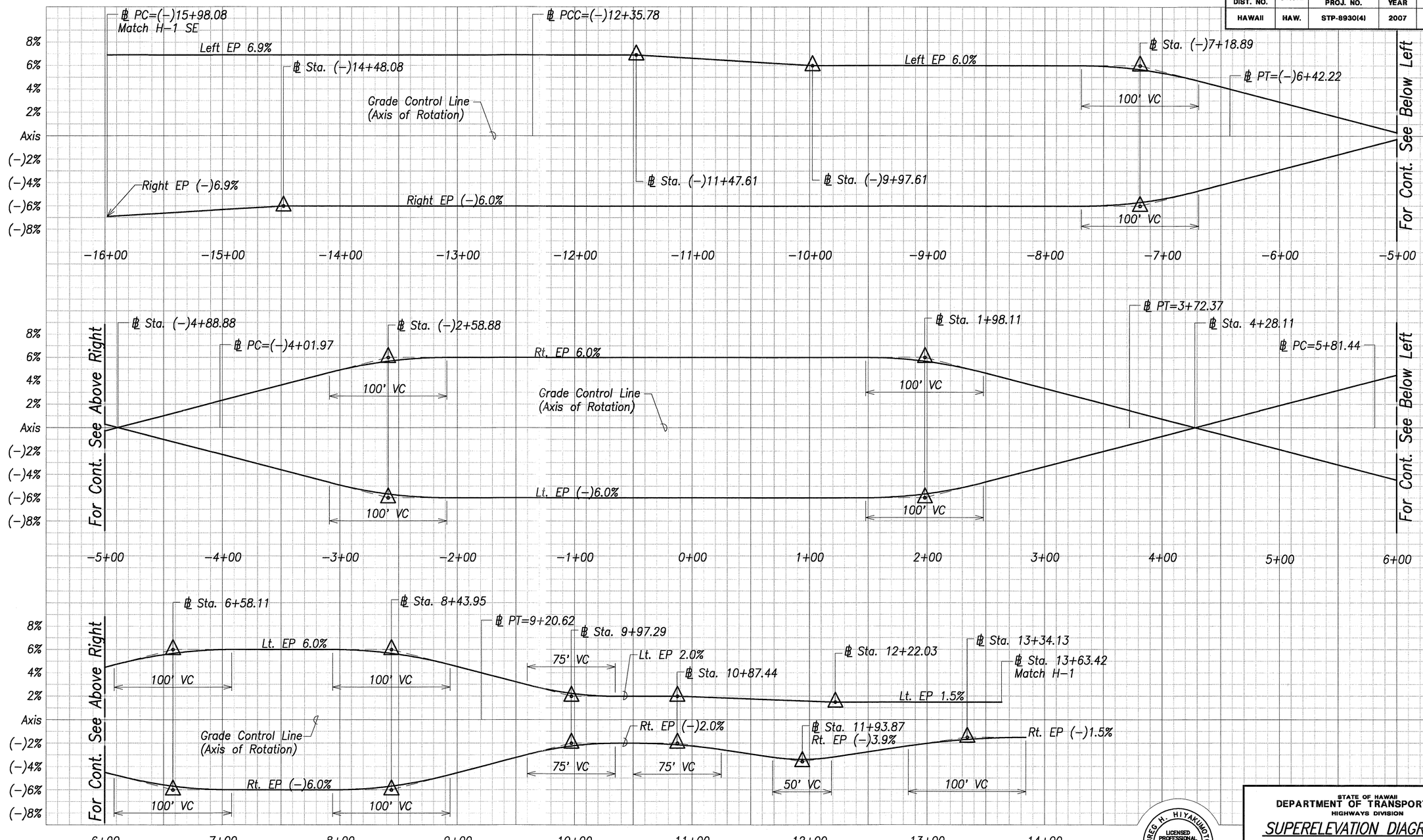
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE — April 30, 2008 — EXPIRATION DATE OF THE LICENSE

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

"AS-BUILT"

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	76	380



Superelevation Diagram – Eastbound Bypass
Scale: 1" = 40' (Hor.)

Graphic Scale:
1" = 40' 40' 20' 0 40' 80'
Scale in Feet

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

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6682-C
HAWAII, U.S.A.
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
SIGNATURE
APR 30, 2008
DATE OF LICENSE EXPIRY

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

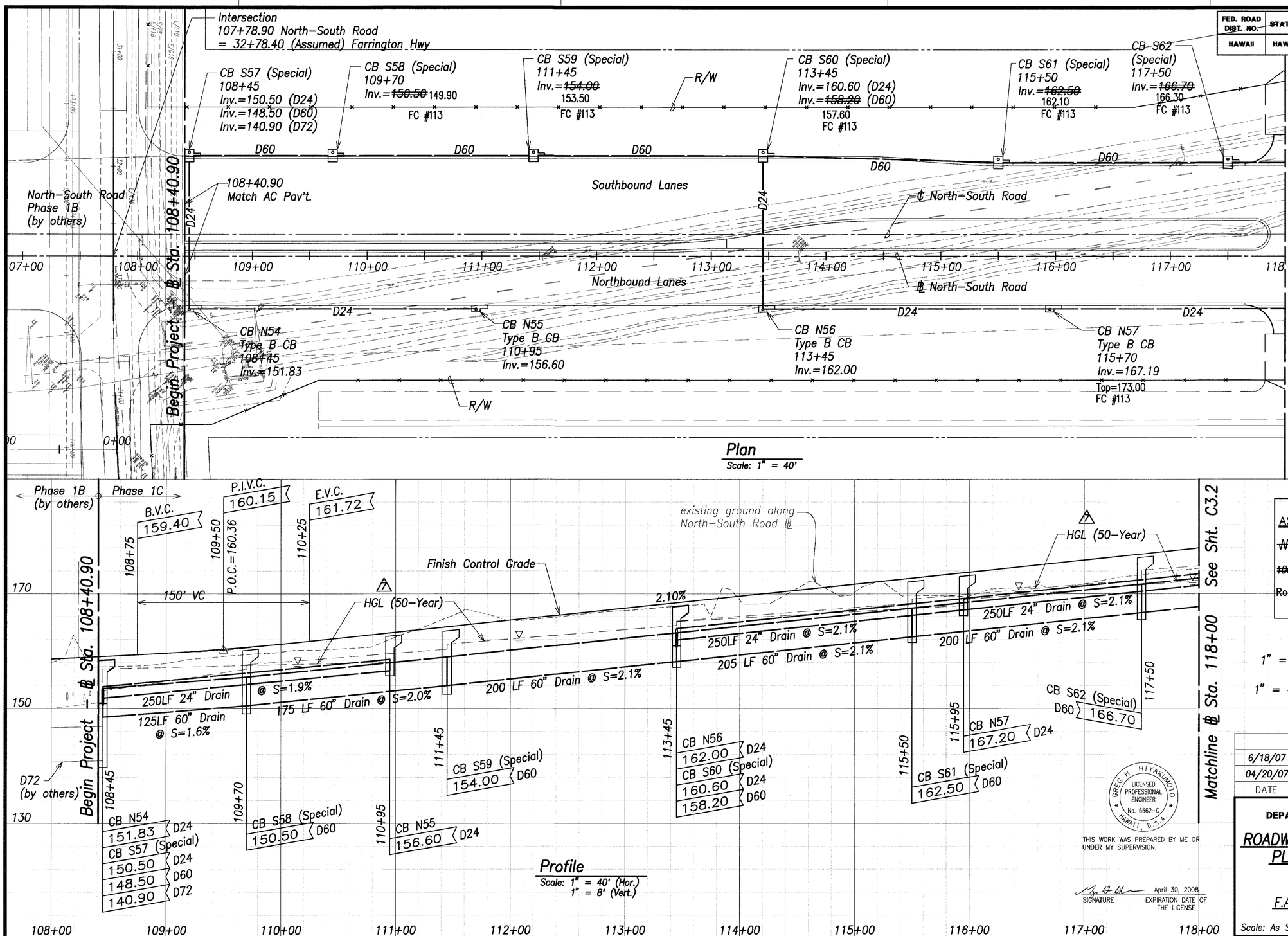
SUPERELEVATION DIAGRAM – EASTBOUND BYPASS

North–South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

Scale: As Shown
Date: Feb 21, 2007

SHEET No.C2.35 OF 179 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	ADD. 77	380



Plan
Scale: 1" = 40'

Profile
Scale: 1" = 40' (Hor.)
1" = 8' (Vert.)

Earthwork Summary
Quantities Shown Are for Permit Purposes Only

Exc.=305,800 cy
Emb.=45,600 cy

Net=260,200 cy Exc.

Note:
For CB's Labeled "(Special)", See Details on Shts. C3.22 and C3.23. 2

LEGEND FOR AS-BUILT POSTINGS

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

Graphic Scale:

1" = 8' (8' 4' 0 8' 16')

1" = 40' (40' 20' 0 40' 80')

Scale in Feet

DATE	REVISION
	FC#113 REVISED INVERTS
6/18/07	1 Added HGL
04/20/07	2 Revised sheet reference.

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662-C
HAWAII, U.S.A.

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SIGNATURE — April 30, 2008 EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY GRADING & DRAINAGE PLAN & PROFILE - 1

North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

Scale: As Shown — Date: Feb 21, 2007

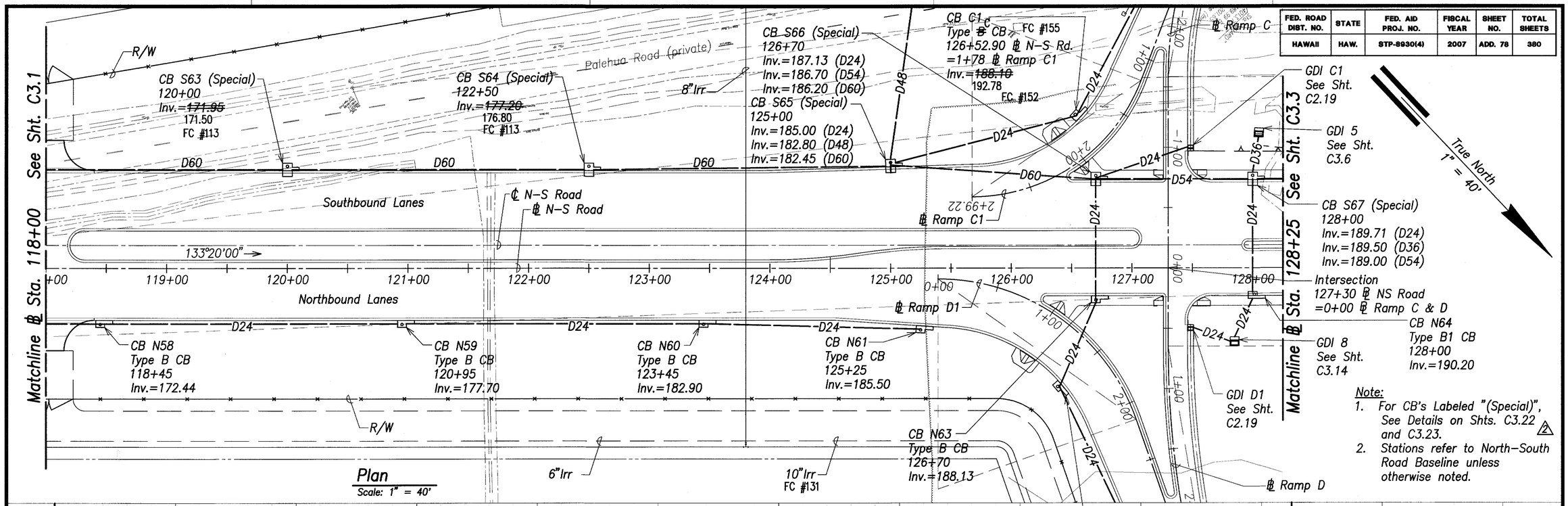
SHEET No. C3.1 OF 179 SHEETS

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

"AS-BUILT"

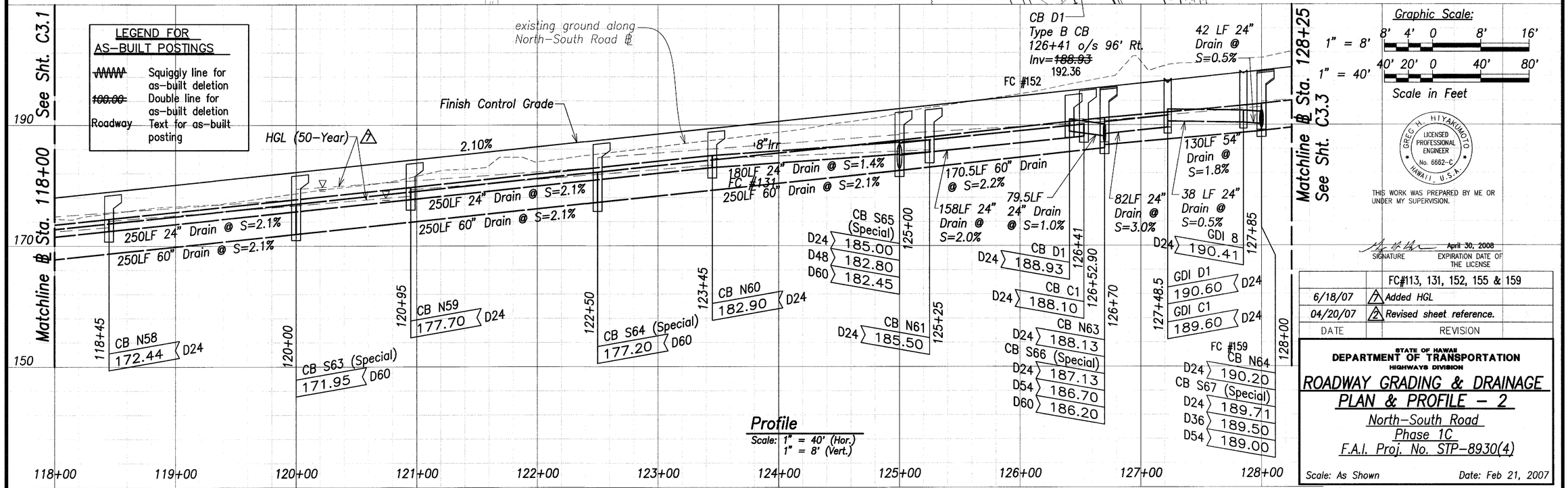
ADD. 77

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	ADD. 78	380



Plan
Scale: 1" = 40'

Note:
1. For CB's Labeled "(Special)", See Details on Shts. C3.22 and C3.23. 2
2. Stations refer to North-South Road Baseline unless otherwise noted.



Profile
Scale: 1" = 40' (Hor.)
1" = 8' (Vert.)

Graphic Scale:
1" = 8' 8' 4' 0 8' 16'
1" = 40' 40' 20' 0 40' 80'
Scale in Feet

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

April 30, 2008
SIGNATURE EXPIRATION DATE OF THE LICENSE

DATE	REVISION
	FC#113, 131, 152, 155 & 159
6/18/07	1 Added HGL
04/20/07	2 Revised sheet reference.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY GRADING & DRAINAGE PLAN & PROFILE - 2

North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

Scale: As Shown Date: Feb 21, 2007

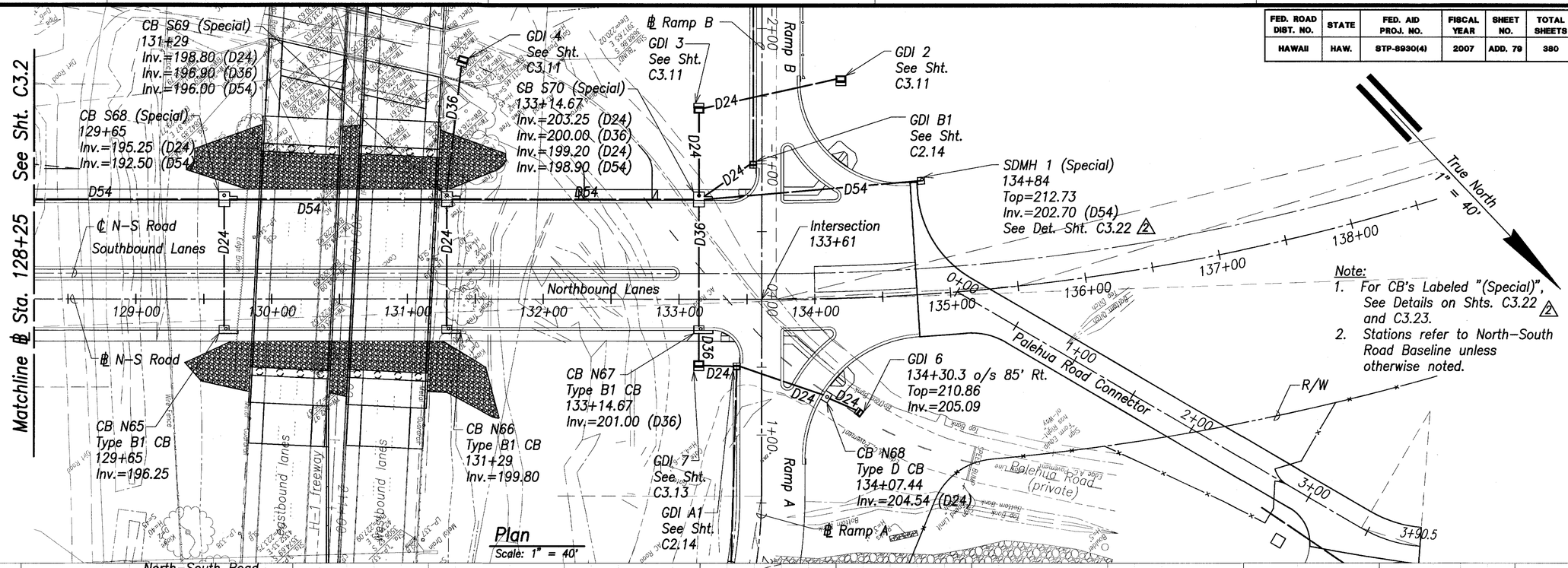
SHEET No. C3.2 OF 179 SHEETS

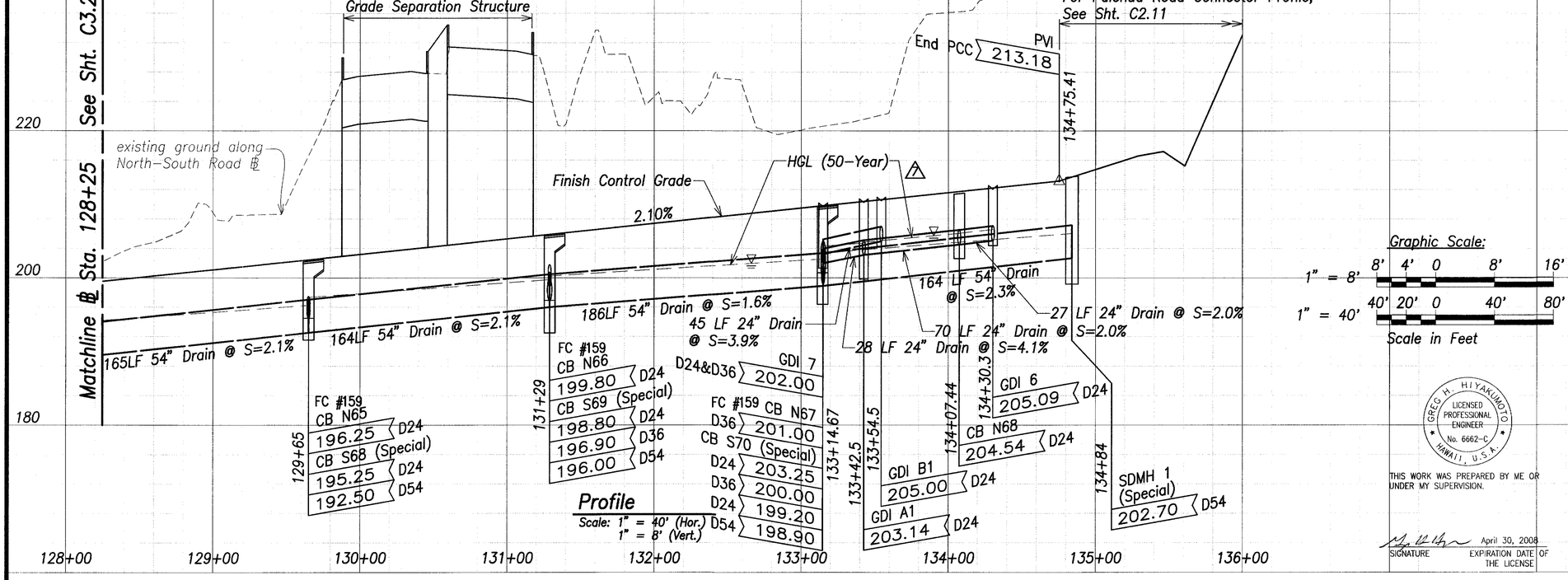
ORIGINAL PLAN | SURVEY PLOTTED BY | DRAWN BY | TRACED BY | DESIGNED BY | QUANTITIES BY | CHECKED BY | DATE | NOTE BOOK | No.

"AS-BUILT"

ADD. 78

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	ADD. 79	380





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

LEGEND FOR AS-BUILT POSTINGS

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

Graphic Scale:

1" = 8' 8' 4' 0 8' 16'

1" = 40' 40' 20' 0 40' 80'

Scale in Feet

DATE	REVISION
	FC#159
6/18/07	1 Added HGL
04/20/07	2 Revised sheet reference.

GREGG H. HIYAKUMOTO LICENSED PROFESSIONAL ENGINEER No. 6662-C HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE April 30, 2008 EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY GRADING & DRAINAGE PLAN & PROFILE - 3

North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

Scale: As Shown Date: Feb 21, 2007

SHEET No. C3.3 OF 179 SHEETS

"AS-BUILT" ADD. 79

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	ADD. 80	380

True North
1" = 40'

INSET
FC #73

℄ Interceptor Ditch
See Sht. C3.25 (2)

48" Culvert Extension (Mauka)
& New Conc. Headwall
Inv.=224.20
See Sht. C8.5

R/W & Fenceline

℄ Interceptor Ditch
See Sht. C3.25 (2)

℄ WB Bypass

Westbound Bypass

GDI 1, Type 61616 (2)
Top=220.30
Inv.=213.90± (Match Exist.)
See 48" Culvert Extension
(Mauka) Sht. C8.5

E/S Temp. WB Bypass

See Inset

E/S Temp. EB Bypass

48" Culvert
Extension
(Makai)
See Sht. C8.6

See Sht. C3.5

See Sht. C3.6

℄ EB Bypass

℄ Freeway

Eastbound Bypass

96" Culvert Extension
with New Conc. Inlet Structure
Inv.=207.17
See Sht. C8.10

H-1 Freeway

westbound lanes

eastbound lanes

-11+90 EB Bypass
Begin Conc. Swale

Relocated Farm Irrigation Line

R/W

GDI C5
See Sht. C2.18

48" Culvert Extension (Makai)
& New CRM Structure
Inv.=200.25
See Sht. C8.6

Construction Parcel

Matchline

Extend Exist. 24" RCP Culvert
and Construct New Headwall.
Demolish and Remove Exist.
Headwall.
Exist. Inv.=208.85±
New Inv.=208.20
See Sht. C8.4

FC #183

Erosion Control Matting
7'x40'± Slope Drain,
12" Filter Soxx
FC #183

96" Culvert Extension
with New Conc. Outlet Structure
Inv.=196.19
See Sht. C8.10

LEGEND FOR AS-BUILT POSTINGS

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

Graphic Scale:
1" = 40'
40' 20' 0 40' 80'
Scale in Feet

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

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662-E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE — April 30, 2008 EXPIRATION DATE OF THE LICENSE

	FC#73 & 183
5/4/07	(3) Revised interceptor ditch grading.
4/20/07	(2) Revised grading and guardrail, added GRP slope and HW extension.
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

BYPASS GRADING & DRAINAGE PLAN - 1

North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

Scale: As Shown Date: Feb 21, 2007

SHEET No. C3.4 OF 179 SHEETS

"AS-BUILT" ADD. 80

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	ADD. 81	380

True North
1" = 40'

℄ Interceptor Ditch
See Sht. C3.25 (2)

Westbound Bypass

℄ WB Bypass

E/S Temp. WB Bypass

Slope Drain
See Sht. C3.25 (2)

℄ Grassed Swale

Matchline: See Sht. C3.4

Matchline: See Sht. C3.7

Matchline: See Sht. C3.6

N-S Road Separation

H-1 freeway westbound lanes

Graphic Scale:
1" = 40' 40' 20' 0 40' 80'
Scale in Feet

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

DATE	REVISION
5/4/07	(3) Revised interceptor ditch grading.
4/20/07	(2) Revised guardrail, added reference

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

BYPASS GRADING & DRAINAGE PLAN - 2

North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662-C
HAWAII, U.S.A.

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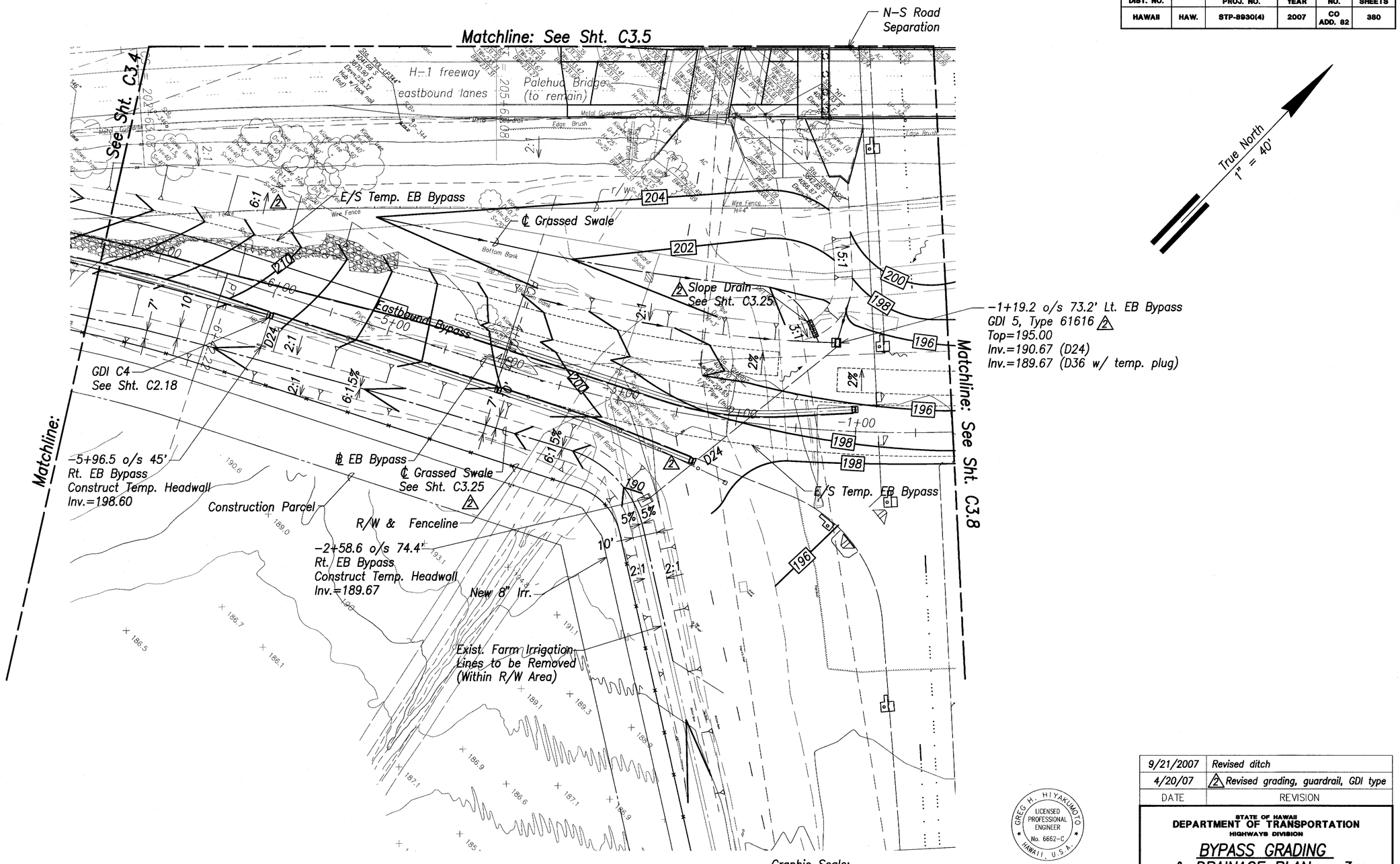
Greg H. Hiyakumoto APR 30, 2008
SIGNATURE DATE OF LICENSE EXPIRY

Scale: As Shown Date: Feb 21, 2007

SHEET No. C3.5 OF 179 SHEETS

ADD. 81

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	CO ADD. 82	380



Graphic Scale:
1" = 40' 40' 20' 0 40' 80'
Scale in Feet

STUDY PLOTTED BY ____ DATE
PLANS PREPARED BY
TRACED BY
DESIGNED BY
QUANTITIES BY
CHECKED BY
ORIGINAL PLANS
NOTE BOOK
No.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

GREG H. HIYAKUMOTO LICENSED PROFESSIONAL ENGINEER No. 6662-C HAWAII, U.S.A.

SIGNATURE — April 30, 2008 EXPIRATION DATE OF THE LICENSE

DATE	REVISION
9/21/2007	Revised ditch
4/20/07	2 Revised grading, guardrail, GDI type

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

BYPASS GRADING & DRAINAGE PLAN - 3

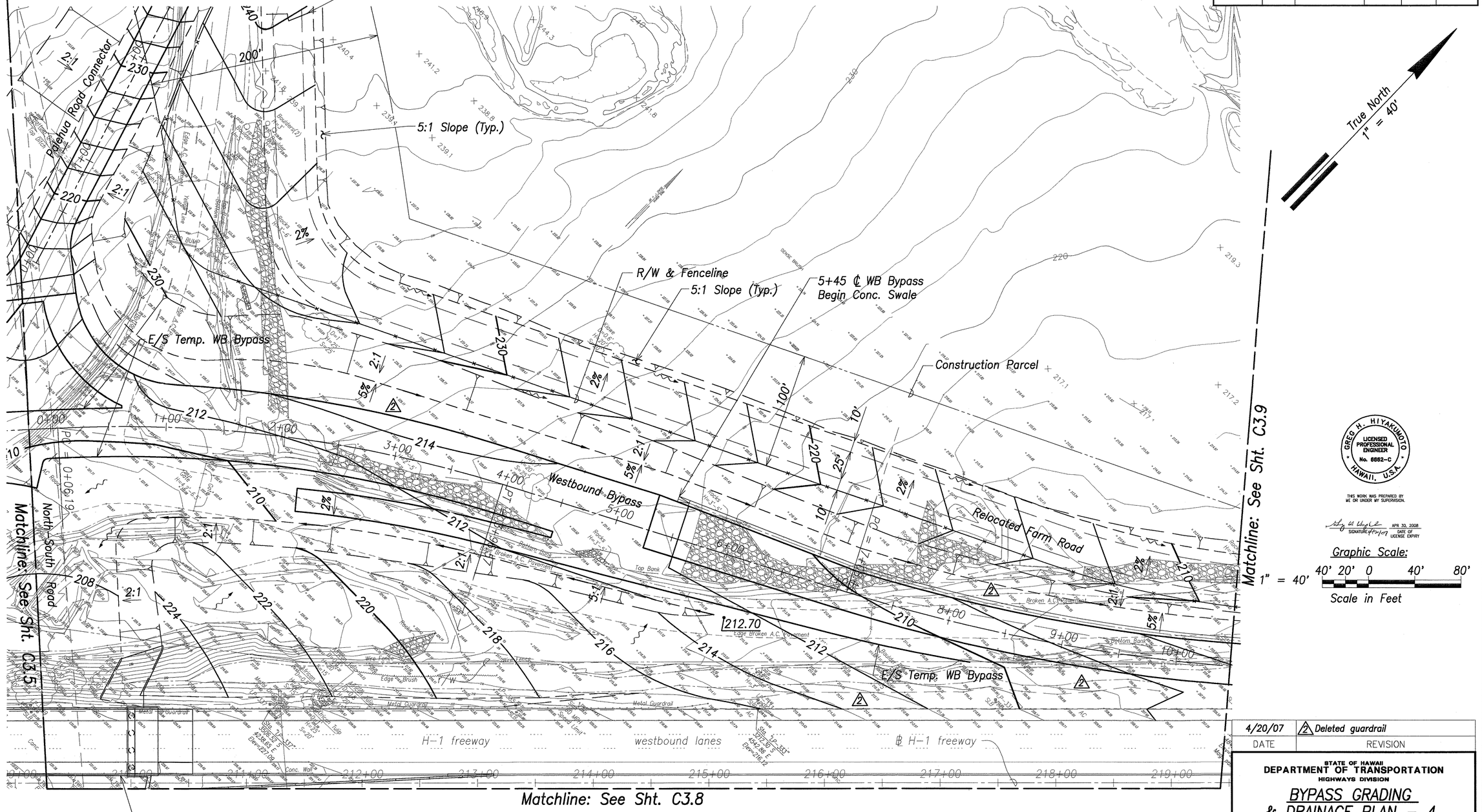
North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

Scale: As Shown — Date: Feb 21, 2007

SHEET No. C3.6 OF 179 SHEETS

"AS-BUILT" CO ADD. 82

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	ADD. 83	380



GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

APR 30, 2008
SIGNATURE — DATE OF LICENSE EXPIRY

Graphic Scale:
1" = 40'
40' 20' 0 40' 80'
Scale in Feet

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

4/20/07	2 Deleted guardrail
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

BYPASS GRADING & DRAINAGE PLAN – 4

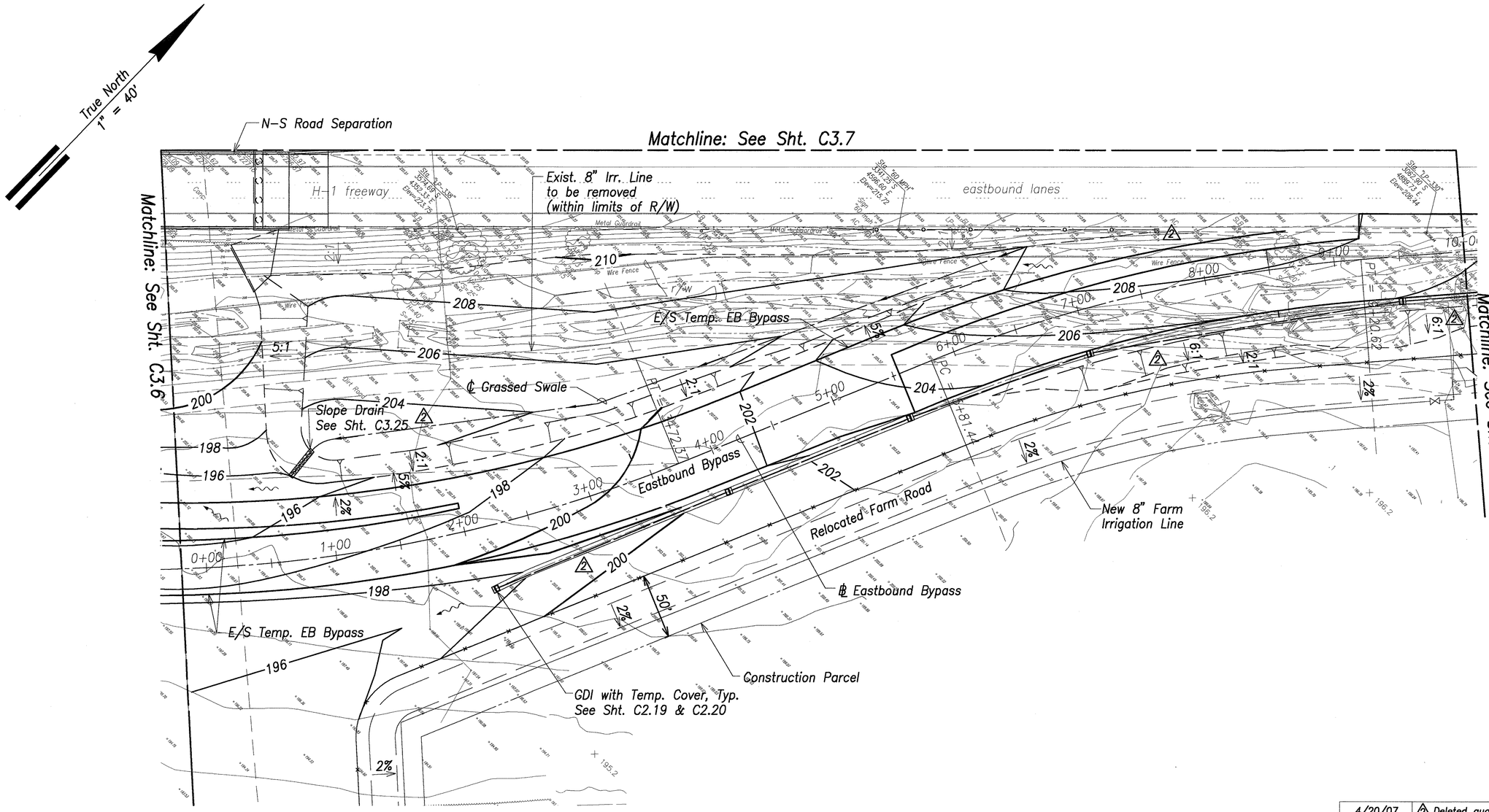
North–South Road
Phase 1C
F.A.I. Proj. No. STP–8930(4)

Scale: As Shown Date: Feb 21, 2007

SHEET No. C3.7 OF 179 SHEETS

ADD. 83

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	ADD. 84	380



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

Graphic Scale:
1" = 40' 40' 20' 0 40' 80'
Scale in Feet

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE 4/20/07 — APR 30, 2008 DATE OF LICENSE EXPIRY

4/20/07	2 Deleted guardrail, revised grading
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

BYPASS GRADING & DRAINAGE PLAN - 5

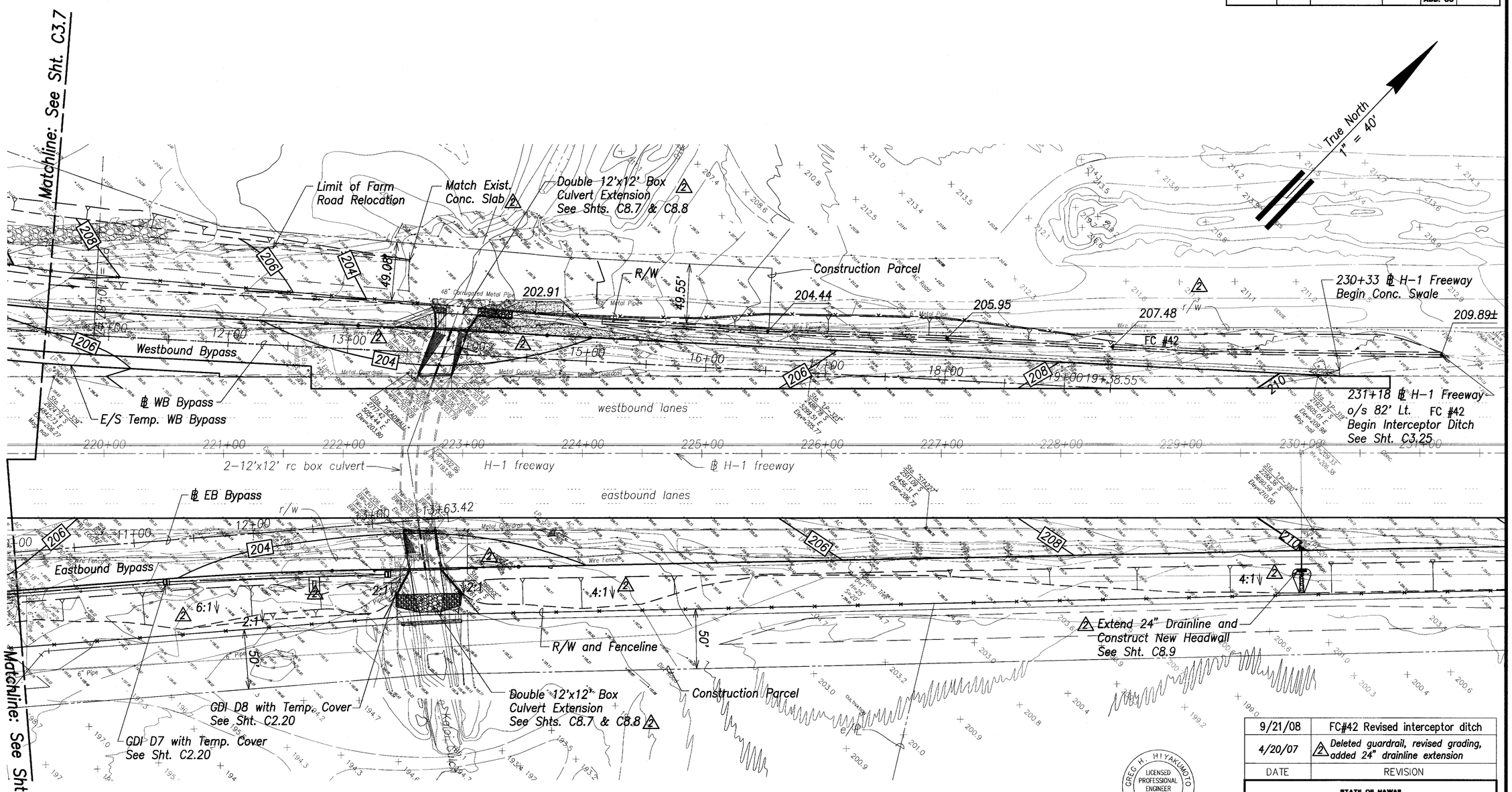
North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

Scale: As Shown — Date: Feb 21, 2007

SHEET No. C3.8 OF 179 SHEETS

ADD. 84

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	CO ADD. 85	380



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

LEGEND FOR AS-BUILT POSTINGS

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

Graphic Scale:

1" = 40' 40' 20' 0 40' 80'

Scale in Feet

GREG H. HIYAKUMOTO LICENSED PROFESSIONAL ENGINEER No. 6662-C HAWAII, U.S.A.

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SIGNATURE April 30, 2008 EXPIRATION DATE OF THE LICENSE

DATE	REVISION
9/21/08	FC#42 Revised interceptor ditch
4/20/07	2 Deleted guardrail, revised grading, added 24" drainline extension

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

BYPASS GRADING & DRAINAGE PLAN - 6

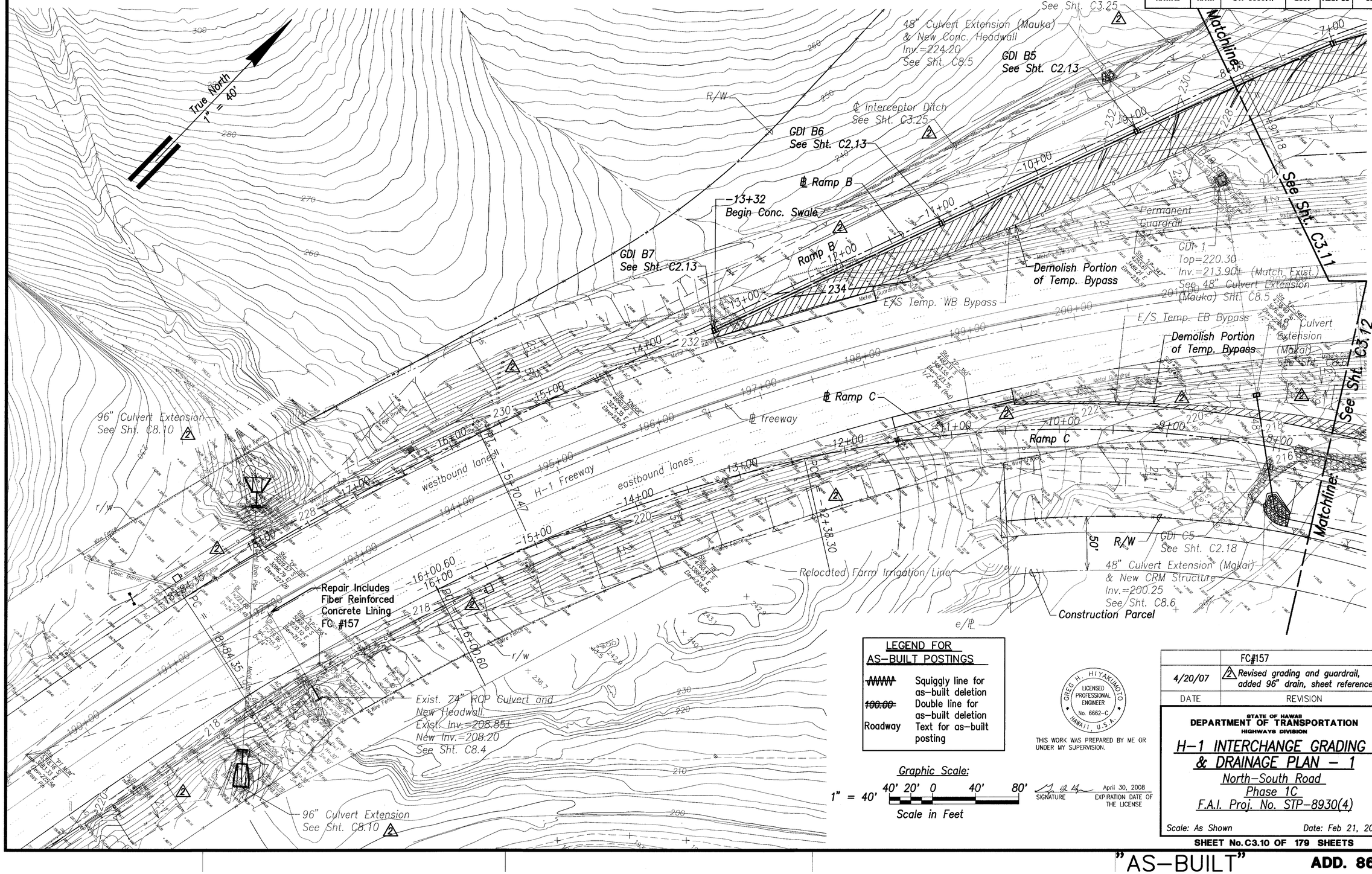
North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

Scale: As Shown Date: Feb 21, 2007

SHEET No. C3.9 OF 179 SHEETS

"AS-BUILT" CO ADD. 85

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	ADD. 86	380



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

LEGEND FOR AS-BUILT POSTINGS

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

Graphic Scale:

1" = 40' 40' 20' 0 40' 80'

Scale in Feet

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE

April 30, 2008
EXPIRATION DATE OF THE LICENSE

DATE	REVISION
	FC#157
4/20/07	2 Revised grading and guardrail, added 96" drain, sheet references

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

H-1 INTERCHANGE GRADING & DRAINAGE PLAN - 1

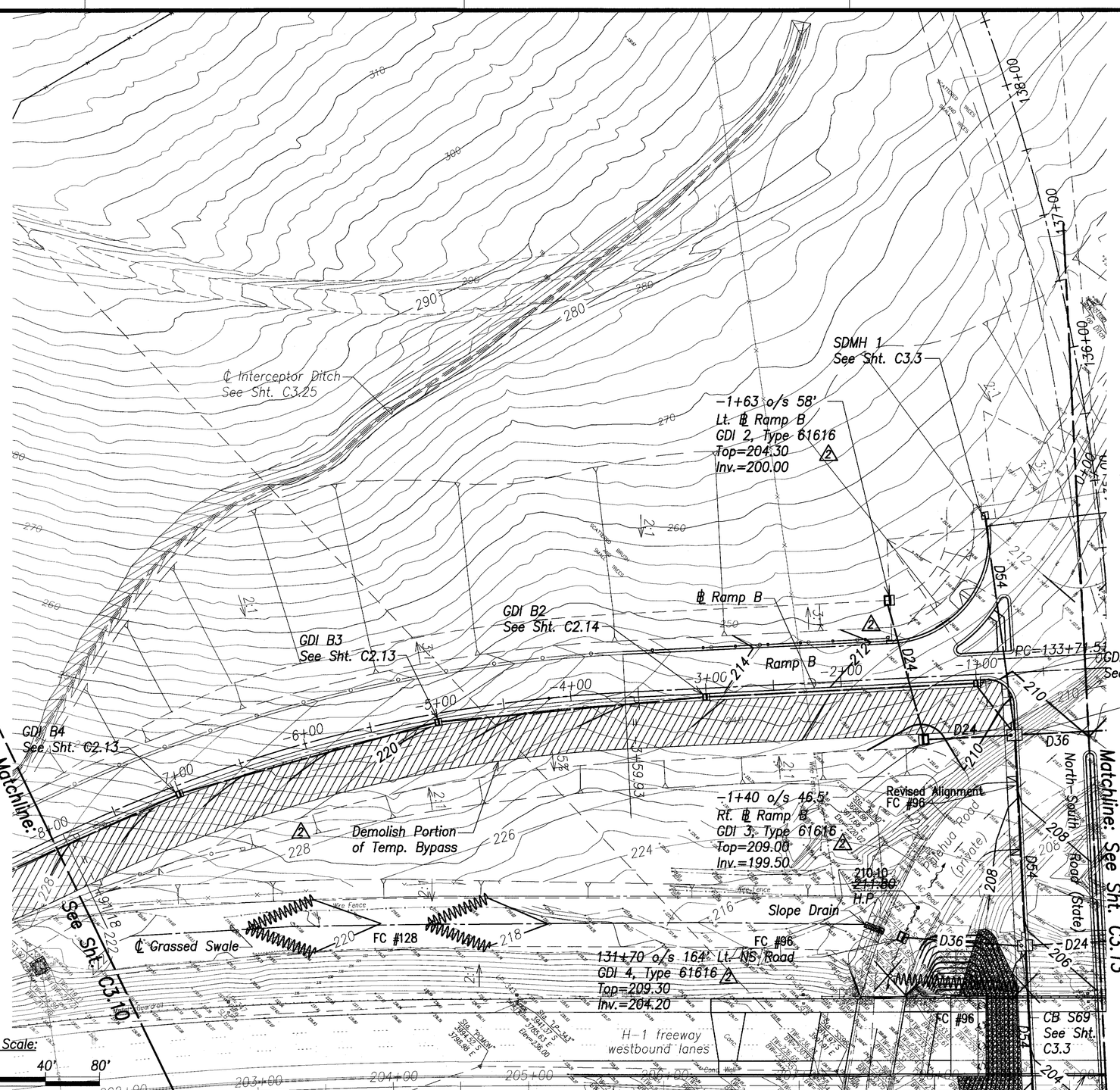
North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

Scale: As Shown Date: Feb 21, 2007

SHEET No. C3.10 OF 179 SHEETS

"AS-BUILT" ADD. 86

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	CO ADD. 87	380



True North
1" = 40'

LEGEND FOR AS-BUILT POSTINGS

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

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662-C
HAWAII, U.S.A.

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SIGNATURE — April 30, 2008 EXPIRATION DATE OF THE LICENSE

	FC#96 & 128
04/16/2009	revised inlet grades
6/23/2008	revised drain inlet & grading
4/20/07	2 Revised guardrail, added GDI type
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

H-1 INTERCHANGE GRADING & DRAINAGE PLAN - 2

North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

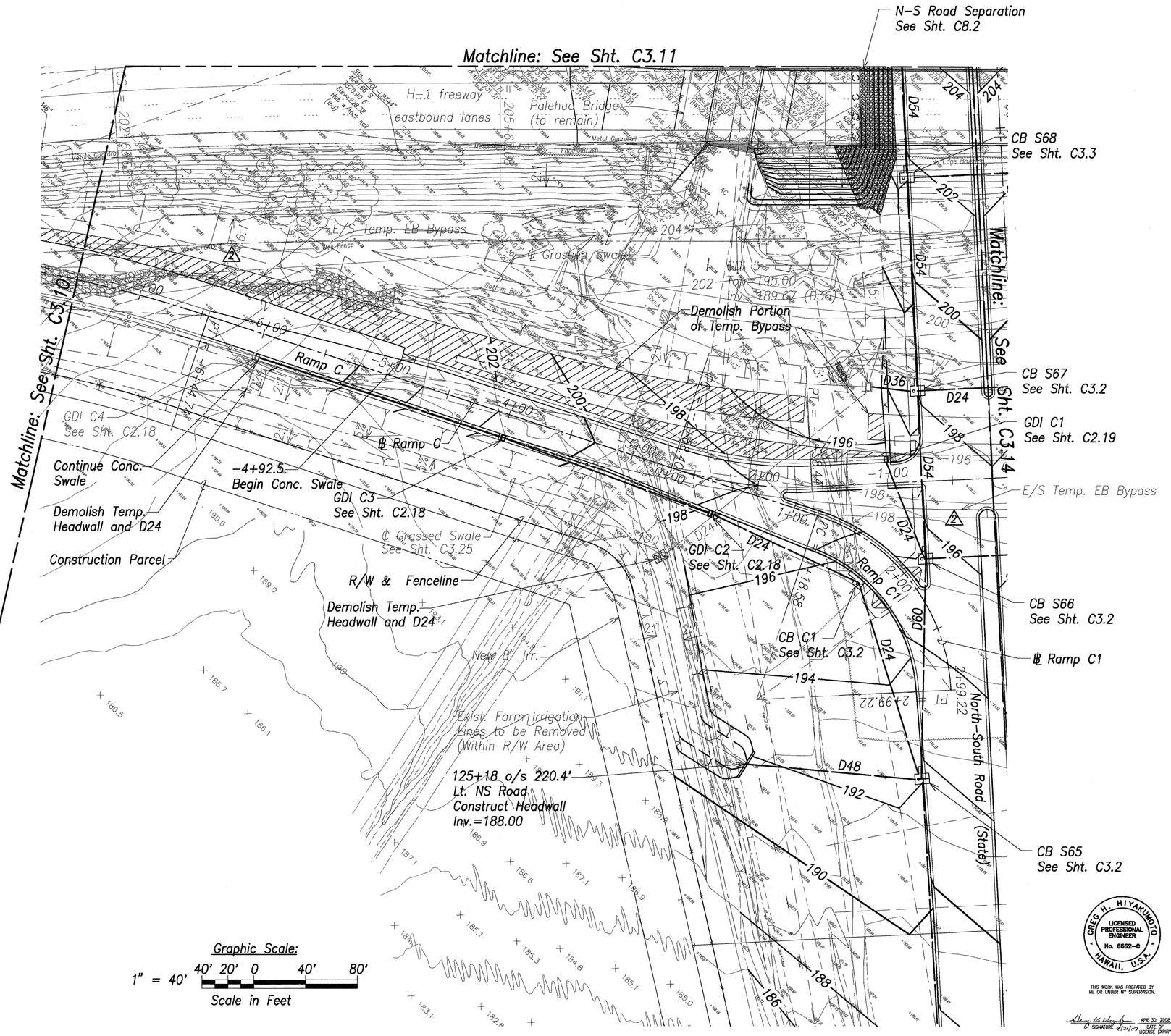
Scale: As Shown — Date: Feb 21, 2007

SHEET No. C3.11 OF 179 SHEETS

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

"AS-BUILT" CO ADD. 87

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	ADD. 88	380



Graphic Scale:

1" = 40' 40' 20' 0 40' 80'

Scale in Feet

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

DATE	REVISION
4/20/07	2 Revised grading, deleted guardrail

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

H-1 INTERCHANGE GRADING & DRAINAGE PLAN - 3

North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6562-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

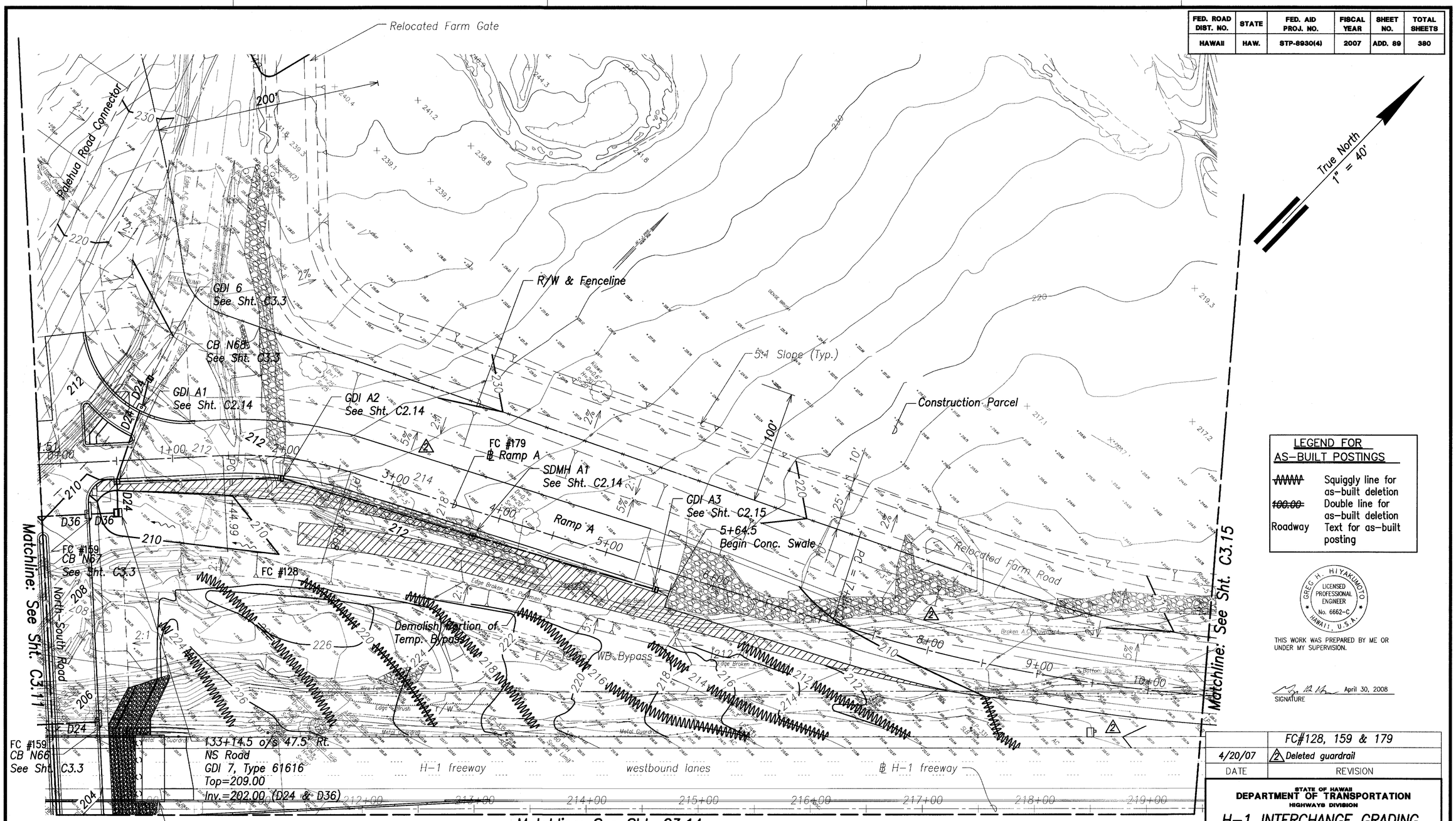
SIGNATURE 4/20/07 — APR 30, 2008 DATE OF LICENSE EXPIRY

Scale: As Shown — Date: Feb 21, 2007

SHEET No. C3.12 OF 179 SHEETS

ADD. 88

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	ADD. 89	380



LEGEND FOR AS-BUILT POSTINGS

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

GREGG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662-C
HAWAII, U.S.A.

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SIGNATURE April 30, 2008

	FC#128, 159 & 179
4/20/07	2 Deleted guardrail
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

H-1 INTERCHANGE GRADING & DRAINAGE PLAN - 4

North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

Graphic Scale:
1" = 40' 40' 20' 0 40' 80'
Scale in Feet

Scale: As Shown Date: Feb 21, 2007

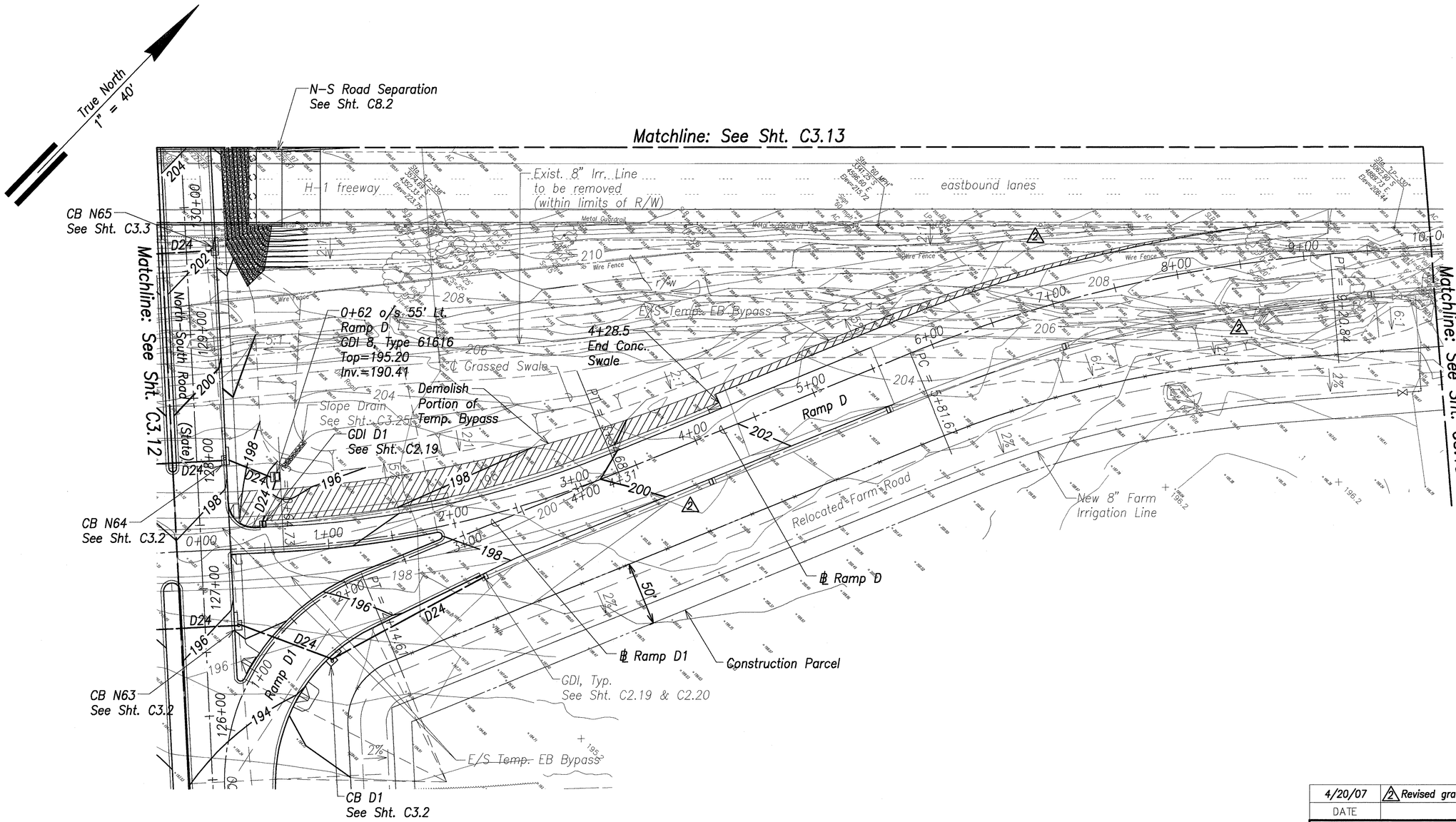
SHEET No. C3.13 OF 179 SHEETS

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

"AS-BUILT"

ADD. 89

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	ADD. 90	380



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

Graphic Scale:
1" = 40' 40' 20' 0 40' 80'
Scale in Feet

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 8662-C
HAWAII, U.S.A.

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SIGNATURE 4/19/07 APR 30, 2008 DATE OF LICENSE EXPIRY

4/20/07	2 Revised grading, deleted guardrail
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

H–1 INTERCHANGE GRADING & DRAINAGE PLAN – 5

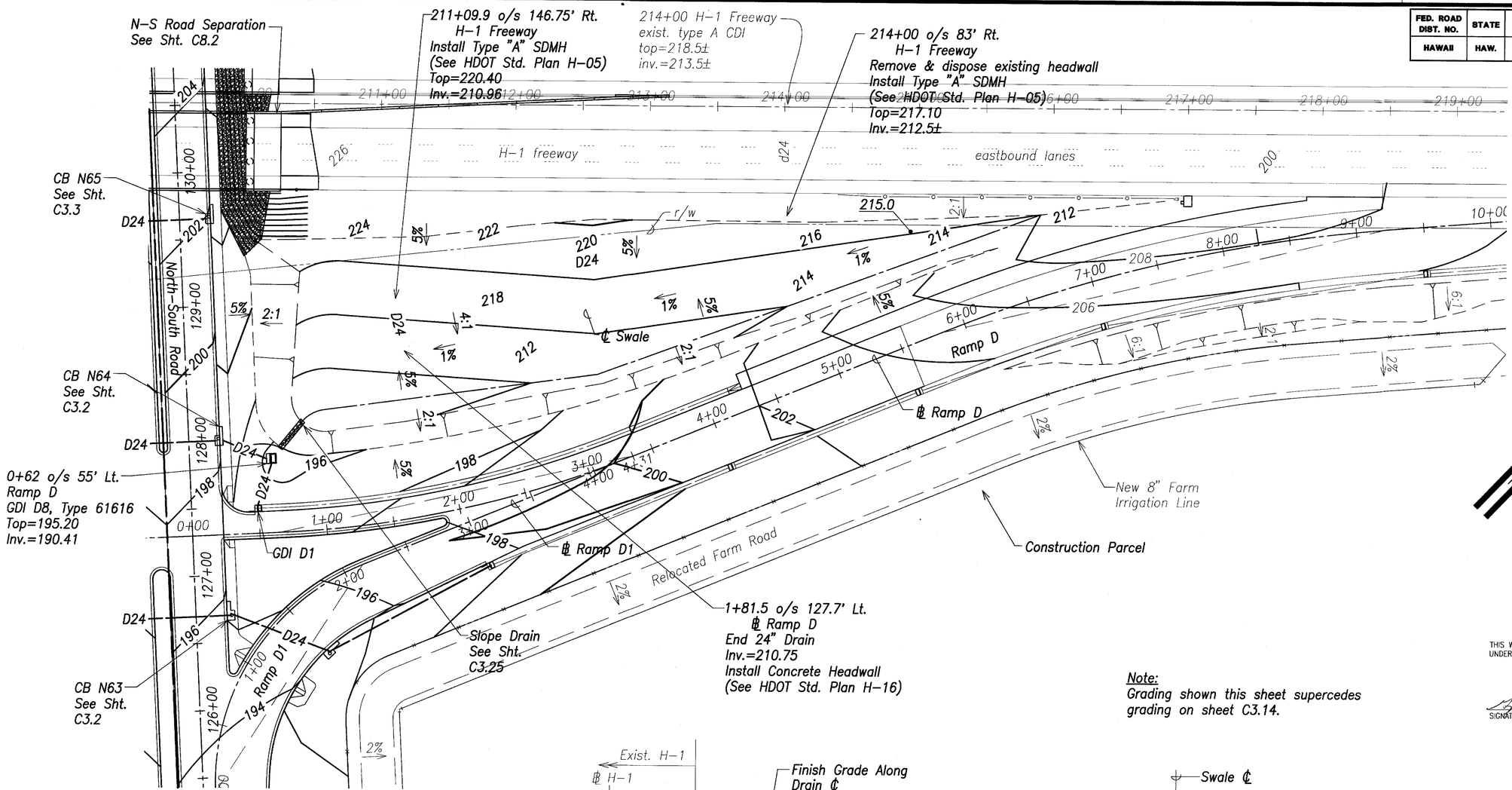
North–South Road
Phase 1C
F.A.I. Proj. No. STP–8930(4)

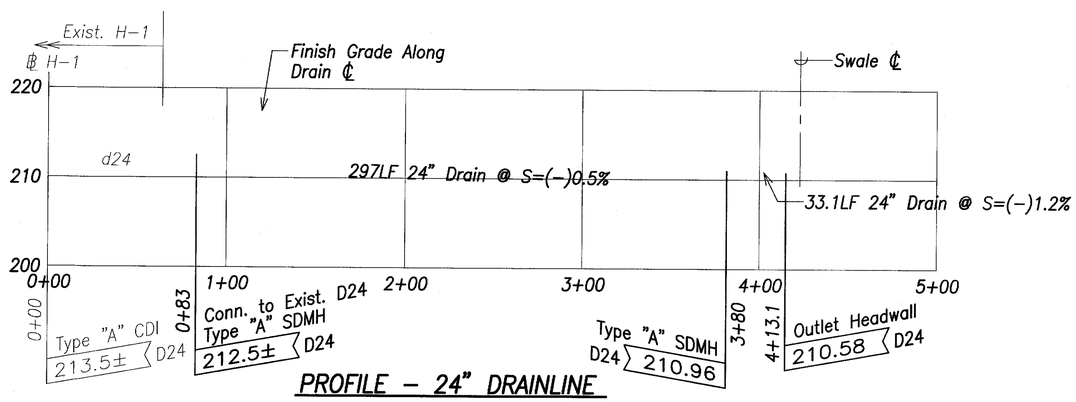
Scale: As Shown Date: Feb 21, 2007

SHEET No. C3.14 OF 179 SHEETS

ADD. 90

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	CO 908-1	380





PROFILE – 24" DRAINLINE

Scale: 1" = 40' (Hor.)
1" = 8' (Vert.)

Note:
Grading shown this sheet supercedes grading on sheet C3.14.

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662–C
HAWAII, U.S.A.

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SIGNATURE — April 30, 2008 EXPIRATION DATE OF THE LICENSE

Graphic Scale:
1" = 40' 40' 20' 0 40' 80'
Scale in Feet

DATE	REVISION
2/13/2009	added sht for revised grading, drain

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

INTERCHANGE GRADING ALONG RAMP D

North–South Road
Phase 1C
F.A.I. Proj. No. STP–8930(4)

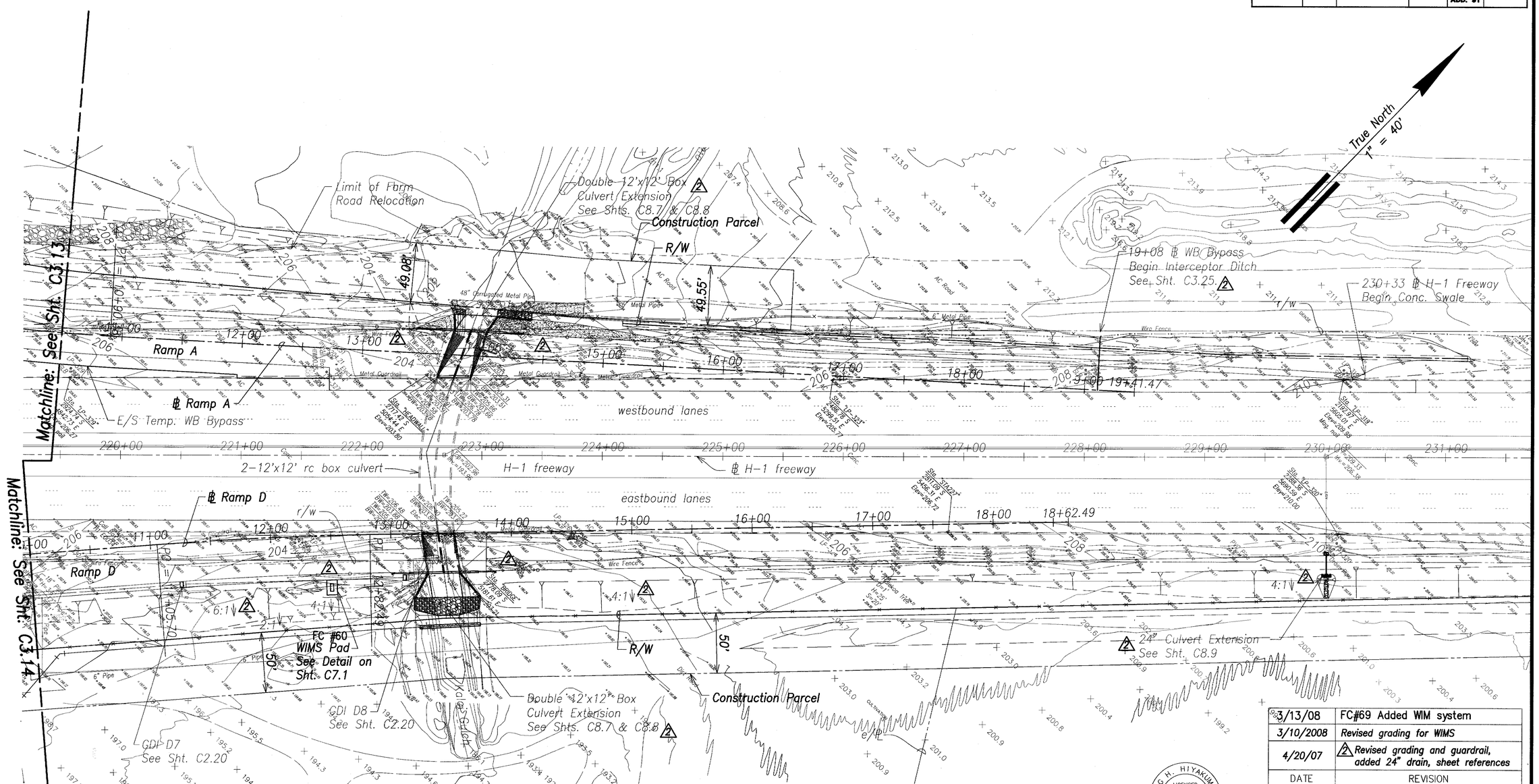
Scale: As Shown Date: Feb 21, 2007

SHEET NoC3.14A OF 179 SHEETS

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

"AS–BUILT" CO 908-1

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	CO ADD. 91	380



DATE	REVISION
3/13/08	FC#69 Added WIM system
3/10/2008	Revised grading for WIMS
4/20/07	2 Revised grading and guardrail, added 24" drain, sheet references

SURVEY PLOTTED BY
DRAWN BY
TRACED BY
DESIGNED BY
QUANTITIES BY
CHECKED BY
DATE

ORIGINAL PLAN
NOTE BOOK
No.

LEGEND FOR AS-BUILT POSTINGS

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

Graphic Scale:
1" = 40' 40' 20' 0 40' 80'
Scale in Feet

GREG H. HIYAKUMOTO LICENSED PROFESSIONAL ENGINEER No. 6662-C HAWAII, U.S.A.

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April 30, 2008
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

H-1 INTERCHANGE GRADING & DRAINAGE PLAN - 6

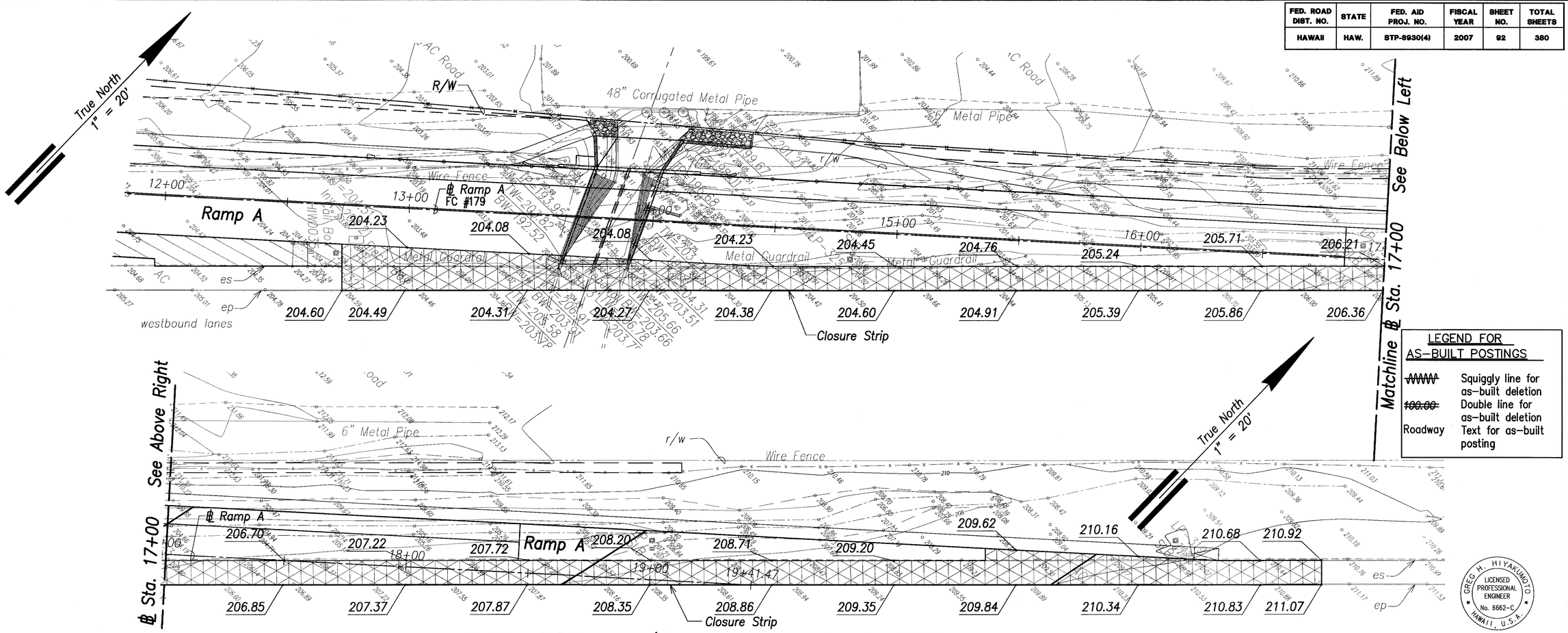
North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

Scale: As Shown Date: Feb 21, 2007

SHEET No. C3.15 OF 179 SHEETS

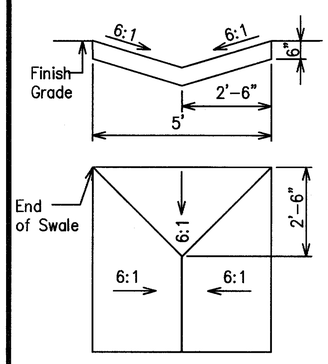
"AS-BUILT" CO ADD. 91

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	92	380

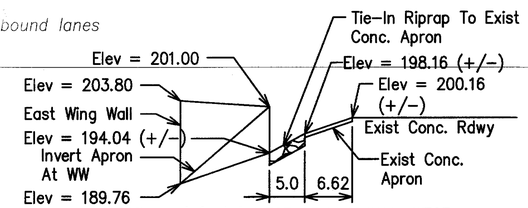


LEGEND FOR AS-BUILT POSTINGS

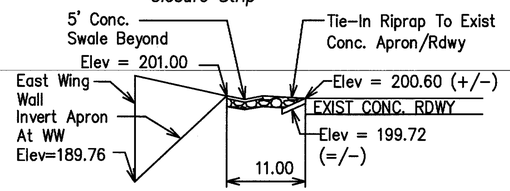
~~WWWW~~	Squiggly line for as-built deletion
~~100.00~~	Double line for as-built deletion
Roadway	Text for as-built posting



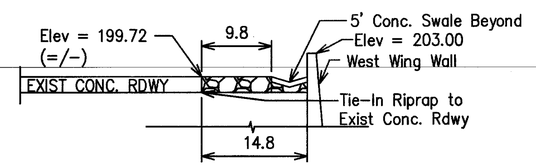
TERMINATION OF CONCRETE SWALE
NOT TO SCALE
FC#56



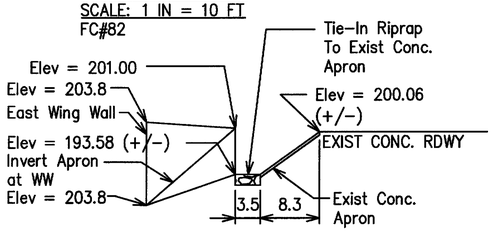
X-SECTION 8' (+/-) WEST OF WINGWALL, WEST SIDE OF INLET APRON
SCALE: 1 IN = 10 FT
FC#82



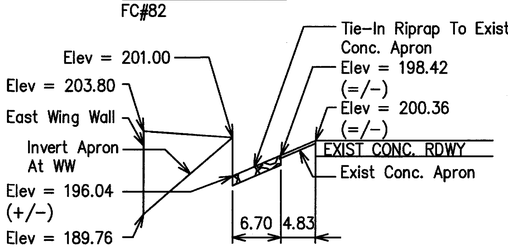
X-SECTION AT WEST END OF WEST WINGWALL
SCALE: 1 IN = 10 FT
FC#82



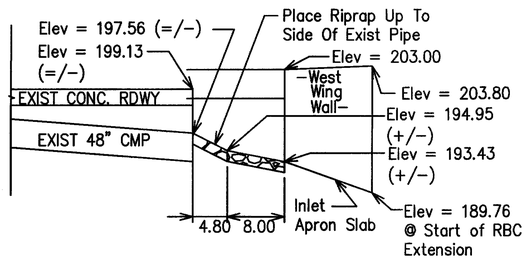
X-SECTION AT EAST END OF EAST WINGWALL
SCALE: 1 IN = 10 FT
FC#82



X-SECTION 9' (+/-) WEST OF WINGWALL, WEST SIDE OF INLET APRON
SCALE: 1IN= 10 FT FC#82



X-SECTION 6' (+/-) WEST OF WINGWALL, WEST SIDE OF INLET APRON
SCALE: 1 IN = 10 FT FC#82



X-SECTION AT WEST END OF EAST WINGWALL
SCALE: 1 IN = 10 FT FC#82

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662-C
HAWAII, U.S.A.

April 30, 2008
SIGNATURE EXPIRATION DATE OF THE LICENSE

Graphic Scale:
1" = 20' 20' 10' 0 20' 40'
Scale in Feet

	FC#56, 82 & 179
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

RAMP A
INTERFACE GRADING PLAN
North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

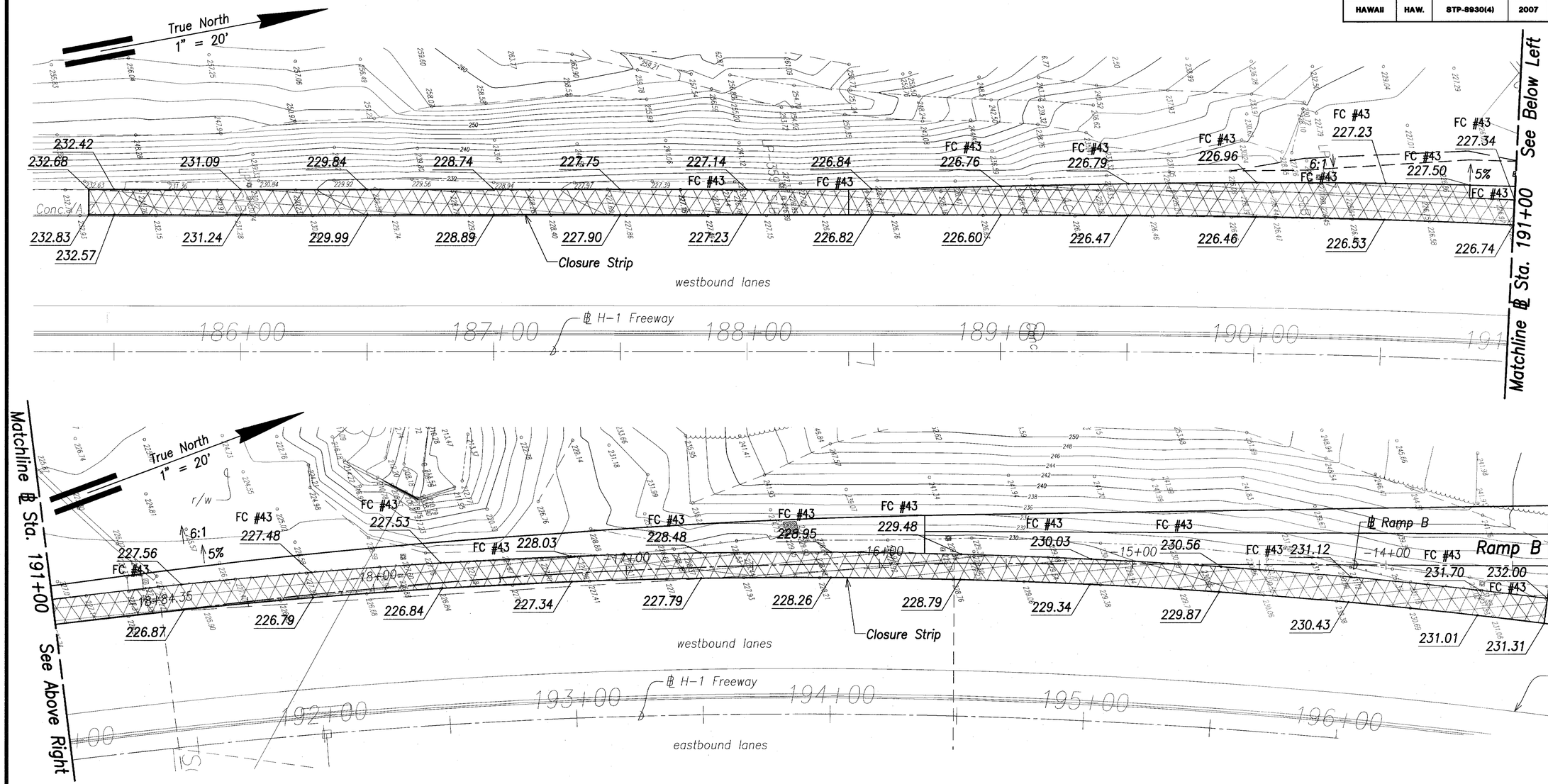
Scale: As Shown Date: Feb 21, 2007

SHEET No. C3.16 OF 179 SHEETS

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

"AS-BUILT"

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	CO 93	380



LEGEND FOR AS-BUILT POSTINGS

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

Graphic Scale:

1" = 20' 20' 10' 0 20' 40'

Scale in Feet

GREG H. HIYAKUMOTO LICENSED PROFESSIONAL ENGINEER No. 6662-C HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE April 30, 2008 EXPIRATION DATE OF THE LICENSE

	FC#43 & 72
9/21/2007	Revised spot grades
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

RAMP B
INTERFACE GRADING PLAN
North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

Scale: As Shown Date: Feb 21, 2007

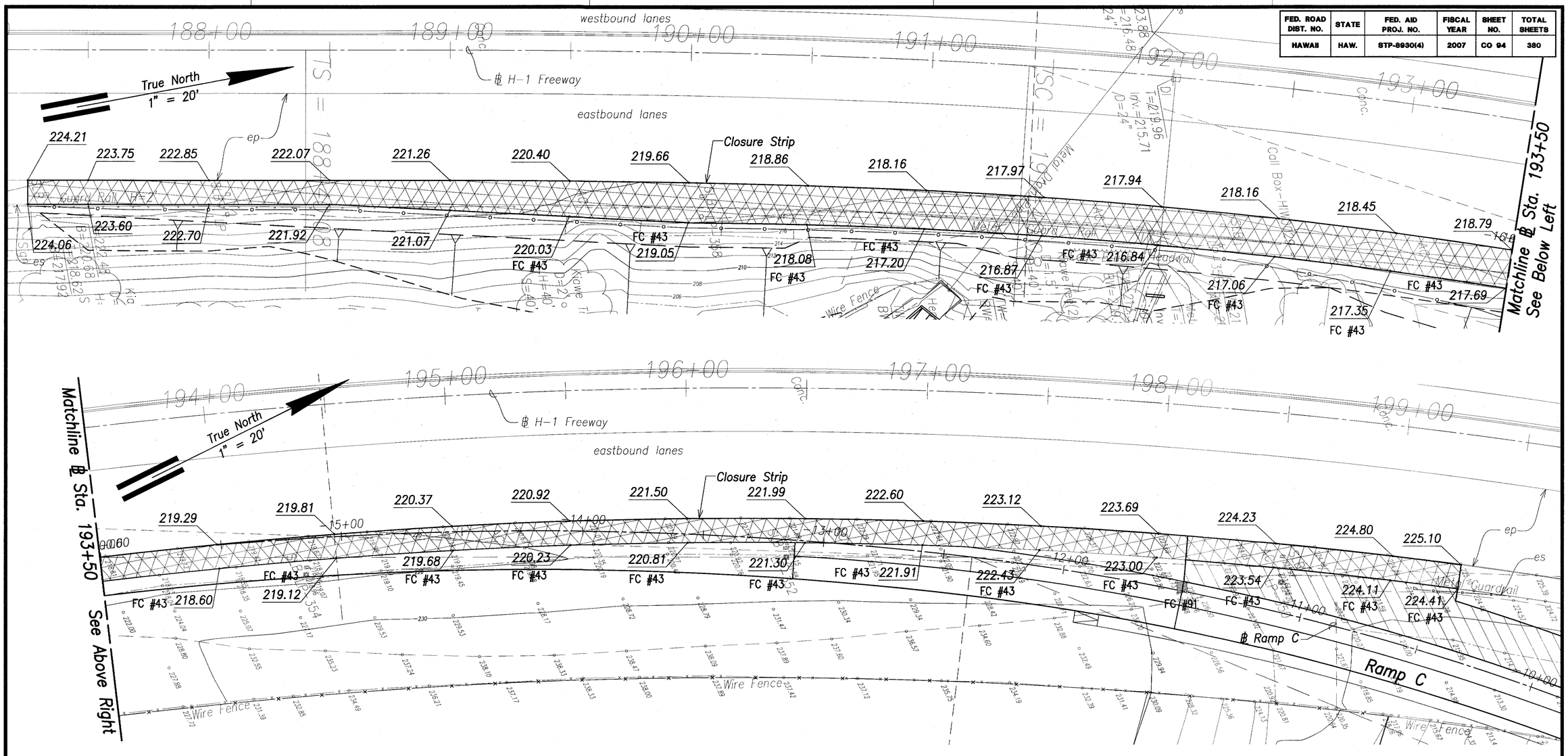
SHEET No. C3.17 OF 179 SHEETS

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

"AS-BUILT"

CO 93

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	CO 94	380



	FC#2 & 91
9/21/07	FC#43 Revised spot grades
DATE	REVISION

LEGEND FOR AS-BUILT POSTINGS

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

Graphic Scale:

1" = 20' 20' 10' 0 20' 40'

Scale in Feet

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662-C
HAWAII, U.S.A.

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SIGNATURE — April 30, 2008 EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

RAMP C
INTERFACE GRADING PLAN

North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

Scale: As Shown — Date: Feb 21, 2007

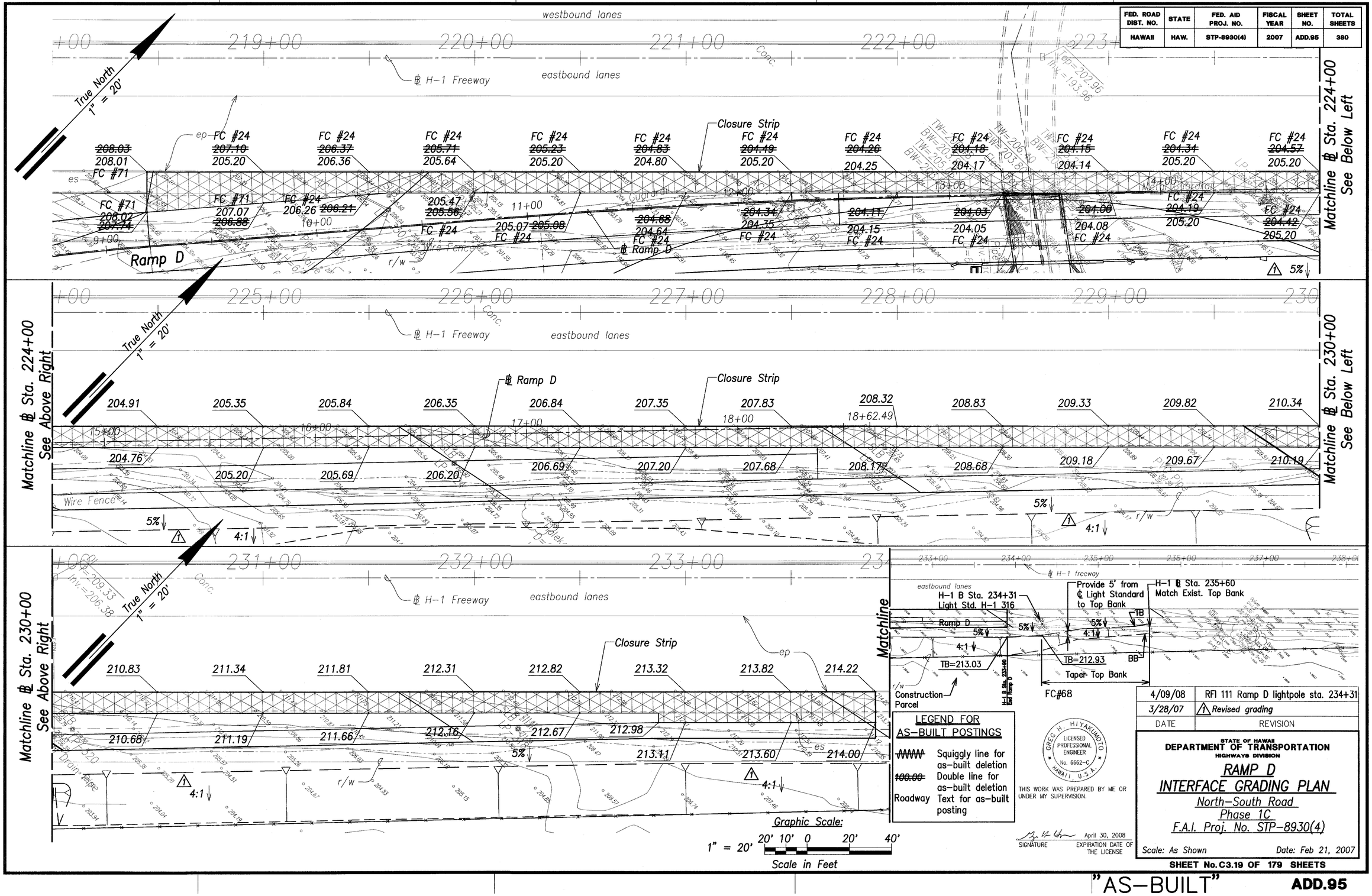
SHEET No. C3.18 OF 179 SHEETS

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

"AS-BUILT"

CO 94

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	ADD.95	380



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

LEGEND FOR AS-BUILT POSTINGS

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

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GREG H. HIYAKUMOTO LICENSED PROFESSIONAL ENGINEER No. 6662-C HAWAII, U.S.A.

SIGNATURE — April 30, 2008 EXPIRATION DATE OF THE LICENSE

DATE	REVISION
4/09/08	RFI 111 Ramp D lightpole sta. 234+31
3/28/07	⚠1 Revised grading

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

RAMP D
INTERFACE GRADING PLAN
North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

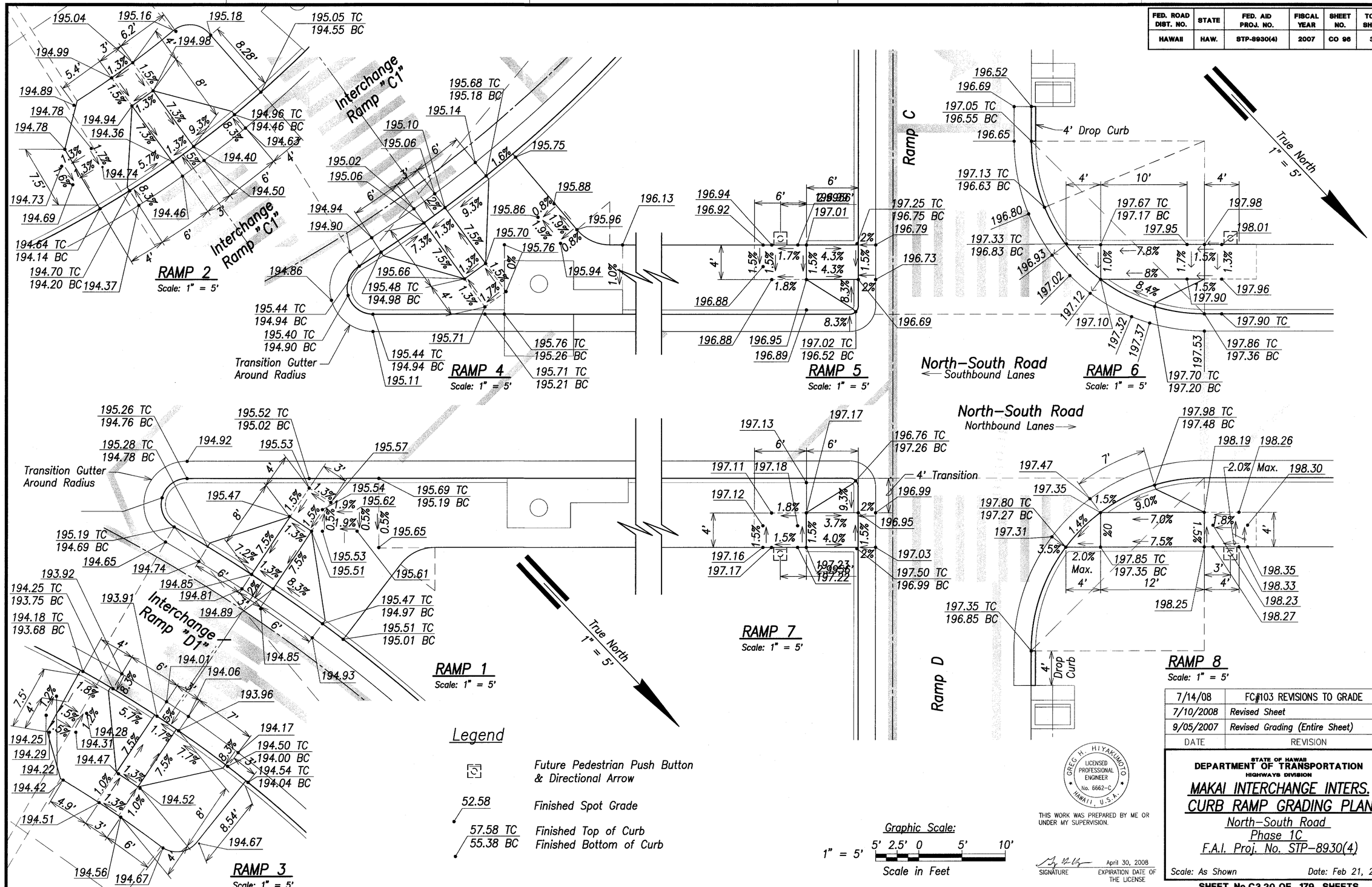
Scale: As Shown — Date: Feb 21, 2007

SHEET No. C3.19 OF 179 SHEETS

"AS-BUILT"

ADD.95

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	CO 96	380



DATE	REVISION
7/14/08	FC#103 REVISIONS TO GRADE
7/10/2008	Revised Sheet
9/05/2007	Revised Grading (Entire Sheet)

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

MAKAI INTERCHANGE INTERS. CURB RAMP GRADING PLAN

North–South Road
Phase 1C
F.A.I. Proj. No. STP–8930(4)

Scale: As Shown — Date: Feb 21, 2007

GREG H. HIYAKUMOTO — LICENSED PROFESSIONAL ENGINEER — No. 6662–C — HAWAII, U.S.A.

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SIGNATURE — April 30, 2008 EXPIRATION DATE OF THE LICENSE

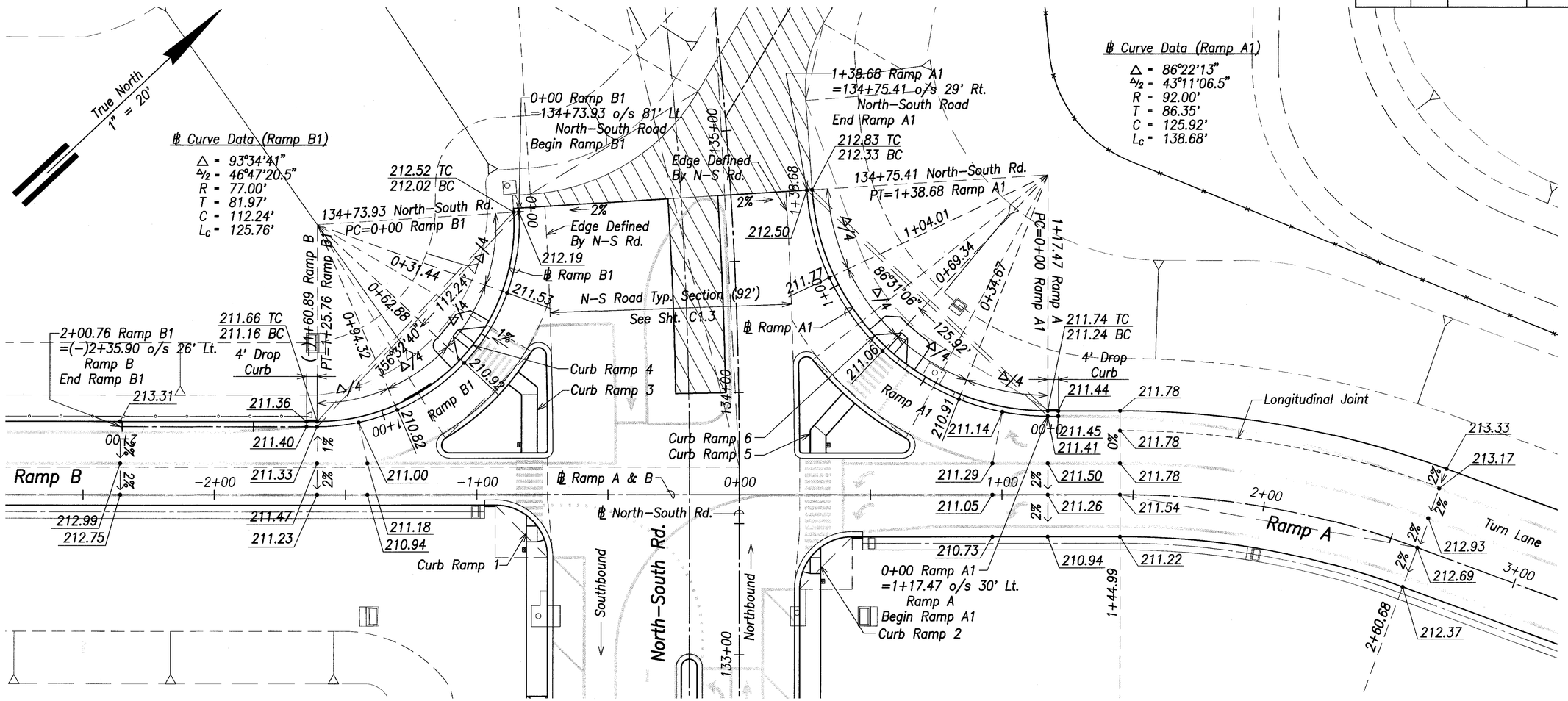
SURVEY PLOTTED BY
DRAWN BY
TRACED BY
DESIGNED BY
QUANTITIES BY
CHECKED BY
DATE
ORIGINAL PLAN
NOTE BOOK
No.

SHEET No.C3.20 OF 179 SHEETS

"AS–BUILT"

CO 96

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	CO ADD. 97	380



Legend

52.58 — *Finished Spot Grade*

57.58 TC / 55.38 BC — *Finished Top of Curb* / *Finished Bottom of Curb*

Note:
For detailed grading around curb ramps and islands, see shts. C3.21A and C3.21B

Graphic Scale:

1" = 20' — 20' 10' 0 10' 20'

Scale in Feet

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662-C
HAWAII, U.S.A.

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SIGNATURE — April 30, 2008 EXPIRATION DATE OF THE LICENSE

6/06/2008	FC#80 Replace Entire Sheet
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

MAUKA INTERCHANGE INTERS.
GRADING PLAN
North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

Scale: As Shown — Date: Feb 21, 2007

SHEET No. C3.21 OF 179 SHEETS

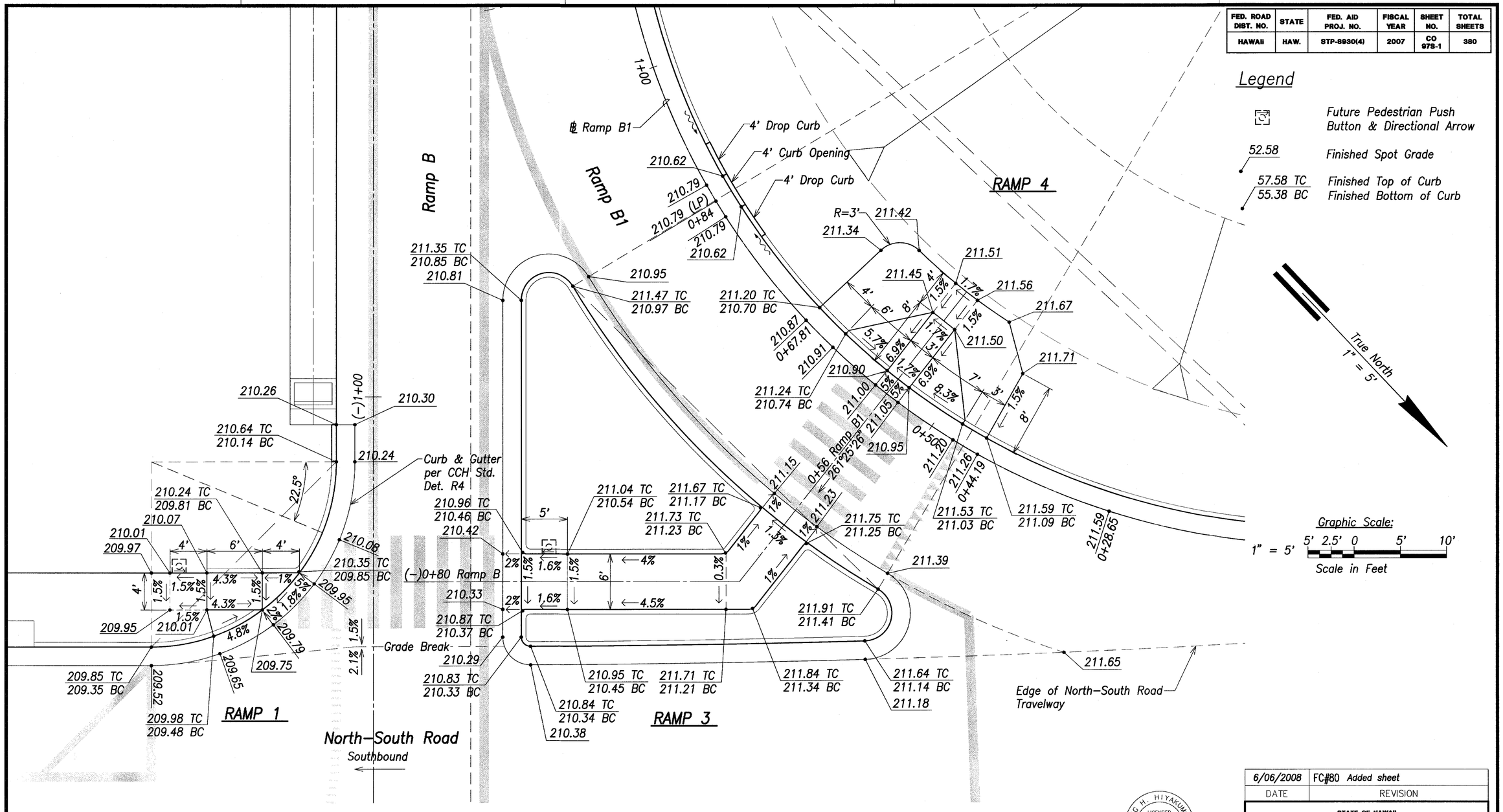
ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
	DRAWN BY	
NOTE BOOK	TRACED BY	
	DESIGNED BY	
No.	QUANTITIES BY	
	CHECKED BY	

"AS-BUILT" CO ADD. 97

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	CO 97S-1	380

Legend

- Future Pedestrian Push Button & Directional Arrow
- 52.58 — Finished Spot Grade
- 57.58 TC / 55.38 BC — Finished Top of Curb / Finished Bottom of Curb



True North
1" = 5'

Graphic Scale:
1" = 5' 5' 2.5' 0 5' 10'
Scale in Feet

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

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE — April 30, 2008 EXPIRATION DATE OF THE LICENSE

6/06/2008	FC#80 Added sheet
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

MAUKA INTERCHANGE INTERS.
CURB RAMP GRADING PLANS
North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

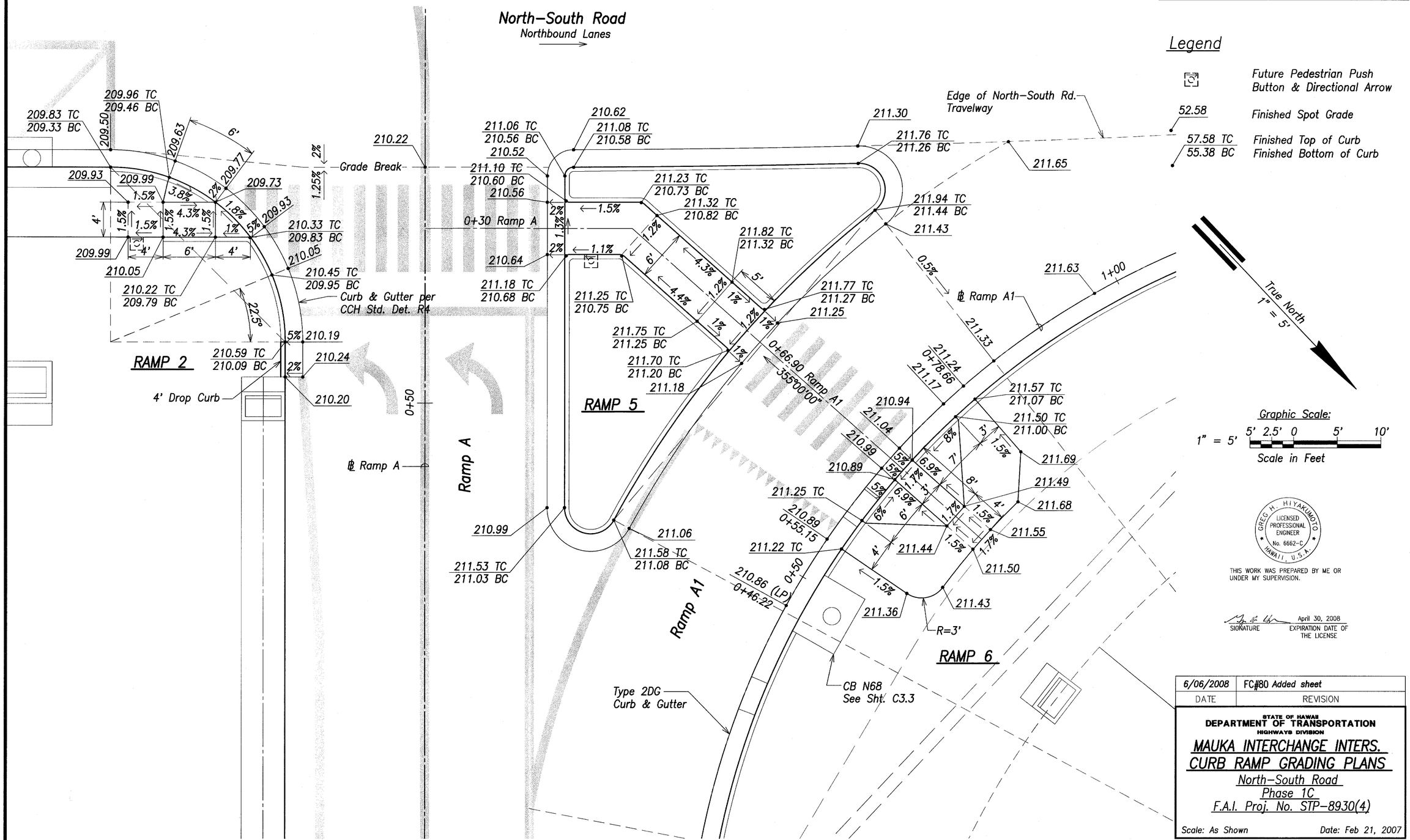
Scale: As Shown — Date: Feb 21, 2007

SHEET No.C3.21A OF 179 SHEETS

"AS-BUILT"

CO 97S-1

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	CO 978-2	380



GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662-C
HAWAII, U.S.A.

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SIGNATURE — April 30, 2008 — EXPIRATION DATE OF THE LICENSE

DATE	REVISION
6/06/2008	FC#80 Added sheet

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

MAUKA INTERCHANGE INTERS.
CURB RAMP GRADING PLANS

North–South Road
Phase 1C
F.A.I. Proj. No. STP–8930(4)

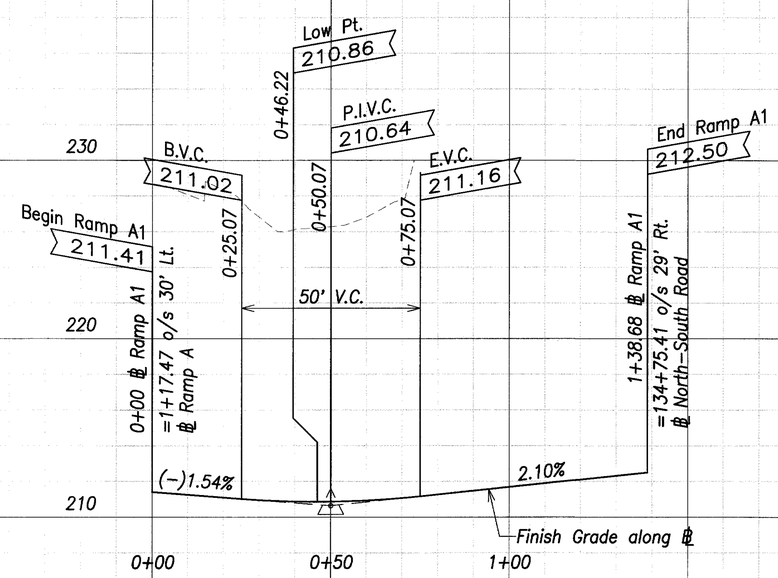
Scale: As Shown — Date: Feb 21, 2007

SHEET No.C3.21BOF 179 SHEETS

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

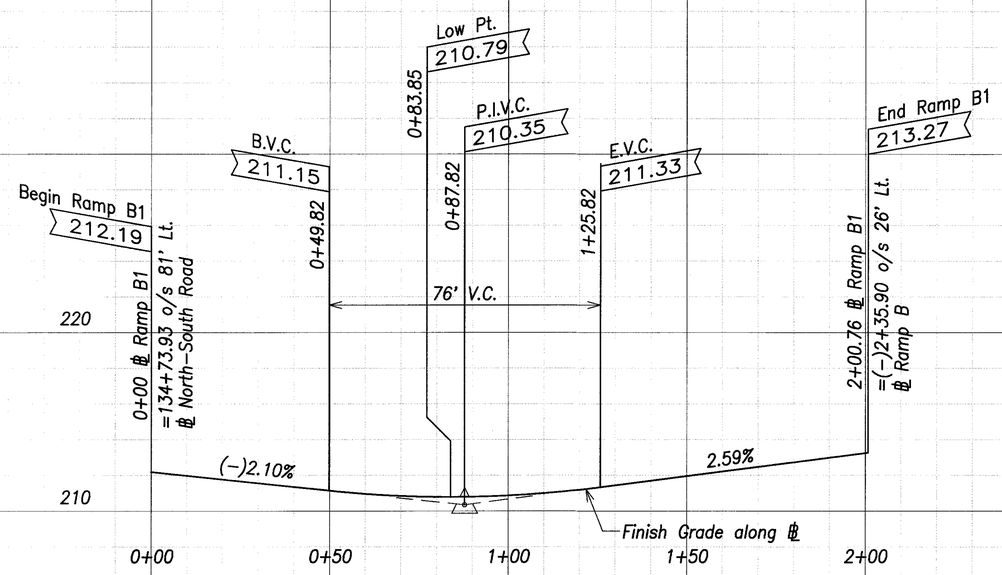
"AS–BUILT" CO 97S-2

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	CO 97S-3	380



Profile – Ramp A1

Hor. Scale: 1" = 20'
Vert. Scale: 1" = 4'



Profile – Ramp B1

Hor. Scale: 1" = 20'
Vert. Scale: 1" = 4'

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

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No. 6662-C
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April 30, 2008
SIGNATURE — EXPIRATION DATE OF THE LICENSE

DATE	REVISION
6/06/2008	FC#80 Added Sheet

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

RAMPS A1 & B1
PROFILES & TYPICAL SECTIONS

North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

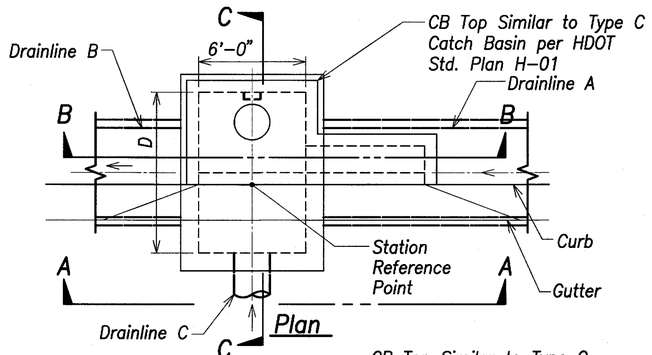
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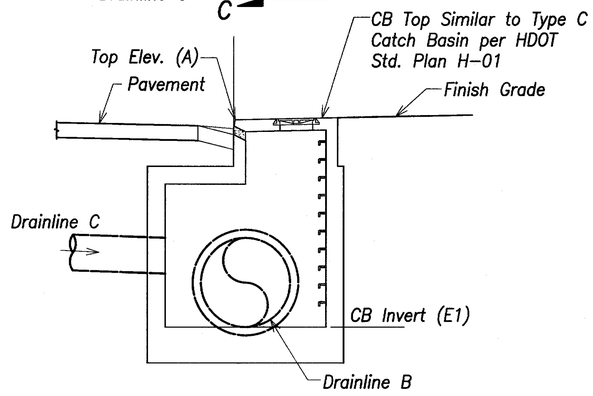
SHEET No. C3.21 OF 179 SHEETS

"AS-BUILT"

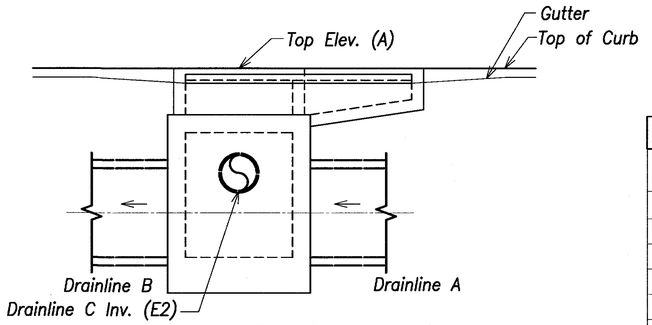
CO 97S-3

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	98	380

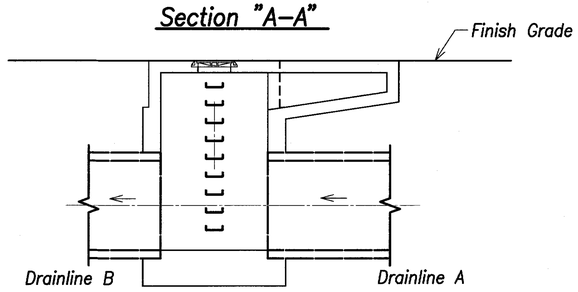




Section "C-C"



Section "A-A"



Section "B-B"

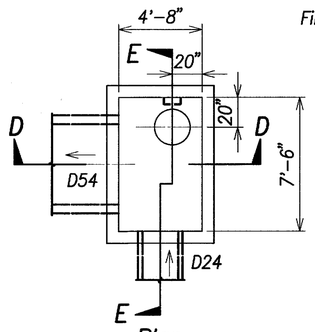
Special Catch Basin Schedule

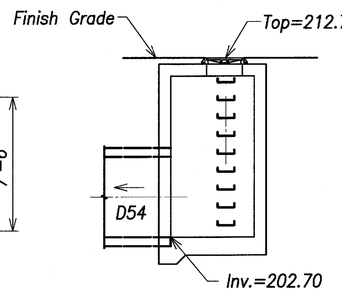
Catch Basin	Station	DL A	DL B	DL C	A	E1	E2	D (ft)
S57	108+45	60	72	24	158.39	140.90	150.50	9
S58	109+70	60	60	na	159.97	~~150.50~~ 149.90	na	8
S59	111+45	60	60	na	163.54	~~154.00~~ 153.50	na	8
S60	113+45	60	60	24	167.74	~~158.20~~ 157.60	160.60	8
S61	115+50	60	60	na	172.16	~~162.50~~ 162.10	na	8
S62	117+50	60	60	na	176.36	~~168.70~~ 166.30	na	8
S63	120+00	60	60	na	181.61	~~171.95~~ 171.50	na	8
S64	122+50	60	60	na	186.86	~~177.20~~ 176.80	na	8
S68	129+65	54	54	24	202.04	192.50	195.25	7.5

FC #113

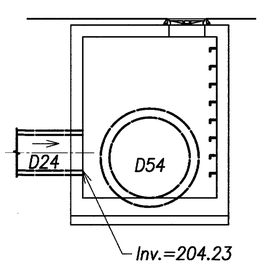
Note:
1. For CB S57, Invert E1 shown is for 72" drainline only. Invert for the 60" drainline is 148.50.
2. See Structural drawings for additional details and dimensions.

Special Catch Basins S57-S64 & S68
Scale: 1/4" = 1'-0"





Section "D-D"



Section "E-E"

Special Storm Drain Manhole - SDMH 1
Scale: 1/4" = 1'-0"

LEGEND FOR AS-BUILT POSTINGS

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

Graphic Scale:
1/4" = 1' (4' 2' 0 4' 8')
Scale in Feet

GREG H. HIYAKUMOTO LICENSED PROFESSIONAL ENGINEER No. 6662-C HAWAII, U.S.A.

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DATE	REVISION
8/22/08	FC#113 REVISED INVERTS
4/20/07	2 Revised Sections

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAIN DETAILS - 1

North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

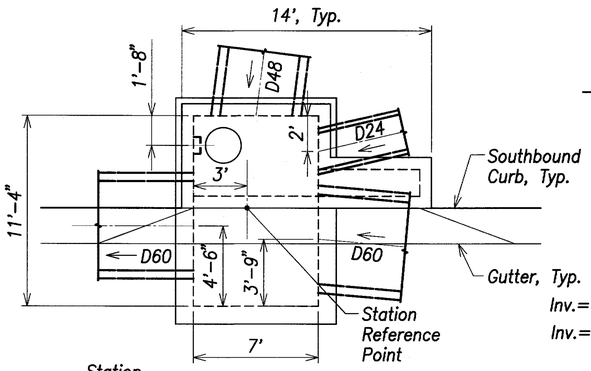
Scale: As Shown — Date: Feb 21, 2007

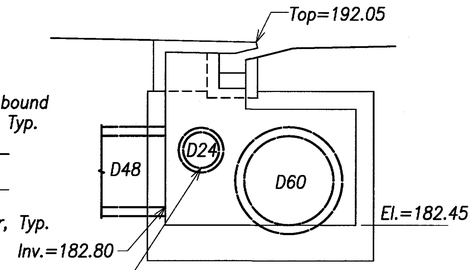
SHEET No.C3.22 OF 179 SHEETS

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

"AS-BUILT"

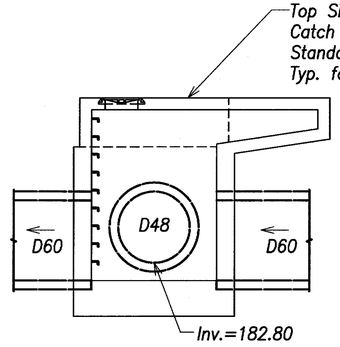
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	99	380

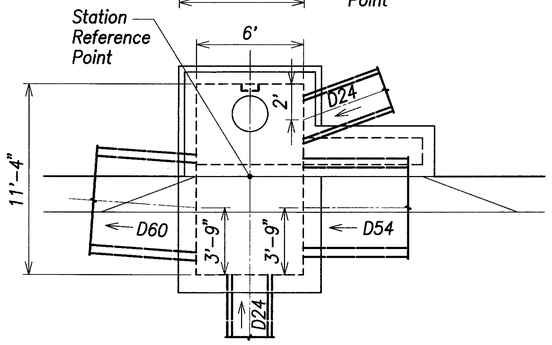


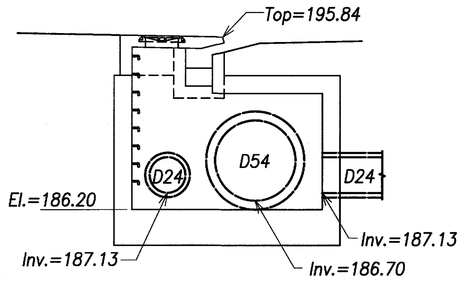


Special Catch Basin S65 (125+00)

Scale: 1/4" = 1'-0"

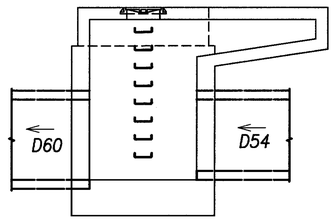


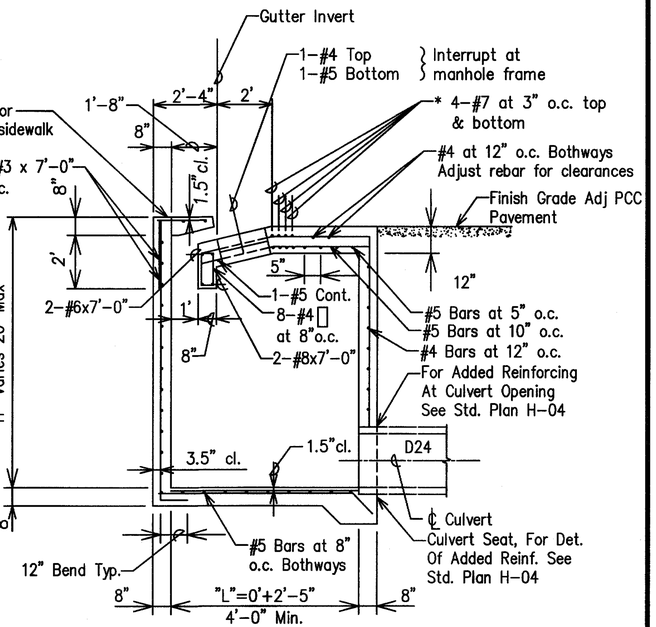




Special Catch Basin S66 (126+70)

Scale: 1/4" = 1'-0"

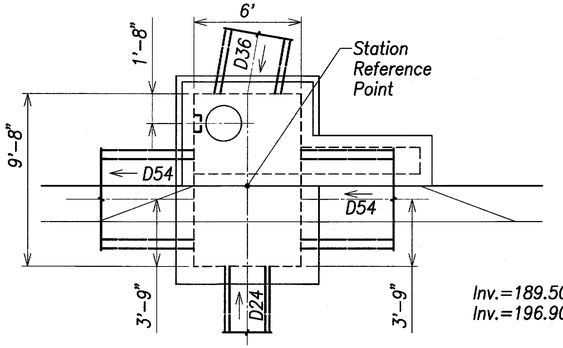


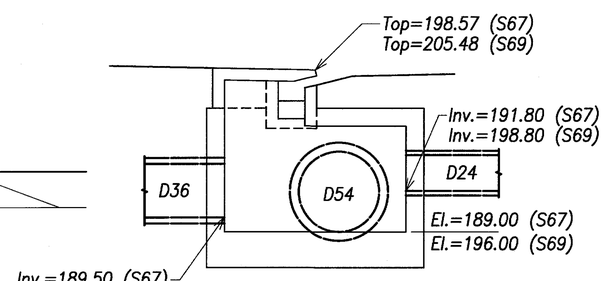


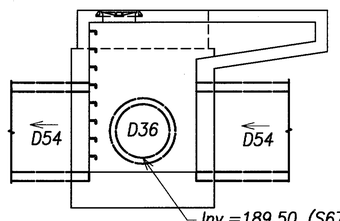
Note:
* Replace These Bars with #4 Bars At 12"o.c. Top And #5 Bars At 5" o.c. Bottom For "L" Less Than 5'-0".

Note: CB's N64 to N67
1. Top of CB shall have Equal Finish Grade as Adjacent PCC Pavement.
2. Top of CB Thickened from 10" to 12" (Standard is 10")
3. Manhole Frame and Cover shall Remain in 2-Foot Section of Gutter.

Type "A1","B1",C1","D1"
Section- Catch Basin N64, N65, N66, N67
FC #159

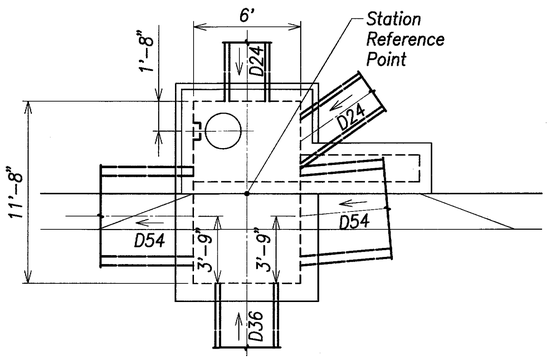


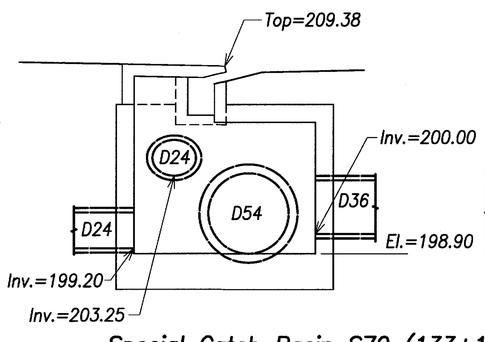


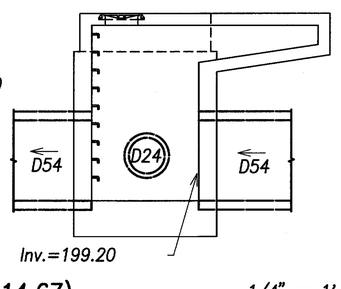


Special Catch Basins S67 (128+00) & S69 (131+29)

Scale: 1/4" = 1'-0"







Special Catch Basin S70 (133+14.67)

Scale: 1/4" = 1'-0"

LEGEND FOR AS-BUILT POSTINGS

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

Graphic Scale:

1/4" = 1' 4' 2' 0 4' 8'

Scale in Feet

GREG H. HIYAKUMOTO LICENSED PROFESSIONAL ENGINEER No. 6662-C HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE April 30, 2008 EXPIRATION DATE OF THE LICENSE

	FC#159 ADDED CATCH BASIN DETAIL
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAIN DETAILS - 2

North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

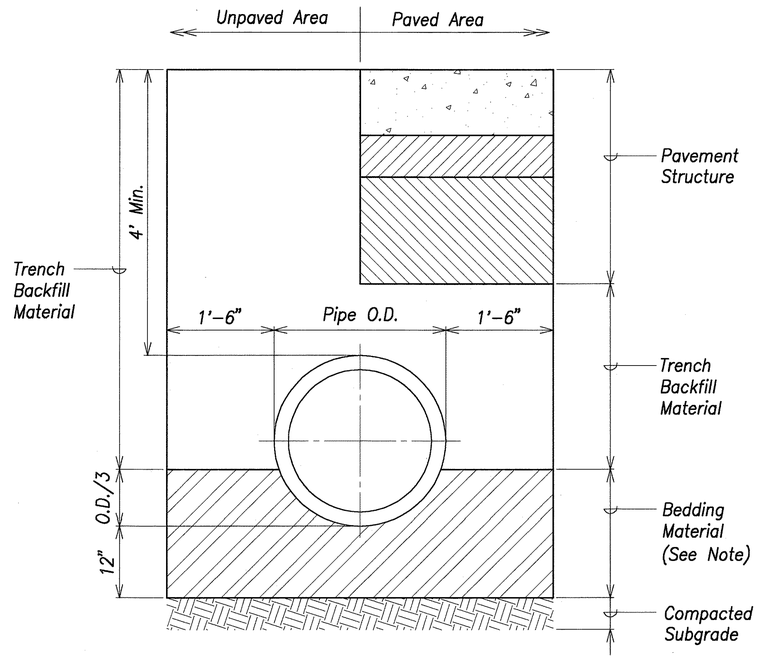
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SHEET No.C3.23 OF 179 SHEETS

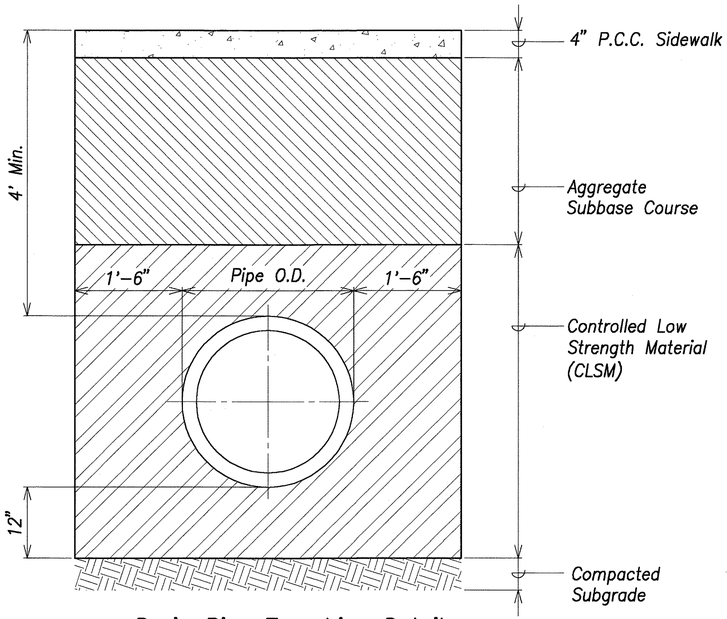
ORIGINAL PLAN | SURVEY PLOTTED BY | DRAWN BY | TRACED BY | DESIGNED BY | QUANTITIES BY | CHECKED BY | DATE | NOTE BOOK | No.

"AS-BUILT"

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	ADD. 100	380



Drain Pipe Trenching Detail
Not to Scale



Drain Pipe Trenching Detail
(For Pipe Around Light Standards)
Not to Scale

△3

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

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

Greg H. Hiyakumoto
SIGNATURE

APR 30, 2008
DATE OF LICENSE EXPIRY

DATE	REVISION
5/4/07	△3 Deleted concrete collar detail; see structural sheets.
4/20/07	△2 Revised concrete collar detail

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAIN DETAILS - 3

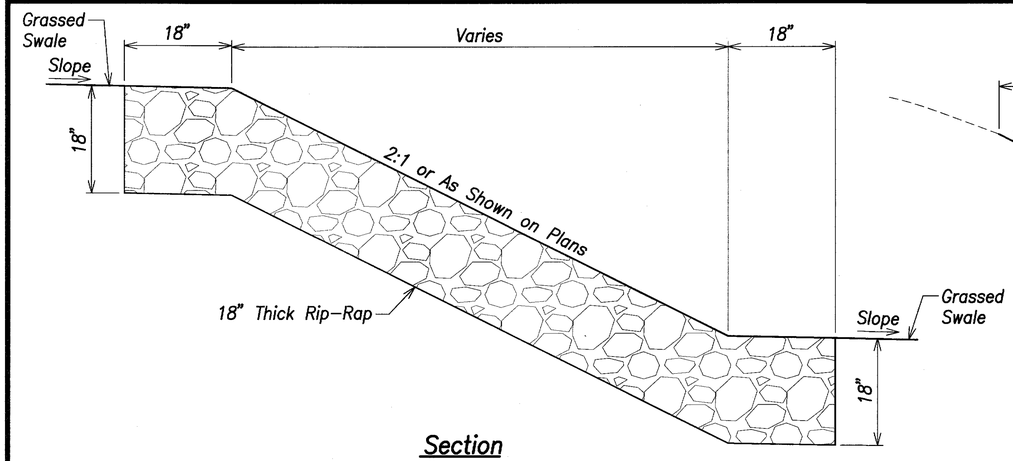
North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

Scale: As Shown Date: Feb 21, 2007

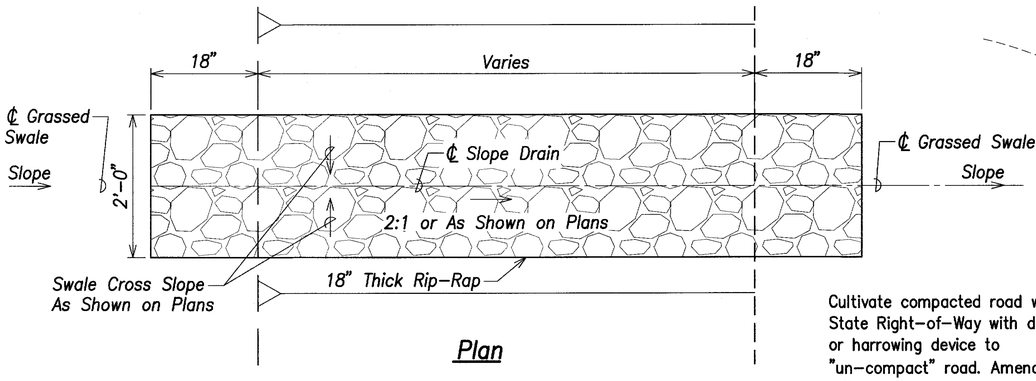
SHEET No.C3.24 OF 179 SHEETS

ADD. 100

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	CO ADD. 101	380

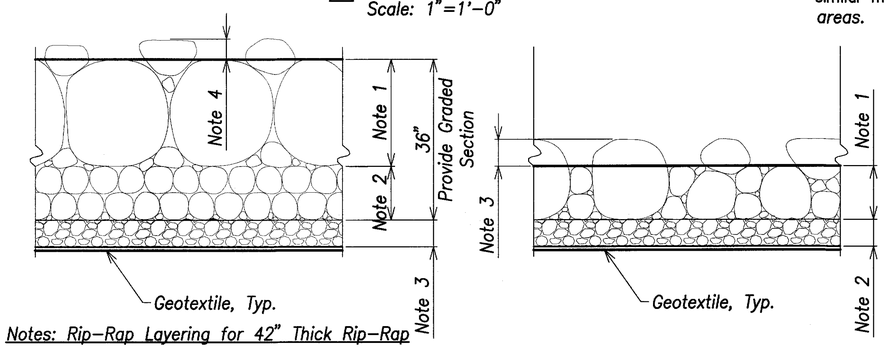


Section



Plan

2 Slope Drain Detail
Scale: 1"=1'-0"



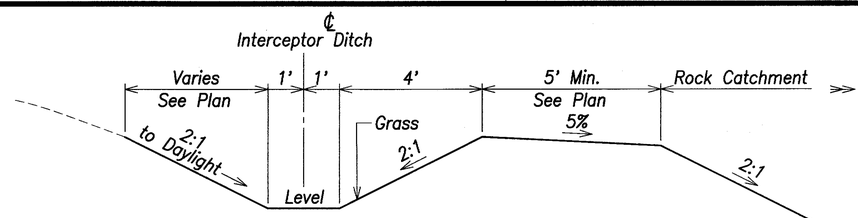
Notes: Rip-Rap Layering for 42" Thick Rip-Rap

1. Upper 24" Layer: 8"-9"ø Average Stone Size 24"ø Maximum Stone Size
2. Mid 12" Layer: 6"ø Min. to 12"ø Max. Stone Size
3. Lower 6" Layer: Stone Filter Bed 3/4"ø to 2"ø Rocks.
4. 6" Max. From Highest Adjacent Rock Finish Top.

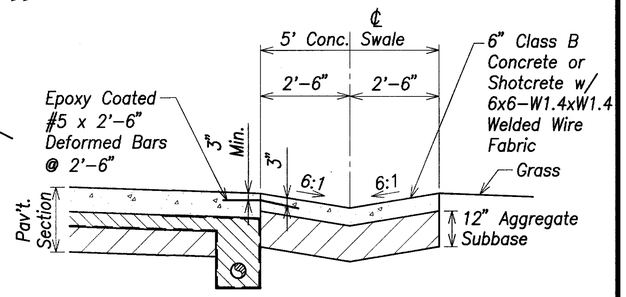
Notes: Rip-Rap Layering for 18" Thick Rip-Rap

1. Upper 12" Layer: Provide Graded Section, 6"ø Min. to 18"ø Max. Stone Size
2. Lower 6" Layer: Stone Filter Bed 3/4"ø to 2"ø Rocks.
3. 6" Max. From Highest Adjacent Rock Finish Top.

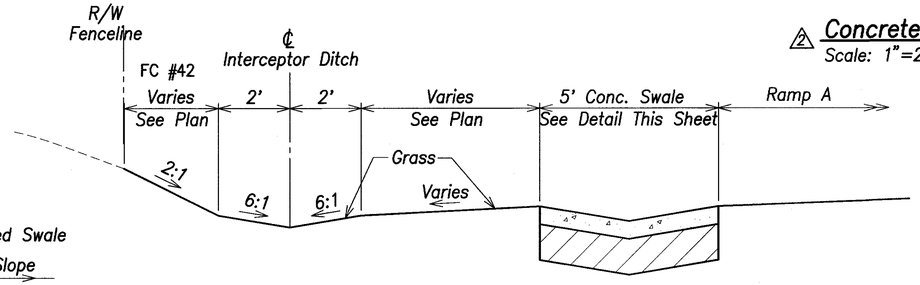
2 Rip-Rap Detail
Not to Scale



2 Interceptor Ditch at Ramp B (or Westbound Bypass)
Scale: 1"=2'-0"



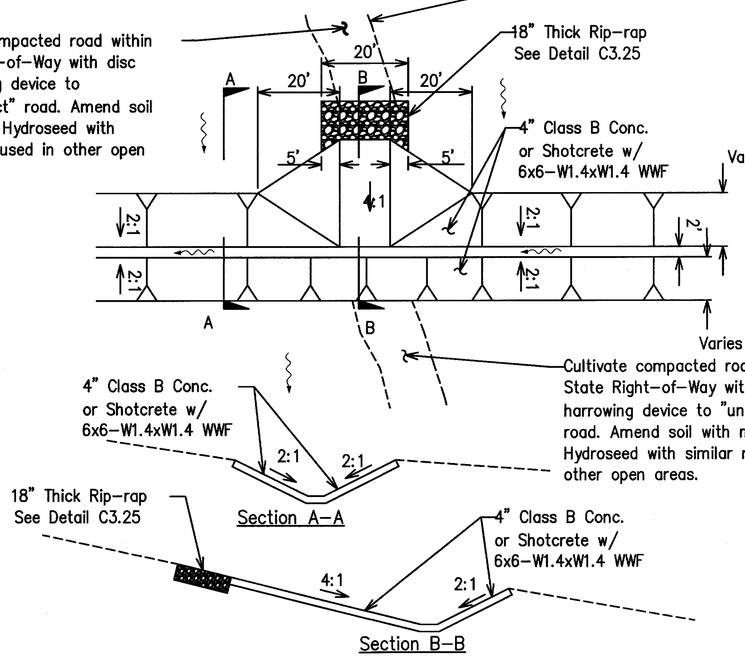
2 Concrete Swale at Interchange Ramp
Scale: 1"=2'-0"



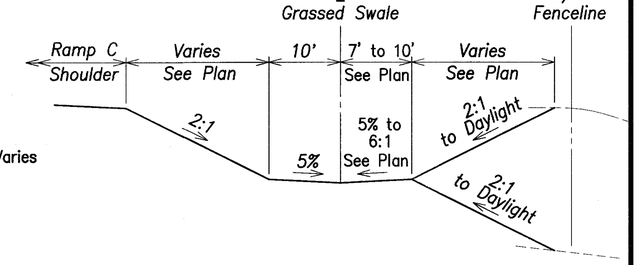
2 Interceptor Ditch at Ramp A (or Westbound Bypass)
Scale: 1"=2'-0"

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



Cultivate compacted road within State Right-of-Way with disc or harrowing device to "un-compact" road. Amend soil with mulch. Hydroseed with similar mix used in other open areas.



2 Grassed Swale at Ramp C (or Eastbound Bypass)
Scale: 1"=10'

Additional Improvements for the Interceptor Ditch
N.T.S.
FC #177

DATE	REVISION
9/21/2007	FC#177 Revised Swale Detail
4/20/07	2 Added/Revised Details

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAIN DETAILS - 4

North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

Scale: As Shown
Date: Feb 21, 2007

SHEET No.C3.25 OF 179 SHEETS

GREG H. HIYAKUMOTO LICENSED PROFESSIONAL ENGINEER No. 6662-C HAWAII, U.S.A.

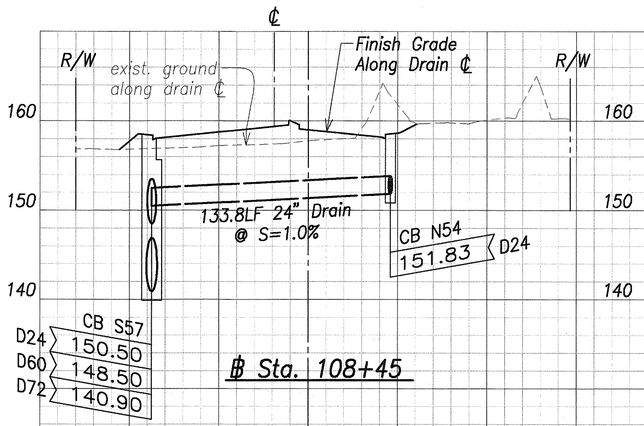
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE
April 30, 2008
EXPIRATION DATE OF THE LICENSE

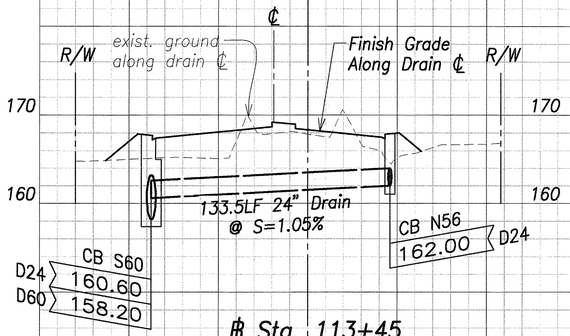
ORIGINAL PLAN | SURVEY PLOTTED BY | DRAWN BY | TRACED BY | DESIGNED BY | QUANTITIES BY | CHECKED BY | DATE | NOTE BOOK | No.

"AS-BUILT" CO ADD. 101

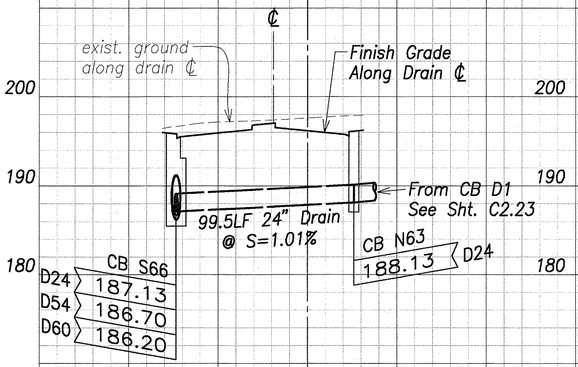
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	102	380



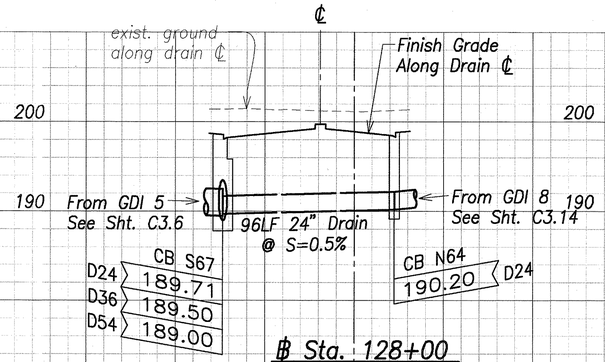
℄ Sta. 108+45



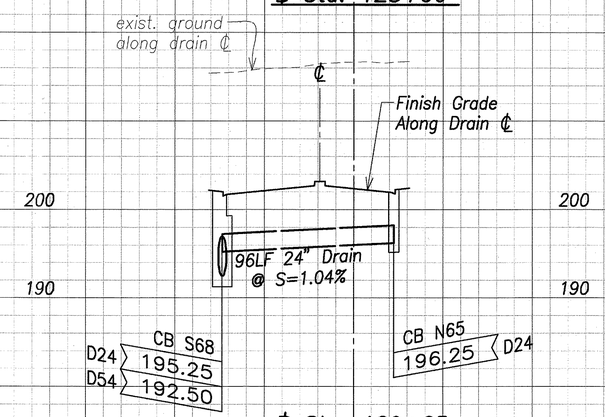
℄ Sta. 113+45



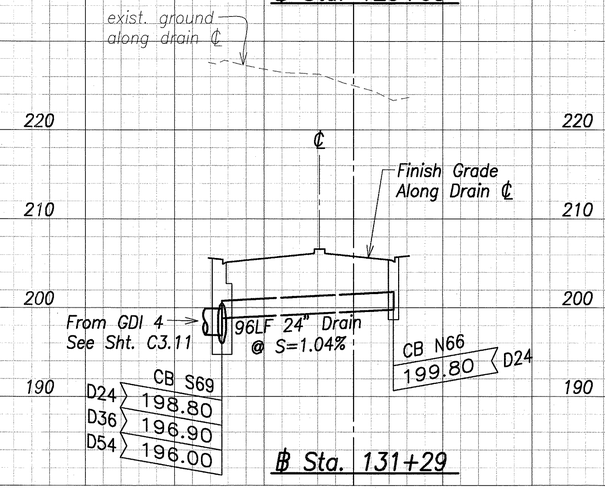
℄ Sta. 126+70



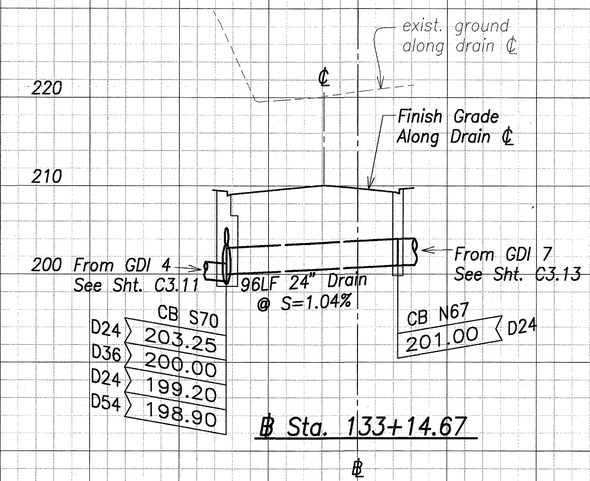
℄ Sta. 128+00



℄ Sta. 129+65



℄ Sta. 131+29



℄ Sta. 133+14.67

℄

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

Graphic Scale:

1" = 8' 8' 4' 0 8' 16'

1" = 40' 40' 20' 0 40' 80'

Scale in Feet

GREG H. HIYAKUMOTO LICENSED PROFESSIONAL ENGINEER No. 6662-C HAWAII, U.S.A.

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SIGNATURE APR 30, 2008 DATE OF LICENSE EXPIRY

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

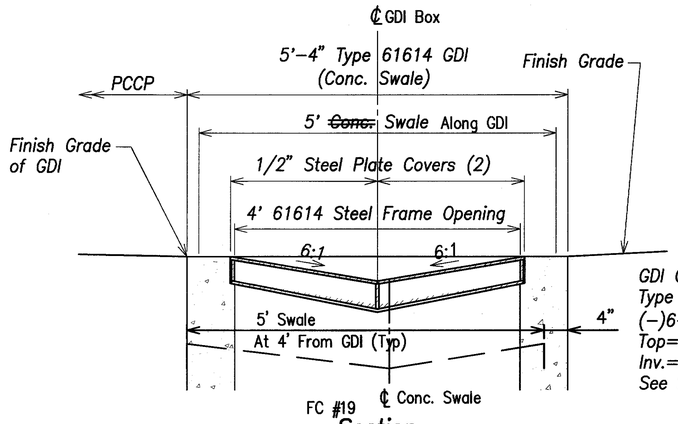
CROSSDRAIN PROFILES

North–South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

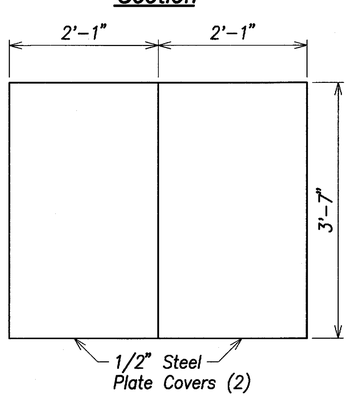
Scale: As Shown Date: Feb 21, 2007

SHEET No.C3.26 OF 179 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	CO ADD. 102S-1	380



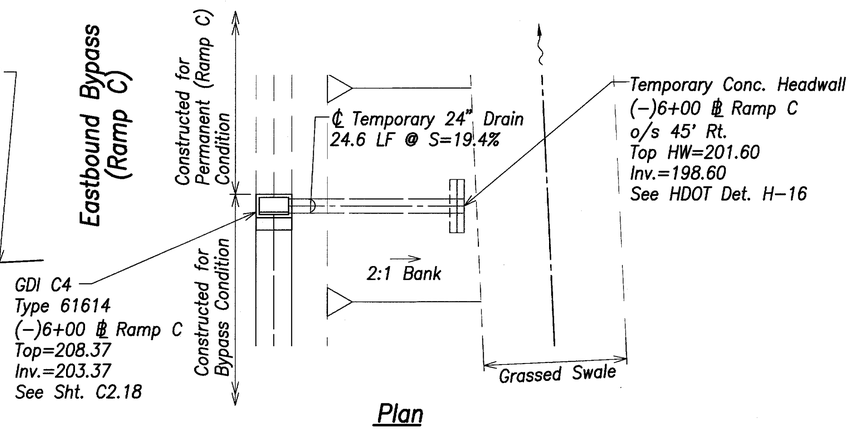
Section



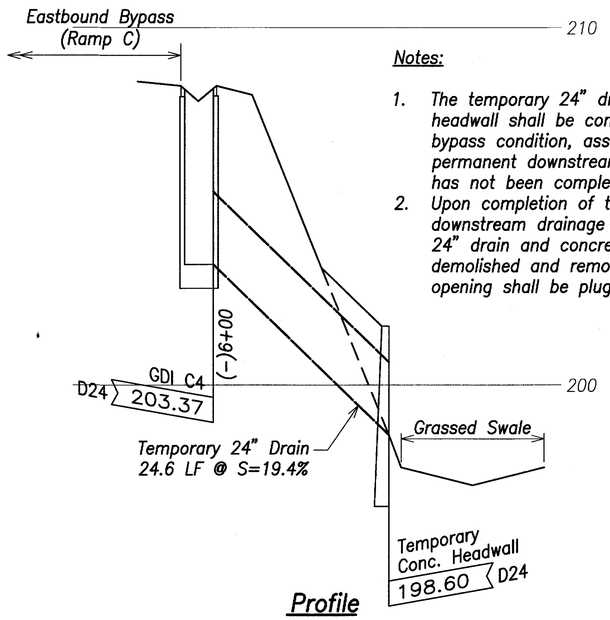
Plan

Temporary Cover for Type 61614 GDI

Scale: 1"=1'–0"



Plan



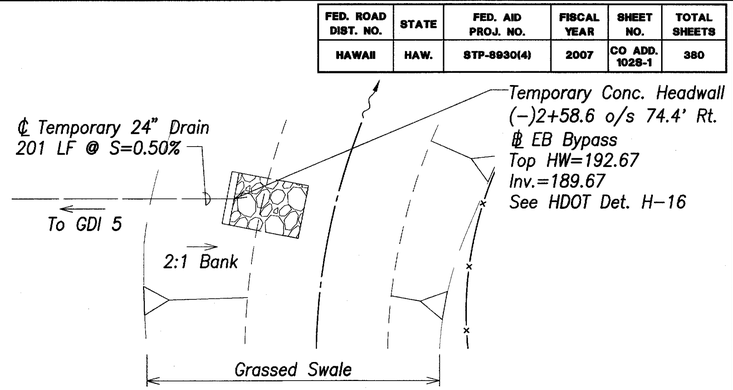
Profile

Temporary Headwall at GDI C4 (Eastbound Bypass)

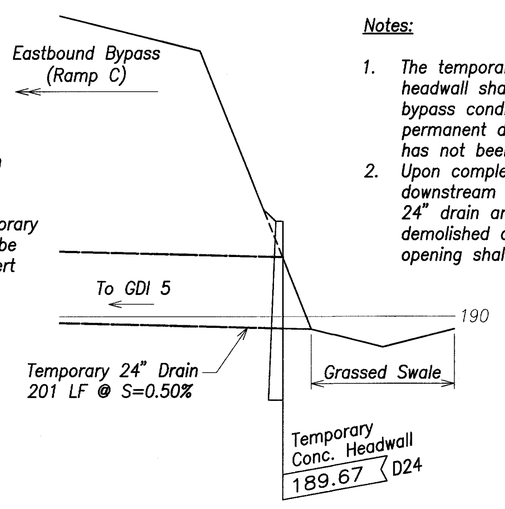
Scale: 1"=1'–0"

Notes:

1. The temporary 24" drain and concrete headwall shall be constructed for the bypass condition, assuming that the permanent downstream drainage system has not been completed.
2. Upon completion of the permanent downstream drainage system, the temporary 24" drain and concrete headwall shall be demolished and removed, and the culvert opening shall be plugged and sealed.



Plan



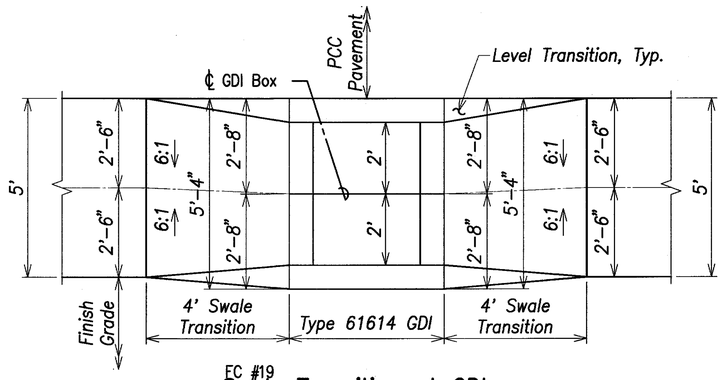
Profile

Temporary Headwall at GDI 5 (Eastbound Bypass)

Scale: 1"=1'–0"

Notes:

1. The temporary 24" drain and concrete headwall shall be constructed for the bypass condition, assuming that the permanent downstream drainage system has not been completed.
2. Upon completion of the permanent downstream drainage system, the temporary 24" drain and concrete headwall shall be demolished and removed, and the culvert opening shall be plugged and sealed.



FC #19

Swale Transition at GDI

Scale: 1"=2'

LEGEND FOR AS–BUILT POSTINGS

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

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

GREG H. HIYAKUMOTO LICENSED PROFESSIONAL ENGINEER No. 6662–C HAWAII, U.S.A.

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SIGNATURE — April 30, 2008 EXPIRATION DATE OF THE LICENSE

DATE	REVISION
12/26/2007	FC#19 Revised GDI detail, added swale detail
5/4/07	3 Added sheet

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAIN DETAILS – TEMPORARY (FOR BYPASS CONDITION)

North–South Road
Phase 1C
F.A.I. Proj. No. STP–8930(4)

Scale: As Shown — Date: Feb 21, 2007

SHEET No. C3.27 OF 179 SHEETS

"AS–BUILT" CO ADD. 102S-1

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	103	380

Begin Project – ℄ Sta. 108+40.90

Matchline: ℄ Sta. 119+00 See Below Left

Matchline: ℄ Sta. 119+00 See Above Right

Matchline: ℄ Sta. 128+00 See Sht. C4.2

North–South Road
Phase 1B
(by others)

Longitudinal Joint ℄ o/s 70.5' Lt.

Longitudinal Joint ℄ o/s 58.5' Lt.

Longitudinal Joint ℄ o/s 46.50' Lt.

Longitudinal Joint ℄ o/s 35.5' Lt.

Longitudinal Joint ℄ o/s 24.5' Lt.

Longitudinal Joint ℄ o/s 8.5' Rt.

Longitudinal Joint ℄ o/s 20.5' Rt.

Longitudinal Joint ℄ o/s 32.5' Rt.

R/W

Transverse Construction Joint, Typ.

Contractor shall provide shop drawings prior to construction. See Note 4, Sht. C4.7

℄ N–S Road

Southbound Lanes

Northbound Lanes

℄ Ramp C1

℄ Ramp C

07+00 108+00 109+00 110+00 111+00 112+00 113+00 114+00 115+00 116+00 117+00 118+00 119

0+00 120+00 121+00 122+00 123+00 124+00 125+00 126+00 127+00 128

2+99.22

True North
1" = 40'

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 8662-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE

APR 30, 2008
DATE OF LICENSE EXPIRY

Graphic Scale:

1" = 40' 40' 20' 0 40' 80'

Scale in Feet

ORIGINAL PLAN
NOTE BOOK
No.

SURVEY PLOTTED BY
DRAWN BY
TRACED BY
DESIGNED BY
QUANTITIES BY
CHECKED BY
DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

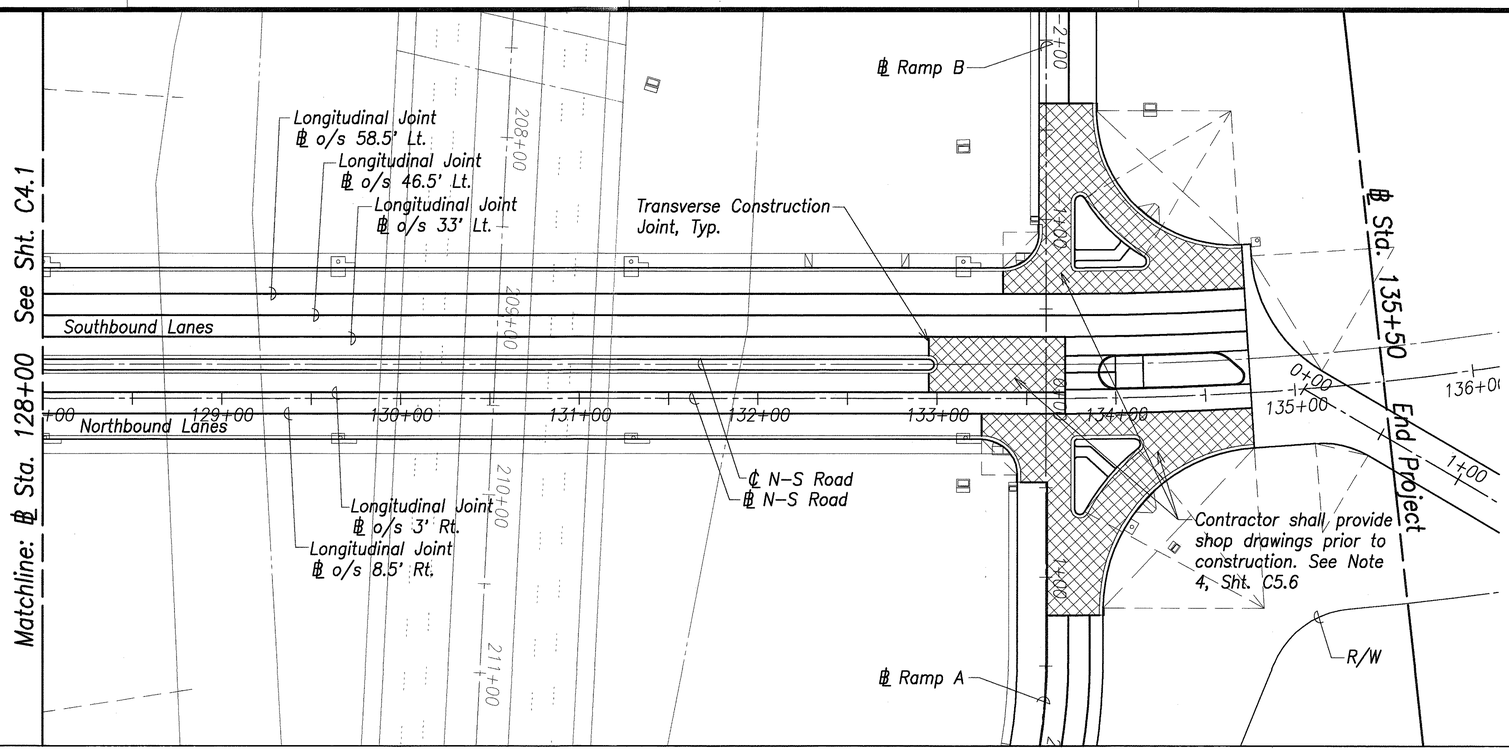
ROADWAY PAVEMENT JOINTING PLAN – 1

North–South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

Scale: As Shown Date: Feb 21, 2007

SHEET No. C4.1 OF 179 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	104	380



Graphic Scale:

1" = 40' 40' 20' 0 40' 80'

Scale in Feet

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662-C
HAWAII, U.S.A.

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SIGNATURE

APR 30, 2008
DATE OF LICENSE EXPIRY

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY PAVEMENT JOINTING PLAN – 2

North–South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

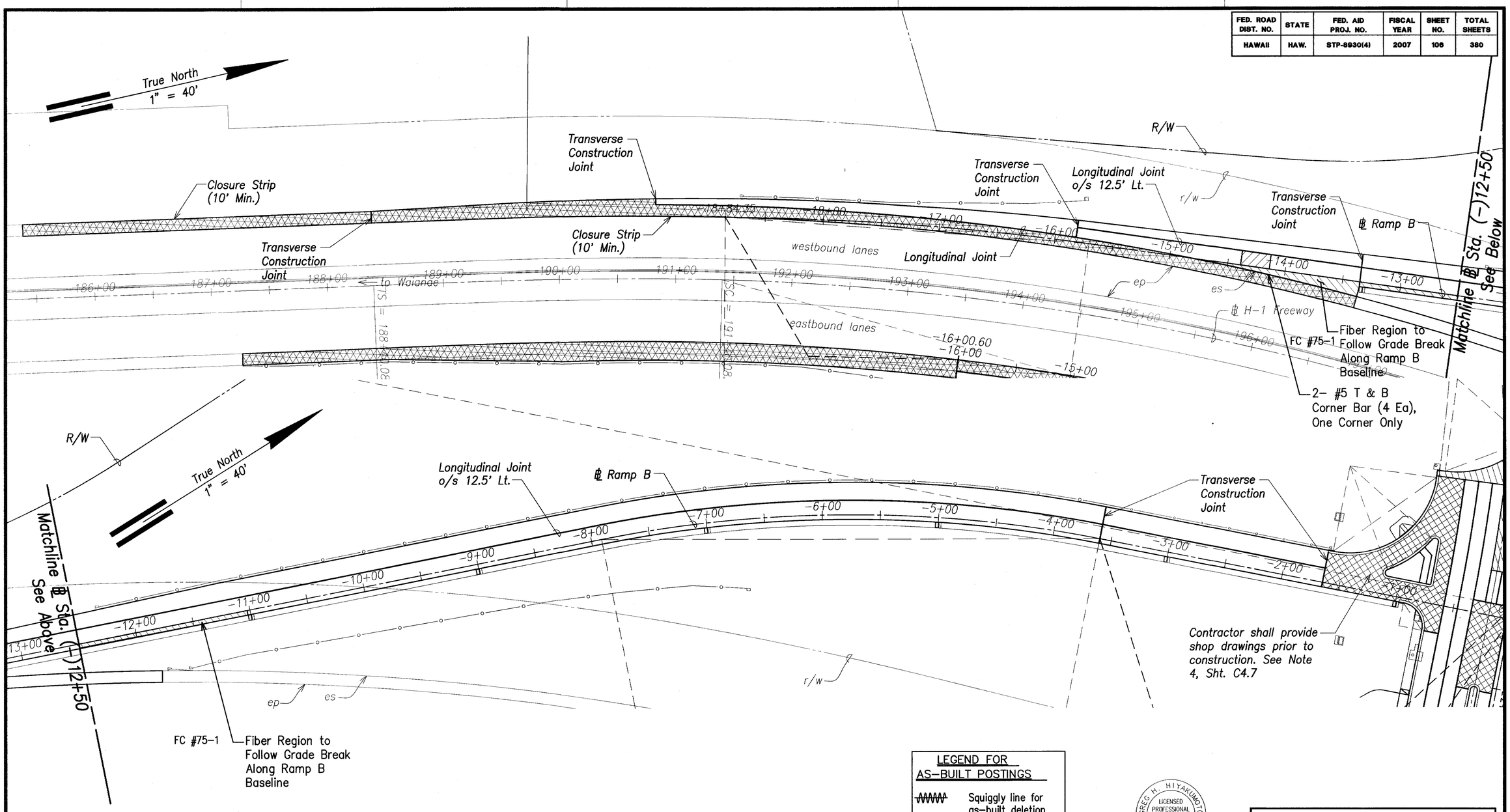
Scale: As Shown Date: Feb 21, 2007

SHEET No. C4.2 OF 179 SHEETS

ORIGINAL PLAN
NOTE BOOK
No.

SURVEY PLOTTED BY DATE
DRAWN BY "
TRACED BY "
DESIGNED BY "
QUANTITIES BY "
CHECKED BY "

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	105	380



LEGEND FOR AS-BUILT POSTINGS	
~~AAAAA~~	Squiggly line for as-built deletion
~~100.00~~	Double line for as-built deletion
Roadway	Text for as-built posting

Note:
For Jointing Plan along North-South Road See Sht. C4.1

Graphic Scale:
1" = 40' 40' 20' 0 40' 80'
Scale in Feet

GREG H. HIYAKUMOTO LICENSED PROFESSIONAL ENGINEER No. 6662-C HAWAII, U.S.A.

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SIGNATURE April 30, 2008 EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

RAMP B
PAVEMENT JOINTING PLAN
North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

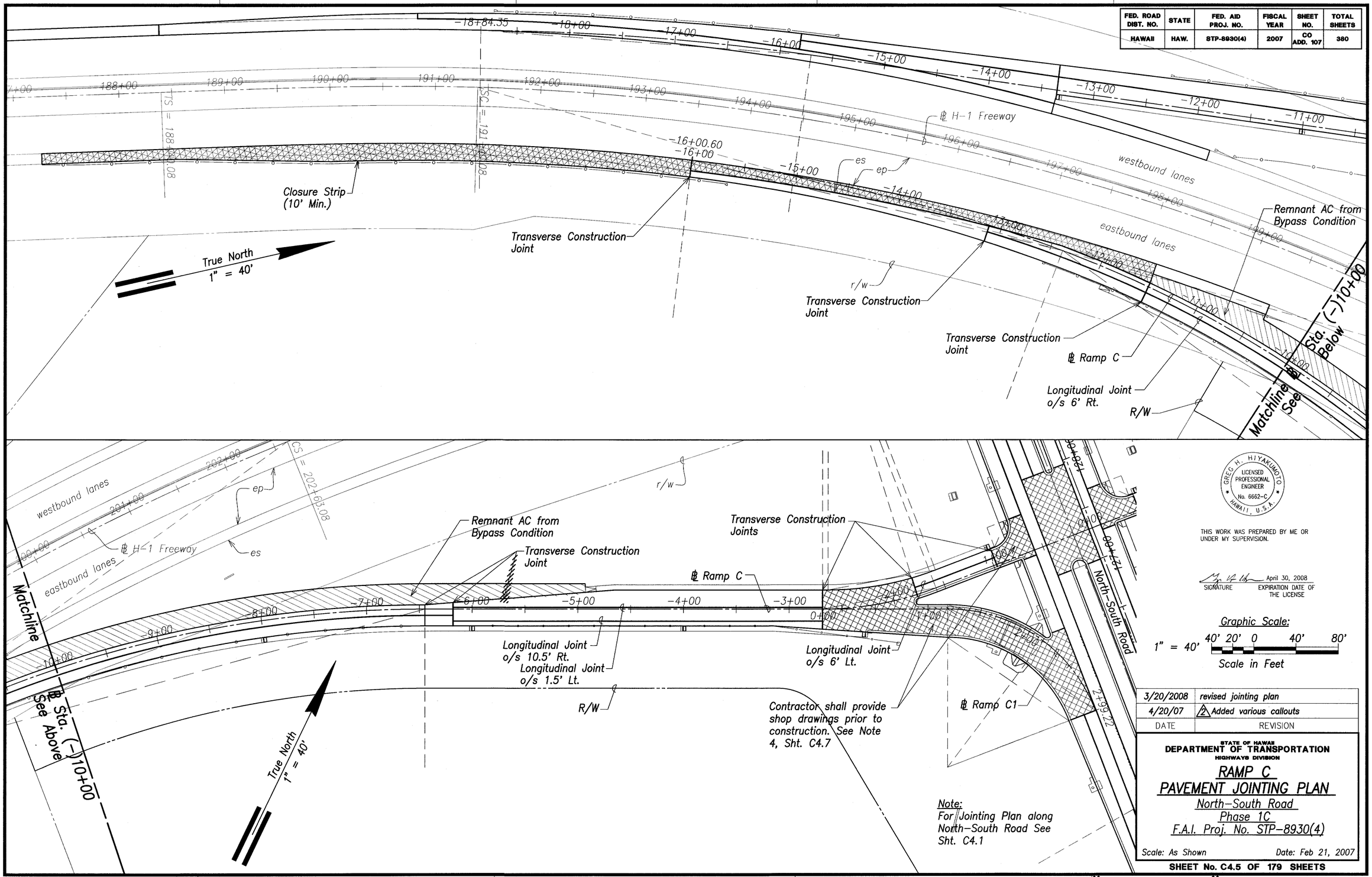
Scale: As Shown Date: Feb 21, 2007

SHEET No. C4.4 OF 179 SHEETS

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

"AS-BUILT"

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	CO ADD. 107	380



GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662-C
HAWAII, U.S.A.

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SIGNATURE — April 30, 2008 — EXPIRATION DATE OF THE LICENSE

Graphic Scale:

1" = 40' 40' 20' 0 40' 80'

Scale in Feet

DATE	REVISION
3/20/2008	revised jointing plan
4/20/07	2 Added various callouts

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

RAMP C
PAVEMENT JOINTING PLAN
North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

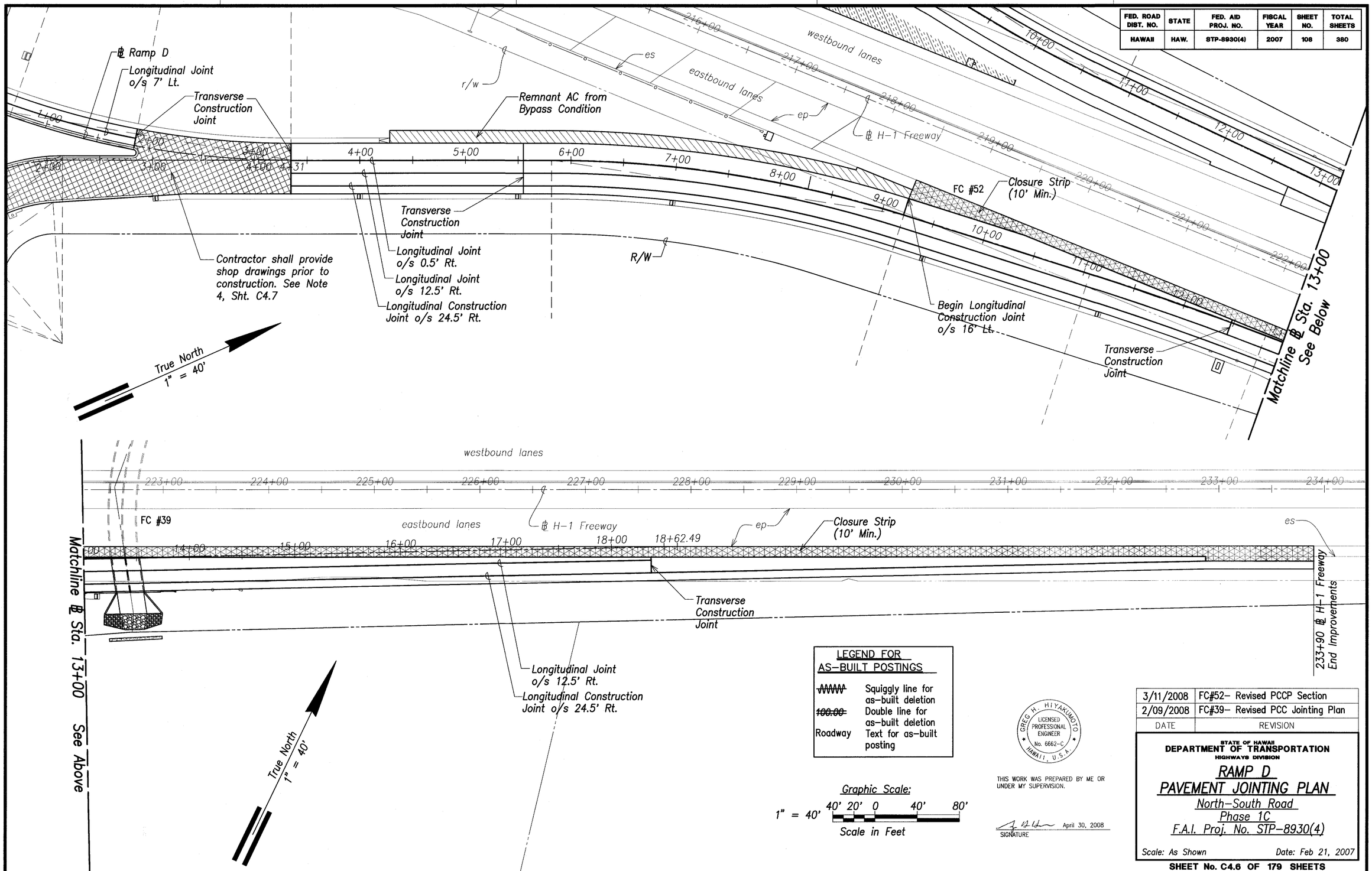
Scale: As Shown — Date: Feb 21, 2007

SHEET No. C4.5 OF 179 SHEETS

"AS-BUILT" CO ADD. 107

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

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	108	380



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

LEGEND FOR AS-BUILT POSTINGS

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

Graphic Scale:

1" = 40' 40' 20' 0 40' 80'

Scale in Feet

GREG H. HIYAKUMOTO LICENSED PROFESSIONAL ENGINEER No. 6662-C HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE April 30, 2008

DATE	REVISION
3/11/2008	FC#52- Revised PCCP Section
2/09/2008	FC#39- Revised PCC Jointing Plan

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

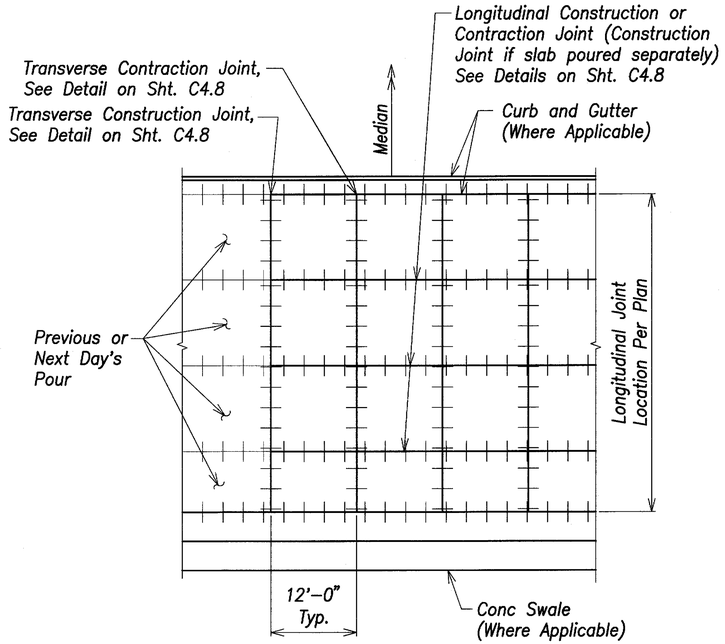
RAMP D
PAVEMENT JOINTING PLAN
North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

Scale: As Shown Date: Feb 21, 2007

SHEET No. C4.6 OF 179 SHEETS

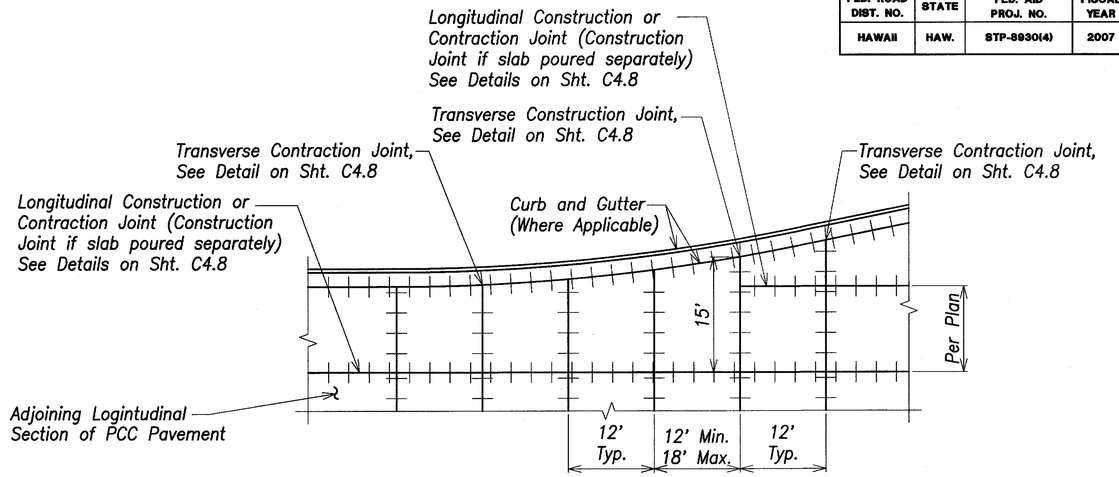
"AS-BUILT"

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	ADD. 109	380



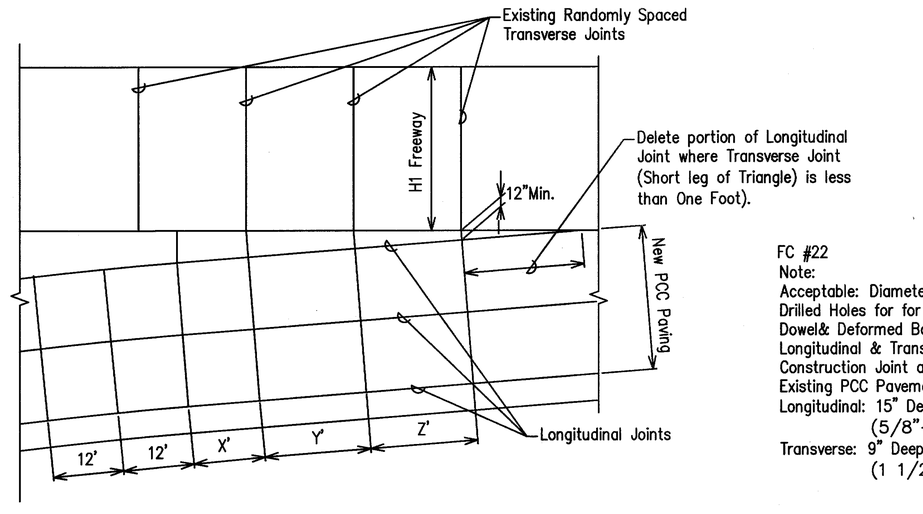
Typical Joint Location And Layout Plan For Constant PCC Pavement ⚠2

Not to Scale



Typical Joint Location And Layout Plan for Tapering PCC Pavement Widening ⚠2

Not to Scale



FC #22
Note:
Acceptable: Diameter Change of Drilled Holes for for Smooth Dowel& Deformed Bars for Longitudinal & Transverse Construction Joint at Tthe Existing PCC Pavement.
Longitudinal: 15" Deep x 3/4"ø (5/8"+1/8") hole.
Transverse: 9" Deep x 1 5/8"ø (1 1/2" + 1/8") Hole.

FC #26-1
Joint Layout Plan
Not to Scale

Jointing Notes:

1. *All new PCC pavements shall be provided with permeable base course with longitudinal underdrains.*
2. *Space transverse joint at successive intervals as shown on the plan.*
3. *Locate transverse construction joints at the planned transverse contraction joint as shown on the jointing plan.*
4. ⚠2 *Provide shop drawings for joint layout a minimum of 2-weeks prior to work where obstructions such as manholes are encountered, gore areas, termination of concrete with triangular or odd shaped slabs, and at intersections with other streets.*
   a. *Longitudinal & transverse joint spacing shall have a ratio of no more than 1.25:1.*
   b. *Reinforcement along longitudinal joints shall be provided as shown in the details on sht. C4.8 for Longitudinal Construction or Longitudinal Contraction Joints and as specified in Longitudinal Joint Notes on sht. C4.8.*
   c. *Reinforcement along transverse joints shall be provided as shown in the details on sht. C4.8 for Transverse Construction or Transverse Contraction Joints and as specified in Transverse Joint Notes on sht. C4.8.*
   d. *See Sht. C4.9 for additional reinforcement details for odd shaped PCC pours.*
5. *For other joint requirements, see Section 411 - Portland Cement Concrete Pavement.*
6. *For locations of Longitudinal Joints, see Pavement Jointing Plans.*

LEGEND FOR AS-BUILT POSTINGS	
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~~100.00~~	Double line for as-built deletion
Roadway	Text for as-built posting

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

GREG H. HIYAKUMOTO LICENSED PROFESSIONAL ENGINEER No. 6662-C HAWAII, U.S.A.

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4/20/07	⚠2 Revised/Added Details, revised note
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PAVEMENT JOINTING DETAILS - 1

North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

Not to Scale — Date: Feb 21, 2007

SHEET No. C4.7 OF 179 SHEETS

"AS-BUILT" ADD. 109

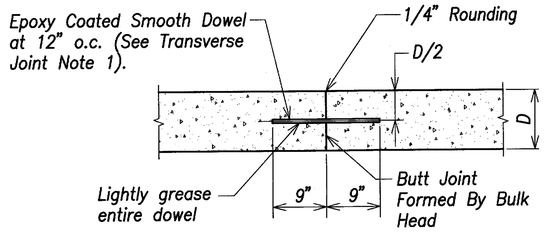
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	ADD. 110	380

Longitudinal Joint Notes:

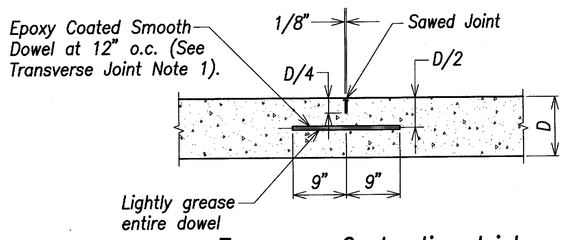
1. Epoxy-Coated Deformed Bars shall conform to ASTM A775/A775M-00 Grade 40.
2. Tiebars are to be located a minimum distance of 15 inches from a Transverse Joint. Tiebars closer to the transverse joint may interfere with joint movement.
3. The Contractor shall not damage the epoxy coating on the deformed bars in any way during shipment, handling, placement or rebending. Damaged epoxy-coated deformed bars shall be replaced at no cost to the State.

Transverse Joint Notes:

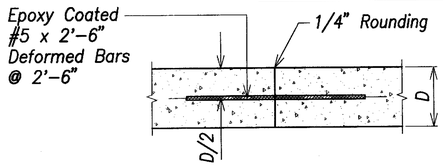
1. Epoxy-Coated Dowels shall conform to AASHTO M 284/M 284M Grade 60. For pavements with D < 10", use 1-1/4" ø x 1'-6" long dowels. For pavements with D ≥ 10", use 1-1/2" ø x 1'-6" long dowels.
2. Locate Transverse Construction Joints at the nearest planned Transverse Contraction Joint as shown on the jointing plans. Joint shall be perpendicular to paving lane.
3. It is critical that dowels be positioned in place parallel to the pavement surface and paving lane direction to avoid future cracks in the PCC pavement. The ends of the dowels shall not deviate more than 0.012' from the parallel in 9" length.
4. See Sht. C4.7 for Typical Transverse Joint spacing.
5. The Contractor shall not damage the epoxy coating on the dowel in any way during shipment, handling or placement. Damaged epoxy-coated dowels or rebar shall be replaced at no cost to the State.



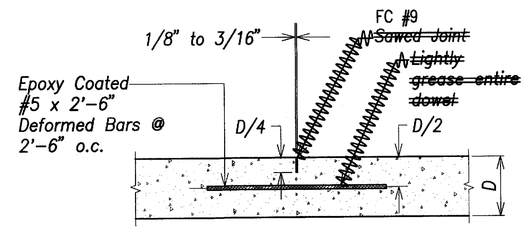
Transverse Construction Joint (Contact Joint)
Not To Scale



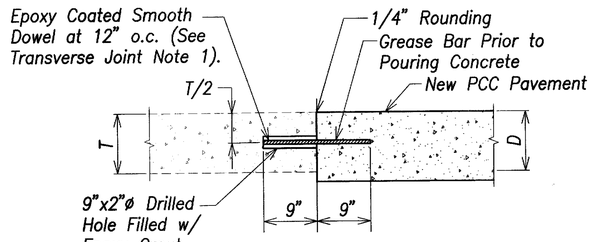
Transverse Contraction Joint
Not To Scale



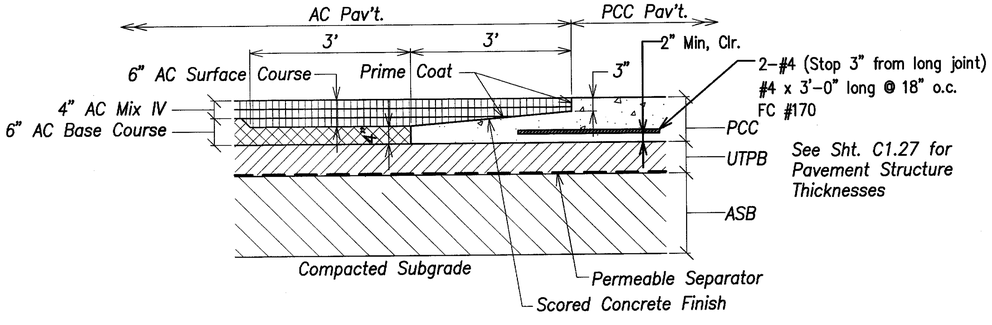
Longitudinal Construction Joint
Not To Scale



Longitudinal Contraction Joint
Not To Scale

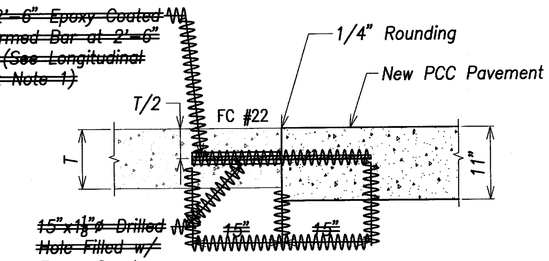


Transverse Construction Joint at Existing PCC Pavement 2
Not To Scale



See Sht. C1.27 for Pavement Structure Thicknesses

PCC-AC Transverse Transition Detail 2
Not To Scale



Longitudinal Construction Joint at Existing PCC Pavement 2
FC #36 Not To Scale

LEGEND FOR AS-BUILT POSTINGS	
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~~100.00~~	Double line for as-built deletion
Roadway	Text for as-built posting

For Dimension D, See Pavement Details on Sht. C1.27
Dimension T=9" (H-1 Freeway) 2

	6/10/09	FC#170, Install Additional #4 Bars
FO#36	1/31/08	Seperation of Old & New PCC Pavt.
FO#9	11/10/07	Debonding Agent for Tie Bars
	4/20/07	2 Revised/Added Details
	DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PAVEMENT JOINTING DETAILS - 2

North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

Not to Scale — Date: Feb 21, 2007

SHEET No. C4.8 OF 179 SHEETS

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662-C
HAWAII, U.S.A.

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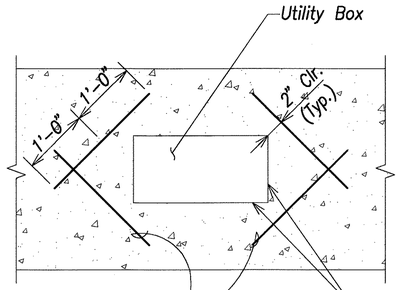
SIGNATURE — April 30, 2008 EXPIRATION DATE OF THE LICENSE

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

"AS-BUILT"

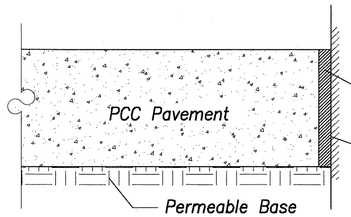
ADD. 110

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	ADD. 111	380

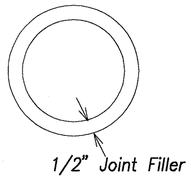


Note:
Payment for reinforcement will be considered incidental to various contract items.

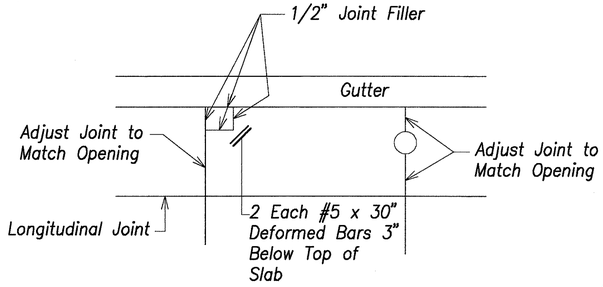
Typical Reinforcement Around Utility Box In PCC Pavement & Sidewalk



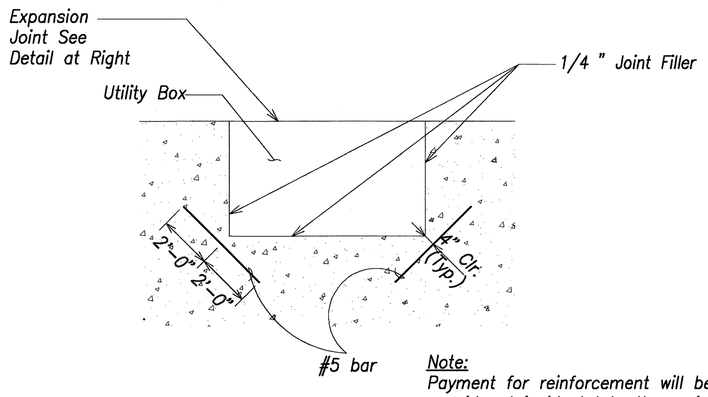
Expansion Joint Detail



Circular Opening Detail

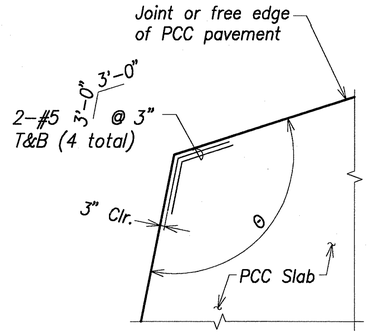


Openings Near Joints Detail

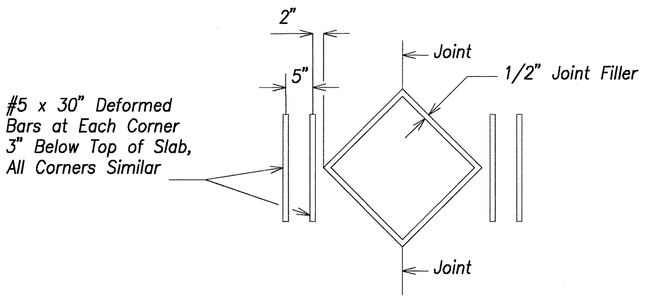


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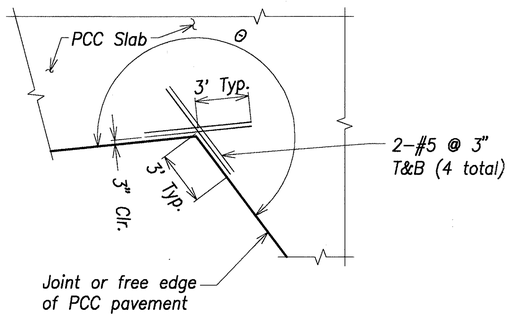
Typical Reinforcement Around Utility Box In PCC Pavement & Sidewalk



Added Reinforcement at Odd-Shaped PCC Pours for 0°-180° PCC Edge △2 △3



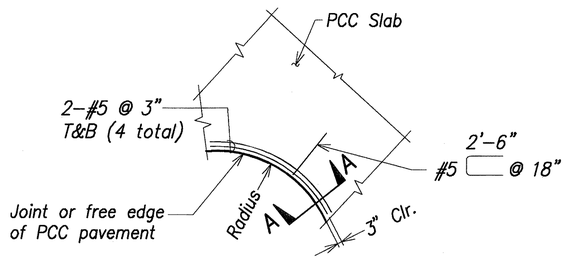
Openings With Corners-Corners At A Joint Detail



Added Reinforcement at Odd-Shaped PCC Pours for 180°-359° PCC Edge △2 △3

Notes:

1. Install Isolation Joints to allow the slab to move independently of objects that will not move evenly with the slab to minimize stress in the slab.
2. Minimize the amount of openings within the slab to minimize the areas from which cracking can occur. Listed below are considerations that can minimize cracking from openings in the slab.
   a. Install reinforcing bars at the corners as shown below.
   b. Use circular openings.
   c. Install the openings along a joint.
3. Locate openings in the slab that require access in a manner that minimizes the number of travelway lanes that need to be shut down when accessing the openings.
4. Locate openings along joints and configured to minimize the amount of corners within the slab.
5. Avoid locating access openings along or near the longitudinal joints that separate two travelway lanes.
6. △2 △3 Concrete for odd-shaped PCC pours shall contain a minimum of 7.5 lbs./cy of synthetic structural fiber and conform to ASTM C1116 and ACI 544.
7. △2 Top bar clear = 2"
8. △2 Bottom bar clear = 3"



Added Reinforcement at Odd-Shaped PCC Pours for Curved PCC Edge △2 △3

DATE	REVISION
5/4/07	△3 Revised wording
4/20/07	△2 Added details & notes

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PAVEMENT JOINTING DETAILS - 3

North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

Not to Scale — Date: Feb 21, 2007

SHEET No. C4.9 OF 179 SHEETS

GREG H. HIYAKUMOTO
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No. 8882-C
HAWAII, U.S.A.

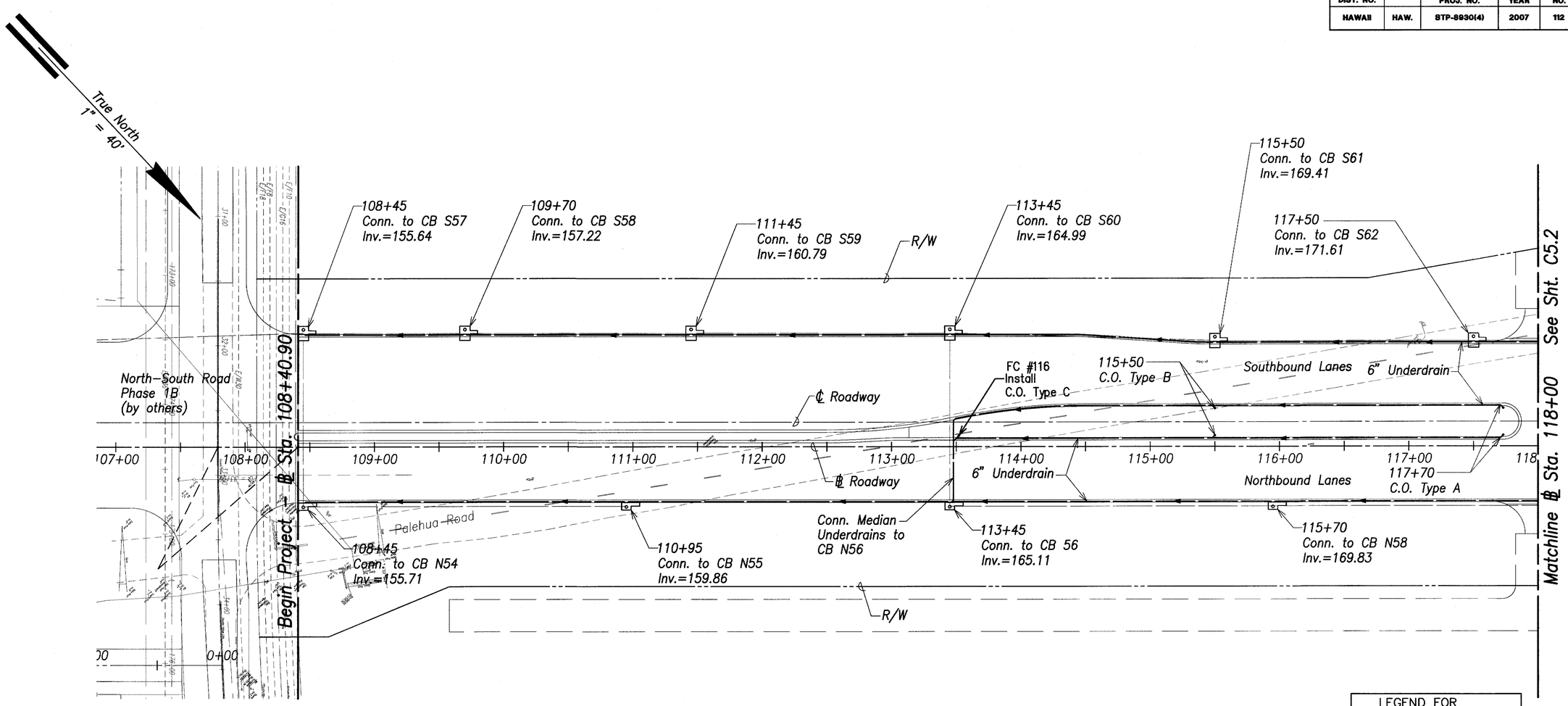
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ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
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NOTE BOOK	TRACED BY	
	DESIGNED BY	
No.	QUANTITIES BY	
	CHECKED BY	

ADD. 111

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	112	380



LEGEND FOR AS-BUILT POSTINGS

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

Graphic Scale:

1" = 40' 40' 20' 0 40' 80'

Scale in Feet

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY UNDERDRAIN PLAN – 1

North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

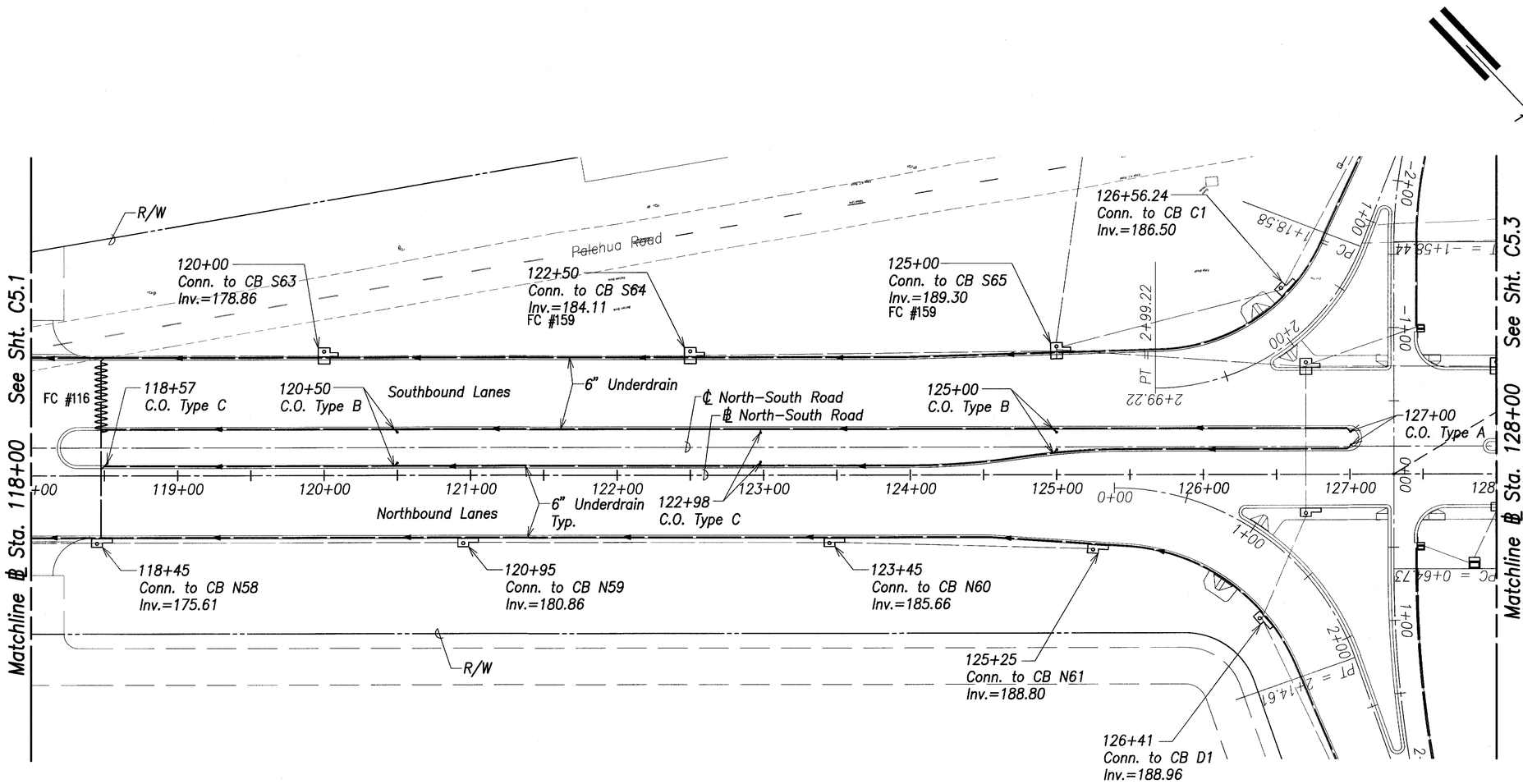
Scale: As Shown Date: Feb 21, 2007

SHEET No. C5.1 OF 179 SHEETS

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

"AS-BUILT"

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	113	380



LEGEND FOR AS-BUILT POSTINGS	
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~~100.00~~	Double line for as-built deletion
Roadway	Text for as-built posting

Graphic Scale:

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Scale in Feet

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY
UNDERDRAIN PLAN – 2

North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

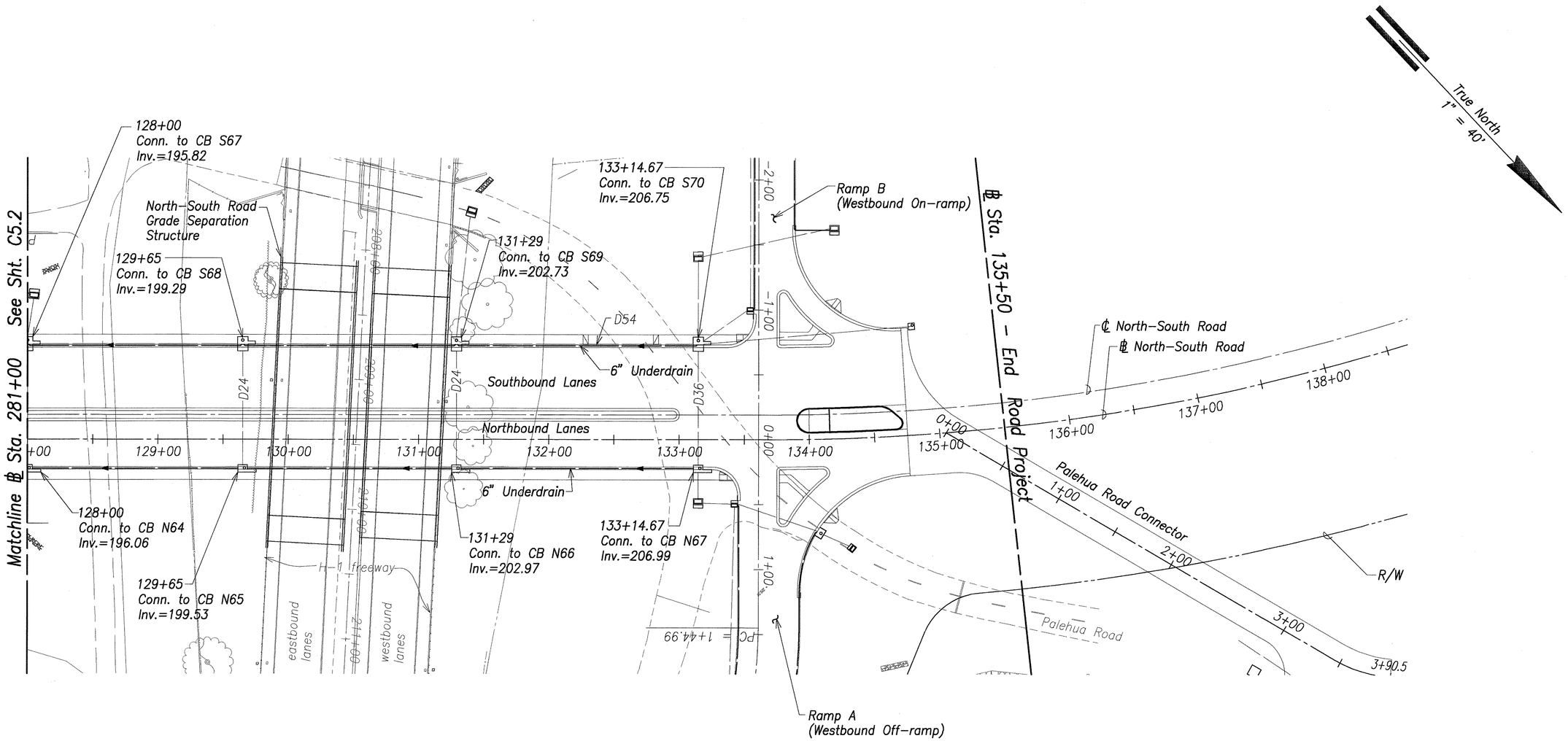
Scale: As Shown Date: Feb 21, 2007

SHEET No. C5.2 OF 179 SHEETS

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

"AS-BUILT"

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	114	380



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

Graphic Scale:

1" = 40' 40' 20' 0 40' 80'

Scale in Feet

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No. 6662-C
HAWAII, U.S.A.

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APR 30, 2008
DATE OF LICENSE EXPIRY

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

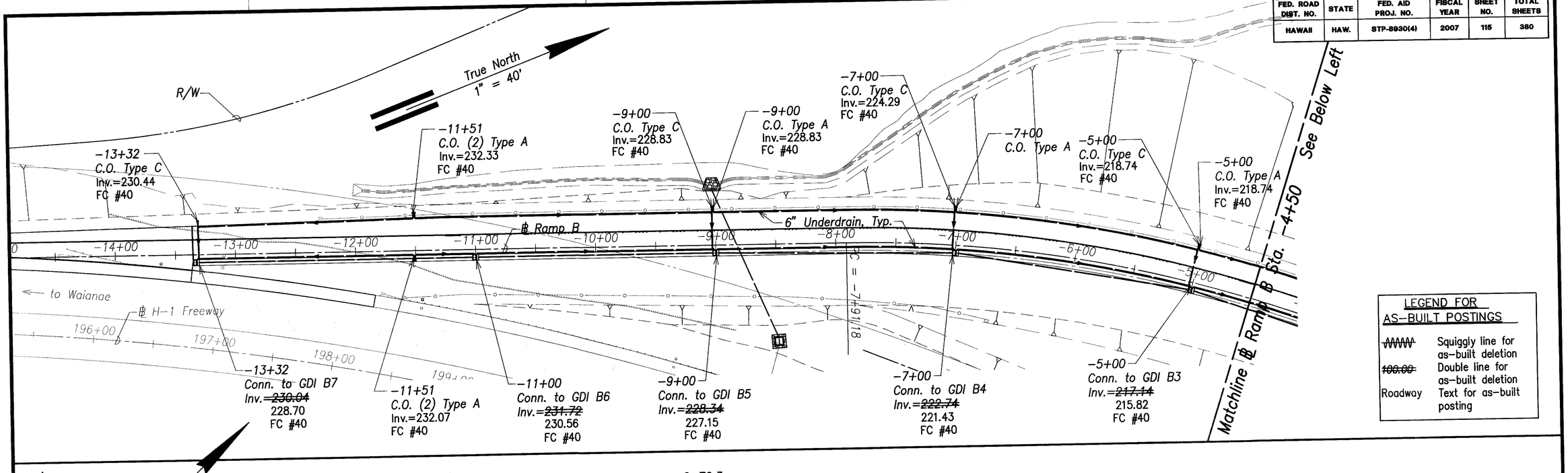
ROADWAY
UNDERDRAIN PLAN – 3

North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

Scale: As Shown Date: Feb 21, 2007

SHEET No. C5.3 OF 179 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	115	380



Graphic Scale:
1" = 40' 40' 20' 0 40' 80'
Scale in Feet

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DATE	REVISION
2/11/08	FC#40 REVISED INVERT ELEVATIONS
1/10/08	FC#23 REVISED UNDERDRAIN INVERTS

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

RAMPS A & B
UNDERDRAIN PLAN - 1

North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

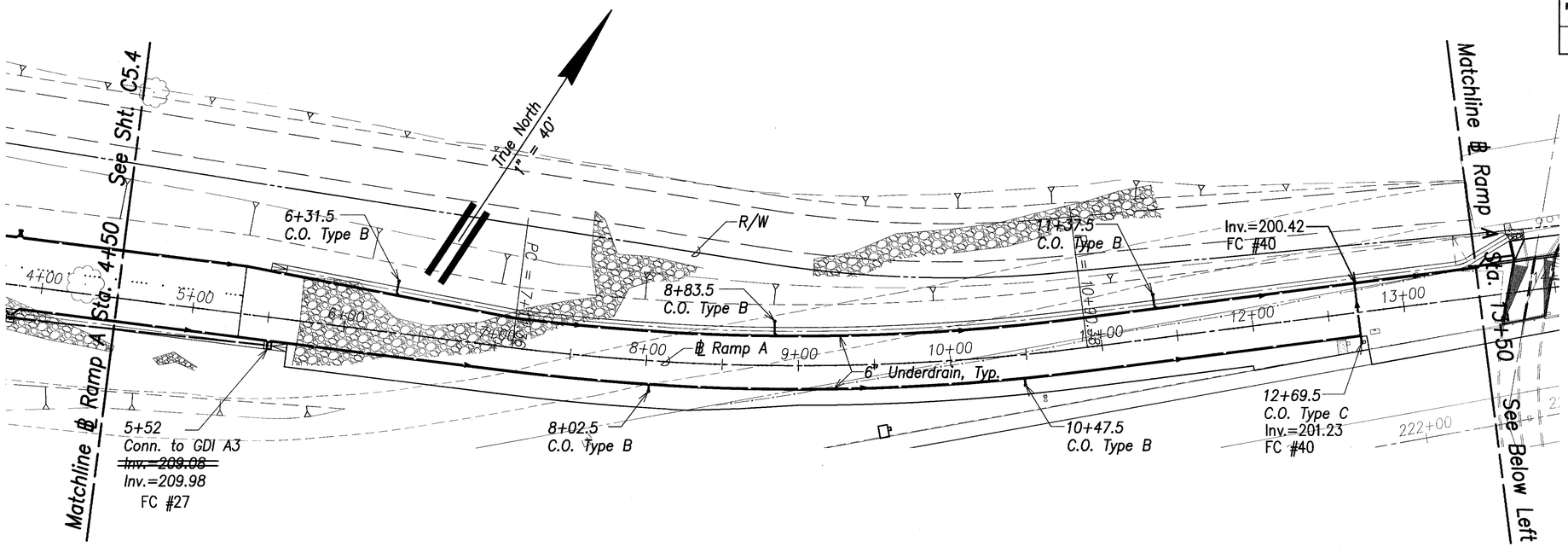
Scale: As Shown — Date: Feb 21, 2007

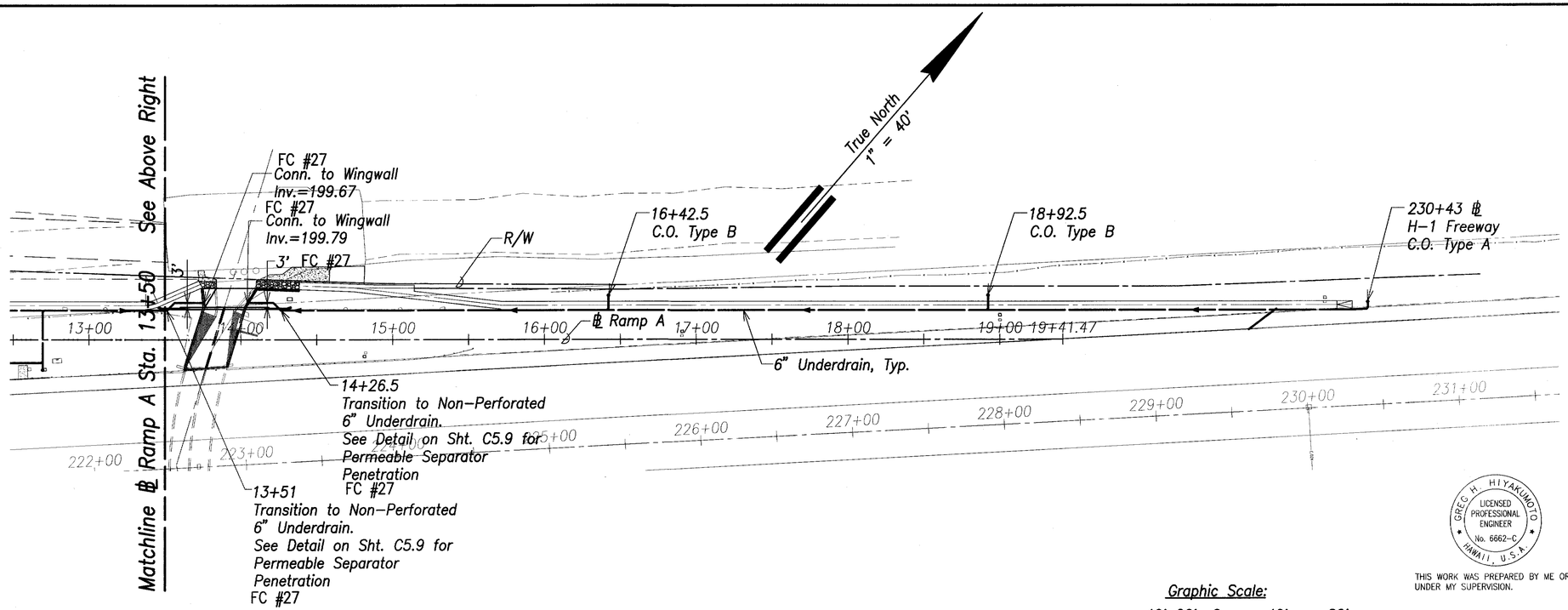
SHEET No. C5.4 OF 179 SHEETS

ORIGINAL PLAN — STUFF PLOTTED BY — DATE
NOTE BOOK — PLANS BY — TRACED BY — DESIGNED BY — QUANTITIES BY — CHECKED BY — No.

"AS-BUILT"

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	CO 116	380





LEGEND FOR AS-BUILT POSTINGS

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

Graphic Scale:
1" = 40' 40' 20' 0 40' 80'
Scale in Feet

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DATE	REVISION
2/11/2008	Revised Invent Elev
1/15/2008	Revised Underdrain Connection

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

RAMPS A & B
UNDERDRAIN PLAN - 2

North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

Scale: As Shown — Date: Feb 21, 2007

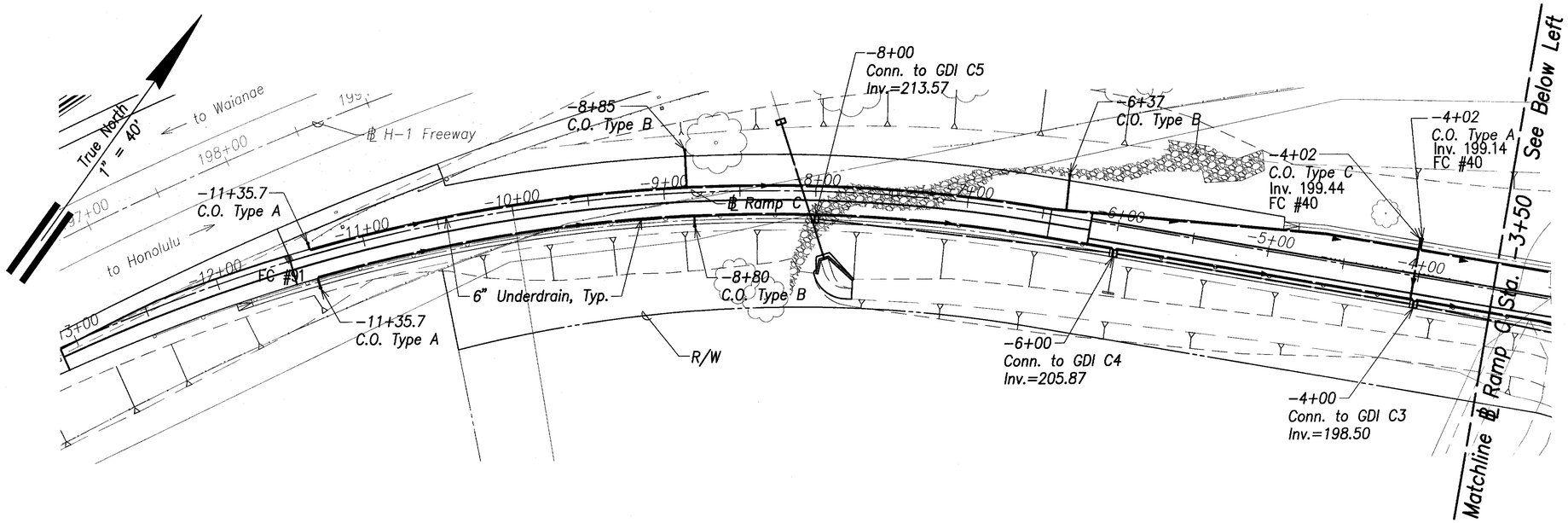
SHEET No. C5.5 OF 179 SHEETS

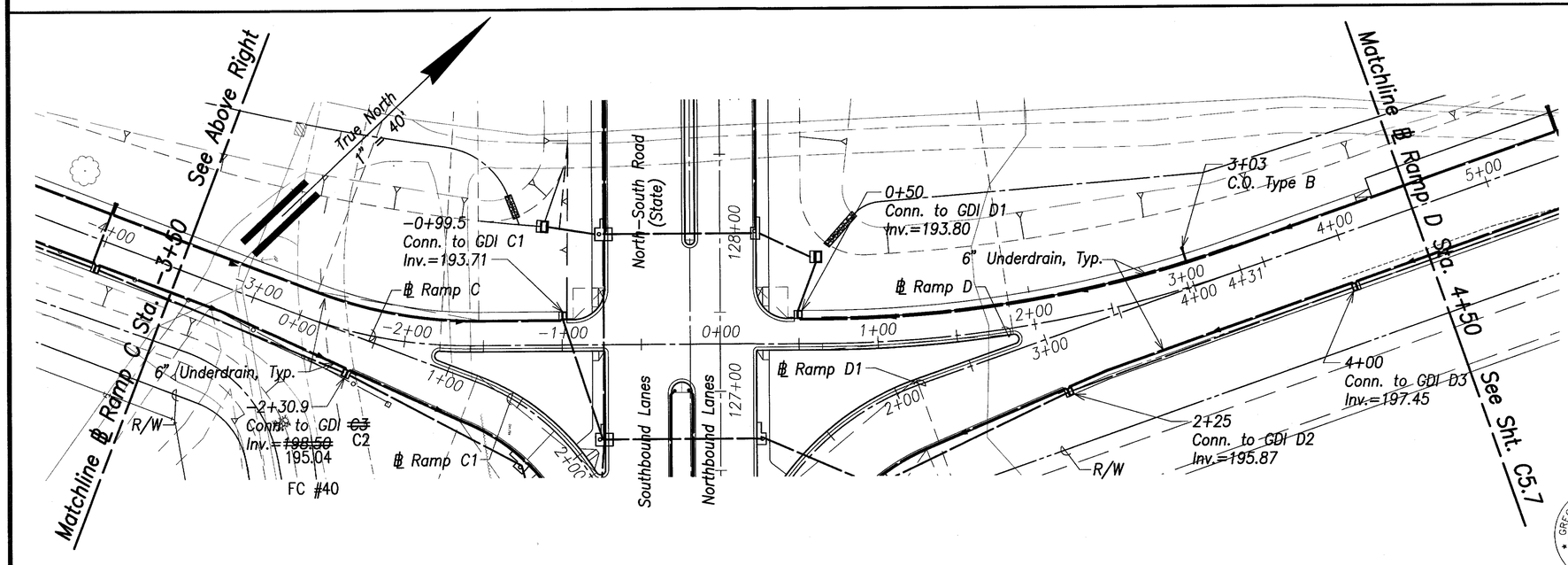
ORIGINAL PLAN | SURVEY PLOTTED BY | DRAWN BY | TRACED BY | DESIGNED BY | QUANTITIES BY | CHECKED BY | DATE
NOTE BOOK | No.

"AS-BUILT"

CO 116

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	117	380





LEGEND FOR AS-BUILT POSTINGS	
~~WWW~~	Squiggly line for as-built deletion
~~100.00~~	Double line for as-built deletion
Roadway	Text for as-built posting

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

Graphic Scale:
1" = 40' 40' 20' 0 40' 80'
Scale in Feet

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662-C
HAWAII, U.S.A.

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SIGNATURE — April 30, 2008 EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

RAMPS C & D
UNDERDRAIN PLAN – 1

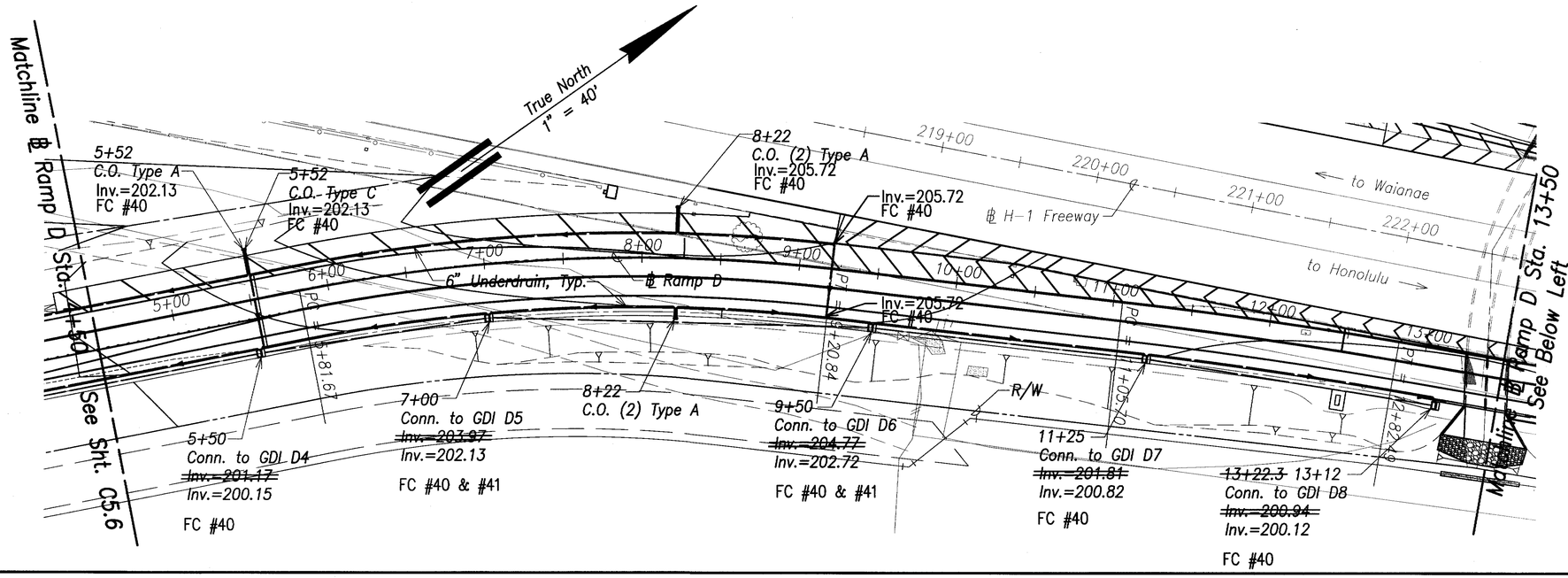
North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

Scale: As Shown — Date: Feb 21, 2007

SHEET No. C5.6 OF 179 SHEETS

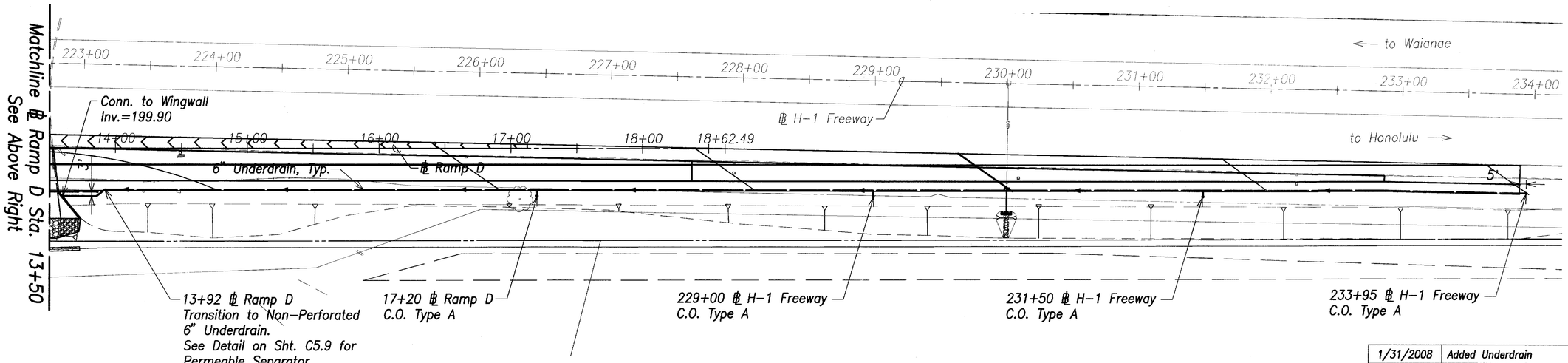
"AS-BUILT"

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	CO 118	380



LEGEND FOR AS-BUILT POSTINGS

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



1/31/2008	Added Underdrain
1/9/2008	Revised Underdrain Connection Inverts
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

RAMPS C & D
UNDERDRAIN PLAN - 2

North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

Scale: As Shown Date: Feb 21, 2007

SHEET No. C5.7 OF 179 SHEETS

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662-C
HAWAII, U.S.A.

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SIGNATURE April 30, 2008 EXPIRATION DATE OF THE LICENSE

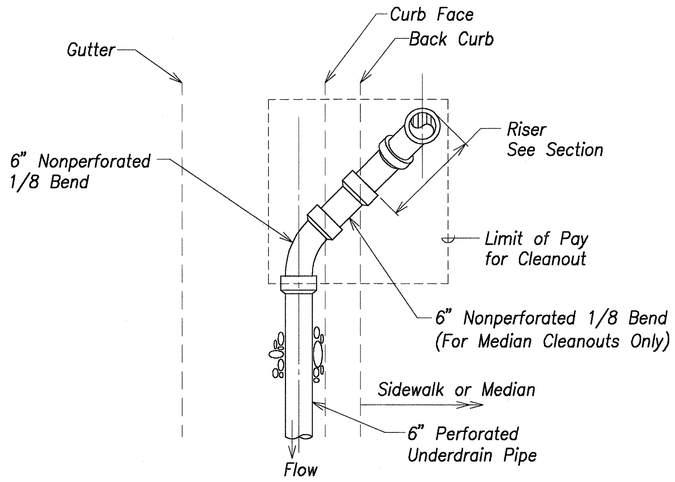
Graphic Scale:
1" = 40' 40' 20' 0 40' 80'
Scale in Feet

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

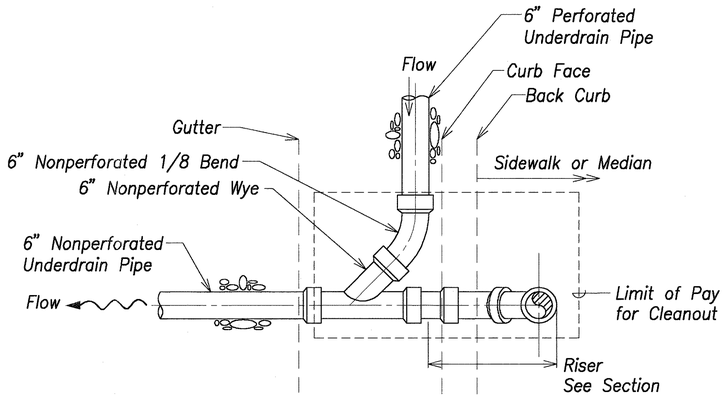
"AS-BUILT"

CO 118

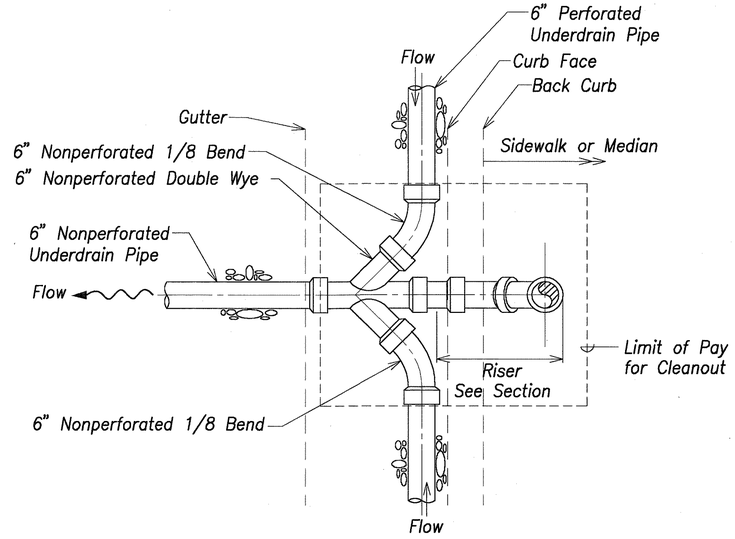
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	119	380



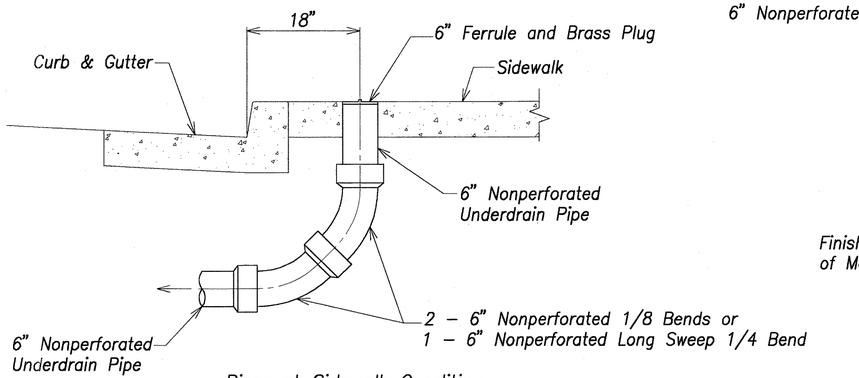
Underdrain Cleanout Type A
Not To Scale



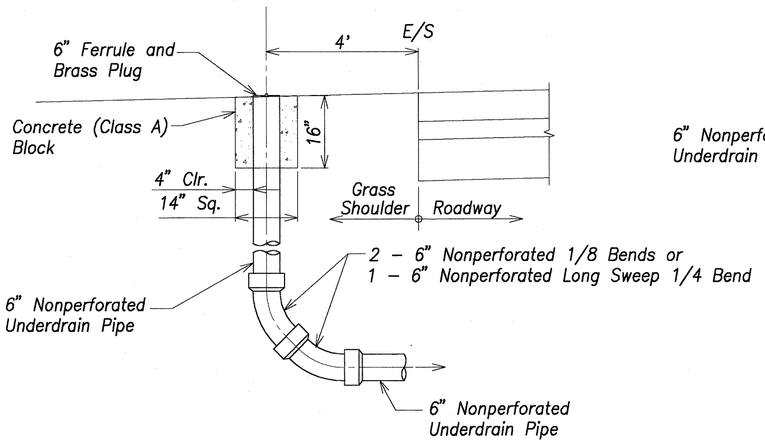
Underdrain Cleanout Type C
Not To Scale



Underdrain Cleanout Type D
Not To Scale

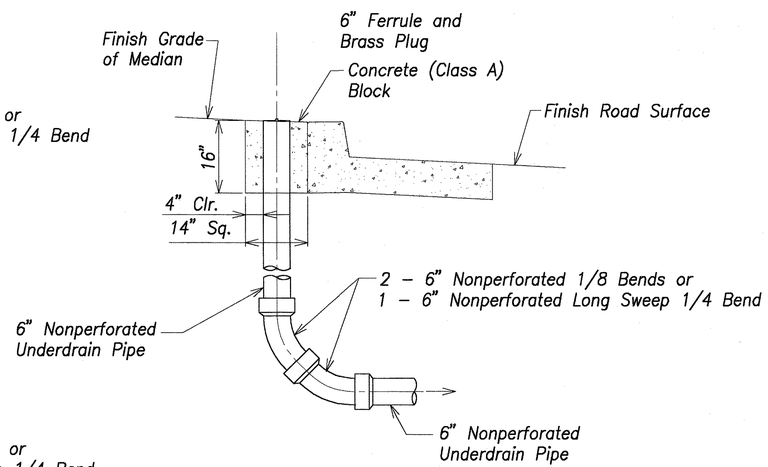


Riser at Sidewalk Condition

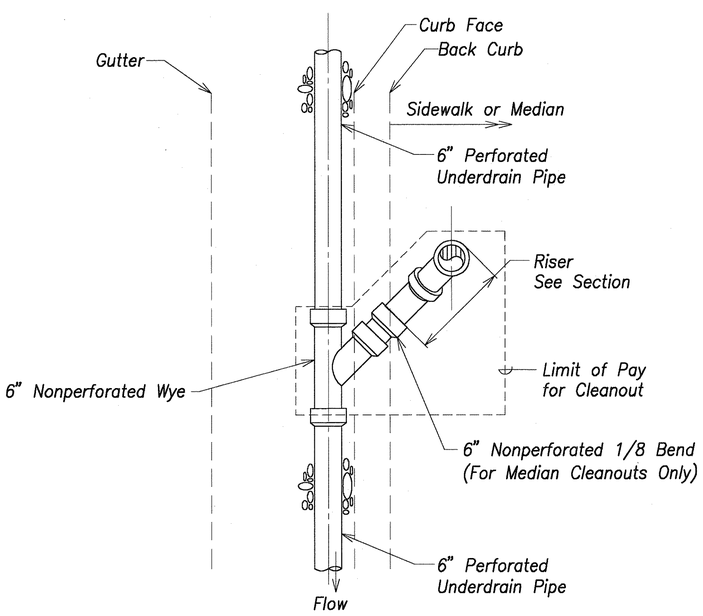


Riser along Grass Shoulders

Sections
Not To Scale



Riser along Raised Grass Medians



Underdrain Cleanout Type B
Not To Scale

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

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

Greg H. Hiyakumoto APR 30, 2008
SIGNATURE DATE OF LICENSE EXPIRY

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

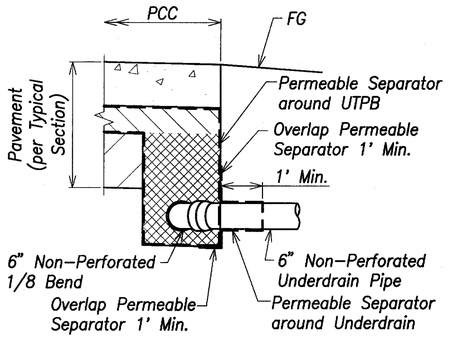
UNDERDRAIN DETAILS – 1

North–South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

Scale: Not to Scale Date: Feb 21, 2007

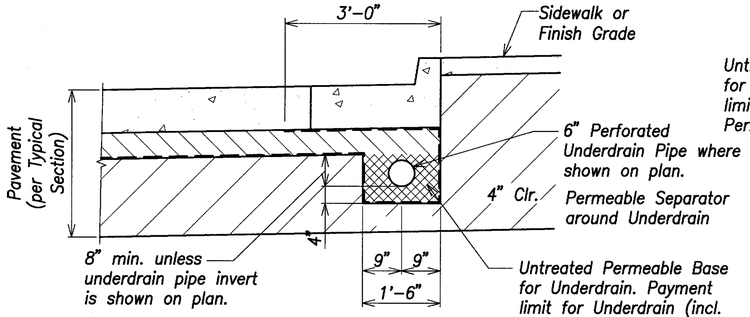
SHEET No. C5.8 OF 179 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	CO 120	380



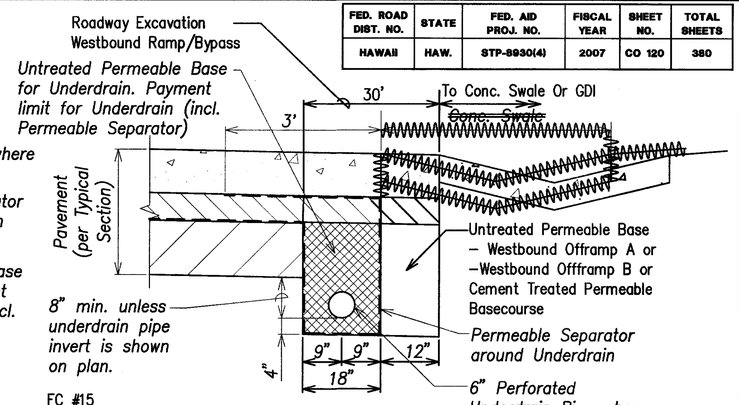
Underdrain Detail for Permeable Separator Penetration

Not To Scale



Underdrain Detail for PCC Pavement Along Curbed Sections (North-South Road)

Not To Scale

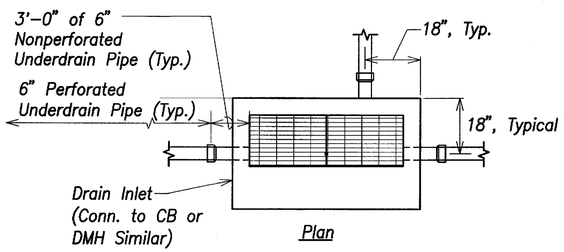


FC #15

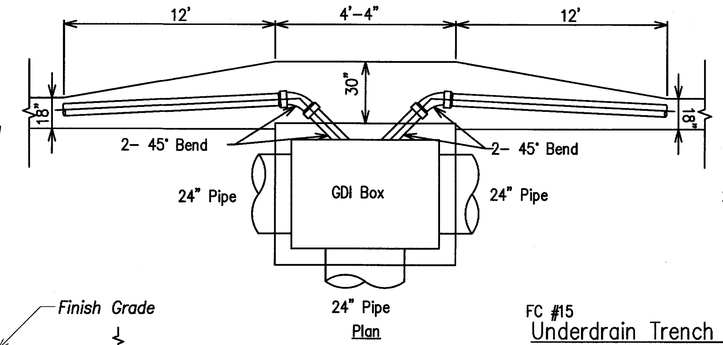
Underdrain Detail for PCC Pavement for Interchange Ramps

Not To Scale

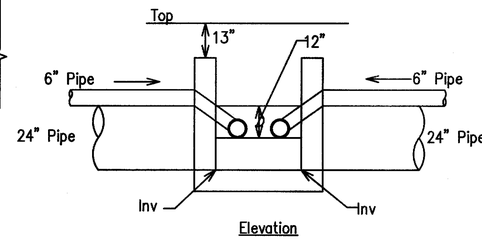
<u>Underdrain Note:</u>
At locations where invert elevations indicate that the underdrain invert will be lower than 8" below Untreated Permeable Base Course, the Contractor shall allow for the required excavation and material at no additional cost to the State.



Plan



Plan

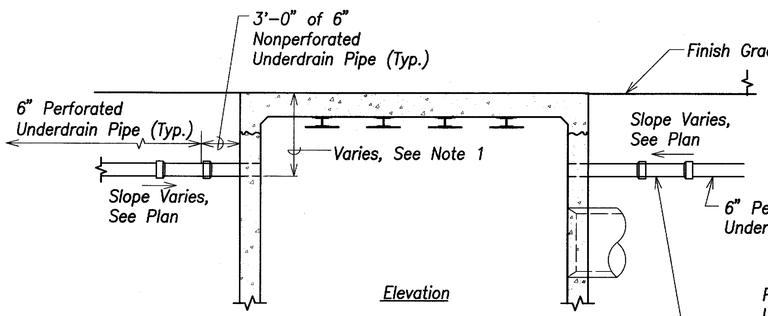


Elevation

FC #15

Underdrain Trench Widening

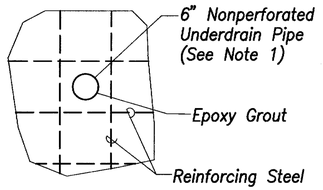
Not To Scale



Elevation

<u>Notes:</u>

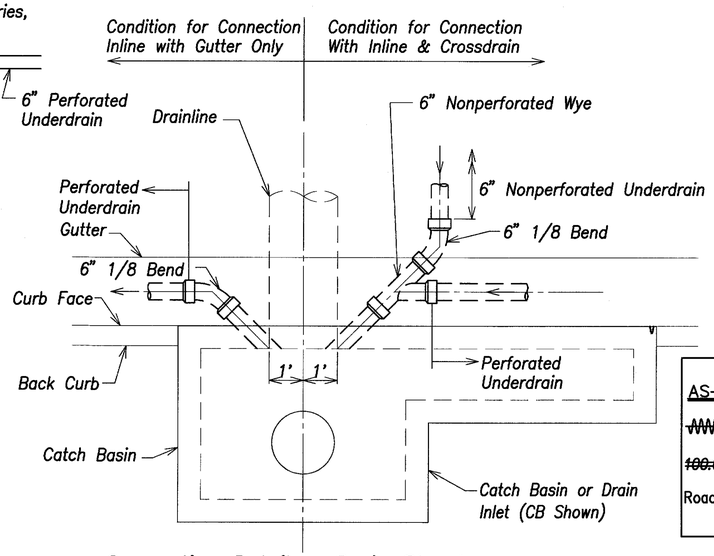
1. *The exact invert location of the Underdrain Connection shall be adjusted to pass between the Reinforcing Steel.*
2. *6" Nonperforated Underdrain Pipe Connections at drainage structure, including 3 LF Nonperforated Underdrain Pipe at each connection, shall be incidental to the cost of other contract items.*



FC #41

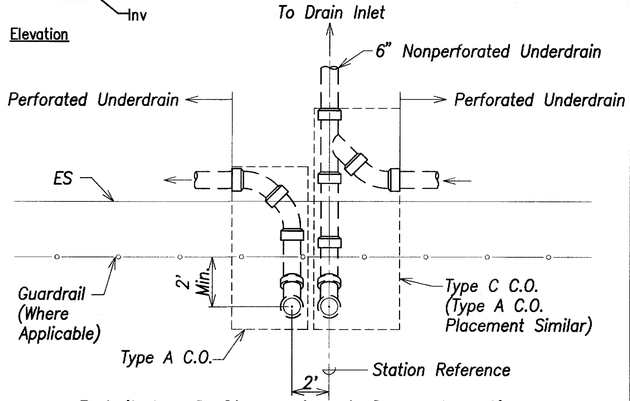
Underdrain Connection to DI, CB or DMH

Not To Scale



Connection Detail - Drain Structure

Not To Scale



Detail for 2 Cleanouts at Same Location

Not To Scale

LEGEND FOR AS-BUILT POSTINGS	
~~AAAAA~~	Squiggly line for as-built deletion
~~100.00~~	Double line for as-built deletion
Roadway	Text for as-built posting

GREG H. HIYAKUMOTO LICENSED PROFESSIONAL ENGINEER No. 6662-C HAWAII, U.S.A.

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SIGNATURE — April 30, 2008 EXPIRATION DATE OF THE LICENSE

1/15/2008	Added Detail
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

UNDERDRAIN DETAILS - 2

North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

Scale: Not to Scale — Date: Feb 21, 2007

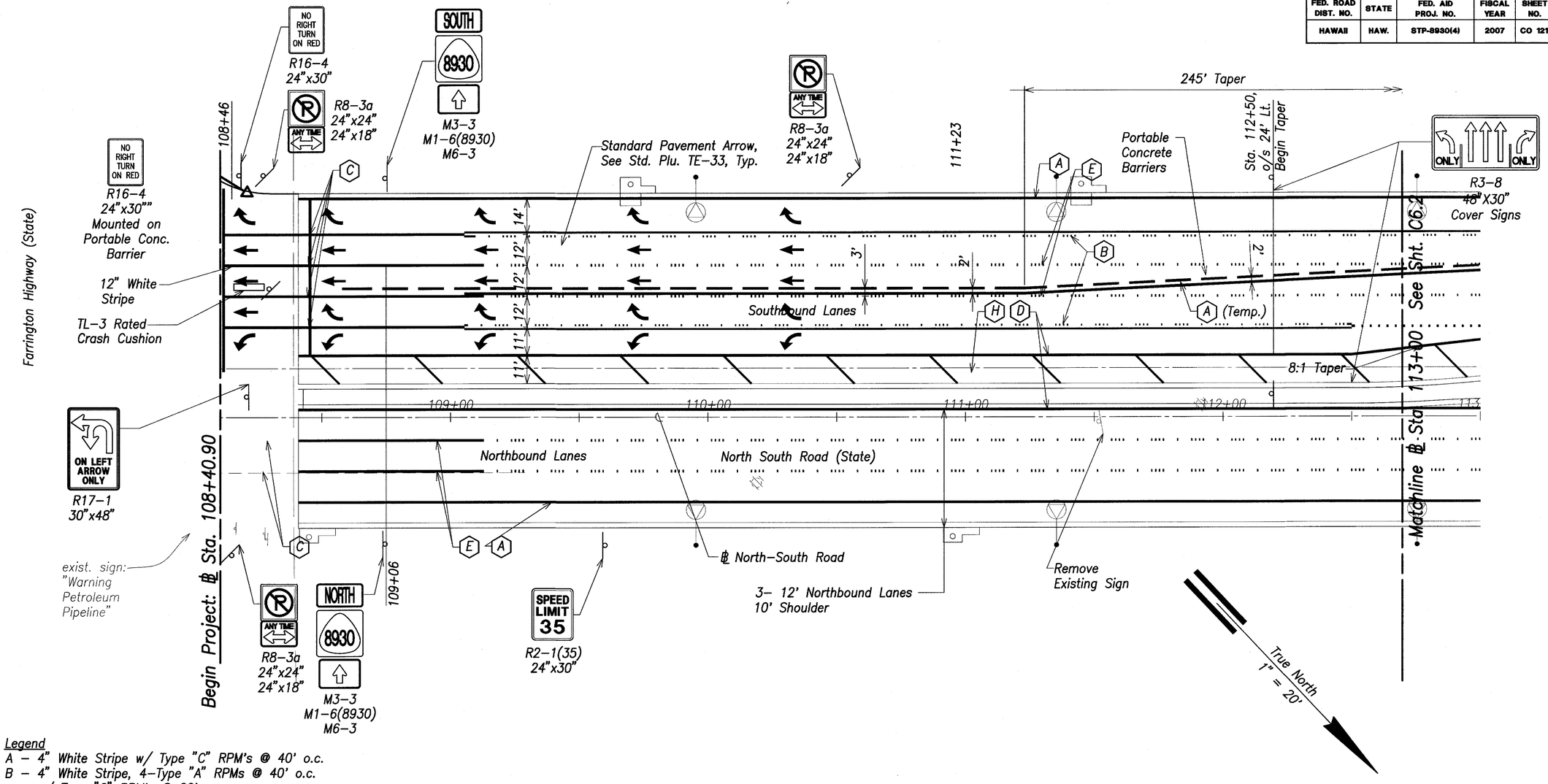
SHEET No. C5.9 OF 179 SHEETS

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

"AS-BUILT"

CO 120

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	CO 121	380



Legend

A – 4" White Stripe w/ Type "C" RPM's @ 40' o.c.
B – 4" White Stripe, 4–Type "A" RPMs @ 40' o.c. w/ Type "C" RPM's @ 20' o.c.
C – 8" White Stripe w/ Type "C" RPM's @ 20' o.c.
D – 4" Yellow Stripe w/ Type "H" RPM's @ 40' o.c.
E – 4–Type "A" RPMs w/ 1–Type "C" RPM @ 40' o.c.
F – 12" White Channelizing Island Stripes @ 20' o.c.
G – 12" White Transverse Stripes @ 40' o.c.
H – 12" Yellow Transverse Stripes @ 40' o.c.

Notes:

1. All station/offset refer to North–South Rd. unless otherwise noted.
2. All new striping shall be Tape, Type I, Type III or Thermoplastic Extrusion.
3. See Std. Plan TE–12 for Route & Aux. Marker sizes and Std. Plan TE–15 for Route Sign Assembly details.

Striping Plan – ℄ Sta. 108+40.90 to ℄ Sta. 113+00

Scale: 1" = 20'

Graphic Scale:

1" = 20' 20' 10' 0 20' 40'

Scale in Feet

DESIGNED BY	DRAWN BY	CHECKED BY	QUANTITIES BY	TRACED BY	DATE

ORIGINAL PLAN — NOTE BOOK — No.

	FC#153 & 175
7/1/2009	revised per DOT comments
2/27/2009	added interim signing & striping
7/14/2008	revised entire sheet
DATE	REVISION

GREG H. HIYAKUMOTO LICENSED PROFESSIONAL ENGINEER No. 6662–C HAWAII, U.S.A.

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SIGNATURE — April 30, 2008 EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY SIGNING & STRIPING PLANS – 1

North–South Road
Phase 1C
F.A.I. Proj. No. STP–8930(4)

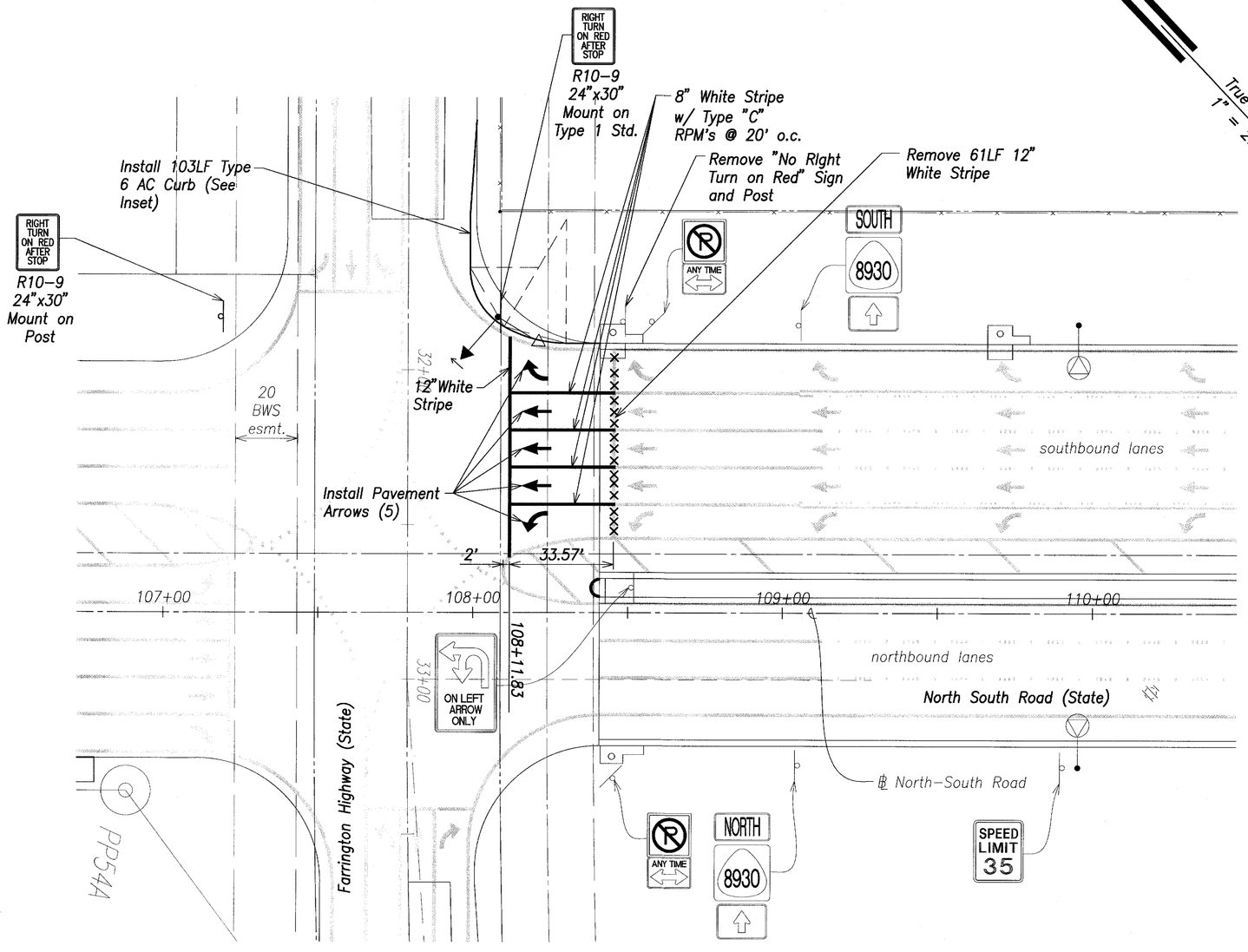
Scale: 1" = 20' Date: Feb 21, 2007

SHEET No. C6.1 OF 179 SHEETS

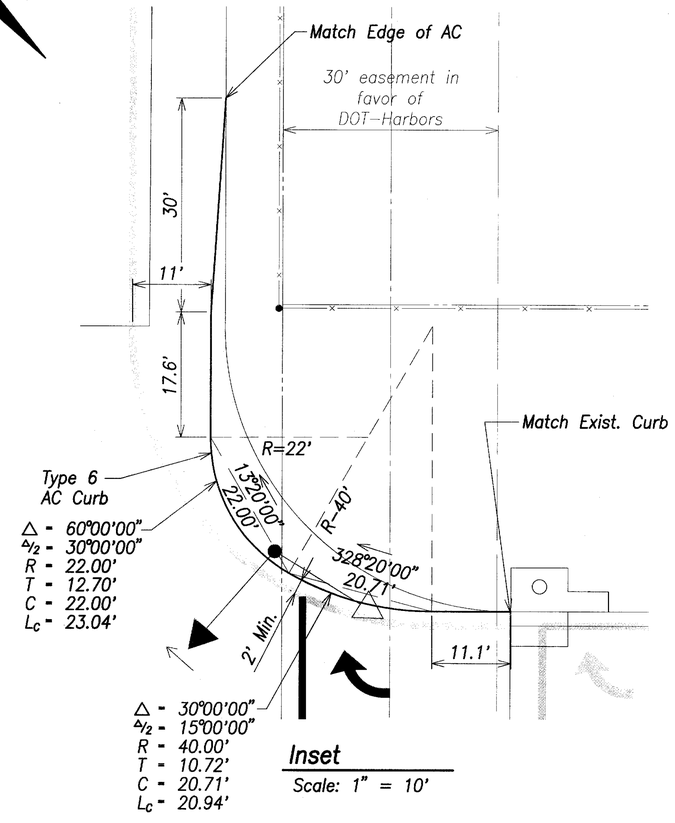
"AS–BUILT"

CO 121

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	CO 121S-1	380



True North
1" = 20'



Inset
Scale: 1" = 10'

Intersection Signing and Striping Plan – Farrington Hwy.

Scale: 1" = 20'

Notes:
1. All station/offset refer to North-South Rd. unless otherwise noted.
2. All new striping shall be Tape, Type I, Type III or Thermoplastic Extrusion.

Graphic Scale:
1" = 20' 20' 10' 0 20' 40'
Scale in Feet

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

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE
April 30, 2008
EXPIRATION DATE OF THE LICENSE

DATE	REVISION
5/24/2011	added sheet

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

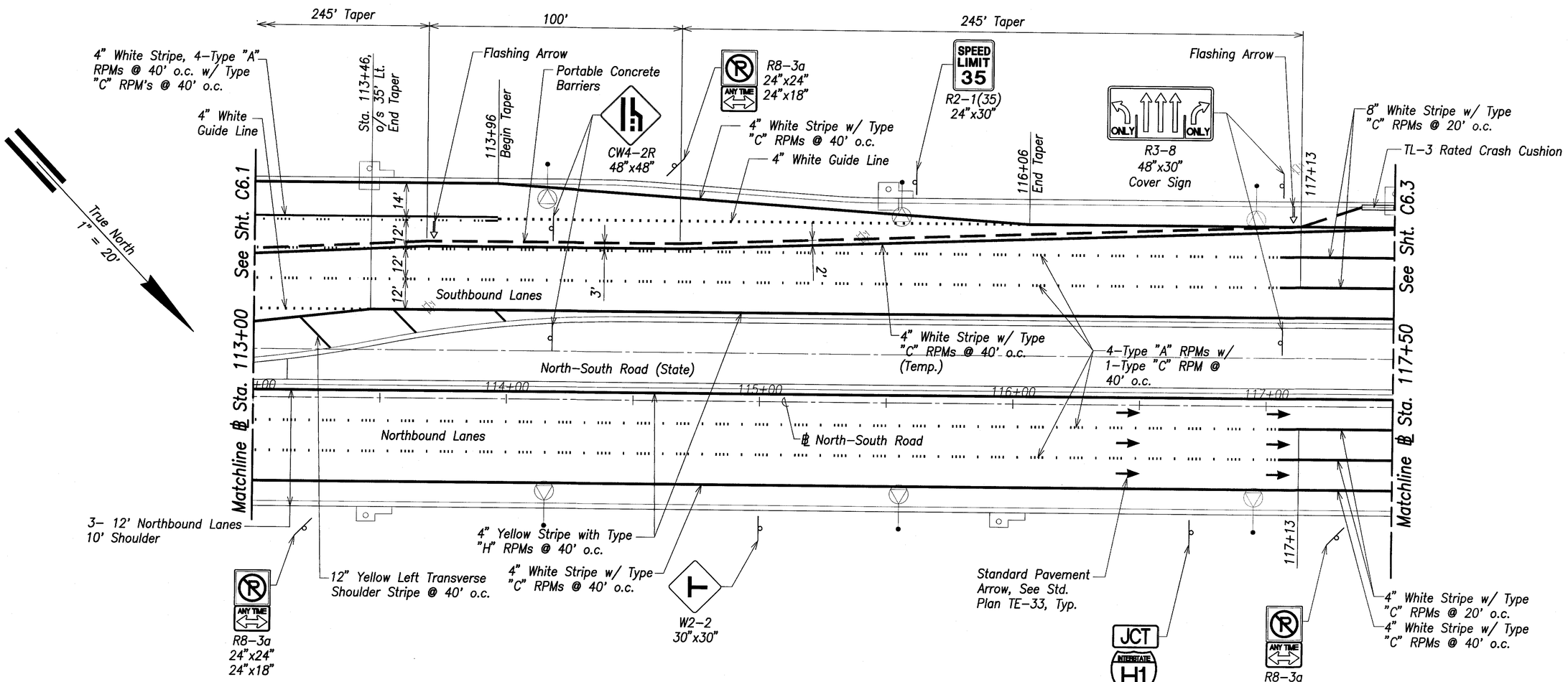
INTERS. SIGNING & STRIPING PLAN – FARRINGTON HWY.
North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

Scale: 1" = 20'
Date: Feb 21, 2007

SHEET No. C6.1 OF 179 SHEETS

"AS-BUILT"
CO 121S-1

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	CO 122	380



Striping Plan – ℄ Sta. 113+00 to ℄ Sta. 117+50

Scale: 1" = 20'

Notes:
1. All station/offset refer to North–South Rd. unless otherwise noted.
2. All new striping shall be Tape, Type I, Type III or Thermoplastic Extrusion.
3. See Std. Plan TE–12 for Route & Aux. Marker sizes and Std. Plan TE–15 for Route Sign Assembly details.

Graphic Scale:
1" = 20' 20' 10' 0 20' 40'
Scale in Feet

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662–C
HAWAII, U.S.A.

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SIGNATURE — April 30, 2008 EXPIRATION DATE OF THE LICENSE

	FC#153 & 175
7/1/2009	revised per DOT comments
2/27/2009	added iterim signing & striping
7/14/2008	revised signage
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY SIGNING & STRIPING PLANS – 2

North–South Road
Phase 1C
F.A.I. Proj. No. STP–8930(4)

Scale: 1" = 20' Date: Feb 21, 2007

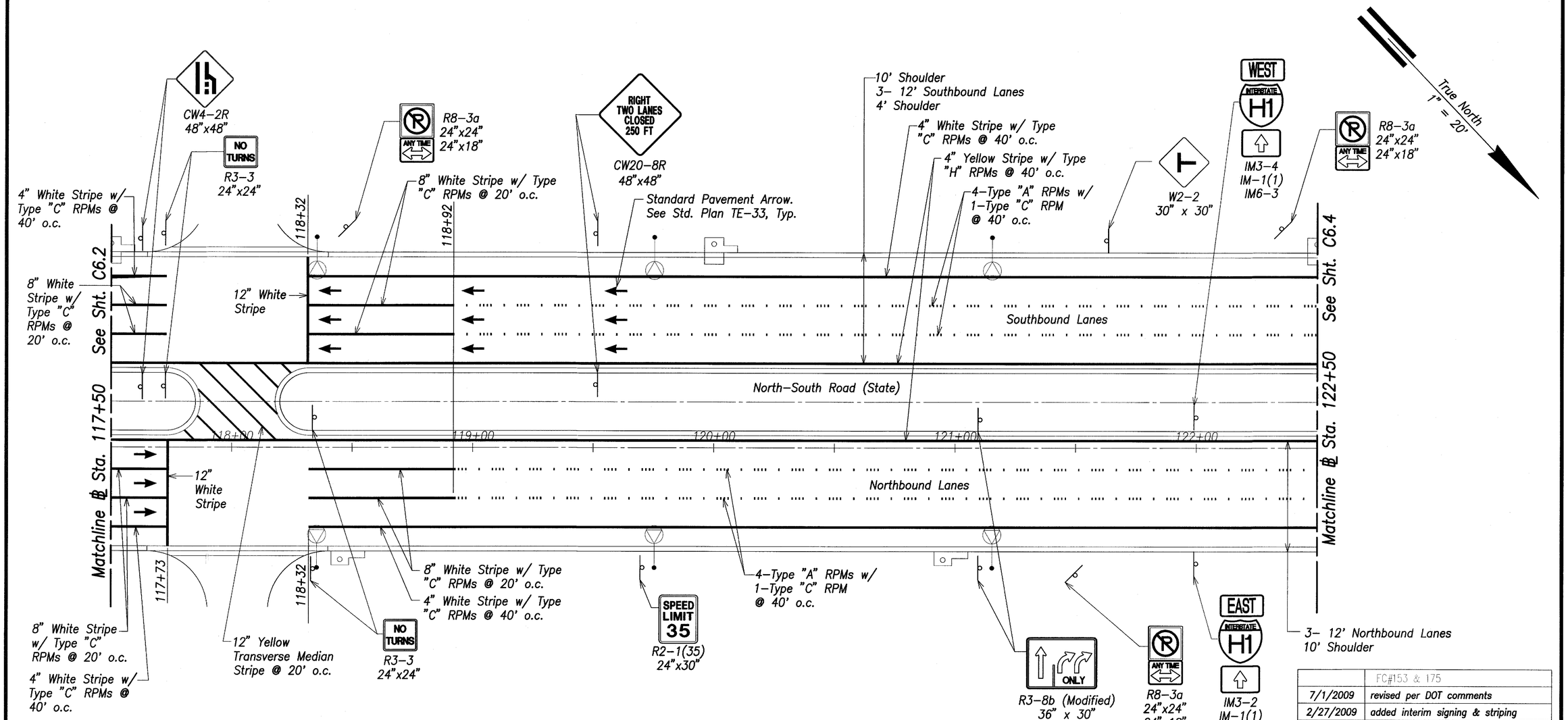
SHEET No. C6.2 OF 179 SHEETS

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

"AS–BUILT"

CO 122

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	CO 123	380



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

Notes:

1. All station/offset refer to North-South Rd. unless otherwise noted.
2. All new striping shall be Tape, Type I, Type III or Thermoplastic Extrusion.
3. Interstate marker & associated signs shall be installed per Std. Plan TE-15

Striping Plan – ℄ Sta. 117+50 to ℄ Sta. 122+50

Scale: 1" = 20'

Graphic Scale:

1" = 20' 20' 10' 0 20' 40'

Scale in Feet

GREG H. HIYAKUMOTO LICENSED PROFESSIONAL ENGINEER No. 6662-C HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE — April 30, 2008 EXPIRATION DATE OF THE LICENSE

	FC#153 & 175
7/1/2009	revised per DOT comments
2/27/2009	added interim signing & striping
7/14/2008	revised signs & striping
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY SIGNING & STRIPING PLANS – 3

North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

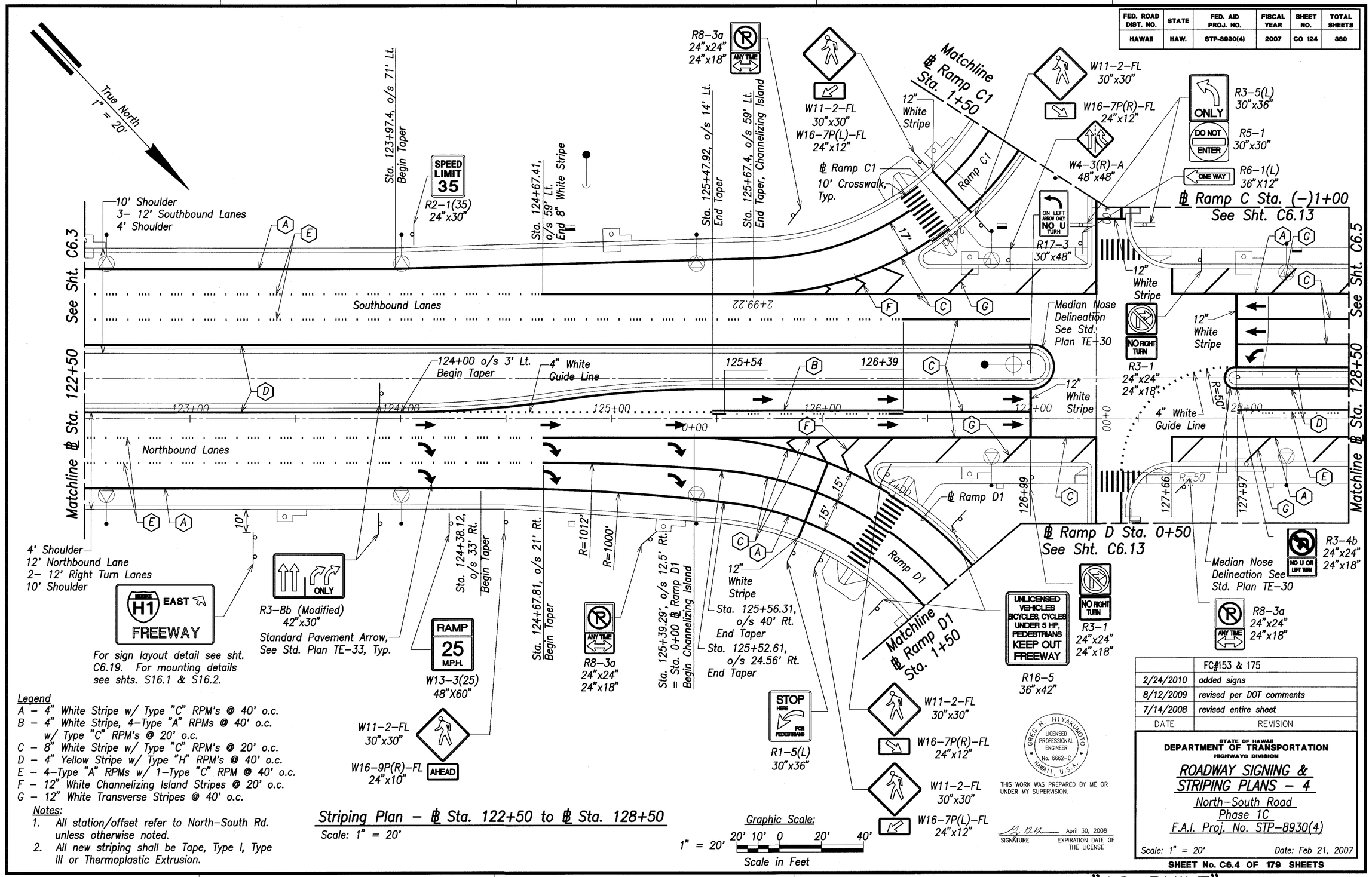
Scale: 1" = 20' Date: Feb 21, 2007

SHEET No. C6.3 OF 179 SHEETS

"AS-BUILT"

CO 123

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	CO 124	380



Striping Plan - ℄ Sta. 122+50 to ℄ Sta. 128+50

Scale: 1" = 20'

Graphic Scale:

1" = 20' 20' 10' 0 20' 40'

Scale in Feet

	FC#153 & 175
2/24/2010	added signs
8/12/2009	revised per DOT comments
7/14/2008	revised entire sheet
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY SIGNING & STRIPING PLANS - 4

North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

April 30, 2008
SIGNATURE EXPIRATION DATE OF THE LICENSE

Scale: 1" = 20' Date: Feb 21, 2007

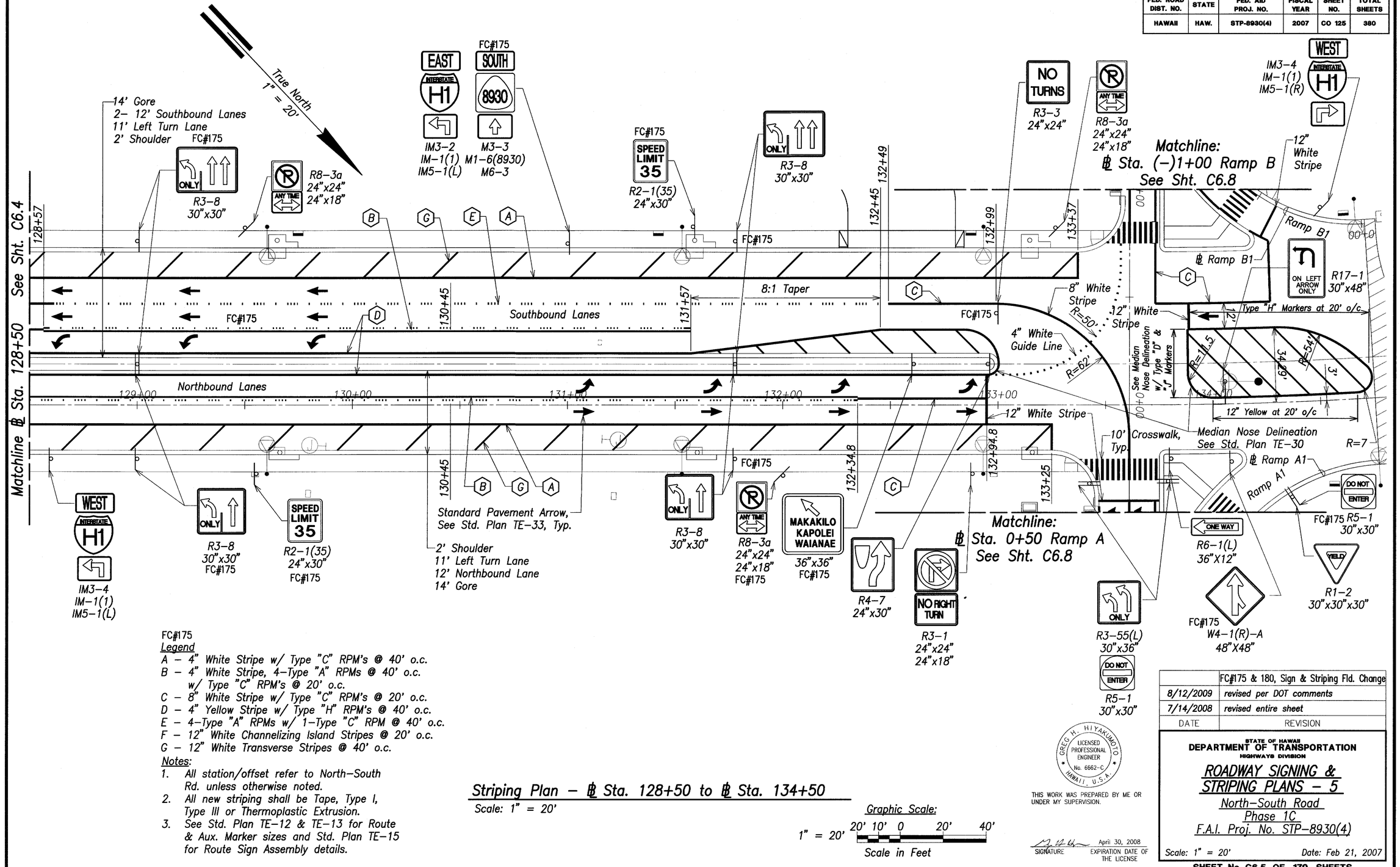
SHEET No. C6.4 OF 179 SHEETS

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

"AS-BUILT"

CO 124

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	CO 125	380



FC#175
Legend

- A – 4" White Stripe w/ Type "C" RPM's @ 40' o.c.
- B – 4" White Stripe, 4–Type "A" RPMs @ 40' o.c. w/ Type "C" RPM's @ 20' o.c.
- C – 8" White Stripe w/ Type "C" RPM's @ 20' o.c.
- D – 4" Yellow Stripe w/ Type "H" RPM's @ 40' o.c.
- E – 4–Type "A" RPMs w/ 1–Type "C" RPM @ 40' o.c.
- F – 12" White Channelizing Island Stripes @ 20' o.c.
- G – 12" White Transverse Stripes @ 40' o.c.

Notes:

1. All station/offset refer to North–South Rd. unless otherwise noted.
2. All new striping shall be Tape, Type I, Type III or Thermoplastic Extrusion.
3. See Std. Plan TE–12 & TE–13 for Route & Aux. Marker sizes and Std. Plan TE–15 for Route Sign Assembly details.

Striping Plan – ℄ Sta. 128+50 to ℄ Sta. 134+50

Scale: 1" = 20'

Graphic Scale:

1" = 20' 20' 10' 0 20' 40'

Scale in Feet

DATE	REVISION
	FC#175 & 180, Sign & Striping Fld. Change
8/12/2009	revised per DOT comments
7/14/2008	revised entire sheet

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

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662-C
HAWAII, U.S.A.

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SIGNATURE — April 30, 2008 EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY SIGNING & STRIPING PLANS – 5

North–South Road
Phase 1C
F.A.I. Proj. No. STP–8930(4)

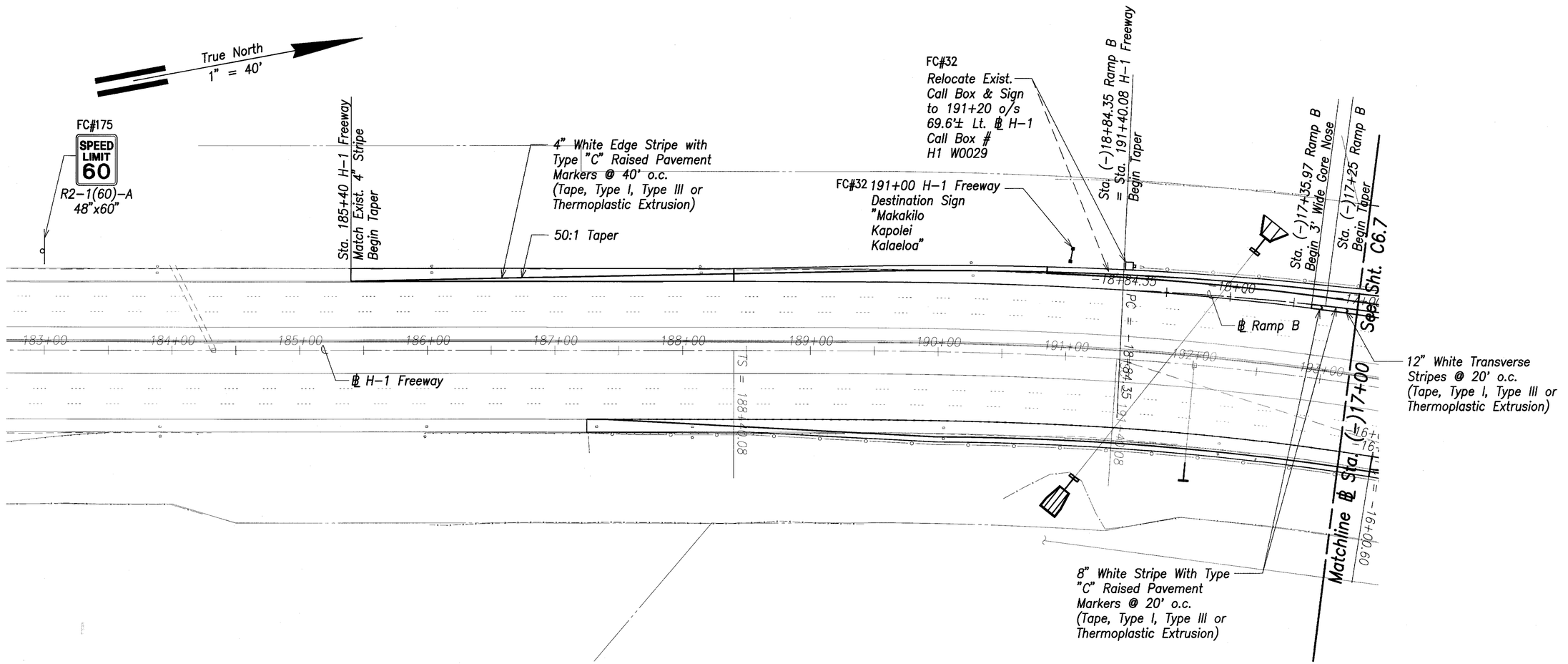
Scale: 1" = 20' Date: Feb 21, 2007

SHEET No. C6.5 OF 179 SHEETS

"AS–BUILT"

CO 125

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	CO 126	380



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

	FC#32 & 175, Sign & Striping Field Change
8/12/2009	revised per DOT comments
7/14/2008	Revised sign
6/20/2008	Revised Call Box Location
2/20/2008	Revised Call Box Relocation
DATE	REVISION

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662-C
HAWAII, U.S.A.

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SIGNATURE — April 30, 2008 EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

RAMPS A & B
SIGNING & STRIPING PLAN - 1

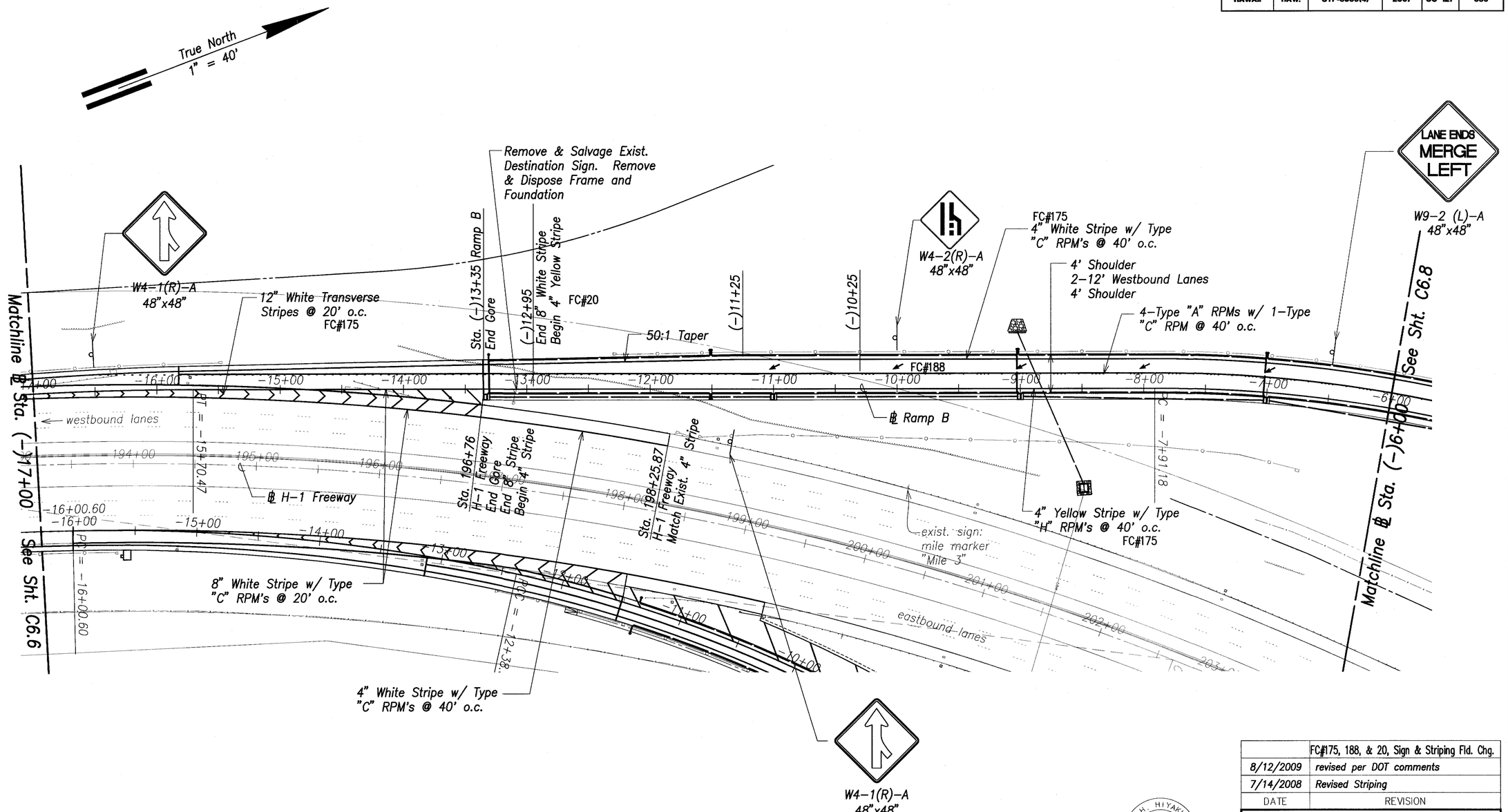
North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

Scale: As Shown — Date: Feb 21, 2007

SHEET No. C6.6 OF 179 SHEETS

"AS-BUILT" **CO 126**

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	CO 127	380



FC#175
Note:
All New Striping Shall Be Tape, Type I, Type III or Thermoplastic Extrusion.

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

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662-C
HAWAII, U.S.A.

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SIGNATURE — April 30, 2008 EXPIRATION DATE OF THE LICENSE

	FC#175, 188, & 20, Sign & Striping Fld. Chg.
8/12/2009	revised per DOT comments
7/14/2008	Revised Striping
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

RAMPS A & B
SIGNING & STRIPING PLAN - 2

North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

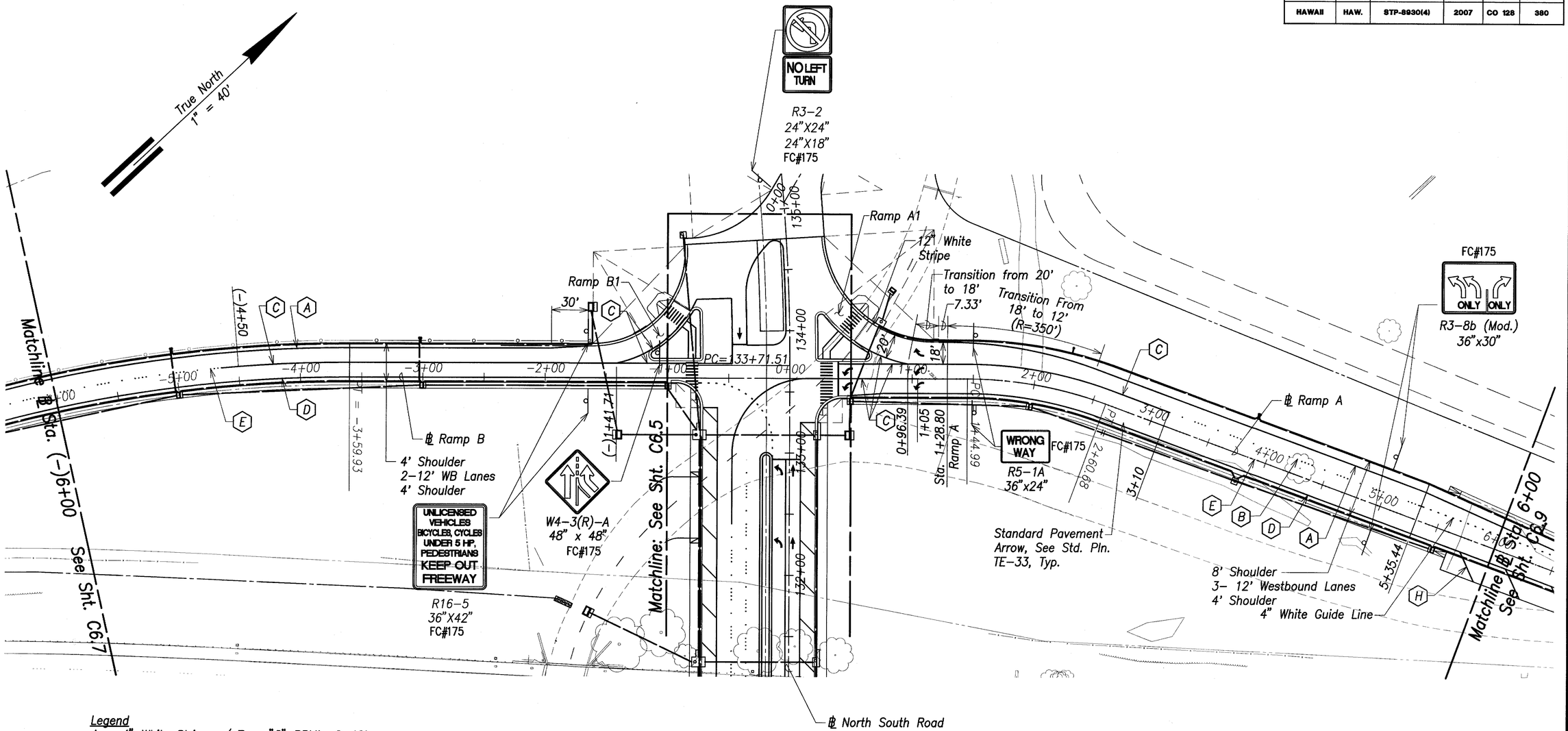
Scale: As Shown — Date: Feb 21, 2007

SHEET No. C6.7 OF 179 SHEETS

"AS-BUILT"

CO 127

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	CO 128	380



Legend

A – 4" White Stripe w/ Type "C" RPM's @ 40' o.c.
B – 4" White Stripe, 4–Type "A" RPMs @ 40' o.c. w/ Type "C" RPM's @ 20' o.c.
C – 8" White Stripe w/ Type "C" RPM's @ 20' o.c.
D – 4" Yellow Stripe w/ Type "H" RPM's @ 40' o.c.
E – 4–Type "A" RPMs w/ 1–Type "C" RPM @ 40' o.c.
H – 12" Yellow Transverse Stripes @ 40' o.c.

Note:
All New Striping Shall Be Tape, Type I, Type III or Thermoplastic Extrusion.

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

	FC#175, Signs Field Change
8/12/2009	revised per DOT comments
6/20/2008	Revised sheet
DATE	REVISION

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662-C
HAWAII, U.S.A.

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April 30, 2008
SIGNATURE — EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

RAMPS A & B
SIGNING & STRIPING PLAN – 3

North–South Road
Phase 1C
F.A.I. Proj. No. STP–8930(4)

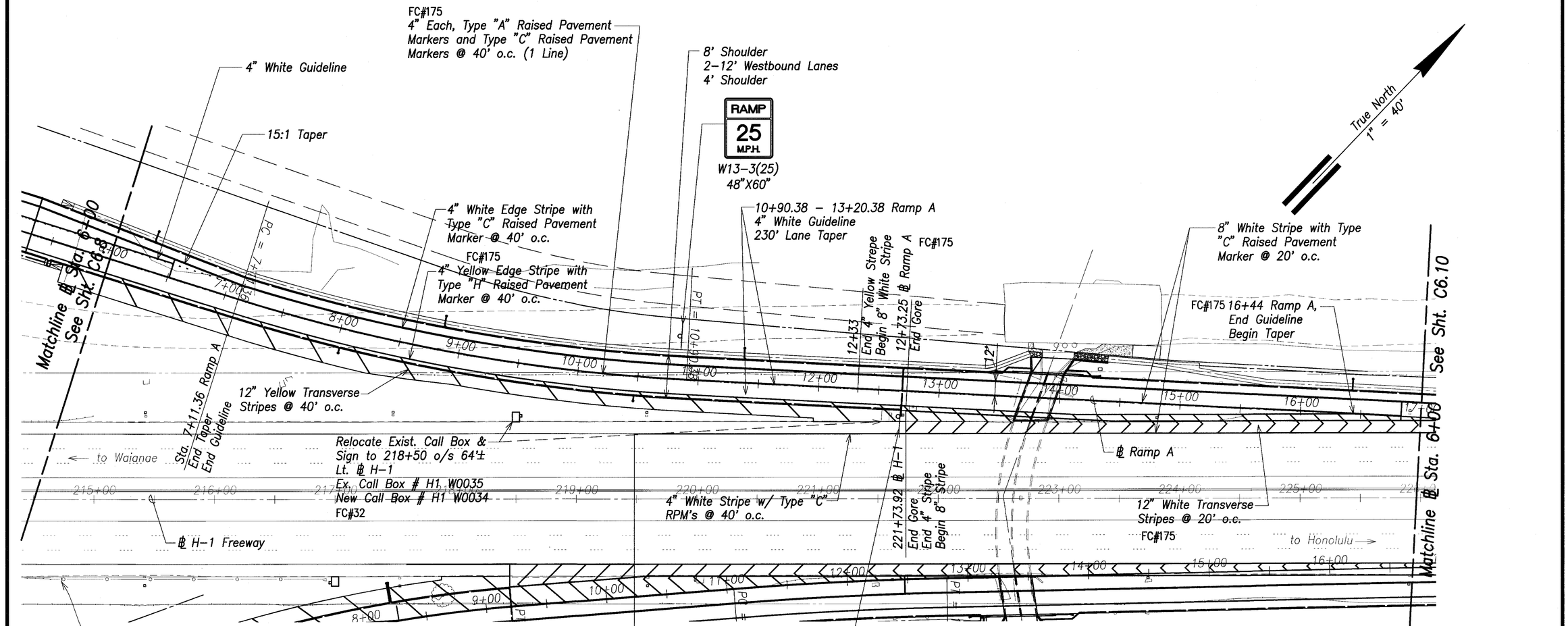
Scale: As Shown — Date: Feb 21, 2007

SHEET No. C6.8 OF 179 SHEETS

"AS–BUILT"

CO 128

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	CO 129	380



	FC#32 & 175, Sign & Striping Field Change
8/12/2009	revised per DOT comments
3/4/2009	Revised striping
7/14/2008	Revised striping
6/20/2008	Revised Call Box #
2/20/2008	Added Call Box Relocation
DATE	REVISION

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

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662-C
HAWAII, U.S.A.

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SIGNATURE — April 30, 2008 EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

RAMPS A & B SIGNING & STRIPING PLAN - 4

North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

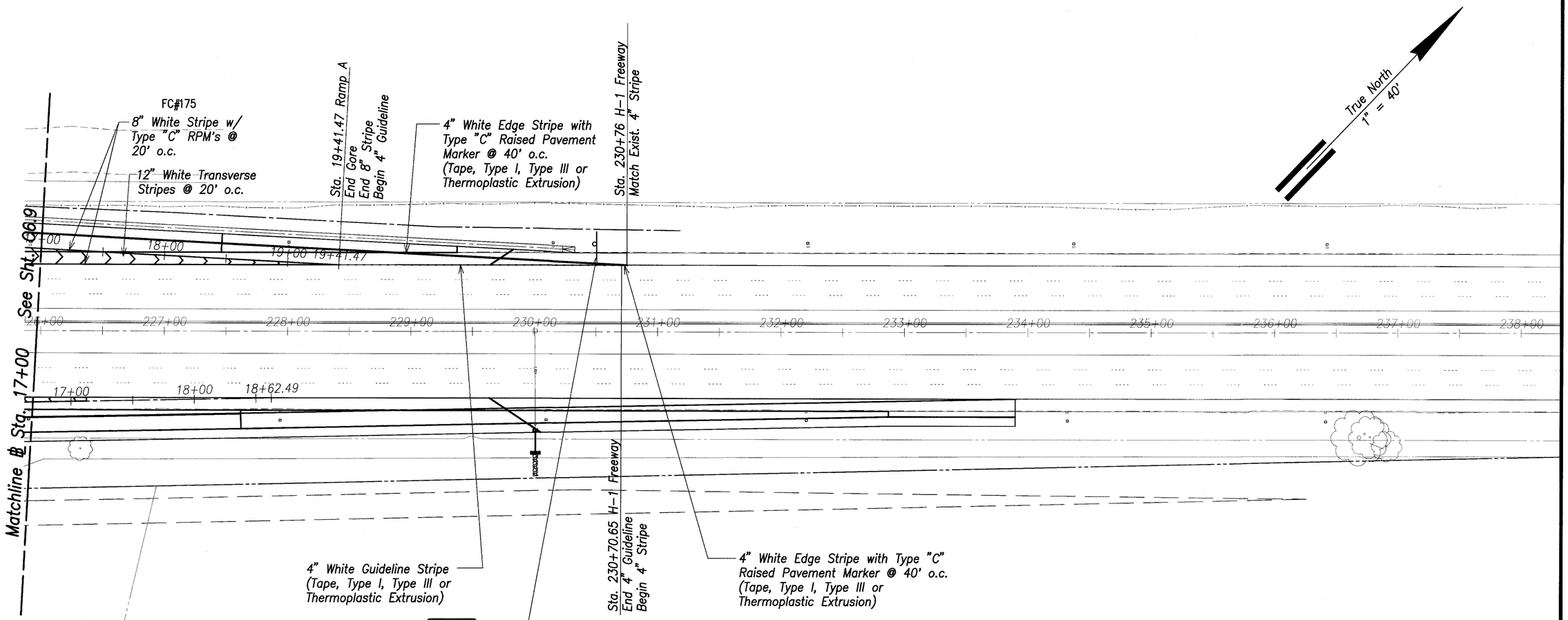
Scale: As Shown — Date: Feb 21, 2007

SHEET No. C6.9 OF 179 SHEETS

"AS-BUILT"

CO 129

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	CO 130	380



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

	FC#175, Sign & Striping Field Change
8/12/2009	revised per DOT comments
7/14/2008	Revised striping
DATE	REVISION

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662-C
HAWAII, U.S.A.

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SIGNATURE — April 30, 2008 — EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

RAMPS A & B
SIGNING & STRIPING PLAN – 5

North–South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

Scale: As Shown — Date: Feb 21, 2007

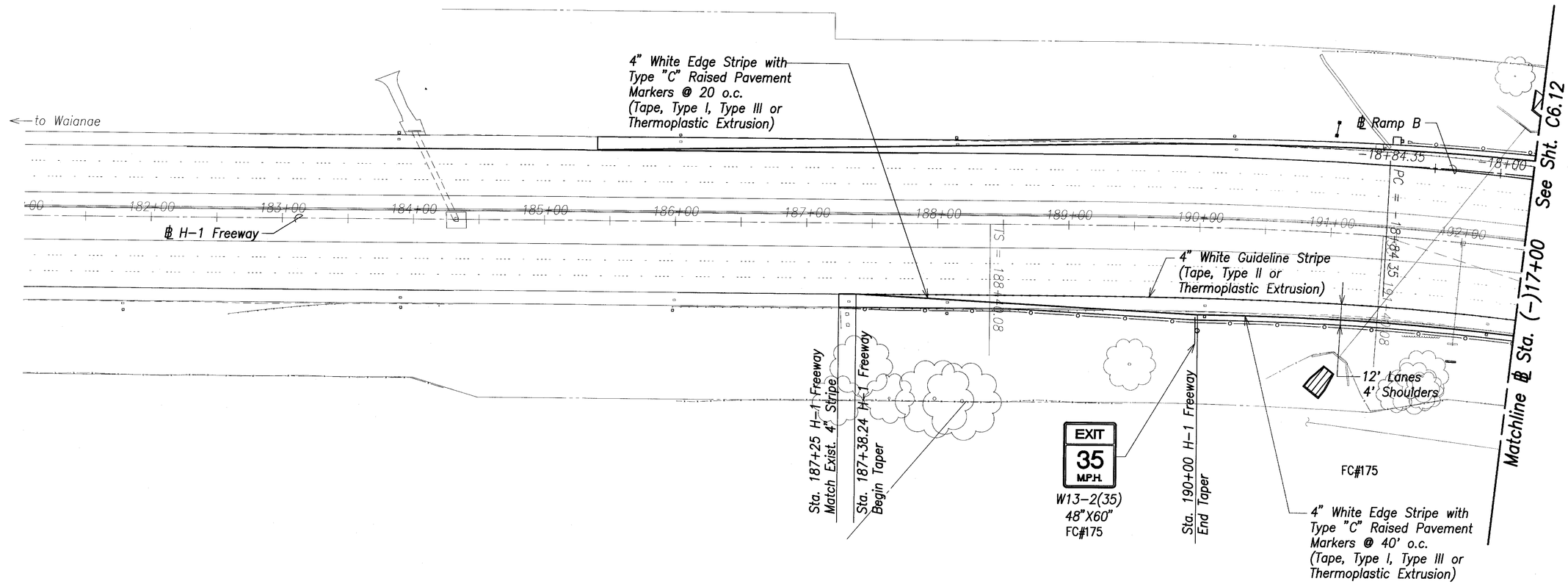
SHEET No. C6.10 OF 179 SHEETS

"AS-BUILT"

CO 130

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	CO 131	380

True North
1" = 40'



Graphic Scale:
1" = 40' 40' 20' 0 40' 80'
Scale in Feet

	FC#175, Sign & Striping Field Change
8/12/2009	revised per DOT comments
7/14/2008	Revised striping, added sign
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

RAMPS C & D
SIGNING & STRIPING PLAN – 1

North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

Scale: As Shown Date: Feb 21, 2007

SHEET No. C6.11 OF 179 SHEETS

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662-C
HAWAII, U.S.A.

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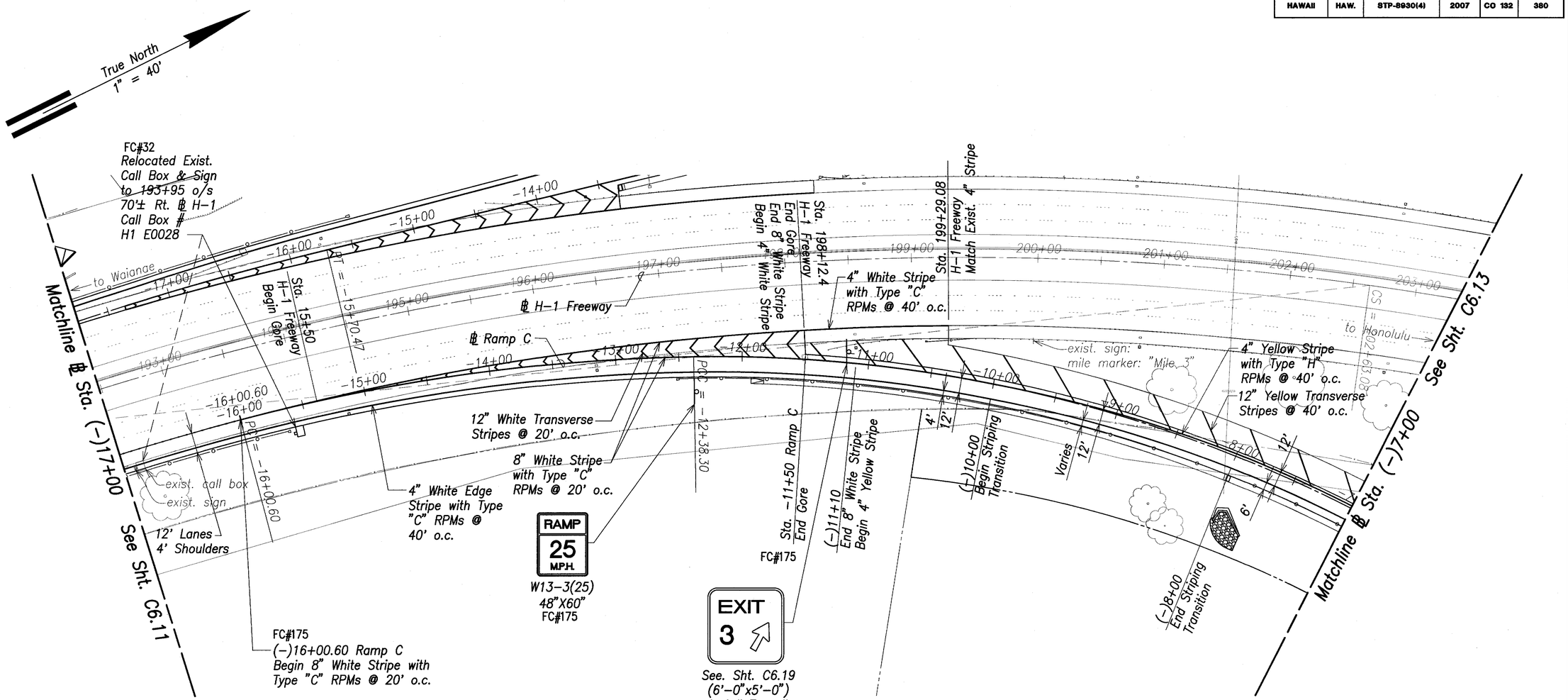
SIGNATURE April 30, 2008 EXPIRATION DATE OF THE LICENSE

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

"AS-BUILT"

CO 131

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	CO 132	380



FC#175 Note:
All New Striping Shall be Tape, Type I, Type III or Thermoplastic Extrusion

Graphic Scale:
1" = 40' 40' 20' 0 40' 80'
Scale in Feet

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662-C
HAWAII, U.S.A.

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SIGNATURE — April 30, 2008 EXPIRATION DATE OF THE LICENSE

	FC#32 & 175, Sign & Striping Field Change
8/12/2009	revised per DOT comments
7/14/2008	Revised striping, deleted sign
6/20/2008	Revised Call Box Location & Striping
3/5/2008	Revised Striping
2/20/2008	Revised Call Box Relocation
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

RAMPS C & D
SIGNING & STRIPING PLAN - 2

North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

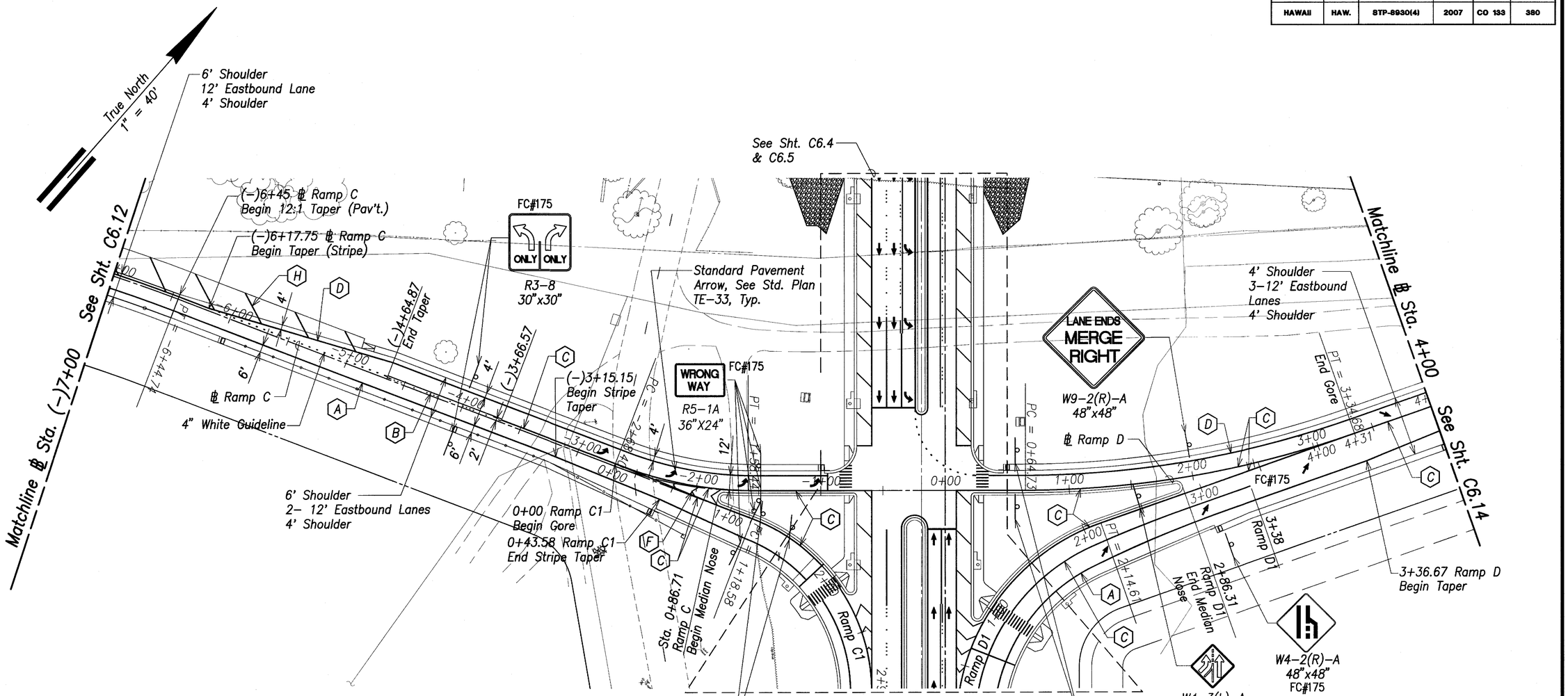
Scale: As Shown Date: Feb 21, 2007

SHEET No. C6.12 OF 179 SHEETS

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

"AS-BUILT" CO 132

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	CO 133	380



Legend

A – 4" White Stripe with Type "C" RPM's @ 40' o.c.
B – 4" White Stripe, 4–Type "A" RPMs @ 40' o.c. with Type "C" RPM's @ 20' o.c.
C – 8" White Stripe with Type "C" RPM's @ 20' o.c.
D – 4" Yellow Stripe with Type "H" RPM's @ 40' o.c.
E – 4–Type "A" RPMs with 1–Type "C" RPM @ 40' o.c.
F – 12" White Channelizing Island Stripes @ 20' o.c.
G – 12" White Transverse Stripes @ 40' o.c.
H – 12" Yellow Transverse Stripes @ 40' o.c.

Note:
All New Striping Shall be Tape, Type I, Type III or Thermoplastic Extrusion

Graphic Scale:
1" = 40' 40' 20' 0 40' 80'
Scale in Feet

	FC#175, Sign & Striping Field Change
8/12/2009	revised per DOT comments
7/14/2008	revised sheet
3/5/2008	Revised Striping
DATE	REVISION

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662–C
HAWAII, U.S.A.

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April 30, 2008
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

RAMPS C & D
SIGNING & STRIPING PLAN – 3

North–South Road
Phase 1C
F.A.I. Proj. No. STP–8930(4)

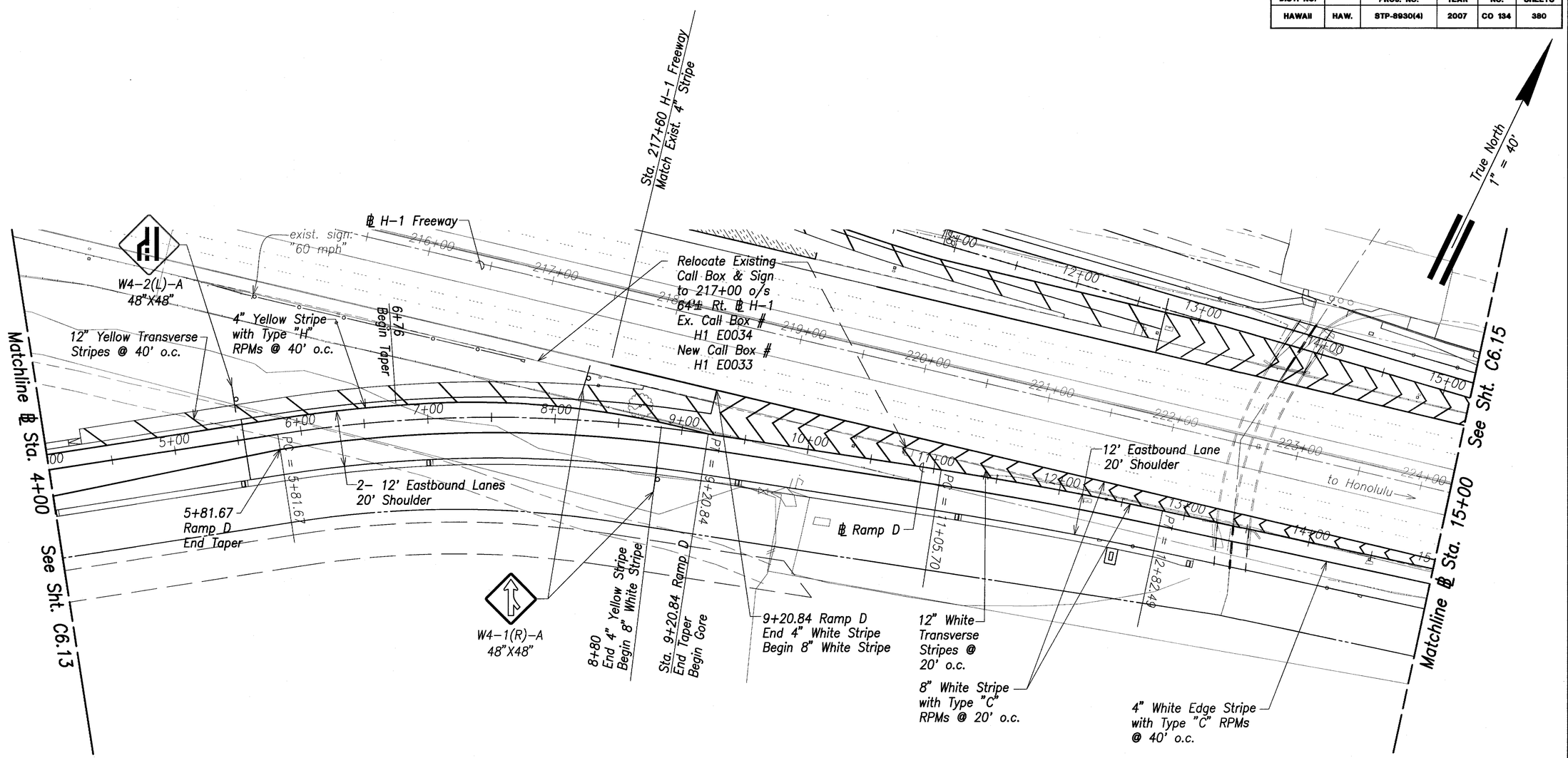
Scale: As Shown Date: Feb 21, 2007

SHEET No. C6.13 OF 179 SHEETS

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

"AS–BUILT" CO 133

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	CO 134	380



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

Note:
All New Striping Shall be Tape, Type I, Type III or Thermoplastic Extrusion

Graphic Scale:

1" = 40' 40' 20' 0 40' 80'

Scale in Feet

GREG H. HIYAKUMOTO LICENSED PROFESSIONAL ENGINEER No. 6662-C HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE — April 30, 2008 EXPIRATION DATE OF THE LICENSE

DATE	REVISION
8/12/2009	revised per DOT comments
7/14/2008	Revised sign & striping
6/20/2008	Revised call box #
2/20/2008	Revised Call Box Relocation

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

RAMPS C & D
SIGNING & STRIPING PLAN - 4

North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

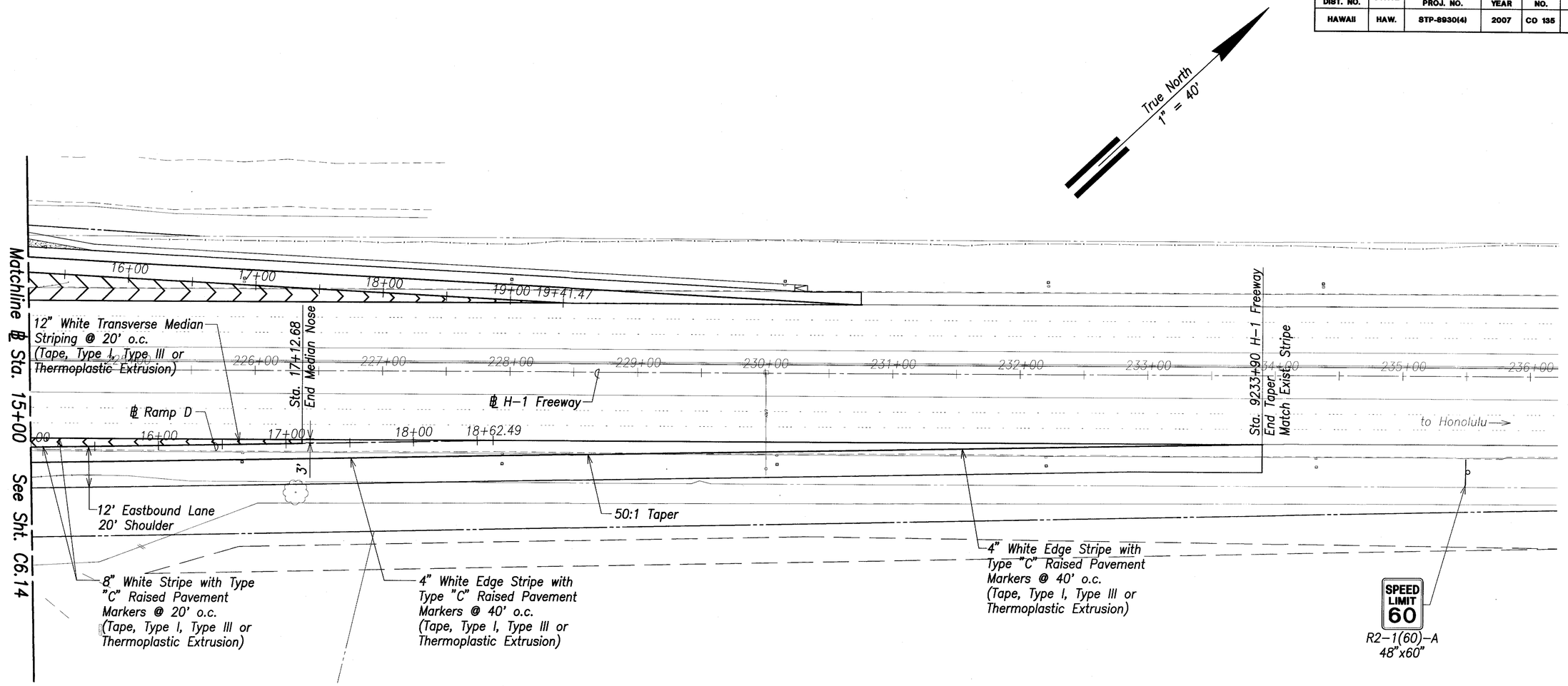
Scale: As Shown — Date: Feb 21, 2007

SHEET No. C6.14 OF 179 SHEETS

"AS-BUILT"

CO 134

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	CO 135	380



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

Graphic Scale:
1" = 40' 40' 20' 0 40' 80'
Scale in Feet

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662-C
HAWAII, U.S.A.

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SIGNATURE April 30, 2008 EXPIRATION DATE OF THE LICENSE

DATE	REVISION
	FC#73 & 183
8/12/2009	revised per DOT comments
7/14/2008	Revised sign & striping

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

RAMPS C & D
SIGNING & STRIPING PLAN - 5

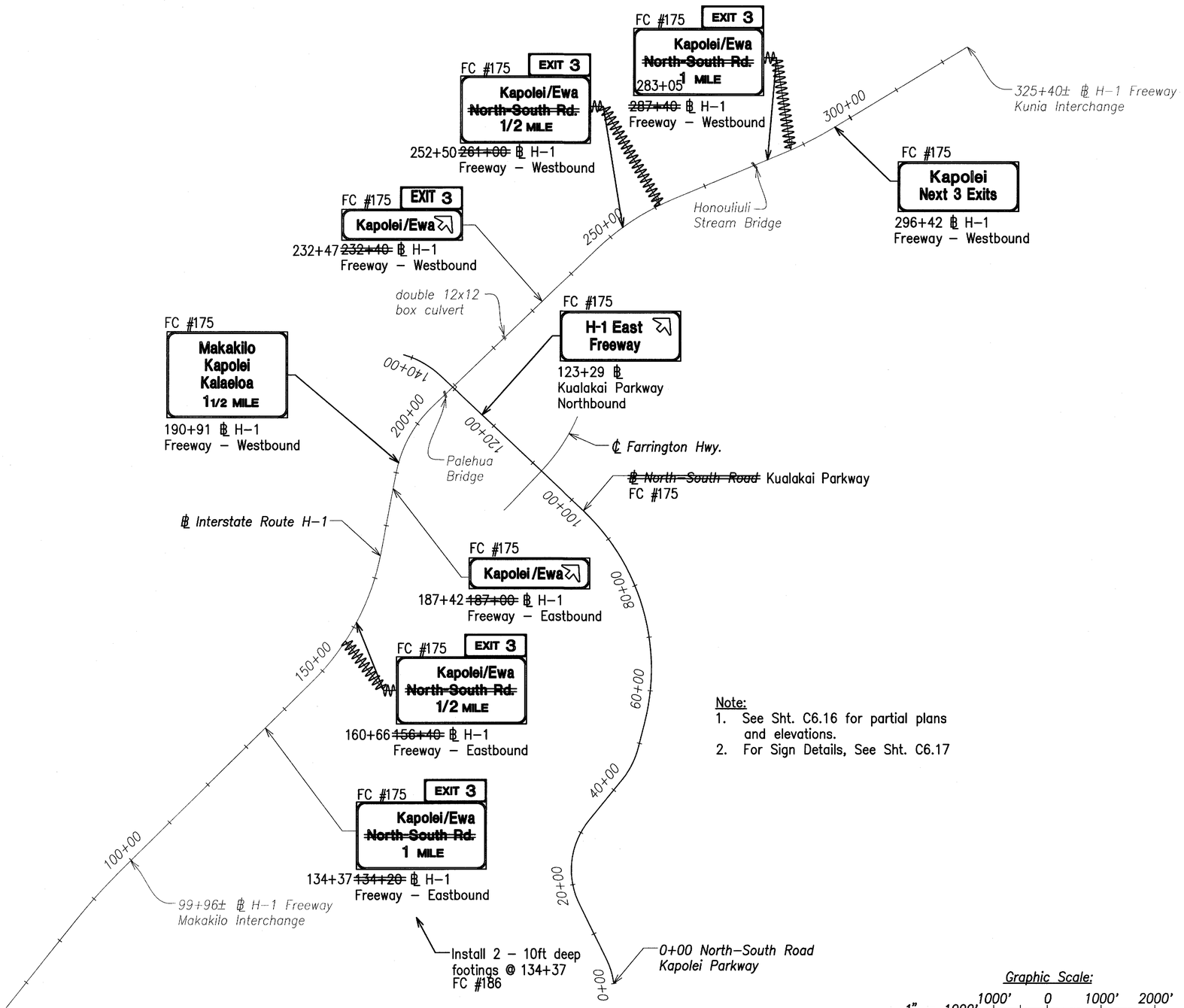
North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

Scale: As Shown Date: Feb 21, 2007

SHEET No. C6.15 OF 179 SHEETS

"AS-BUILT" CO 135

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	CO 136	380



Destination Signs Location Plan

Scale: 1" = 1000'

Note:
1. See Sht. C6.16 for partial plans and elevations.
2. For Sign Details, See Sht. C6.17

LEGEND FOR AS-BUILT POSTINGS

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

Graphic Scale:

1" = 1000' 1000' 0 1000' 2000'

Scale in Feet

GREG H. HIYAKUMOTO LICENSED PROFESSIONAL ENGINEER No. 6662-C HAWAII, U.S.A.

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SIGNATURE April 30, 2008 EXPIRATION DATE OF THE LICENSE

	FC#175 & 186
7/22/2009	*revised sign location*
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DESTINATION SIGNS LOCATION PLAN

North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

Scale: As Shown Date: Feb 21, 2007

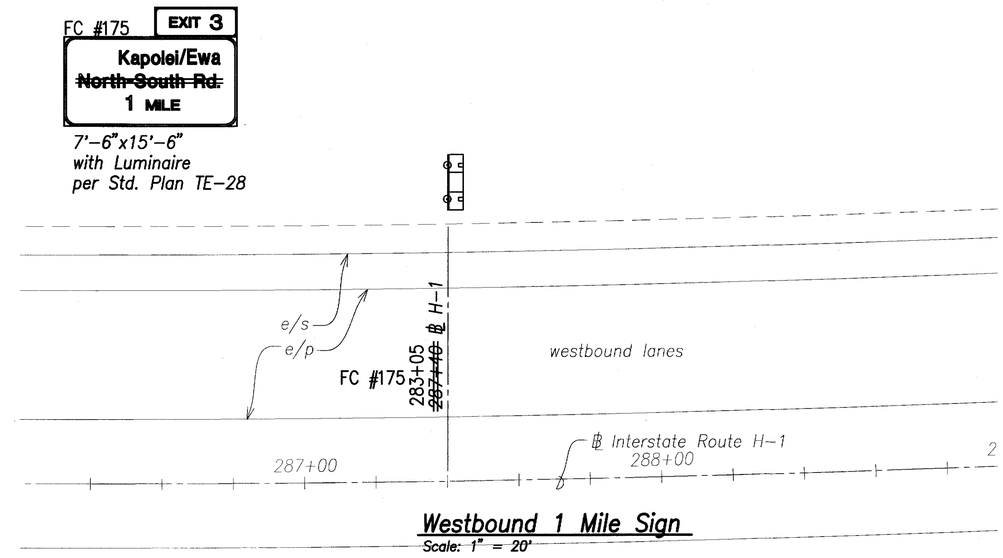
SHEET No. C6.16 OF 179 SHEETS

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

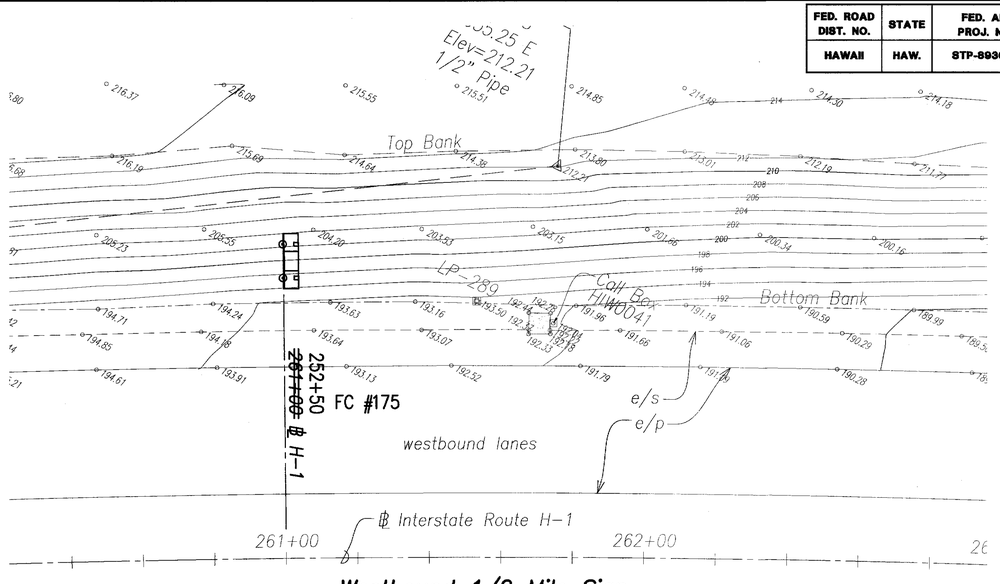
"AS-BUILT"

CO 136

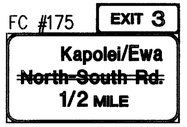
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	137	380

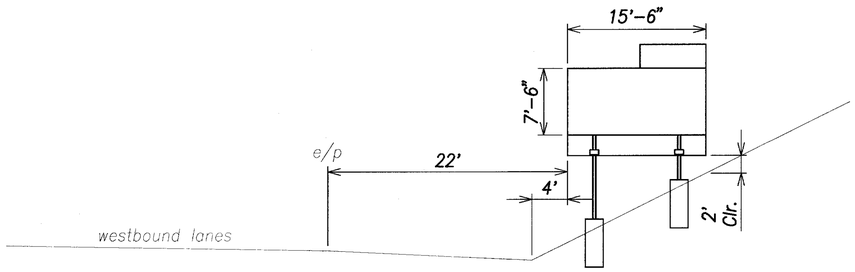


Westbound 1 Mile Sign
Scale: 1" = 20'

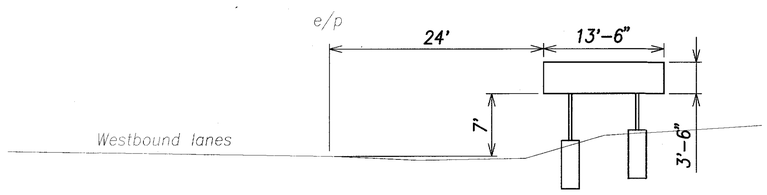


Westbound 1/2 Mile Sign
Scale: 1" = 20'

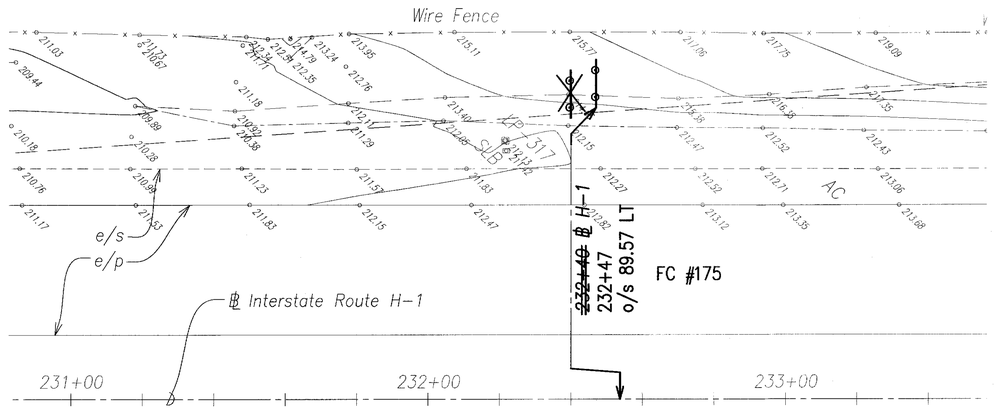




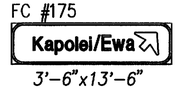
Westbound 1 Mile & 1/2 Mile Sign Elevation
Not to Scale



Westbound Exit Sign Elevation
Not to Scale



Westbound Exit Sign
Scale: 1" = 20'



LEGEND FOR AS-BUILT POSTINGS

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

Graphic Scale:
1" = 20' 20' 10' 0 20' 40'
Scale in Feet

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE — April 30, 2008 EXPIRATION DATE OF THE LICENSE

	FC#175
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

WESTBOUND SIGNS PLANS AND ELEVATIONS
North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

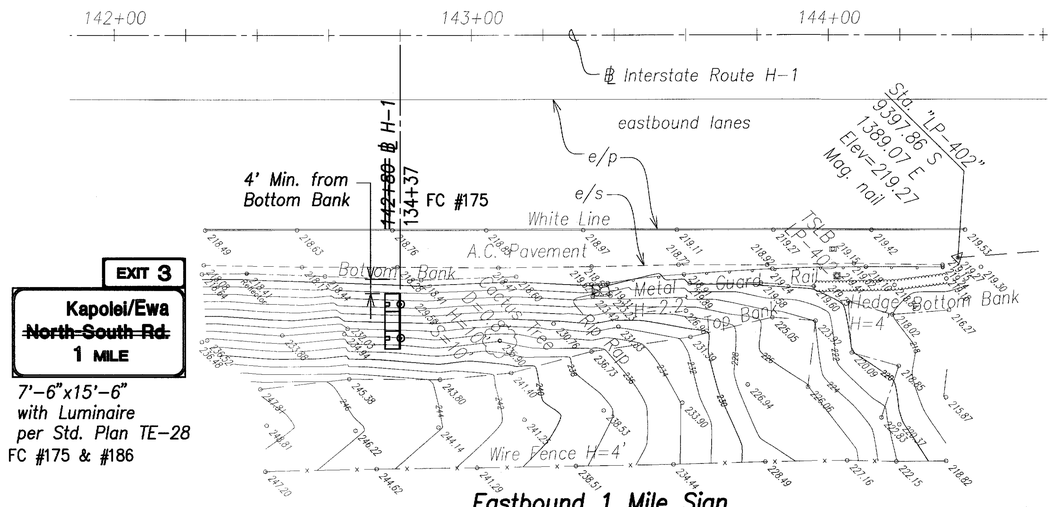
Scale: As Shown — Date: Feb 21, 2007

SHEET No. C6.17 OF 179 SHEETS

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

"AS-BUILT"

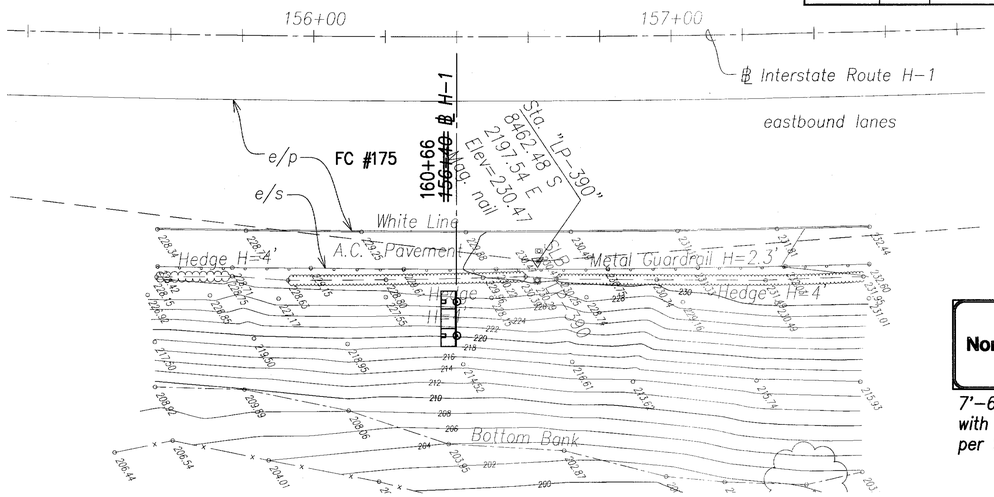
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	138	380



EXIT 3
Kapolei/Ewa
~~North-South Rd.~~
1 MILE

7'-6"x15'-6"
with Luminaire
per Std. Plan TE-28
FC #175 & #186

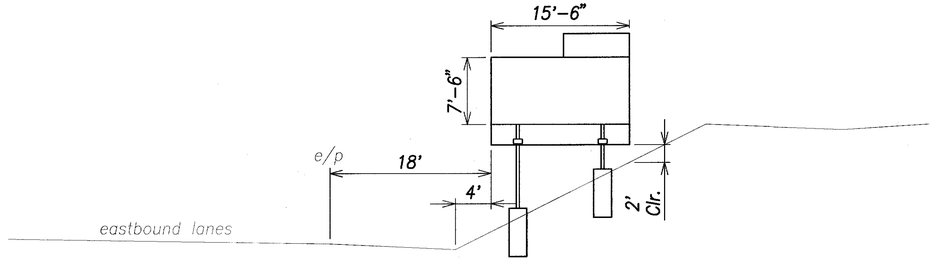
Eastbound 1 Mile Sign
Scale: 1" = 20'



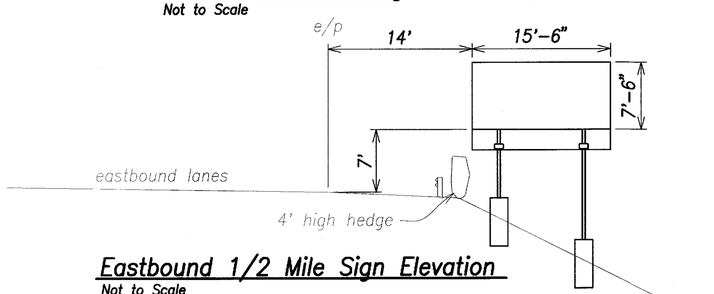
EXIT 3
Kapolei
North-South Rd.
1/2 MILE

7'-6"x15'-6"
with Luminaire
per Std. Plan TE-28

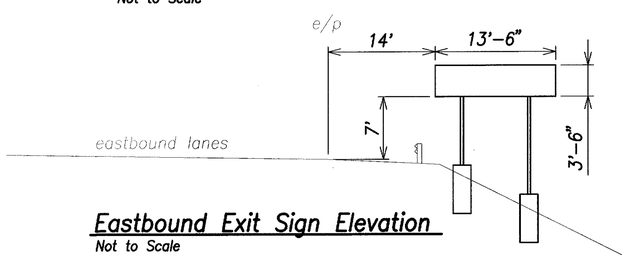
Eastbound 1/2 Mile Sign
Scale: 1" = 20'



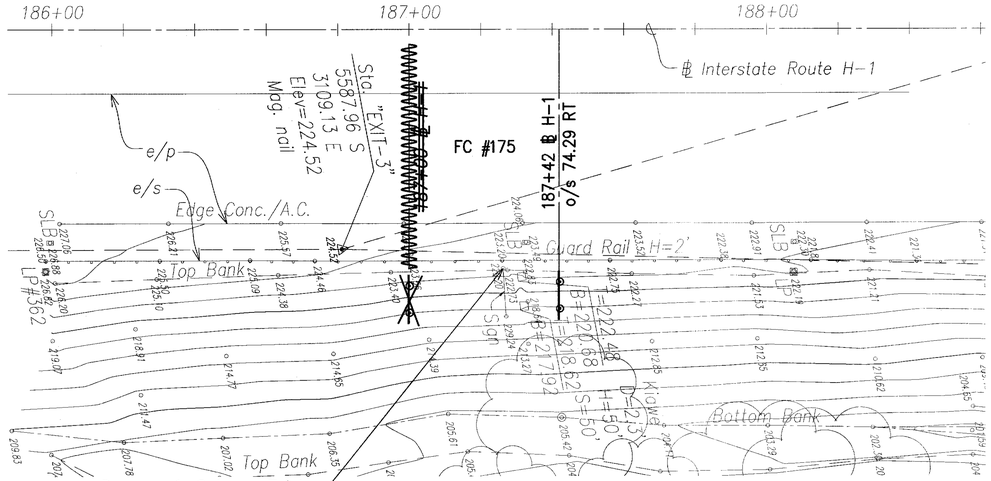
Eastbound 1 Mile Sign Elevation
Not to Scale



Eastbound 1/2 Mile Sign Elevation
Not to Scale



Eastbound Exit Sign Elevation
Not to Scale



Kapolei
3'-6"x13'-6"

Remove & Salvage Exist.
"Waipahu Next 3 Exits" Sign.
Dispose posts and foundations.

Eastbound Exit Sign
Scale: 1" = 20'

LEGEND FOR AS-BUILT POSTINGS

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

Graphic Scale:
1" = 20' 20' 10' 0 20' 40'
Scale in Feet

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE
April 30, 2008
EXPIRATION DATE OF THE LICENSE

	FC#175 & 186
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

EASTBOUND SIGNS PLANS AND ELEVATIONS

North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

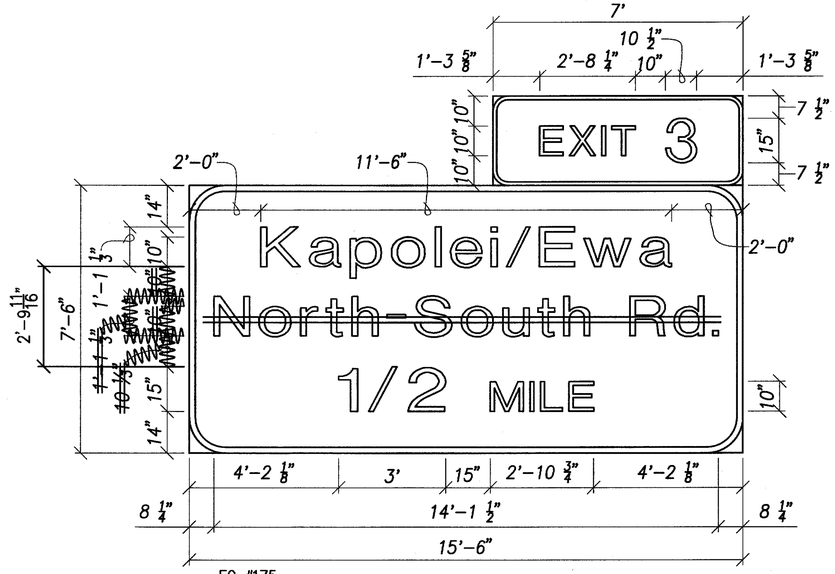
Scale: As Shown
Date: Feb 21, 2007

SHEET No. C6.18 OF 179 SHEETS

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

"AS-BUILT"

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	CO 139	380

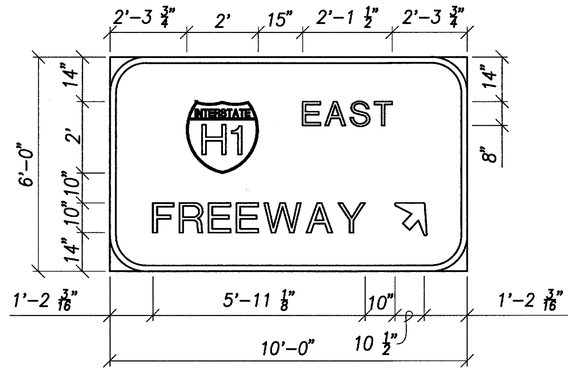


FC #175

Destination Sign

H-1 ฿ ~~156+40~~ (EB) & ~~261+00~~ (WB)

Scale: 1" = 2' 160+66± 252+50±

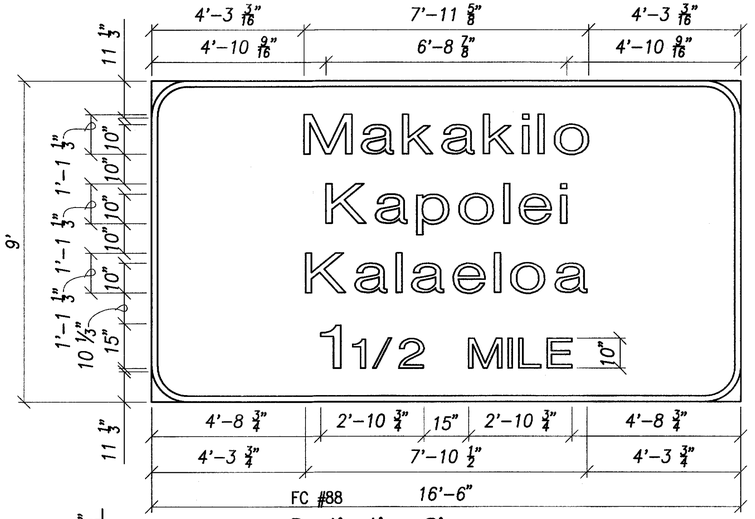


FC #175

Destination Sign

North-South Rd. ฿ ~~123+30~~ (NB)

Scale: 1" = 2' 123+29±

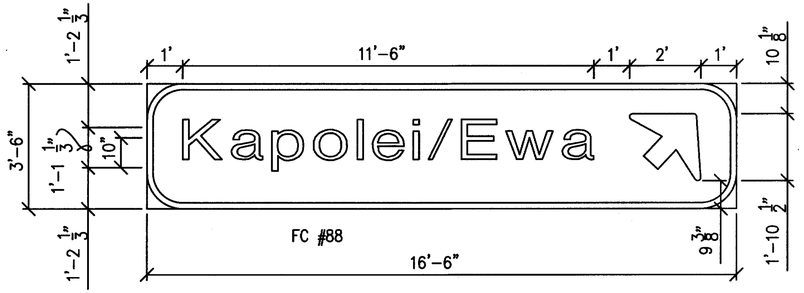


FC #88

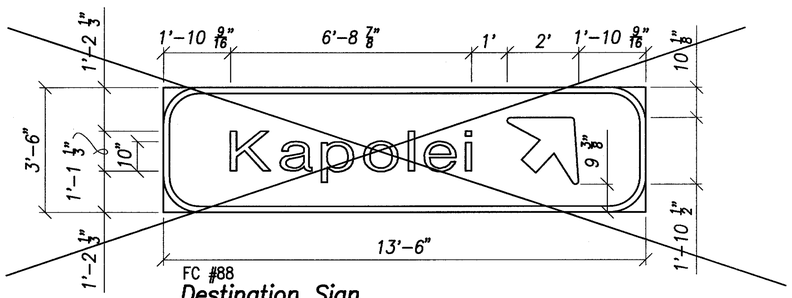
Destination Sign

H-1 ฿ 191+00± (WB)

Scale: 1" = 2'



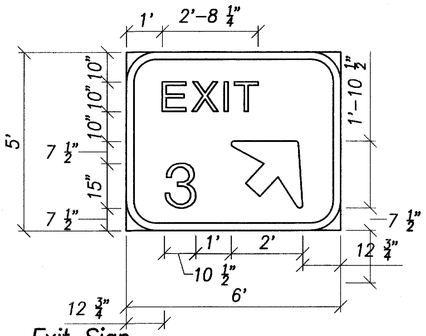
FC #88



Destination Sign

H-1 ฿ 187+~~00~~ (EB) & 232+~~40~~ (WB)

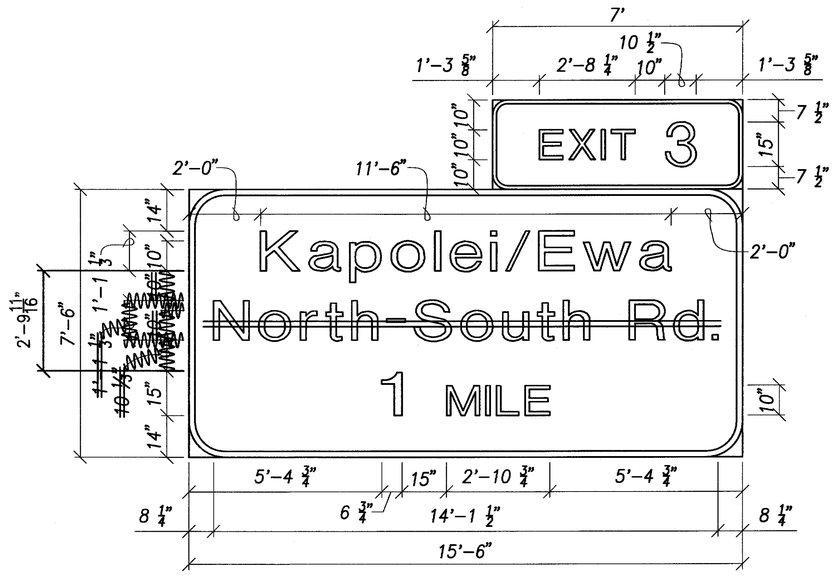
Scale: 1" = 2' 42 47



Exit Sign

H-1 ฿ 221+65(WB) & 198+50(EB)

Scale: 1" = 2'



Destination Sign

H-1 ฿ ~~134+20~~ (EB) & ~~287+40~~ (WB)

Scale: 1" = 2' 134+37± 283+05±

FC #175

Note:

All wording spacing is based on Clearview Typeface 5-W with the exception of "North-South Rd." which is based on Clearview Typeface 5-W-R (See the Manual of Uniform Traffic Control Devices, FHWA, 2003)

LEGEND FOR AS-BUILT POSTINGS

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

Graphic Scale:

1" = 2' 2' 1' 0 2' 4'

Scale in Feet

FC #175

DATE	REVISION
5/23/08	FC#88 Revised/Added destination signs
7/22/2009	*revised sign location*
4/08/2009	*revised destination sign*
5/23/2008	*revised/added destination signs*

GREG H. HIYAKUMOTO LICENSED PROFESSIONAL ENGINEER No. 6662-C HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE

April 30, 2008

EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DESTINATION SIGN DETAILS

North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

Scale: As Shown *Date: Feb 21, 2007*

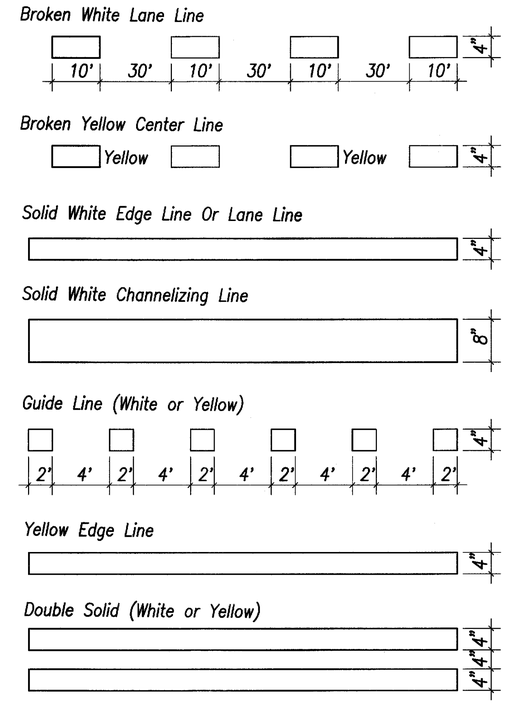
SHEET No. C6.19 OF 179 SHEETS

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

"AS-BUILT"

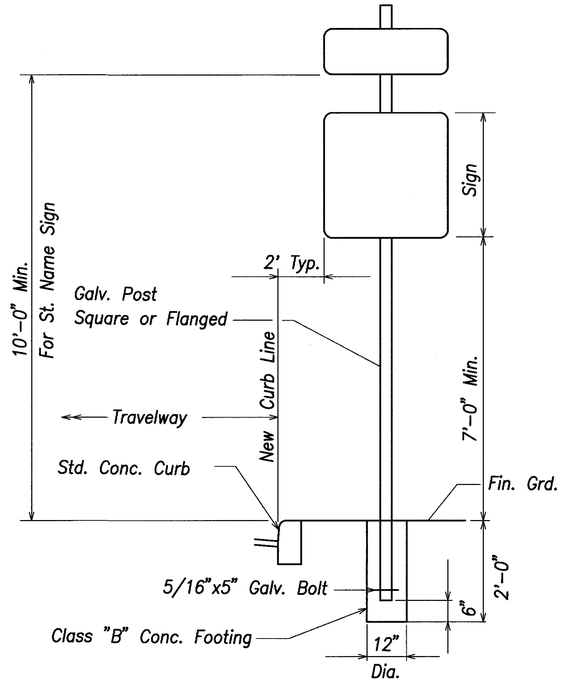
CO 139

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	140	380



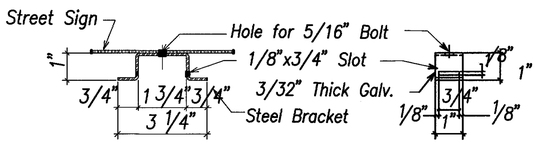
Types Of Longitudinal Lines

Not To Scale



Installation Of Sign Post With Conc. Curb

Not To Scale



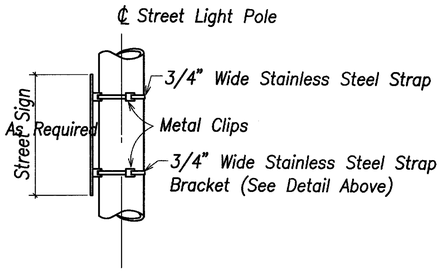
Bracket Detail

Scale: Not To Scale

* All sign installations shall provide required lateral & height clearances, including new signs that will be posted onto exist. sign posts. Extend, relocate or replace as required to meet clearance requirements.

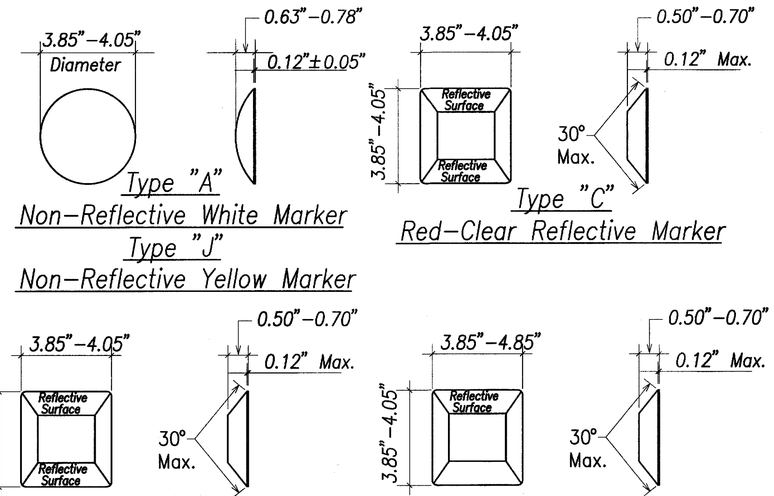
Sign Post Detail

Scale: Not To Scale



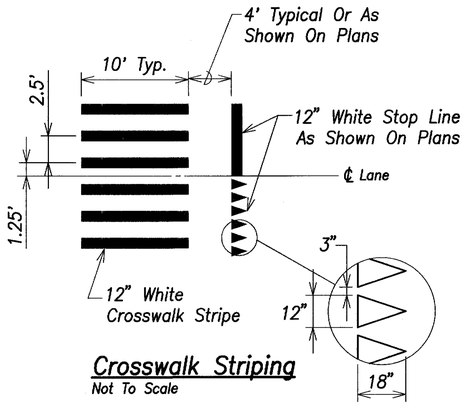
Strap Mounting Detail

Scale: Not To Scale



Standard Raised Pavement Markers

Scale: Not To Scale



Crosswalk Striping

Not To Scale

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

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE

April 30, 2008
EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY SIGNING & STRIPING DETAILS

North–South Road
Phase 1C
F.A.I. Proj. No. STP–8930(4)

Scale: As Shown
Date: Feb 21, 2007

SHEET No.C6.20 OF 179 SHEETS

"AS–BUILT"

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	CO 141	380

North–South Road						
Station	Direction	Location	Sign Type	Dim. (in.)	Shown on	Mounting
108+45	Northbound	Shoulder	R8–3a	24x24	C6.1	TE–03
				24x18		
108+50	Southbound	Shoulder	R16–4	24x30	C6.1	TE–03
108+52	Southbound	Median	R17–1	30x48	C6.1	Type I Std.
108+58	Southbound	Shoulder	R8–3a	24x24	C6.1	TE–03
				24x18		
109+06	Northbound	Shoulder	M3–3	24x12	C6.1	TE–15
			M1–6(8930)	24x24		
			M6–3	21x15		
109+06	Southbound	Shoulder	M3–3	24x12	C6.1	TE–15
			M1–6(8930)	24x24		
			M6–3	21x15		
109+90	Northbound	Shoulder	R2–1(35)	24x30	C6.1	TE–03
110+85	Southbound	Shoulder	R8–3a	24x24	C6.1	TE–03
				24x18		
112+50	Southbound	Shoulder	R3–8	48x30	C6.1	TE–03
112+50	Southbound	Median	R3–8	48x30	C6.1	TE–03
113+20	Northbound	Shoulder	R8–3a	24x24	C6.2	TE–03
				24x18		
114+65	Southbound	Shoulder	R8–3a	24x24	C6.2	TE–03
				24x18		
115+00	Northbound	Shoulder	W2–2	30x30	C6.2	TE–03
115+60	Southbound	Shoulder	R2–1(35)	24x30	C6.2	TE–03
116+70	Northbound	Shoulder	IM2–1	21x15	C6.2	TE–15
			IM–1(1)	24x24		
117+05	Southbound	Median	R3–8	48x30	C6.2	TE–03
117+05	Southbound	Shoulder	R3–8	48x30	C6.2	TE–03
117+30	Northbound	Shoulder	R8–3a	24x24	C6.2	TE–03
				24x18		
117+70	Southbound	Shoulder	R3–3	24x24	C6.3	TE–03
117+70	Southbound	Median	R3–3	24x24	C6.3	TE–03
118+33	Northbound	Shoulder	R3–3	24x24	C6.3	TE–03
118+33	Northbound	Median	R3–3	24x24	C6.3	TE–03
118+50	Southbound	Shoulder	R8–3a	24x24	C6.3	TE–03
				24x18		
119+70	Northbound	Shoulder	R2–1(35)	24x30	C6.3	TE–03
121+10	Northbound	Shoulder	R3–8b(Mod)	36x30	C6.3	TE–03
121+10	Northbound	Median	R3–8b(Mod)	36x30	C6.3	TE–03
121+50	Northbound	Shoulder	R8–3a	24x24	C6.3	TE–03
				24x18		
121+60	Southbound	Shoulder	W2–2	30x30	C6.3	TE–03
122+00	Northbound	Shoulder	IM3–2	24x12	C6.3	TE–15
			IM–1(1)	24x24		
			IM6–3	21x15		
122+00	Northbound	Median	IM3–4	24x12	C6.3	TE–15
			IM–1(1)	24x24		
			IM6–3	21x15		
122+35	Northbound	Shoulder	R8–3a	24x24	C6.3	TE–03
				24x18		

North–South Road						
Station	Direction	Location	Sign Type	Dim. (in.)	Shown on	Mounting
123+30	Northbound	Shoulder	Destination	120x72	C6.4	See Note
123+90	Northbound	Shoulder	R3–8b(Mod)	42x30	C6.4	TE–03
123+90	Northbound	Median	R3–8b(Mod)	42x30	C6.4	TE–03
124+05	Southbound	Shoulder	R2–1(35)	24x30	C6.4	TE–03
124+50	Northbound	Shoulder	W11–2–FL	30x30	C6.4	TE–03
			W16–9P(R)–FL	24x10		
125+20	Northbound	Shoulder	R8–3a	24x24	C6.4	TE–03
				24x18		
125+86	Southbound	Shoulder	R8–3a	24x24	C6.4	TE–03
				24x18		
126+88	Southbound	Shoulder	W4–3(R)–A	48x48	C6.4	TE–03
127+00	Northbound	Sidewalk	R3–1	24x24	C6.4	TE–03
				24x18		
127+00	Southbound	Median	R17–3	30x48	C6.4	TE–03
127+22	Southbound	Sidewalk	R6–1(L)	36x12	C6.4	TE–03
127+70	Northbound	Shoulder	R8–3a	24x24	C6.4	TE–03
				24x18		
127+80	Southbound	Sidewalk	R3–1	24x24	C6.4	TE–03
				24x18		
127+97	Northbound	Median	R3–4b	24x24	C6.4	TE–03
				24x18		
128+70	Northbound	Sidewalk	IM3–4	24x12	C6.5	TE–15
			IM–1(1)	24x24		
			IM5–1(L)	21x15		
129+00	Northbound	Sidewalk	R3–8	30x30	C6.5	TE–03
129+00	Northbound	Median	R3–8	30x30	C6.5	TE–03
129+00	Southbound	Sidewalk	R3–8	30x30	C6.5	TE–03
129+00	Southbound	Median	R3–8	30x30	C6.5	TE–03
129+55	Northbound	Sidewalk	R2–1(35)	24x30	C6.5	TE–03
129+55	Southbound	Shoulder	R8–3a	24x24	C6.5	TE–03
				24x18		
131+00	Southbound	Sidewalk	IM3–2	24x12	C6.5	TE–15
			IM–1(1)	24x24		
			IM5–1(L)	21x15		
			M3–3	24x12		
			M1–6(8930)	24x24		
			M6–3	21x15		
131+60	Southbound	Sidewalk	R2–1(35)	24x30	C6.5	TE–03
131+80	Northbound	Sidewalk	R3–8	30x30	C6.5	TE–03
131+80	Northbound	Median	R3–8	30x30	C6.5	TE–03
131+80	Southbound	Sidewalk	R3–8	30x30	C6.5	TE–03
131+80	Southbound	Median	R3–8	30x30	C6.5	TE–03
132+00	Northbound	Shoulder	R8–3a	24x24	C6.5	TE–03
				24x18		
132+60	Northbound	Median	Special	36x36	C6.5	TE–03
132+83	Northbound	Sidewalk	R3–1	24x24	C6.5	TE–03
				24x18		
132+95	Southbound	Median	R4–7	24x30	C6.5	TE–03
132+99	Southbound	Overhead	R3–3	24x24	C6.5	Type II Std.

North–South Road						
Station	Direction	Location	Sign Type	Dim. (in.)	Shown on	Mounting
133+25	Southbound	Shoulder	R8–3a	24x24	C6.5	TE–03
				24x18		
133+80	Northbound	Island	R6–1(L)	36x12	C6.5	TE–03
134+06	Northbound	Median	R17–1	30x48	C6.5	TE–03
134+08	Northbound	Island	W4–1(R)–A	48x48	C6.5	TE–03
134+50	Southbound	Shoulder	IM3–4	24x12	C6.5	TE–15
			IM–1(1)	24x24		
			IM5–1(R)	21x15		
135+25	Southbound	Shoulder	R3–2	24x24	C6.8	TE–03
				24x18		

Note:
1. *For Destination detail, see sheet C6.17. For mounting detail see structural drawings.*
2. *Sign location may be adjusted to avoid obstructions, utility lines, utility boxes and viewplanes to traffic signal heads.*

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

GREG H. HIYAKUMOTO LICENSED PROFESSIONAL ENGINEER No. 6662-C HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE — April 30, 2008 EXPIRATION DATE OF THE LICENSE

DATE	REVISION
7/28/2009	revised schedule

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SIGN INDEX – 1

North–South Road
Phase 1C
F.A.I. Proj. No. STP–8930(4)

Date: Feb 21, 2007

SHEET No. C6.21 OF 179 SHEETS

"AS–BUILT"

CO 141

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	CO 142	380

Westbound – Ramps A & B

Station	Sign Faces	Location	Sign Type	Dim. (in.)	Shown on	Mounting
−16+50	East	Lt. Shldr.	W4−1(R)−A	48x48	C6.7	TE−03
−10+00	East	Lt. Shldr.	W4−2(R)−A	48x48	C6.7	TE−03
−6+50	East	Lt. Shldr.	W9−2(L)−A	48x48	C6.7	TE−03
−1+65	East	Rt. Shldr.	R16−5	36x42	C6.8	TE−03
−1+65	East	Lt. Shldr.	R16−5	36x42	C6.8	TE−03
−1+10	East	Island	W4−3(R)−A	48x48	C6.8	TE−03
0+36±	East	Island	R3−55(L)	30x36	C6.5	Type I Std.
	West		R5−1	30x30		
0+36±	East	Rt. Shldr.	R3−55(L)	30x36	C6.5	TE−03
	West		R5−1	30x30		
1+50	West	Rt. Shldr.	R5−1A	36x24	C6.8	TE−03
1+50	West	Lt. Shldr.	R5−1A	36x24	C6.8	TE−03
5+00	East	Rt. Shldr.	R3−8b(Mod.)	36x30	C6.8	TE−03
5+00	East	Lt. Shldr.	R3−8b(Mod.)	36x30	C6.8	TE−03
10+85	East	Lt. Shldr.	W13−3(25)	48x60	C6.9	TE−03
12+67±	East	Rt. Shldr.	Exit Sign	72x60	C6.9	See Note

Eastbound – Ramps C & D

Station	Sign Faces	Location	Sign Type	Dim. (in.)	Shown on	Mounting
−12+38	West	Lt. Shldr.	W13−3(25)	48x60	C6.12	TE−03
−11+10	West	Lt. Shldr	Exit Sign	60x72	C6.12	See Note
−4+00	West	Rt. Shldr.	R3−8	30x30	C6.13	TE−03
−4+00	West	Lt. Shldr.	R3−8	30x30	C6.13	TE−03
−1+50	East	Island	R5−1A	36x24	C6.13	TE−03
−1+50	East	Lt. Shldr.	R5−1A	36x24	C6.13	TE−03
−0+92	West	Island	R3−5(L)	30x36	C6.4	TE−03
	East		R5−1	30x30		
−0+92	West	Lt. Shldr.	R3−5(L)	30x36	C6.4	TE−03
	East		R5−1	30x30		
0+55	West	Island	R16−5	36x42	C6.13	TE−03
0+55	West	Lt. Shldr.	R16−5	36x42	C6.13	TE−03
1+50	West	Island	W4−3(L)−A	48x48	C6.13	TE−03
2+00	West	Lt. Shldr.	W9−2(R)−A	48x48	C6.13	TE−03
5+50	West	Lt. Shldr.	W4−2(L)−A	48x48	C6.14	TE−03
8+80	West	Rt. Shldr.	W4−1(R)−A	48x48	C6.14	TE−03

Ramp A1

Station	Sign Faces	Location	Sign Type	Dim. (in.)	Shown on	Mounting
0+95	East	Rt. Shldr.	R1−2	30x30x30	C6.5	TE−03
	North		R5−1	30x30		

Ramp C1

Station	Sign Faces	Location	Sign Type	Dim. (in.)	Shown on	Mounting
1+25	West	Island	W1−8	18x24	C6.13	TE−03
1+25	South	Island	R5−1A	36x24	C6.13	TE−03
1+25	South	Rt. Shldr.	R5−1A	36x24	C6.13	TE−03
1+50	West	Island	W1−8	18x24	C6.13	TE−03
1+90	West	Rt. Shldr.	W11−2−FL	30x30	C6.4	TE−03
			W16−7P(L)−FL	24x12		
1+90	West	Lt. Shldr.	W11−2−FL	30x30	C6.4	TE−03
			W16−7P(R)−FL	24x12		

Ramp D1

Station	Sign Faces	Location	Sign Type	Dim. (in.)	Shown on	Mounting
0+65	South	Rt. Shldr.	R1−5(L)	30x36	C6.4	TE−03
0+83	South	Rt. Shldr.	W11−2−FL	30x30	C6.4	TE−03
			W16−7P(L)−FL	24x12		
0+83	South	Island	W11−2−FL	30x30	C6.4	TE−03
			W16−7P(R)−FL	24x12		
1+30	South	Rt. Shldr.	R16−5	36x42	C6.4	TE−03
1+30	South	Island	R16−5	36x42	C6.4	TE−03
3+05	West	Rt. Shldr.	W4−2(R)−A	48x48	C6.13	TE−03

H−1 Freeway

Station	Direction	Location	Sign Type	Dim. (in.)	Shown on	Mounting
183+00	Westbound	Shldr.	R2−1(60)−A	48x60	C6.6	TE−03
190+00	Eastbound	Shldr.	W13−2(35)	48x60	C6.11	TE−03
191+00	Westbound	Shldr.	Destination	198x108	C6.6	See Note
198+75	Westbound	Shldr.	W4−1(R)−A	48x48	C6.7	TE−03
217+45	Eastbound	Shldr.	W4−1(R)−A	48x48	C6.14	TE−03
230+50	Westbound	Shldr.	W13−2(35)	48x60	C6.10	TE−03
235+50	Eastbound	Shldr.	R2−1(60)−A	48x60	C6.15	TE−03

Note:
1. For Destination and Exit Sign details, see sheet C6.17. For mounting details see structural drawings.
2. Sign location may be adjusted to avoid obstructions, utility lines, utility boxes and viewplanes to traffic signal heads.

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

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE — April 30, 2008 EXPIRATION DATE OF THE LICENSE

7/28/2009	revised schedule
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SIGN INDEX – 2

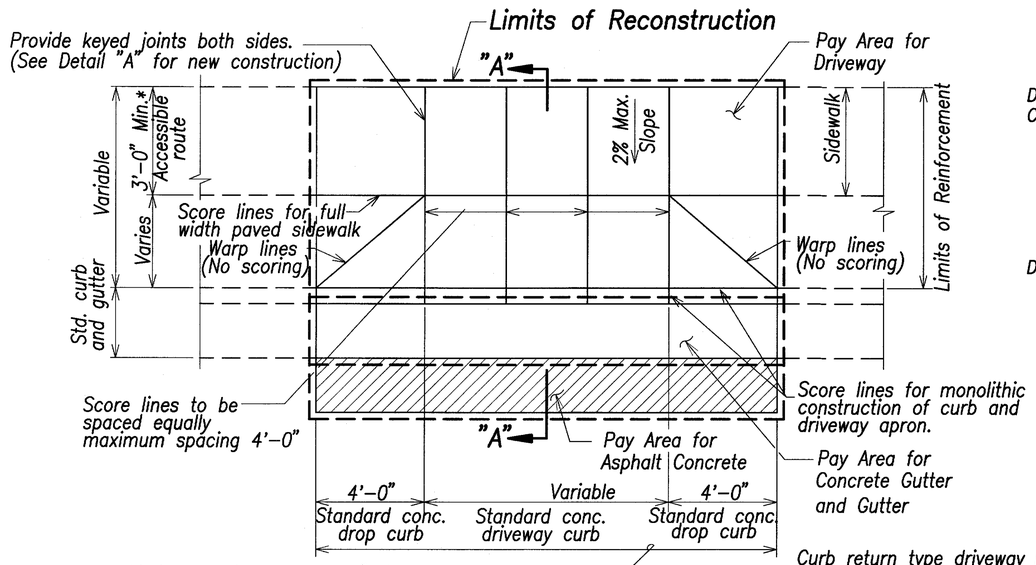
North–South Road
Phase 1C
F.A.I. Proj. No. STP–8930(4)

Date: Feb 21, 2007

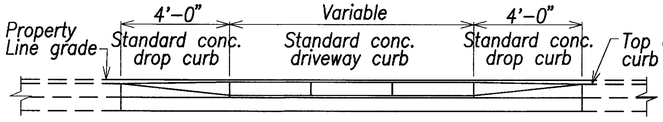
SHEET No.C6.22 OF 179 SHEETS

"AS–BUILT" CO 142

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	CO ADD. 143	380

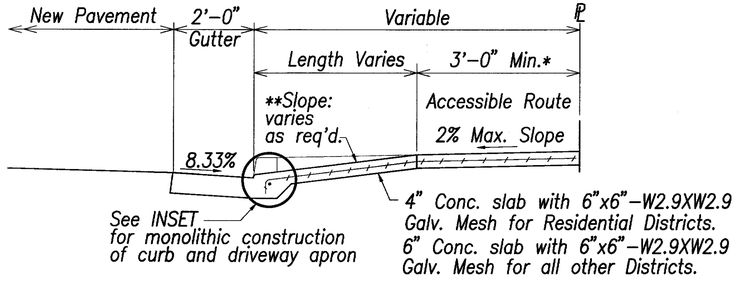


PLAN
NOT TO SCALE



ELEVATION
NOT TO SCALE

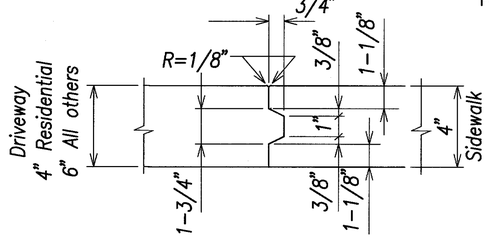
* Match width of existing sidewalk whenever possible.
** Breakover and departure angles should not exceed 10 degrees or 17%.



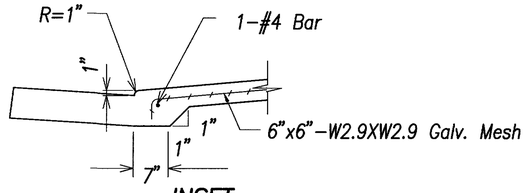
SECTION A-A
NOT TO SCALE

DRIVEWAY APRON

Curb return type driveway may be permitted for parking areas exceeding 100 spaces, fire stations and hospitals.

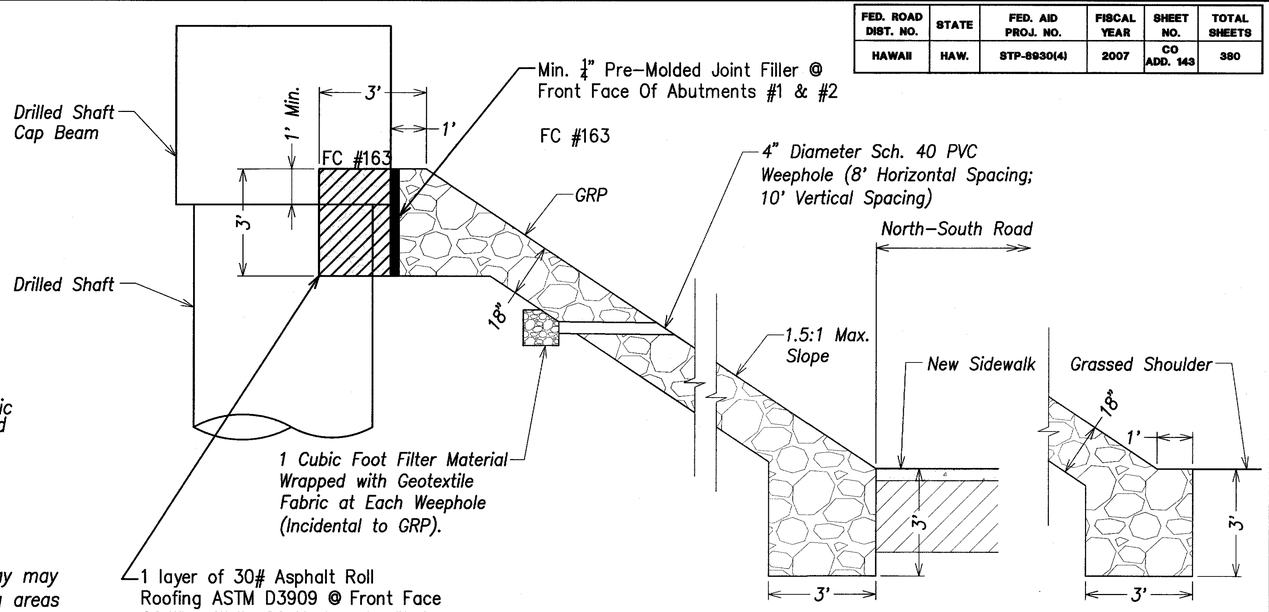


DETAIL "A"
Not to scale
(NEW CONSTRUCTION)

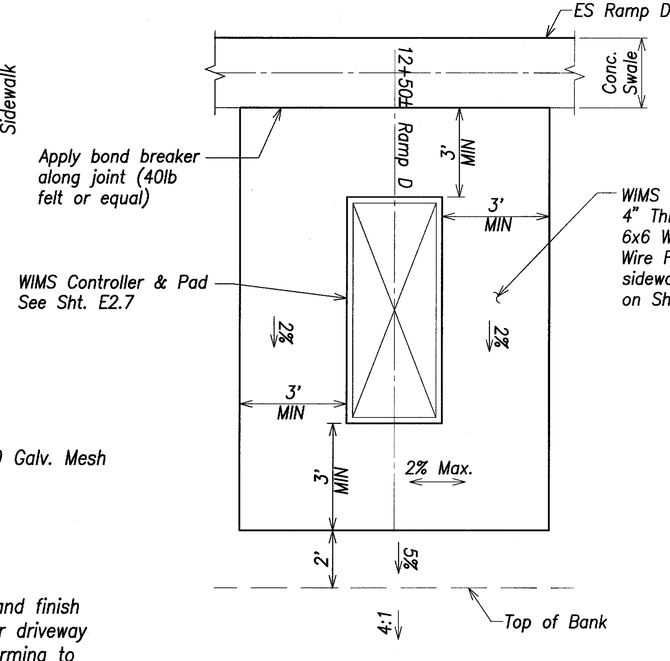


INSET
Not to scale

NOTE:
For extension to existing driveway, scoring and finish shall match existing scoring and finish. For driveway constructed in built up areas, scoring conforming to scoring at adjacent driveways may be authorized.



⚠2 GRP at North-South Road Separation
Scale: 1"=2'-0"



WIMS Pad Layout
Not to Scale
FC #60

LEGEND FOR AS-BUILT POSTINGS

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

GREG H. HIYAKUMOTO LICENSED PROFESSIONAL ENGINEER No. 6662-C HAWAII, U.S.A.

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SIGNATURE — April 30, 2008 EXPIRATION DATE OF THE LICENSE

DATE	REVISION
	FC#60 & 163
3/13/2008	Added WIMS Pad Detail
4/20/07	⚠2 Added GRP detail

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

MISCELLANEOUS DETAILS

North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

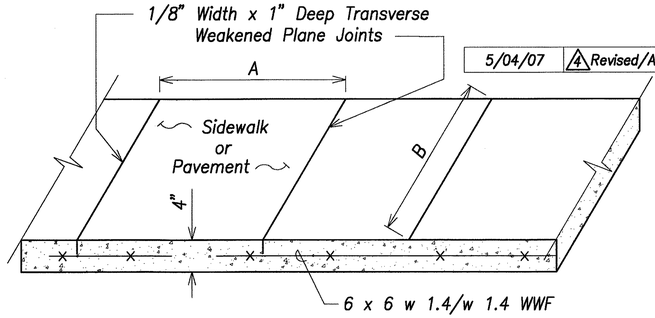
Scale: As Shown — Date: Feb 21, 2007

SHEET No. C7.1 OF 179 SHEETS

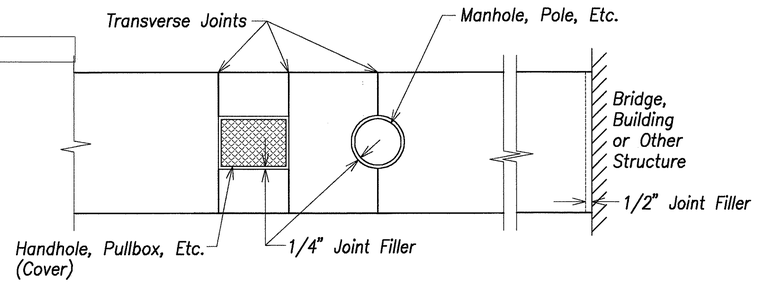
ORIGINAL PLAN | SURVEY PLOTTED BY | DRAWN BY | TRACED BY | DESIGNED BY | QUANTITIES BY | CHECKED BY | DATE | NOTE BOOK | No.

"AS-BUILT" CO ADD. 143

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	ADD. 144	380



5/04/07 | 4 Revised/Added Details



Sidewalk Isolation Joint Detail

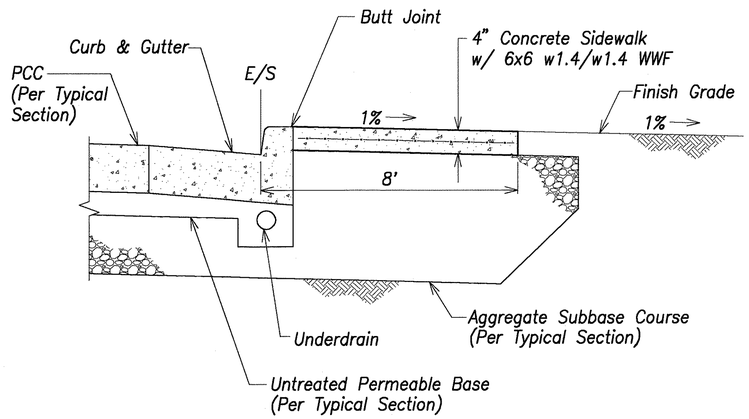
Not To Scale

Notes:

1. Joint Dimension Ratios (B/A or A/B) < 1.25 and (A or B) not to exceed 7'.
2. Longitudinal weakened plane joints similar to transverse weakened plane joints.

Typical Sidewalk Detail

Not To Scale

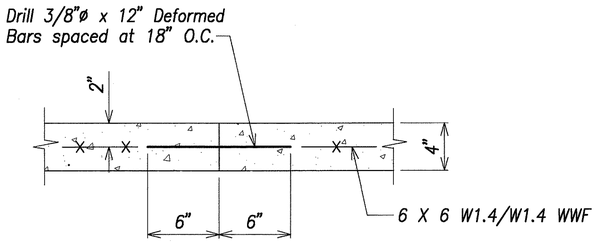


Notes:

1. Transverse and longitudinal weakened plane joints for sidewalk shall be considered incidental to the new sidewalk.
2. Installation of tie bars including drilling, and epoxy grout shall be incidental to Sidewalk.

Typical Sidewalk Section Detail

Not To Scale



Transverse Construction Joint Detail

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

3

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

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 8882-C
HAWAII, U.S.A.

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5/04/07	3 Deleted A.C. Sidewalk Detail
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SIDEWALK DETAILS

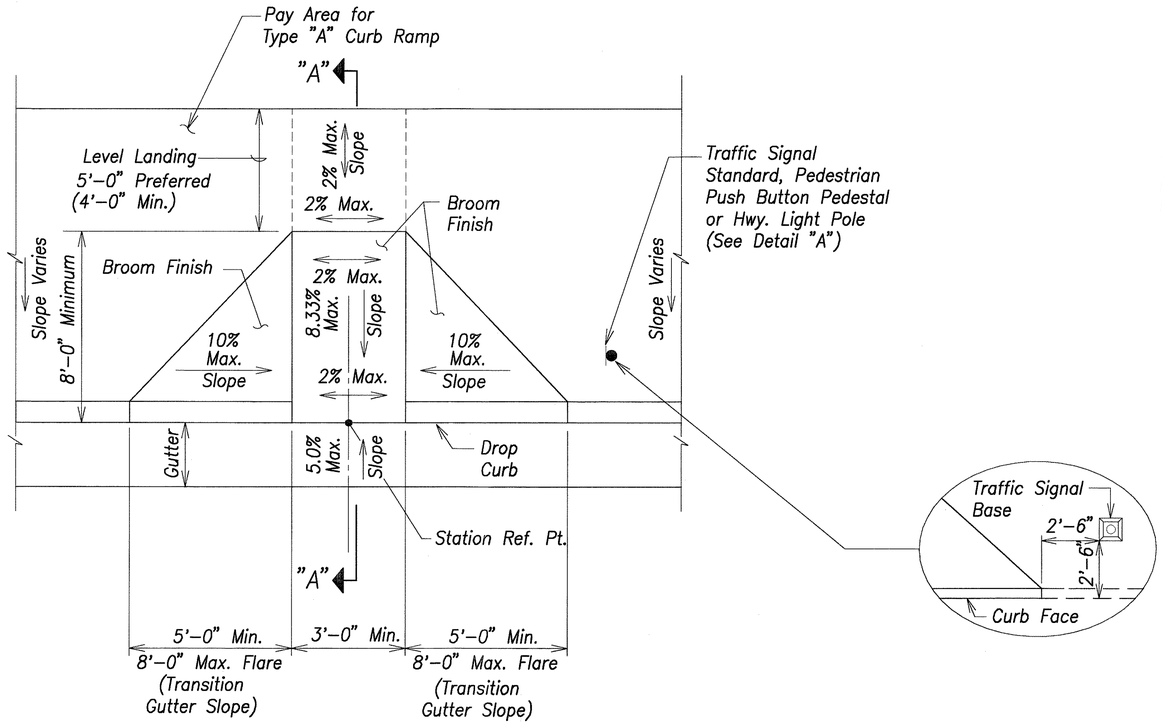
North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

Scale: As Shown — Date: Feb 21, 2007

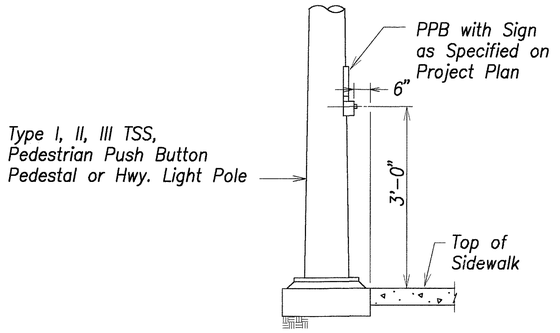
SHEET No. C7.2 OF 179 SHEETS

ADD. 144

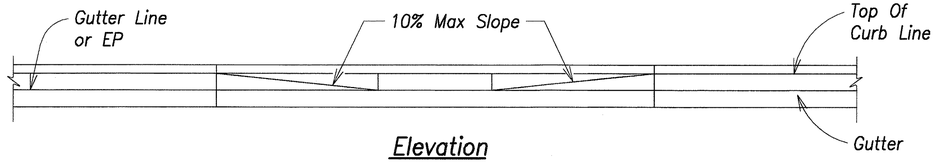
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	145	380



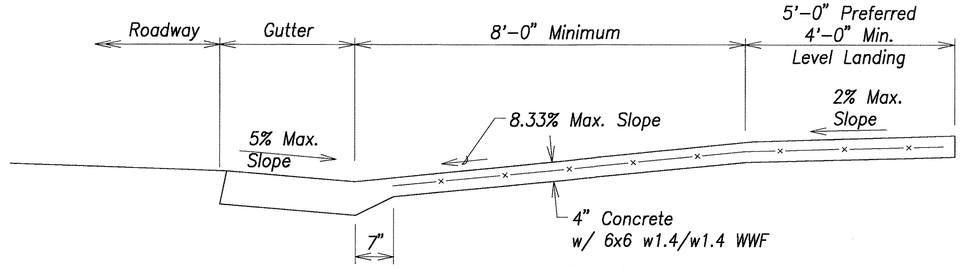
Plan



Detail "A"



Elevation



Section "A–A"

Curb Ramp – Type "A"

Sidewalk Width 12'–0" Or Greater

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

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662-C
HAWAII, U.S.A.

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

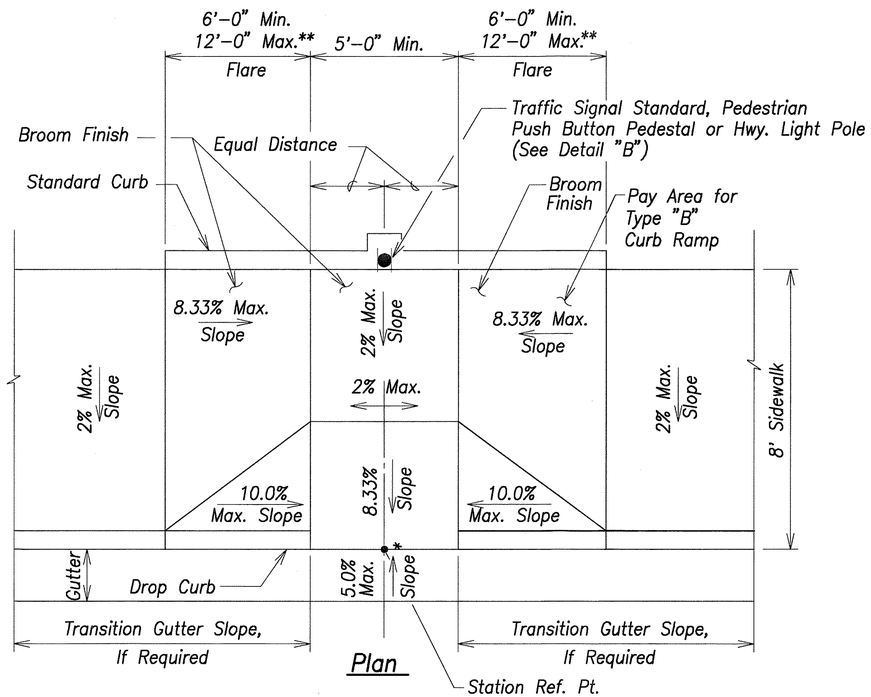
CURB RAMP DETAILS – 1

North–South Road
Phase 1C
F.A.I. Proj. No. STP–8930(4)

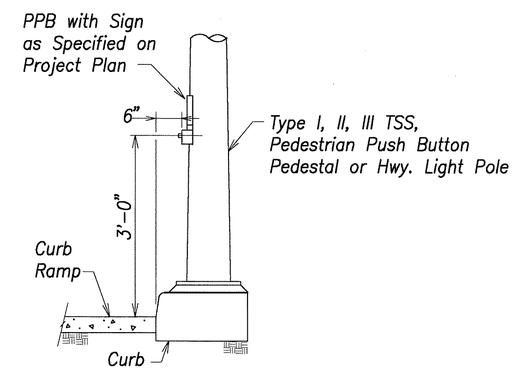
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SHEET No. C7.3 OF 179 SHEETS

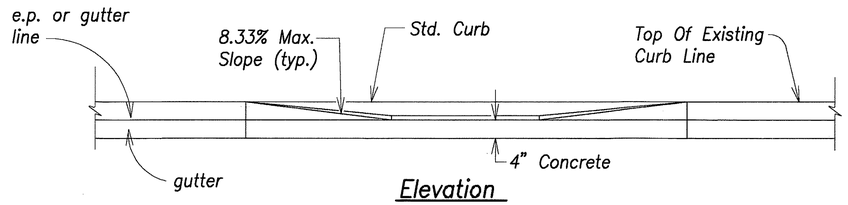
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	146	380



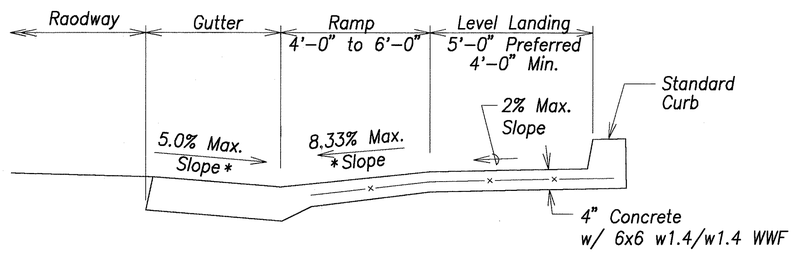
Plan



Detail "B"



Elevation



Typical Section

* * The slope of the ramp shall take precedence over the length of the ramp. If the maximum slope of a ramp cannot be met within a length of 12 feet, then the slope of the ramp shall be set when the length of the ramp is set at the maximum of 12 feet.

Curb Ramp – Type "B" Modified (Truncated)

Sidewalk Width 6'–0" Or Greater
But Less Than 12'–0" Width

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

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662-C
HAWAII, U.S.A.

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SIGNATURE
APR 30, 2008
DATE OF LICENSE EXPIRY

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

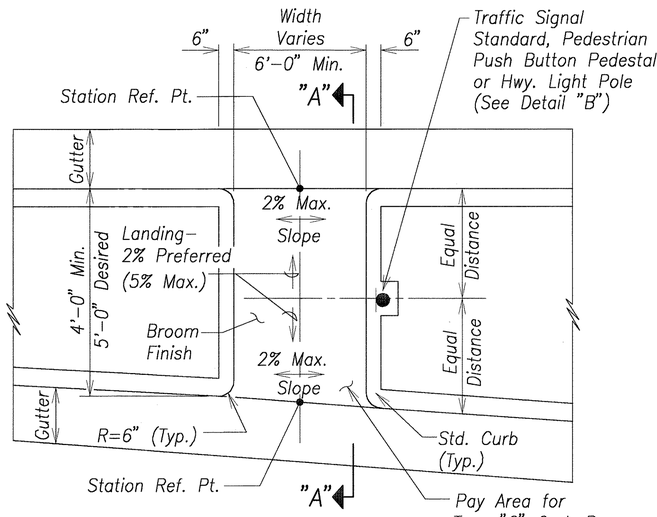
CURB RAMP DETAILS – 2

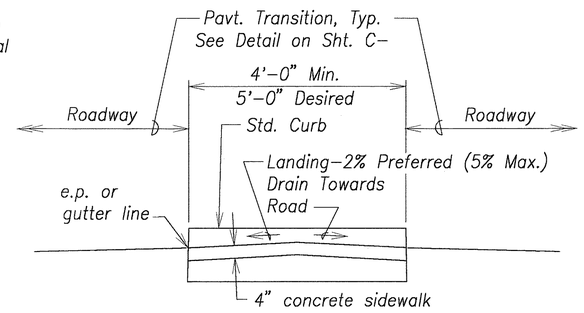
North–South Road
Phase 1C
F.A.I. Proj. No. STP–8930(4)

Scale: As Shown
Date: Feb 21, 2007

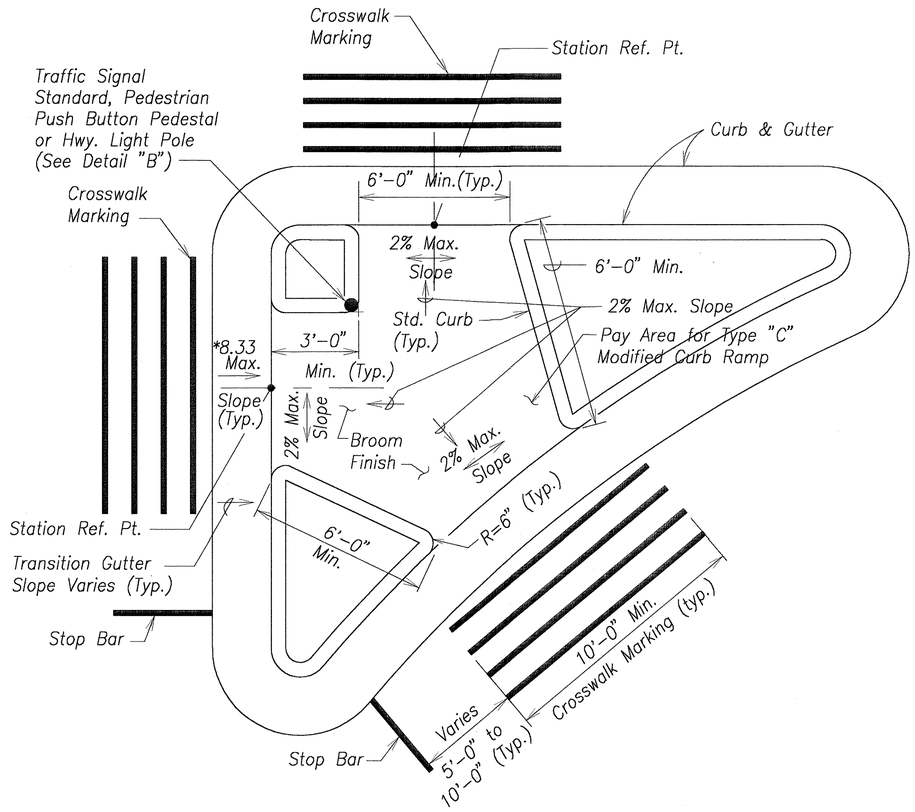
SHEET No. C7.4 OF 179 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	147	380





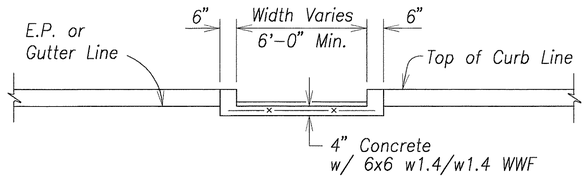
Section "A-A"



Curb Ramp - Type "C" Modified

Not to scale

Plan

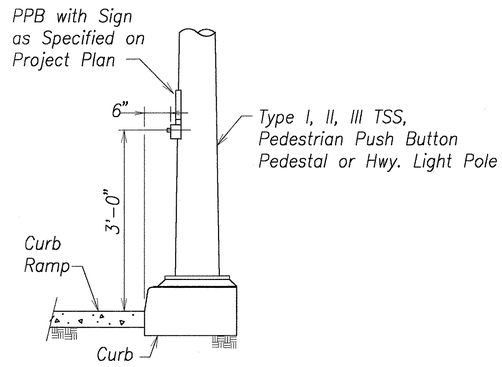


Elevation

Curb Ramp - Type "C"

Not to scale

Use At Median Crossings, Islands



Detail "B"

* See Curb Ramp And Sidewalk Note No. 9

ORIGINAL PLAN

SURVEY PLOTTED BY DATE

DRAWN BY

TRACED BY

DESIGNED BY

NOTE BOOK QUANTITIES BY

No. CHECKED BY

GREG H. HIYAKUMOTO LICENSED PROFESSIONAL ENGINEER No. 6662-C HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE

APR 30, 2008 DATE OF LICENSE EXPIRY

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

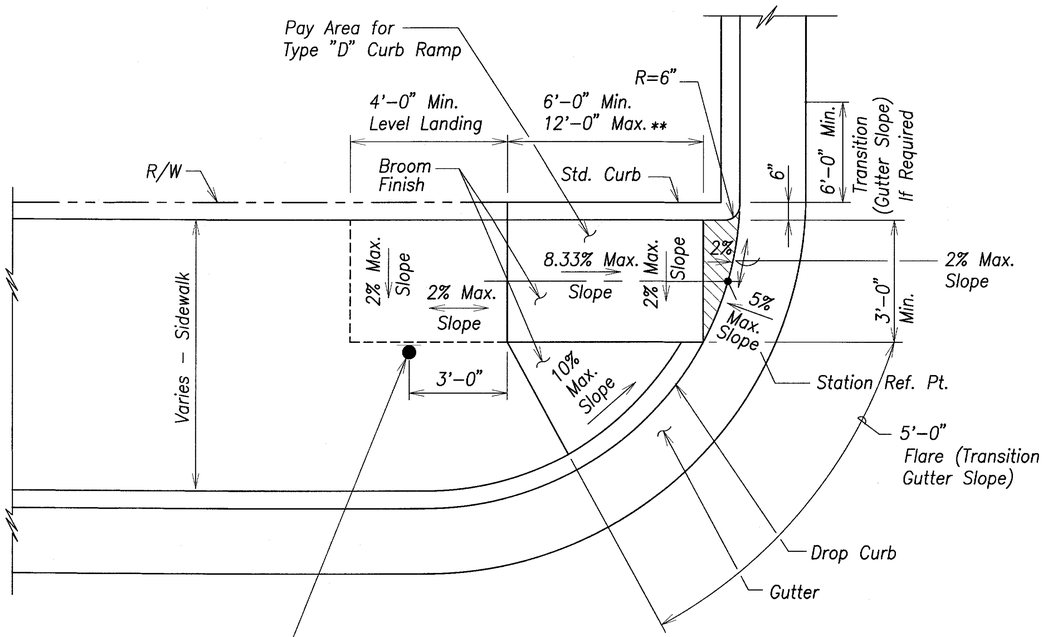
CURB RAMP DETAILS - 3

North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

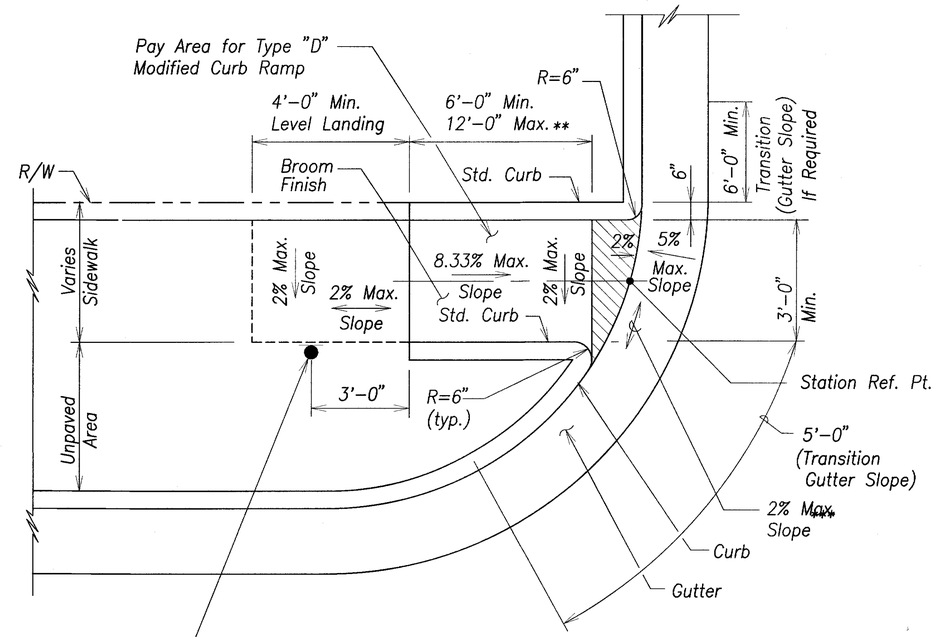
Scale: As Shown Date: Feb 21, 2007

SHEET No. C7.5 OF 179 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	148	380



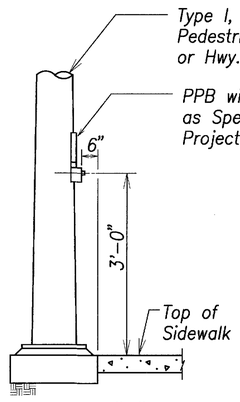
Curb Ramp – Type "D"



Curb Ramp – Type "D" Modified

Note:
Traffic Islands at Mauka Intersection Of The North South Road To Be Capped w/ 4" Thick PCC Pavement. Cap To Be Constructed On Compacted Subgrade & Broom Finished To Match Top Elevation Of Adjacent Concrete Curb

FC #175



Detail "A"

* See Curb Ramp And Sidewalk Note No. 9

** The Slope Of The Ramp Shall Take Precedence Over The Length Of The Ramp. If The Maximum Slope Of A Ramp Cannot Be Met Within A Length Of 12 Feet, Then The Slope Of The Ramp Shall Be Set When The Length Of The Ramp Is Set At The Maximum Of 12 Feet.

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

LEGEND FOR AS-BUILT POSTINGS

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

GREG H. HIYAKUMOTO LICENSED PROFESSIONAL ENGINEER No. 6662-C HAWAII, U.S.A.

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SIGNATURE — April 30, 2008 EXPIRATION DATE OF THE LICENSE

	FC#175
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CURB RAMP DETAILS – 4

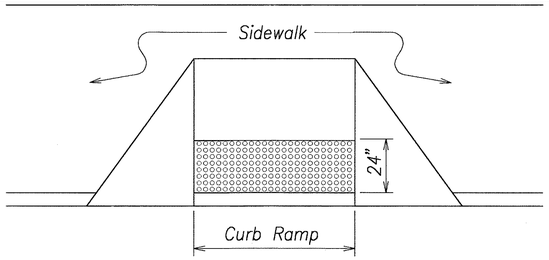
North–South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

Scale: As Shown — Date: Feb 21, 2007

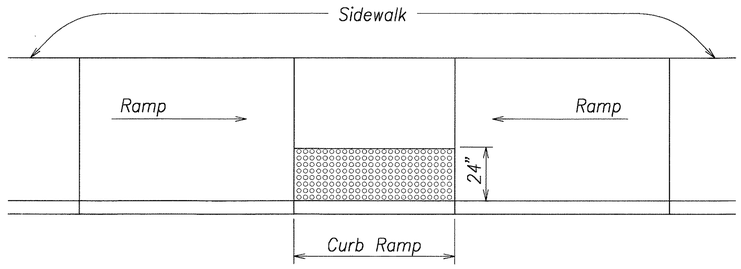
SHEET No. C7.6 OF 179 SHEETS

"AS-BUILT"

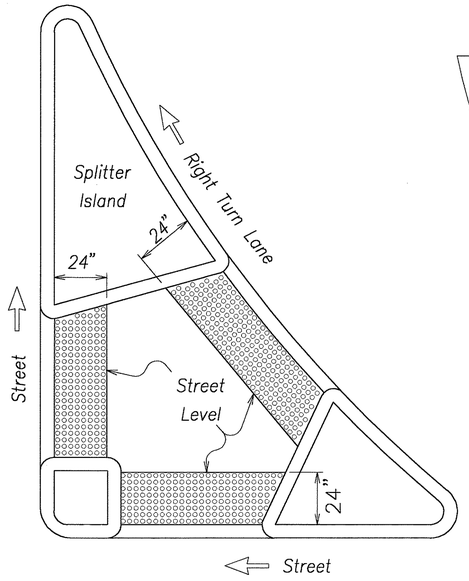
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	149	380



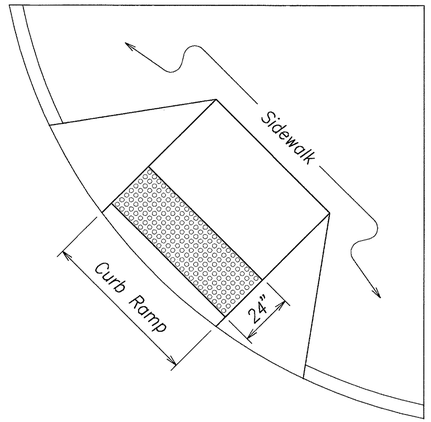
Detectable Warning At Curb Ramp



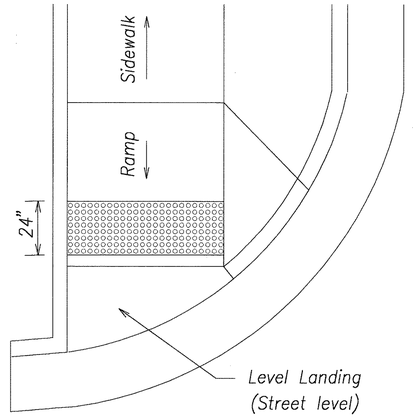
Transition Ramp With Detectable Warning



Refuge Island With Detectable Warning



Shared Curb Ramp With Detectable Warning



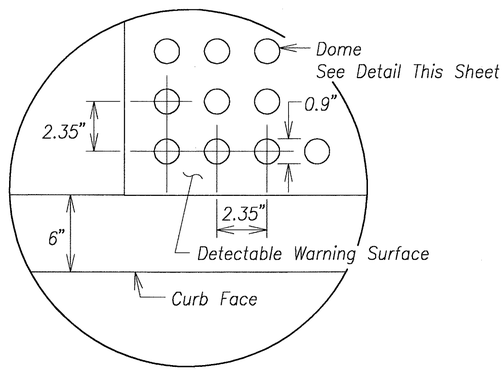
End of Sidewalk Curb Ramp With Detectable Warning

Typical Installation of Detectable Warnings

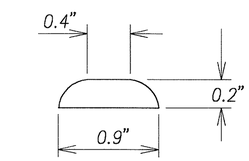
Not to Scale

NOTES:

1. Detectable Warnings Shall Be 24 Inches In The Direction Of Travel And Extend The Full Width Of The Curb Ramp Or Flush Surface (Does Not Include Flares).
2. Truncated Domes Shall Have A Diameter Of 0.9 Inch At The Bottom, A Diameter Of 0.4 Inch At The Top, A Height Of 0.2 Inch And A Center-To-Center Spacing Of 2.35 Inches Measured Along One Side Of A Square Arrangement.
3. Domes Shall Be Aligned On A Square Grid In The Predominant Direction Of Travel To Permit Wheels To Roll Between The Domes.
4. The Detectable Warning Shall Be "Safety Yellow".
5. The Material Used To Provide Visual Contrast Shall Be An Integral Part Of The Detectable Warning Surface.
6. The Detectable Warning Shall Be Located So That The Edge Nearest The Curb Line Or Other Potential Hazard Is 6 To 8 Inches From The Curb Line.



ENLARGEMENT



DOME SECTION

GREG H. HIYAKUMOTO
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HAWAII, U.S.A.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CURB RAMP DETAILS - 5

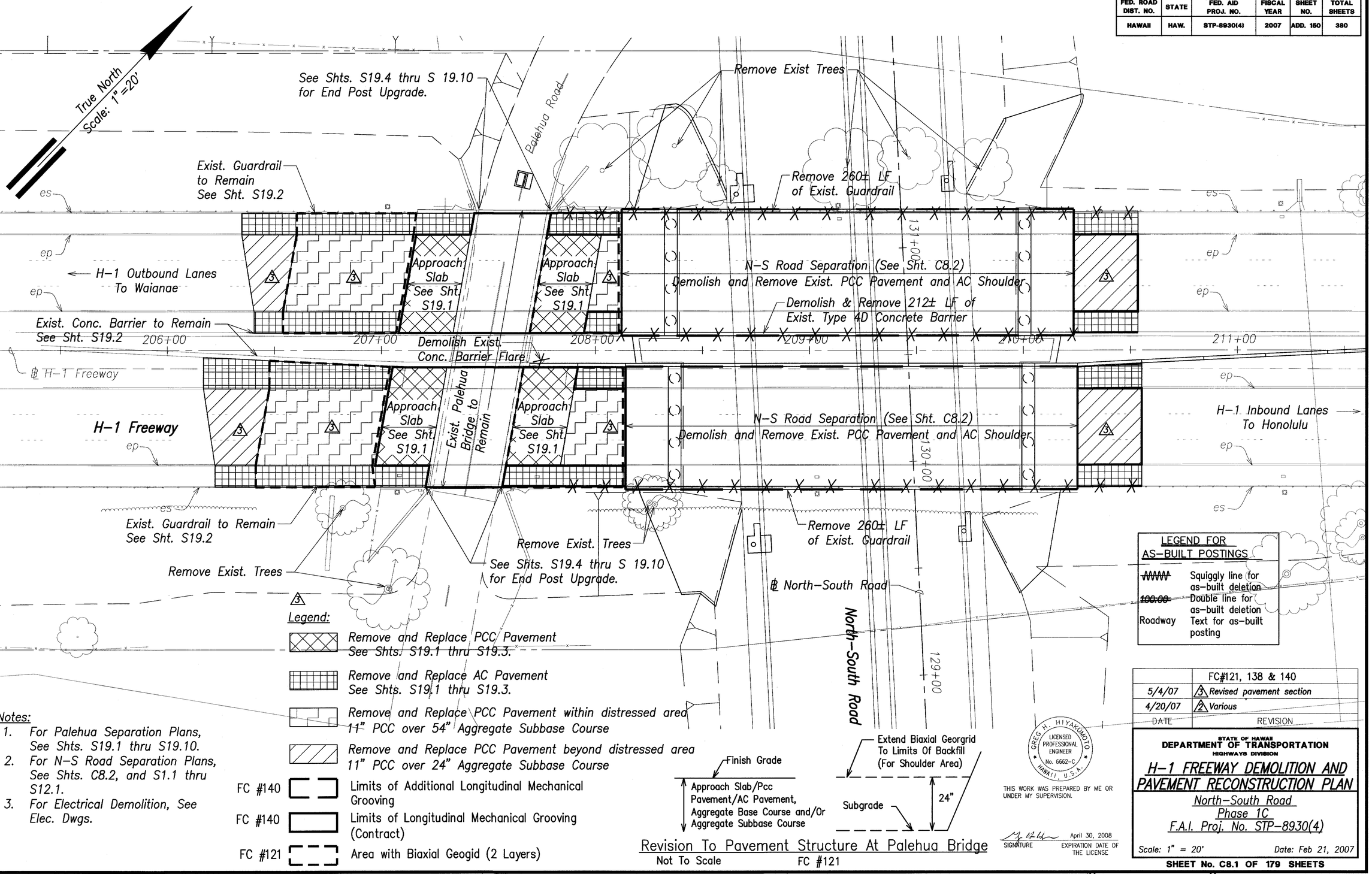
North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

Scale: As Shown Date: Feb 21, 2007

SHEET No. C7.7 OF 179 SHEETS

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

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	ADD. 150	380



LEGEND FOR AS-BUILT POSTINGS

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

Notes:

1. For Palehua Separation Plans, See Shts. S19.1 thru S19.10.
2. For N-S Road Separation Plans, See Shts. C8.2, and S1.1 thru S12.1.
3. For Electrical Demolition, See Elec. Dwgs.

	FC#121, 138 & 140
5/4/07	3 Revised pavement section
4/20/07	2 Various
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

H-1 FREEWAY DEMOLITION AND PAVEMENT RECONSTRUCTION PLAN

North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

Scale: 1" = 20' Date: Feb 21, 2007

GREG H. HIYAKUMOTO LICENSED PROFESSIONAL ENGINEER No. 6662-C HAWAII, U.S.A.

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SIGNATURE April 30, 2008 EXPIRATION DATE OF THE LICENSE

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

SHEET No. C8.1 OF 179 SHEETS

"AS-BUILT" ADD. 150

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	ADD. 151	380

True North
Scale: 1" = 20'

Additional 18" GRP
FC #163

Existing Crim Wall

Existing Palehua Road Separation Structures Wing Wall
FC #163

← H-1 Outbound Lanes To Waianae

207+88
Connect to Exist. Guardrail
New Guardrail at End Post
See Sht. S10.1

208+12.3
Connect to Exist. ⚠1 Type 4D Conc. Barrier

207+69.3
⚠1 Connect to Exist. Type 4AM Conc. Barrier

45'± LF of New Type 4A Conc. Barrier
FC #143

New Guardrail at End Post
See Sht. S10.1

New Wing Walls and End Posts
See Sht. S2.1

207+90
Connect to Exist. Guardrail

⚠1
Note:
For continuation, see H-1 Freeway Demolition and Pavement Reconstruction Plan, Sht. C8.1

South Bridge End Post
FC #120

N-S Road Separation

GRP

FC #138

FC #120
Additional 18" GRP

Additional GRP at light poles Typ. of 4 ea.
FC #120

℄ North-South Road

℔ North-South Road

Traffic Side

New Guardrail at End Post
See Sht. S10.1

210+48
Connect to Exist. Guardrail

210+23.50
Connect to Exist. Type 4D ⚠1 Conc. Barrier @ H-1 Freeway

211+00
Match Exist.

210+25.34
⚠1 Begin 20:1 Taper Type 4AM Conc. Barrier
New Wing Walls and End Posts
See Sht. S2.1 ⚠1

FC #142

New Guardrail at End Post
See Sht. S10.1

210+51
Connect to Exist. Guardrail

Approach Slab
PCC Pavement
Exist. Pave.

Connect to Exist. Conc. Barrier @ 213+14±
See Sht. S

234± ~~290'±~~ Lf of ⚠1 New Type 4A Conc. Barrier
FC #124

H-1 Inbound Lanes → To Honolulu

Modified Face
Std. Rigid Barrier Type 4A
Finish Grade

Type 4AM Concrete Barrier (Modified)
N.T.S.
FC #143

LEGEND FOR AS-BUILT POSTINGS

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

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No. 6662-C
HAWAII, U.S.A.

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April 30, 2008
EXPIRATION DATE OF THE LICENSE

	FC#99, 120, 124, 142, 143 & 163
04/20/07	⚠2 Various
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

NORTH-SOUTH ROAD SEPARATION SITE PLAN

North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

Scale: 1" = 20'
Date: Feb 21, 2007

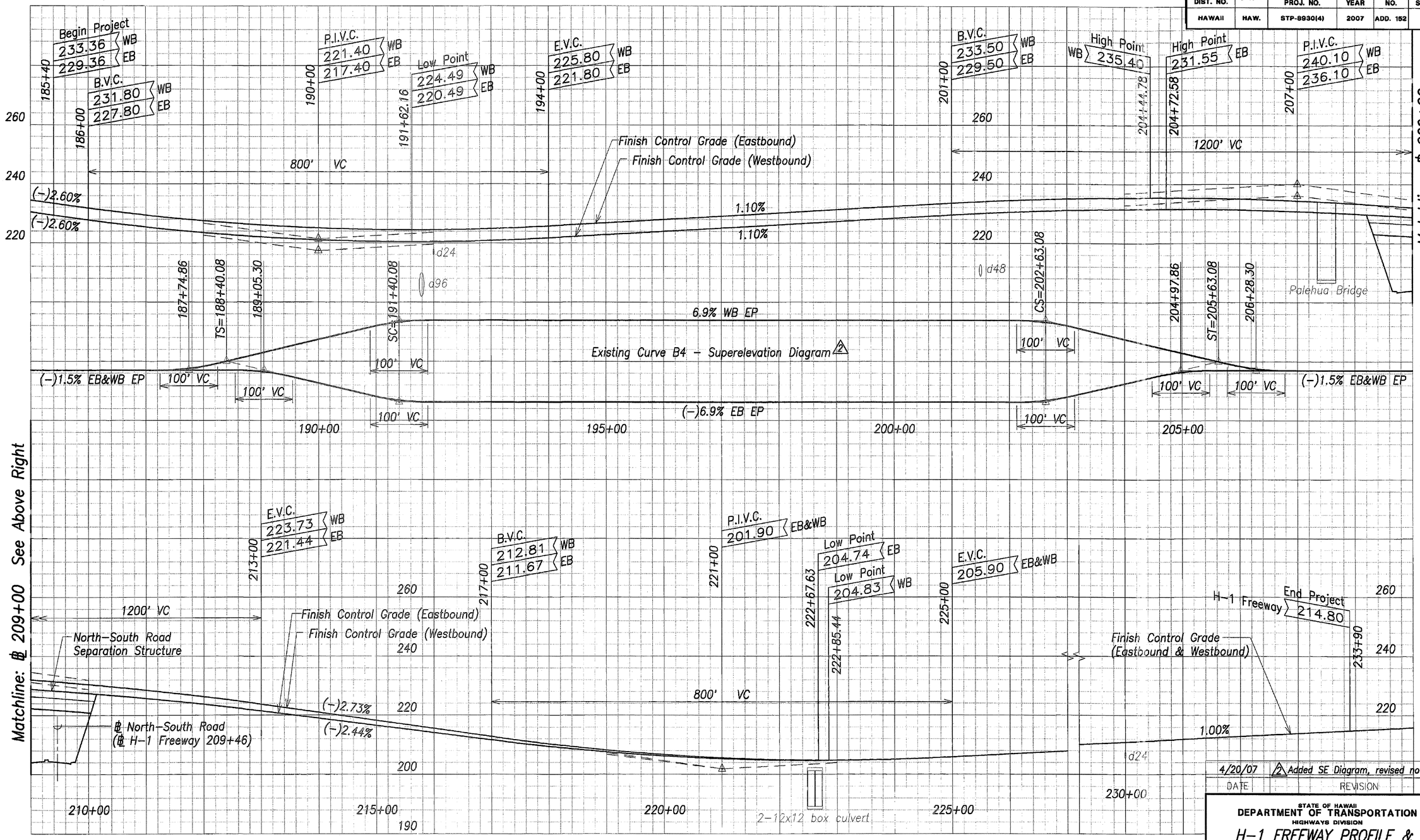
SHEET No. C8.2 OF 179 SHEETS

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

"AS-BUILT"

ADD. 151

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	ADD. 152	380



2 Note:
This plan provided for information only. Refer to As-Built Plans "Interstate Route H-1, Barbers Point to Kunia Road, FAIP No. I-H1-1(18) Unit 1" & "Interstate Route H-1, Barbers Point to Kunia Road, FAIP No. I-H1-1(17) Unit 2"

FOR INFORMATION ONLY

Graphic Scales:

1" = 16' 16' 8' 0 16' 32'

1" = 80' 80' 40' 0 80' 160'

Scale in Feet

DATE	REVISION
4/20/07	2 Added SE Diagram, revised note

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

H-1 FREEWAY PROFILE & SUPERELEVATION DIAG. (AS-BUILT)

North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

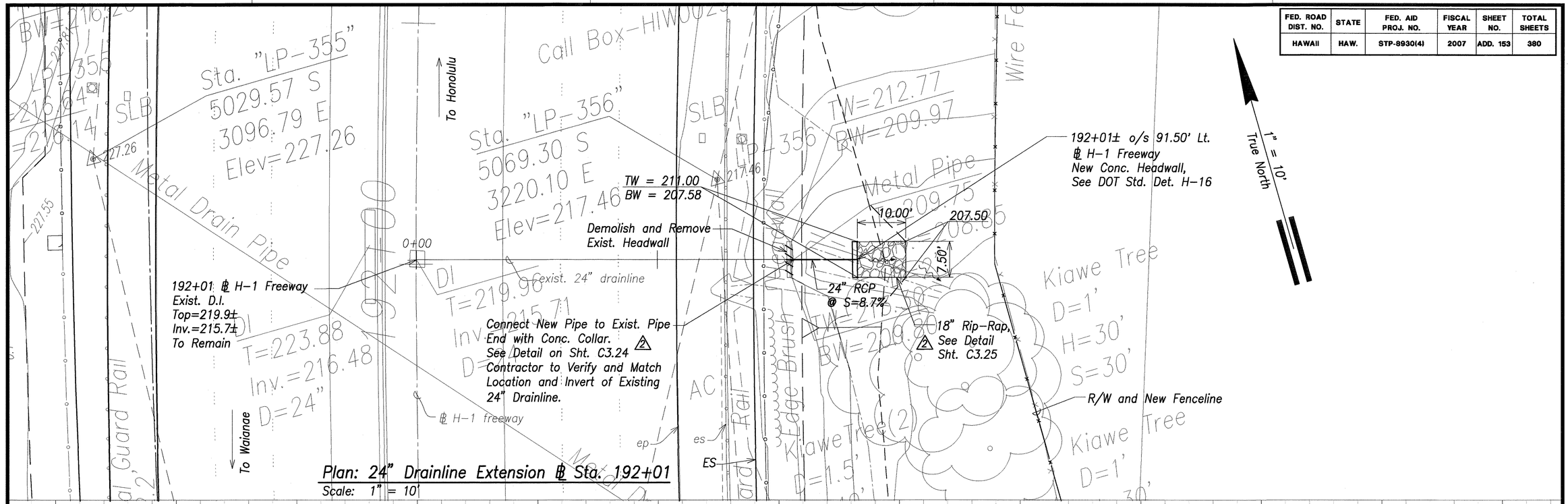
Scale: As Shown Date: Feb 21, 2007

SHEET No. C8.3 OF 179 SHEETS

ADD. 152

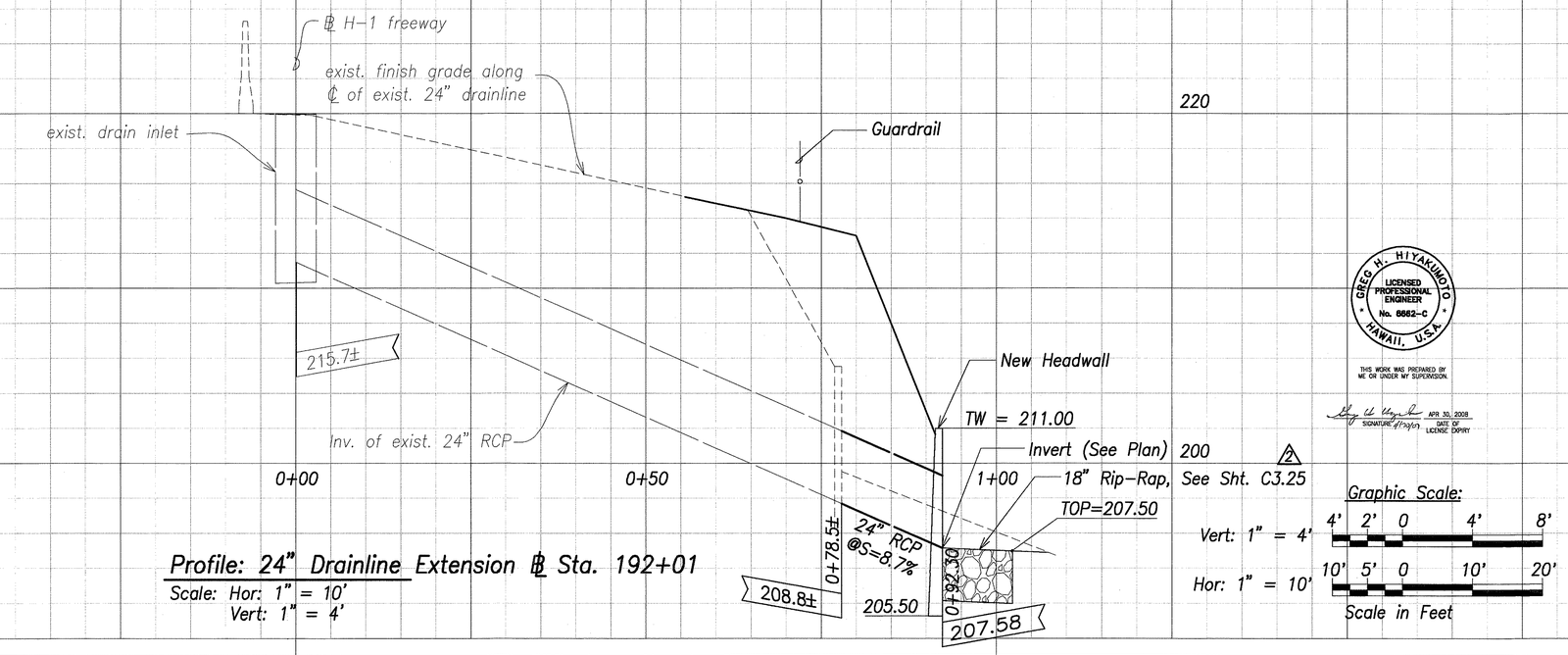
ORIGINAL PLAN
NOTE BOOK No.
SURVEY PLOTTED BY
DRAWN BY
TRACED BY
DESIGNED BY
QUANTITIES BY
CHECKED BY
DATE

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	ADD. 153	380



Plan: 24" Drainline Extension ℄ Sta. 192+01

Scale: 1" = 10'



Profile: 24" Drainline Extension ℄ Sta. 192+01

Scale: Hor: 1" = 10'
Vert: 1" = 4'

Graphic Scale:

Vert: 1" = 4' — 4' 2' 0 4' 8'

Hor: 1" = 10' — 10' 5' 0 10' 20'

Scale in Feet

GREG H. HIYAKUMOTO
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No. 6662-C
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SIGNATURE — APR 30, 2008 DATE OF LICENSE EXPIRY

DATE	REVISION
4/20/07	2 Added references

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

24" CULVERT EXTENSION ℄ STA. 192+01

North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

Scale: As Shown — Date: Feb 21, 2007

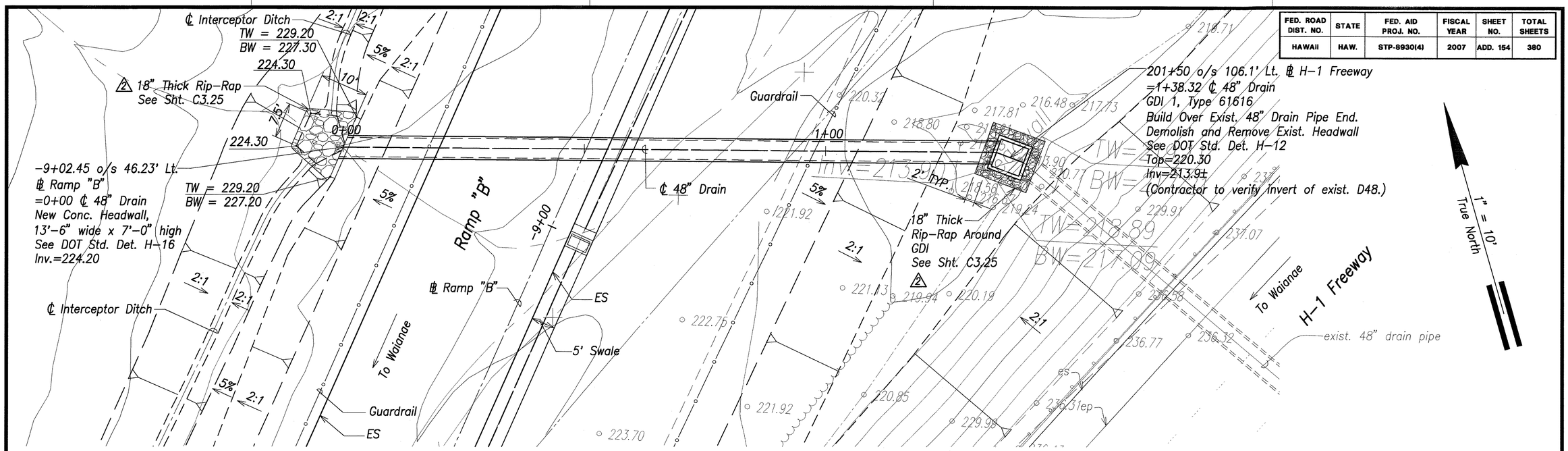
SHEET No. C8.4 OF 179 SHEETS

ADD. 153

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

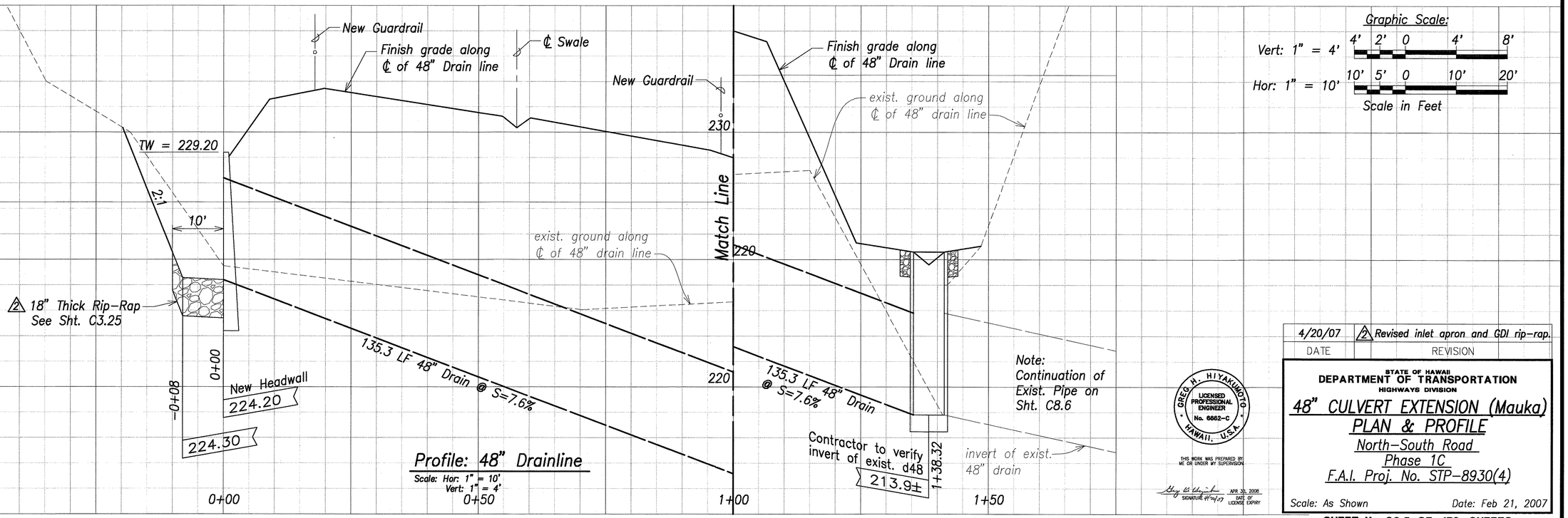
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FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	ADD. 154	380



Plan: 48" Drainline (Mauka)

Scale: 1" = 10'



Profile: 48" Drainline

Scale: Hor: 1" = 10'
Vert: 1" = 4'

Graphic Scale:
Vert: 1" = 4' (4' 2' 0 4' 8')
Hor: 1" = 10' (10' 5' 0 10' 20')
Scale in Feet

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

DATE	REVISION
4/20/07	2 Revised inlet apron and GDI rip-rap.

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

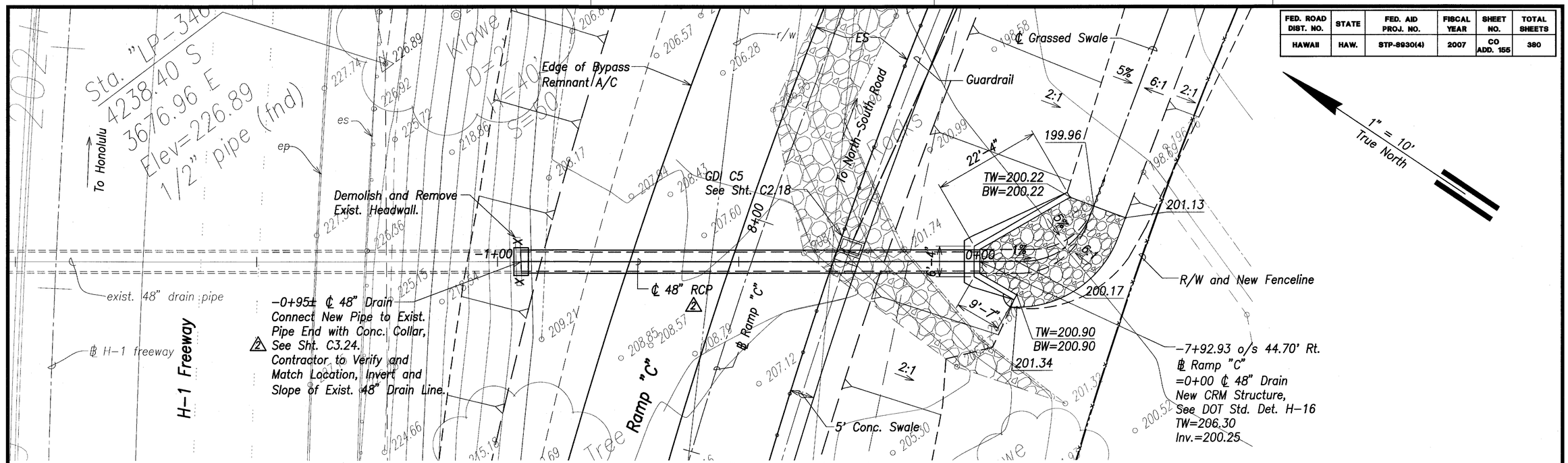
48" CULVERT EXTENSION (Mauka)
PLAN & PROFILE
North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

Scale: As Shown — Date: Feb 21, 2007

SHEET No. C8.5 OF 179 SHEETS

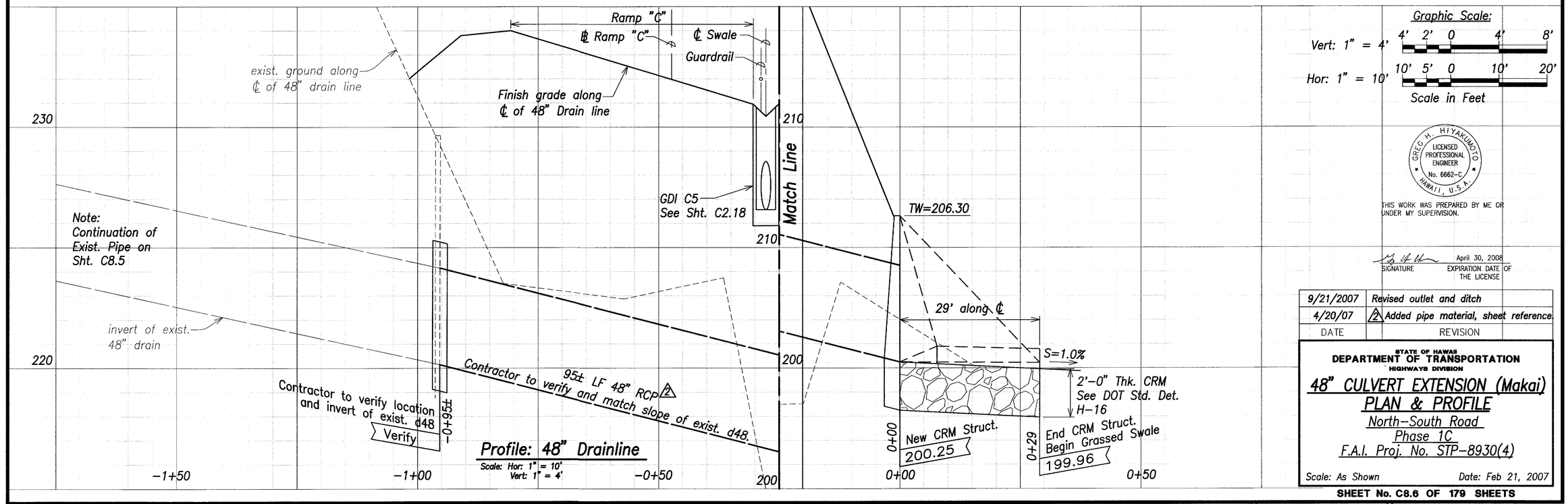
ADD. 154

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	CO ADD. 155	380



Plan: 48" Drainline (Makai)

Scale: 1" = 10'



Profile: 48" Drainline

Scale: Hor: 1" = 10'
Vert: 1" = 4'

Graphic Scale:

Vert: 1" = 4' (4' 2' 0 4' 8')

Hor: 1" = 10' (10' 5' 0 10' 20')

Scale in Feet

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662-C
HAWAII, U.S.A.

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SIGNATURE — April 30, 2008 EXPIRATION DATE OF THE LICENSE

DATE	REVISION
9/21/2007	Revised outlet and ditch
4/20/07	2 Added pipe material, sheet reference.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

48" CULVERT EXTENSION (Makai)

PLAN & PROFILE

North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

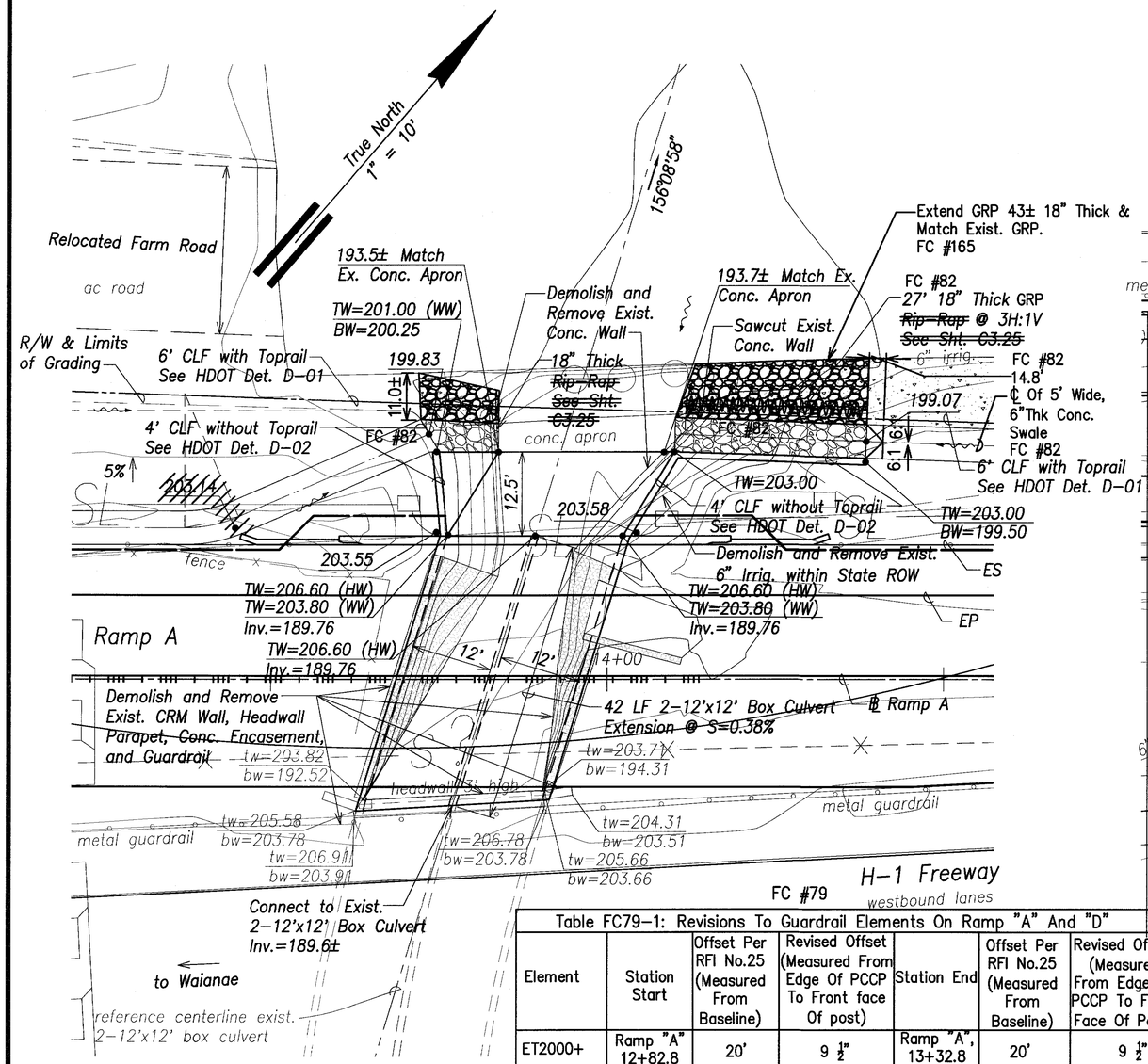
Scale: As Shown — Date: Feb 21, 2007

SHEET No. C8.6 OF 179 SHEETS

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

"AS-BUILT" CO ADD. 155

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	CO ADD. 156	380



Plan – Inlet

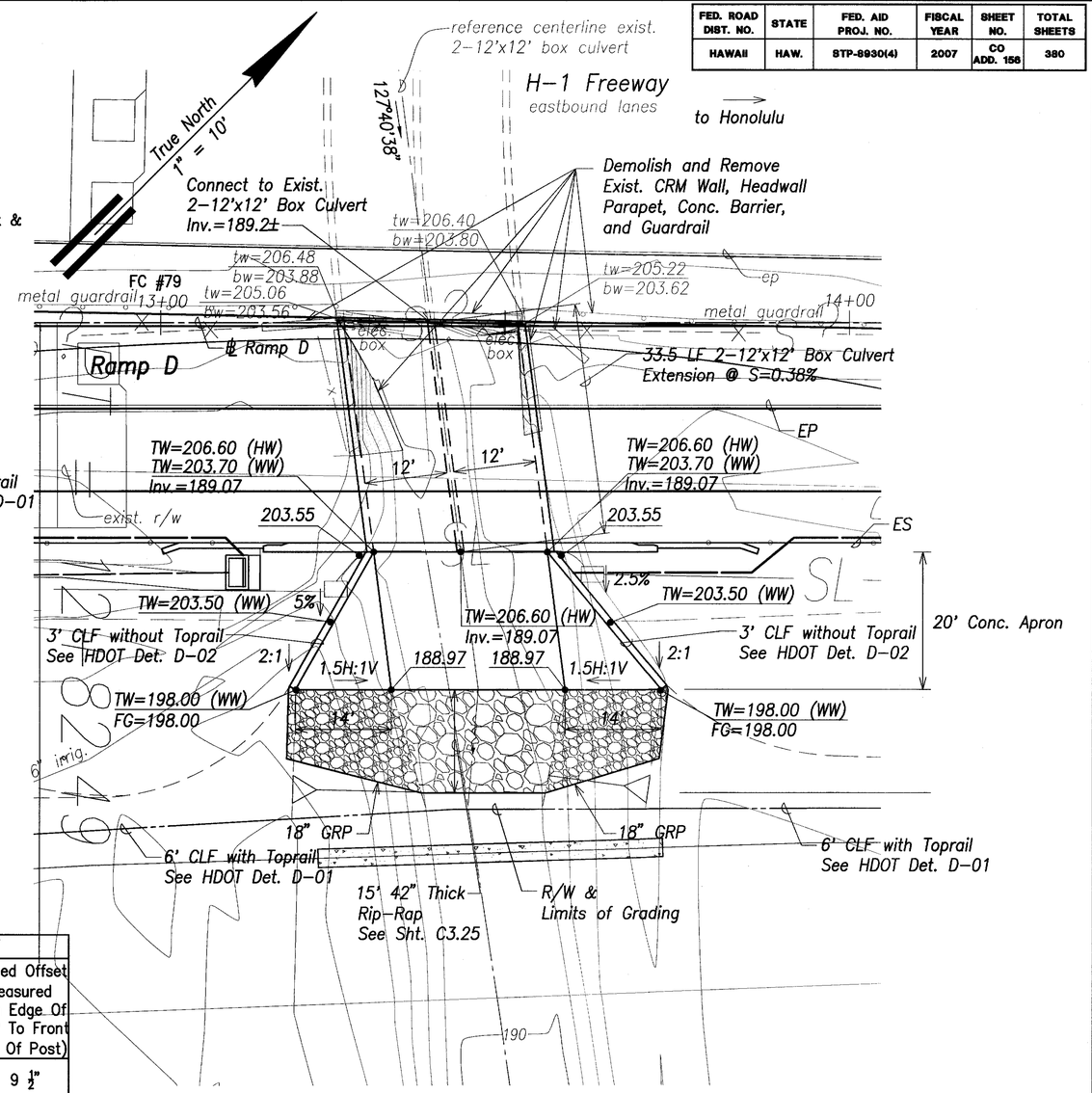
Scale: 1" = 10'

Graphic Scale:

1" = 10' 10 5 0 10 20

Scale in Feet

Table FC79-1: Revisions To Guardrail Elements On Ramp "A" And "D"						
Element	Station Start	Offset Per RFI No.25 (Measured From Baseline)	Revised Offset (Measured From Edge Of PCCP To Front face Of post)	Station End	Offset Per RFI No.25 (Measured From Baseline)	Revised Offset (Measured From Edge Of PCCP To Front Face Of Post)
ET2000+	Ramp "A" 12+82.8	20'	9 ½"	Ramp "A", 13+32.8	20'	9 ½"
Thrie Beam	Ramp "A" 13+32.8	20'	9 ½"	Ramp "A", 13+57.8	Connect To Endpost	Connect To Endpost
Thrie Beam	Ramp "A" 14+14.8	Connect To Endpost	Connect To Endpost	Ramp "A", 14+39.8	20'	9 ½"
W-Beam	Ramp "A" 14+39.8	20'	9 ½"	Ramp "A", 14+89.8*	20'	9 ½"
FLEAT350	Ramp "A" 14+89.8	20'	9 ½"	Ramp "A", 15+28.4	20'	3'-3 ½"
ET2000+	Ramp "D", 12+38.4	35'	9 ½"	Ramp "D", 12+88.3	37.5'	9 ½"
Thrie Beam	Ramp "D", 12+88.3	37.5'	9 ½"	Ramp "D", 13+13.3	Connect To Endpost	Connect To Endpost
Thrie Beam	H-1, 222+97	Connect To Endpost	Connect To Endpost	H-1, 223+22	95.3'	9 ½"
ET2000+	H-1, 223+22	95.3'	9 ½"	H-1, 223+72	94.3'	9 ½"



Plan – Outlet

Scale: 1" = 10'

LEGEND FOR AS-BUILT POSTINGS

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

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SIGNATURE April 30, 2008 EXPIRATION DATE OF THE LICENSE

DATE	REVISION
5/15/2008	Revised grades
4/20/07	2 Various revisions

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

EXISTING DOUBLE 12'X12' BOX CULVERT EXTENSION

North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

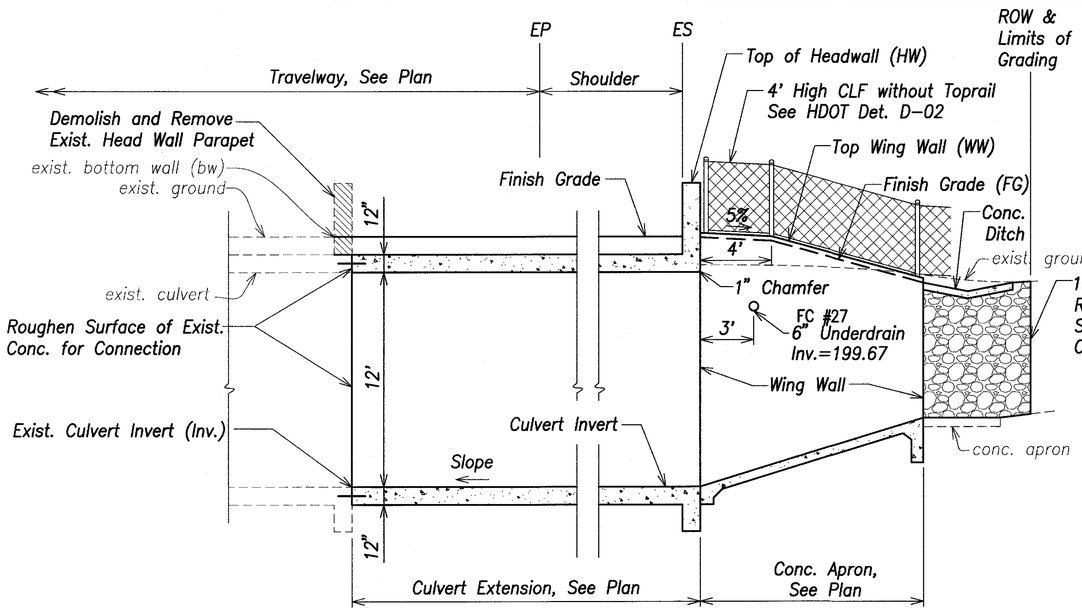
Scale: As Shown Date: Feb 21, 2007

SHEET No. C8.7 OF 179 SHEETS

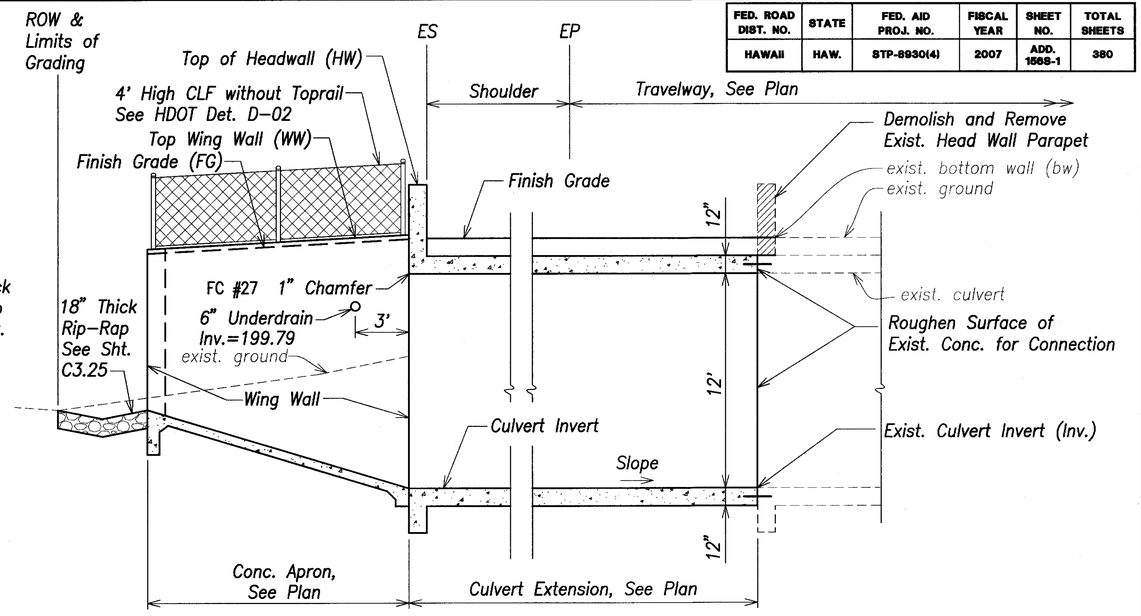
ORIGINAL PLAN | SURVEY PLOTTED BY | DRAWN BY | NOTE BOOK | DESIGNED BY | QUANTITIES BY | CHECKED BY | DATE | No.

"AS-BUILT" CO ADD. 156

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	ADD. 156S-1	380



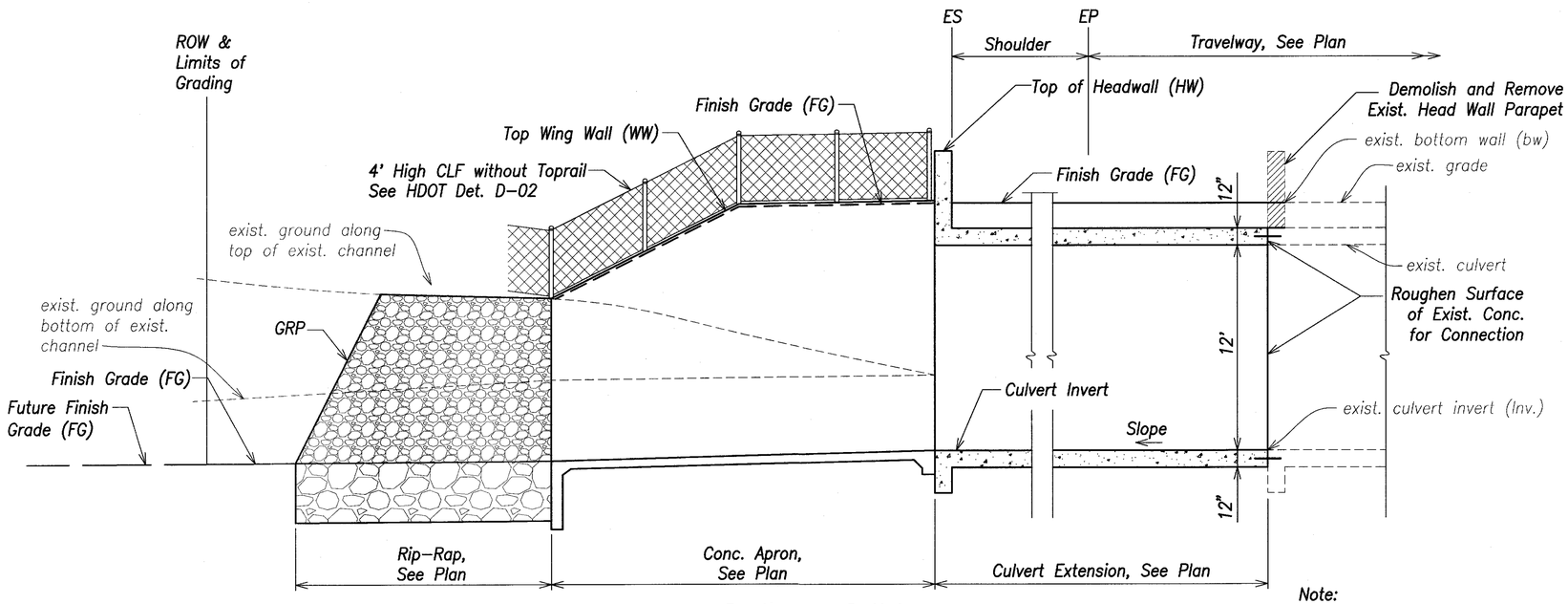
Section- Waianae Wingwall



Section- Honolulu Wingwall

Section - Inlet

Scale: 1/4" = 1'-0"



Section - Outlet

Scale: 1/4" = 1'-0"

Note:
See Structural Shts. S13.1 thru S13.9 for Structural Details.

LEGEND FOR AS-BUILT POSTINGS

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

DATE	REVISION
	FC#27
1/15/2008	Added Underdrain Connection
4/20/07	2 Added sheet

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

GREG H. HIYAKUMOTO LICENSED PROFESSIONAL ENGINEER No. 6662-C HAWAII, U.S.A.

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SIGNATURE — April 30, 2008 EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

EXISTING DOUBLE 12'X12' BOX CULVERT - SECTIONS

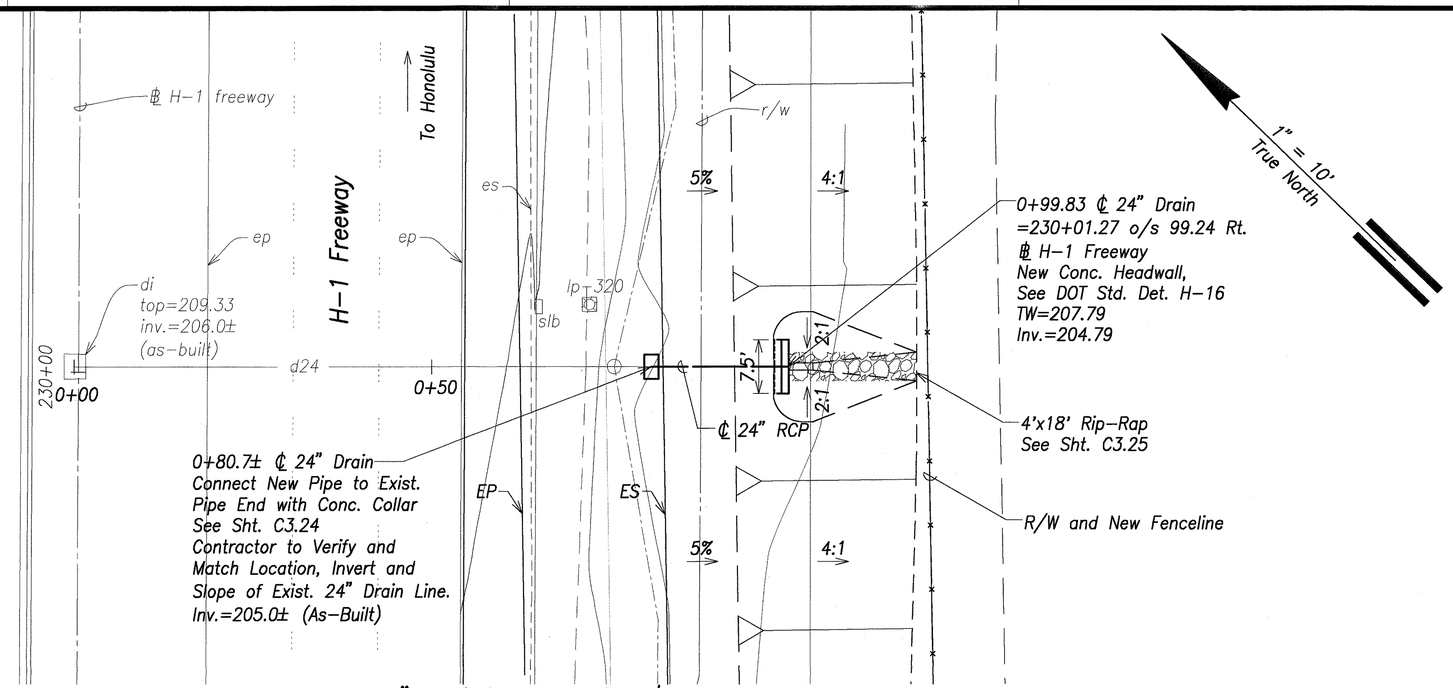
North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

Scale: As Shown — Date: Feb 21, 2007

SHEET No. C8.8 OF 179 SHEETS

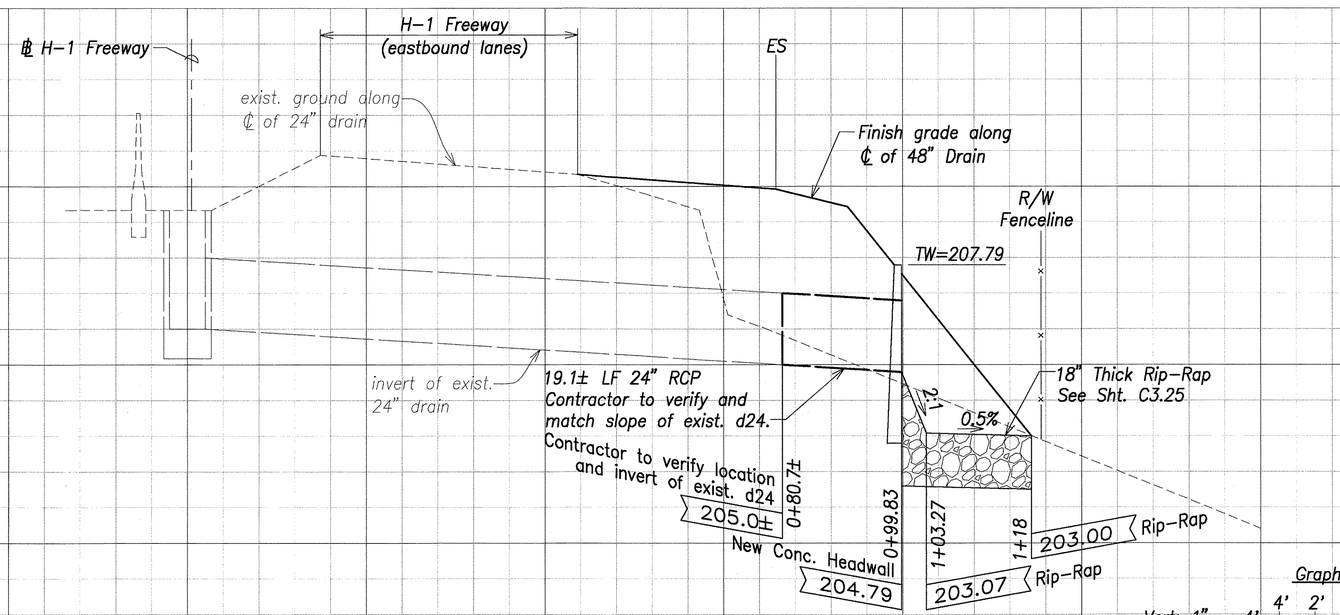
"AS-BUILT" CO ADD. 156S-1

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	ADD. 156S-2	380



Plan: 24" Drainline Extension ℄ Sta. 230+01

Scale: 1" = 10'



Profile: 24" Drainline Extension ℄ Sta. 230+01

Scale: Hor: 1" = 10'
Vert: 1" = 4'

Graphic Scale:

Vert: 1" = 4' 4' 2' 0 4' 8'

Hor: 1" = 10' 10' 5' 0 10' 20'

Scale in Feet

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662-C
HAWAII, U.S.A.

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SIGNATURE APR 30, 2008
DATE OF LICENSE EXPIRY

DATE	REVISION
4/20/07	2 Added sheet

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

24" CULVERT EXTENSION
℄ STA. 230+01
North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

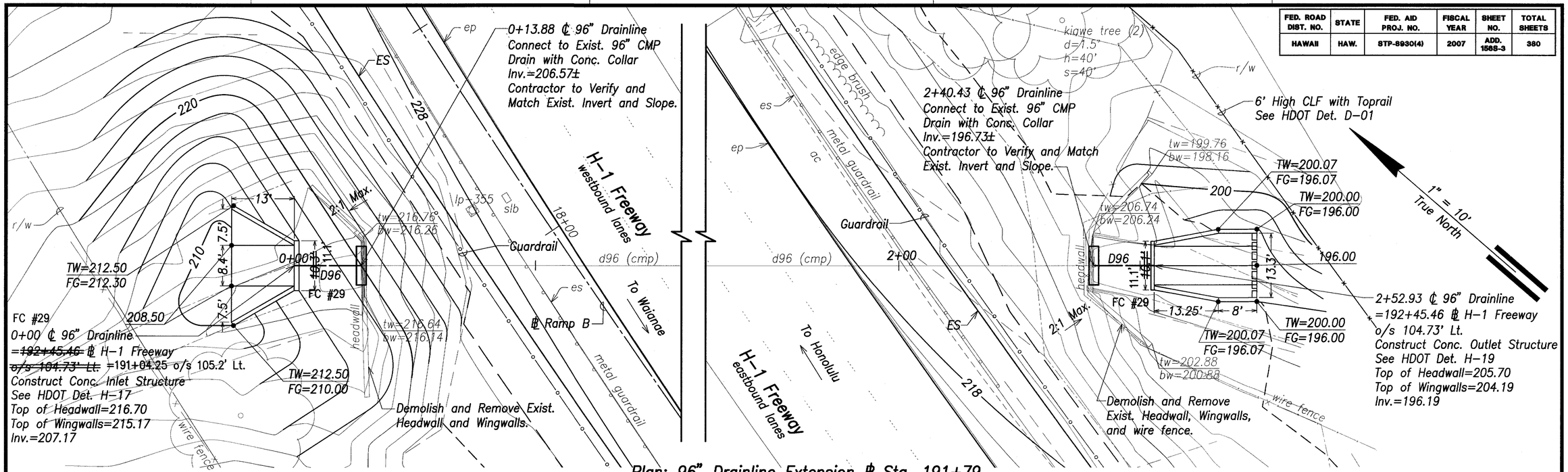
Scale: As Shown Date: Feb 21, 2007

SHEET No. C8.9 OF 179 SHEETS

ADD. 156S-2

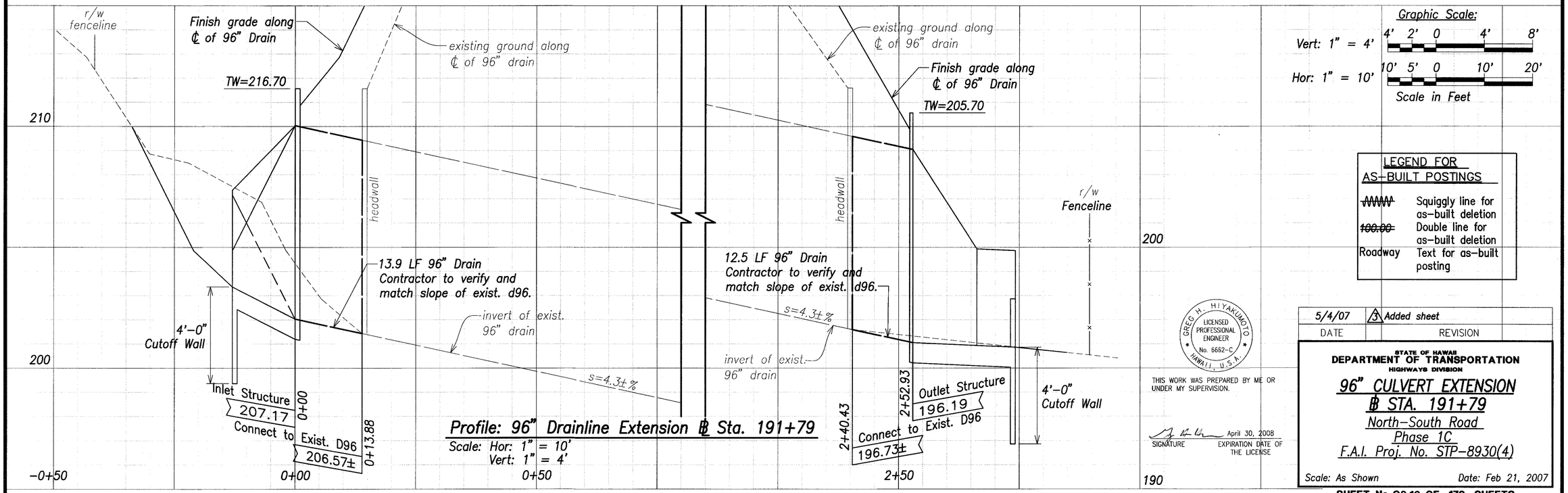
ORIGINAL PLAN
NOTE BOOK No.
SURVEY PLOTTED BY
DRAWN BY
TRACED BY
DESIGNED BY
QUANTITIES BY
CHECKED BY
DATE

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	ADD. 156S-3	380



Plan: 96" Drainline Extension ℄ Sta. 191+79

Scale: 1" = 10'



Profile: 96" Drainline Extension ℄ Sta. 191+79

Scale: Hor: 1" = 10'
Vert: 1" = 4'

Graphic Scale:
Vert: 1" = 4' (4' 2' 0 4' 8')
Hor: 1" = 10' (10' 5' 0 10' 20')
Scale in Feet

LEGEND FOR AS-BUILT POSTINGS

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

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

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662-C
HAWAII, U.S.A.

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SIGNATURE — April 30, 2008 EXPIRATION DATE OF THE LICENSE

DATE	REVISION
5/4/07	3 Added sheet

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

96" CULVERT EXTENSION ℄ STA. 191+79

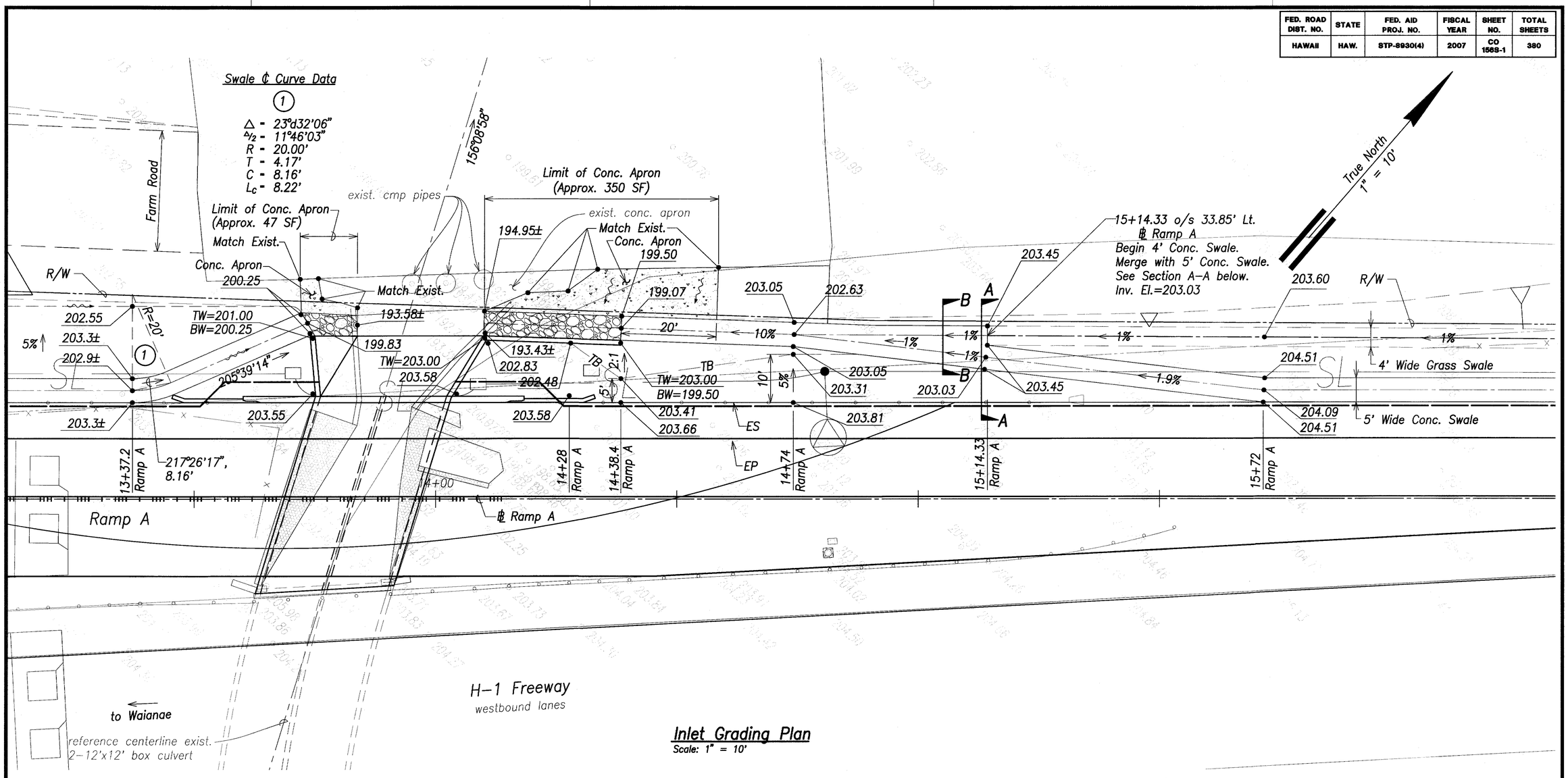
North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

Scale: As Shown — Date: Feb 21, 2007

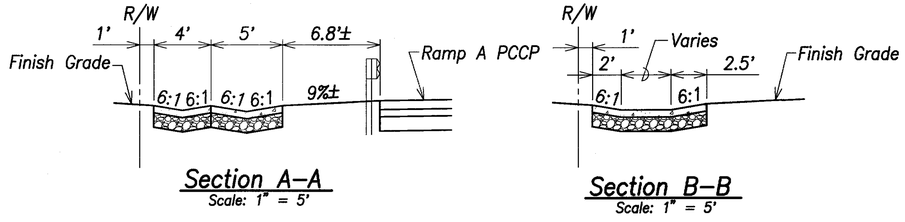
SHEET No. C8.10 OF 179 SHEETS

"AS-BUILT" ADD. 156S-3

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	CO 156S-1	380



Inlet Grading Plan
Scale: 1" = 10'



Section A–A
Scale: 1" = 5'

Section B–B
Scale: 1" = 5'

Graphic Scales:

1" = 10' 10' 5' 0 10' 20'

1" = 5' 5' 2.5' 0 5' 10'

Scale in Feet

GREG H. HIYAKUMOTO LICENSED PROFESSIONAL ENGINEER No. 6662-C HAWAII, U.S.A.

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SIGNATURE — April 30, 2008 EXPIRATION DATE OF THE LICENSE

5/16/2008	Added Sheet
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DOUBLE 12'X12' BOX CULVERT INLET GRADING

North–South Road
Phase 1C
F.A.I. Proj. No. STP–8930(4)

Scale: As Shown — Date: Feb 21, 2007

SHEET No. C8.11 OF 179 SHEETS

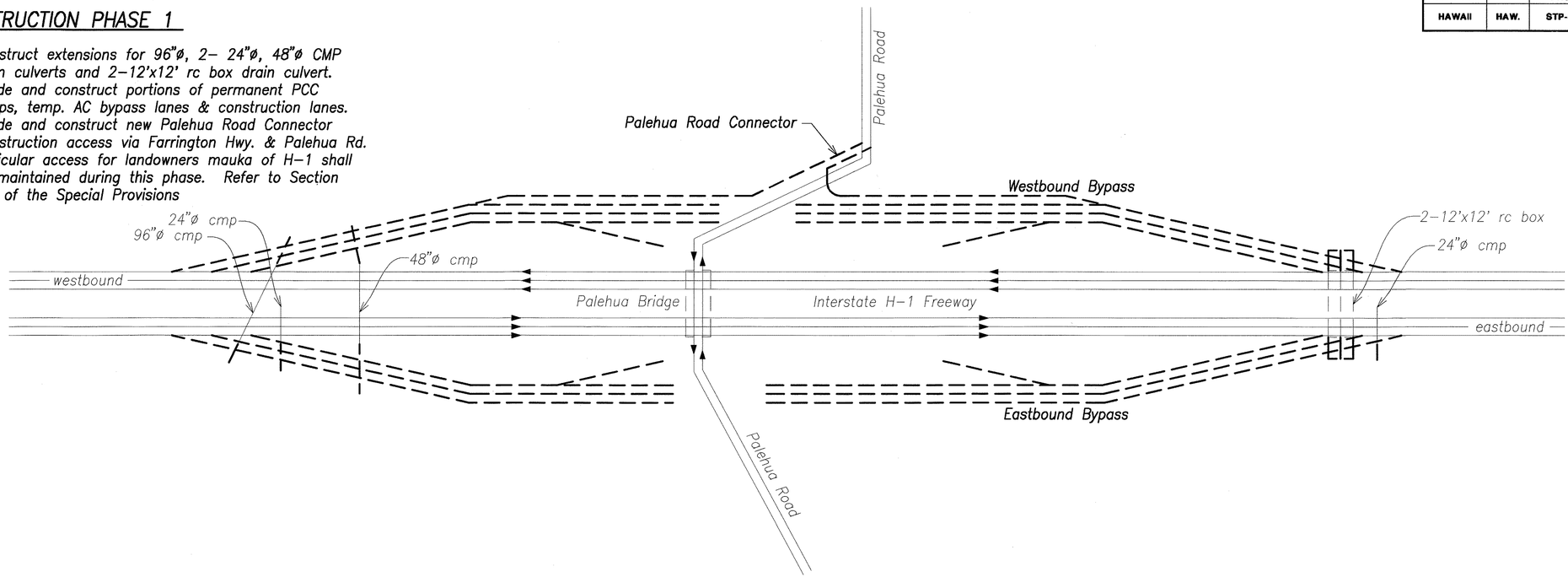
ORIGINAL PLAN | SURVEY PLOTTED BY | DRAWN BY | TRACED BY | DESIGNED BY | QUANTITIES BY | CHECKED BY | DATE | NOTE BOOK | No.

"AS–BUILT" CO 156S-4

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	ADD. 157	380

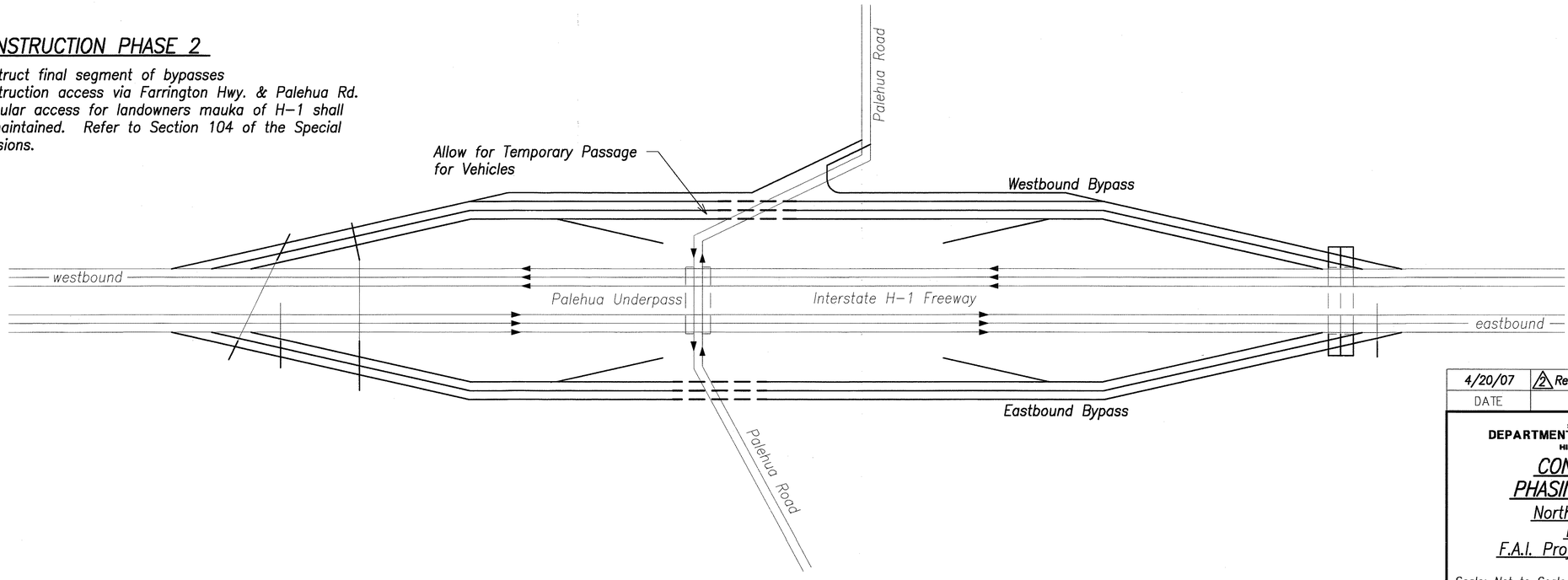
CONSTRUCTION PHASE 1

- Construct extensions for 96"ø, 2– 24"ø, 48"ø CMP drain culverts and 2–12'x12' rc box drain culvert.
- Grade and construct portions of permanent PCC ramps, temp. AC bypass lanes & construction lanes.
- Grade and construct new Palehua Road Connector
- Construction access via Farrington Hwy. & Palehua Rd.
- Vehicular access for landowners mauka of H–1 shall be maintained during this phase. Refer to Section 104 of the Special Provisions



CONSTRUCTION PHASE 2

- Construct final segment of bypasses
- Construction access via Farrington Hwy. & Palehua Rd.
- Vehicular access for landowners mauka of H–1 shall be maintained. Refer to Section 104 of the Special Provisions.



STACY K. YOKOOJI ARMSTRONG
LICENSED PROFESSIONAL ENGINEER
No. 8983-C
HAWAII, U.S.A.

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
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	DESIGNED BY	
No.	QUANTITIES BY	
	CHECKED BY	

4/20/07	2 Revised phasing
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CONSTRUCTION PHASING PLAN – 1

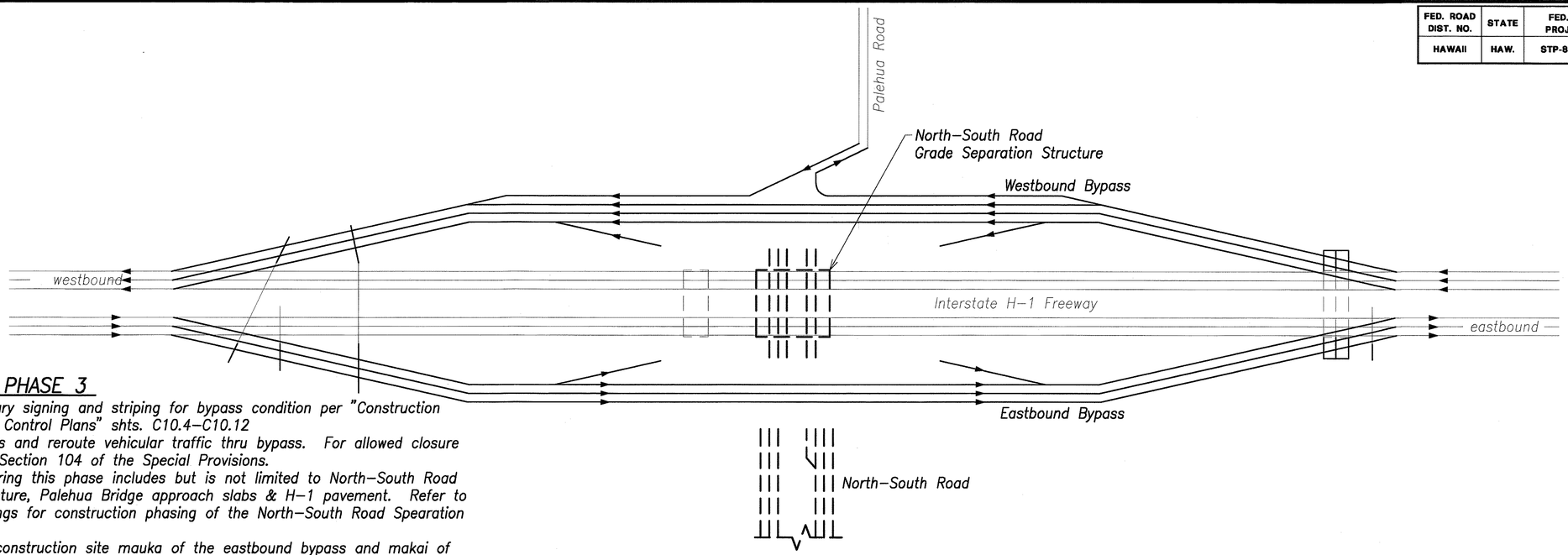
North–South Road
Phase 1C
F.A.I. Proj. No. STP–8930(4)

Scale: Not to Scale Date: Feb 21, 2007

SHEET No. C9.1 OF 179 SHEETS

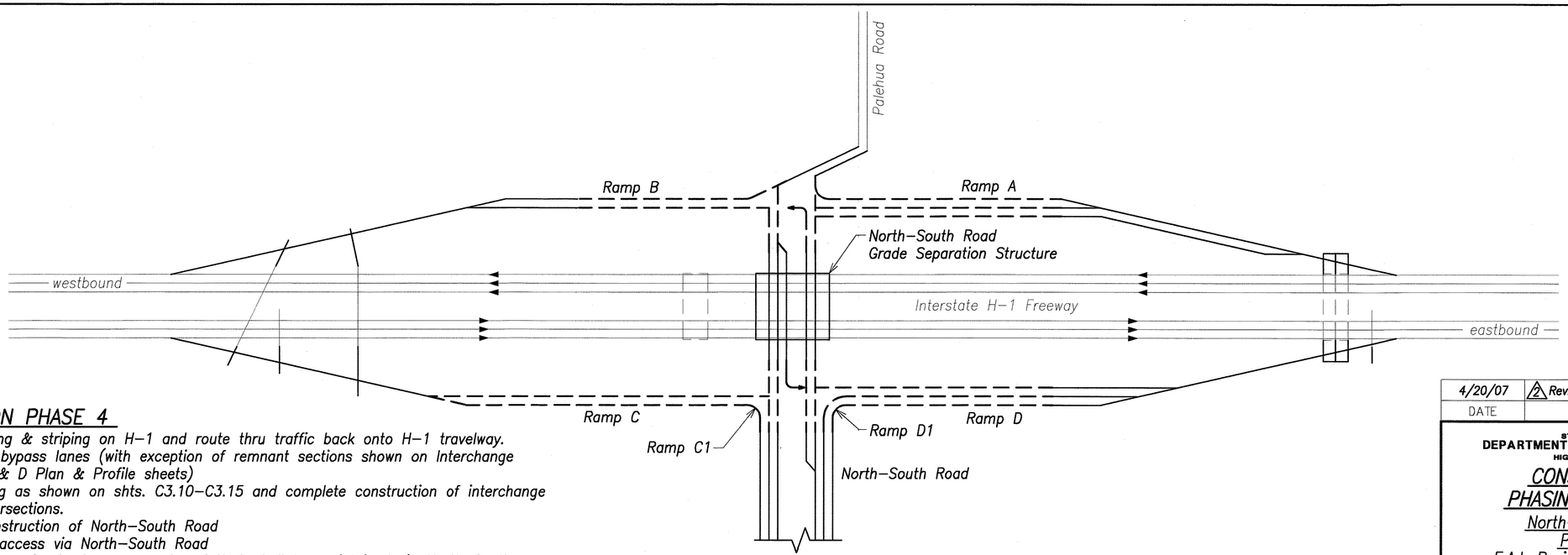
ADD. 157

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	ADD. 158	380



CONSTRUCTION PHASE 3

- *Provide temporary signing and striping for bypass condition per "Construction Phase 3 Traffic Control Plans" shts. C10.4–C10.12*
- *Close H–1 lanes and reroute vehicular traffic thru bypass. For allowed closure dates, refer to Section 104 of the Special Provisions.*
- *Construction during this phase includes but is not limited to North–South Road Separation structure, Palehua Bridge approach slabs & H–1 pavement. Refer to structural drawings for construction phasing of the North–South Road Spearation structure.*
- *Access to the construction site mauka of the eastbound bypass and makai of the westbound bypass via bypass construction lanes. Access to the construction site makai of the eastbound bypass via Farrington Hwy.*
- *Landowners mauka of H–1 to use Westbound bypass exit and entrance lanes.*



CONSTRUCTION PHASE 4

- *Restore signing & striping on H–1 and route thru traffic back onto H–1 travelway.*
- *Demolish AC bypass lanes (with exception of remnant sections shown on Interchange Ramps A, C & D Plan & Profile sheets)*
- *Refine grading as shown on shts. C3.10–C3.15 and complete construction of interchange ramps & intersections.*
- *Complete construction of North–South Road*
- *Construction access via North–South Road*
- *Vehicular access for landowners mauka of H–1 shall be maintained via North–South Road and/or Palehua Bridge. Refer to Section 104 of the Special Provisions.*

ORIGINAL PLAN
NOTE BOOK
No.

SURVEY PLOTTED BY
DRAWN BY
TRACED BY
DESIGNED BY
QUANTITIES BY
CHECKED BY
DATE

DATE	REVISION
4/20/07	2 Revised phasing

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CONSTRUCTION PHASING PLAN – 2

North–South Road
Phase 1C
F.A.I. Proj. No. STP–8930(4)

Scale: Not to Scale Date: Feb 21, 2007

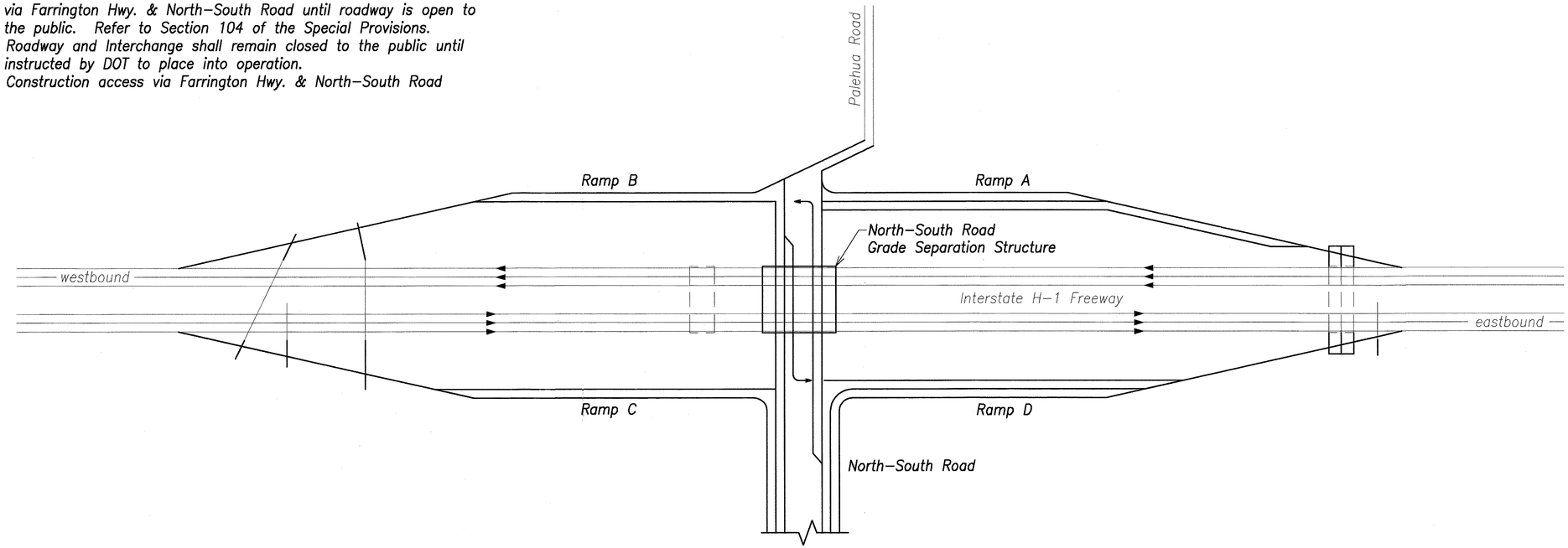
SHEET No. C9.2 OF 179 SHEETS

ADD. 158

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	ADD. 159	380

CONSTRUCTION PHASE 5

- *Complete all work on interchange ramps, intersections & North–South Road including but not limited to signing & striping, roadway lighting, traffic signals, etc.*
- *Remnants of Palehua Road & Palehua Bridge to be abandoned*
- *Vehicular access for landowners mauka of H–1 shall be maintained via Farrington Hwy. & North–South Road until roadway is open to the public. Refer to Section 104 of the Special Provisions.*
- *Roadway and Interchange shall remain closed to the public until instructed by DOT to place into operation.*
- *Construction access via Farrington Hwy. & North–South Road*



STANLEY K. YOKOUCHI ASSOCIATES INC.
LICENSED PROFESSIONAL ENGINEER
No. 8989-C
HAWAII, U.S.A.

Stanley K Yokouchi

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

4/20/07	2 Revised phasing
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CONSTRUCTION PHASING PLAN – 3

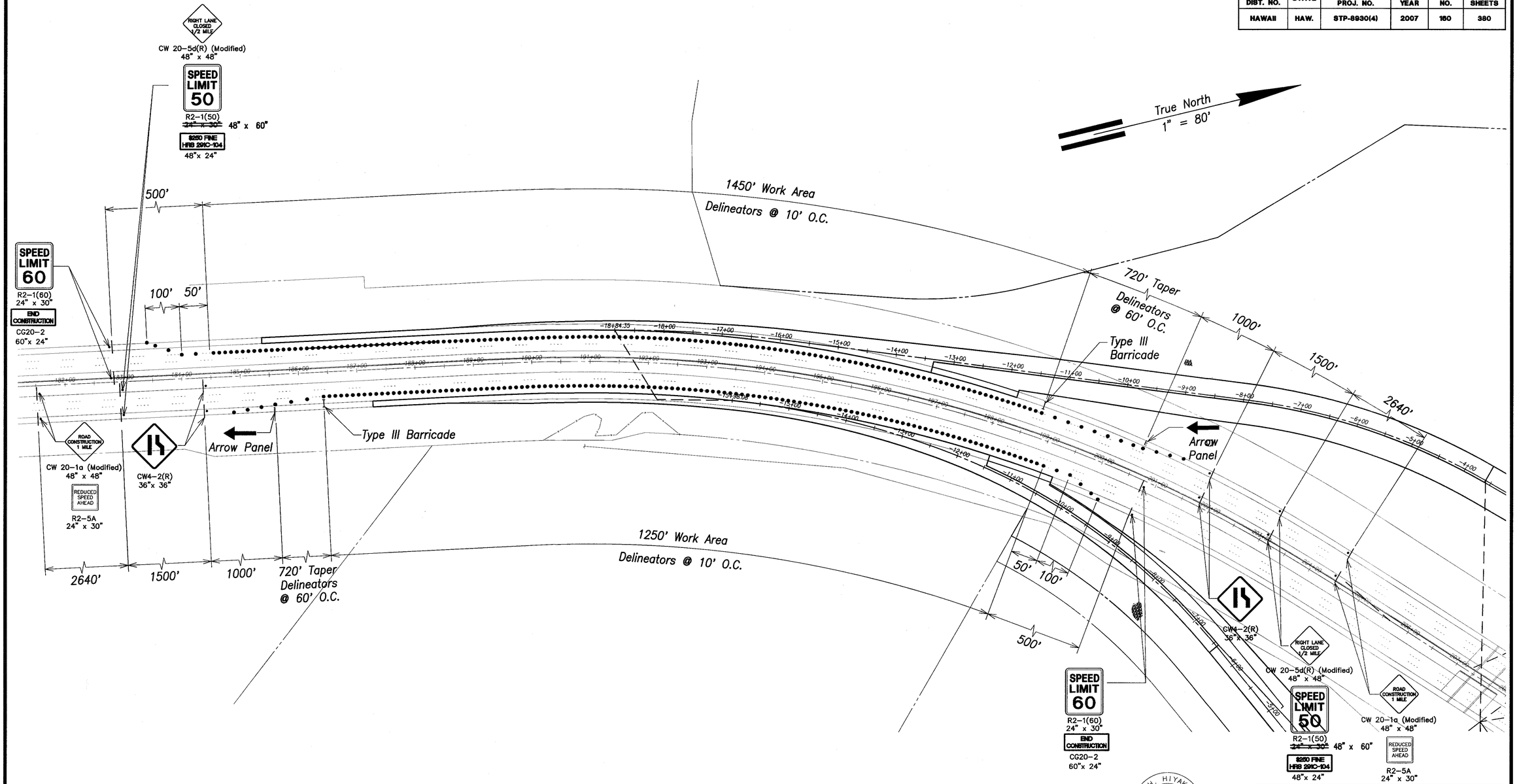
North–South Road
Phase 1C
F.A.I. Proj. No. STP–8930(4)

Scale: Not to Scale Date: Feb 21, 2007

SHEET No. C9.3 OF 179 SHEETS

ADD. 159

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	160	380



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

LEGEND FOR AS-BUILT POSTINGS

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

Graphic Scale:

1" = 80' 80' 40' 0 80' 160'

Scale in Feet

GREG H. HIYAKUMOTO LICENSED PROFESSIONAL ENGINEER No. 6662-C HAWAII, U.S.A.

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SIGNATURE

April 30, 2008
EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CONSTRUCTION PHASE 1 TRAFFIC CONTROL PLAN

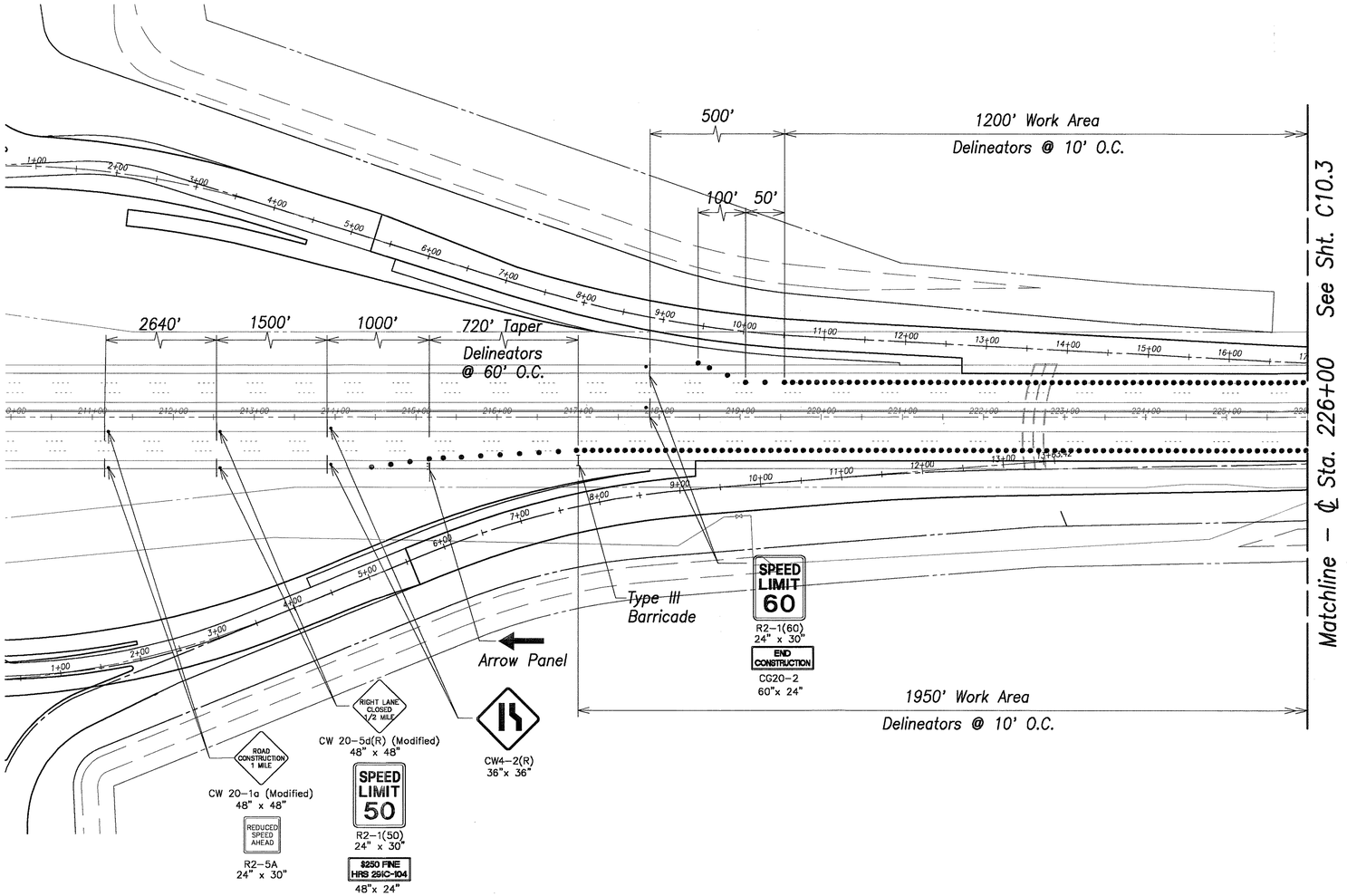
North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

Date: Feb 21, 2007

SHEET No. C10.1 OF 179 SHEETS

"AS-BUILT"

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	161	380



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

Graphic Scale:

1" = 80' 80' 40' 0 80' 160'

Scale in Feet

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662-C
HAWAII, U.S.A.

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SIGNATURE

APR 30, 2008
DATE OF LICENSE EXPIRY

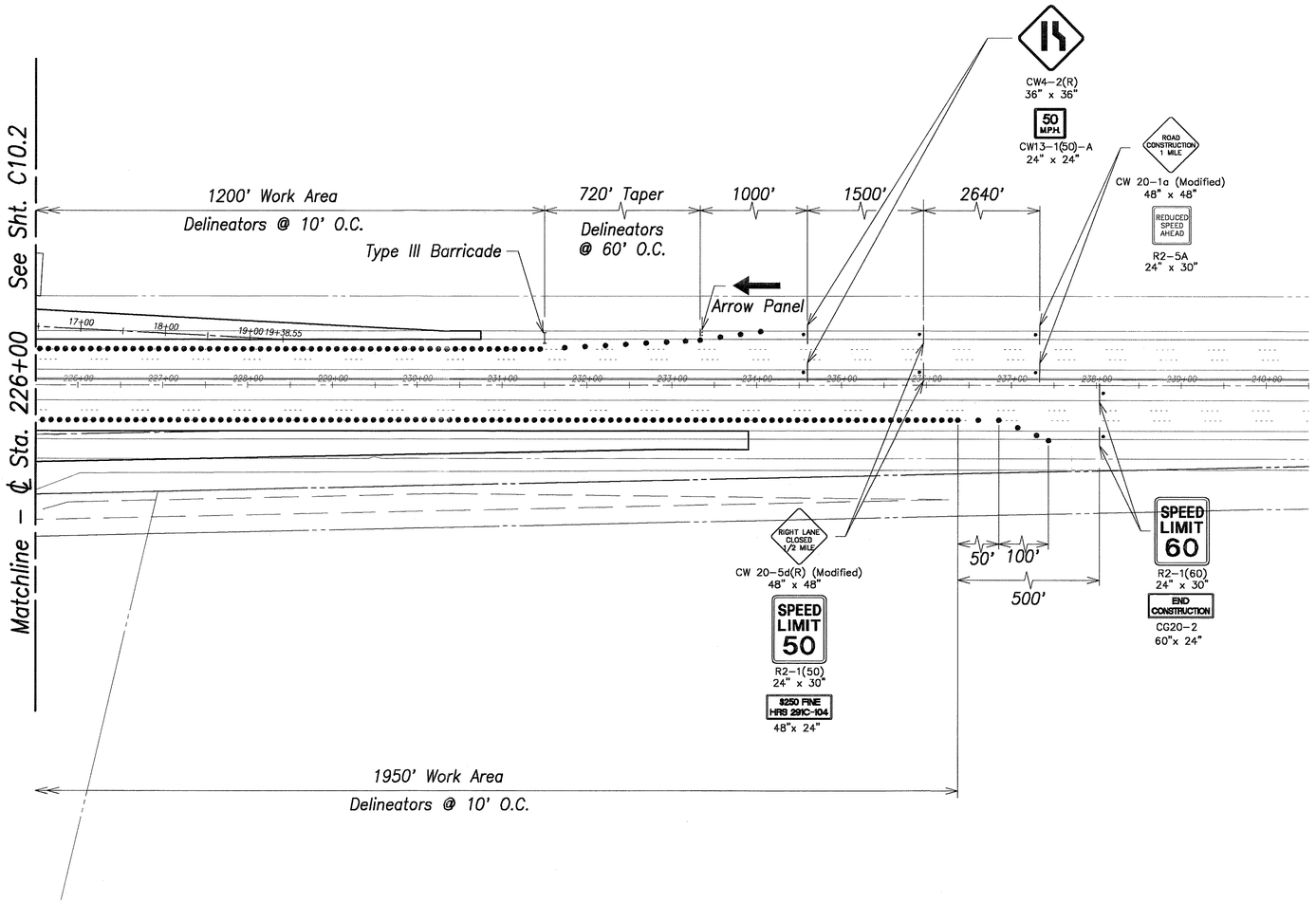
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CONSTRUCTION PHASE 2
TRAFFIC CONTROL PLAN -1
North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

Date: Feb 21, 2007

SHEET No. C10.2 OF 179 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	162	380



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

Graphic Scale:
1" = 80' 80' 40' 0 80' 160'
Scale in Feet

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 8662-C
HAWAII, U.S.A.

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SIGNATURE APR 30, 2008 DATE OF LICENSE EXPIRY

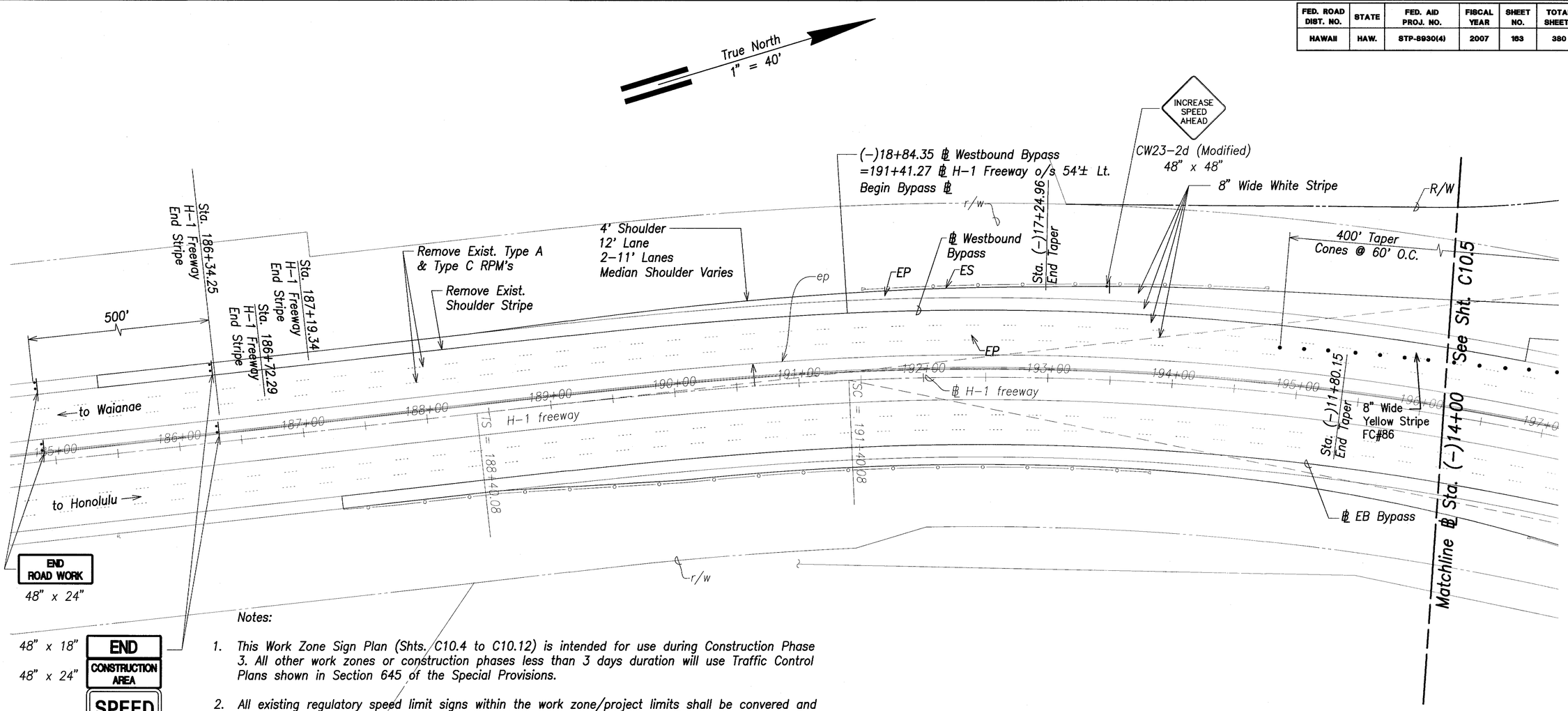
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CONSTRUCTION PHASE 2
TRAFFIC CONTROL PLAN – 2
North–South Road
Phase 1C
F.A.I. Proj. No. STP–8930(4)

Date: Feb 21, 2007

SHEET No. C10.3 OF 179 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	163	380



Notes:

1. *This Work Zone Sign Plan (Shts. C10.4 to C10.12) is intended for use during Construction Phase 3. All other work zones or construction phases less than 3 days duration will use Traffic Control Plans shown in Section 645 of the Special Provisions.*
2. *All existing regulatory speed limit signs within the work zone/project limits shall be convered and work zone speed limit sign assemblies (R2-1(XX)A and CW3-5(XX)A with "CONSTRUCTION AREA" and "$250 FINE HRS 291C-104" Supplemental Signs) shall be displayed.*
3. *Construction signs shall be installed on both the approaching and trailing ends of each work zone.*
4. *Each construction sign shall have a minimum of two (2) Type II OM. Installation of each Type II OM shall be considered incidental to Item No. 621.7100, Construction Sign with Posts.*
5. *All work zone speed sign assembly shall be mounted on three (3) 4.00 lbs./ft. galvanized flanged channel sign posts with a sign clearance height of five (5) feet. Sign stiffeners as specified by Standard Plan TE-02 shall be installed as needed or as directed by teh Engineer.*
6. *The covering and uncovering of existing regulatory speed limit signs along with the installation, maintenance, removal and covering and uncovering of work zone speed limit sign assemblies shall be considered incidental to Item No. 621.7100, Construction Sign with Posts.*
7. *Westbound signing and striping for this construction phase shown on sheets C10.4 to C10.8. Eastbound signing an striping for this construction phase shown on sheets C10.9 to C10.12.*

LEGEND FOR AS-BUILT POSTINGS

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

Graphic Scale:

1" = 40' 40' 20' 0 40' 80'

Scale in Feet

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

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GREG H. HIYAKUMOTO LICENSED PROFESSIONAL ENGINEER No. 6662-C HAWAII, U.S.A.

SIGNATURE — April 30, 2008 EXPIRATION DATE OF THE LICENSE

DATE	REVISION
5/29/08	FC#86 Revised pavement markings

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CONSTRUCTION PHASE 3
TRAFFIC CONTROL PLAN – 1

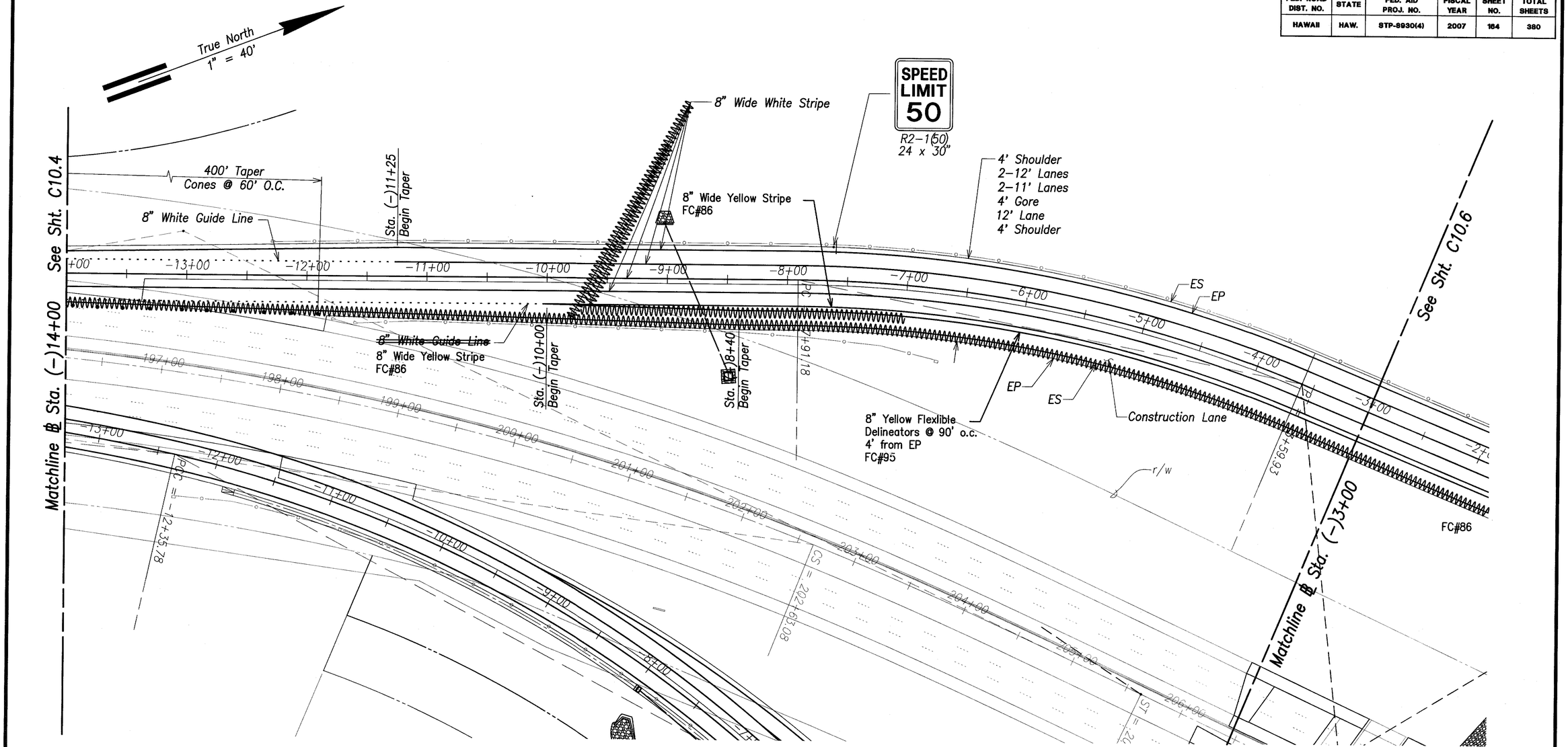
North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

Scale: As Shown — Date: Feb 21, 2007

SHEET No. C10.4 OF 179 SHEETS

"AS-BUILT"

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	164	380



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QUANTITIES BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
No.	

LEGEND FOR AS-BUILT POSTINGS

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

Graphic Scale:

1" = 40' 40' 20' 0 40' 80'

Scale in Feet

GREG H. HIYAKUMOTO LICENSED PROFESSIONAL ENGINEER No. 6662-C HAWAII, U.S.A.

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SIGNATURE April 30, 2008 EXPIRATION DATE OF THE LICENSE

DATE	REVISION
6/27/08	FC#95 Added delineators
5/29/08	FC#86 Revised pavement markings

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CONSTRUCTION PHASE 3
TRAFFIC CONTROL PLAN – 2
North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

Scale: As Shown Date: Feb 21, 2007

SHEET No. C10.5 OF 179 SHEETS

"AS-BUILT"

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	165	380

True North
1" = 40'

Matchline ℄ Sta. (-)3+00 See Sht. C10.5

8" Wide White Stripe

℄ North-South Road

℄ Westbound Bypass

6" White Flexible Delineators @ 25' O.C.
RC#95

Curve
10
M.P.H.
W13-5(10)
48" x 60"
FC#95

FC#95
Special
30" X 24"
ROAD CLOSED TO THRU TRAFFIC
R11-4
60" X 30"
AUTHORIZED VEHICLES ONLY
36" x 24"

FC#95
SPEED LIMIT
50
R2-1(50)
24 x 30"

MERGING TRAFFIC
W14-2 (Modified)
30" x 30"

EXIT
40
M.P.H.
W13-2 40
48" x 60"
FC#95

Sta. 3+96.56
Begin Gore

8' Shoulder
2-12' Lanes
2-11' Lanes
4' Shoulder

Sta. 6+28.44
End Taper

R/W

8" White Guide Line

Sta. 7+08.44
Begin Taper

See Sht. C10.7

8" Yellow Flexible Delineators @ 90' O.C.
4' From E.P.
FC#95

Tie Into Portable Concrete Barriers
FC#95

FC#86

Caution Trucks Entering Ahead

4' Shoulder
12' Lane
2-11' Lanes
4' Shoulder

9" White Flexible Delineators @ 25' O.C. 4' O.C. From E.P.
FC#95

8" Wide Yellow Stripe

12' Construction Lane

Gore, Width Varies

3°

40' Typ.

FC#86

8" Wide Yellow Stripe
FC#86

FC#87
FC#86

Matchline ℄ Sta. 8+00

SPEED LIMIT
50
R2-1(50)
24 x 30"
FC#95

westbound lanes

H-1 freeway

eastbound lanes

Palehua Road Bridge

~~Cone Off Construction Access When Not In Use. Cones @ 10' O.C.~~

DATE	REVISION
6/27/08	FC#95 Added delineators & relocated signs
5/29/08	FC#87 Revised pavement markings
5/29/08	FC#86 Revised pavement markings

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

LEGEND FOR AS-BUILT POSTINGS

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

Graphic Scale:
1" = 40' 40' 20' 0 40' 80'
Scale in Feet

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE — April 30, 2008 EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CONSTRUCTION PHASE 3
TRAFFIC CONTROL PLAN - 3

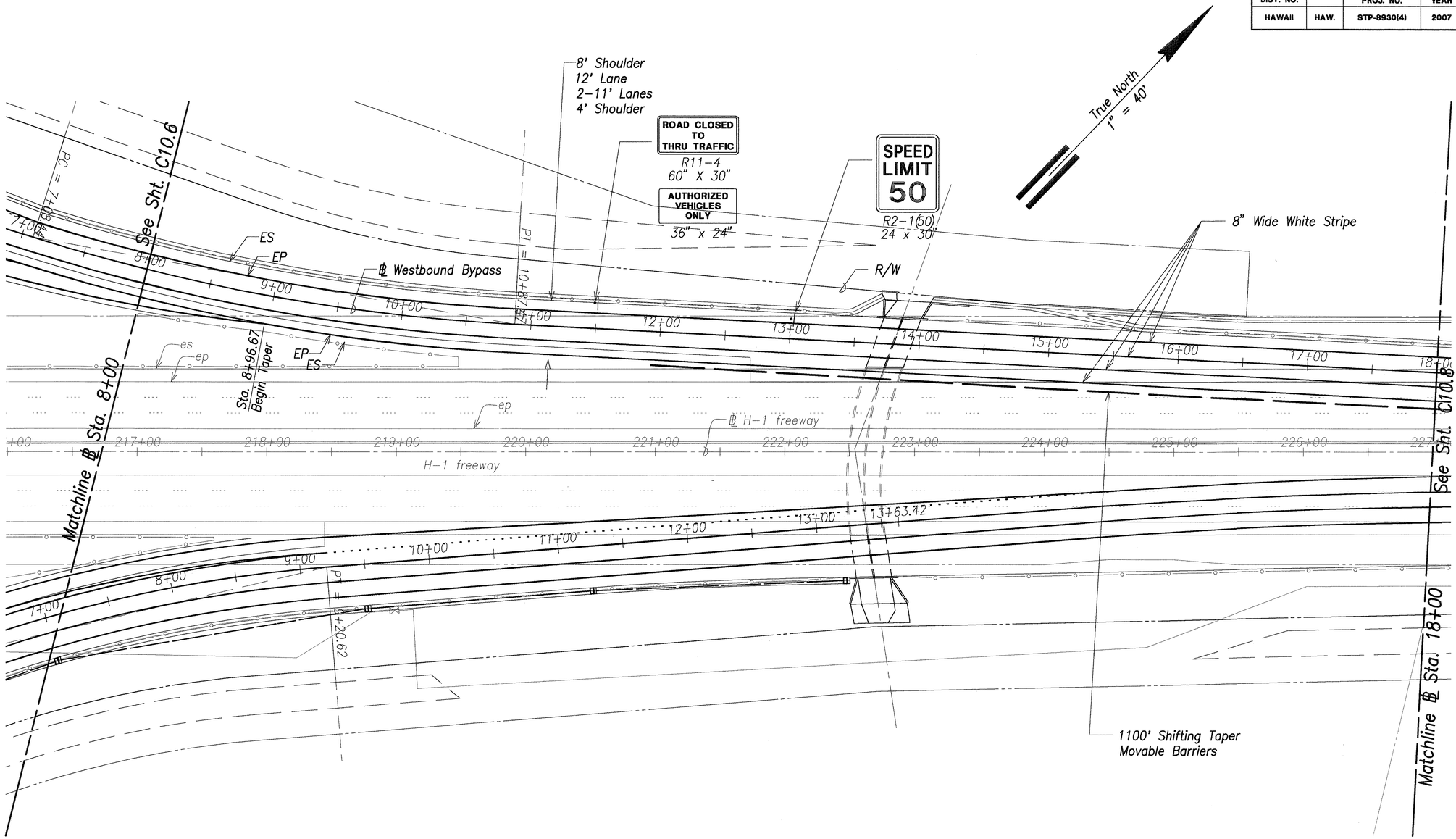
North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

Scale: As Shown — Date: Feb 21, 2007

SHEET No. C10.6 OF 179 SHEETS

"AS-BUILT"

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	166	380



ORIGINAL PLAN

NOTE BOOK No.

SURVEY PLOTTED BY DATE
DRAWN BY
TRACED BY
DESIGNED BY
QUANTITIES BY
CHECKED BY

Graphic Scale:

1" = 40' 40' 20' 0 40' 80'

Scale in Feet

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662-C
HAWAII, U.S.A.

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SIGNATURE

APR 30, 2008
DATE OF LICENSE EXPIRY

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

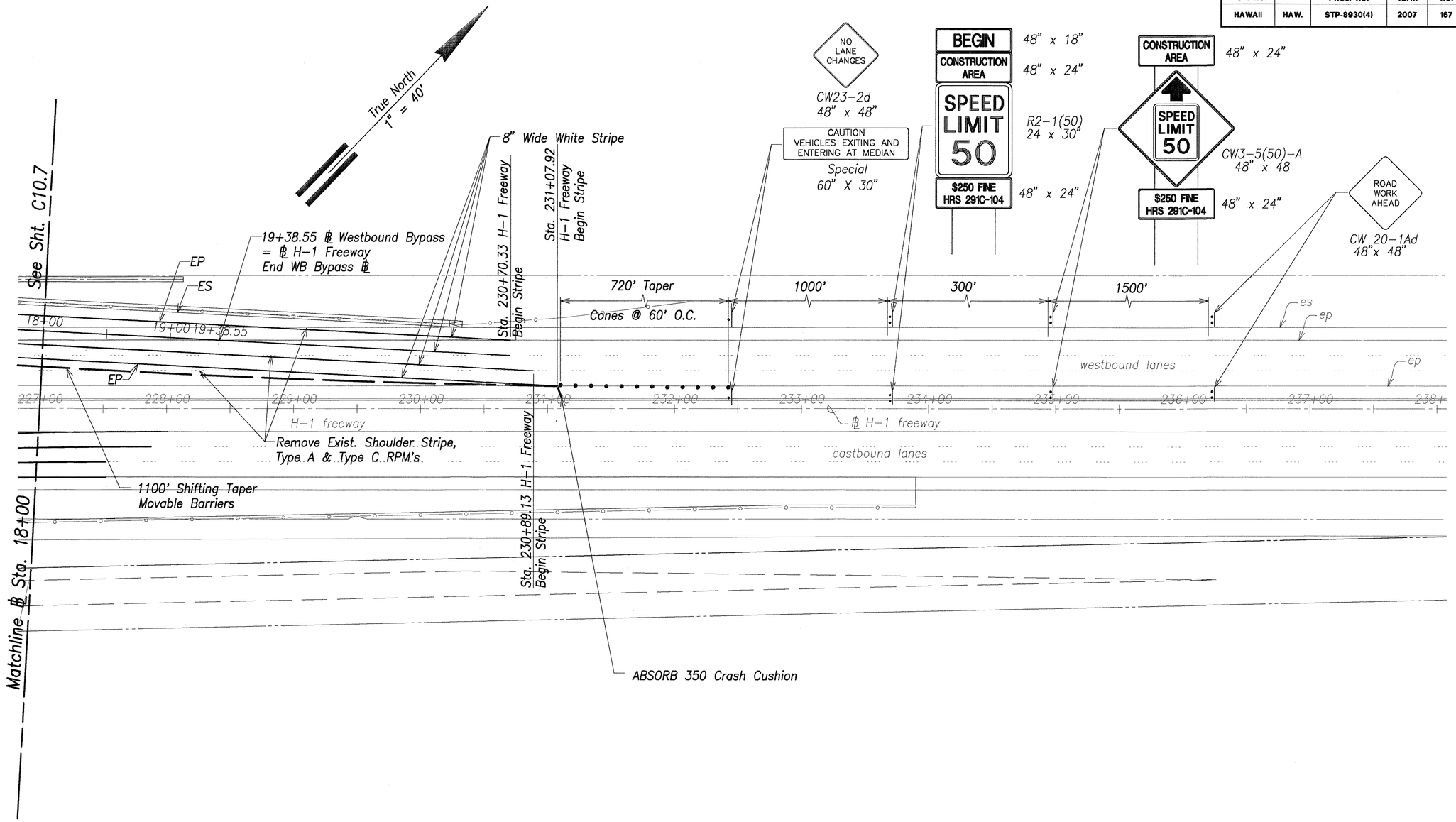
CONSTRUCTION PHASE 3
TRAFFIC CONTROL PLAN – 4

North–South Road
Phase 1C
F.A.I. Proj. No. STP–8930(4)

Scale: As Shown Date: Feb 21, 2007

SHEET No. C10.7 OF 179 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	167	380



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

Graphic Scale:

1" = 40' 40' 20' 0 40' 80'

Scale in Feet

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662-C
HAWAII, U.S.A.

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SIGNATURE

APR 30, 2008
DATE OF LICENSE EXPIRY

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CONSTRUCTION PHASE 3
TRAFFIC CONTROL PLAN – 5

North–South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

Scale: As Shown Date: Feb 21, 2007

SHEET No. C10.8 OF 179 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	168	380

CONSTRUCTION AREA 48" x 24"

SPEED LIMIT 50 — CW3-5(50)-A 48" x 48"

$250 FINE HRS 291C-104 48" x 24"

True North
1" = 40'

ABSORB 350 Crash Cushion

1100' Shifting Taper
Movable Barriers

Sta. 186+35.25 H-1 Freeway
Begin Stripe

Sta. 186+43 H-1 Freeway
Begin Stripe

Sta. 186+53 H-1 Freeway
Begin Stripe

to Waianae

to Honolulu

H-1 freeway

℄ H-1 freeway

℄ EB Bypass

185+00 186+00 187+00 188+00 189+00 190+00 191+00 192+00 193+00 194+00 195+00 196+00 197+00

-18+84.35 -18+00 -17+00 -16+00 -15+00 -14+00

-15+98.08 -15+00 -14+00

-13+00 -12+35.78

PC = -18+84.35

PT = 191+40.08

PC = 54+70.47

PC = -15+98.08

ep EP es

EP ES ep es

4' Shoulder
2-11' Lanes
12' Lane
4' Shoulder

8" Wide White Stripe

Remove Exist.
Shoulder Stripe,
Type A & Type C
RPM's

R/W

r/w

Matchline ℄ Sta. (H) 115+00

See Sht. C10.10

720' Taper

Cones @ 60' O.C.

300'

1000'

1500'

ROAD WORK AHEAD — CW 20-1Ad 48" x 48"

NO LANE CHANGES — CW23-2d (Modified) 48" x 48"

CAUTION VEHICLES EXITING AND ENTERING AT MEDIAN — Special 60" X 30"

SPEED LIMIT 50 — R2-1(50) 24 x 30"

BEGIN 48" x 18"

CONSTRUCTION AREA 48" x 24"

SPEED LIMIT 50 — R2-1(50) 24 x 30"

$250 FINE HRS 291C-104 48" x 24"

SPEED LIMIT 50 — R2-1(50) 24 x 30"

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

Graphic Scale:
1" = 40' 40' 20' 0 40' 80'
Scale in Feet

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662-C
HAWAII, U.S.A.

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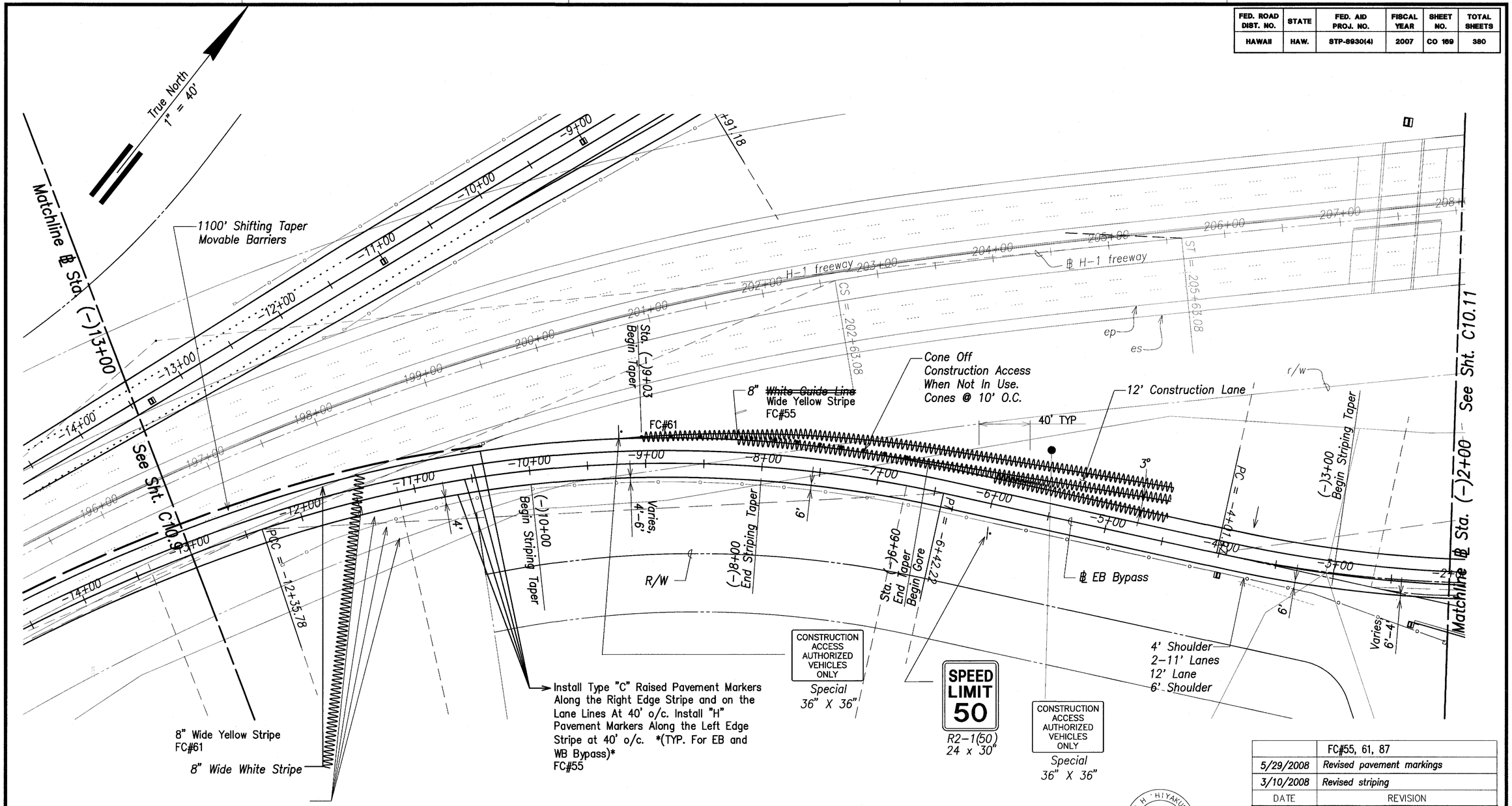
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CONSTRUCTION PHASE 3
TRAFFIC CONTROL PLAN - 6
North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

Scale: As Shown Date: Feb 21, 2007

SHEET No. C10.9 OF 179 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	CO 169	380



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

LEGEND FOR AS-BUILT POSTINGS

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

Graphic Scale:

1" = 40' 40' 20' 0 40' 80'

Scale in Feet

GREG H. HIYAKUMOTO LICENSED PROFESSIONAL ENGINEER No. 6662-C HAWAII, U.S.A.

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DATE	REVISION
	FC#55, 61, 87
5/29/2008	Revised pavement markings
3/10/2008	Revised striping

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CONSTRUCTION PHASE 3
TRAFFIC CONTROL PLAN - 7

North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

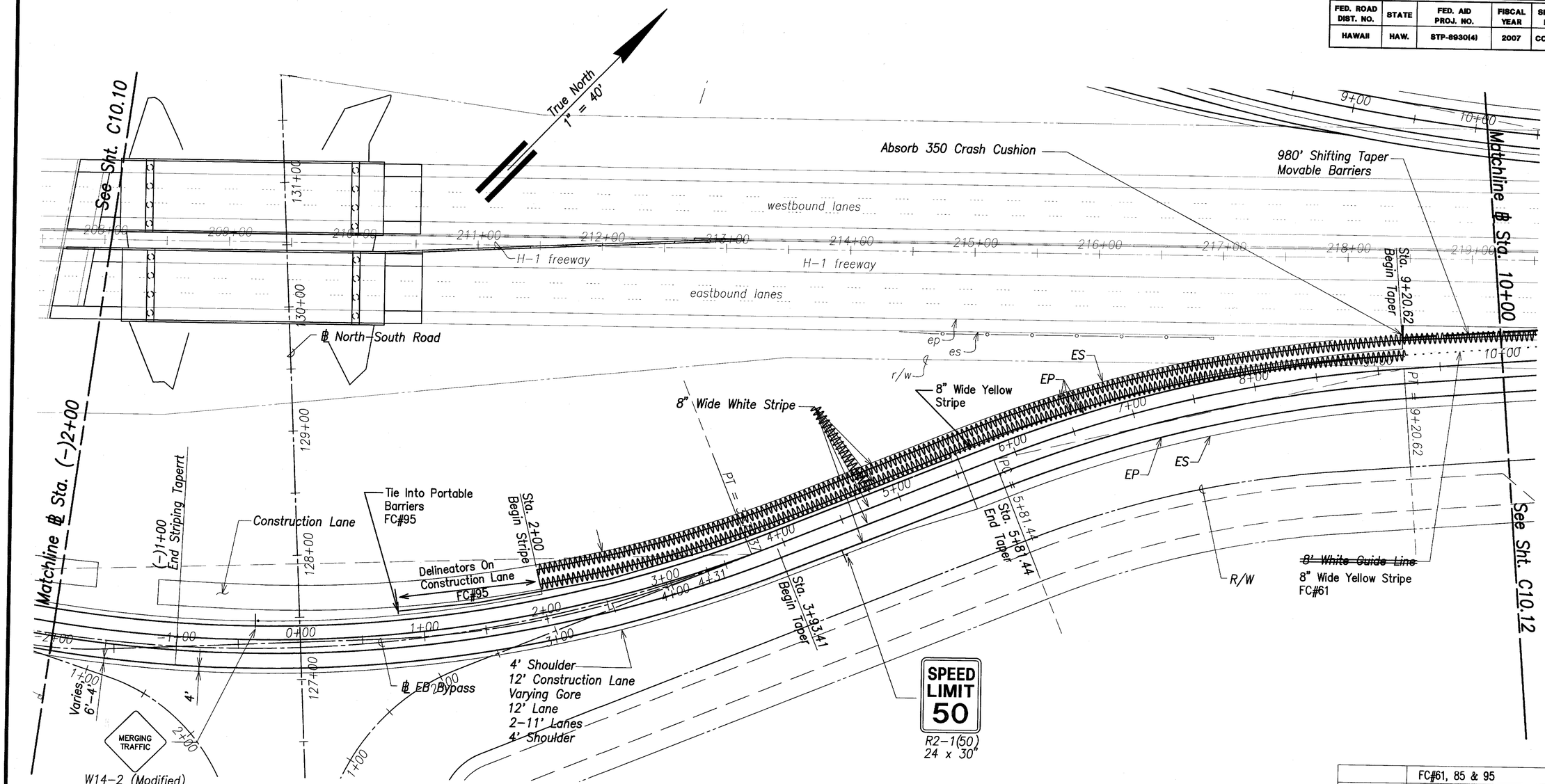
Scale: As Shown — Date: Feb 21, 2007

SHEET No.C10.10 OF 179 SHEETS

"AS-BUILT"

CO 169

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	CO 170	380



	FC#61, 85 & 95
6/27/08	Added delineators
5/29/08	Revised lane widths
3/10/2008	*revised striping*
DATE	REVISION

LEGEND FOR AS-BUILT POSTINGS

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

Graphic Scale:
1" = 40' 40' 20' 0 40' 80'
Scale in Feet

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CONSTRUCTION PHASE 3
TRAFFIC CONTROL PLAN - 8

North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

Scale: As Shown — Date: Feb 21, 2007

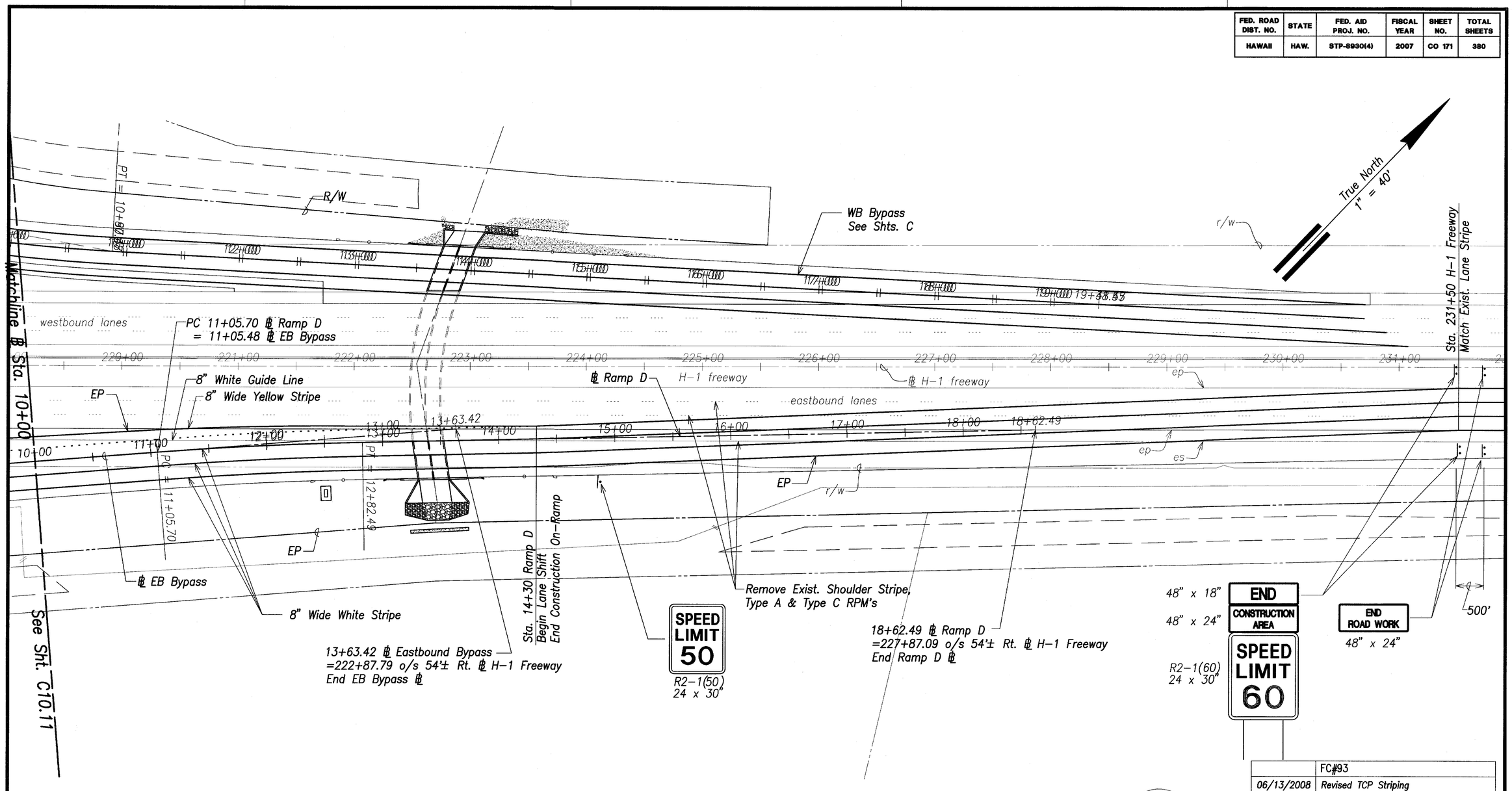
SHEET No.C10.11 OF 179 SHEETS

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

"AS-BUILT"

CO 170

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	CO 171	380



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

Graphic Scale:

1" = 40' 40' 20' 0 40' 80'

Scale in Feet

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662-C
HAWAII, U.S.A.

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SIGNATURE April 30, 2008

	FC#93
06/13/2008	Revised TCP Striping
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CONSTRUCTION PHASE 3
TRAFFIC CONTROL PLAN – 9

North–South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

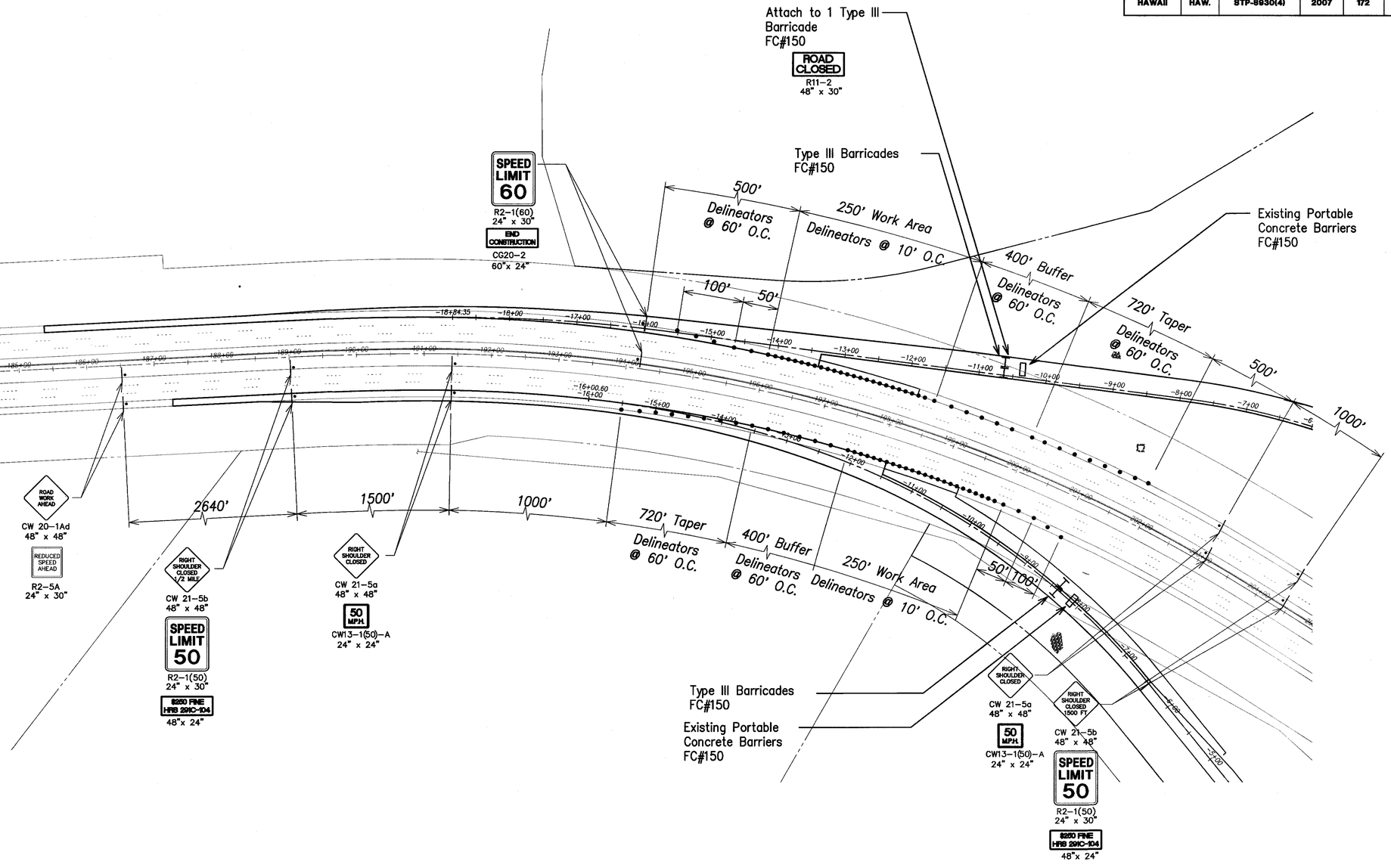
Scale: As Shown Date: Feb 21, 2007

SHEET No.C10.12 OF 179 SHEETS

"AS-BUILT"

CO 171

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	172	380



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

LEGEND FOR AS-BUILT POSTINGS

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

Graphic Scale:

1" = 80' 80' 40' 0 80' 160'

Scale in Feet

GREG H. HIYAKUMOTO LICENSED PROFESSIONAL ENGINEER No. 6662-C HAWAII, U.S.A.

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SIGNATURE

April 30, 2008
EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CONSTRUCTION PHASE 4
TRAFFIC CONTROL PLAN – 1

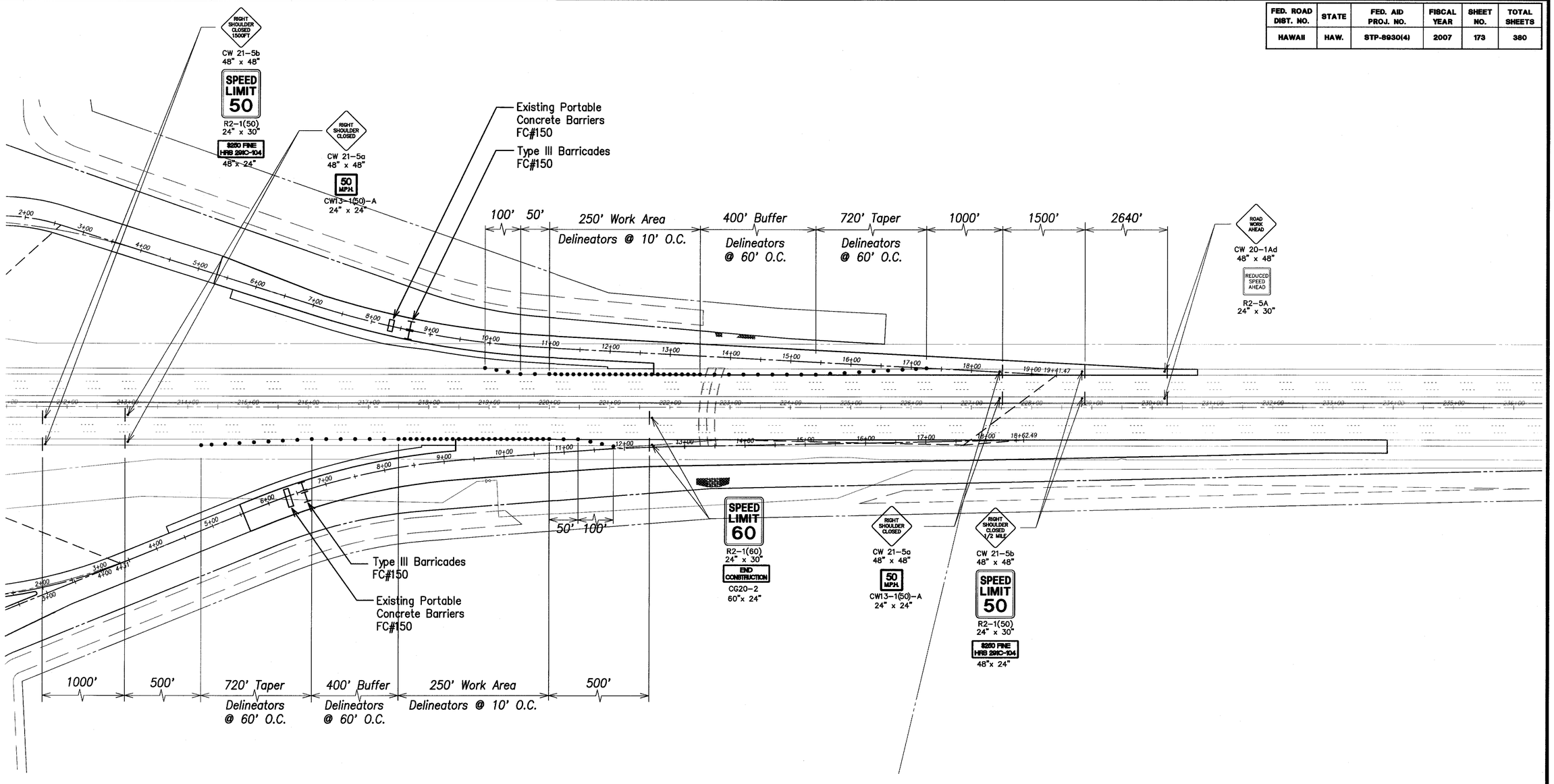
North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

Date: Feb 21, 2007

SHEET No.C10.13 OF 179 SHEETS

"AS-BUILT"

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	173	380



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

LEGEND FOR AS-BUILT POSTINGS

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

Graphic Scale:

1" = 80' 80' 40' 0 80' 160'

Scale in Feet

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

GREG H. HIYAKUMOTO LICENSED PROFESSIONAL ENGINEER No. 6662-C HAWAII, U.S.A.

SIGNATURE April 30, 2008 EXPIRATION DATE OF THE LICENSE

	FC#150
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CONSTRUCTION PHASE 4
TRAFFIC CONTROL PLAN 2

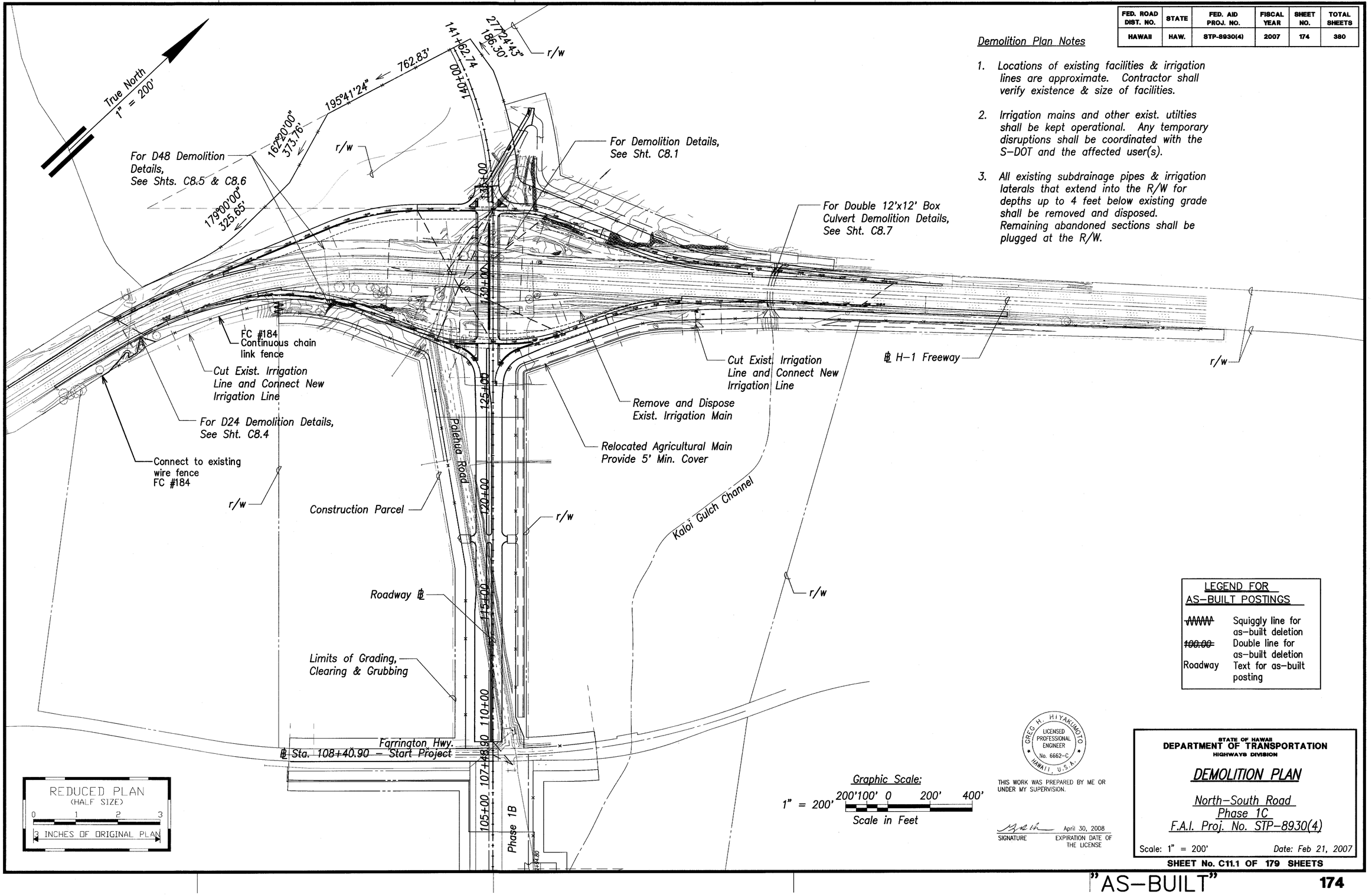
North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

Date: Feb 21, 2007

SHEET No.C10.14 OF 179 SHEETS

"AS-BUILT"

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	174	380



Demolition Plan Notes

1. Locations of existing facilities & irrigation lines are approximate. Contractor shall verify existence & size of facilities.
2. Irrigation mains and other exist. utilties shall be kept operational. Any temporary disruptions shall be coordinated with the S-DOT and the affected user(s).
3. All existing subdrainage pipes & irrigation laterals that extend into the R/W for depths up to 4 feet below existing grade shall be removed and disposed. Remaining abandoned sections shall be plugged at the R/W.

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

REDUCED PLAN
(HALF SIZE)
0 1 2 3
3 INCHES OF ORIGINAL PLAN

Graphic Scale:
1" = 200' 200'100' 0 200' 400'
Scale in Feet

LEGEND FOR AS-BUILT POSTINGS

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

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662-C
HAWAII, U.S.A.

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SIGNATURE — April 30, 2008 EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DEMOLITION PLAN

North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

Scale: 1" = 200' Date: Feb 21, 2007

SHEET No. C11.1 OF 179 SHEETS

"AS-BUILT"

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	CO 175	380

True North
1" = 80'

Connect New Plantation Road to Palehua Road. Provide Smooth Riding Transition

Salvage Exist. Gate

Exist. Material Stockpile. Coordinate with HDOT & Farm Owner to Relocate.

Construction Parcel

New 25' Wide Plantation Road "A"

R/W & Fenceline

LEGEND FOR AS-BUILT POSTINGS

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

Ramp A

plantation road

Palehua Road

r/w

westbound lanes

H-1 freeway

eastbound lanes

North-South Road

Connect New 8" Ag. Irr Line to Exist. Match Exist. Invert.
1- 8" 1/4 Bend
1- Conc. Block

FC #16
Remove and Dispose All Portions of Ag. Irr. Line within R/W after New Lines are Connected
Cut & Plug Exist. Irrigation Line
FC #16

FC #16
1- 12" 1/8 Bend
1- Conc. Block

End Protective Berm

1- 8" 1/4 Bend
1- Conc. Block

Remove and Dispose All Portions of Ag. Irr. Line within R/W after New Lines are Connected

Construction Parcel

R/W & Fenceline

Connect New 8" Ag. Irr Line to Exist. Match Exist. Invert.

FC #16
1- 8" 1/8 Bend
1- 8" 1/16 Bend
1- Conc. Block

End Protective Berm

FC #16 New 25' Wide, 800' Long Plantation Road "C"

Provide Protective Berm Along ROW/Fenceline. See Det. on Sht. C11.4

8" Ag. Irr. Line

123+80 o/s 268' Lt. ℄ N-S Road
1- 8" Tee
1- 10"x8" Reducer
1- 8"x6" Reducer
(Or Match Exist.)
1- Conc. Block
FC #16

FC #16
Ag. Irr. Line (6" or Match Exist.)

FC #16
1- 8" 1/8 Bend
1- 8" 1/16 Bend
1- Conc. Block

FC #16 Provide Protective Berm Along ROW/Fenceline. See Det. on Sht. C11.4

123+80 o/s 143' Rt. ℄ N-S Road
FC #16
1-12"x10" Reducer
1- 10" 1/4 Bend
1- 10" G.V.
1- G.V. Box
1- Conc. Block

FC #16
10" Ag. Irr. Line

New 12" Ag. Irr. Line. Reconnect to All Exist. Laterals. Contractor to Verify Invert and Location of All Laterals and Reconnect at Exist. Location & Invert.

New 25' Wide Plantation Road "B"

R/W & Fenceline

Construction Parcel

FC #16
Salvage Exist. Metering Valve

Connect New Plantation Road to Exist. Plantation Road. Provide Smooth Riding Transition.

FC #16
1- 12" 1/8 Bend
1- Conc. Block

FC #16
Remove and Dispose Portion of Ag. Irr. Line within R/W after New Line is Connected

Matchline: See Sht. C11.3

Matchline: See Sht. C11.4

Graphic Scale:
1" = 80'
80' 40' 0 80' 160'
Scale in Feet

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

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662-C
HAWAII, U.S.A.

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April 30, 2008
SIGNATURE — EXPIRATION DATE OF THE LICENSE

9/21/2007	Revised per field meetings
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

AG. FACILITY DEMOLITION & RELOCATION PLAN - 1

North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

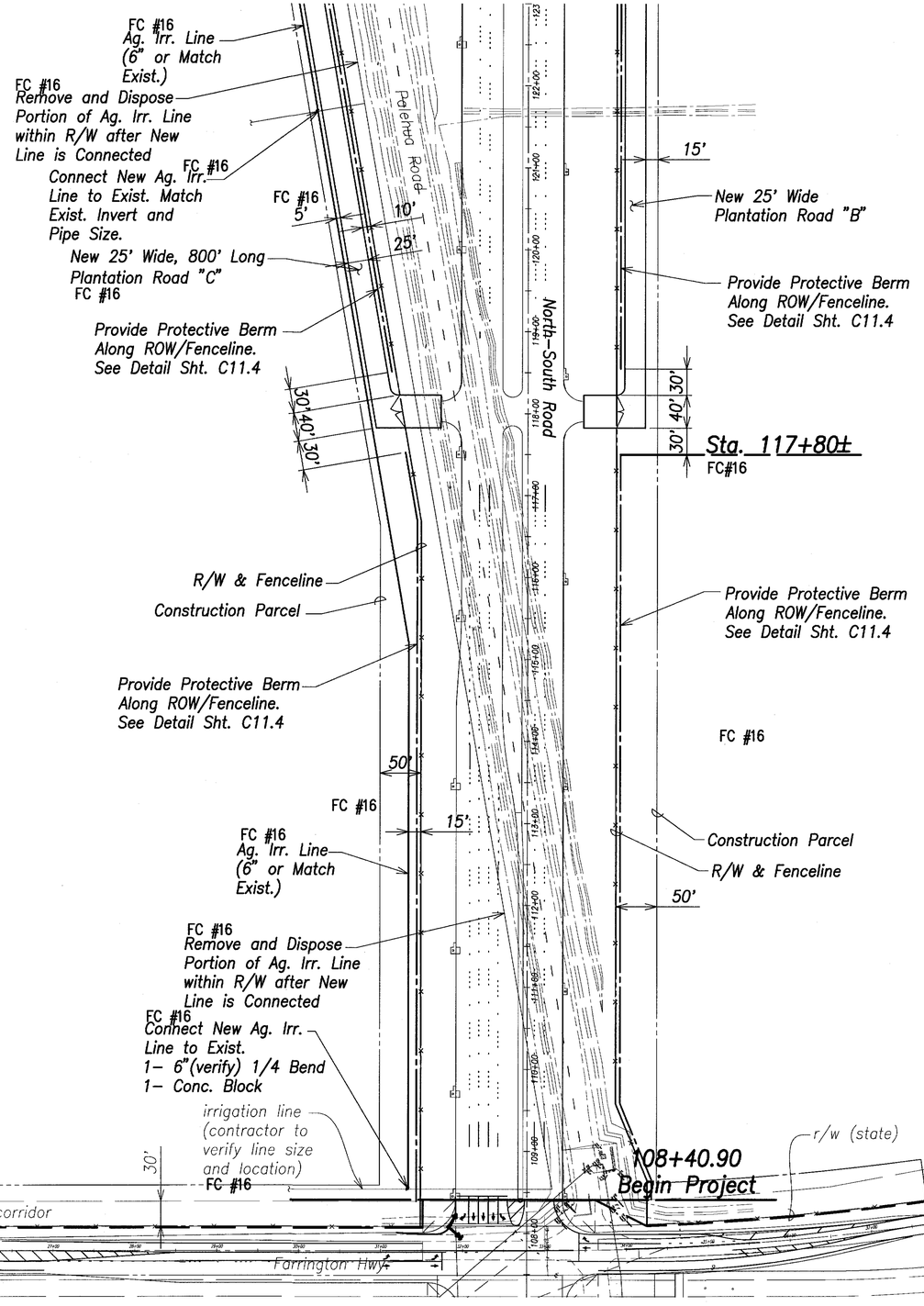
Scale: 1" = 80' Date: Feb 21, 2007

SHEET No. C11.2 OF 179 SHEETS

"AS-BUILT"

CO 175

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	CO 176	380



LEGEND FOR AS-BUILT POSTINGS

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

GREGG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662-C
HAWAII, U.S.A.

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	FC#16
9/21/2007	Revised per field meetings
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

AG. FACILITY DEMOLITION & RELOCATION PLAN - 2

North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

Graphic Scale:
1" = 80' 80' 40' 0 80' 160'
Scale in Feet

Scale: 1" = 80' Date: Feb 21, 2007

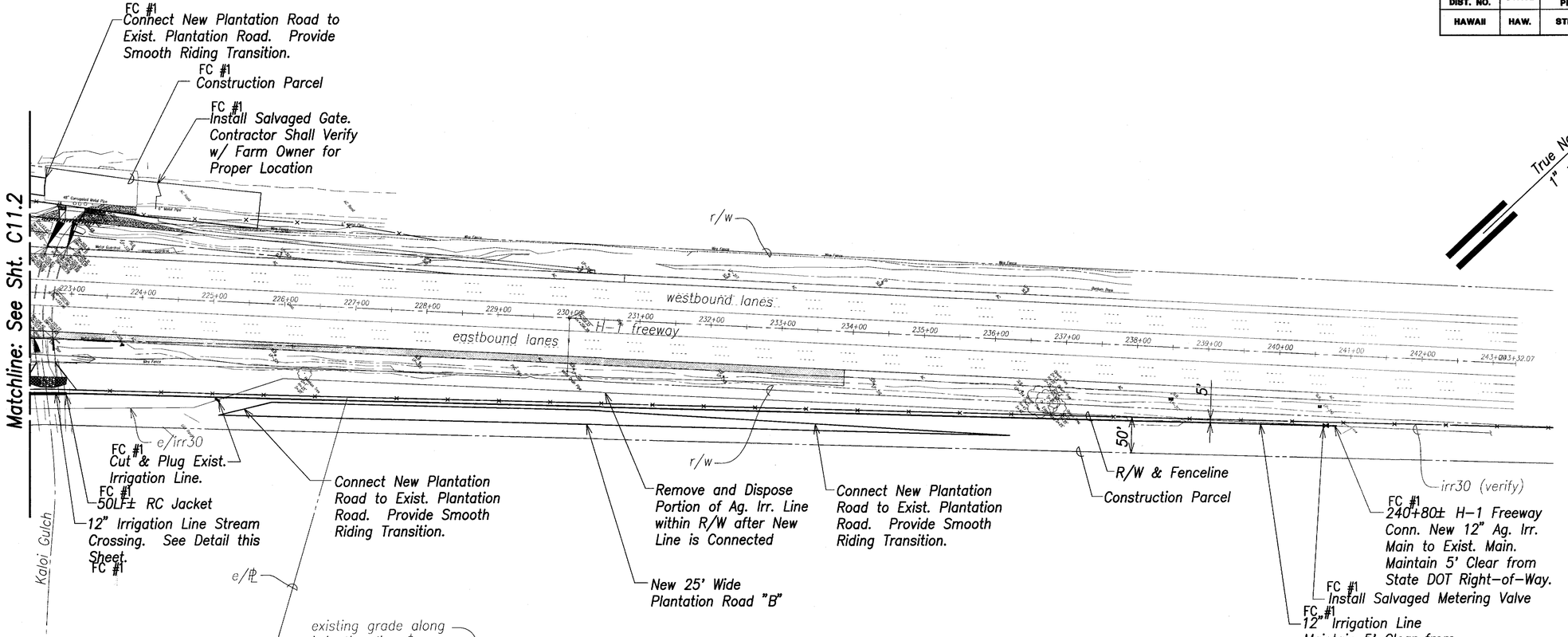
SHEET No. C11.3 OF 179 SHEETS

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

"AS-BUILT"

CO 176

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	CO 177	380



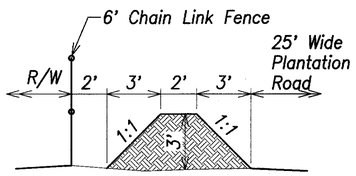
LEGEND FOR AS-BUILT POSTINGS

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

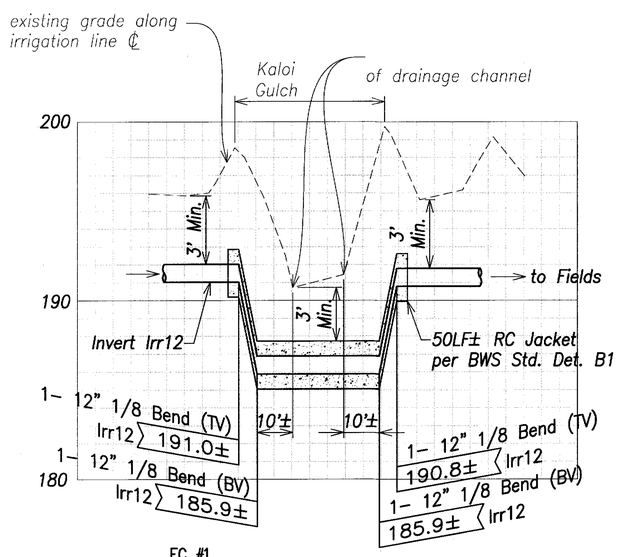
GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

April 30, 2008
SIGNATURE — EXPIRATION DATE OF THE LICENSE



Protective Berm Detail
Not to Scale



FC #1
12" Irrigation Stream Crossing
Scale: Hor. 1"=20', Vert. 1"=4'

Notes:

1. Access to Palehua Road remain open during the construction of the freeway bypass, Palehua Road Connector and new plantation roads and ag. irrigation lines.
2. All agricultural irrigation line relocation shall be approved and coordinated with HDOT and the farm owner. Contact: Larry Jefts, phone number ___-____
3. All ag. irr. lines shall remain in service at all times. Any shutdowns shall be coordinated with the farm owner and shall not exceed more than 72 hours during the off-season (April-September) and 24 hours during the season (October-March).
4. All agricultural irrigation lines shall be PVC Cl. 125 except for 6" lines which shall be PVC Cl. 160.
5. The Contractor shall verify location, size & invert of all irrigation lines. The Contractor shall also verify location and invert of all lateral connections to the exist. ag. irrigation line and reconnect to the new line. The Contractor shall coordinate this work with HDOT and the farm owner before proceeding with the new lateral connections.
6. Minimum cover for the new ag. irr. line shall be 4' under North-South Road and 3' for all other areas.

Graphic Scales:

1" = 4' — 4' 2' 0 4' 8'
1" = 20' — 20' 10' 0 20' 40'
1" = 80' — 80' 40' 0 80' 160'
Scale in Feet

	FC#1, 8 & 22
9/21/2007	Revised per field meetings
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

AG. FACILITY DEMOLITION & RELOCATION PLAN - 3

North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

Scale: 1" = 80' Date: Feb 21, 2007

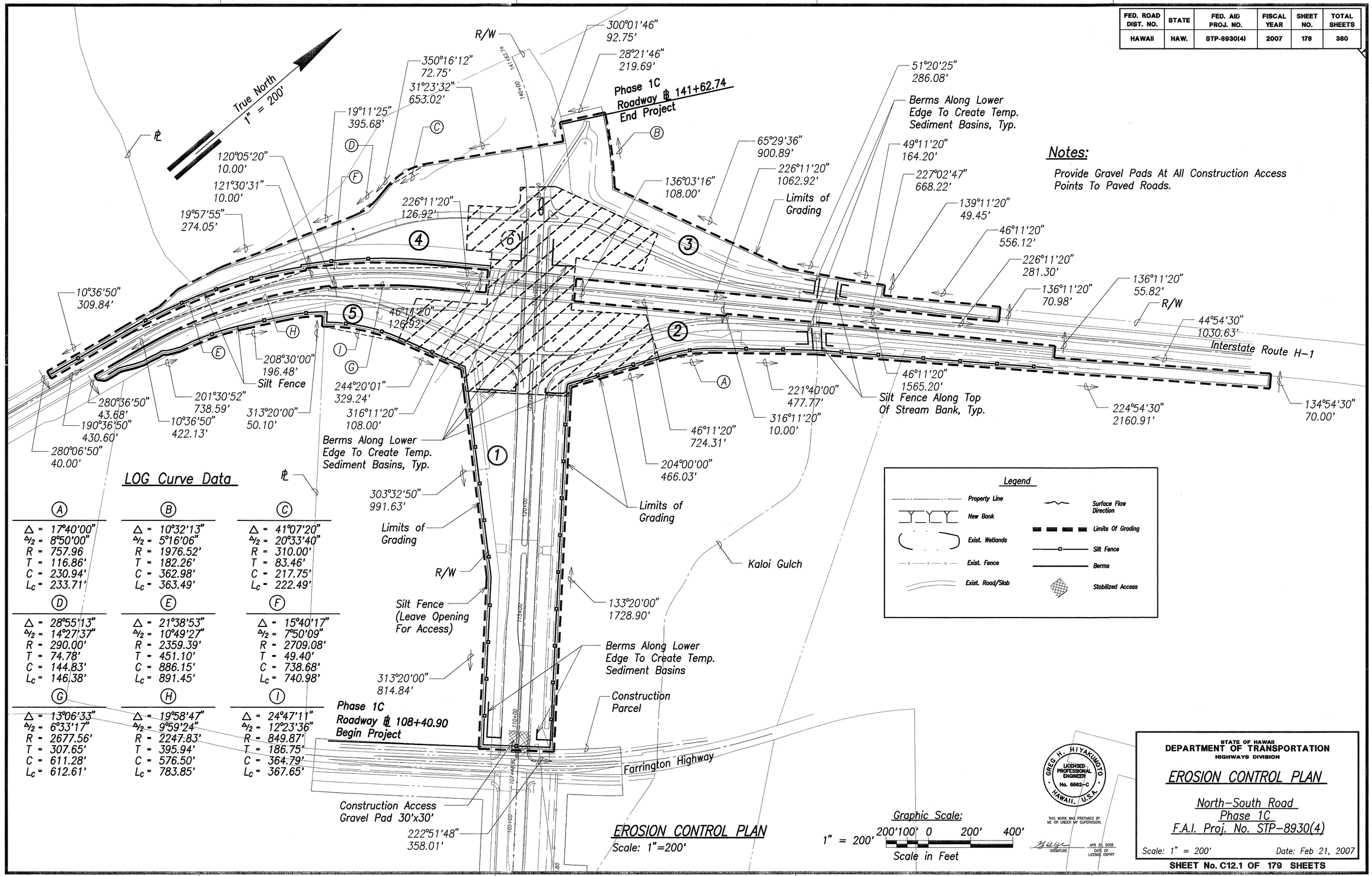
SHEET No. C11.4 OF 179 SHEETS

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

"AS-BUILT"

CO 177

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	178	380



Ⓐ	Ⓑ	Ⓒ
Δ = 17°40'00"	Δ = 10°32'13"	Δ = 41°07'20"
Δ/2 = 8°50'00"	Δ/2 = 5°16'06"	Δ/2 = 20°33'40"
R = 757.96	R = 1976.52'	R = 310.00'
T = 116.86'	T = 182.26'	T = 83.46'
C = 230.94'	C = 362.98'	C = 217.75'
Lc = 233.71'	Lc = 363.49'	Lc = 222.49'

Ⓓ	Ⓔ	Ⓕ
Δ = 28°55'13"	Δ = 21°38'53"	Δ = 15°40'17"
Δ/2 = 14°27'37"	Δ/2 = 10°49'27"	Δ/2 = 7°50'09"
R = 290.00'	R = 2359.39'	R = 2709.08'
T = 74.78'	T = 451.10'	T = 49.40'
C = 144.83'	C = 886.15'	C = 738.68'
Lc = 146.38'	Lc = 891.45'	Lc = 740.98'

Ⓖ	Ⓗ	Ⓘ
Δ = 13°06'33"	Δ = 19°58'47"	Δ = 24°47'11"
Δ/2 = 6°33'17"	Δ/2 = 9°59'24"	Δ/2 = 12°23'36"
R = 2677.56'	R = 2247.83'	R = 849.87'
T = 307.65'	T = 395.94'	T = 186.75'
C = 611.28'	C = 576.50'	C = 364.79'
Lc = 612.61'	Lc = 783.85'	Lc = 367.65'

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

EROSION CONTROL PLAN

Scale: 1"=200'

Graphic Scale:
1" = 200' 200' 100' 0 200' 400'
Scale in Feet

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662-C
HAWAII, U.S.A.
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
SIGNATURE
APR 30, 2008
DATE OF LICENSE EXPIRY

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

EROSION CONTROL PLAN

North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

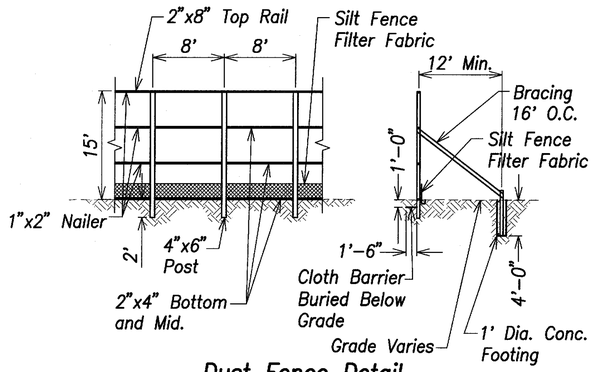
Scale: 1" = 200' Date: Feb 21, 2007

SHEET No. C12.1 OF 179 SHEETS

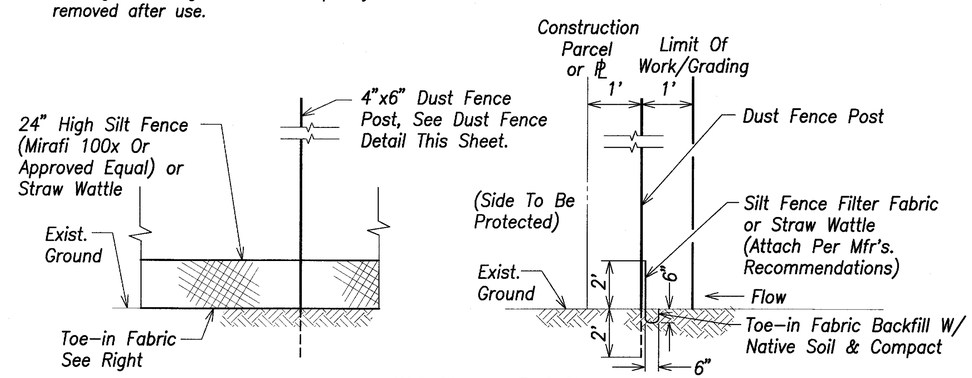
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	CO 179	380

Dust & Silt Fence Notes:

1. The cloth barrier is not shown in front view.
2. The cloth barrier is to be a "non-woven geotextile" or "nursery shade".
3. Lumber sizes are in nominal inches.
4. The cloth shall be buried at the base to the indicated dimensions as shown on the detail.
5. The 1"x2" cloth barrier caps are to be nailed 12" o.c.
6. Burlap is not acceptable as the cloth barrier.
7. The cloth shall not have any horizontal seams.
8. Vertical seams shall be made over uprights only.
9. All seams shall be capped with a 1"x2" minimum.
10. All joints shall be securely fastened by mechanical means.
11. Fencing & footings shall be completely removed after use.



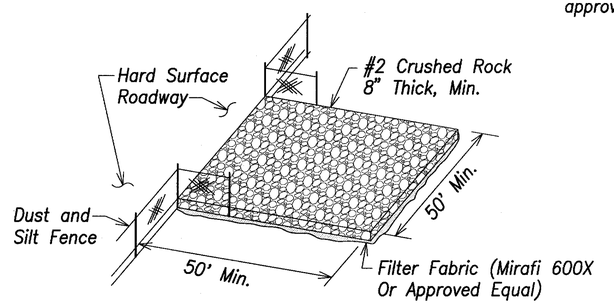
Dust Fence Detail
Not to Scale



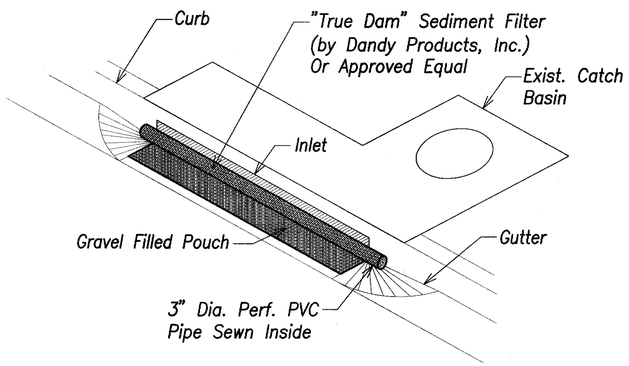
Silt Fence Detail
Not To Scale

Best Management Practices Temporary Erosion Control Notes:

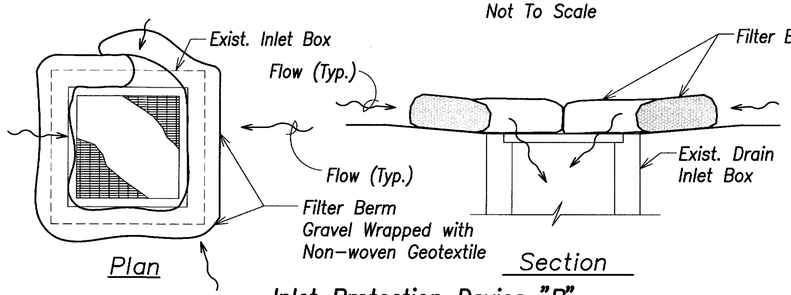
1. Follow sequence of operation as recommended by the "Rules Relating to Soil Erosion Standards and Guidelines", Department of Planning and Permitting, City and County of Honolulu, April 1999.
2. The Contractor shall minimize the amount of land to be exposed at any one time.
3. Temporary grassing, hydro seed with common bermuda grass hulled seeds at rate of 2 lbs. per 1,000 sf or star grass cuttings of 1 sprigs per sq. ft. and top with hydromulch cover for all exposed or graded areas shall be done immediately after final grades are established. Permanent grassing shall be per landscape plans and specifications.
4. Graded areas that are not at final grade and are expected to be exposed for more than 14 days, shall be mulched (at the rate of 45 cubic feet per 1,000 square feet) in order to prevent erosion and silt runoff at no additional cost to the State.
5. Dust fencing shall be used at locations specified on plans or designated by the Engineer.
6. The above procedure for erosion and sediment control may be revised by the Contractor to conform to his grading operation procedure. However, any revisions to the above shall be submitted for review to the Engineer.
7. The graded or project site that is cleared of vegetation shall be kept damp seven (7) days a week. At the end of each day, the site shall be sufficiently dampened so that the site will remain moistened during the night.
8. The Contractor shall conduct his operations so that excavation, embankment, and imported material shall be dampened to prevent dust problems at no cost to the State.
9. Access to existing streets shall be through existing access points. Every access point shall have a stabilized construction entrance with minimum dimensions of 50'x50' and a section consisting of #2 crushed rock, 8" thick min, over filter fabric (Mirafi 600x or approved equal).



Stabilized Construction Entrance
Not To Scale



Inlet Protection Device "A"
Not To Scale



Inlet Protection Device "B"
Not To Scale

Inlet Protection Device Notes:

1. The Contractor shall install Inlet Protection Devices "A" or "B" at the nearest downstream catch basins and drain inlet boxes within and adjacent to the limits of grading.
2. The Contractor shall temporarily remove sediment filters during an event of above-normal rainfall and reinstall filter after the event has passed.

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

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE — April 30, 2008 EXPIRATION DATE OF THE LICENSE

DATE	REVISION
9/21/2007	Revised per City comments

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

EROSION CONTROL DETAILS

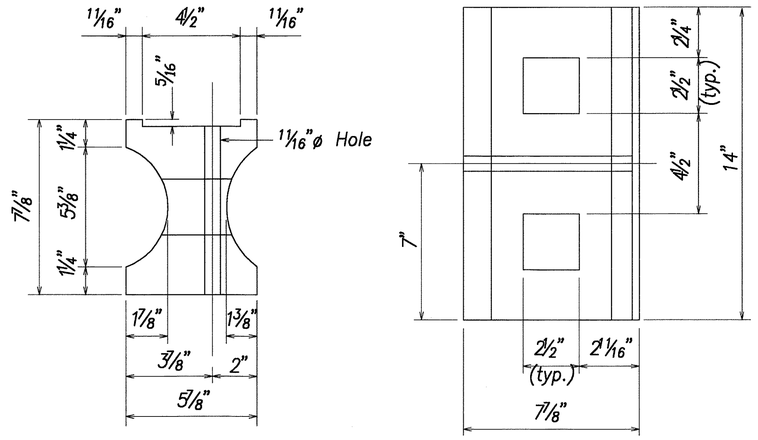
North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

Scale: 1" = 200' Date: Feb 21, 2007

SHEET No. C12.2 OF 179 SHEETS

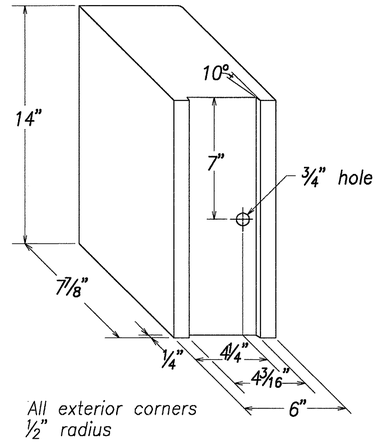
"AS-BUILT" CO 179

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	ADD. 179S-1	380

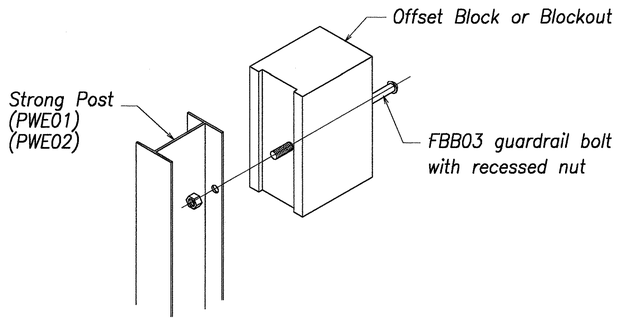


TOP SIDE

RECYCLED PLASTIC BLOCKOUT (TYPE I)

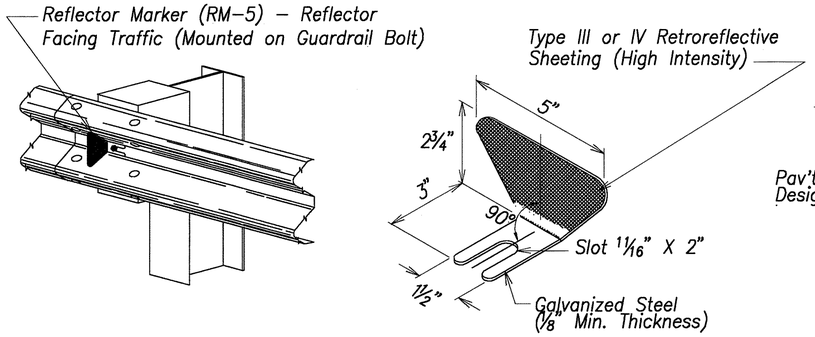


RECYCLED POLYETHYLENE OFFSET BLOCK (TYPE II)

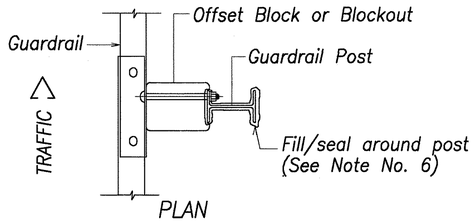


Exploded View
(Rail and washer not shown)

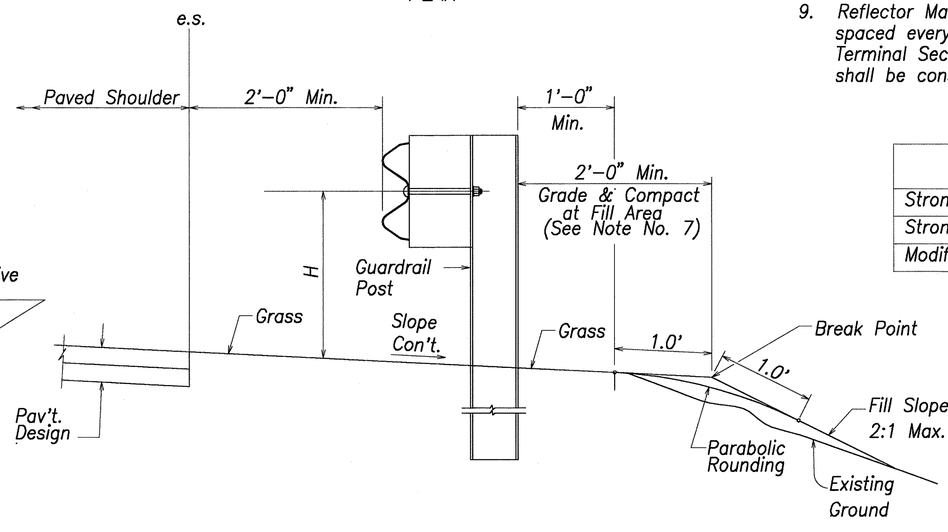
STEEL POST AND BLOCK DETAIL



REFLECTOR MARKER (RM-5) DETAIL AND TYPICAL INSTALLATION



PLAN



ELEVATION

TYPICAL GUARDRAIL INSTALLATION

GENERAL NOTES

1. All hardware, posts and fasteners shall be hot-dip zinc coated galvanized after fabrication. No punching, drilling or cutting will be permitted after galvanizing.
2. Where conditions require, special post lengths in increments of 6 inches may be specified.
3. All fasteners, posts, and rail elements (i.e. FBB03, PWE01, RWM02b, etc.) shall conform to the latest edition and amendments of "A Guide to Standardized Highway Barrier Rail Hardware", a report prepared and approved by the AASHTO-AGC-ARTBA Joint Cooperative Committee, Subcommittee On New Highway Materials, Task Force 13 Report. Dimensions of fastners, posts and rail elements have been converted from metric units into their present form.
4. The Recycled Plastic Block or Offset Block shall be approved by the State.
5. All new guardrail systems (system consists of total length of guardrail including both end treatments) shall include the Additional Paved Area.
6. After the guardrail posts are installed in the paved area, the Contractor shall fill/seal around each guardrail post and all cracks in the paved area caused during the guardrail post installation. If required by the inspector/engineer, the Contractor shall tamper the paved area around the guardrail post prior to filling/sealing. All costs associated with this work shall not be paid for separately, but shall be considered incidental to the various guardrail items.
7. When standards for the fill slope area cannot be met, a site specific, engineer approved design may be used.
8. New A.C. pavement at guardrails shall extend 6 feet longitudinally beyond terminal ends.
9. Reflector Markers (RM-5) mounted on guardrails shall be spaced every 25 feet. RM-5's shall not be installed on Terminal Sections. Furnishing and installing of each RM-5 shall be considered incidental to the adjacent guardrail system.

GUARDRAIL TYPE	DIMENSION H
Strong Post W-Beam	1'-9 7/8"
Strong Post Rubrail (W-Beam)	2'-0"
Modified or Strong Post Thrie Beam	2'-0"

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

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

GREG H. HIYAKUMOTO LICENSED PROFESSIONAL ENGINEER No. 6662-C HAWAII, U.S.A.

Greg H. Hiyakumoto APR 30, 2008
SIGNATURE DATE OF LICENSE EXPIRY

5/4/07	3 Added sheet
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GUARDRAIL DETAILS & NOTES

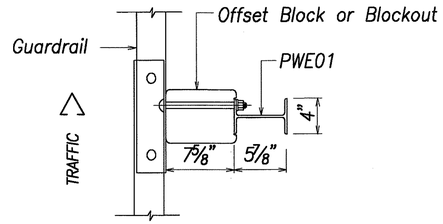
North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

Date: Feb 21, 2007

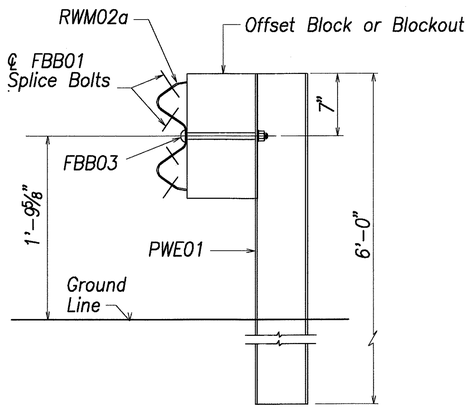
SHEET No. C13.1 OF 179 SHEETS

ADD. 179S-1

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	ADD. 179S-2	380



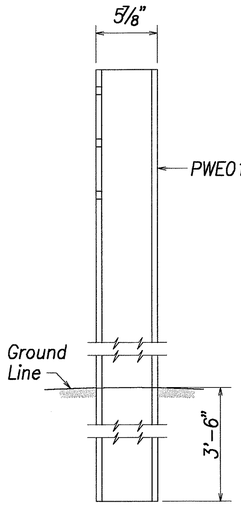
PLAN



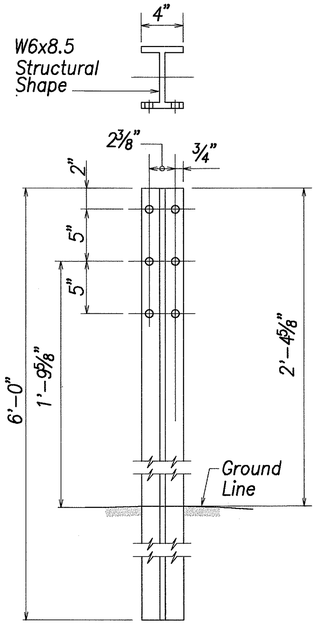
ELEVATION

STRONG POST W-BEAM GUARDRAIL (SGR04a)

NOTE:
All Holes are ¾" Dia.

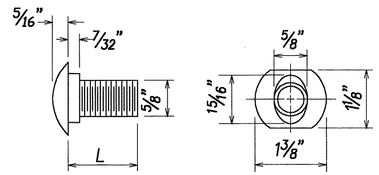


SIDE

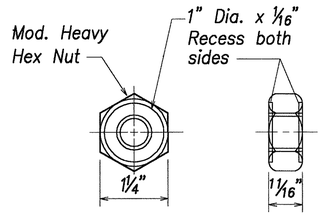


FRONT

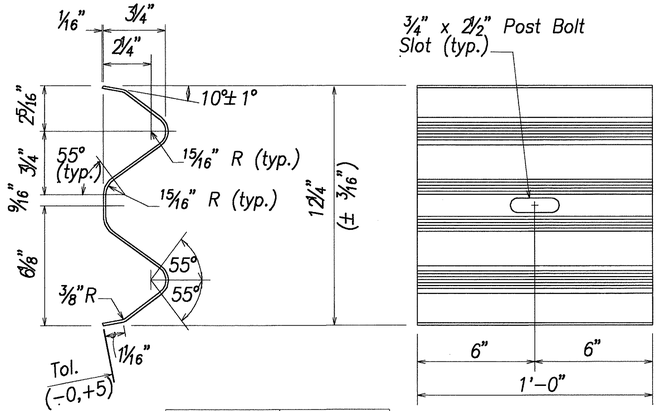
W-BEAM STRONG POST (PWE01)



DESIGNATOR	L
FBB01	1⅜"
FBB02	2"
FBB03	10"

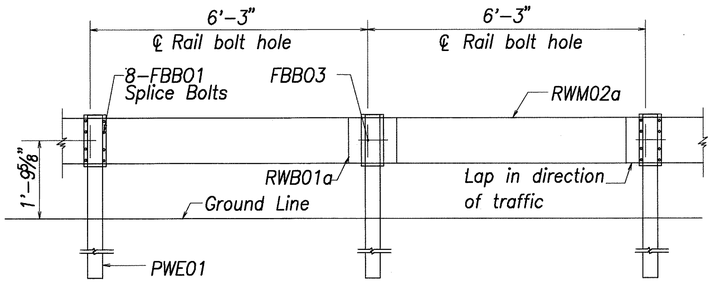


GUARDRAIL BOLTS AND RECESSED NUT



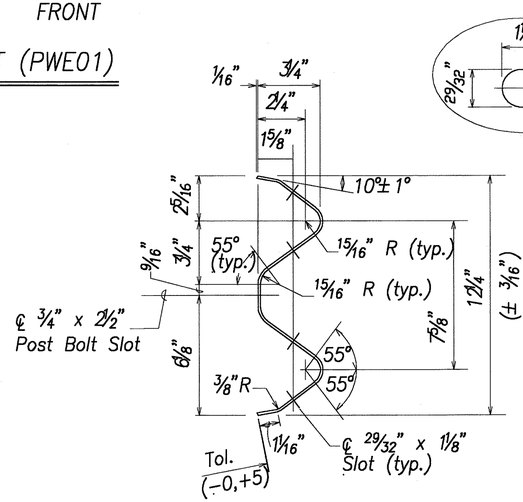
DESIGNATOR	BASE METAL THICKNESS
RWB01a	12 Gauge

W-BEAM BACK-UP-PLATE (RWB01a)



ELEVATION

STRONG POST W-BEAM GUARDRAIL WITH RECYCLED OFFSET BLOCK OR PLASTIC BLOCKOUT



DESIGNATOR	BASE METAL THICKNESS
RWM02a	12 Gauge

2 SPACE W-BEAM GUARDRAIL (RWM02a)

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

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662-C
HAWAII, U.S.A.

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SIGNATURE — APR 30, 2008 DATE OF LICENSE EXPIRY

DATE	REVISION
5/4/07	3 Added sheet

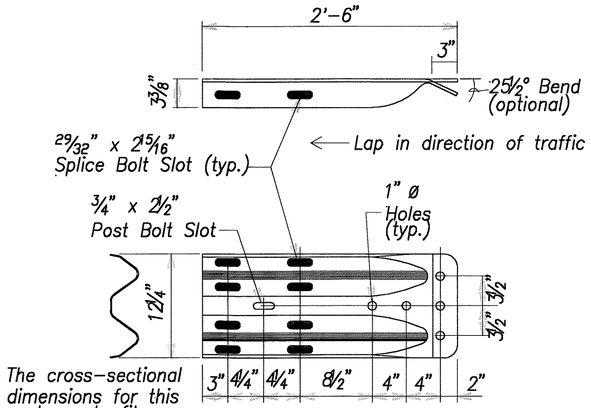
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STRONG POST W-BEAM GUARDRAIL

North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

Date: Feb 21, 2007

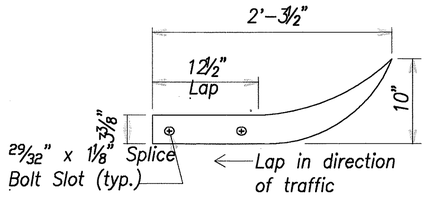
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	ADD. 179S-3	380



The cross-sectional dimensions for this part are to fit over part RWM02a on the approach end and under part RWM02a on the trailing end.

DESIGNATOR	BASE METAL THICKNESS
RWE02b	10 Gauge

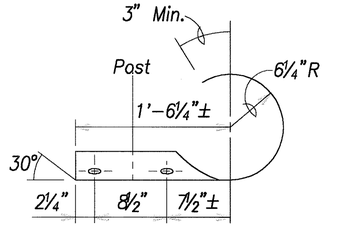
W-BEAM TERMINAL CONNECTOR (RWE02b)

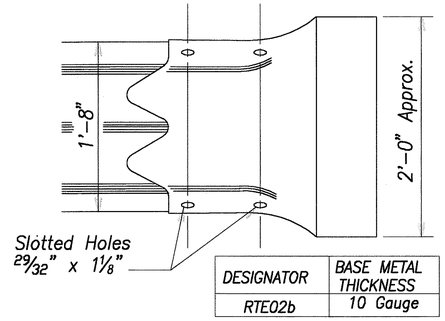


The cross-sectional dimensions for this part are to fit over part RWM02a on the approach end and under part RWM02a on the trailing end.

DESIGNATOR	BASE METAL THICKNESS
RWE01a	12 Gauge

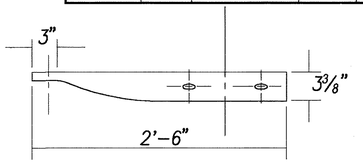
W-BEAM END SECTION (FLARED RWE01a)

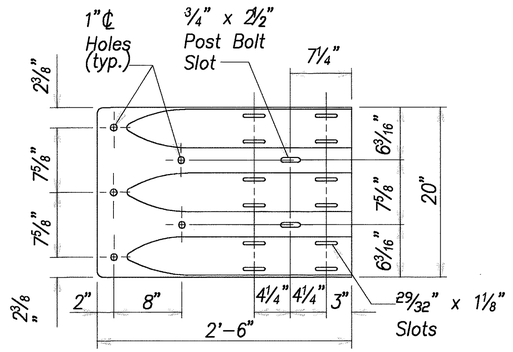




DESIGNATOR	BASE METAL THICKNESS
RTE02b	10 Gauge

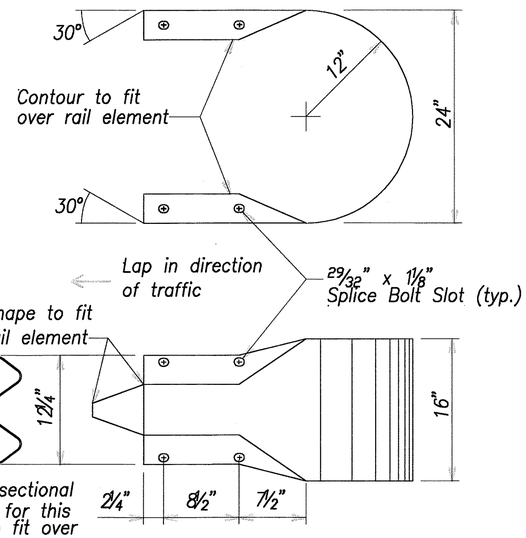
THRIE-BEAM SECTION (ROUNDED) (RTE02b)





DESIGNATOR	BASE METAL THICKNESS
RTE01b	10 Gauge

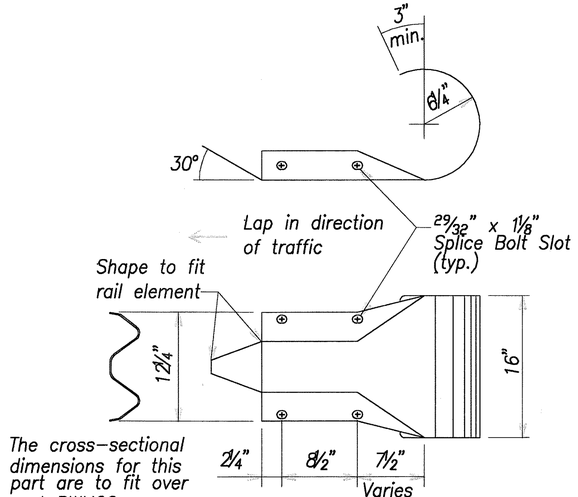
THRIE-BEAM TERMINAL CONNECTOR (RTE01b)



The cross-sectional dimensions for this part are to fit over part RWM02a

DESIGNATOR	BASE METAL THICKNESS
RWE06a	12 Gauge

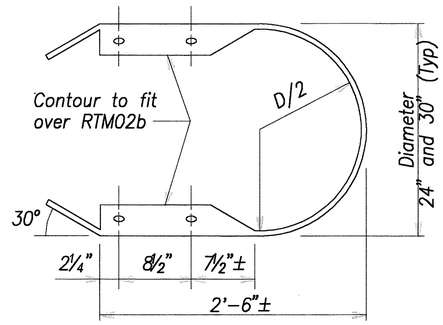
W-BEAM END SECTION (BUFFER RWE06a)

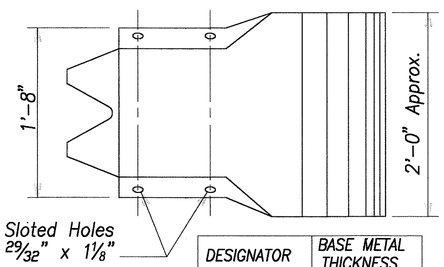


The cross-sectional dimensions for this part are to fit over part RWM02a

DESIGNATOR	BASE METAL THICKNESS
RWE03a	12 Gauge

W-BEAM END SECTION (ROUNDED RWE03a)





DESIGNATOR	BASE METAL THICKNESS
RTE03b & RTE04b	10 Gauge

THRIE-BEAM END SECTION (BUFFER RTE03b or RTE04b)

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GREG H. HIYAKUMOTO LICENSED PROFESSIONAL ENGINEER No. 6662-C HAWAII, U.S.A.

Signature — APR 30, 2008 DATE OF LICENSE EXPIRY

DATE	REVISION
5/4/07	3 Added sheet

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GUARDRAIL TERMINAL CONNECTORS AND END SECTIONS

North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

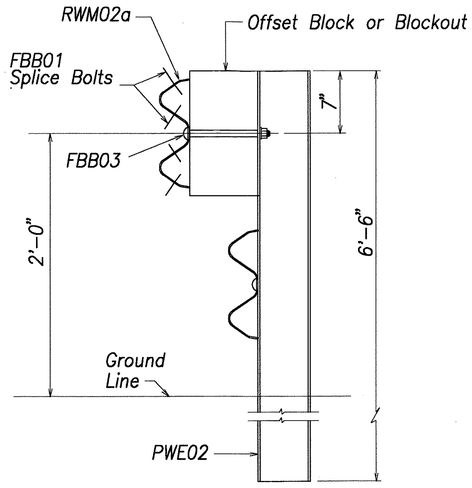
Date: Feb 21, 2007

SHEET No. C13.3 OF 179 SHEETS

ADD. 179S-3

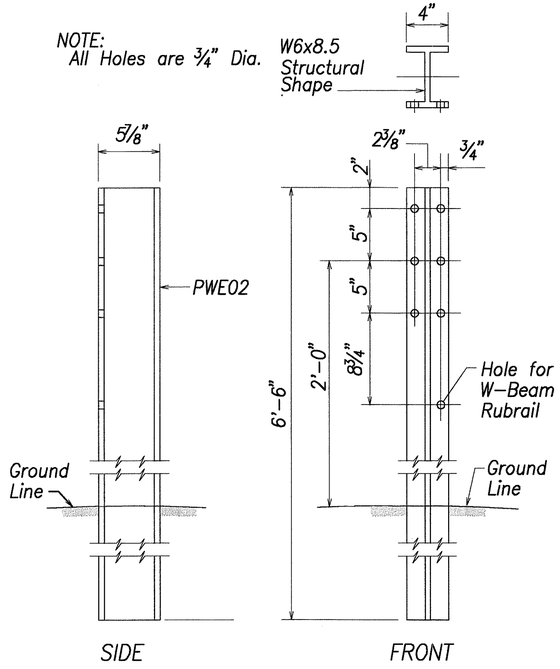
ORIGINAL PLAN — SURVEY PLOTTED BY — DRAWN BY — TRACED BY — DESIGNED BY — QUANTITIES BY — CHECKED BY — DATE — NOTE BOOK — No.

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	ADD. 179S-4	380



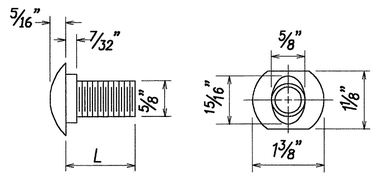
ELEVATION

STRONG POST RUBRAIL (W-BEAM) GUARDRAIL

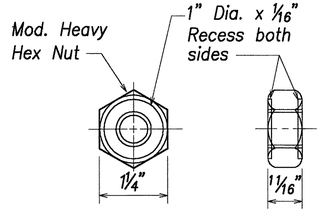


SIDE FRONT

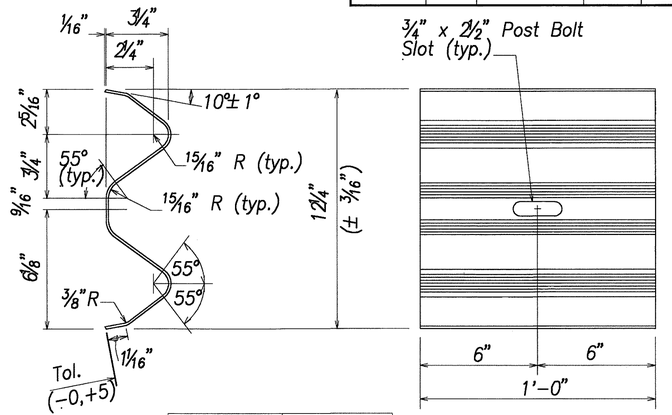
W-BEAM STRONG POST (PWE02)



DESIGNATOR	L
FBB01	1⅜"
FBB02	2"
FBB03	10"

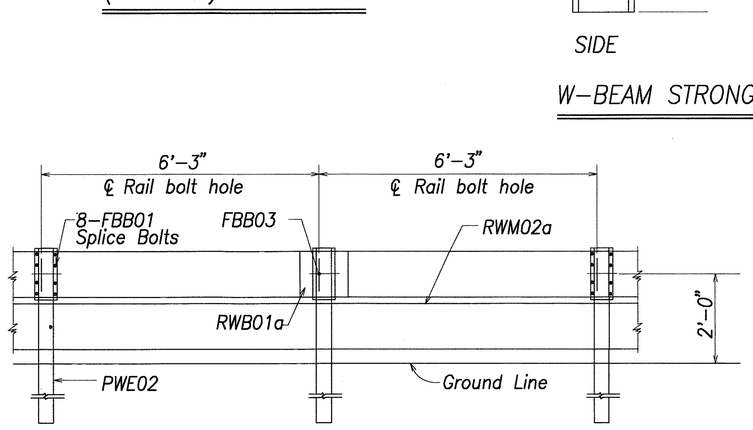


GUARDRAIL BOLTS AND RECESSED NUT



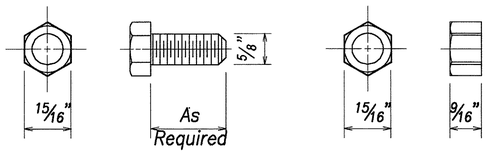
DESIGNATOR	BASE METAL THICKNESS
RWB01a	12 Gauge

W-BEAM BACK-UP-PLATE (RWB01a)

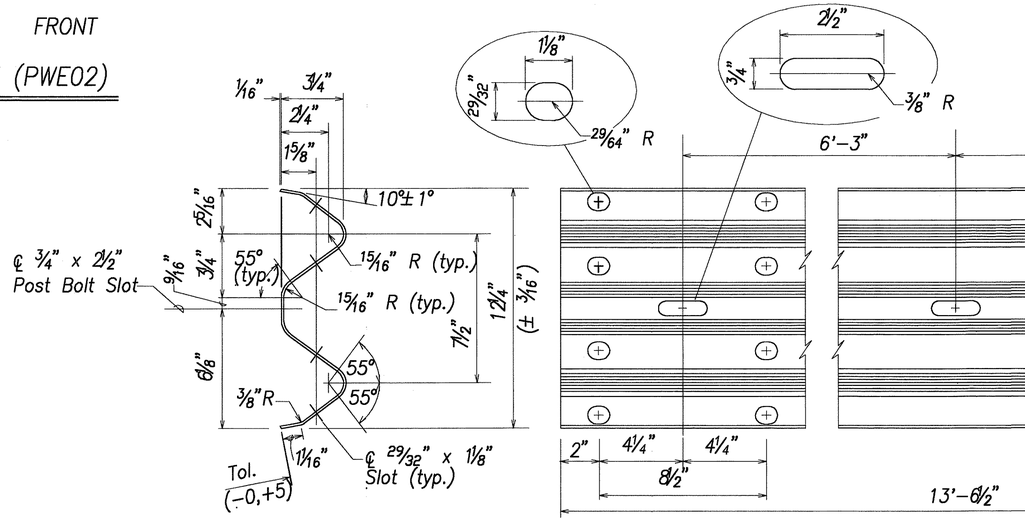


ELEVATION

STRONG POST RUBRAIL (W-BEAM) GUARDRAIL WITH RECYCLED OFFSET BLOCK OR PLASTIC BLOCKOUT



HEX BOLT& NUT (FBX16a)



DESIGNATOR	BASE METAL THICKNESS
RWM02a	12 Gauge

2 SPACE W-BEAM GUARDRAIL (RWM02a)

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
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	DESIGNED BY	
	QUANTITIES BY	
	CHECKED BY	

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662-C
HAWAII, U.S.A.

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SIGNATURE APR 30, 2008 DATE OF LICENSE EXPIRY

5/4/07	3 Added sheet
DATE	REVISION

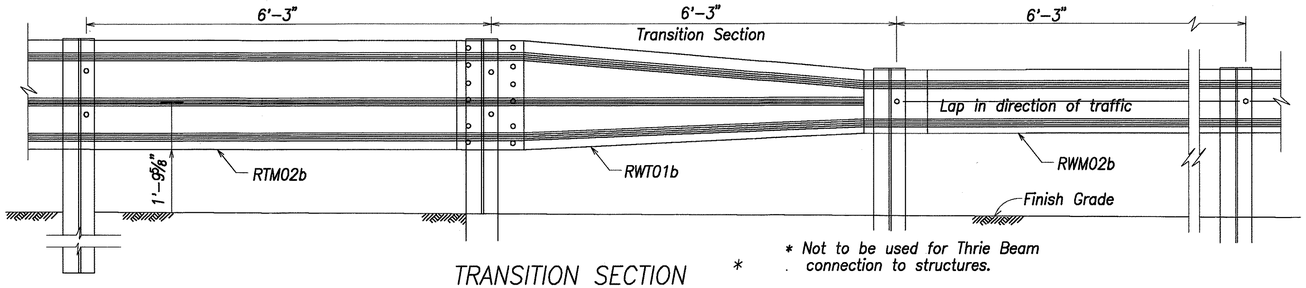
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STRONG POST RUBRAIL (W-BEAM) GUARDRAIL

North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

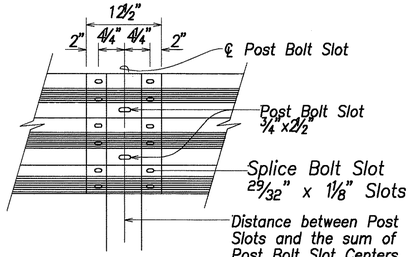
Date: Feb 21, 2007

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	ADD. 179S-5	380



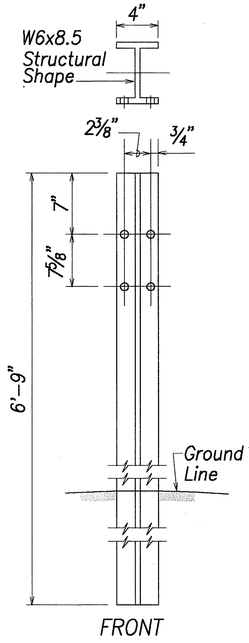
TRANSITION SECTION *

* Not to be used for Thrie Beam connection to structures.

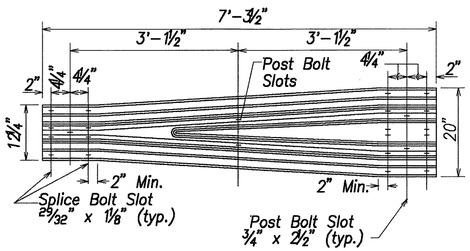


RAIL SPLICE

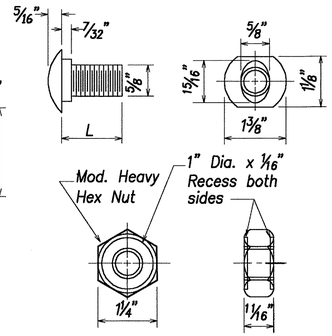
NOTE: All Holes are ¾" Dia.



THRIE-BEAM STRONG POST FOR PLASTIC SPACER BLOCKS



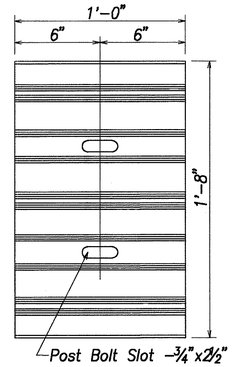
TRANSITION SECTION (RWT01b)



DESIGNATOR	L
FBB01	1⅜"
FBB02	2"
FBB03	10"

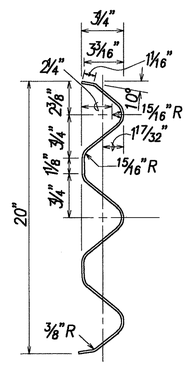
GUARDRAIL BOLTS AND RECESSED NUT



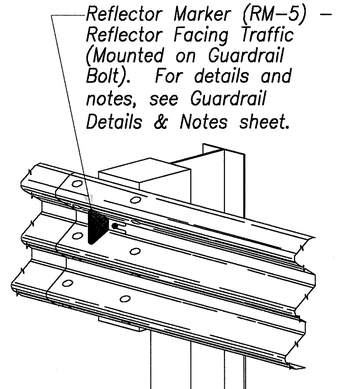


BACKUP PLATE (RTB01b)

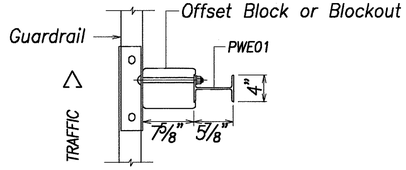
(Use at Posts where Splices do not occur)



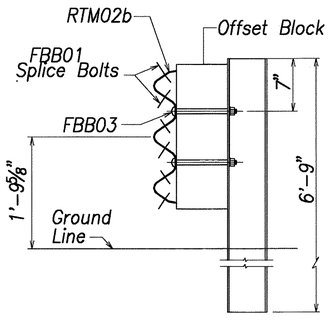
SECTION THRU RAIL ELEMENT (RTM02b)



TYPICAL INSTALLATION OF REFLECTOR MARKER (RM-5)

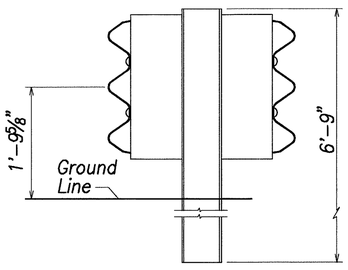


PLAN



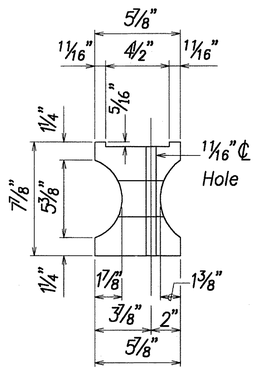
ELEVATION

STRONG POST THRIE-BEAM GUARDRAIL (SGR09a)

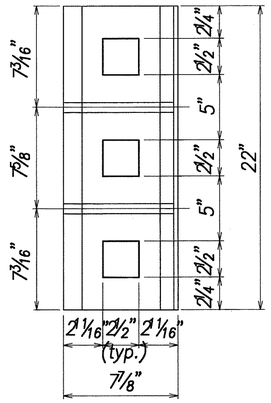


ELEVATION

STRONG POST THRIE-BEAM MEDIAN GUARDRAIL (SGM09a)

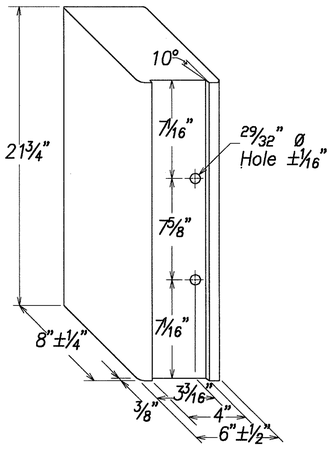


TOP



SIDE

MODIFIED 6X8X22 PLASTIC BLOCKOUT (TYPE I-THRIE)



RECYCLED POLYETHYLENE THRIE-BEAM OFFSET BLOCK (TYPE II - THRIE)

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662-C
HAWAII, U.S.A.

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APR 30, 2008
DATE OF LICENSE EXPIRY

DATE	REVISION
5/4/07	3 Added sheet

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STRONG POST THRIE-BEAM GUARDRAIL
North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

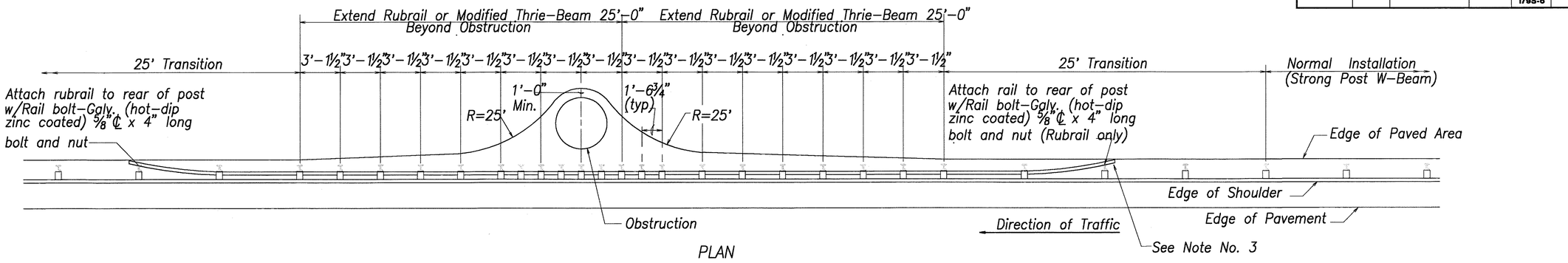
Date: Feb 21, 2007

SHEET No. C13.5 OF 179 SHEETS

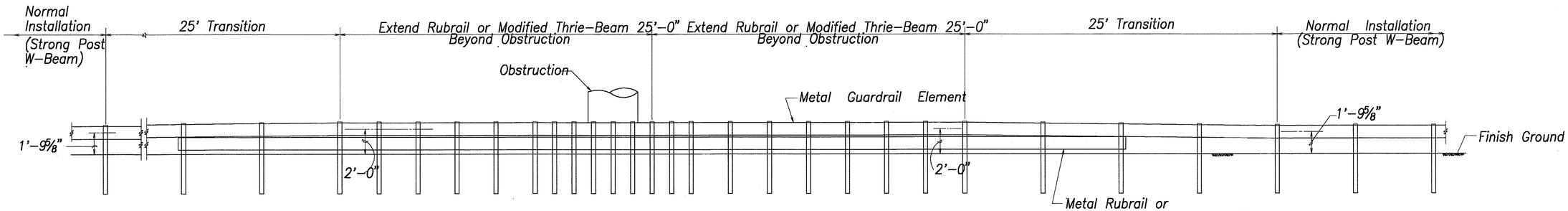
ADD. 179S-5

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

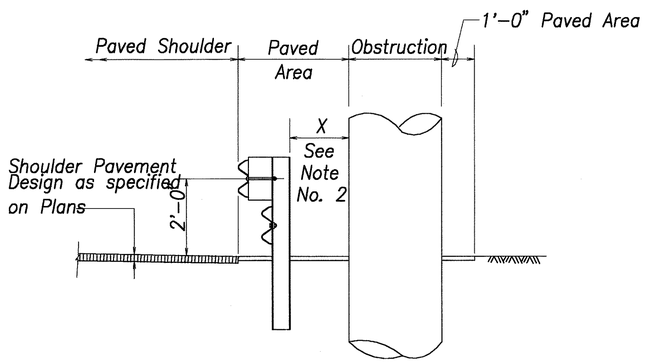
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	ADD. 179S-6	380



PLAN



ELEVATION



TYPICAL SECTION AT OBSTRUCTION

DETAIL OF GUARDRAIL INSTALLATION AT OBSTRUCTION

NOTES:

1. *All Guardrail and Concrete Barrier Designs at Obstructions shall be approved by the Engineer.*
2. *If X < 2'-0", Concrete Barrier or special guardrail design;*
   2'-0" < X < 3'-0", Strong Post Rubrail or Strong Post Thrie-Beam with reduced post spacing;
   3'-0" < X, Strong Post W-Beam with 6'-3" post spacing (Normal Installation).
3. *If a pedestrian walkway or bicycle route is located behind the guardrail, the Engineer should install the Modified Thrie-Beam System. The Rubrail termini may become a hazard to pedestrians & bicyclists.*

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

DATE	REVISION
5/4/07	3 Added sheet

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GUARDRAIL DETAILS
(AT OBSTRUCTION)
North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

Date: Feb 21, 2007

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662-C
HAWAII, U.S.A.

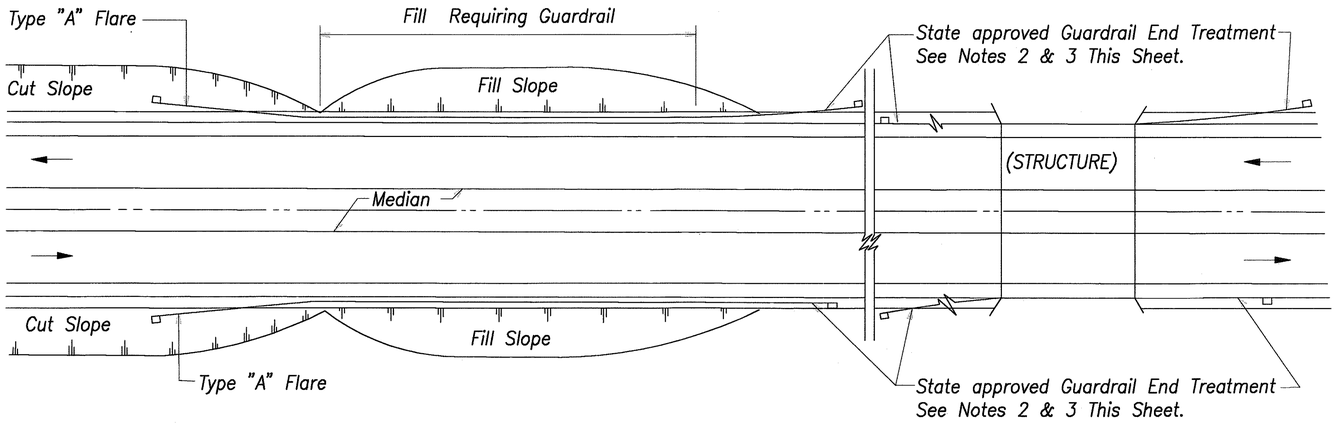
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SIGNATURE — APR 30, 2009 DATE OF LICENSE EXPIRY

SHEET No. C13.6 OF 179 SHEETS

ADD. 179S-6

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	ADD. 179S-7	380



PLAN

ONE WAY ROADWAY (DIVIDED HIGHWAY)

NOTES:

1. Metal Guardrail connection to concrete structures requires End Post Connection. See Structure Plans.
2. Depending on the existing field conditions, the Engineer shall verify the guardrail end terminal to be installed.
3. Refer to the State's most current approved Product List for NCHRP 350 approved Guardrail End Terminals. All Guardrail End Terminals shall be rated for Test Level 3 (TL-3). See Sheets C13.12 thru C13.14 for details of FLEAT-350, SKT-350 and ET-2000 Plus Guardrail End Terminals.

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

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LICENSED PROFESSIONAL ENGINEER
No. 6662-C
HAWAII, U.S.A.

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SIGNATURE — APR 30, 2008 DATE OF LICENSE EXPIRY

DATE	REVISION
5/4/07	3 Added sheet

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GUARDRAIL DETAILS (TYPICAL CONDITIONS)

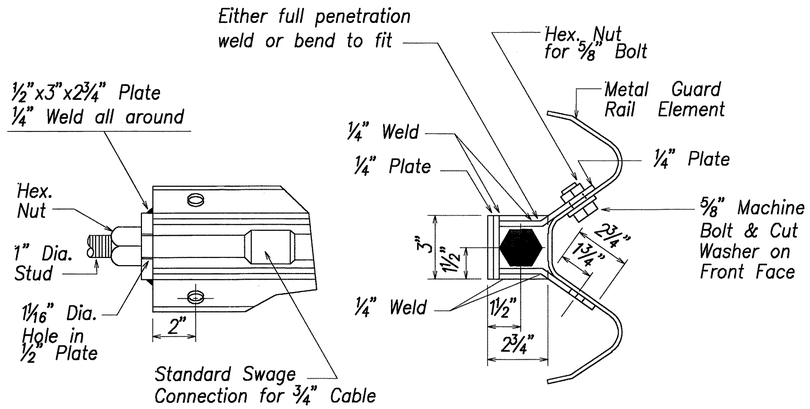
North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

Date: Feb 21, 2007

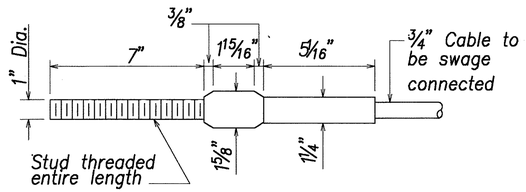
SHEET No. C13.7 OF 179 SHEETS

ADD. 179S-7

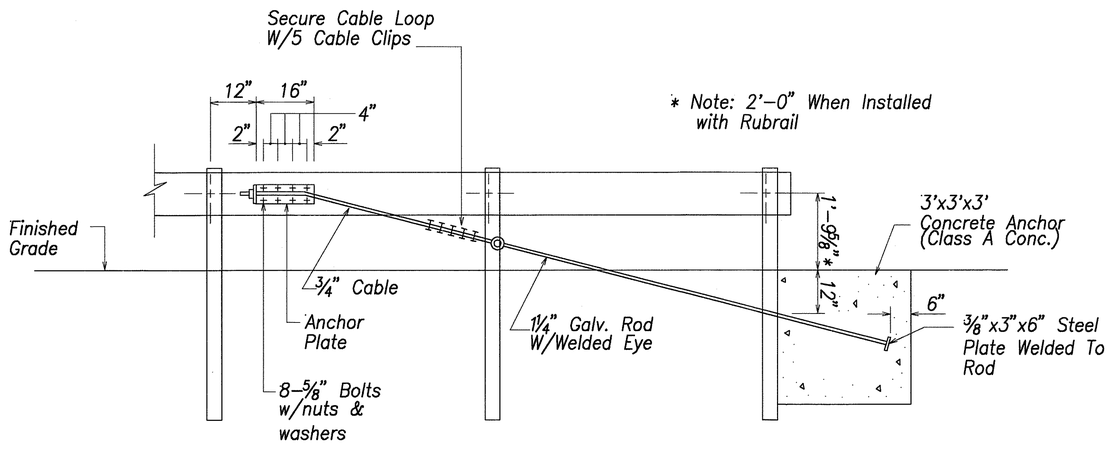
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HAWAII	HAW.	STP-8930(4)	2007	ADD. 179S-8	380



ANCHOR PLATE DETAILS

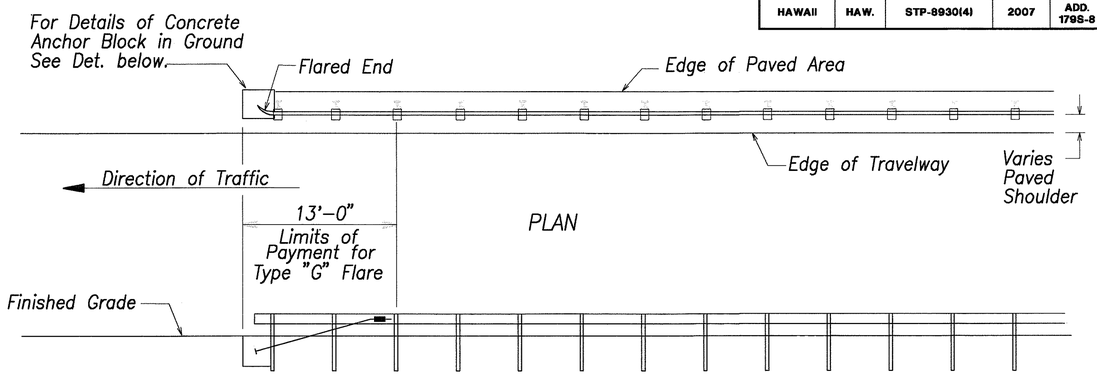


STANDARD SWAGED FITTING AND STUD



ANCHOR BLOCK DETAIL

1. Concrete, G.R.P., excavation, anchor rod and miscellaneous appurtenances necessary to anchor the guardrail ends shall be incidental to metal guardrail.



ELEVATION

TYPE "G" FLARE END TERMINAL

NOTE:

Type "G" Modified End Terminal is a site specific end terminal with a taper and radial termini. A site specific detailed drawing is required for all Type "G" Modified End Terminal and must receive Engineer's approval.

The taper (flare rate) of the guardrail shall follow the latest edition of AASHTO'S Roadside Design Guide (currently, Table 5.6 – Suggested Flare Rate for Barrier Design, page 5–21, Jan. 1996 edition).

The radius of the radial termini is an Engineer's judgement based on the site evaluation. The Engineer shall consider safety (minimize the spearing & blunt end situation); degree and potential seriousness of the hazard; bicycle and pedestrian accessibility; maintenance equipment accessibility; Right–of–Way availability; the smallest radii the metal w–beam/thrie–beam railing can be constructed (check with supplier/contractor); posted speed limit; angle of vehicle impact; and aesthetics when designing the Type "G" Modified End Terminal.

During construction, the Contractor shall layout the proposed Type "G" Modified End Terminal and receive approval from the Construction Engineer prior to installation.

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

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE — APR 30, 2008 DATE OF LICENSE EXPIRY

DATE	REVISION
5/4/07	3 Added sheet

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TYPE "G" FLARE

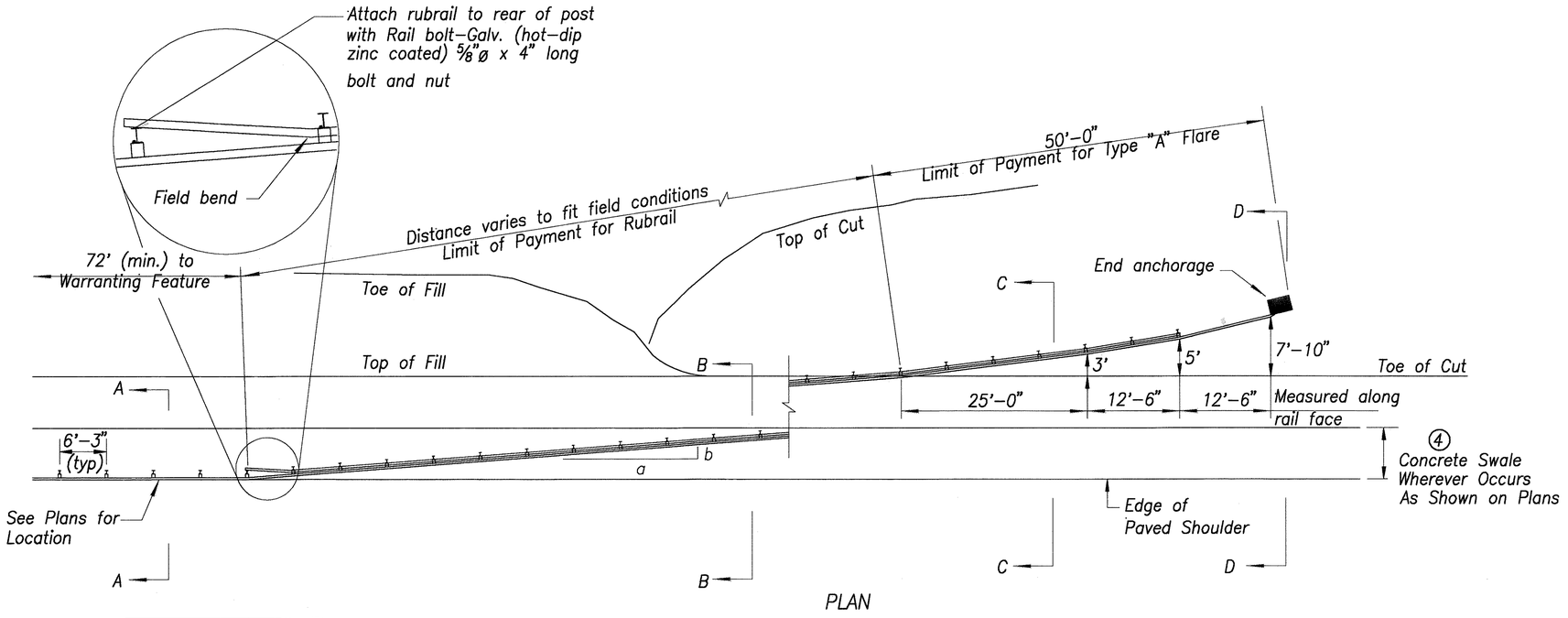
North–South Road
Phase 1C
F.A.I. Proj. No. STP–8930(4)

Date: Feb 21, 2007

SHEET No. C13.8 OF 179 SHEETS

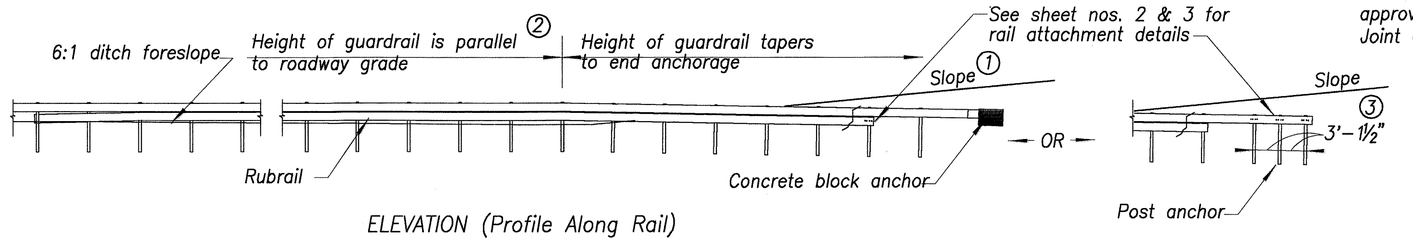
ADD. 179S-8

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	ADD. 179S-9	380

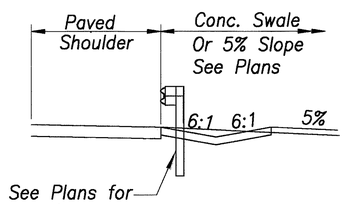


PLAN

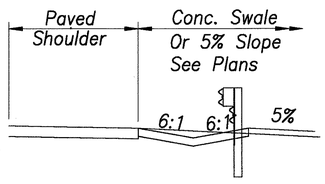
Design speed mph	a:b
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62	13:1
56	12:1
50	11:1
43	10:1
37	9:1
31	7:1



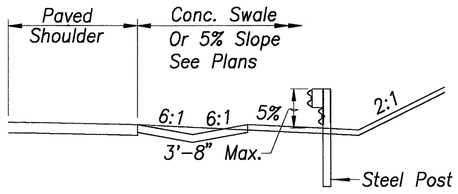
ELEVATION (Profile Along Rail)



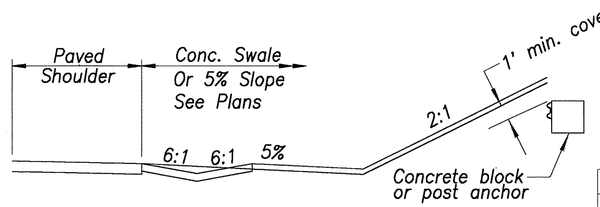
Section A–A



Section B–B



Section C–C
(With Rubrail)



General Notes

1. A 6:1 or flatter slope is desireable. However, a steeper or flatter existing slope may be used.
2. Height of guardrail may be tapered down in elevation to maintain 3'–8" maximum height.
3. All posts are 8'–0" in length from where the guardrail flares away from the shoulder back to the post anchor. Posts for the post anchor are 6'–0" long.
4. Concrete swale occurs wherever shown on plans. Flare offsets are shown from the toe of cut or top of fill.
5. The Guardrail Posts shall be located away from the gutter/swale invert.
6. All fasteners, posts, blocks and rail elements shall conform to the latest edition and amendments of "A Guide to Standardized Highway Barrier Rail Hardware," a report prepared and approved by the AASHTO–AGCARTBA Joint Cooperative Committee.

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

BACKSLOPE ANCHOR TERMINAL (WITH OR WITHOUT CONC. SWALE) AND TYPE "A" FLARE

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662–C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

Greg H. Hiyakumoto — APR 30, 2008
SIGNATURE — DATE OF LICENSE EXPIRY

DATE	REVISION
5/4/07	③ Added sheet

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TYPE "A" FLARE – 1

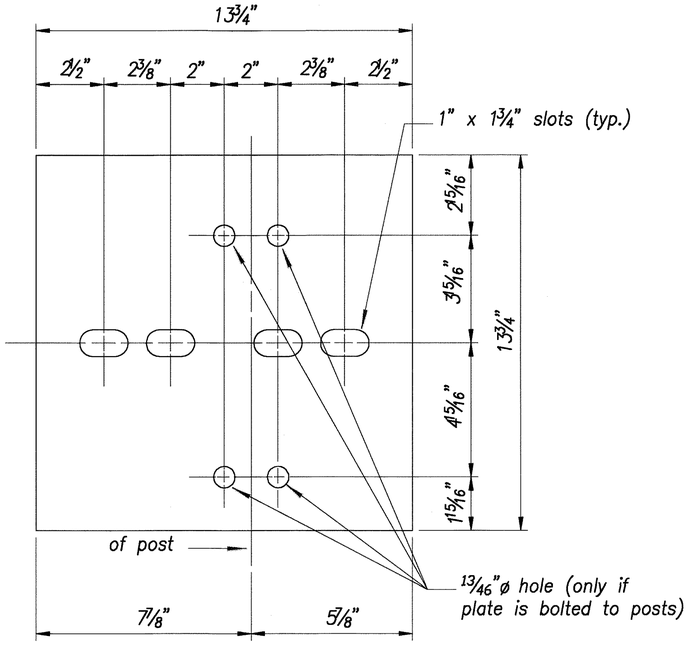
North–South Road
Phase 1C
F.A.I. Proj. No. STP–8930(4)

Date: Feb 21, 2007

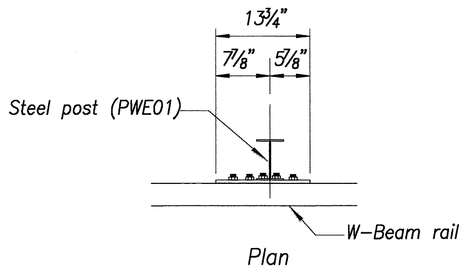
SHEET No. C13.9 OF 179 SHEETS

ADD. 179S-9

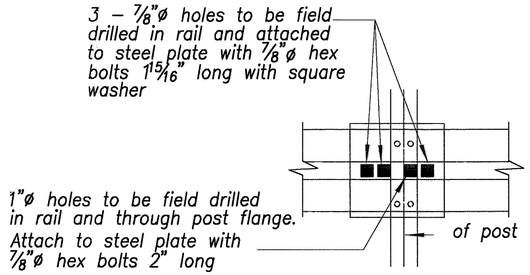
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	ADD. 179S-10	380



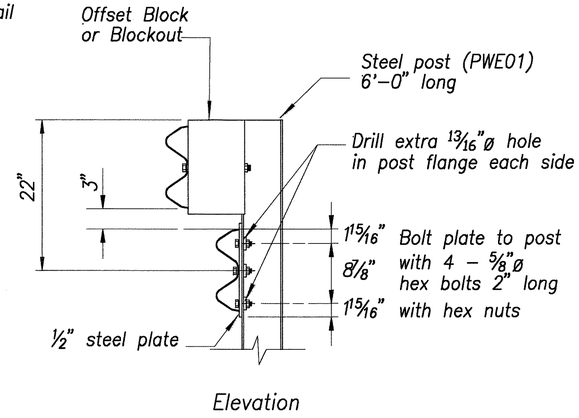
Steel Plate – ½"
(Hot–dip Zinc Coated Galvanized Welded or Bolted to Post)



Plan

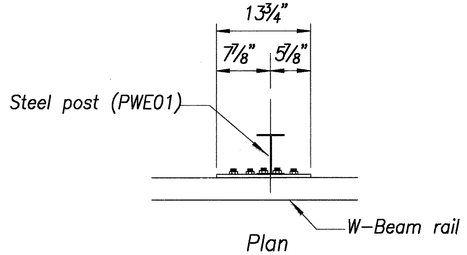


Front View

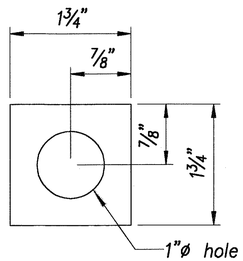


Elevation

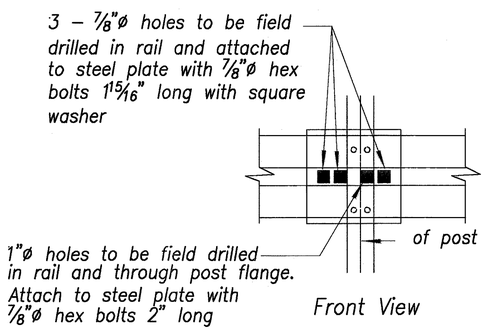
RUBRAIL ANCHOR DETAILS



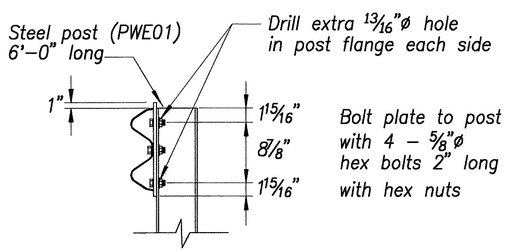
Plan



Square Washer
(3/16" Thick – Hot–dip Zinc Coated Galvanized)



Front View



Elevation

POST ANCHOR DETAILS

BACKSLOPE ANCHOR TERMINAL END ANCHORAGE DETAILS TYPE "A" FLARE)

Note:
All fasteners, posts, blocks and rail elements shall conform to the latest edition and amendments of "A Guide to Standardized Highway Barrier Rail Hardware," a report prepared and approved by the AASHTO–AGCARTBA Joint Cooperative Committee.

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

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662–C
HAWAII, U.S.A.

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SIGNATURE APR 30, 2008 DATE OF LICENSE EXPIRY

DATE	REVISION
5/4/07	3 Added sheet

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TYPE "A" FLARE – 2

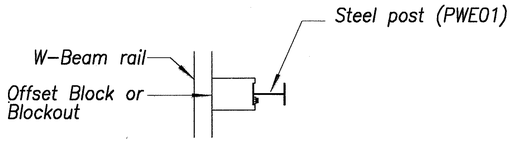
North–South Road
Phase 1C
F.A.I. Proj. No. STP–8930(4)

Date: Feb 21, 2007

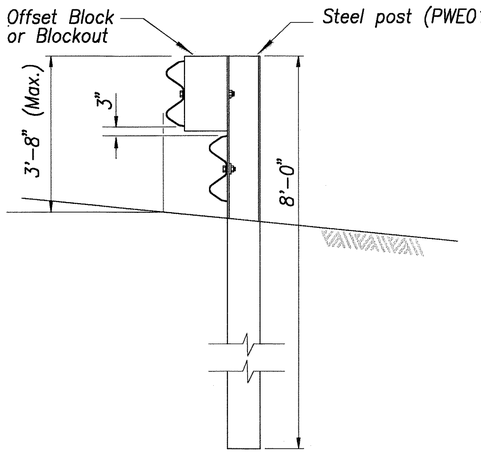
SHEET No.C13.10 OF 179 SHEETS

ADD. 179S-10

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	ADD. 179S-11	380

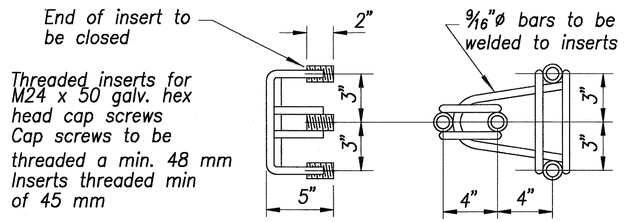


Plan

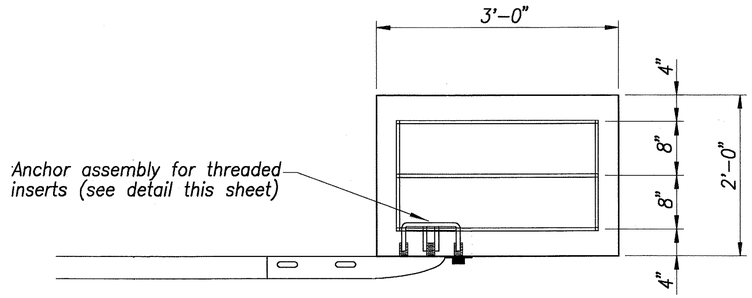


Elevation

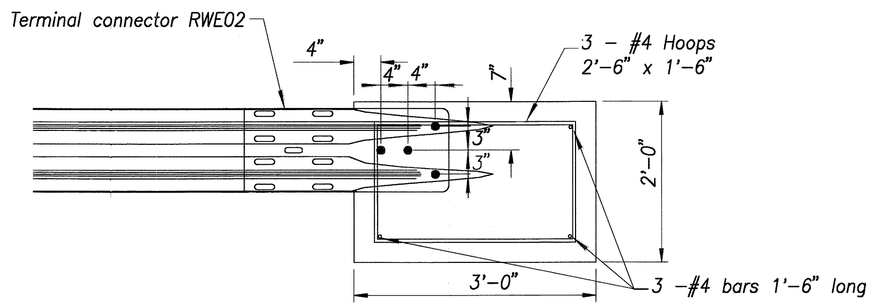
STEEL POST GUARDRAIL WITH RUBRAIL



ANCHOR ASSEMBLY
CONCRETE BLOCK ANCHOR



Plan



Elevation

CONCRETE BLOCK ANCHOR
(2' X 2' X 3')

BACKSLOPE ANCHOR TERMINAL END ANCHORAGE DETAILS
TYPE "A" FLARE)

Note:
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ORIGINAL PLAN
NOTE BOOK No.
SURVEY PLOTTED BY DATE
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5/4/07	3 Added sheet
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TYPE "A" FLARE - 3

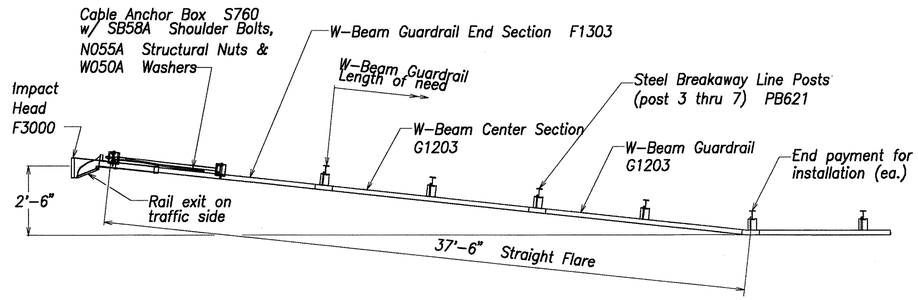
North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

Date: Feb 21, 2007

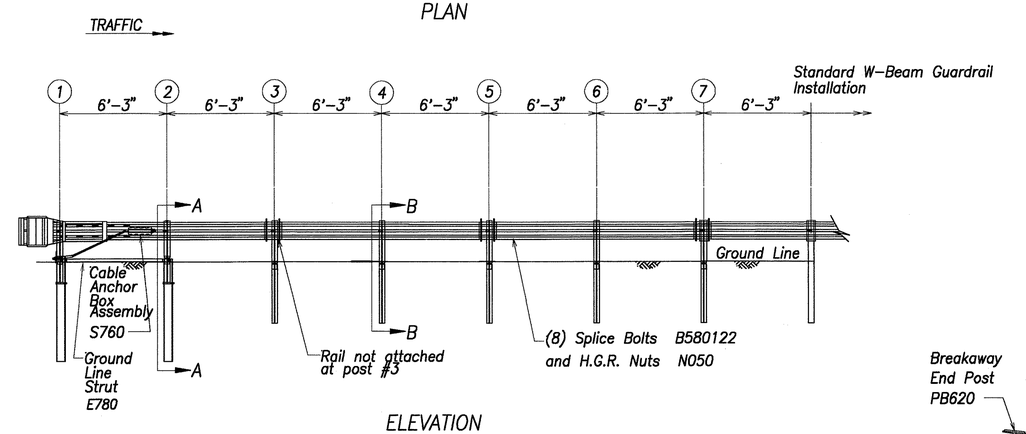
SHEET No. C13.11 OF 179 SHEETS

ADD. 179S-11

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	ADD. 179S-12	380



PLAN



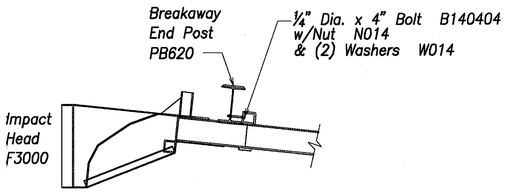
ELEVATION

GENERAL NOTES

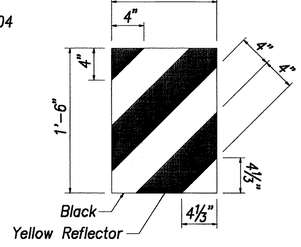
1. Breakaway steel posts are required with the FLEAT Terminal.
2. All bolts, nuts, cable assemblies, cable anchors and bearing plates shall be galvanized.
3. The soil tubes shall not protrude more than 4" above ground (measured along a 5' cord). Site grading may be necessary to meet this requirement.
4. The soil tubes may be driven with an approved driving head. Soil tubes shall not be driven with the post in the tube. If the tubes are placed in drilled holes, the backfill material must be satisfactorily compacted to prevent settlement.
5. When rock is encountered during excavation, a 12" Dia. post hole, 20" deep may be used if approved by the engineer. Granular material will be placed in the bottom of the hole approx. 2 ø" deep to provide drainage. The soil tubes will be field cut to length, placed in the hole and backfilled with adequately compacted material excavated from the hole.
6. The breakaway cable assembly must be taut. A locking device, (vice grips or channel lock pliers) should be used to prevent the cable from twisting when tightening nuts.
7. (R) or (L) indicates right or left Impact Head Reflector Marker (IHRM). Providing and installing of IHRM shall be considered incidental to end treatment.
8. The stripes for IHRM shall slope downward at an angle of 45° towards the side of the end treatment that traffic is to pass.

ITEM NO.	QTY.	BILL OF MATERIALS
F3000	1	IMPACT HEAD
F1303	1	W-BEAM GUARDRAIL END SECTION, 12 GA.
G1203	2	W-BEAM GUARDRAIL, 12 GA.
S730	2	*FOUNDATION SOIL TUBE, 6" x 8" x 72"
E750	1	BEARING PLATE
S760	1	CABLE ANCHOR BOX
E770	1	BCT CABLE ANCHOR ASSEMBLY
E780	1	GROUND STRUT
PB620	2	STEEL BREAKAWAY END POST
PB621	5	STEEL BREAKAWAY LINE POST
	5	RECYCLED PLASTIC BLOCKOUT OR OFFSET BLOCK
	1	IMPACT HEAD REFLECTOR MARKER - IHRM(R) OR (L)
		HARDWARE
B580122	25	5/8" Dia. x 1¼" SPLICE BOLT, POST #2
B580754	2	5/8" Dia. x 7½" HEX BOLT
B341004	2	¾" Dia. x 10" HEX BOLT
B581002	5	5/8" Dia. x 10" H.G.R. BOLT (POST 3 THRU 7)
N050	32	5/8" Dia. H.G.R. NUT (SPLICE 24, SOIL TUBES 2, POST 2 THRU 7, 8)
N030	2	¾" Dia. HEX NUT
W050	6	H.G.R. WASHER
W030	4	¾" ID WASHER
N100	2	1" ANCHOR CABLE HEX NUT
W100	2	1" ANCHOR CABLE WASHER
B140404	2	¼" x 4" HEX BOLT
N014	2	¼" HEX NUT
W014	4	¼" WASHER
SB58A	8	CABLE ANCHOR BOX SHOULDER BOLT
N055A	8	½" A325 STRUCTURAL NUT
W050A	16	1 1/16" OD x 9/16" ID A325 STR. WASHER

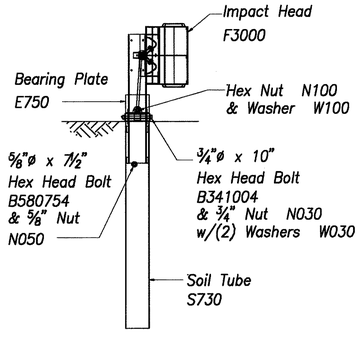
Foundation Tube Options For Posts 1 & 2
*6'-0" Split Foundation Tubes S730
*6'-0" Solid Foundation Tubes E731
*5'-0" Foundation Tubes S735 W/Soil Plates SP600
*4'-6" Foundation Tubes E735 W/Soil Plates SP600



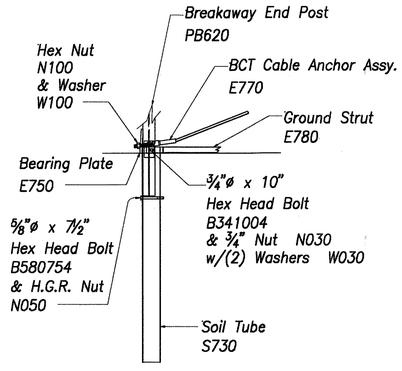
IMPACT HEAD CONNECTING DETAIL



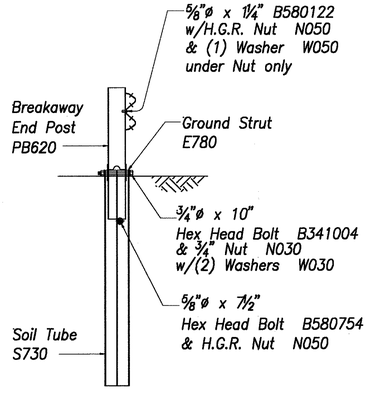
IHRM(R)
IMPACT HEAD REFLECTOR MARKER INSERT DETAIL



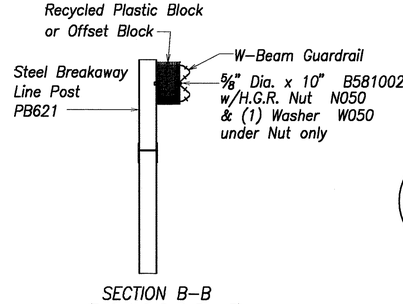
FRONT VIEW OF POST 1



PARTIAL VIEW OF POST 1



SECTION A-A at Post #2



SECTION B-B
(Typical @ Post 3 - 7)
NOTE: RAIL NOT BOLTED @ POST #3

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

GREG H. HIYAKUMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6662-C
HAWAII, U.S.A.

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APR 30, 2008
DATE OF LICENSE EXPIRY

5/4/07	3 Added sheet
DATE	REVISION

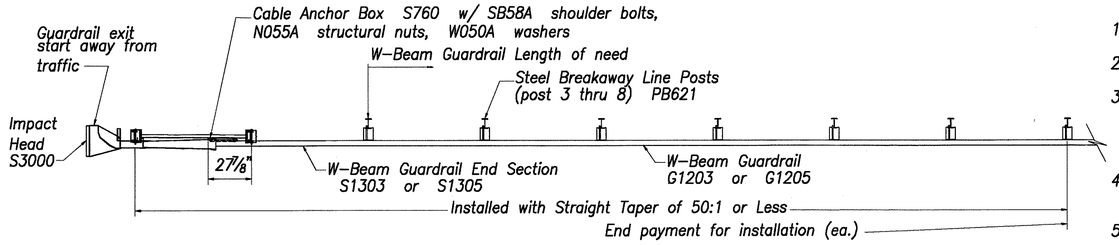
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

FLEAT-350 - FLARED ENERGY ABSORBING TERMINAL

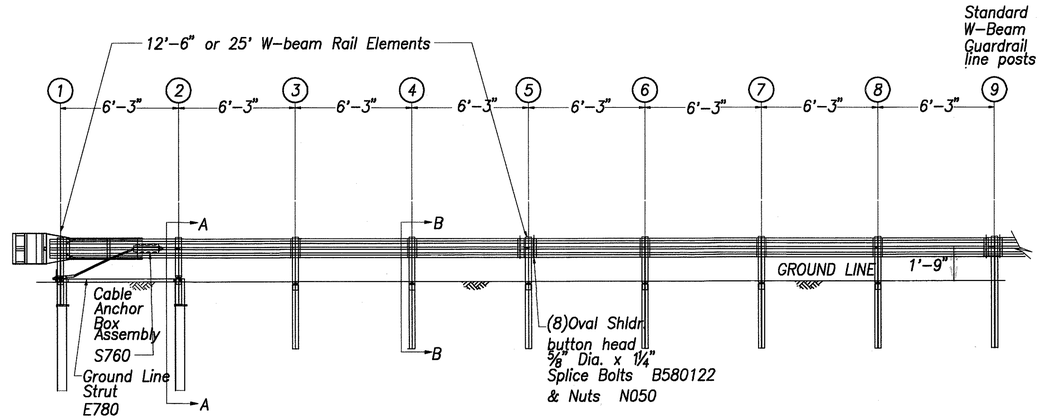
North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

Date: Feb 21, 2007

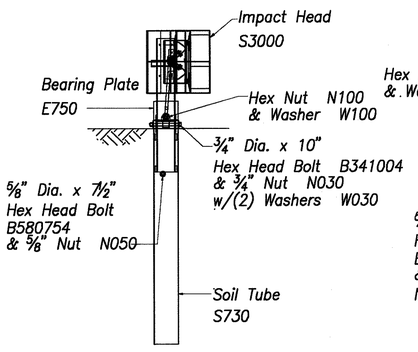
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	ADD. 179S-13	380



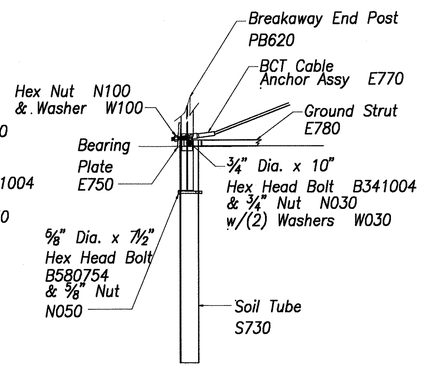
PLAN



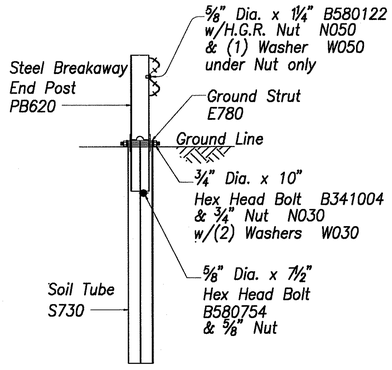
ELEVATION



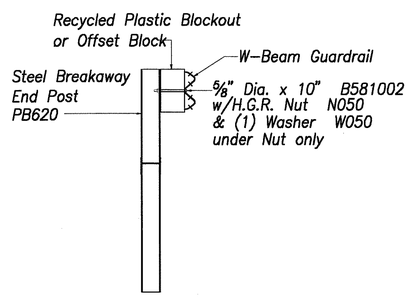
FRONT VIEW OF POST 1



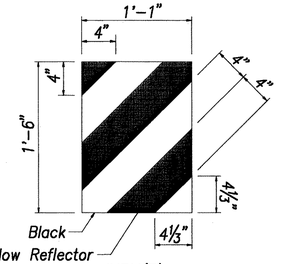
PARTIAL VIEW OF POST 1



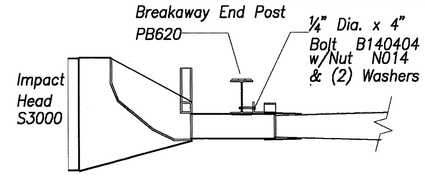
SECTION A–A at Post #2



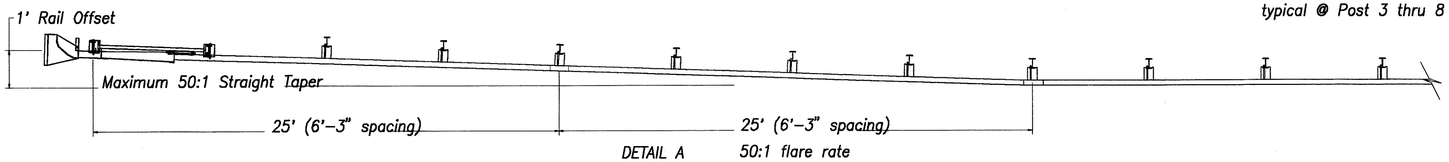
SECTION B–B typical @ Post 3 thru 8



IHRM(R) IMPACT HEAD REFLECTOR MARKER INSERT DETAIL



IMPACT HEAD CONNECTION DETAIL



DETAIL A 50:1 flare rate

GENERAL NOTES:

1. Breakaway steel posts are required with the Sequential Kinking Terminal.
2. All bolts, nuts, cable assemblies, cable anchors and bearing plates shall be galvanized.
3. When the Sequential Kinking Terminal is selected as the end treatment for W-Beam Guardrail installation, the W-Beam Guardrail will be flared at a rate of 50:1 to prevent the impact head from encroaching on the shoulder. The flare is not required and may be decreased or eliminated for specific installations.
4. The soil tube shall not protrude more than 4" above ground (measured) along a 5' cord). Site grading may be necessary to meet this requirement.
5. The soil tubes may be driven with an approved driving head. They shall not be driven with the post in the tube. If the soil tubes are placed in drilled holes, the backfill material must be satisfactorily compacted to prevent settlement.
6. When rock is encountered during excavation, a 12" dia. post hole, 20" deep may be used if approved by the Engineer. Granular material will be placed in the bottom of the hole approx. 20" deep to provide drainage. The soil tubes will be field cut to length, placed in the hole and backfilled with adequately compacted material excavated from the hole.
7. The breakaway cable assembly must be taut. A locking device, (vice grips or channel lock pliers) should be used to prevent the cable from twisting when tightening nuts.
8. A special site evaluation should be considered prior to using the Sequential Kinking Terminal where there is less than 25' between the outlet side of the Sequential Kinking Terminal and any adjacent driving lane.
9. (R) or (L) indicates right or left Impact Head Reflector Marker (IHRM). Providing and installing of IHRM shall be considered incidental to end treatment.
10. The stripes for IHRM shall slope downward at an angle of 45° towards the side of the end treatment that traffic is to pass.

ITEM NO.	QTY.	BILL OF MATERIALS
S3000	1	IMPACT HEAD
S1303/S1305	1	W-BEAM GUARDRAIL END SECTION (12 GA. 12.5' or 25')
G1203/G1205	3/1	W-BEAM GUARDRAIL, 12 GA., 12.5' or 25'
S730	2	*FOUNDATION SOIL TUBE, 6" x 8" x 72"
E750	1	BEARING PLATE
S760	1	CABLE ANCHOR BOX
E770	1	BCT CABLE ANCHOR ASSEMBLY
E780	1	GROUND STRUT
PB620	2	STEEL BREAKAWAY END POSTS
PB621	6	STEEL BREAKAWAY LINE POSTS
	6	RECYCLED PLASTIC BLOCKOUTS OR OFFSET BLOCK
	1	IMPACT HEAD REFLECTOR MARKER – IHRM(R) OR (L)
		HARDWARE
B580122	17/33	5/8" Dia. x 1 1/4" SPLICE BOLTS, POST #2 (SPLICE 17/33, SOIL TUBES 2, POST 2 THRU 8)
B580754	2	5/8" Dia. x 7 1/2" HEX BOLTS
B341004	2	3/4" Dia. x 10" HEX BOLTS
B341002	6	5/8" Dia. x 10" H.G.R. BOLT (POST 2 ONLY)
B581802	6	5/8" Dia. x 18" H.G.R. BOLT (POST 3 THRU 8)
N050	26/42	5/8" Dia. H.G.R. NUT
N030	2	3/4" Dia. HEX NUTS
W050	7	H.G.R. WASHER
W030	4	3/4" ID WASHER
N100	2	1" ANCHOR CABLE HEX NUT
W100	2	1" ANCHOR CABLE WASHER
B140404	2	1/4" x 4" HEX BOLT
N014	2	1/4" HEX NUT
W014	4	1/4" WASHER
SB58A	8	CABLE ANCHOR BOX SHOULDER BOLTS
N055A	8	1/2" A325 STRUCTURAL NUTS
W050A	16	1 1/16" OD x 9/16" ID A325 STR. WASHER

Foundation Tube Options For Posts 1 & 2
*6'-0" Split Foundation Tubes S730
*6'-0" Solid Foundation Tubes E731
*5'-0" Foundation Tubes S735 W/Soil Plates SP600
*4'-6" Foundation Tubes E735 W/Soil Plates SP600

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

5/4/07	3 Added sheet
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SKT-350
SEQUENTIAL KINKING TERMINAL
North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

Date: Feb 21, 2007

GREG H. HIYAKUMOTO LICENSED PROFESSIONAL ENGINEER No. 6662-C HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

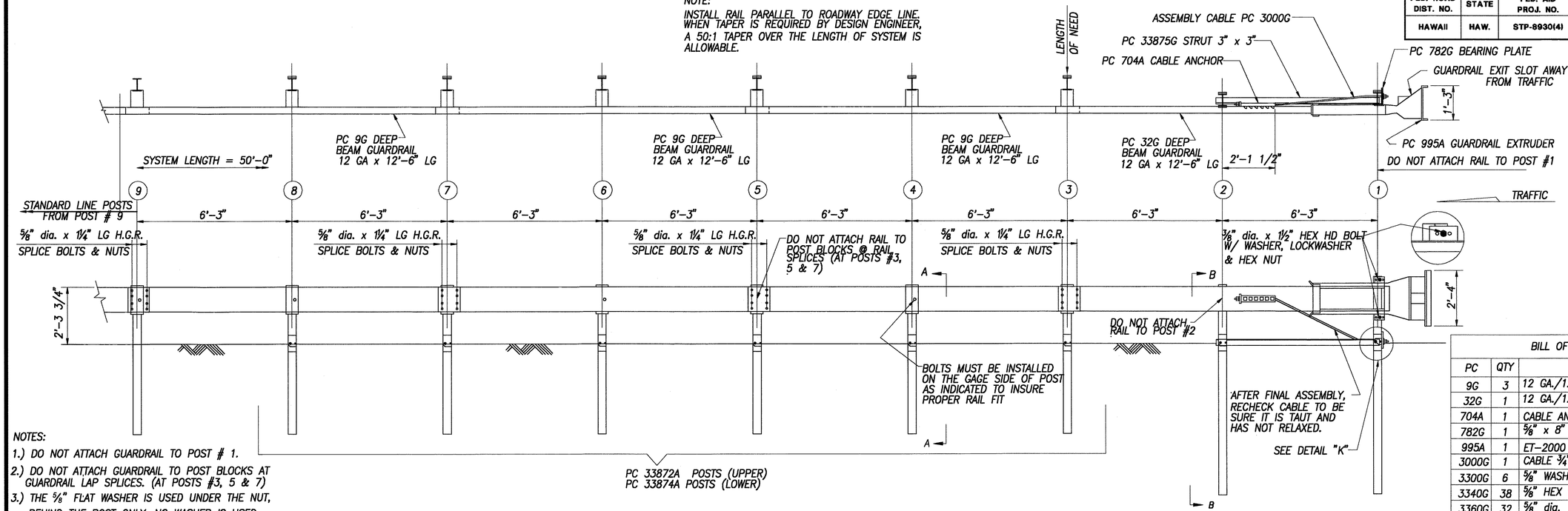
SIGNATURE APR 30, 2008 DATE OF LICENSE EXPIRY

SHEET No.C13.13 OF 179 SHEETS

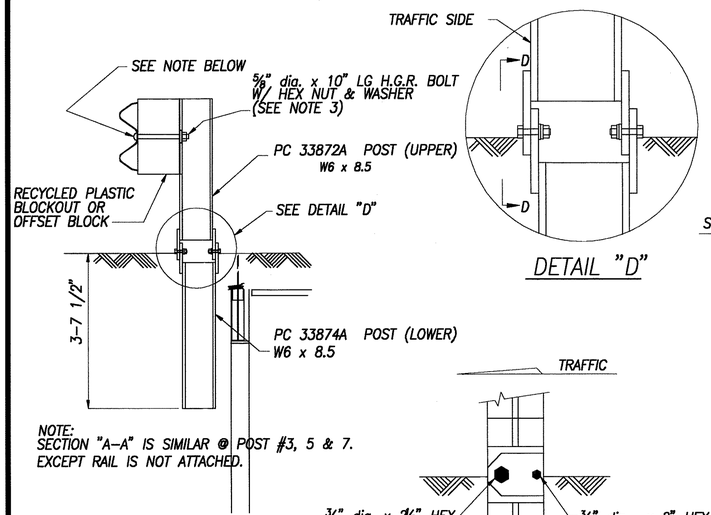
ADD. 179S-13

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	ADD. 179S-14	380

NOTE:
INSTALL RAIL PARALLEL TO ROADWAY EDGE LINE. WHEN TAPER IS REQUIRED BY DESIGN ENGINEER, A 50:1 TAPER OVER THE LENGTH OF SYSTEM IS ALLOWABLE.



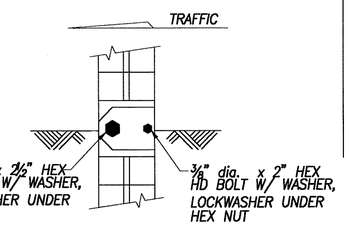
NOTES:
1.) DO NOT ATTACH GUARDRAIL TO POST # 1.
2.) DO NOT ATTACH GUARDRAIL TO POST BLOCKS AT GUARDRAIL LAP SPLICES. (AT POSTS #3, 5 & 7)
3.) THE 5/8" FLAT WASHER IS USED UNDER THE NUT, BEHIND THE POST ONLY. NO WASHER IS USED AT THE RAIL.
4.) MANUFACTURER SUGGESTS CUSTOMER TO PROVIDE REFLECTORIZATION OF TERMINAL.
5.) USE STEEL HINGING POSTS.



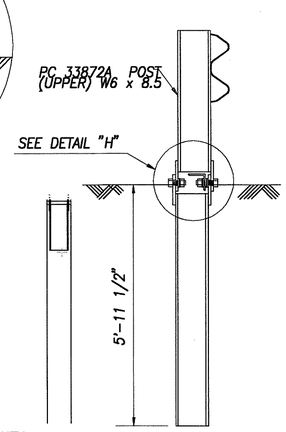
NOTE:
SECTION "A-A" IS SIMILAR @ POST #3, 5 & 7. EXCEPT RAIL IS NOT ATTACHED.

SECTION "A-A"
(TYP @ POSTS #4, 6 & 8)

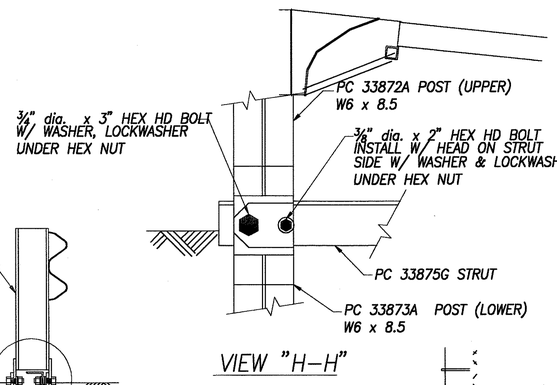
DETAIL "D"



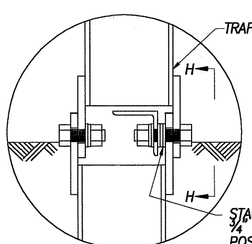
VIEW "D-D"



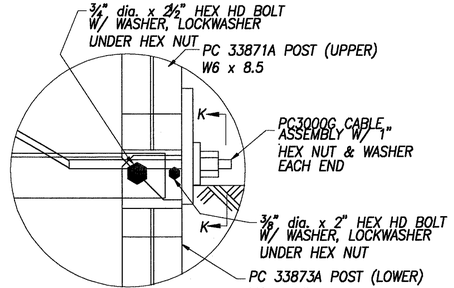
SECTION "B-B"
(POST #2)



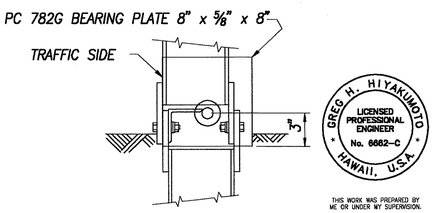
VIEW "H-H"



DETAIL "H"
(POST #2)



DETAIL "K"
(POST #1)



VIEW "K-K"

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
SIGNATURE
APR 30, 2008
DATE OF LICENSE EXPIRY

BILL OF MATERIAL		
PC	QTY	DESCRIPTION
9G	3	12 GA./12'6"/6'3"/S (GUARDRAIL)
32G	1	12 GA./12'6"/6'3"/S ANC (GUARDRAIL)
704A	1	CABLE ANCHOR BRACKET
782G	1	5/8" x 8" x 8" BEARING PLATE
995A	1	ET-2000 PLUS EXTRUDER
3000G	1	CABLE 3/4" x 6'6"
3300G	6	5/8" WASHER
3340G	38	5/8" HEX NUT
3360G	32	5/8" dia. x 1 1/4" SPLICE BOLT
3500G	6	5/8" dia. x 10" POST BOLT
3701G	19	3/4" WASHER
3704G	16	3/4" HEX NUT
3717G	15	3/4" dia. x 2 1/2" HEX HD BOLT
3718G	1	3/4" dia. x 3" HEX HD BOLT
3900G	2	1" WASHER
3910G	2	1" HEX NUT
5326B	6	RECYCLED PLASTIC BLOCKOUT OR OFFSET BLOCK
4254G	18	3/8" WASHER
4255G	2	3/8" FENDER WASHERS
4258G	16	3/8" LOCKWASHER
4261G	2	3/8" dia. x 1 1/2" HEX HD BOLT
4699G	16	3/4" LOCKWASHER
6321G	16	3/8" dia. x 2" HEX HD BOLT
6405G	18	3/8" HEX NUT
33871A	1	ET2000 HBA POST #1 TOP
33872A	7	ET2000 HBA POST #2-#8 TOP
33873A	2	ET2000 HBA POST #1-#2 BOTTOM
33874A	6	ET2000 HBA POST #3-#8 BOTTOM
33875G	1	6'-6" ANGLE STRUT ET HBA

DATE	REVISION
5/4/07	3 Added sheet

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ET-2000 PLUS
North-South Road
Phase 1C
F.A.I. Proj. No. STP-8930(4)

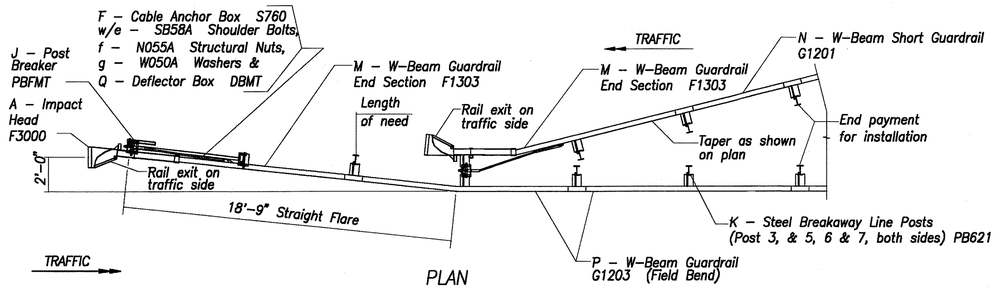
Date: Feb 21, 2007

SHEET No.C13.14 OF 179 SHEETS

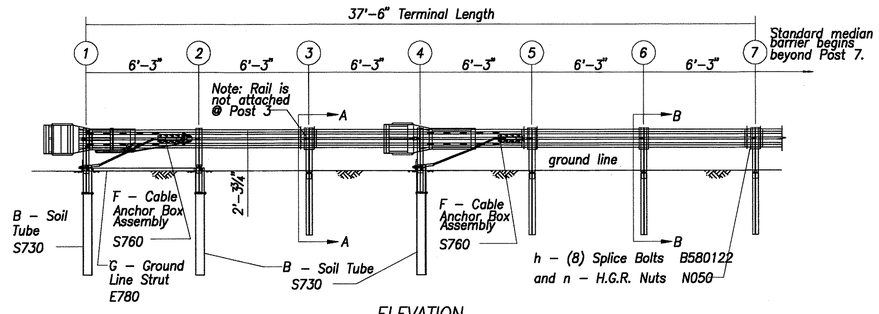
ADD. 179S-14

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

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(4)	2007	ADD. 179S-15	380



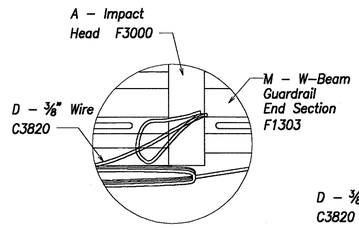
PLAN



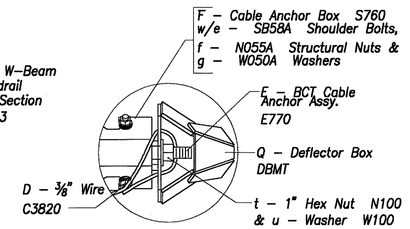
ELEVATION

GENERAL NOTES:

1. Breakaway posts are required with the FLEAT–MT.
2. All bolts, nuts, cable assemblies, cable anchors and plates shall be galvanized.
3. The soil tubes shall note protrude more than 4" above ground (measured along a 5'–0" cord). Site grading may be necessary to meet this requriement.
4. The soil tubes may be driven with an approved driving head. Soil tubes should not be driven with the post in the tube. If the tubes are placed in drilled holes, the backfill material must be satisfactorily compacted to prevent settlement.
5. When rock is encountered during excavation, a 12" Dia. post hole, 20" deep may be used if approved by the engineer. Grabular material will be placed in the bottom of the hole approx. 20" deep to provide drainage. The soil tubes will be field cut to length, place in the hole and backfilled with adequately compacted material excavated from the hole.
6. The breakaway cable assembly must be taut. A locking device (vice grips or channel lock pliers) should be used to prevent the cable from twisting when tightening nuts.
7. (L) indicates left Impact Head Reflector Marker (IHRM). Providing and installing of IHRM shall be considered incidental to end treatment.
8. The stripes for IHRM shall slope downward at an angle of 45° towards the side of the end treatment that traffic is to pass.



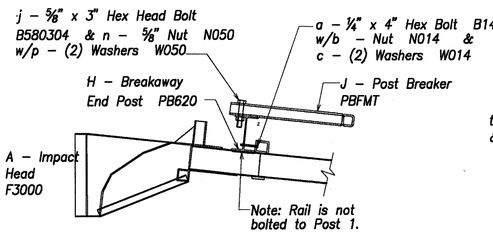
⅜" WIRE CONNECTION DETAIL



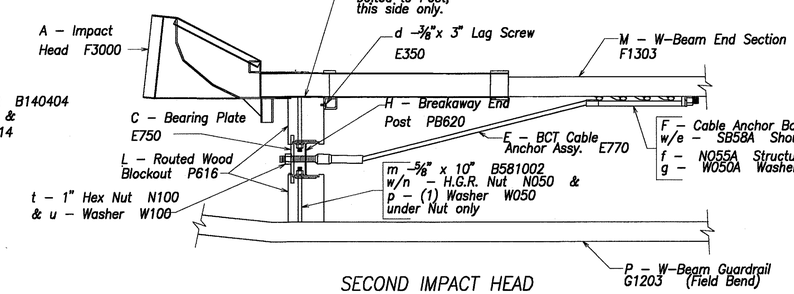
DEFLECTOR BOX & ⅜" WIRE CONNECTION DETAIL

ITEM	QTY	DESCRIPTION
A	2	FLEAT IMPACT HEAD (F3000)
B	3	*FOUNDATION SOIL TUBE, 6" x 8" (S730)
C	2	BEARING PLATE (E750)
D	1	⅜" WIRE 20'–0" (C3820)
E	2	BCT CABLE ANCHOR ASSEMBLY (E770)
F	2	CABLE ANCHOR BOX (S760)
G	1	GROUND STRUT (E780)
H	3	BREAKAWAY END POSTS 1, 2, & 4 (PB620)
J	1	POST BREAKER (PBFMT)
K	4	BREAKAWAY LINE POSTS 3, 5, 6 & 7 (PB621)
L	9	RECYCLED PLASTIC BLOCKOUTS OR OFFSET BLOCKS
M	2	W–BEAM GUARDRAIL END SECTION, 12 GA. (F1303)
N	1	W–BEAM GUARDRAIL SHORT SECTION, 12 GA. 6'–3"LG. (G1201)
P	2	W–BEAM GUARDRAIL, 12 GA. (G1203)
Q	1	DEFLECTOR BOX (DBMT)
	1	IMPACT HEAD REFLECTOR MARKER – IHRM(L)
		HARDWARE
a	2	¼" Dia. x 4" HEX BOLT (B140404) (POST 1)
b	2	¼" HEX NUT (N014) (POST 1)
c	4	¼" WASHER (W014) (POST 1)
d	2	⅜" Dia. x 3" LAG SCREW (E350) (POST 4)
e	16	½" Dia. CABLE ANCHOR BOX SHOULDER BOLT (SB58A)
f	16	½" A325 STRUCTURAL NUT (N055A)
g	32	½" WASHER (W050A)
h	41	⅝" Dia. X 1¼" SPLICE BOLT (B580122) (5 SPLICE/POST 2)
j	1	⅝" Dia. x 3" HEX BOLT (B580304) (POST BREAKER)
k	3	⅝" Dia. x 7½" HEX BOLT (B580754) (FOUNDATION TUBES)
m	9	⅝" Dia. x 10" H.G.R. BOLT (B581002) (POSTS 3–7)
n	54	⅝" H.G.R. NUT (N050)
p	12	⅝" H.G.R. WASHER (W050) (POST BREAKER, POSTS 2–7)
q	3	¾" Dia. x 10" HEX BOLT (B341004) (FOUNDATION TUBES)
r	3	¾" HEX NUT (N030) (FOUNDATION TUBES)
s	6	¾" WASHER (W030) (FOUNDATION TUBES)
t	4	1" ANCHOR CABLE HEX NUT (N100)
u	4	1" ANCHOR CABLE WASHER (W100)

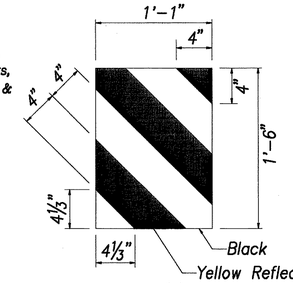
Foundation Tube Options For Posts 1 & 2 & 4
*6'–0" Split Foundation Tubes S730
*6'–0" Solid Foundation Tubes E731
*5'–0" Foundation Tubes S735 W/Soil Plates SP600
*4'–6" Foundation Tubes E735 W/Soil Plates SP600



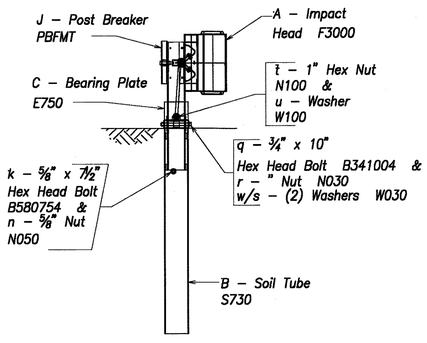
IMPACT HEAD CONNECTING DETAIL (Post 1)



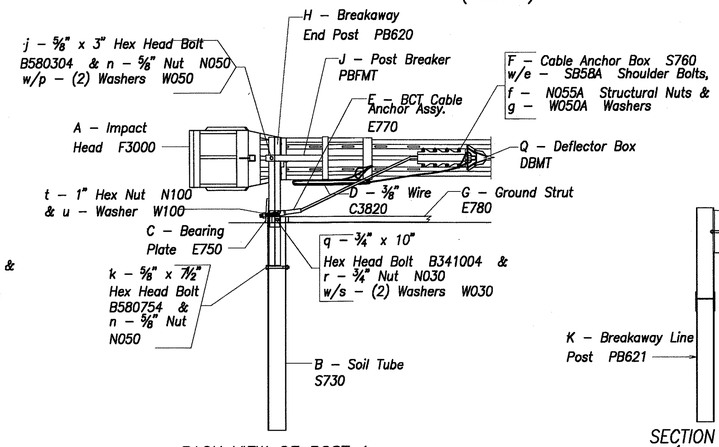
SECOND IMPACT HEAD CONNECTING DETAIL (Post 4)



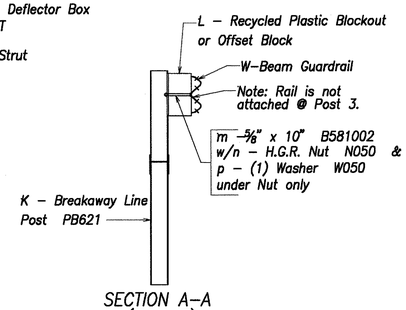
IHRM(L)
IMPACT HEAD REFLECTOR MARKER INSERT DETAIL



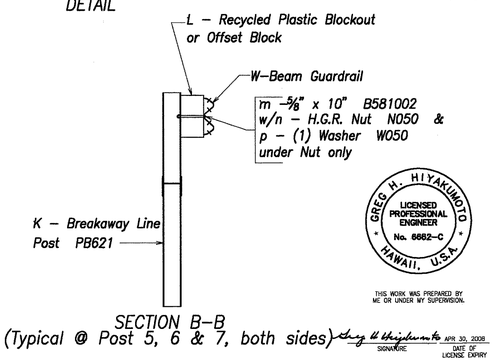
END VIEW OF POST 1



BACK VIEW OF POST 1



SECTION A–A (Post 3)



SECTION B–B
(Typical @ Post 5, 6 & 7, both sides)

DATE	REVISION
5/4/07	3 Added sheet

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

FLEAT–MT
MEDIAN TERMINAL
North–South Road
Phase 1C
F.A.I. Proj. No. STP–8930(4)

Date: Feb 21, 2007

SHEET No.C13.15 OF 179 SHEETS

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

ADD. 179S-15