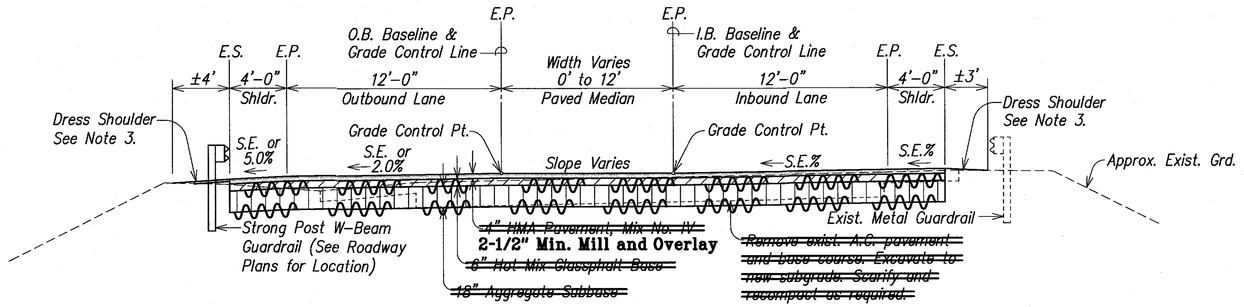
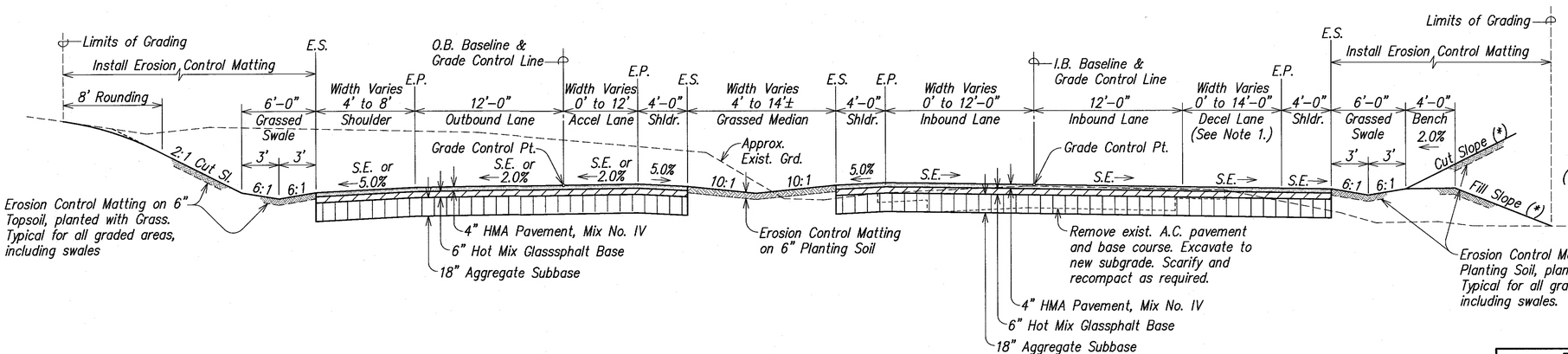
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-050-1(31)	2009	11	452



TYPICAL HIGHWAY SECTION
℄ Sta. 274+96± to ℄ Sta. 277+40±
Scale: 1"= 5'-0"



TYPICAL HIGHWAY SECTION
℄ Sta. 277+40± to ℄ Sta. 281+50
Scale: 1"= 5'-0"

Typical Section Notes:

1. *Where Present. See Roadway Plans.*
2. *The slope of the cut or fill embankment varies with location. Unless otherwise noted, the cut or fill slope shall be maximum 2H:1V. See Grading Plans for location of various conditions.*
3. *Dressing of shoulder shall consist of clearing, grubbing, grading reshaping and compacting the unpaved shoulders with suitable material as shown on the plans and/or as directed by the Engineer. This work shall be considered incidental to the various contract items.*

Abbreviations:

E.P.	Edge of New Pavement
E.S.	Edge of New Shoulder
G.C.	Grade Control
I.B.	Inbound
O.B.	Outbound
S.E.	Superelevation

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**

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

GLENN K. IKEDA LICENSED PROFESSIONAL ENGINEER No. 8328-C HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

ParEn, Inc. dba PARK ENGINEERING LICENSE EXPIRES 4-30-16

STATE OF HAWAI'I
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

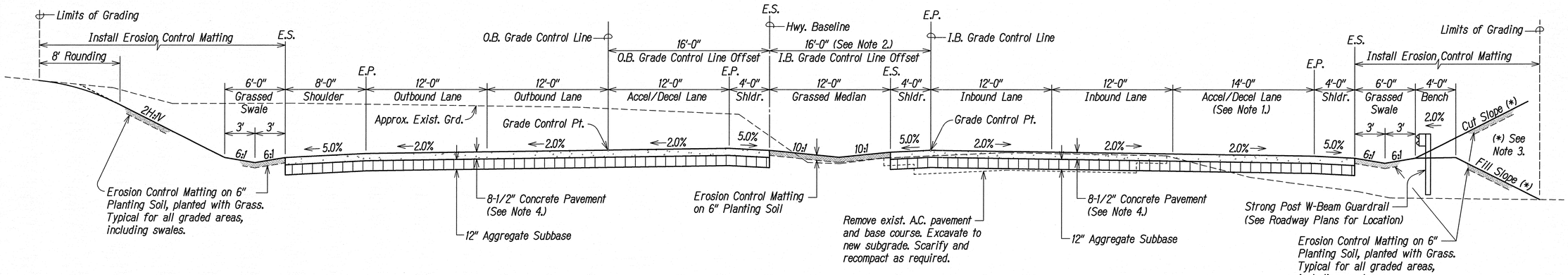
TYPICAL SECTIONS

KAUMUALI'I HIGHWAY WIDENING
Vicinity of Anonui Street to Vicinity of Lihu'e Mill Bridge
FEDERAL-AID PROJECT NO. NH-050-1(31)

Scale: 1" = 5' Date: JAN. 2010

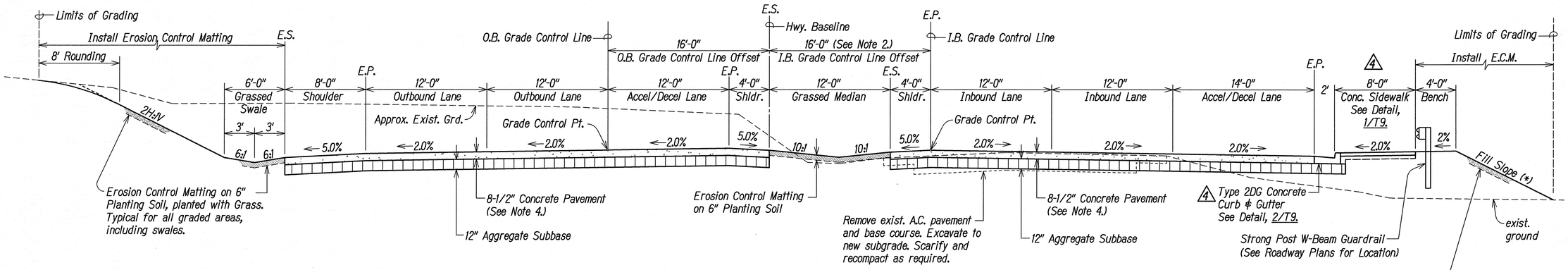
SHEET No. T1 OF T18 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-050-1(31)	2009	C.O. 12	452



TYPICAL HIGHWAY SECTION
℄ Sta. 281+50 to ℄ Sta. 283+83± 4

Scale: 1"= 5'-0"



TYPICAL HIGHWAY SECTION
℄ Sta. 283+83± to ℄ Sta. 285+50 4

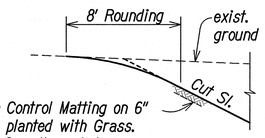
Scale: 1"= 5'-0"

4 Typical Section Notes:

1. Where Present. See Roadway Plans.
2. Inbound Grade Control Line offset varies from 16' at ℄ Sta. 284+00 to 12' at ℄ Sta. 288+00.
3. The slope of the cut or fill embankment varies with location. Unless otherwise noted, the cut or fill slope shall be maximum 2H:1V. See Grading Plans for location of various conditions.
4. For Typical PCC Pavement details, see Sheets T13 and T14.

Abbreviations:

E.P.	Edge of New Pavement
E.S.	Edge of New Shoulder
G.C.	Grade Control
I.B.	Inbound
O.B.	Outbound



TYPICAL CUT-SLOPE DETAIL

Scale: 1"= 5'-0"

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

U82: STATE\DOT\KAUMUALI-I\PHASE1A REVISION\PLANS\ C01-052-T52.dwg 1/06/10

DATE	REVISION
2/01/10	4 Revised Limits of Typical Sections. Added Conc. Curb, Gutter ⊄ Sidewalk. Revised Notes.

GLENN K. IKEDA
LICENSED PROFESSIONAL ENGINEER
No. 8328-C
HAWAII, U.S.A.
2-1-10

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TYPICAL SECTIONS

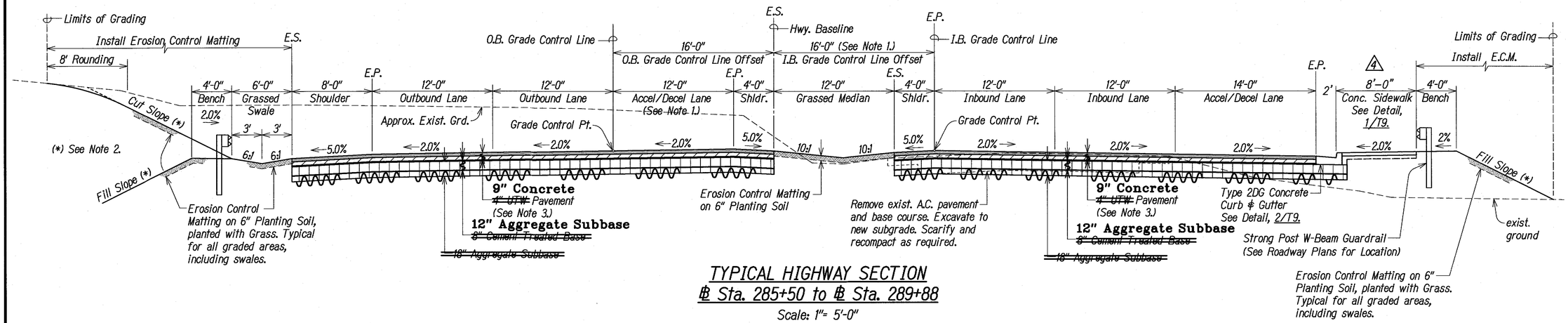
KAUMUALII HIGHWAY WIDENING
Vicinity of Anonui Street to Vicinity of Lihue Mill Bridge
FEDERAL-AID PROJECT NO. NH-050-1(31)

Scale: 1" = 5' Date: JAN. 2010

SHEET No. T2 OF T18 SHEETS

C.O. 12

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-050-1(31)	2009	C.O. 12 S-1	452



TYPICAL HIGHWAY SECTION
℄ Sta. 285+50 to ℄ Sta. 289+88

Scale: 1"= 5'-0"

Typical Section Notes:

1. Inbound Grade Control Line offset varies from 16' at ℄ Sta. 284+00 to 12' at ℄ Sta. 288+00.
2. The slope of the cut or fill embankment varies with location. Unless otherwise noted, the cut or fill slope shall be maximum 2H:1V. See Grading Plans for location of various conditions.
3. For Typical PCC Pavement details, see Sheets ~~T16~~ and ~~T17~~ **T13 T14**

Abbreviations:

E.P. Edge of New Pavement
E.S. Edge of New Shoulder
G.C. Grade Control
I.B. Inbound
O.B. Outbound

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**

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DRAWN BY
TRACED BY
DESIGNED BY
QUANTITIES BY
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DATE

ORIGINAL PLAN
NOTE BOOK
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No. 8328-C
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DATE	REVISION
2/01/10	4 New Sheet.

STATE OF HAWAI'I
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TYPICAL SECTIONS

KAUMUALI'I HIGHWAY WIDENING
Vicinity of Anonui Street to Vicinity of Līhu'e Mill Bridge
FEDERAL-AID PROJECT NO. NH-050-1(31)

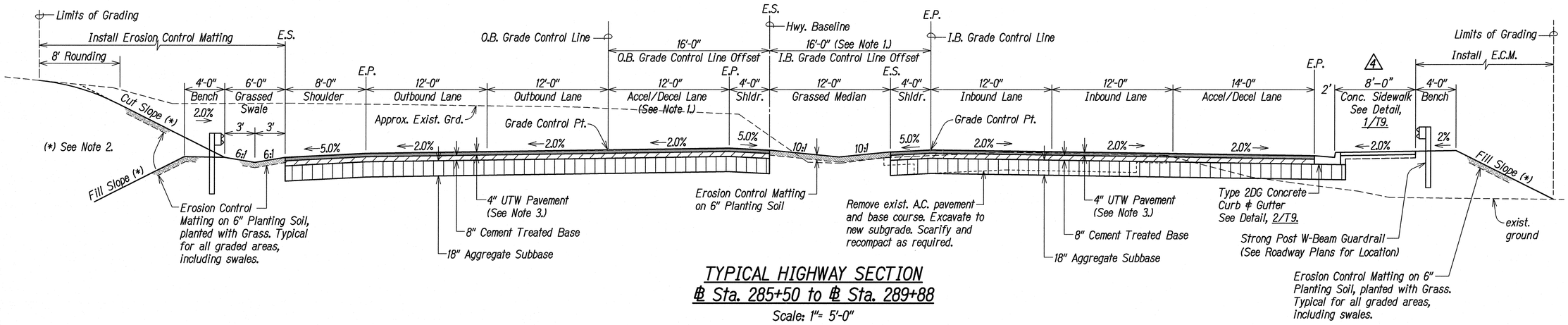
Scale: 1" = 5' Date: JAN. 2010

SHEET No. T2A OF T18 SHEETS

"AS-BUILT"

C.O. 12 S-1

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-050-1(31)	2009	C.O. 12 S-1	452



TYPICAL HIGHWAY SECTION
℄ Sta. 285+50 to ℄ Sta. 289+88

Scale: 1"= 5'-0"

Typical Section Notes:

1. Inbound Grade Control Line offset varies from 16' at ℄ Sta. 284+00 to 12' at ℄ Sta. 288+00.
2. The slope of the cut or fill embankment varies with location. Unless otherwise noted, the cut or fill slope shall be maximum 2H:1V. See Grading Plans for location of various conditions.
3. For Typical PCC Pavement details, see Sheets T16 and T17.

Abbreviations:

E.P.	Edge of New Pavement
E.S.	Edge of New Shoulder
G.C.	Grade Control
I.B.	Inbound
O.B.	Outbound

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

U82: STATE\DOT\KAUAI\ALI-1\PHASE1A REVISION\PLANS\ C01-012-T52.dwg 1/07/10

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2-1-10
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LICENSE EXPIRES 4-30-10

DATE	REVISION
2/01/10	4 New Sheet.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

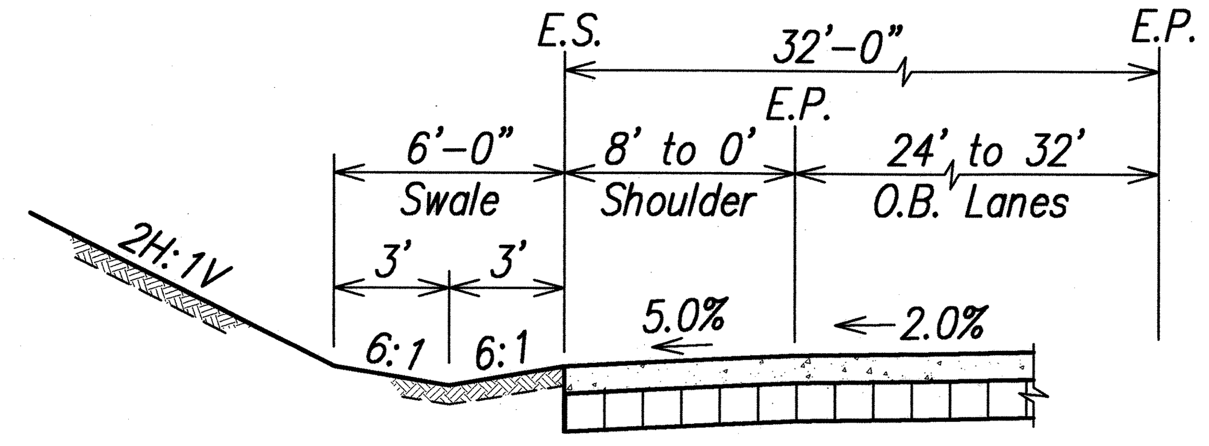
KAUMUALII HIGHWAY WIDENING
Vicinity of Anonui Street to Vicinity of Lihue Mill Bridge
FEDERAL-AID PROJECT NO. NH-050-1(31)

Scale: 1" = 5' — Date: JAN. 2010

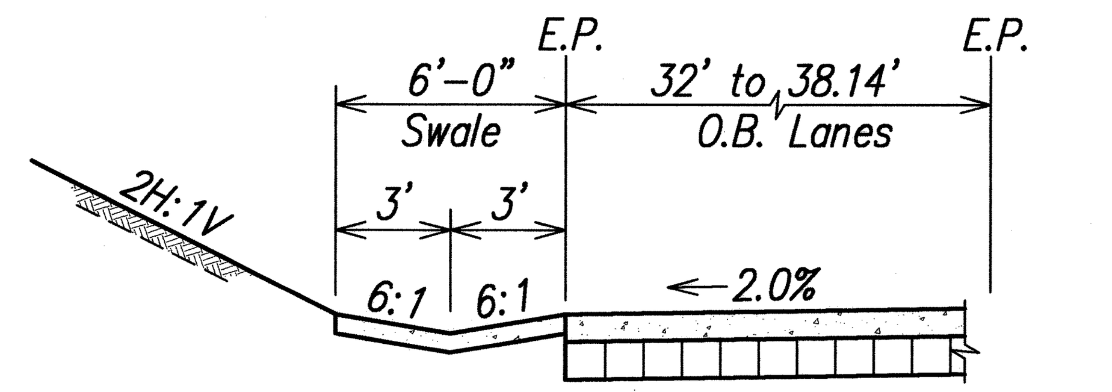
SHEET No. T2A OF T18 SHEETS

C.O. 12 S-1

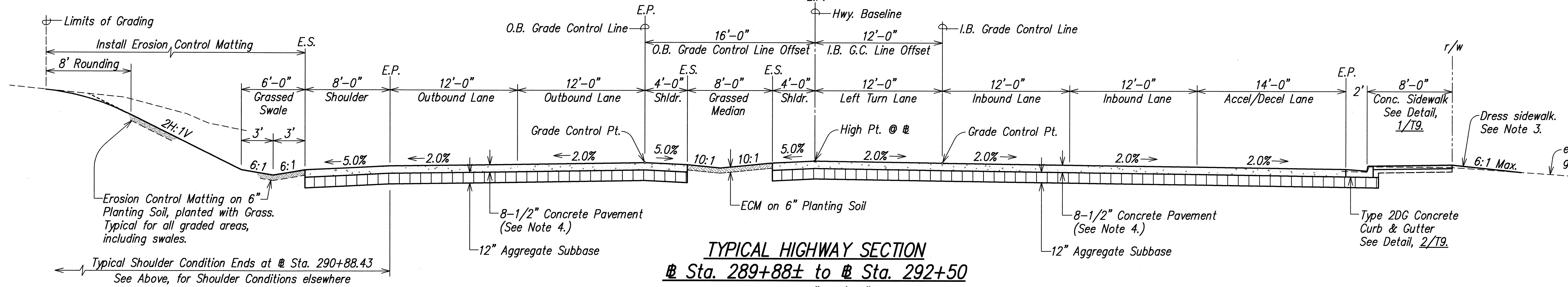
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-050-1(31)	2009	13	452



SHOULDER CONDITION
℄ Sta. 290+88.43 to ℄ Sta. 291+83.03

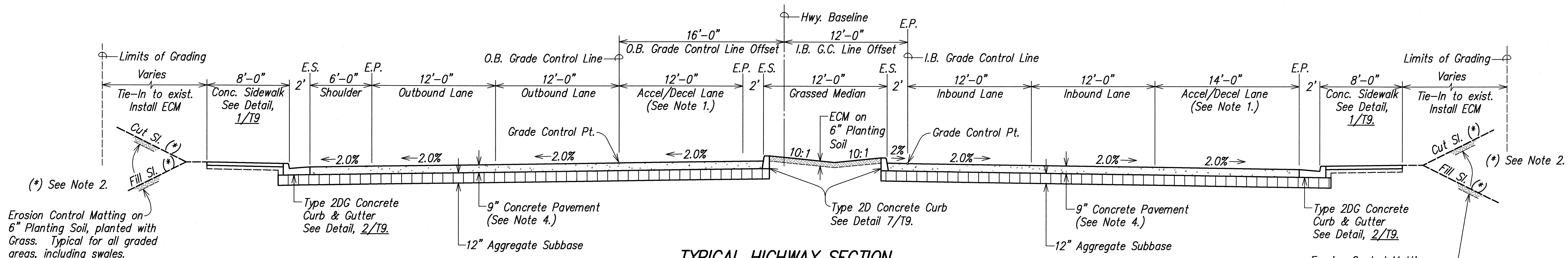


SHOULDER CONDITION
℄ Sta. 291+83.03 to ℄ Sta. 292+55.59



TYPICAL HIGHWAY SECTION
℄ Sta. 289+88± to ℄ Sta. 292+50

Scale: 1"= 5'-0"



TYPICAL HIGHWAY SECTION
℄ Sta. 292+50 to ℄ Sta. 305+00

Scale: 1"= 5'-0"

Typical Section Notes:

1. Where Present. See Roadway Plans.
2. The slope of the cut or fill embankment varies with location. Unless otherwise noted, the cut or fill slope shall be maximum 2H:1V. See Grading Plans for location of various conditions.
3. Dressing of sidewalk shall consist of clearing, grubbing, grading, reshaping and compacting the unpaved shoulders with suitable material as shown on the plans and/or as directed by the Engineer. This work shall be considered incidental to the various contract items. See Detail 6/T9.
4. For Typical PCC Pavement details, see Sheets T13 and T14.

Abbreviations:

E.P.	Edge of New Pavement
E.S.	Edge of New Shoulder
G.C.	Grade Control
I.B.	Inbound
O.B.	Outbound
S.E.	Superelevation
ECM	Erosion Control Matting

GLENN K. IKEDA
LICENSED PROFESSIONAL ENGINEER
No. 8328-C
HAWAII, U.S.A.
2-26-09
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ParEn, Inc. dba PARK ENGINEERING
LICENSE EXPIRES 4-30-10

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TYPICAL SECTIONS

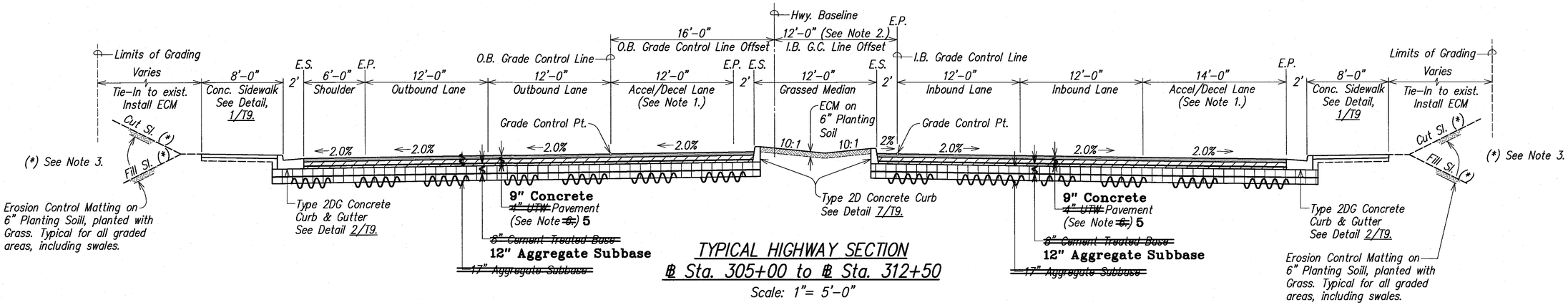
KAUMUALII HIGHWAY WIDENING
Vicinity of Anonui Street to Vicinity of Lihue Mill Bridge
FEDERAL-AID PROJECT NO. NH-050-1(31)

Scale: 1" = 5'   Date: FEB. 2009

SHEET No. T3 OF T18 SHEETS

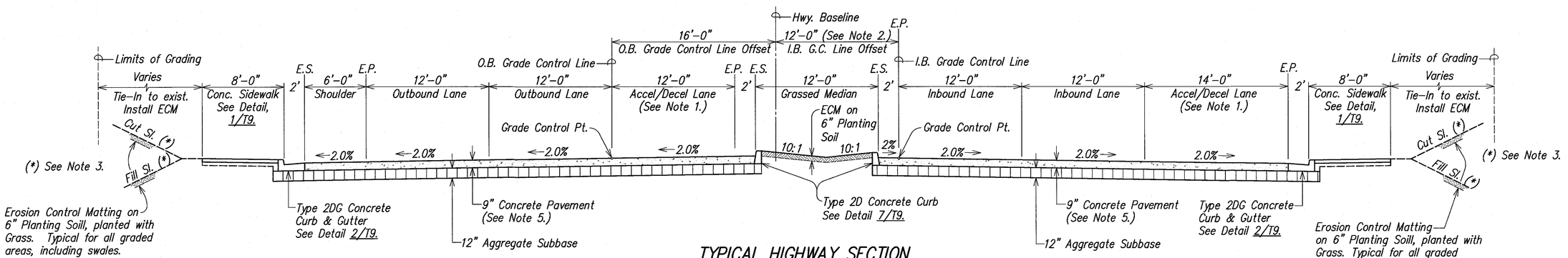
ORIGINAL PLAN / NOTE BOOK No. / SURVEY PLOTTED BY / DRAWN BY / TRACED BY / DESIGNED BY / QUANTITIES BY / CHECKED BY / DATE

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-050-1(31)	2009	14	452



TYPICAL HIGHWAY SECTION
℄ Sta. 305+00 to ℄ Sta. 312+50

Scale: 1"= 5'-0"



TYPICAL HIGHWAY SECTION
℄ Sta. 312+50 to ℄ Sta. 351+84

Scale: 1"= 5'-0"

Typical Section Notes:

1. *Where Present. See Roadway Plans.*
2. *Inbound Grade Control Line offset varies from 12' at ℄ Sta. 310+50 to 16' at ℄ Sta. 314+50.*
3. *The slope of the cut or fill embankment varies with location. Unless otherwise noted, the cut or fill slope shall be maximum 2H:1V. See Grading Plans for location of various conditions.*
4. *Remove exist. A.C. pavement and base course. Excavate to new subgrade. Scarify and recompact as required.*
5. *For Typical PCC Pavement details, see Sheets T13 and T14.*

~~*6. For Typical UTW Pavement details, see Sheets T16 and T17.*~~

Abbreviations:

E.P.	Edge of New Pavement
E.S.	Edge of New Shoulder
G.C.	Grade Control
I.B.	Inbound
O.B.	Outbound
S.E.	Superelevation
ECM	Erosion Control Matting

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**

GLENN K. IKEDA
LICENSED PROFESSIONAL ENGINEER
No. 8328-C
HAWAII, U.S.A.

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STATE OF HAWAI'I
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TYPICAL SECTIONS

KAUMUALI'I HIGHWAY WIDENING
Vicinity of Anonui Street to Vicinity of Līhu'e Mill Bridge
FEDERAL-AID PROJECT NO. NH-050-1(31)

Scale: 1" = 5' Date: JAN. 2010

SHEET No. T4 OF T18 SHEETS

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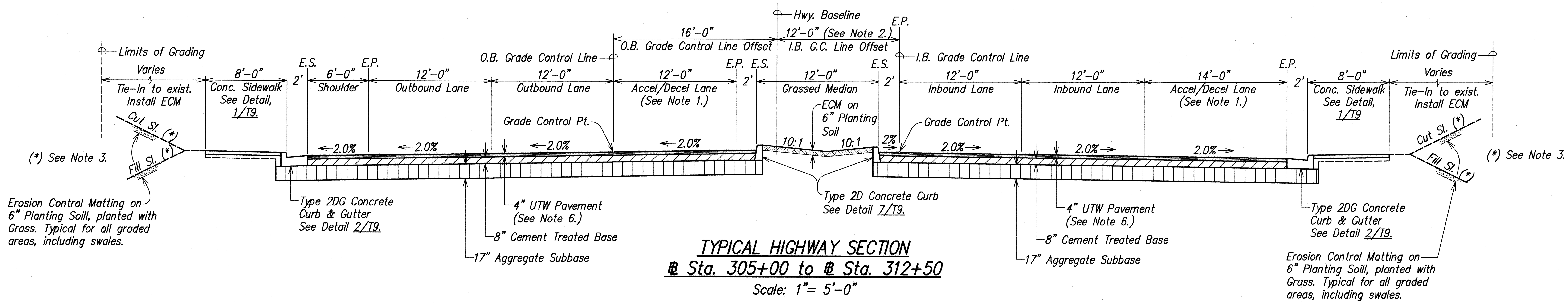
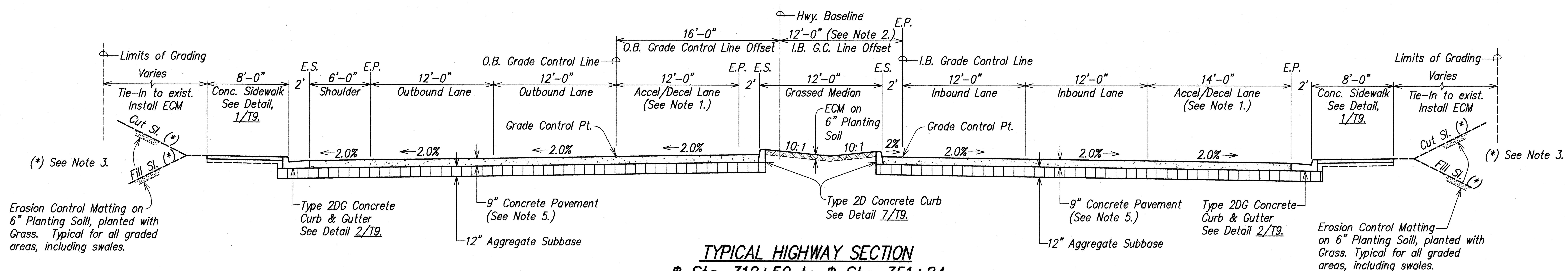
QUANTITIES BY
CHECKED BY
DATE

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-050-1(31)	2009	14	452



TYPICAL HIGHWAY SECTION
℄ Sta. 305+00 to ℄ Sta. 312+50

Scale: 1"= 5'-0"



TYPICAL HIGHWAY SECTION
℄ Sta. 312+50 to ℄ Sta. 351+84

Scale: 1"= 5'-0"

Typical Section Notes:

1. Where Present. See Roadway Plans.
2. Inbound Grade Control Line offset varies from 12' at ℄ Sta. 310+50 to 16' at ℄ Sta. 314+50.
3. The slope of the cut or fill embankment varies with location. Unless otherwise noted, the cut or fill slope shall be maximum 2H:1V. See Grading Plans for location of various conditions.
4. Remove exist. A.C. pavement and base course. Excavate to new subgrade. Scarify and recompact as required.
5. For Typical PCC Pavement details, see Sheets T13 and T14.
6. For Typical UTW Pavement details, see Sheets T16 and T17.

Abbreviations:

- E.P. Edge of New Pavement
- E.S. Edge of New Shoulder
- G.C. Grade Control
- I.B. Inbound
- O.B. Outbound
- S.E. Superelevation
- ECM Erosion Control Matting

GLENN K. IKEDA
LICENSED PROFESSIONAL ENGINEER
No. 8328-C
HAWAII, U.S.A.
2-26-09

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Glenn K. Ikeda

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TYPICAL SECTIONS

KAUMUALII HIGHWAY WIDENING
Vicinity of Anonui Street to Vicinity of Lihue Mill Bridge
FEDERAL-AID PROJECT NO. NH-050-1(31)

Scale: 1" = 5'
Date: FEB. 2009

SHEET No. T4 OF T18 SHEETS

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

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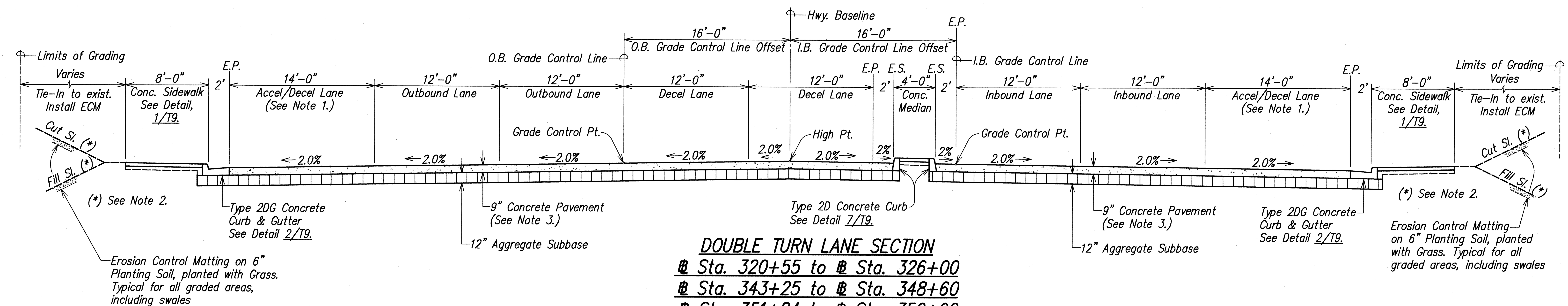
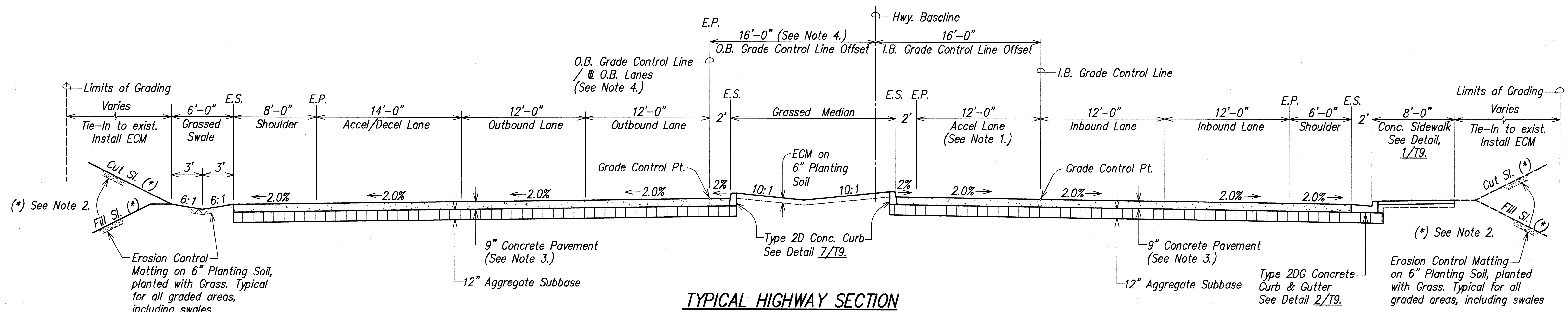
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-050-1(31)	2009	15	452



DOUBLE TURN LANE SECTION

℄ Sta. 320+55 to ℄ Sta. 326+00
℄ Sta. 343+25 to ℄ Sta. 348+60
℄ Sta. 351+84 to ℄ Sta. 356+90

Scale: 1"= 5'-0"



TYPICAL HIGHWAY SECTION

℄ Sta. 356+90 to ℄ Sta. 358+51.50

Scale: 1"= 5'-0"

Typical Section Notes:

1. Where Present. See Roadway Plans.
2. The slope of the cut or fill embankment varies with location. Unless otherwise noted, the cut or fill slope shall be maximum 2H:1V. See Grading Plans for location of various conditions.
3. For Typical PCC Pavement details, see Sheets T13 and T14.
4. The Highway Baseline ends at ℄ Sta. 358+51.50. The O.B. grade control line offset is 16'-0" at ℄ Sta. 356+94.42, whereafter an O.B. baseline starts and is used thereafter to establish location of outbound lanes.

Abbreviations:

E.P. Edge of New Pavement
E.S. Edge of New Shoulder
G.C. Grade Control
I.B. Inbound
O.B. Outbound
S.E. Superelevation
ECM Erosion Control Matting

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

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2-26-09
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ParEn, Inc. dba PARK ENGINEERING
LICENSE EXPIRES 4-30-10

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

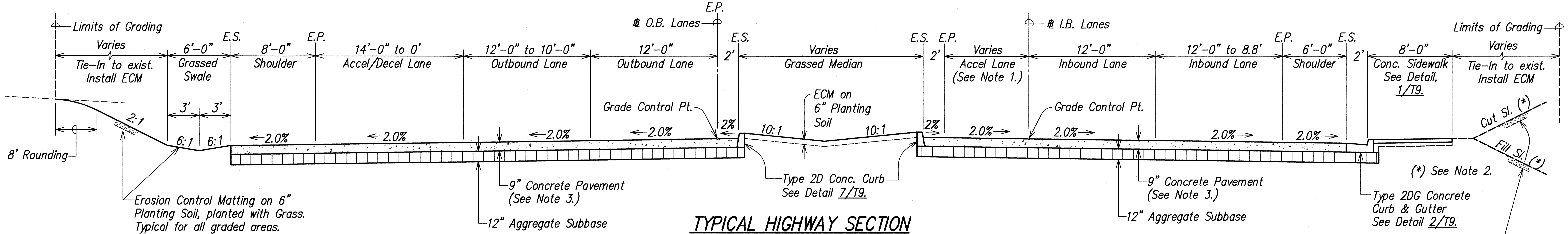
TYPICAL SECTIONS

KAUMUALII HIGHWAY WIDENING
Vicinity of Anonui Street to Vicinity of Lihue Mill Bridge
FEDERAL-AID PROJECT NO. NH-050-1(31)

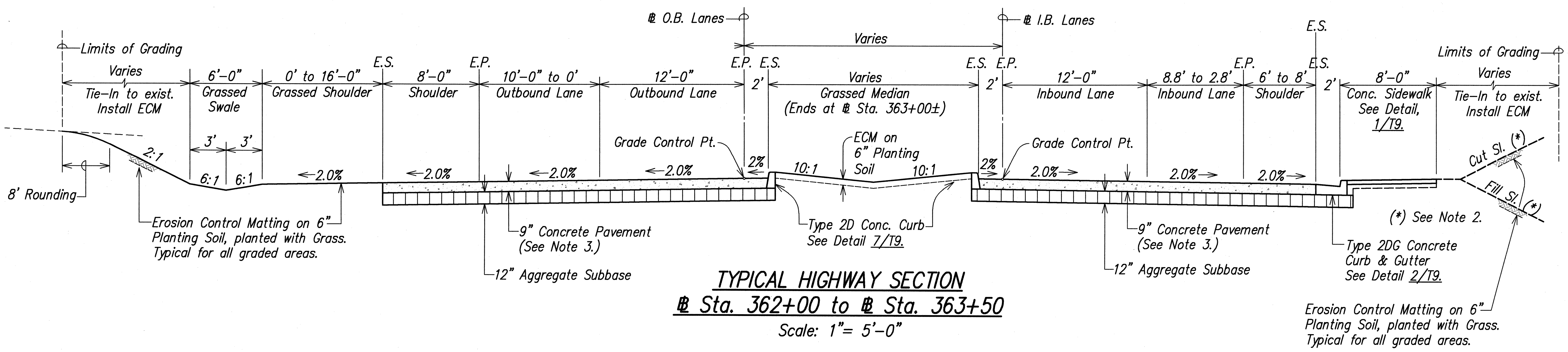
Scale: 1" = 5'   Date: FEB. 2009

SHEET No. T5 OF T18 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-050-1(31)	2009	16	452



TYPICAL HIGHWAY SECTION
℄ Sta. 358+51.50 to ℄ Sta. 362+00
Scale: 1"= 5'-0"



TYPICAL HIGHWAY SECTION
℄ Sta. 362+00 to ℄ Sta. 363+50
Scale: 1"= 5'-0"

Typical Section Notes:

1. Where Present. See Roadway Plans.
2. The slope of the cut or fill embankment varies with location. Unless otherwise noted, the cut or fill slope shall be maximum 2H:1V. See Grading Plans for location of various conditions.
3. For Typical PCC Pavement details, see Sheets T13 and T14.

Abbreviations:

E.P. Edge of New Pavement
E.S. Edge of New Shoulder
G.C. Grade Control
I.B. Inbound
O.B. Outbound
S.E. Superelevation

GLENN K. IKEDA LICENSED PROFESSIONAL ENGINEER No. 8328-C HAWAII, U.S.A.
2-26-09
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ParEn, Inc. dba PARK ENGINEERING LICENSE EXPIRES 4-30-10

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

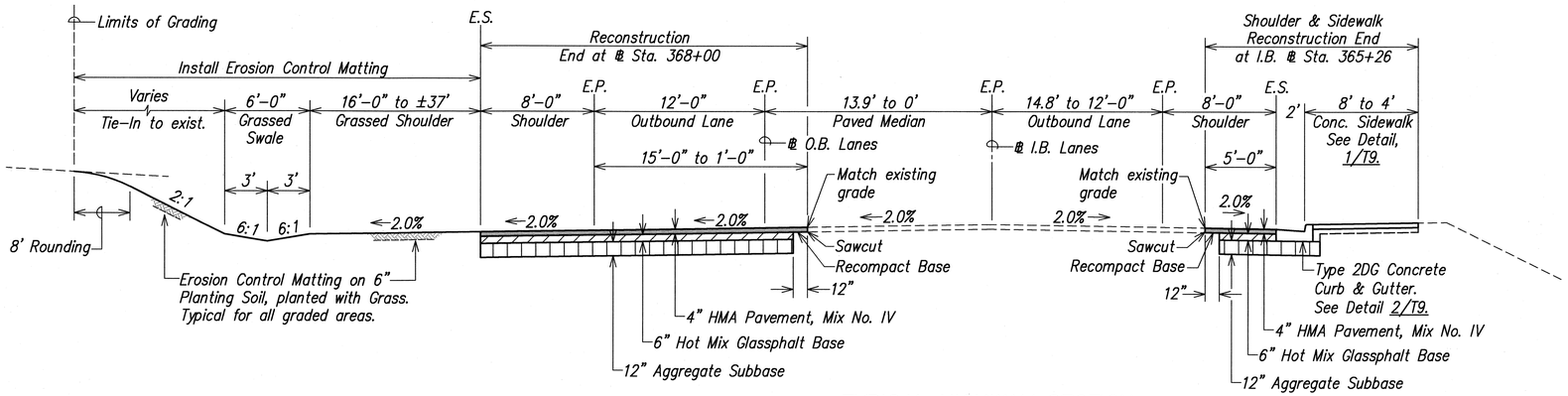
TYPICAL SECTIONS

KAUMUALII HIGHWAY WIDENING
Vicinity of Anonui Street to Vicinity of Lihue Mill Bridge
FEDERAL-AID PROJECT NO. NH-050-1(31)

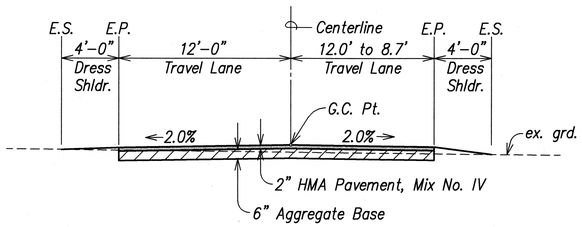
Scale: 1" = 5' Date: FEB. 2009

SHEET No. T6 OF T18 SHEETS

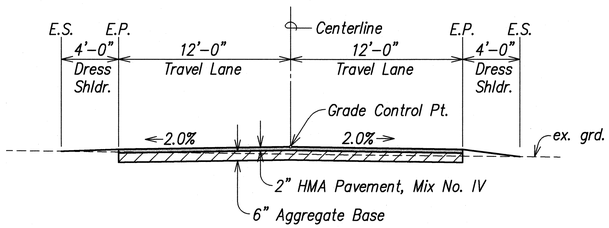
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-050-1(31)	2009	17	452



TYPICAL HIGHWAY SECTION
℄ Sta. 363+50 to ℄ Sta. 368+00
Scale: 1"= 5'-0"

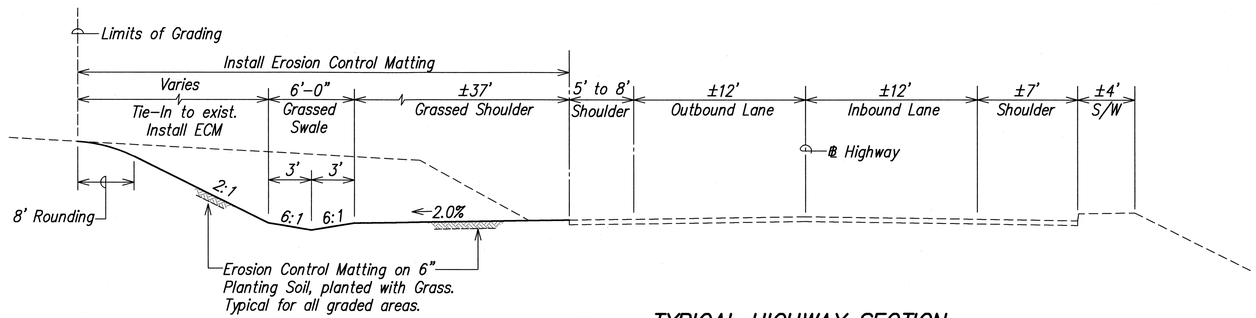


℄ Sta. 1+92.59 to ℄ Sta. 2+20



℄ Sta. 0+84.18 to ℄ Sta. 1+92.59

TYPICAL ROAD SECTIONS – UAHI ROAD
Scale: 1"= 5'-0"



TYPICAL HIGHWAY SECTION
℄ Sta. 368+00 to ℄ Sta. 369+10
Scale: 1"= 5'-0"

Abbreviations:

E.P. Edge of New Pavement
E.S. Edge of New Shoulder
G.C. Grade Control
I.B. Inbound
O.B. Outbound
S.E. Superelevation

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

L:\82- STATE\207\KAUMUALII-1\PHASE1A REVISION\PLANS\KHWG-107-157.dwg 11/28/08

GLENN K. IKEDA
LICENSED PROFESSIONAL ENGINEER
No. 8328-C
HAWAII, U.S.A.
2-26-09
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
ParEn, Inc.
dba PARK ENGINEERING
LICENSE EXPIRES 4-30-10

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

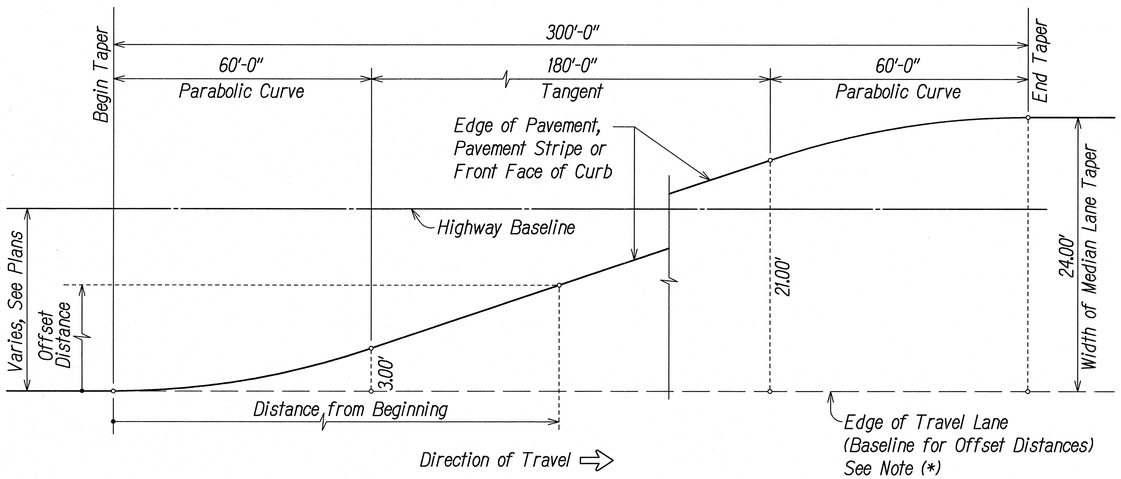
TYPICAL SECTIONS

KAUMUALII HIGHWAY WIDENING
Vicinity of Anonui Street to Vicinity of Lihue Mill Bridge
FEDERAL-AID PROJECT NO. NH-050-1(31)

Scale: 1" = 5' Date: FEB. 2009

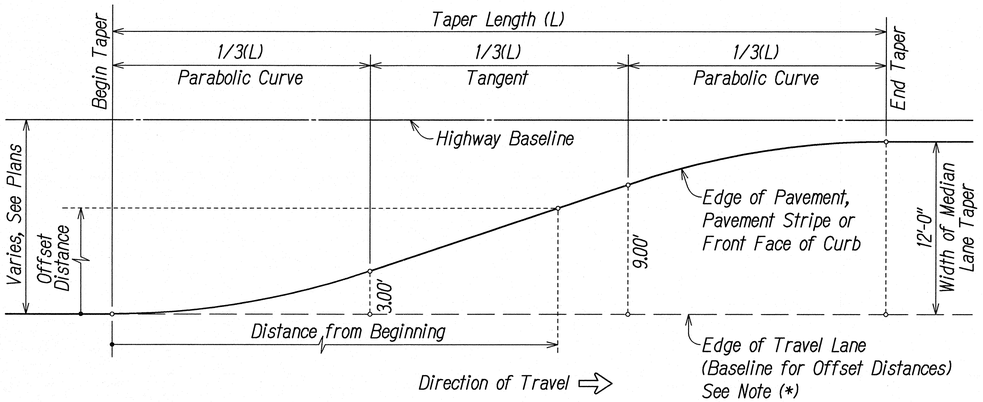
SHEET No. T7 OF T18 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-050-1(31)	2009	C.O.18	452



Taper Plan (300-Ft Length)

Note (*):
Where edge of travel lane is a curve, neither baseline or taper along tangent section will be a tangent. Use proportional offsets within this section.



4 Taper Plan (90-Ft, 120-Ft or 180-Ft Length)

TYPICAL MEDIAN LANE TAPER DETAIL

Not to Scale

1 / T8

C1.1 to C1.10, C5.8

4 Table of Offset Distances for Median Taper

90-Ft. Long Taper		120-Ft. Long Taper		180-Ft. Long Taper		300-Ft. Long Taper	
Distance from Beginning	Offset Distance	Distance from Beginning	Offset Distance	Distance from Beginning	Offset Distance	Distance from Beginning	Offset Distance
0	0.00	0	0.00	0	0.00	0	0.00
7.5	0.19	10	0.19	15	0.19	15	0.19
15	0.75	20	0.75	30	0.75	30	0.75
22.5	1.69	30	1.69	45	1.69	45	1.69
30	3.00	40	3.00	60	3.00	60	3.00
45	6.00	60	6.00	90	6.00	150	12.00
60	9.00	80	9.00	120	9.00	240	21.00
67.5	10.31	90	10.31	135	10.31	255	22.31
75	11.25	100	11.25	150	11.25	270	23.25
82.5	11.81	110	11.81	165	11.81	285	23.81
90	12.00	120	12.00	180	12.00	300	24.00

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

LIB2: STATE\DOT\KAUMUALII-1\PHASE1A REVISION\PLANS\C01-T08-RDDET1.dwg 1/15/10

GLENN K. IKEDA
LICENSED PROFESSIONAL ENGINEER
No. 8328-C
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2-2-10

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

PorEn, Inc.
dba PARK ENGINEERING
LICENSE EXPIRES 4-30-10

DATE	REVISION
2/01/10	4 Added Data for 90-Foot Long Taper.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY DETAILS

KAUMUALII HIGHWAY WIDENING
Vicinity of Anonui Street to Vicinity of Lihue Mill Bridge
FEDERAL-AID PROJECT NO. NH-050-1(31)

Scale: As Noted Date: JAN. 2010

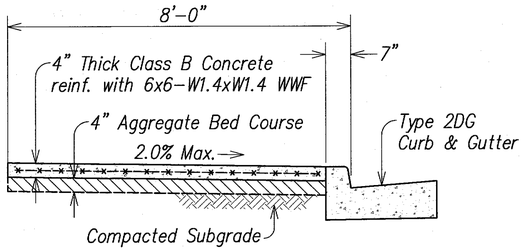
SHEET No. T8 OF T18 SHEETS

C.O. 18

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-050-1(31)	2009	19	452

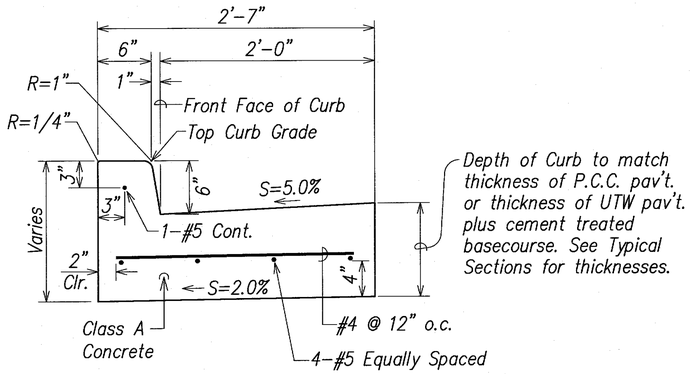
1. For location, placement and spacing of Transverse Contraction Joints, see Detail 3/T9.

2. For location and placement of Isolation Joints at Manholes, Poles, Structure, etc. within sidewalk, see Detail 4/T9.



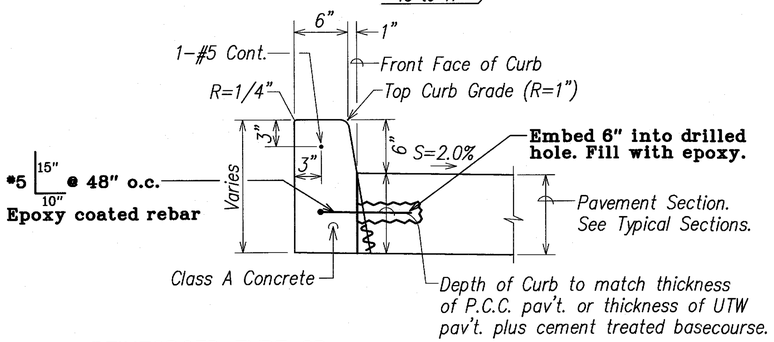
TYPICAL CONCRETE SIDEWALK DETAIL (1 / T9)
Scale: 1/2"= 1'-0"

T3 to T7



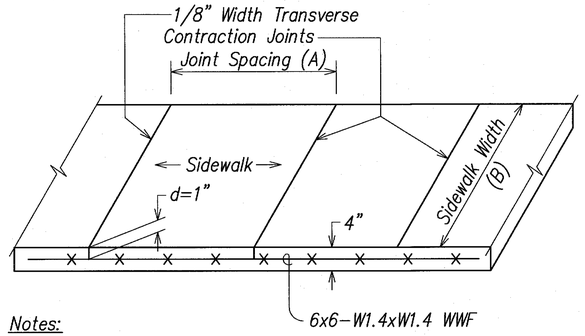
REINFORCED TYPE 2DG CONCRETE CURB & GUTTER DETAIL (2 / T9)
Scale: 1-1/2"= 1'-0"

T3 to T7



REINFORCED TYPE 2D CONCRETE CURB DETAIL (7 / T9)
Scale: 1-1/2"= 1'-0"

T3 to T7

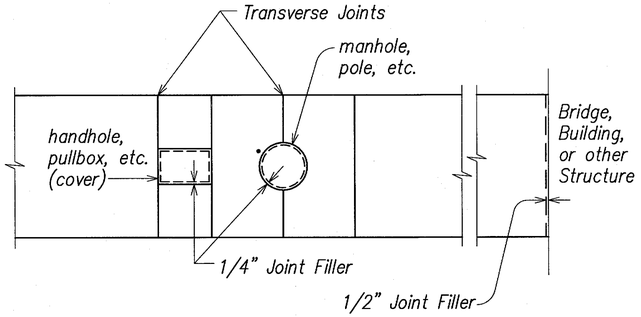


Notes:

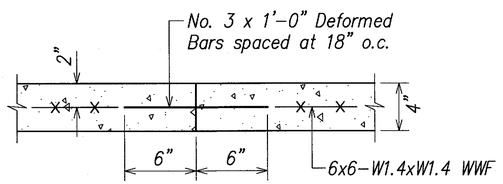
1. Joint dimension ratios (B/A or A/B) < 1.25 and (A or B) not to exceed 7'.

2. Longitudinal contraction joints similar to transverse contraction joints.

CONTRACTION JOINT LAYOUT DETAIL (3 / T9 | T9)
Not to Scale



SIDEWALK ISOLATION JOINT DETAIL (4 / T9 | T9)
Not to Scale



TRANSVERSE CONSTRUCTION JOINT DETAIL (5 / T9 | T9)
Not to Scale

SIDEWALK NOTES:

1. All sidewalks shall provide a minimum clear width of 3'-0" (excluding curb) for pedestrian circulation. If this cannot be met, a minimum 32-inch clear width is allowed for a distance of 24-inches.

2. Narrow sidewalks (3'-0" min. width, excluding curb) may prohibit the installation of any sign posts, utility poles, fire hydrants, traffic signal standards, light poles, etc. in the sidewalk.

3. Passing spaces along new sidewalks with 5' clear width or less shall be provided at maximum 200' intervals as required by ADA guidelines. The passing area shall be a minimum 5' wide by 5' long as feasible.

4. For new construction, the minimum sidewalk width shall be 5'-0" (excluding curb). The cross slope shall not exceed 2%.

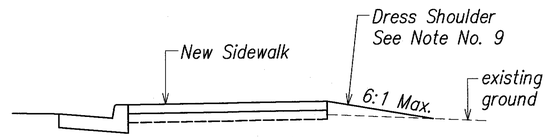
5. If possible, install utility poles, fire hydrants, light poles, sign posts, pullboxes, etc. off of sidewalk but within the right-of-way, and will be subject to Engineer's approval.

6. Objects protruding from utility poles and walls adjacent to the sidewalks (i.e. wall mounted fire hydrants, telephones, meters on poles, etc.) shall be mounted to meet the current American with Disabilities Act Accessibility Guidelines (ADAAG) and will be subject to Engineer's approval.

7. Transverse and longitudinal weakened Plane Joints for sidewalk shall be considered incidental to New Sidewalk.

8. Installation of tie bars including drilling, and epoxy grout shall be considered incidental to New Sidewalk.

9. Dressing of sidewalk shall consist of clearing, grubbing, grading, reshaping compacting, and grassing the area adjacent to the improvement with suitable material as shown on the plans and/or as directed by the Engineer. If existing ground is asphalt or concrete surface, dress sidewalk with A.C. pavement, Mix No. V. This work shall be considered incidental to New Sidewalk.



TYPICAL SIDEWALK DRESSING DETAIL (6 / T9)
Not to Scale

T1, T3, T9

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**

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

GLENN K. IKEDA — LICENSED PROFESSIONAL ENGINEER No. 8328-C — HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

ParEn, Inc. dba PARK ENGINEERING LICENSE EXPIRES 4-30-16

STATE OF HAWAI'I
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY DETAILS

KAUMUALI'I HIGHWAY WIDENING
Vicinity of Anonui Street to Vicinity of Lihu'e Mill Bridge
FEDERAL-AID PROJECT NO. NH-050-1(31)

Scale: As Noted — Date: JAN. 2010

SHEET No. T9 OF T18 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-050-1(31)	2009	19	452

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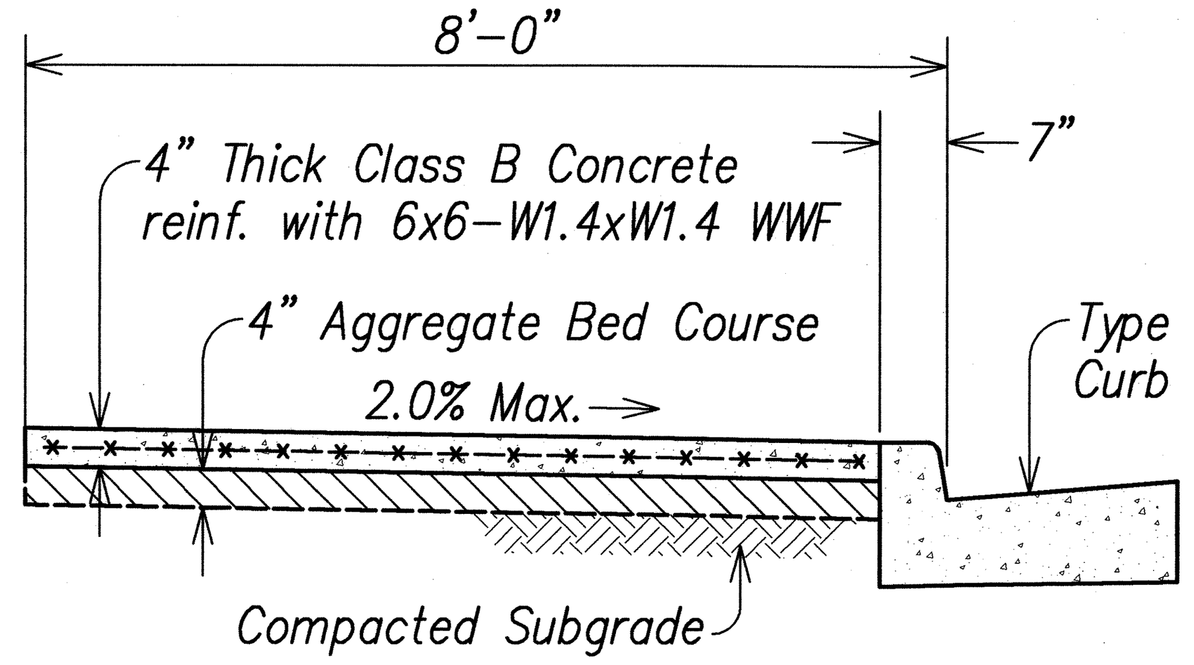
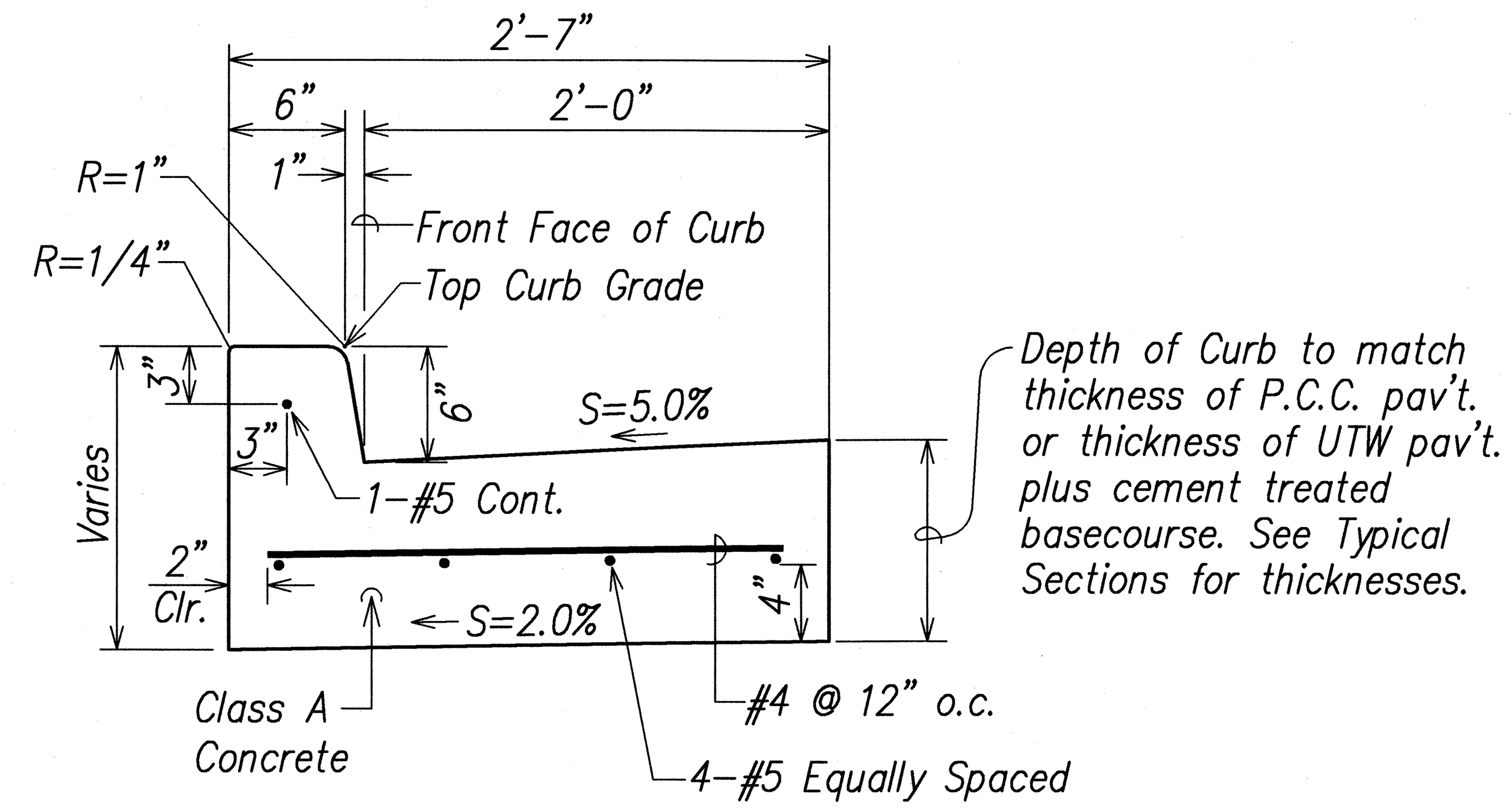
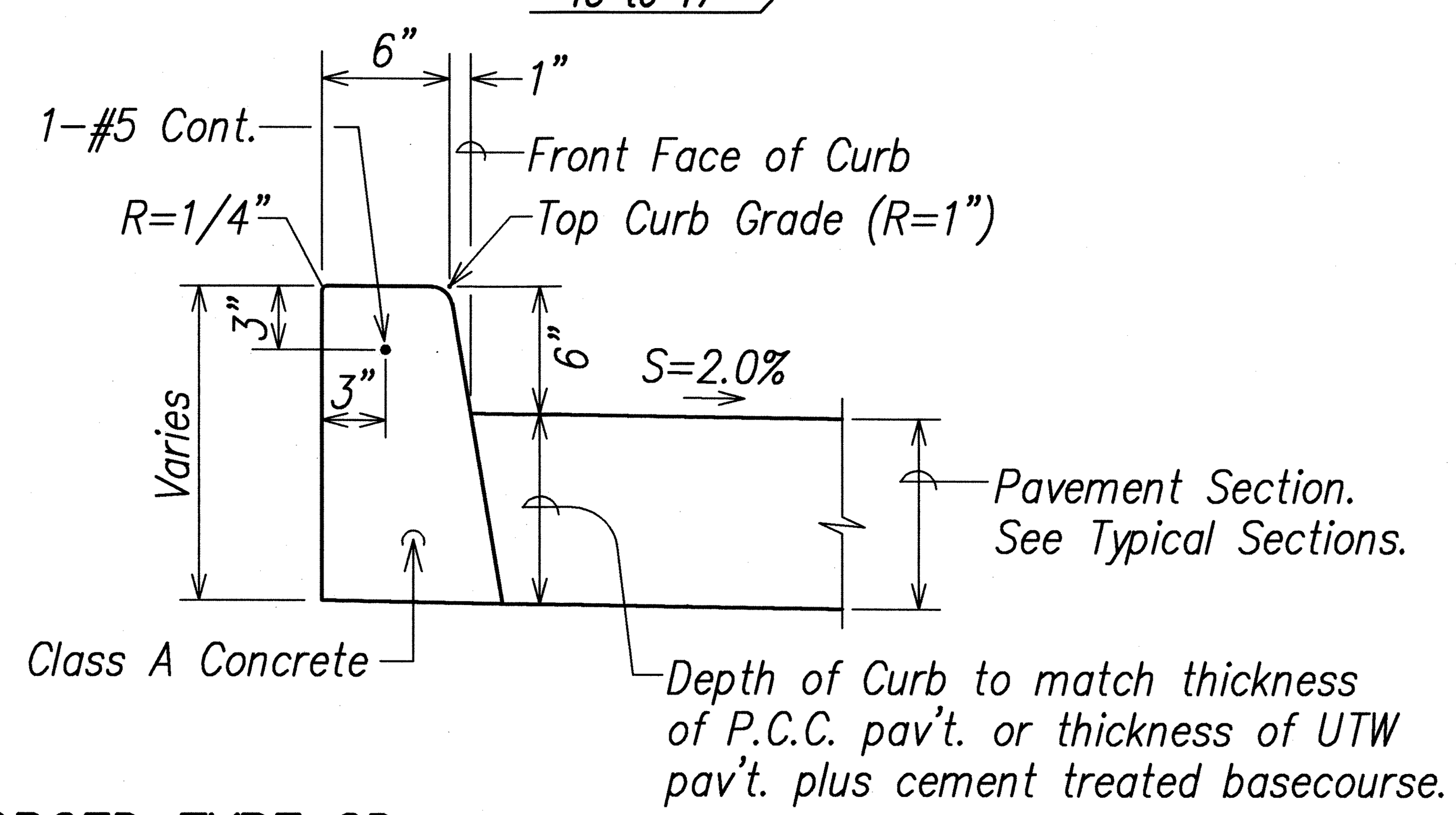
2. For location and placement of Isolation Joints at Manholes, Poles, Structure, etc. within sidewalk, see Detail 4/T9.



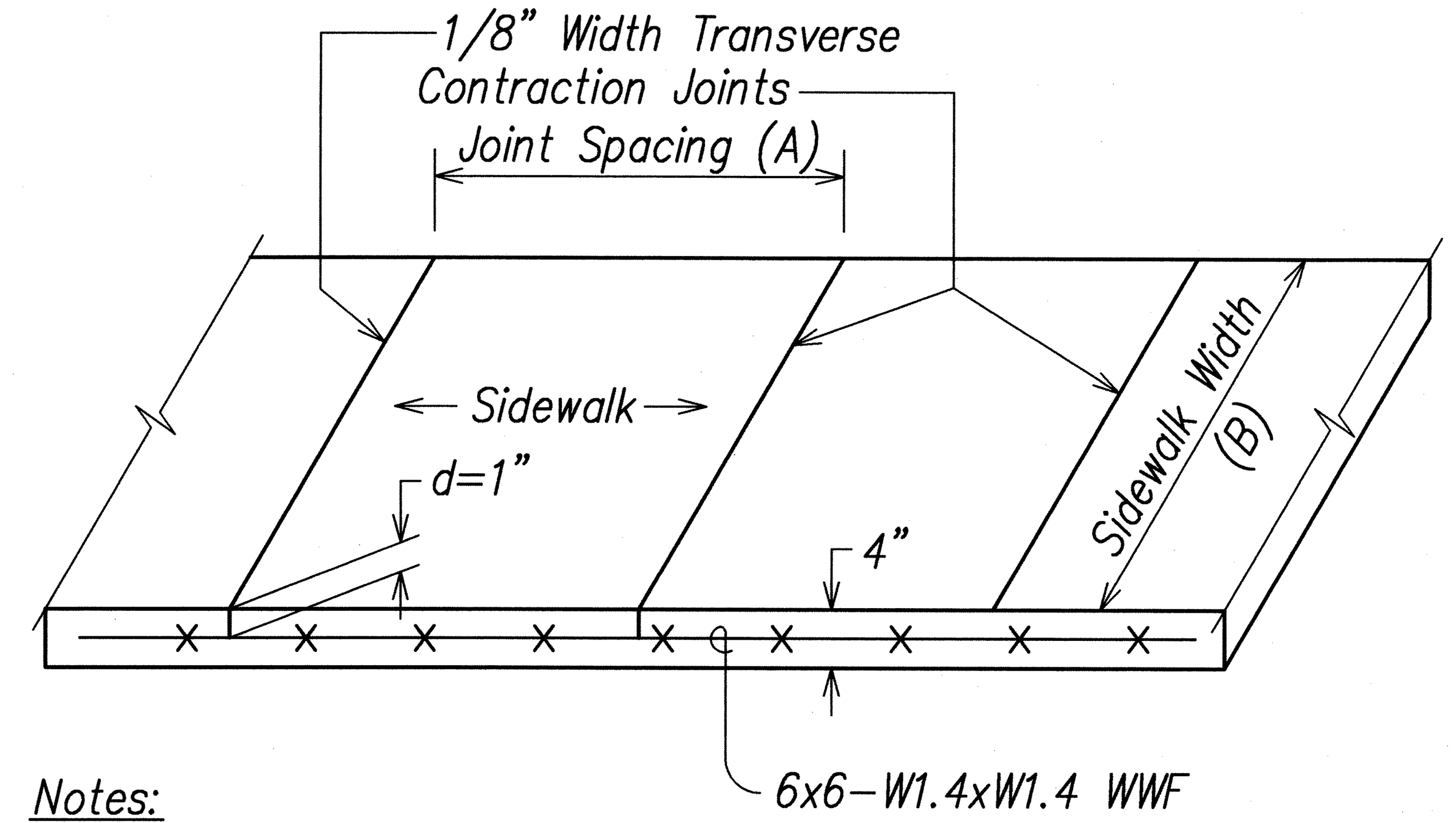
TYPICAL CONCRETE SIDEWALK DETAIL (1/T9)
Scale: 1/2"= 1'-0"
T3 to T7



REINFORCED TYPE 2DG CONCRETE CURB & GUTTER DETAIL (2/T9)
Scale: 1-1/2"= 1'-0"
T3 to T7

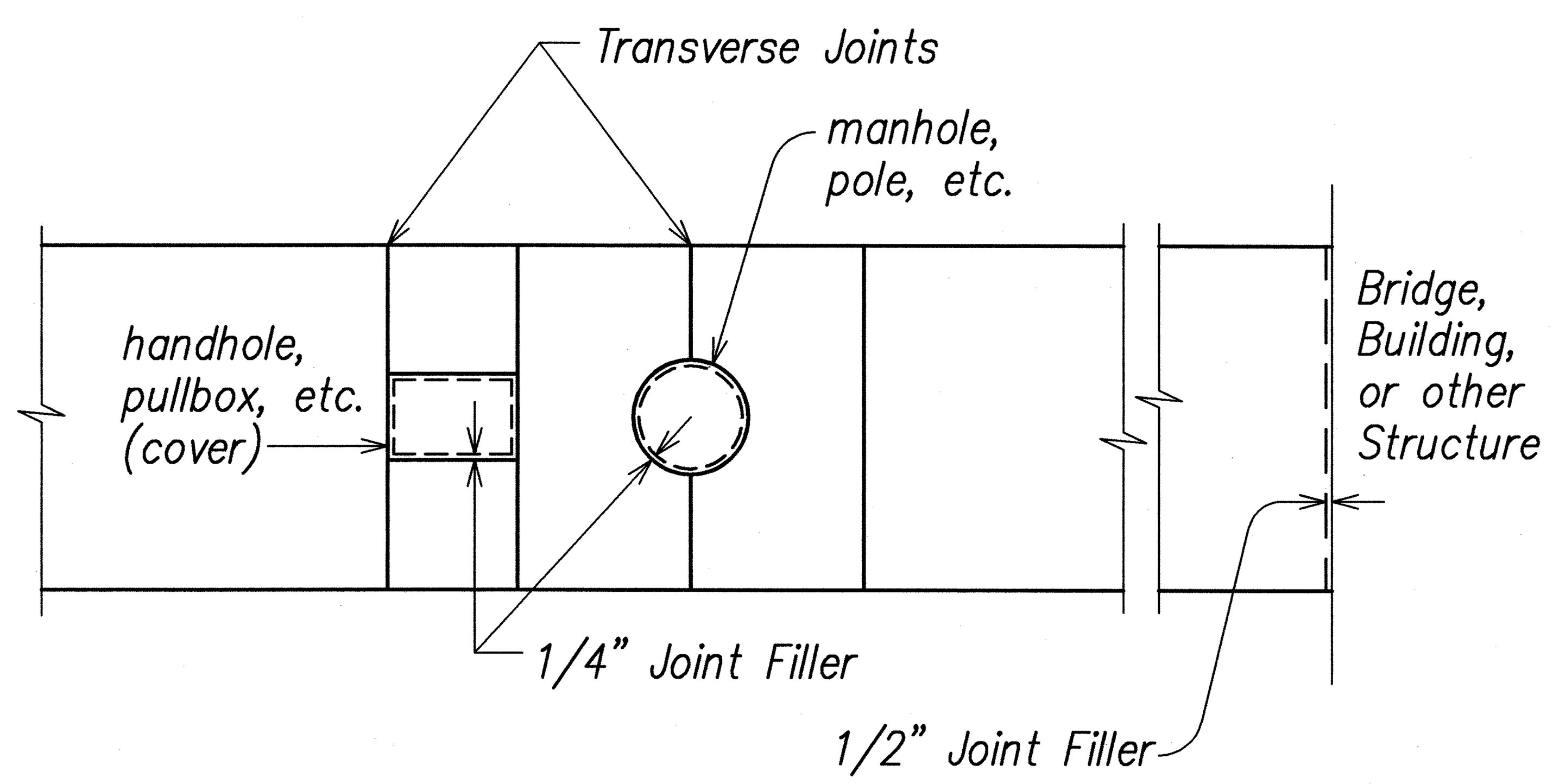


REINFORCED TYPE 2D CONCRETE CURB DETAIL (7/T9)
Scale: 1-1/2"= 1'-0"
T3 to T7

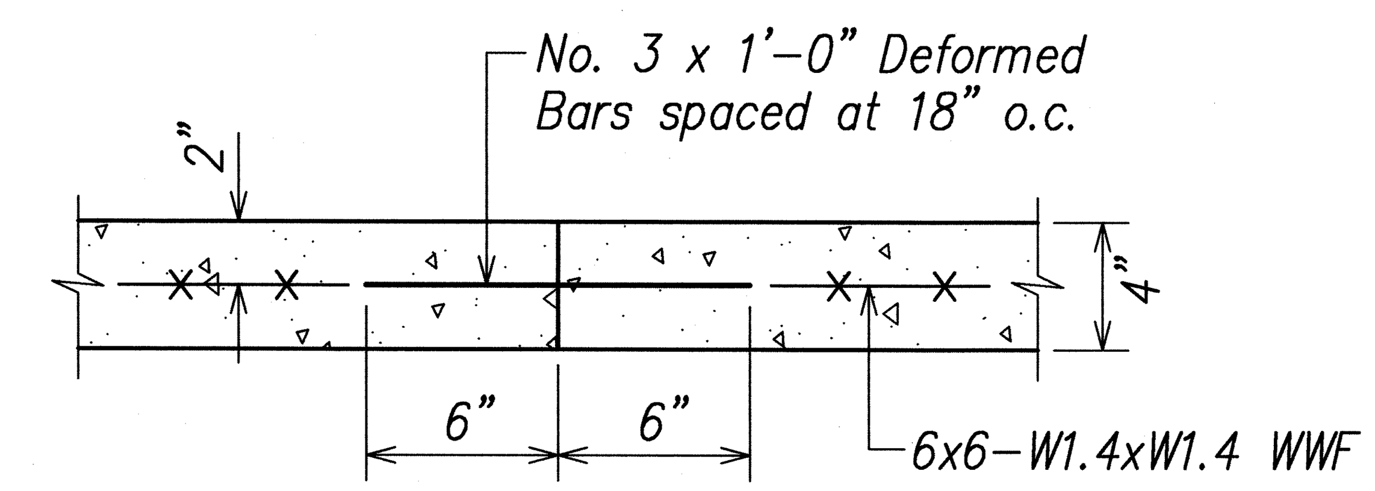


Notes:
1. Joint dimension ratios (B/A or A/B) < 1.25 and (A or B) not to exceed 7'.
2. Longitudinal contraction joints similar to transverse contraction joints.

CONTRACTION JOINT LAYOUT DETAIL (3/T9 T9)
Not to Scale



SIDEWALK ISOLATION JOINT DETAIL (4/T9 T9)
Not to Scale



TRANSVERSE CONSTRUCTION JOINT DETAIL (5/T9 T9)
Not to Scale

SIDEWALK NOTES:

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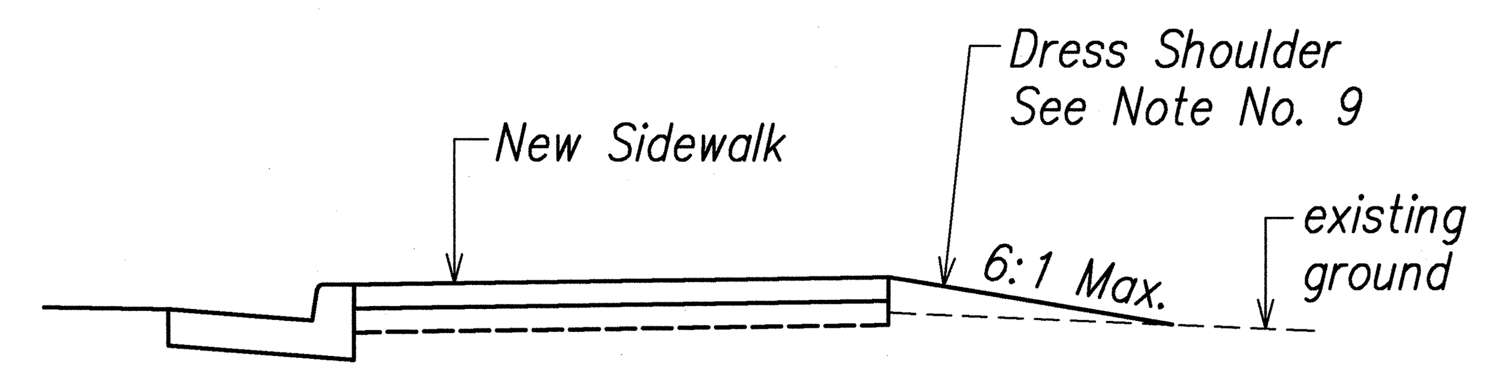


TYPICAL SIDEWALK DRESSING DETAIL (6/T9)
Not to Scale
T1, T3, T9

GLENN K. IKEDA
LICENSED PROFESSIONAL ENGINEER
No. 8328-C
HAWAII, U.S.A.
2-26-09
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
ParEn, Inc. dba PARK ENGINEERING
LICENSE EXPIRES 4-30-10

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY DETAILS

KAUMUALII HIGHWAY WIDENING
Vicinity of Anonui Street to Vicinity of Lihue Mill Bridge
FEDERAL-AID PROJECT NO. NH-050-1(31)

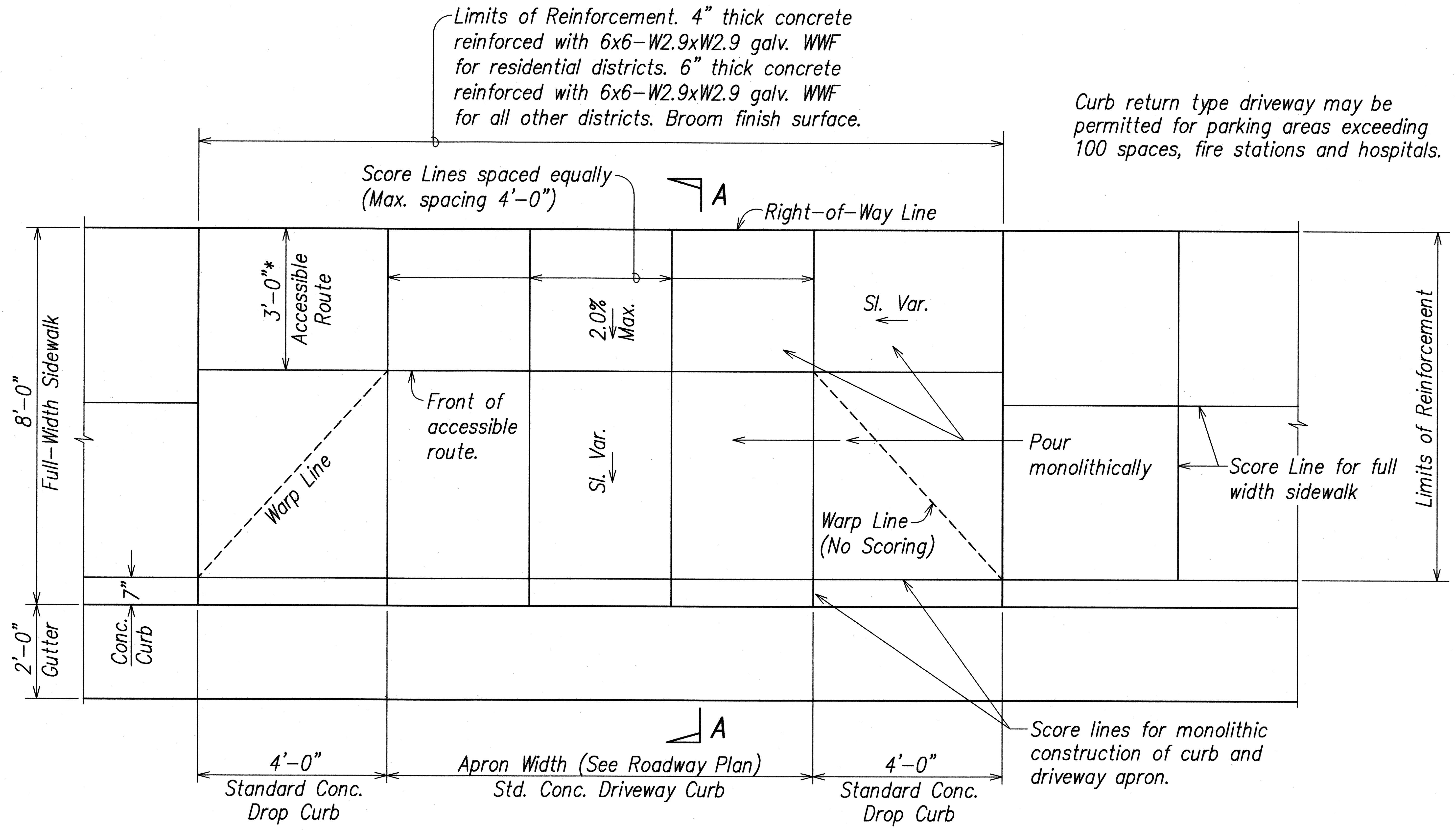
Scale: As Noted
Date: FEB. 2009

SHEET No. T9 OF T18 SHEETS

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

UB2: STATE\DOT\KAUMUALII-1\PHASE1A REVISION\PLANS\KHWYa-T09-RDDET2.dwg 2/18/09

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-050-1(31)	2009	20	452

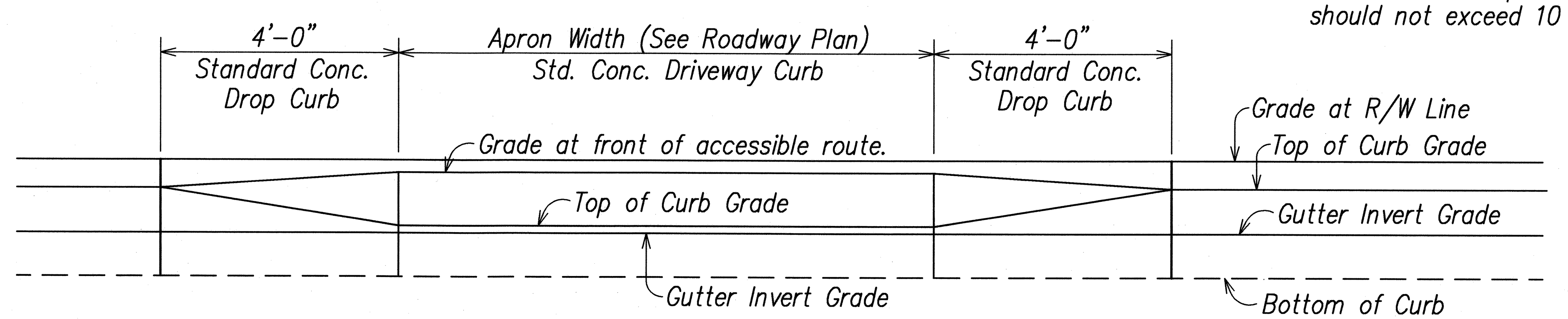


Curb return type driveway may be permitted for parking areas exceeding 100 spaces, fire stations and hospitals.

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

* Match width of existing sidewalk whenever possible.

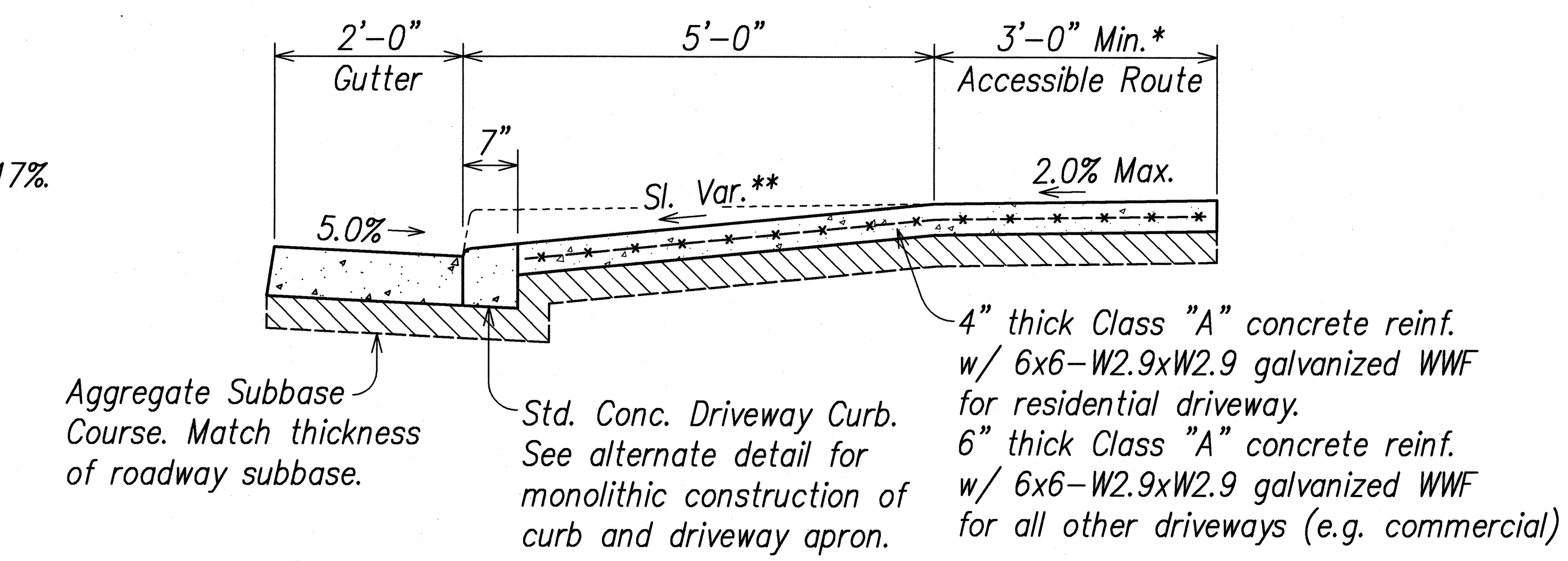
** Breakover and departure angles should not exceed 10 degrees or 17%.



Elevation
Not to Scale

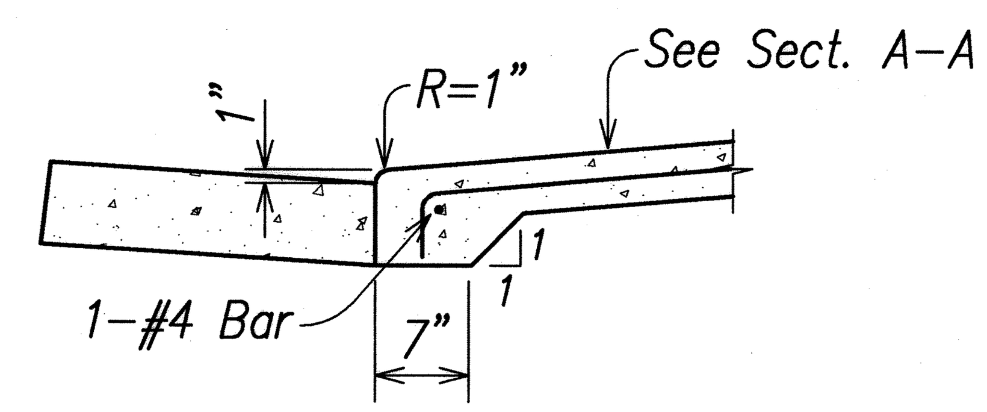
Notes:

1. Minimum thickness of concrete for driveway apron is 4" for residential driveways and 6" for all other applications (e.g. commercial).
2. Thickness of aggregate subbase course beneath concrete pavement may be revised if deemed necessary by the Engineer.
3. P.C.C. Gutters shall be longitudinally broom finished.
4. The top of all types of Concrete Curbs, including Driveway Curbs shall be longitudinally broom finished.
5. See Std. Plan D-05 for details of Drop Curb and Driveway Curb.
6. 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.



Section A-A
Not to Scale

TYPICAL DRIVEWAY APRON DETAIL 1 CR22 T10
Scale As Noted



Alternate Detail
Not to Scale

GLENN K. IKEDA LICENSED PROFESSIONAL ENGINEER No. 8328-C HAWAII, U.S.A.
2-26-09
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
ParEn, Inc. dba PARK ENGINEERING LICENSE EXPIRES 4-30-10

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY DETAILS

KAUMUALII HIGHWAY WIDENING
Vicinity of Anonui Street to Vicinity of Lihue Mill Bridge
FEDERAL-AID PROJECT NO. NH-050-1(31)

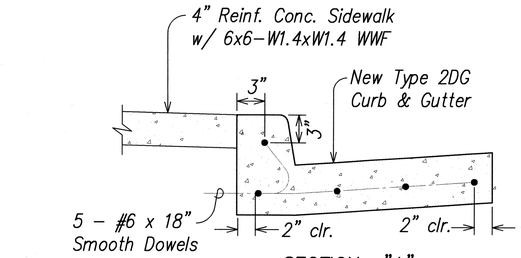
Scale: As Noted Date: FEB. 2009

SHEET No. T10 OF T18 SHEETS

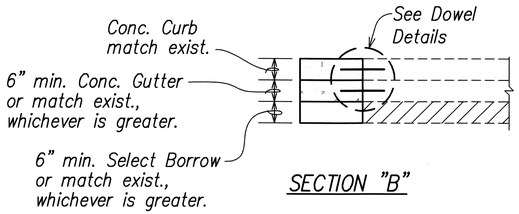
ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	
No.	TRACED BY	
	DESIGNED BY	
	QUANTITIES BY	
	CHECKED BY	

LIB2: STATE\DOT\KAUMUALII-1\PHASE1A REVISION\PLANS\KHW1a-T10-RDDET3.dwg 11/28/08

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-050-1(31)	2009	21	452



SECTION "A"



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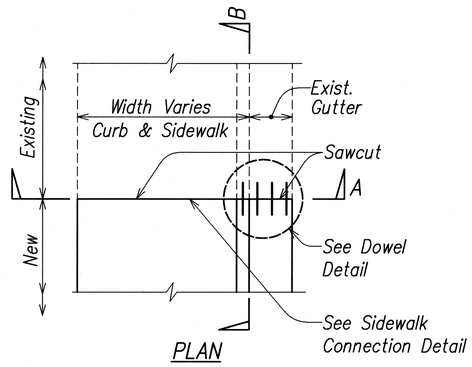
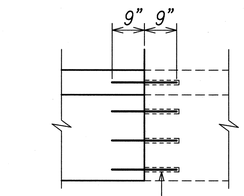


PLAN

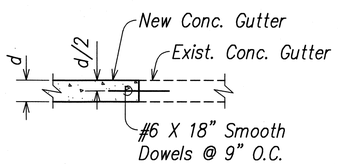
CURB & GUTTER CONNECTION DETAIL (1 / T11)

Not to Scale

C5.2, C5.5, C5.7, C5.8, C6.3, C6.4



PLAN



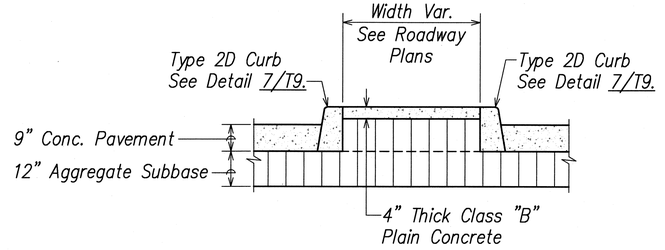
SECTION THROUGH GUTTER

DOWEL DETAIL (2 / T11 | T11)

Not to Scale

Doweling Notes:

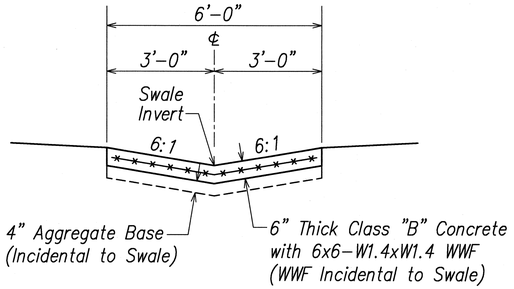
1. Provide dowels as shown.
2. Drill holes as shown, in the existing curb and gutter and/or sidewalk. Clean hole of dust and debris. Fill hole completely with epoxy grout, and install dowel.
3. Epoxy grout shall be two-component, epoxy-resin system and shall comply with the requirements of AASHTO M 235 (ASTM C-881).



CONCRETE MEDIAN DETAIL (4 / T11)

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

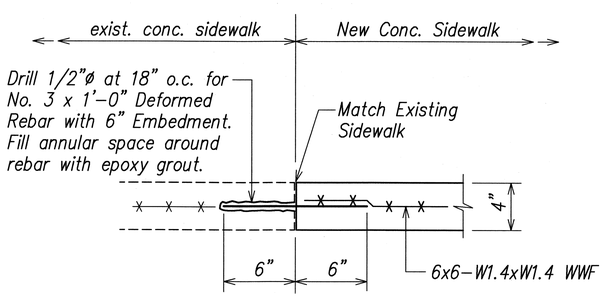
C1.6, C1.8, C1.9



TYPE 1 CONCRETE SWALE (5 / T11)

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

C1.1, C1.3



TYPICAL SIDEWALK CONNECTION DETAIL (3 / T11 | T11)

Not to Scale

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

LBC: STATE\DOT\KAUMUALII-1\PHASE1A REVISION\PLANS\KHWY=-T11-RDDET4.dwg 11/28/08

GLENN K. IKEDA
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2-26-09

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Glenn K. Ikeda

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LICENSE EXPIRES 4-30-10

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

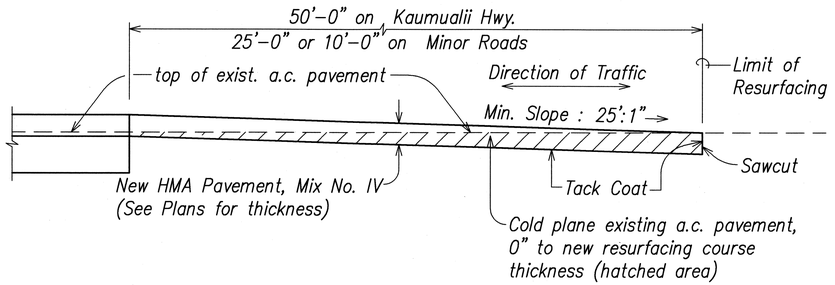
ROADWAY DETAILS

KAUMUALII HIGHWAY WIDENING
Vicinity of Anonui Street to Vicinity of Lihue Mill Bridge
FEDERAL-AID PROJECT NO. NH-050-1(31)

Scale: As Noted Date: FEB. 2009

SHEET No. T11 OF T18 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-050-1(31)	2009	22	452



COLD PLANED TRANSITION TO EXISTING A.C. PAVEMENT DETAIL — 1 / T12

Not to Scale

C1.1 to C1.4, C1.6, C1.8 to C1.10

Cold Planing Notes:

1. All saw cutting work for cold planing shall be considered incidental to Cold Planing and will not be paid for separately.

2. The exact locations and limits of areas to be cold planed shall be determined by the Engineer.

3. Exposure of existing aggregate base is expected when cold planing deeper than 4-inches. Remove any remaining pavement less than 1/2" thick before paving. The Contractor shall pave over exposed existing aggregate base with glassphalt concrete base at the end of each day. The Contractor shall compact the existing aggregate base in accordance with Section 304 – Aggregate Base Course and apply tack coat in accordance with Section 407 – Tack Coat, prior to laying the new glassphalt concrete base. This work shall be considered incidental to the new Glassphalt Concrete Base and will not be paid for separately.

4. The vertical pavement drop-off shall not exceed 3-inches. If a vertical pavement drop-off exists at the end of each day's cold planning and paving, the Contractor shall provide a wedge with a 48:1 minimum transition taper for transverse drop-off and no steeper than 6:1 for longitudinal drop-off, as approved by the Engineer. All transition tapers shall be removed before the next layer of pavement is installed. This work shall be considered incidental to Cold Planing.

5. All cold planing work shall be followed immediately with paving, temporary striping, and re-establishment of traffic detector loops before re-opening the lanes to traffic. The Contractor shall install temporary loop detector sensing units to replace any loops taken out of service. The cost for temporary loop detector sensing units shall be considered incidental to the various contract items.

6. All cold planed material shall be the property of the State of Hawaii and shall be hauled directly to the Lihue Airport and not stored on site within the project limit.

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

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LICENSE EXPIRES 4-30-10

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

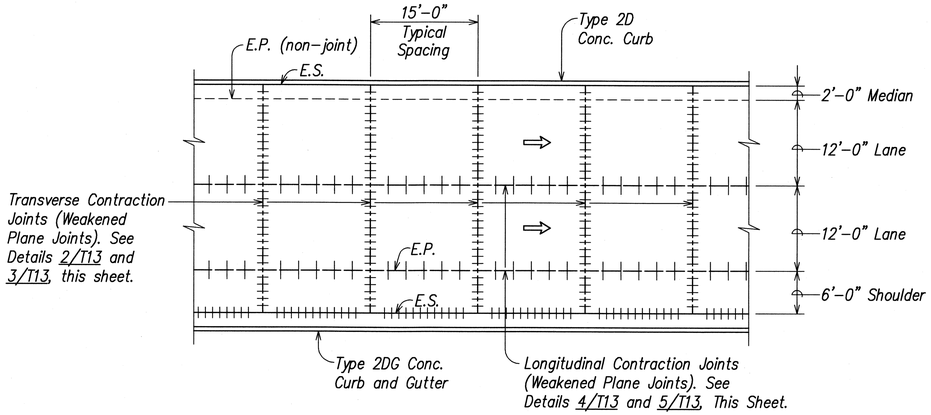
ROADWAY DETAILS

KAUMUALII HIGHWAY WIDENING
Vicinity of Anonui Street to Vicinity of Lihue Mill Bridge
FEDERAL-AID PROJECT NO. NH-050-1(31)

Scale: As Noted Date: FEB. 2009

SHEET No. T12 OF T18 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-050-1(31)	2009	23	452



TYPICAL P.C.C. PAVEMENT JOINT LOCATION AND LAYOUT PLAN

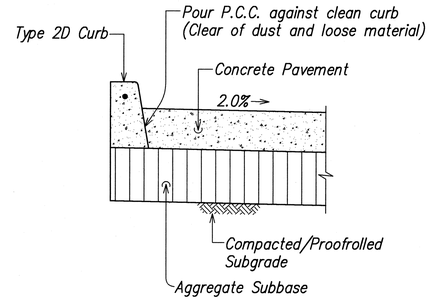
Scale: 1"= 10'

1 | T13

J1 to J11

NOTES FOR P.C.C. PAVEMENT:

1. Epoxy-Coated Reinforcing shall conform to AASHTO M284 / M284M/ M95, Grade 60 (ASTM A 775).
2. Dowels and deformed bars which are partially coated or which are damaged during shipment, handling, or placement shall be replaced at no additional cost to the State.
3. The dowels shall be positioned parallel to centerline direction of traffic and parallel to the roadway surface. The ends of the dowels shall not deviate more than 0.01' from parallel in 9" length.
4. Transverse Construction Joints shall be located a minimum distance of 10-feet from the nearest Transverse Contraction Joint. Joint shall be perpendicular to paving lane.
5. Deformed bars shall be placed a minimum 15" from any transverse joint. Deformed bars closer to the Transverse Joint can interfere with joint movement.
6. Odd shaped slabs and slabs with mismatched joints shall be reinforced. Odd shaped slabs are slabs with length to width ratios greater than 1.25, triangular shaped, or non-square shaped slabs. See Details on Sht. T14.
7. Provide shop drawings of joint layout where obstructions such as manholes are encountered, for odd-shaped slabs and for slabs with mismatched joints.

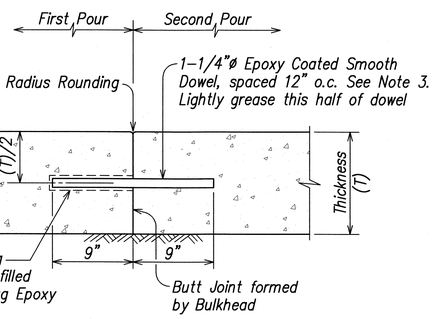


P.C.C. PAVEMENT AT CURB DETAIL

Scale: 3/4"= 1'-0"

6 | T13

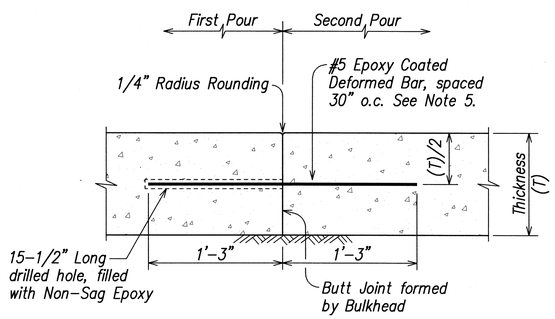
J2 to J10



TRANSVERSE CONSTRUCTION JOINT (CONTACT JOINT)

Not to Scale

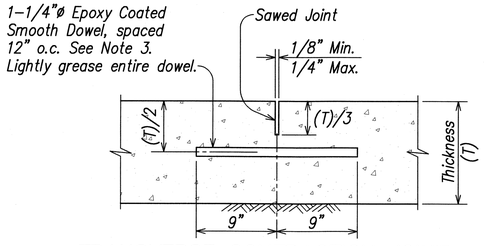
2 | T13 | T13



LONGITUDINAL CONSTRUCTION JOINT (CONTACT JOINT)

Not to Scale

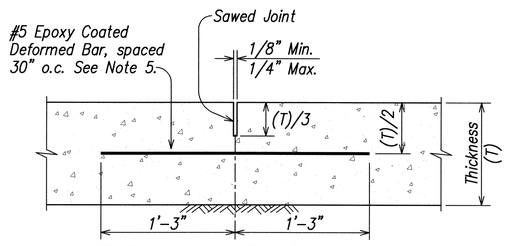
4 | T13 | T13



TRANSVERSE CONTRACTION JOINT (WEAKENED PLANE JOINT)

Not to Scale

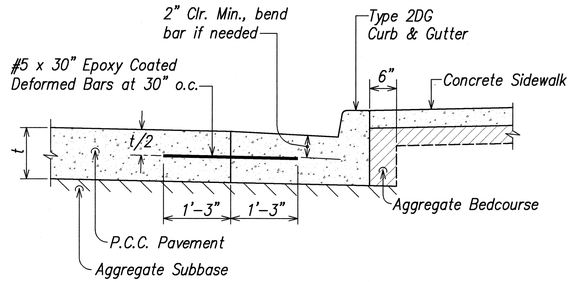
3 | T13 | T13



LONGITUDINAL CONTRACTION JOINT (WEAKENED PLANE JOINT)

Not to Scale

5 | T13 | T13



P.C.C. PAVEMENT AT CURB & GUTTER DETAIL

Scale: 3/4"= 1'-0"

7 | J1 | T13

J2 to J10

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

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

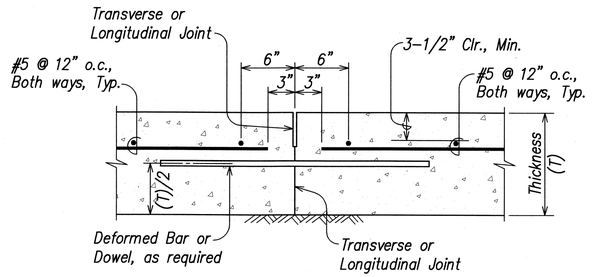
P.C.C. PAVEMENT DETAILS

KAUMUALII HIGHWAY WIDENING
Vicinity of Anonui Street to Vicinity of Lihue Mill Bridge
FEDERAL-AID PROJECT NO. NH-050-1(31)

Scale: As Noted Date: FEB. 2009

SHEET No. T13 OF T18 SHEETS

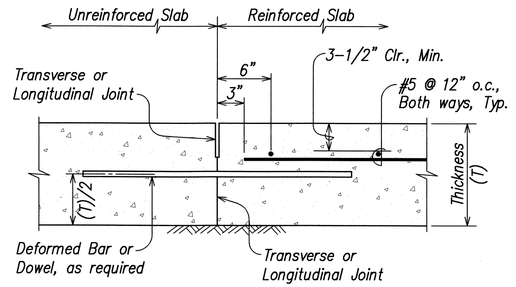
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-050-1(31)	2009	24	452



TYPICAL ODD-SHAPED P.C.C. SLAB REINFORCING (AT REINFORCED SLAB)

Not to Scale

1 | T13 | T14



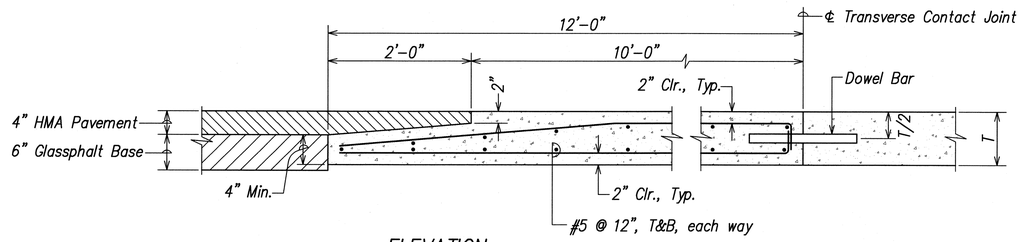
TYPICAL ODD-SHAPED P.C.C. SLAB REINFORCING (AT UNREINFORCED SLAB)

Not to Scale

2 | T13 | T14

ODD-SHAPED SLAB REINFORCING NOTES:

1. For dowel or deformed bar details and joint construction details, see applicable transverse or longitudinal joint details on Sht. T13.
2. Reinforce odd shaped slabs: Slabs with ratio of length of one side to other side greater than 1.25 or less than 0.8; slabs with unmatched (or mismatched) joints; triangular shaped slabs; or slabs with at at least one side larger than 15 feet.
3. Slabs requiring reinforcing shall be reinforced with #5 deformed bars at 1'-0" o.c., each way (transversely and longitudinally) and with 7.5#/C.Y. of structural fibers.
4. Structural fiber reinforcement shall consist of 7-1/2 pounds of "Forta Ferro", or accepted equal. Fiber shall be synthetic structural fiber made of 100% virgin copolymer/propylene consisting of a twisted bundle non-fibrillating monofilament and a fibrillating network fiber, and shall conform to ASTM C 1116 and ACI 544.
5. Chairs and additional reinforcing required for support are not shown on the details, but shall be considered incidental to the Reinforcing.
6. Contractor shall verify the dimensions of odd-shaped slabs prior to fabrication of reinforcing mats.

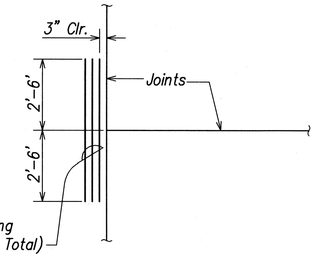


ELEVATION

TYPICAL P.C.C. PAVEMENT TO HMA PAVEMENT TRANSITION PANEL DETAIL

Scale: 1" = 1'-0"

3 | T13 | T14



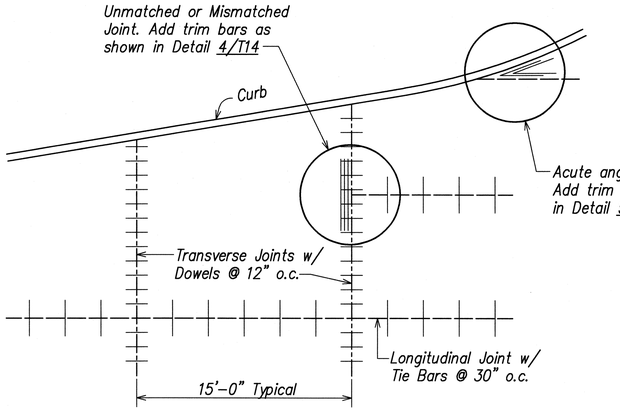
For P.C.C.:
3 - #5 x 5'-0" long @ 3" o.c., T&B, (6 Total)

For U.T.W.:
2 - #4 x 3'-0" long @ 3" o.c., Mid-Depth (2 Total)

TYPICAL TRIM BAR DETAIL AT UNMATCHED OR MISMATCHED JOINTS

Not to Scale

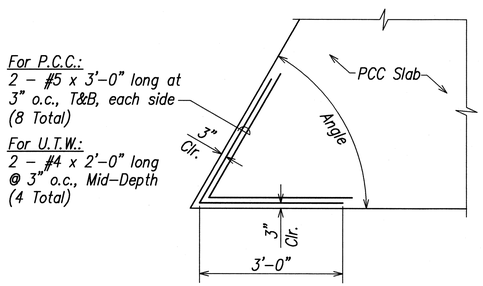
4 | T14 | T14



TYPICAL ADDED TRIM BAR DETAIL

Not to Scale

6 | T14 | T14



For P.C.C.:
2 - #5 x 3'-0" long at 3" o.c., T&B, each side (8 Total)

For U.T.W.:
2 - #4 x 2'-0" long @ 3" o.c., Mid-Depth (4 Total)

TYPICAL TRIM BAR DETAIL AT ACUTE ANGLE (ANGLE < 70°)

Not to Scale

5 | T14 | T14

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
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	DESIGNED BY	
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No.	CHECKED BY	

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LICENSE EXPIRES 4-30-10

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

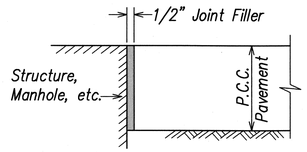
P.C.C. PAVEMENT DETAILS

KAUMUALII HIGHWAY WIDENING
Vicinity of Anonui Street to Vicinity of Lihue Mill Bridge
FEDERAL-AID PROJECT NO. NH-050-1(31)

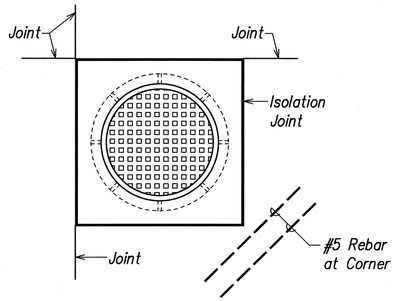
Scale: As Noted Date: FEB. 2009

SHEET No. T14 OF T18 SHEETS

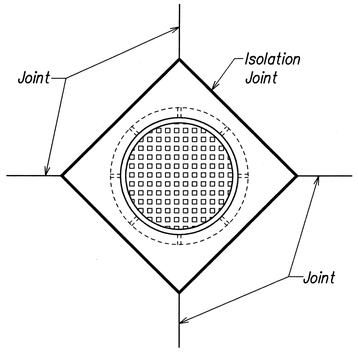
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-050-1(31)	2009	25	452



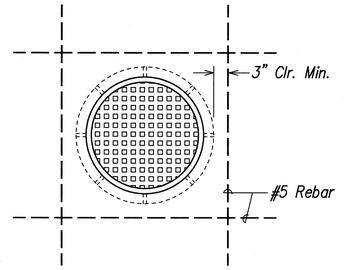
ISOLATION JOINT DETAIL (1 / T13 | T15)
Not to Scale



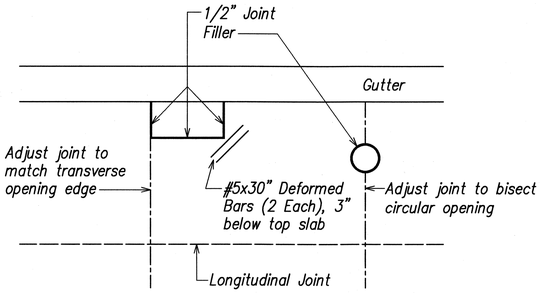
SQUARE BOXOUT



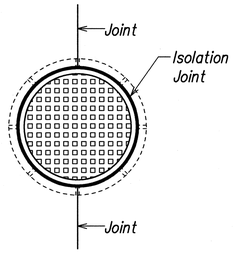
DIAMOND BOXOUT



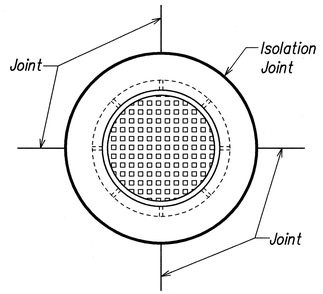
REINFORCED PANEL



OPENINGS NEAR JOINTS DETAIL (2 / T13 | T15)
Not to Scale



NO BOXOUT
(Isolation Around Manhole)

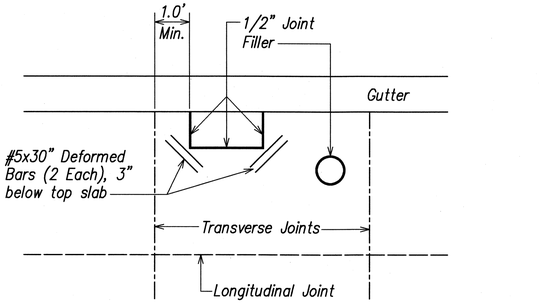


CIRCULAR BOXOUT

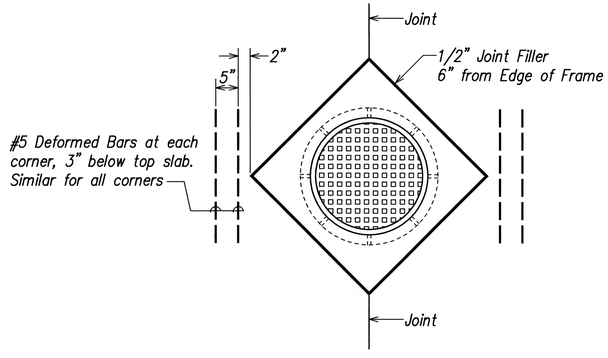
MANHOLE COVER BOXOUT DETAILS (4 / T13 | T15)
Scale: 3/4" = 1'-0"

Notes:

1. Isolation joints shall be 1/2" wide, unless otherwise noted, and filled with joint fillter.
2. Boxouts shall be large enough to provide 12" clearance between the structure and surrounding isolation joint.
3. Boxout details for rectangular inlets, pullboxes, or other structures shall be similar.
4. All boxout details are applicable to boxouts on both P.C.C. pavement and U.T.W. pavement.



OPENINGS AWAY FROM JOINTS DETAIL (3 / T13 | T15)
Not to Scale



OPENINGS WITH CORNERS – CORNERS AT A JOINT DETAIL (5 / T13 | T15)
Not to Scale

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

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LICENSE EXPIRES 4-30-10

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

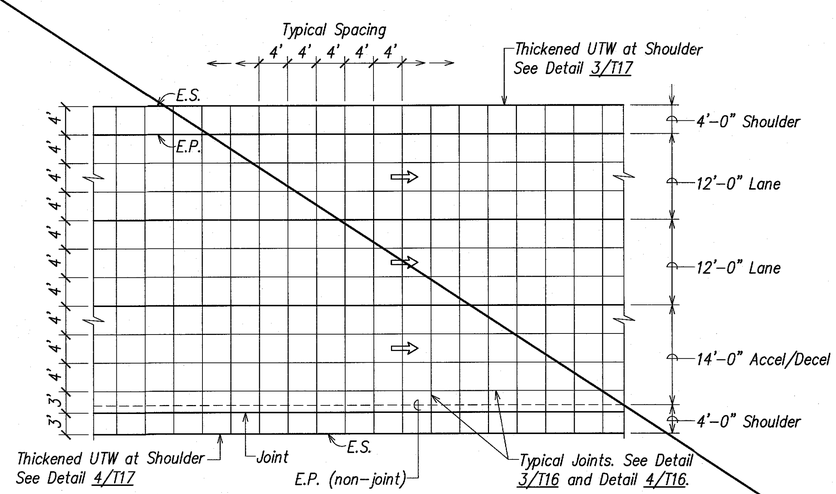
ISOLATION JOINT DETAILS

KAUMUALII HIGHWAY WIDENING
Vicinity of Anonui Street to Vicinity of Lihue Mill Bridge
FEDERAL-AID PROJECT NO. NH-050-1(31)

Scale: As Noted
Date: FEB. 2009

SHEET No. T15 OF T18 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-050-1(31)	2009	26	452

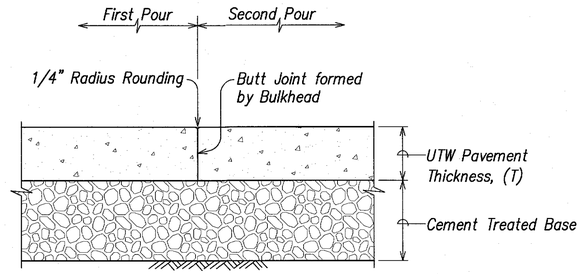


TYPICAL U.T.W. PAVEMENT (NON-CURBED AREAS)
JOINT LOCATION AND LAYOUT PLAN
Scale: 1"= 10'

1 | T16 | J1, J2

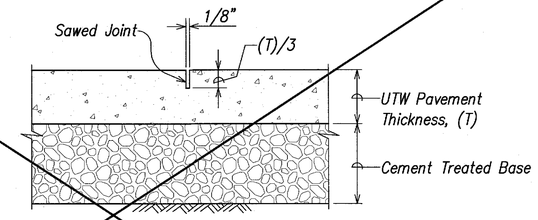
TYPICAL U.T.W. PAVEMENT (CURBED AREAS)
JOINT LOCATION AND LAYOUT PLAN
Scale: 1"= 10'

2 | T16 | J4, J5



TRANSVERSE OR LONGITUDINAL CONSTRUCTION
JOINT (CONTACT JOINT)
Not to Scale

3 | T16 | T16



TRANSVERSE OR LONGITUDINAL CONTRACTION
JOINT (WEAKENED PLANE JOINT)
Not to Scale

4 | T16 | T16

N. I. C.

NOTES FOR U.T.W. PAVEMENT:

1. In general, longitudinal joints shall be at and parallel to lane lines, and transverse joints shall be perpendicular to the longitudinal joints.
2. Typical joint spacing shall be 4 feet, except where noted, and for areas where pavement width transitions occur.
3. Width to length ratio shall range between 0.80 to 1 and 1.25 to 1, unless otherwise specified, based on typical length of 4 feet (typical spacing). UTW slabs with dimensions outside this range are considered irregular shaped blocks or panels.
4. Triangular shaped blocks or panels are not allowed without acceptance by the Engineer.
5. Provide shop drawings of proposed joint layout to Engineer for review and acceptance. UTW construction shall not begin until shop drawings are accepted by Engineer. Shop drawings shall show proposed jointing layout at areas with penetrations and objects within the UTW (manhole covers, pullboxes, valves, etc.), and at areas with irregular shaped panels. Vary size of blocks/panels formed by joints shall when needed to minimize irregular shapes and eliminate longitudinal joints in wheel path. This work shall not be paid for seperately, but shall be considered incidental to the various contract items.
6. Longitudinal joints shall not be placed at the location of vehicle wheelpath travel.
7. Sawcuts for joints shall be 1/8" wide and depth shall be 1/3 of slab thickness.

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

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

GLENN K. IKEDA
LICENSED PROFESSIONAL ENGINEER
No. 8328-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

ParEn, Inc.
dba PARK ENGINEERING
LICENSE EXPIRES 4-30-16

STATE OF HAWAI'I
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

U.T.W. PAVEMENT DETAILS

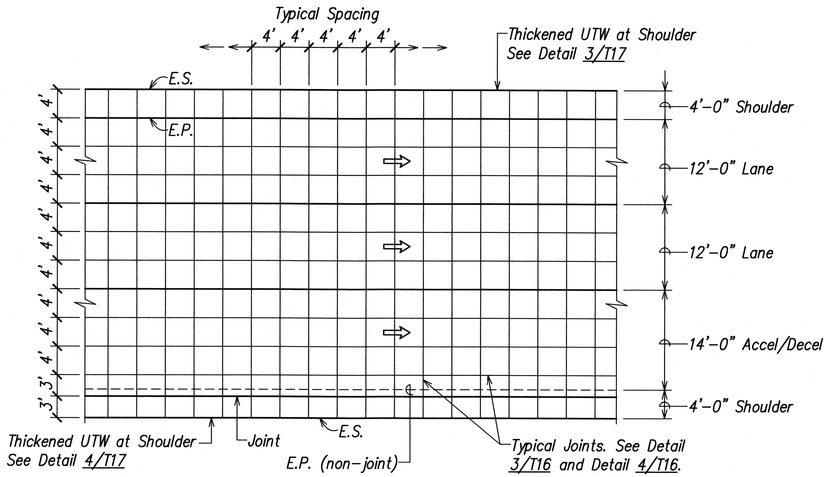
KAUMUALI'I HIGHWAY WIDENING
Vicinity of Anonui Street to Vicinity of Lihu'e Mill Bridge
FEDERAL-AID PROJECT NO. NH-050-1(31)

Scale: As Noted Date: JAN. 2010

SHEET No. T16 OF T18 SHEETS

"AS-BUILT"

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-050-1(31)	2009	26	452

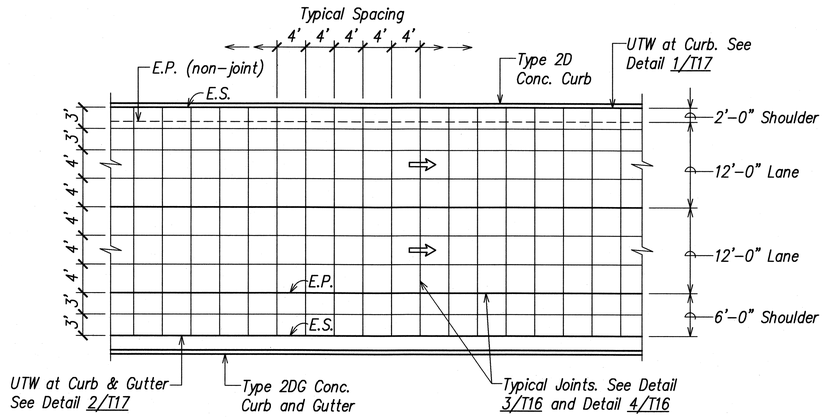


TYPICAL U.T.W. PAVEMENT (NON-CURBED AREAS) JOINT LOCATION AND LAYOUT PLAN

Scale: 1"= 10'

1 / T16

J1, J2

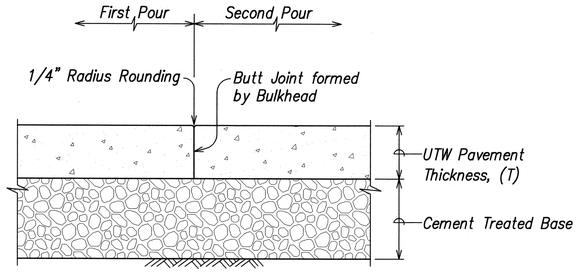


TYPICAL U.T.W. PAVEMENT (CURBED AREAS) JOINT LOCATION AND LAYOUT PLAN

Scale: 1"= 10'

2 / T16

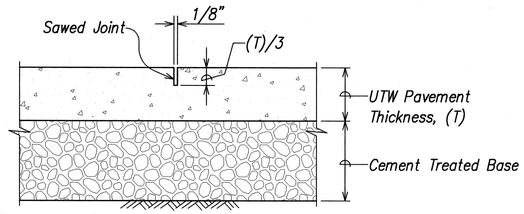
J4, J5



TRANSVERSE OR LONGITUDINAL CONSTRUCTION JOINT (CONTACT JOINT)

Not to Scale

3 / T16 | T16



TRANSVERSE OR LONGITUDINAL CONTRACTION JOINT (WEAKENED PLANE JOINT)

Not to Scale

4 / T16 | T16

NOTES FOR U.T.W. PAVEMENT:

1. In general, longitudinal joints shall be at and parallel to lane lines, and transverse joints shall be perpendicular to the longitudinal joints.
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6. Longitudinal joints shall not be placed at the location of vehicle wheelpath travel.
7. Sawcuts for joints shall be 1/8" wide and depth shall be 1/3 of slab thickness.

ORIGINAL PLAN | NOTE BOOK | No.

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

L:\82- STATE\DOT\KAUMUALI-I\PHASE1A REVISION\PLANS\KHWY0-T16-UTWDET1.dwg 2/06/09

GLENN K. IKEDA LICENSED PROFESSIONAL ENGINEER No. 8328-C HAWAII, U.S.A.

2-26-09

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Glenn K. Ikeda

ParEn, Inc. dba PARK ENGINEERING LICENSE EXPIRES 4-30-10

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

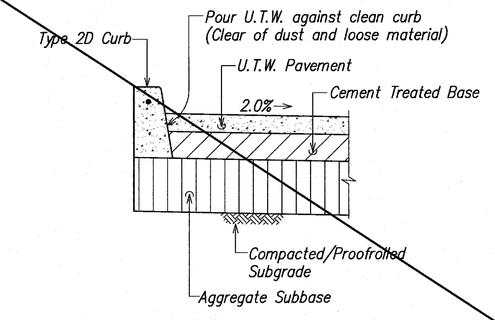
U.T.W. PAVEMENT DETAILS

KAUMUALII HIGHWAY WIDENING
Vicinity of Anonui Street to Vicinity of Lihue Mill Bridge
FEDERAL-AID PROJECT NO. NH-050-1(31)

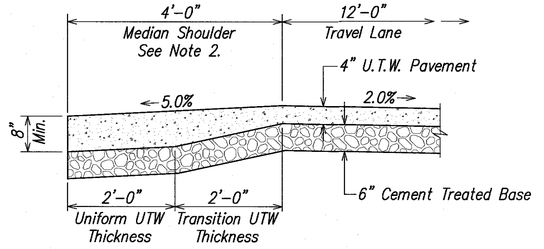
Scale: As Noted | Date: FEB. 2009

SHEET No. T16 OF T18 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-050-1(31)	2009	27	452

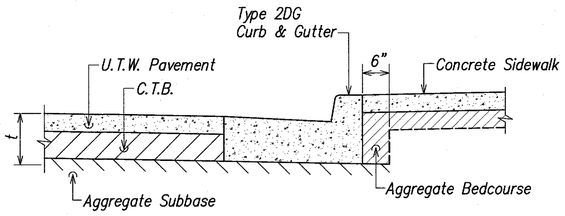


U.T.W. PAVEMENT AT CURB DETAIL (1)
Scale: 3/4"= 1'-0"

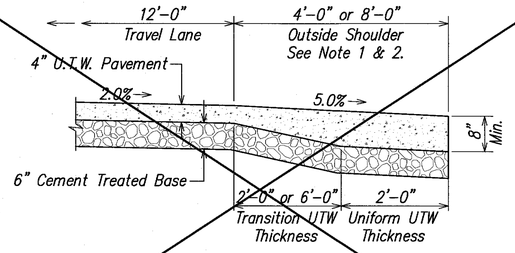


THICKENED U.T.W. AT EDGE OF MEDIAN SHOULDER (3)
Scale: 3/4"= 1'-0"

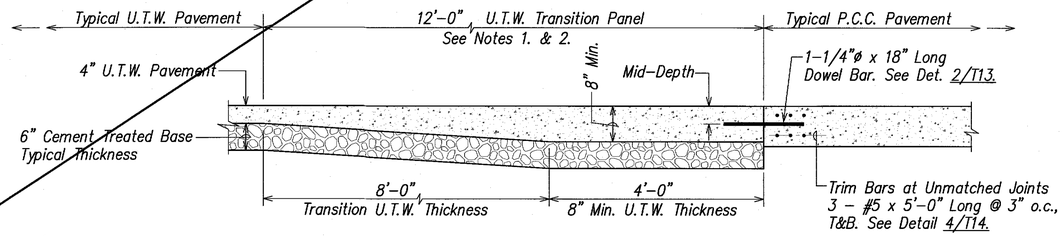
N.I.C.



U.T.W. PAVEMENT AT CURB & GUTTER DETAIL (2)
Scale: 3/4"= 1'-0"



THICKENED U.T.W. AT EDGE OF OUTSIDE SHOULDER (4)
Scale: 3/4"= 1'-0"



ELEVATION

Notes:
1. Sawcut 1/8" wide joints at 4' interval, transversely and longitudinally, depth to 1/3 slab thickness.
2. Thickened edge at shoulders and thickening of UTW slab within transition panel shall be considered incidental to Item No. 418.0040 – Ultra-Thin Whitetopping.

TYPICAL U.T.W. PAVEMENT TO P.C.C. PAVEMENT TRANSITION PANEL DETAIL (5)
Scale: 3/4"= 1'-0"
J1, J2, J4, J5

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

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

GLENN K. IKEDA
LICENSED PROFESSIONAL ENGINEER
No. 8328-C
HAWAII U.S.A.

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PerEn, Inc.
dba PARK ENGINEERING
LICENSE EXPIRES 4-30-16

STATE OF HAWAI'I
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

U.T.W. PAVEMENT DETAILS

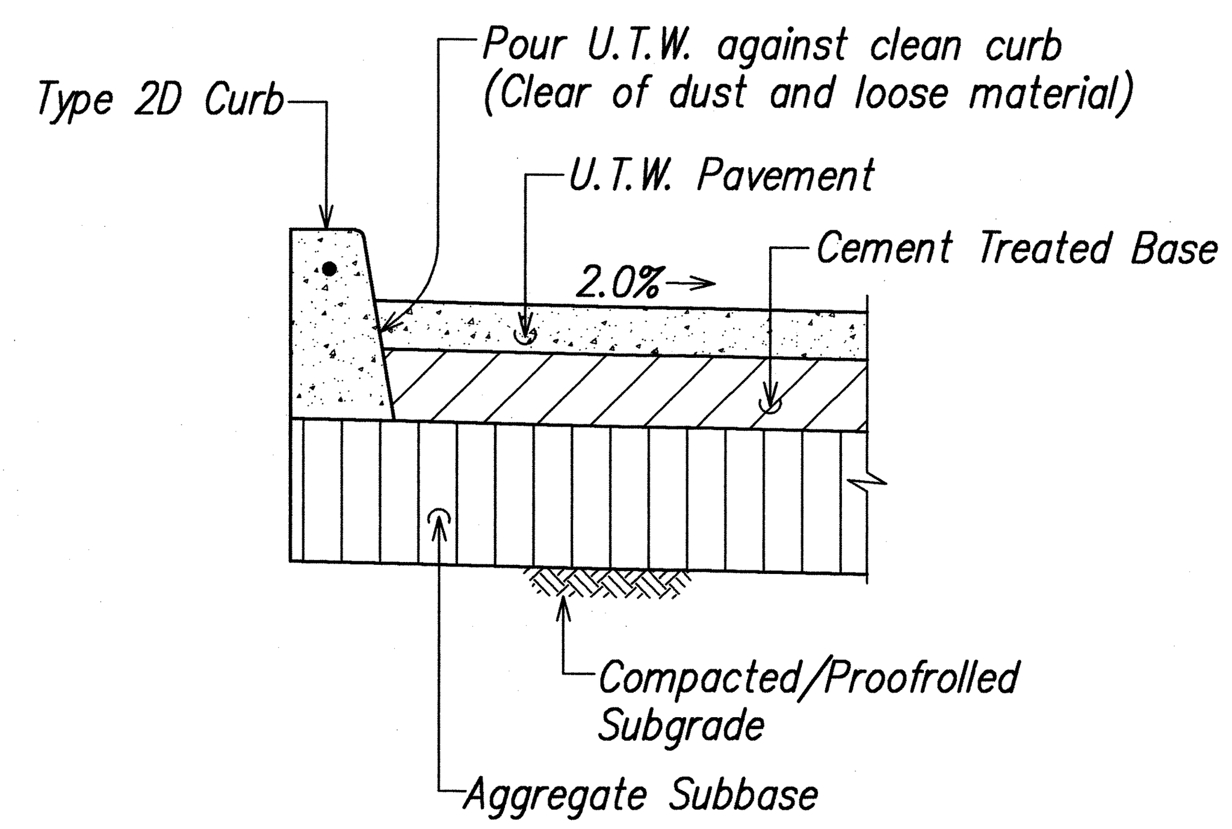
KAUMUALI'I HIGHWAY WIDENING
Vicinity of Anonui Street to Vicinity of Lihu'e Mill Bridge
FEDERAL-AID PROJECT NO. NH-050-1(31)

Scale: As Noted | Date: JAN. 2010

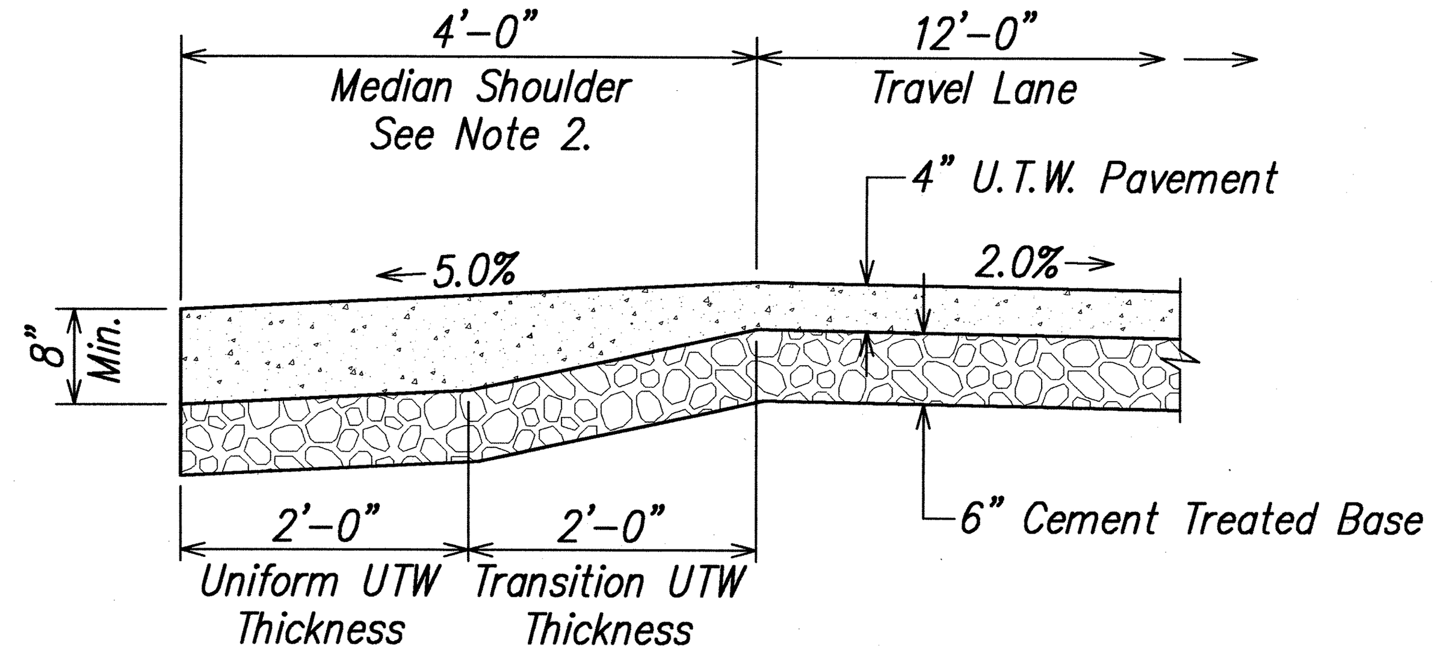
SHEET No. T17 OF T18 SHEETS

"AS-BUILT"

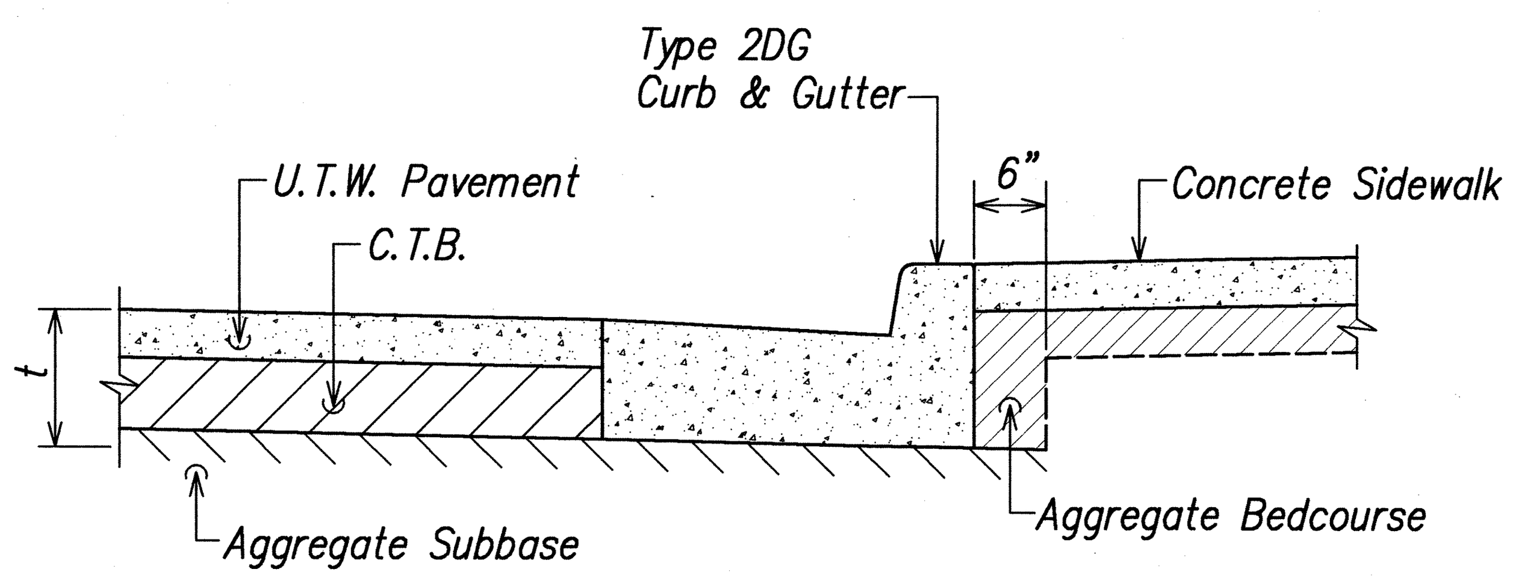
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-050-1(31)	2009	27	452



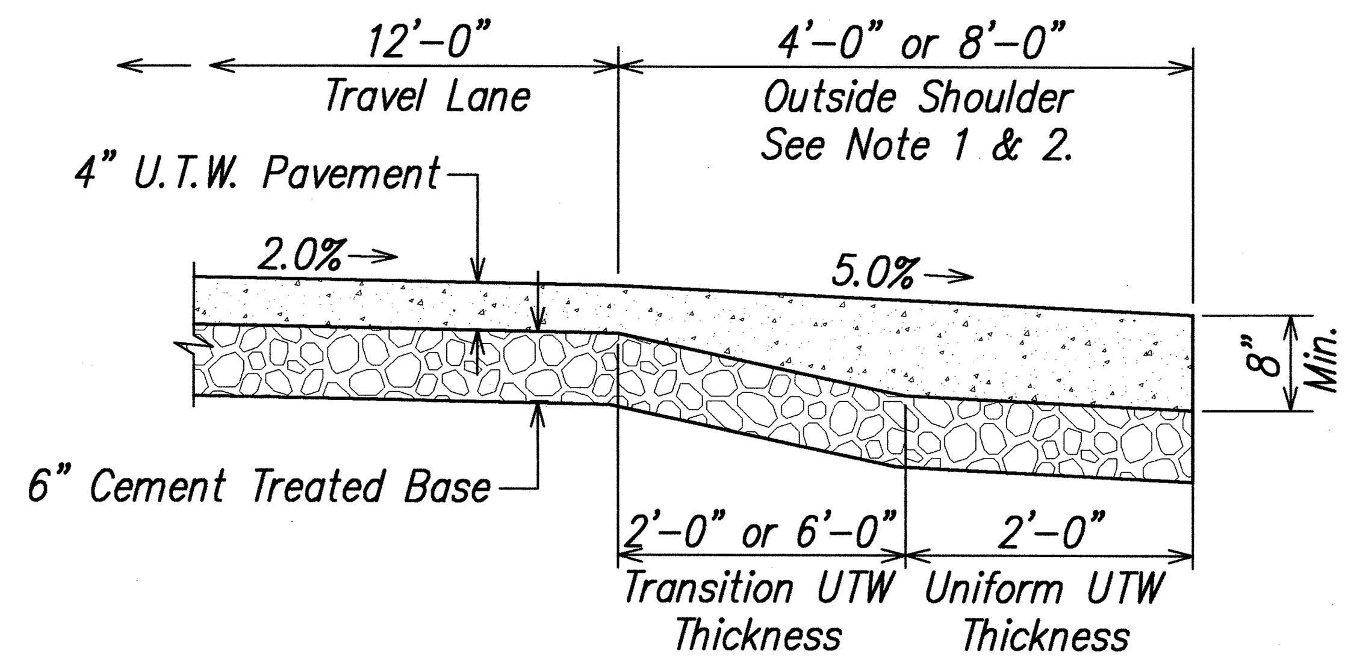
U.T.W. PAVEMENT AT CURB DETAIL (1 — T16 | T17)
Scale: 3/4"= 1'-0"



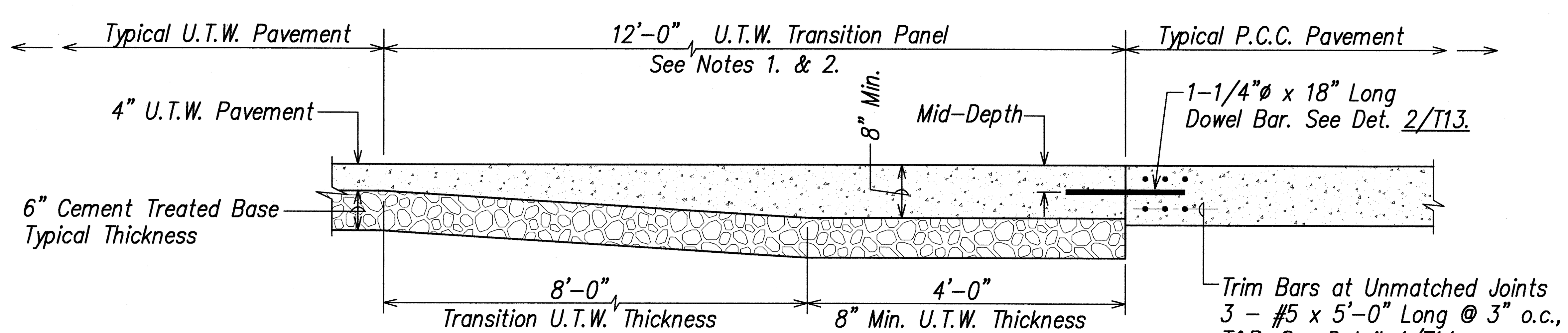
THICKENED U.T.W. AT EDGE OF MEDIAN SHOULDER (3 — T16 | T17)
Scale: 3/4"= 1'-0"



U.T.W. PAVEMENT AT CURB & GUTTER DETAIL (2 — T16 | T17)
Scale: 3/4"= 1'-0"



THICKENED U.T.W. AT EDGE OF OUTSIDE SHOULDER (4 — T16 | T17)
Scale: 3/4"= 1'-0"



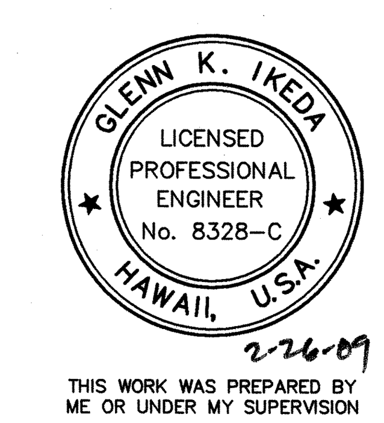
ELEVATION

Notes:

1. Sawcut 1/8" wide joints at 4' interval, transversely and longitudinally, depth to 1/3 slab thickness.
2. Thickened edge at shoulders and thickening of UTW slab within transition panel shall be considered incidental to Item No. 418.0040 – Ultra-Thin Whitetopping.

TYPICAL U.T.W. PAVEMENT TO P.C.C. PAVEMENT TRANSITION PANEL DETAIL (5 — T17)
Scale: 3/4"= 1'-0"
J1, J2, J4, J5

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



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ParEn, Inc.
dba PARK ENGINEERING
LICENSE EXPIRES 4-30-10

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

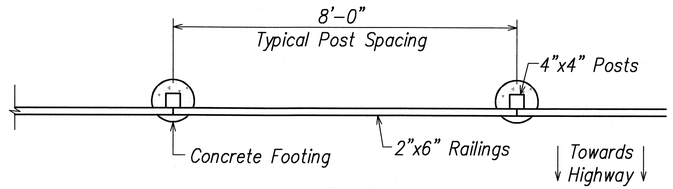
U.T.W. PAVEMENT DETAILS

KAUMUALII HIGHWAY WIDENING
Vicinity of Anonui Street to Vicinity of Lihue Mill Bridge
FEDERAL-AID PROJECT NO. NH-050-1(31)

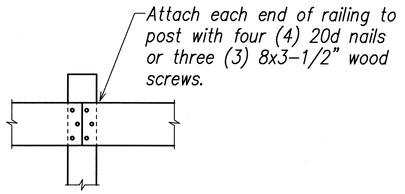
Scale: As Noted Date: FEB. 2009

SHEET No. T17 OF T18 SHEETS

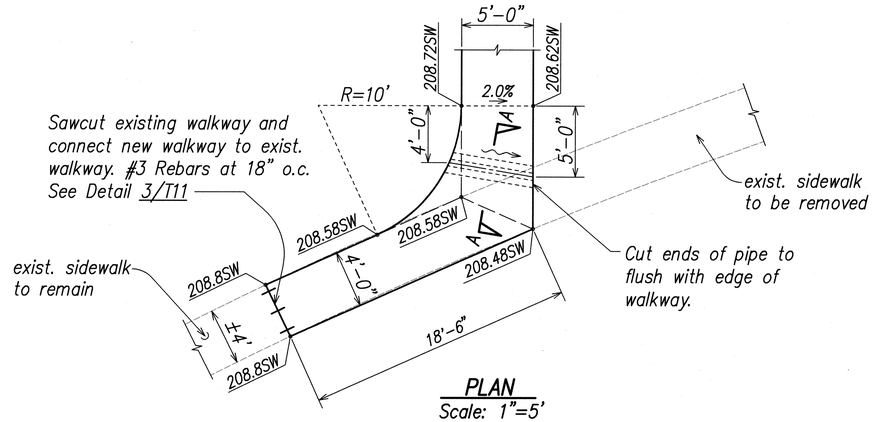
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-050-1(31)	2009	28	452



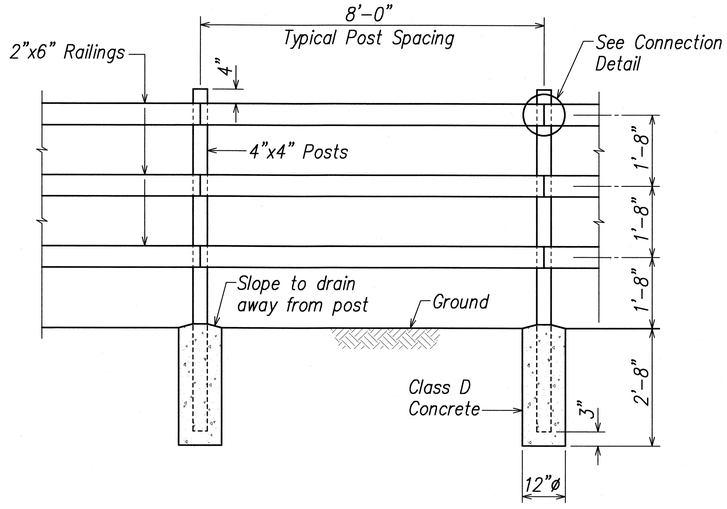
PLAN
Scale: 1"=5'



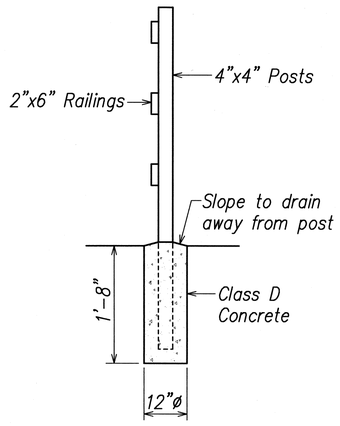
CONNECTION DETAIL



PLAN
Scale: 1"=5'



ELEVATION
Scale: 1"=5'

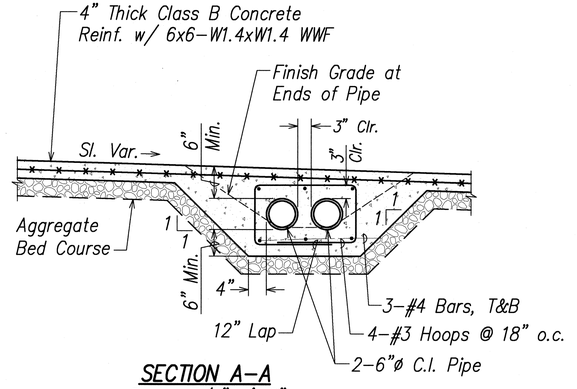


SECTION
Scale: 1"=5'

Wood Fence Notes:

1. All nails and connectors shall be galvanized.
2. All wood posts and board railings shall be pressure-treated lumber.
3. After wood fence is erected, paint all exposed surfaces with exterior paint, white in color.

WOOD POST & BOARD FENCE (VICINITY OF KILOHANA) 1 / T18
Not to Scale
C1 to C4, C6, C9, C10



SECTION A-A
Scale: 3/4"=1'-0"

PIPES UNDER SIDEWALK (VICINITY OF HALA ROAD) 2 / C10 T18
Scale As Noted

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

L:\82- STATE\DOT\KAUMUALII-1\PHASE1A REVISION\PLANS\ KHWG-028-DET1.dwg 11/10/08

GLENN K. IKEDA — LICENSED PROFESSIONAL ENGINEER No. 8328-C — HAWAII, U.S.A.
2-26-09
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
ParEn, Inc. dba PARK ENGINEERING
LICENSE EXPIRES 4-30-10

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

MISCELLANEOUS DETAILS

KAUMUALII HIGHWAY WIDENING
Vicinity of Anonui Street to Vicinity of Lihue Mill Bridge
FEDERAL-AID PROJECT NO. NH-050-1(31)

Scale: As Noted — Date: FEB. 2009

SHEET No. T18 OF T18 SHEETS