

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	7101A-02-98	2000	12	22

INDEX TO DRAWINGS	
SHEET NO.	DESCRIPTION
R1	INDEX, GENERAL NOTES, ABBREVIATIONS AND SYMBOLS
R2	LAYOUT PLAN
R3	TYPICAL SECTION OF TYPE "T" AND TYPE "L" RETAINING WALL
R4	PLAN, SECTIONS AND TYPICAL JOINT DETAILS
R5	LEFT RETURN WALL SECTION
R6	RIGHT RETURN WALL PLAN AND SECTIONS
R7	RIGHT RETURN WALL SECTION
R8	TYPICAL SECTIONS - EXCAVATION AND BACKFILL LIMITS
R9	CONCRETE RAMP DETAILS

GENERAL NOTES

DESIGN SPECIFICATIONS - AASHTO:

1. AASHTO LRFD Bridge Design Specifications, 1998, with 1999 interim revisions.

MATERIALS:

1. Reinforced concrete: $f'c = 4,000$ psi
2. Reinforcing steel: ASTM A 615, Grade 60.
3. Admixture in concrete: See Special Provisions
4. All expansion, premolded joint filler and flashing material shall be incidental to concrete and will not be paid for separately.

CONSTRUCTION METHODS:

1. Refer to Hawaii Standard Specifications for Road, Bridge and Public Works Construction, 1994 Edition and Special Provisions.
2. Except as noted otherwise, all dimensions are measured plumb.
3. For concrete finish, see Special Provisions.
4. Steel reinforcing shall be supported, bent and placed as per the ACI Detailing Manual, 1994.
5. The minimum cover measured from the surface of the concrete to the face of any reinforcing bars shall be as follows, except as noted otherwise:
a. Concrete cast or finished to a smooth surface: 2"
b. Concrete cast against and permanently exposed to earth: 3"
6. At time concrete is placed, reinforcing shall be free from mud, oil, laitance or other coatings adversely affecting bond capacity.
7. Reinforcement, dowels and other embedded items shall be positively secured before pouring.
8. All dimensions relating to reinforcing bars (e.g. spacing of bars, etc.) are to centers of bars unless noted otherwise.

REFERENCE:

1. Refer to Standard Plans for additional details and notes not covered by details and typical drawings.

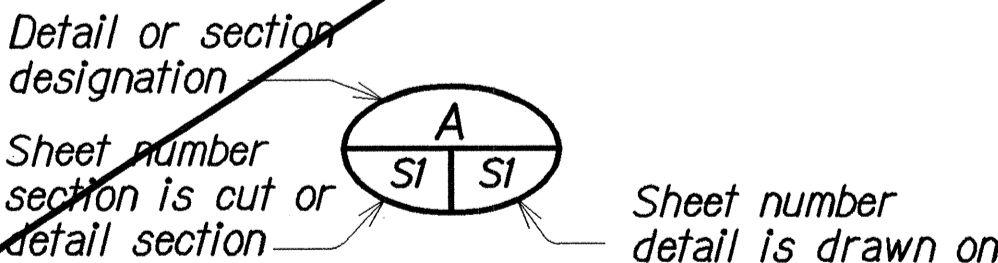
GENERAL:

1. All items noted incidental will not be paid for separately.
2. The Contractor shall verify the locations of all existing utility lines and notify their respective owners before commencing with any work.
3. The Contractor shall verify all grades and dimensions in the field before commencing with any work.
4. The Contractor shall be solely responsible for the protection of adjacent property, utilities and existing and new structures from damage due to construction. Repairing any damage shall be at the Contractor's own expense, to the satisfaction of the Engineer. He shall conduct his work in such a manner and provide such temporary shoring or other measures as may be necessary to insure the safety of all concerned and to protect existing structures.
5. Unless noted otherwise, chamfer all exposed concrete edges three-quarters ($\frac{3}{4}$) of an inch.
6. 4" PVC drains shall be provided in retaining walls @ 8' o/c max. spacing. PVC drains shall be considered incidental to concrete in retaining wall.
7. Demolition and removal of existing 8" CMU tile wall and ftg. foundation shall be considered incidental to structural excavation for retaining wall.
8. For soil design parameters, see Reference Report O-435 by Soils Engineering And Pavement Design Section, Materials Testing And Research Branch.

ABBREVIATIONS

AB	Anchor Bolt	FF	Front Face	PL	Plate
Abut.	Abutment	Fin.	Finish		
Alum.	Aluminum	Ga.	Gage, gauge	R	Radius
Approx.	Approximate	Galv.	Galvanized	Rdwy.	Roadway
¢	Baseline	gdi	Exist. grated drop inlet	Ref.	Reference
Bal.	Balance	Gr.	Grade	Req'd	Required
Beg.	Begin, Beginning			Reinf.	Reinforcing
Bm.	Beam	Horiz.	Horizontal	sdmh	Exist. storm drain manhole
Brg., Brgs.	Bearing, Bearings	HS	High Strength	Sect.	Section
¢	Center line	IB	Inbound	Shld.	Shoulder
CBC	Concrete Box Culvert	Jt.	Joint	Sht.	Sheet
cdi	Exist. conc. drop inlet			Spes.	Spaces
Cl.	Clear	L	Length	Spog.	Spacing
Col.	Column	LC	Length of Curve	Sta.	Station
Conc.	Concrete	Lg.	Long	Std.	Standard
Cont.	Continuous	Longit.	Longitudinal	Struct.	Structural
CR	Corrosion Resistant	Max.	Maximum	Str.	Structure
Det.	Detail	Min.	Minimum	T#B	Top and Bottom
Dia.	Diameter	No.	Number	Thk.	Thick
Diag.	Diagonal	NIC	Not In Contract	TS	Tubular Steel
Ea.	Each			Typ.	Typical
EF	Each Face				
EP	Edge of Pavement	oc	On Center	Vert.	Vertical
Eq.	Equal	OB	Outbound	w/	with
Exist.	Existing	OD	Outside Dimension		
Exp.	Expansion				

SYMBOLS



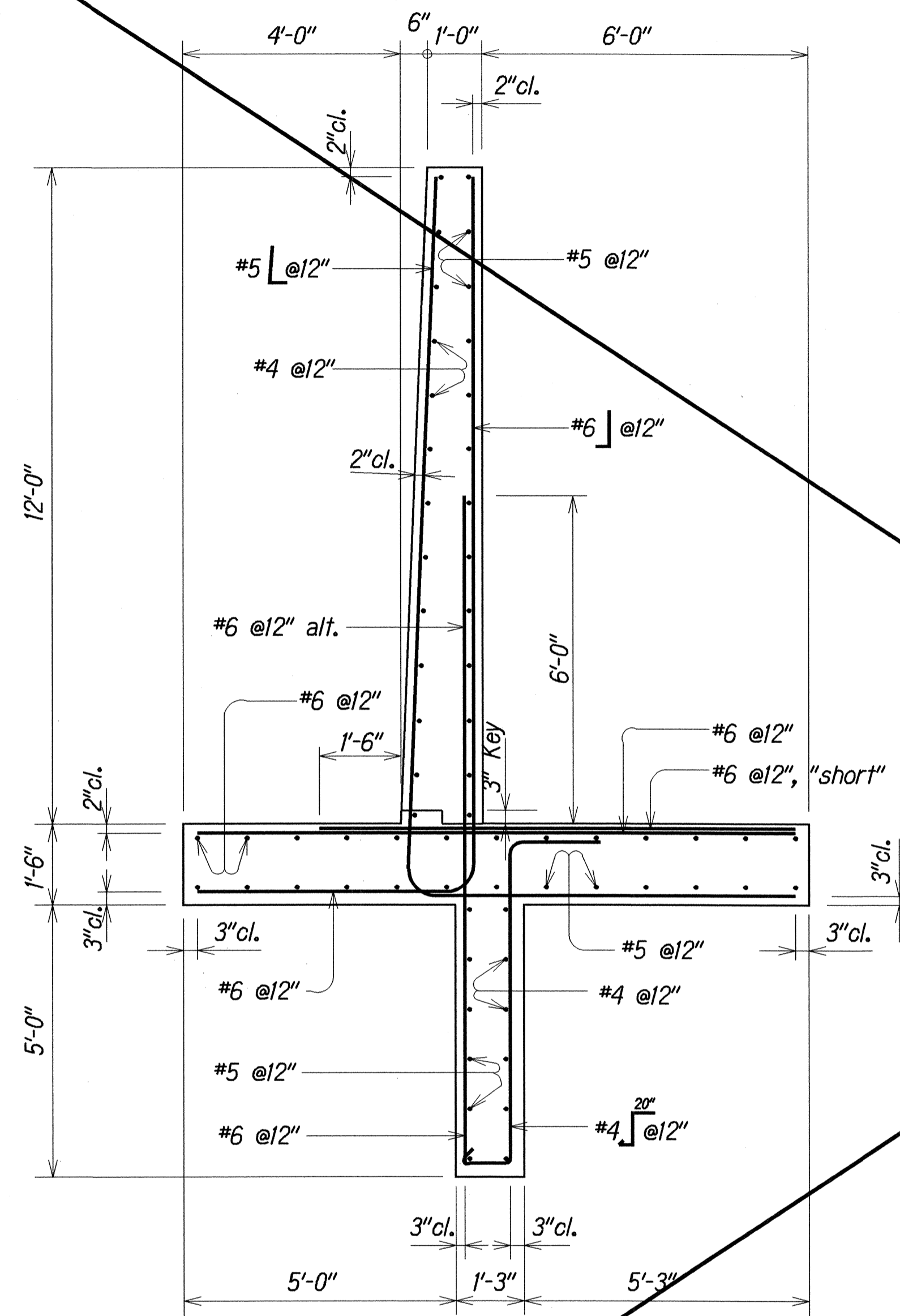
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Apr. 2003 Sht. Nos. R1 - R9 has been replaced by VECF drawings Sht. Nos. S1 - S8.

DATE	REVISIONS
	STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION RETAINING WALL INDEX, GENERAL NOTES ABBREVIATIONS AND SYMBOLS FARRINGTON HWY. RET. WALL ABOVE WAIPIAH H.S. ATHLETIC FIELD Project No. 7101A-02-98 Scale: As Noted Date: Apr. 2000

SHEET No. R1 OF 9 SHEETS

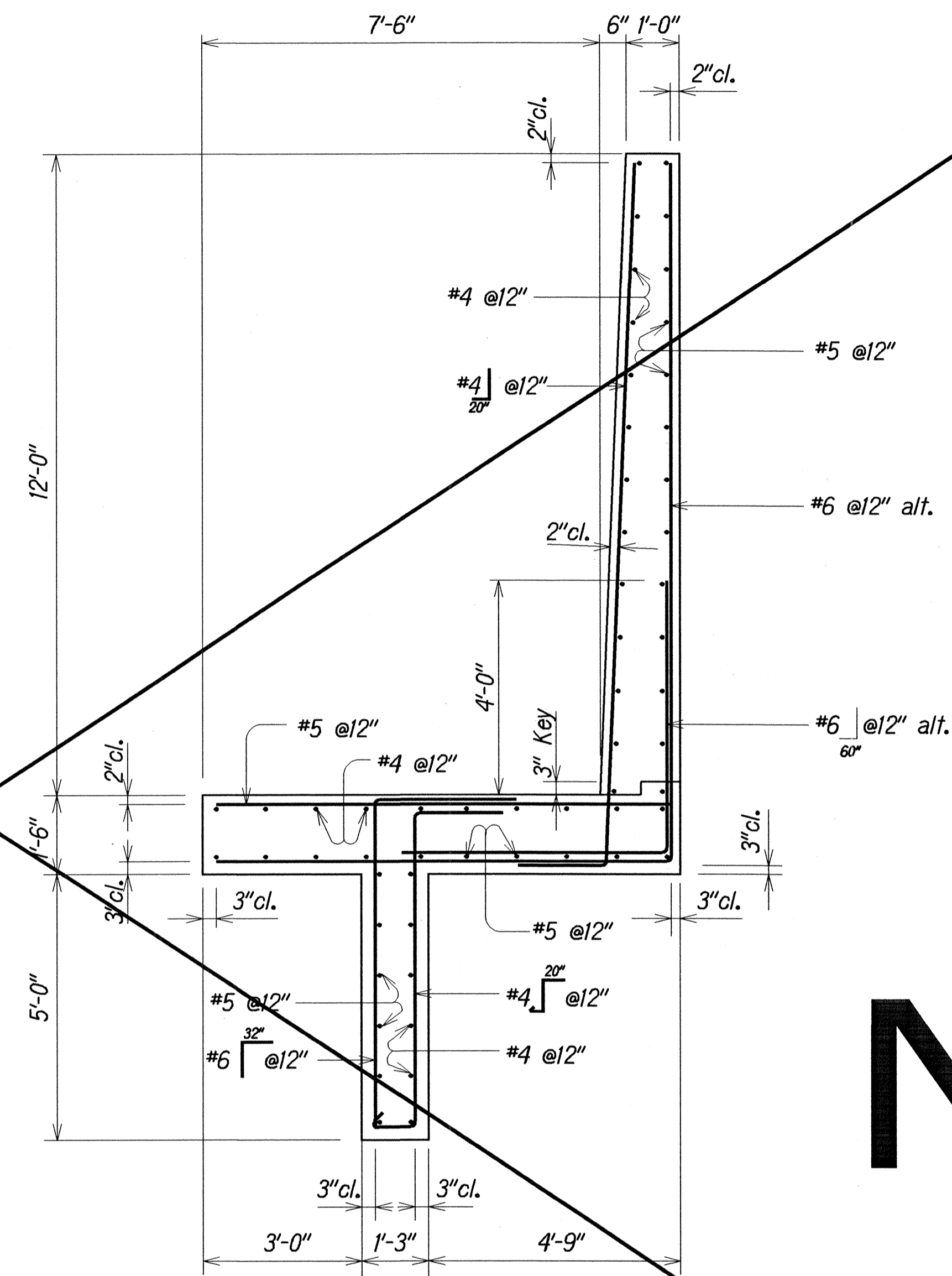
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	7101A-02-98	2000	14	22



SECTION A

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

(TYPE "T" RETAINING WALL)



SECTION B

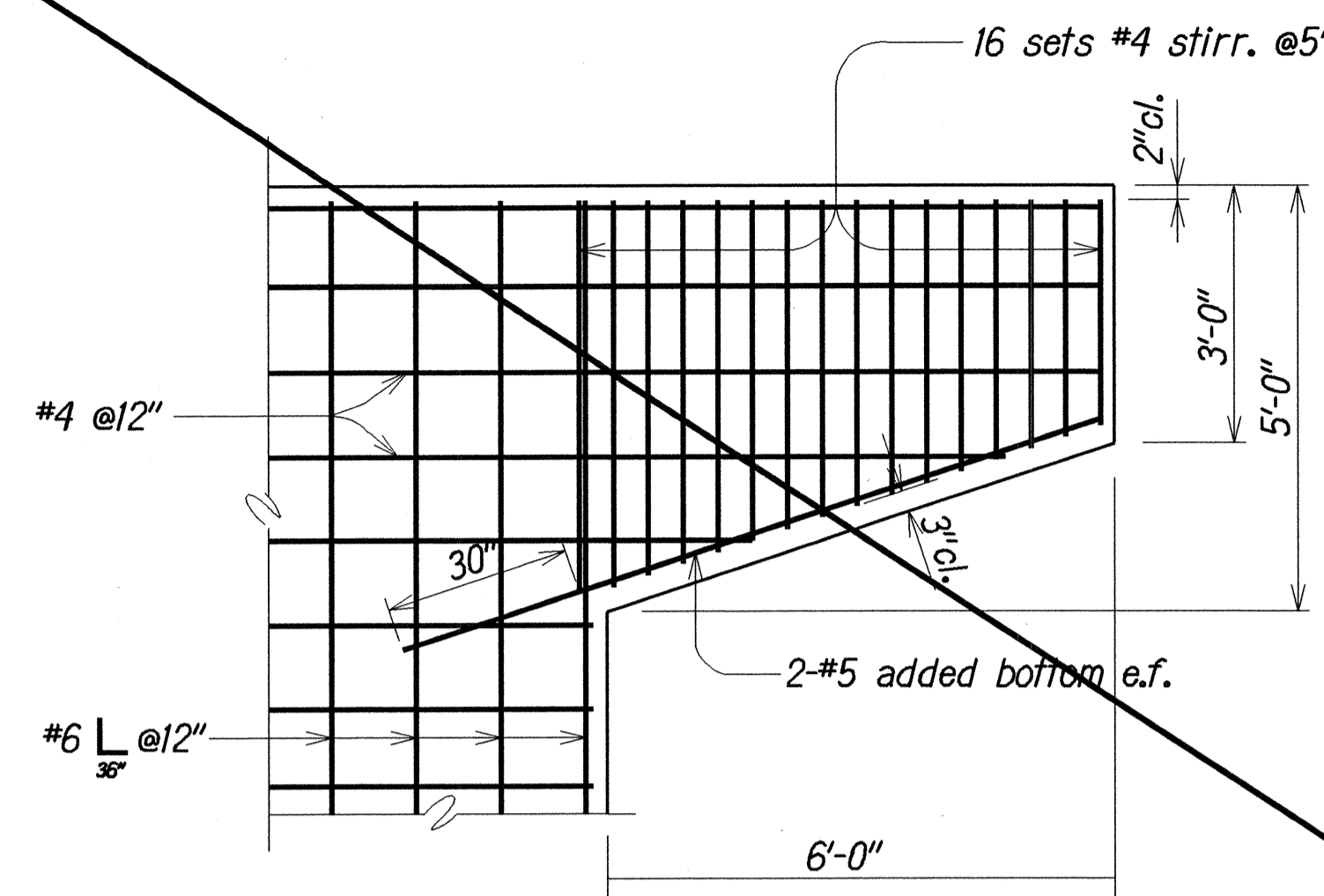
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(TYPE "L" RETAINING WALL)

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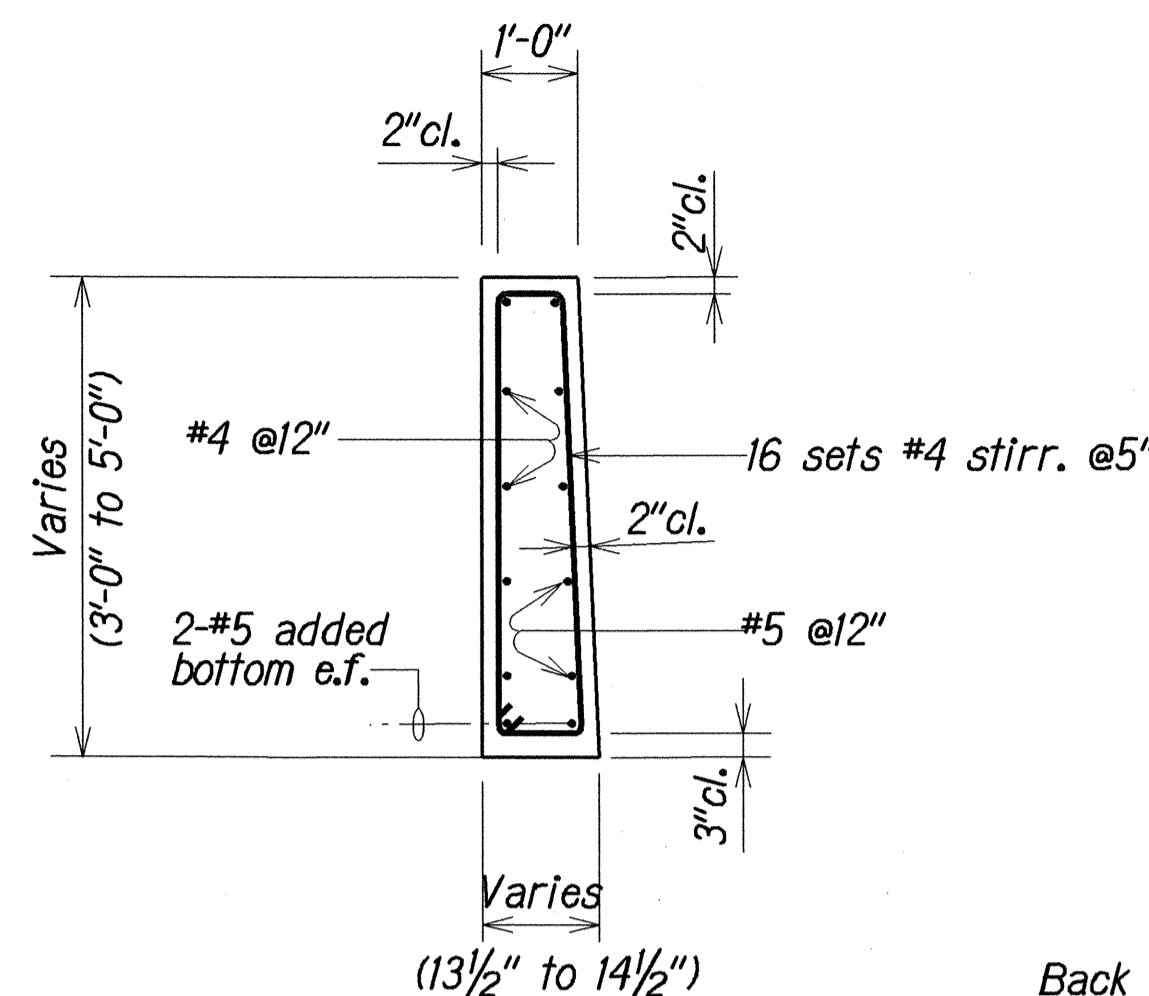
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
RETAINING WALL
TYPICAL SECTIONS OF TYPE "T"
AND TYPE "L" RETAINING WALL
FARRINGTON HWY. RET. WALL ABOVE WAIPIHU H.S. ATHLETIC FIELD
Project No. 7101A-02-98
Scale: As Noted Date: Apr. 2000
SHEET No. R3 OF 9 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	7101A-02-98	2000	15	22



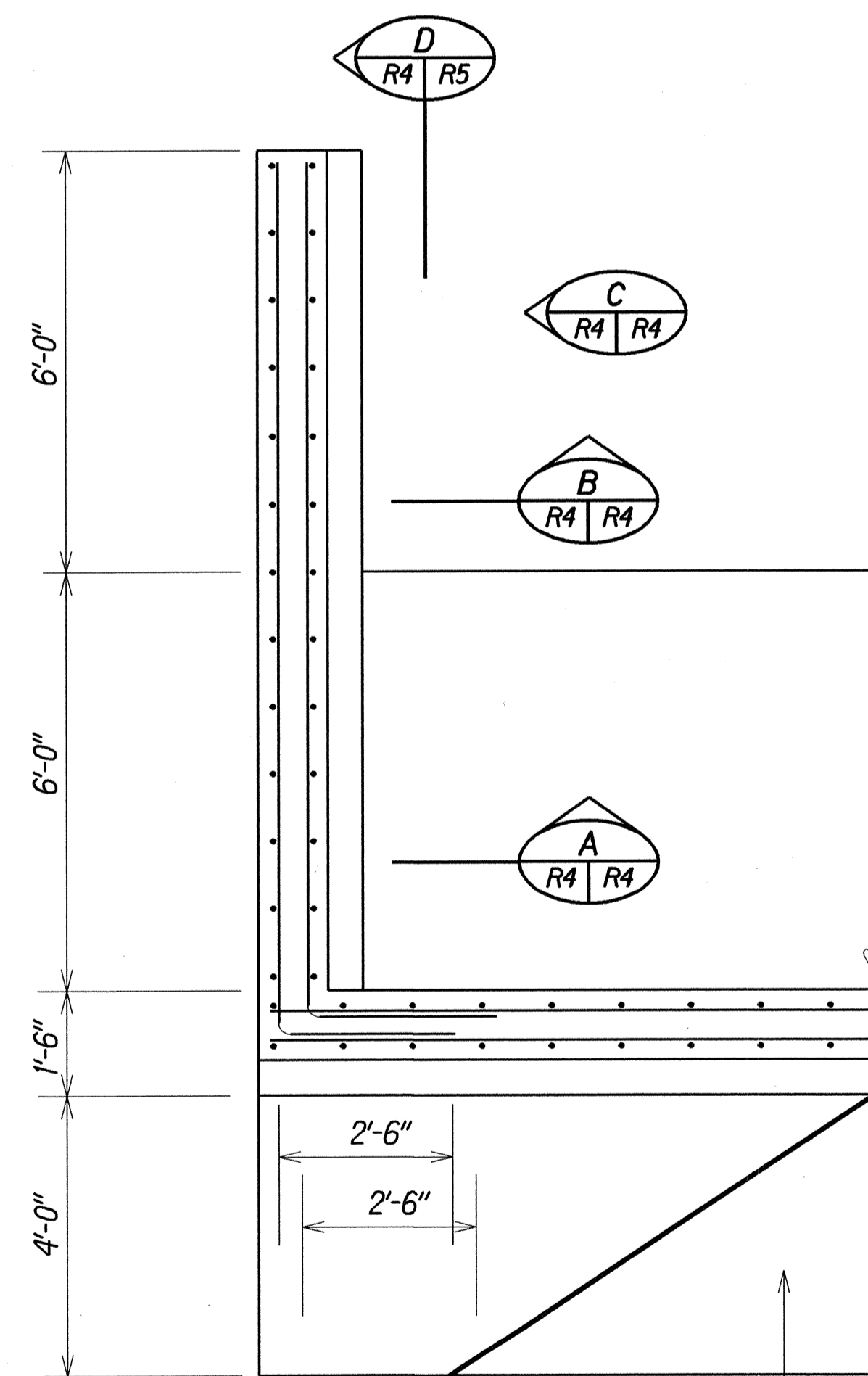
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Scale: 1/2" = 1'-0"

C
R4 R4

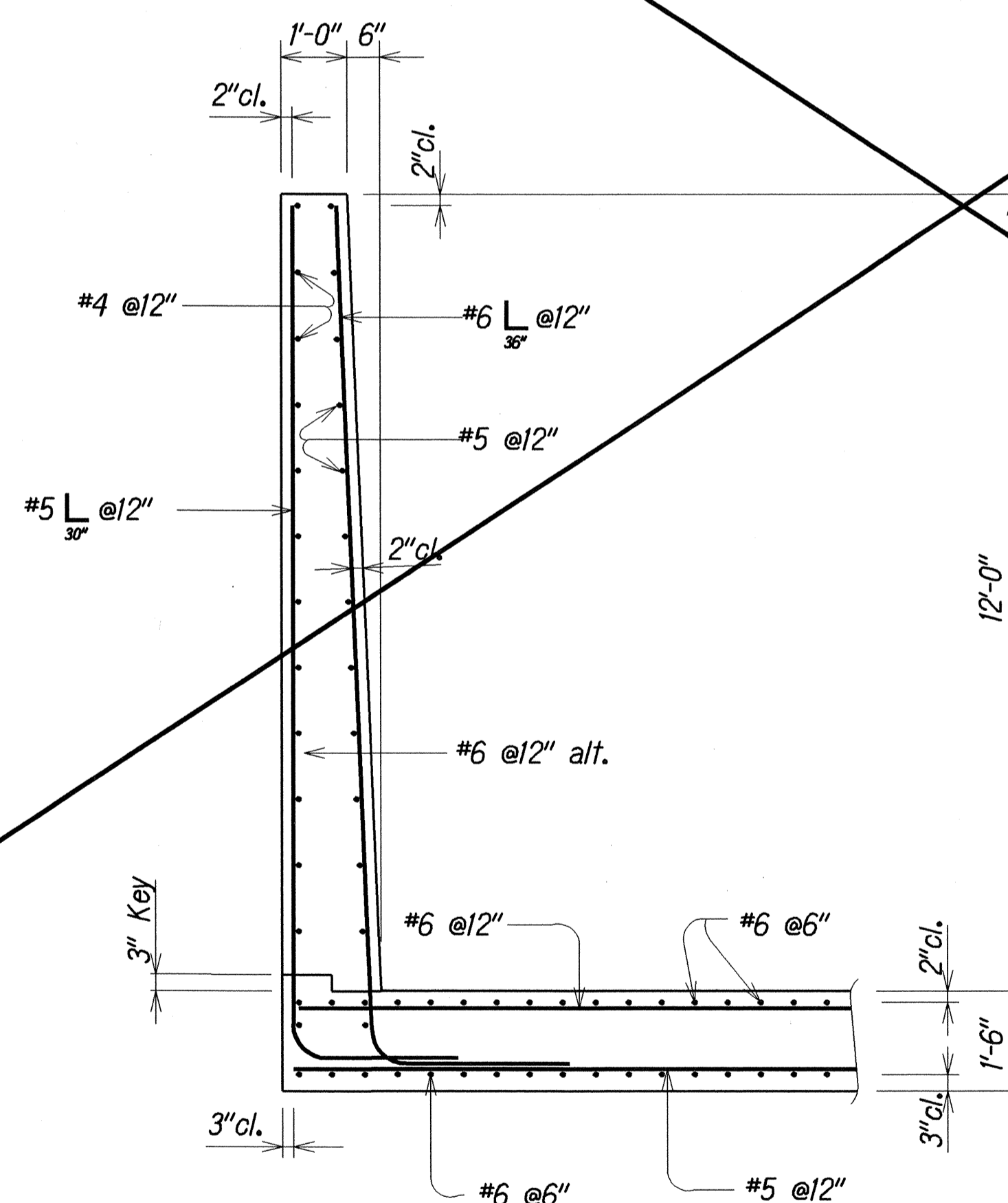


SECTION
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B
R4 R4

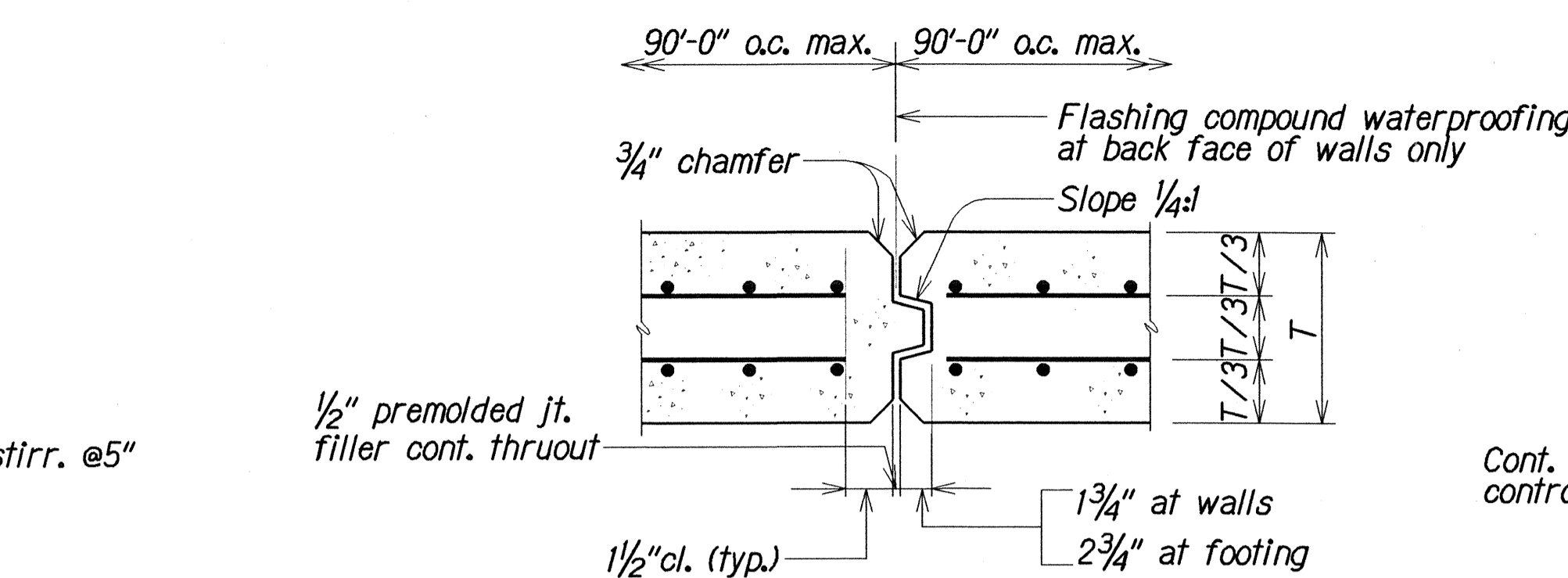


LEFT RETURN WALL PLAN
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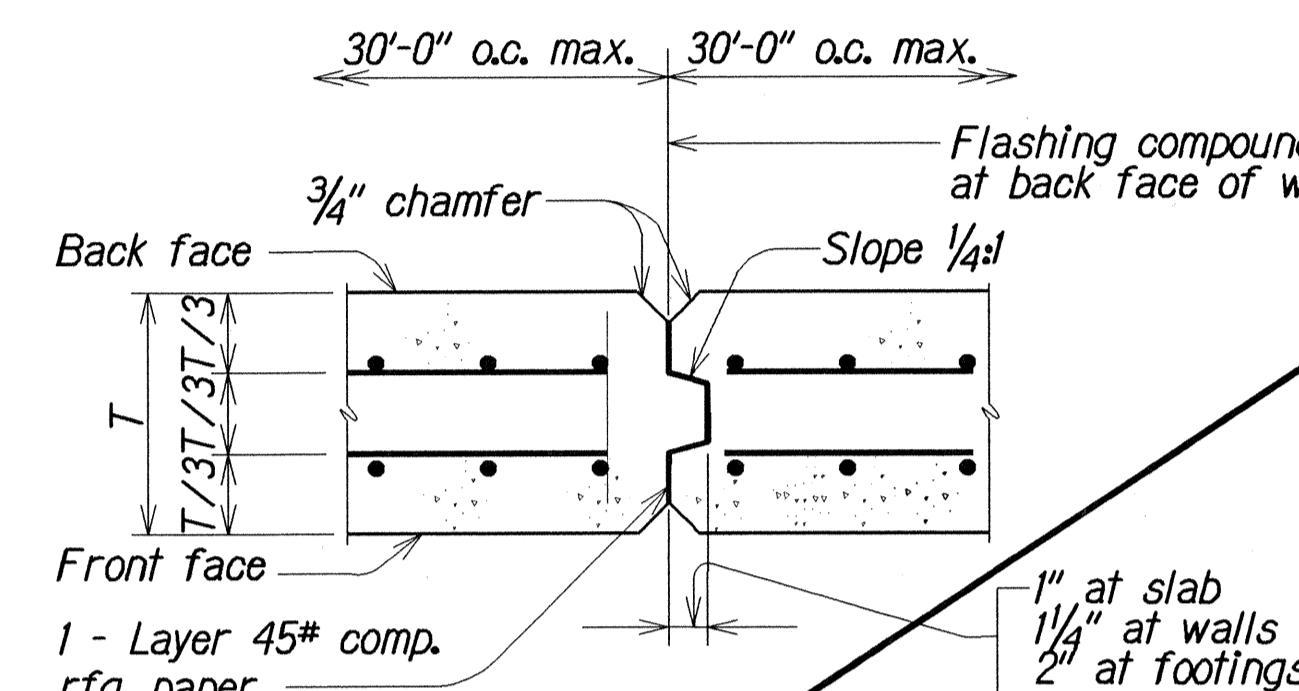


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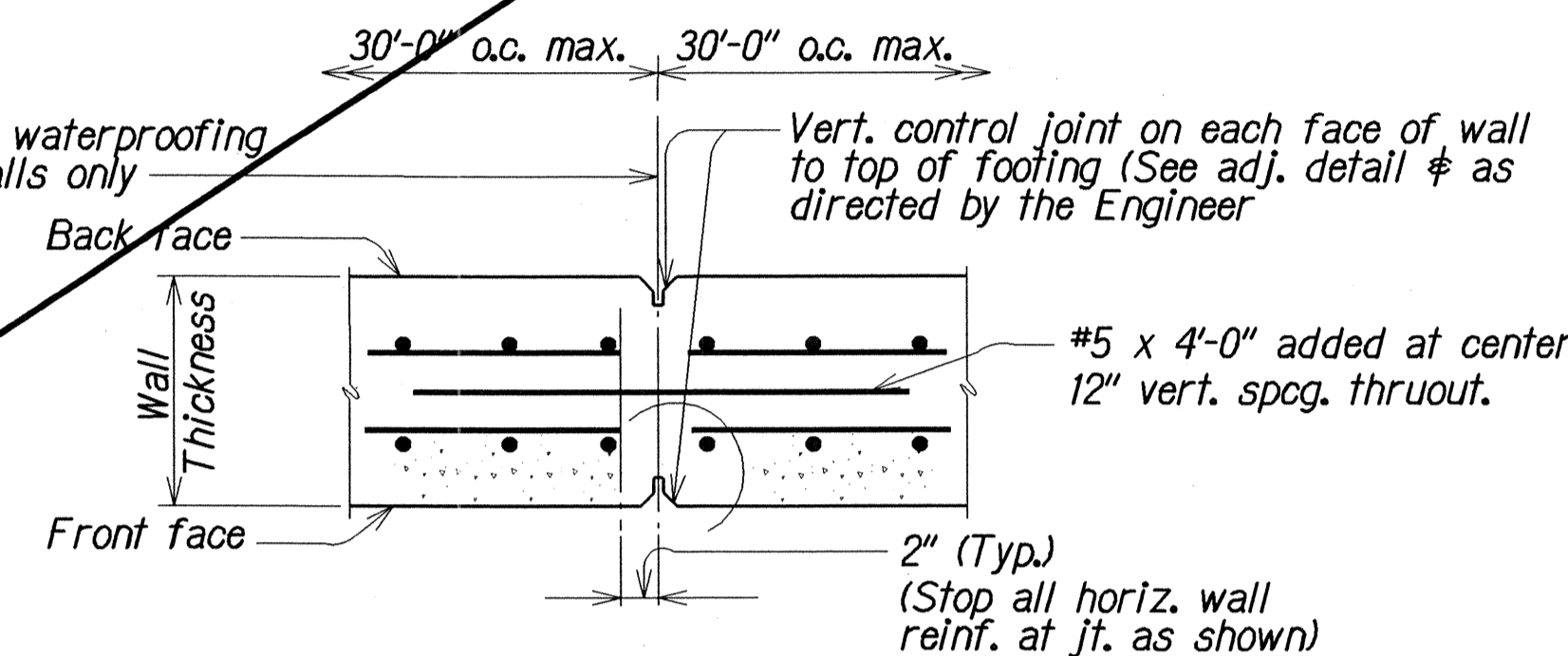
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R4 R4



AT EXPANSION JOINT



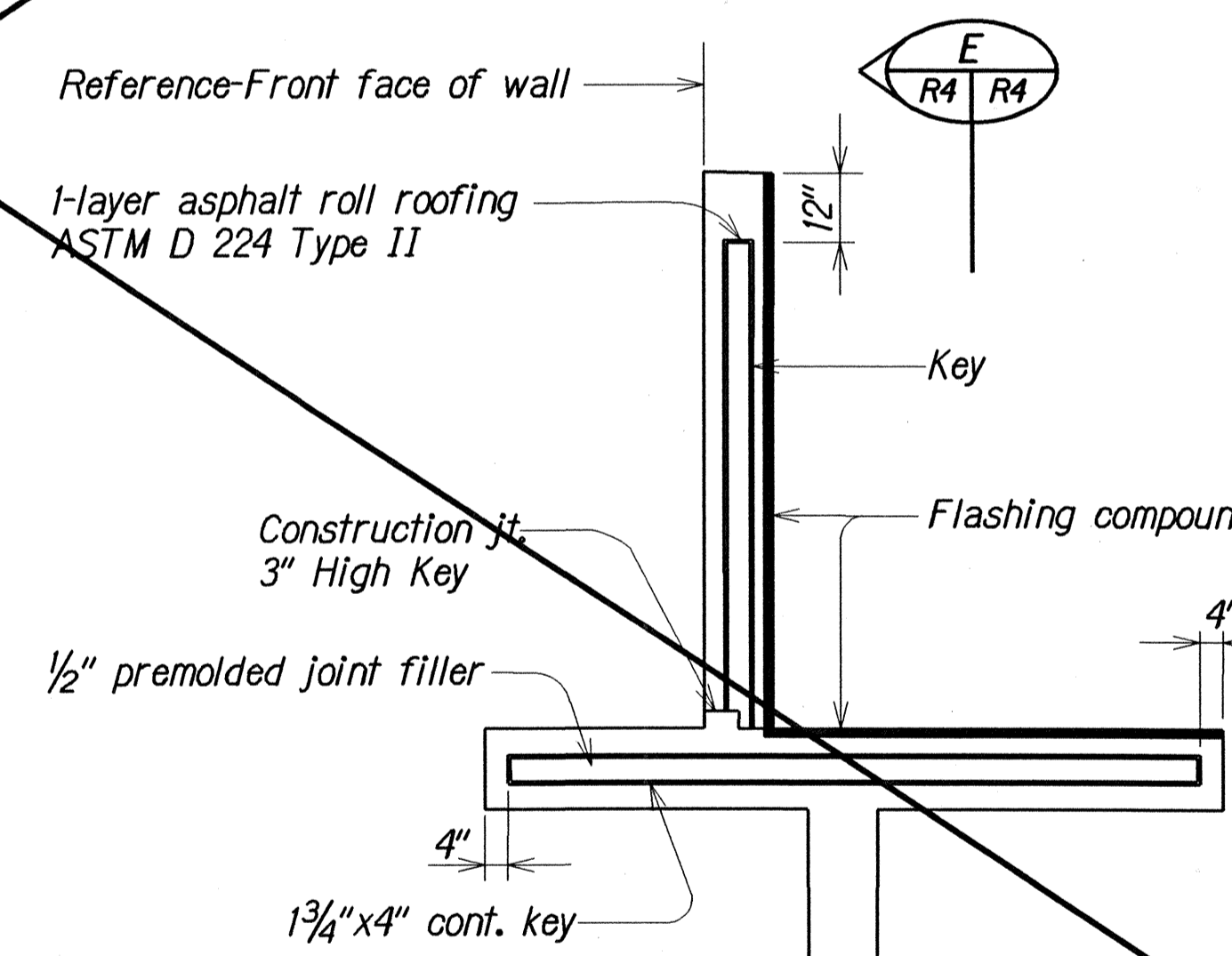
AT CONTROL JOINT



ALTERNATE CONTROL JOINT

TYPICAL JOINT DETAILS

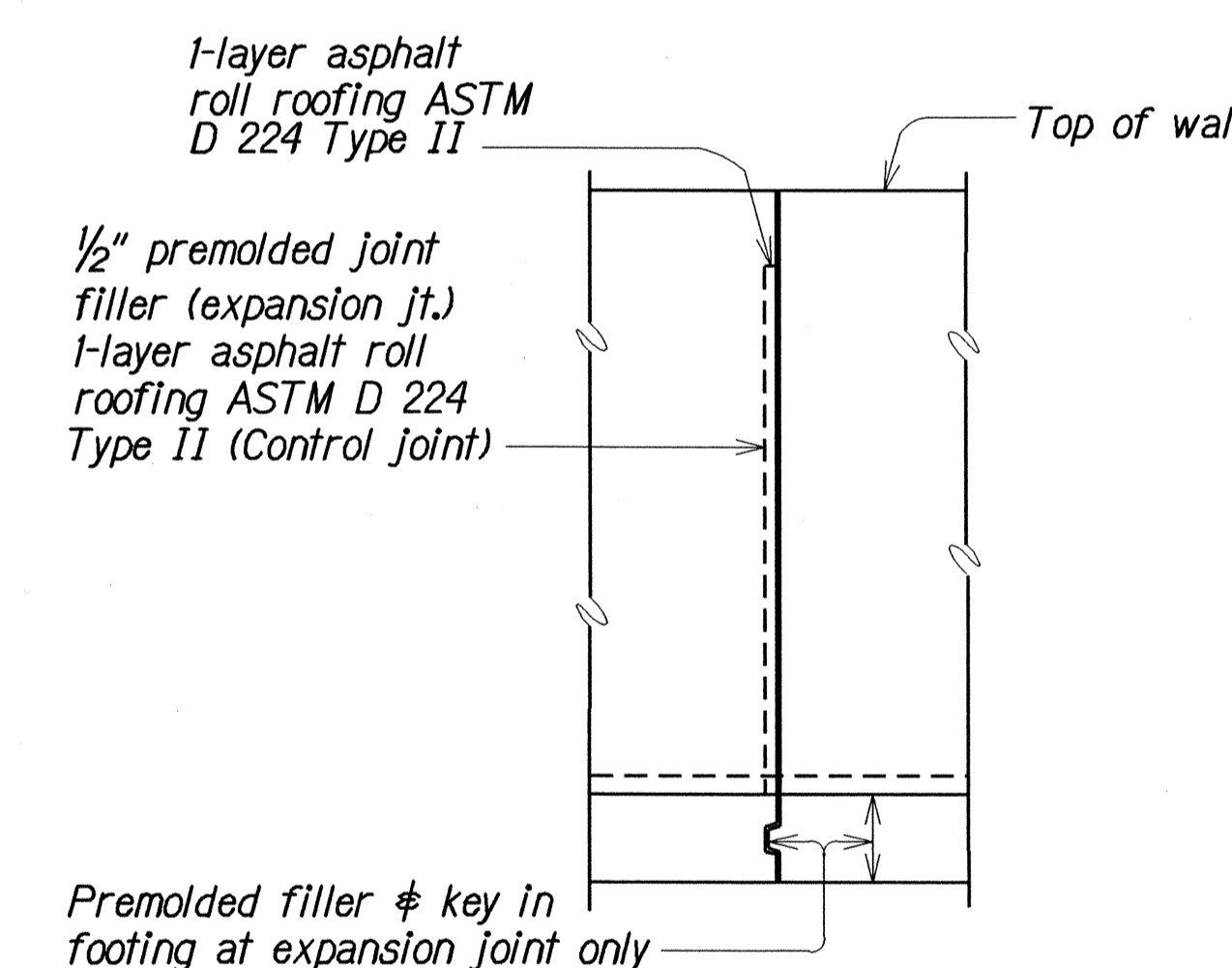
Not To Scale



JOINT ELEVATION

TYPICAL EXPANSION JOINT DETAILS

Not To Scale



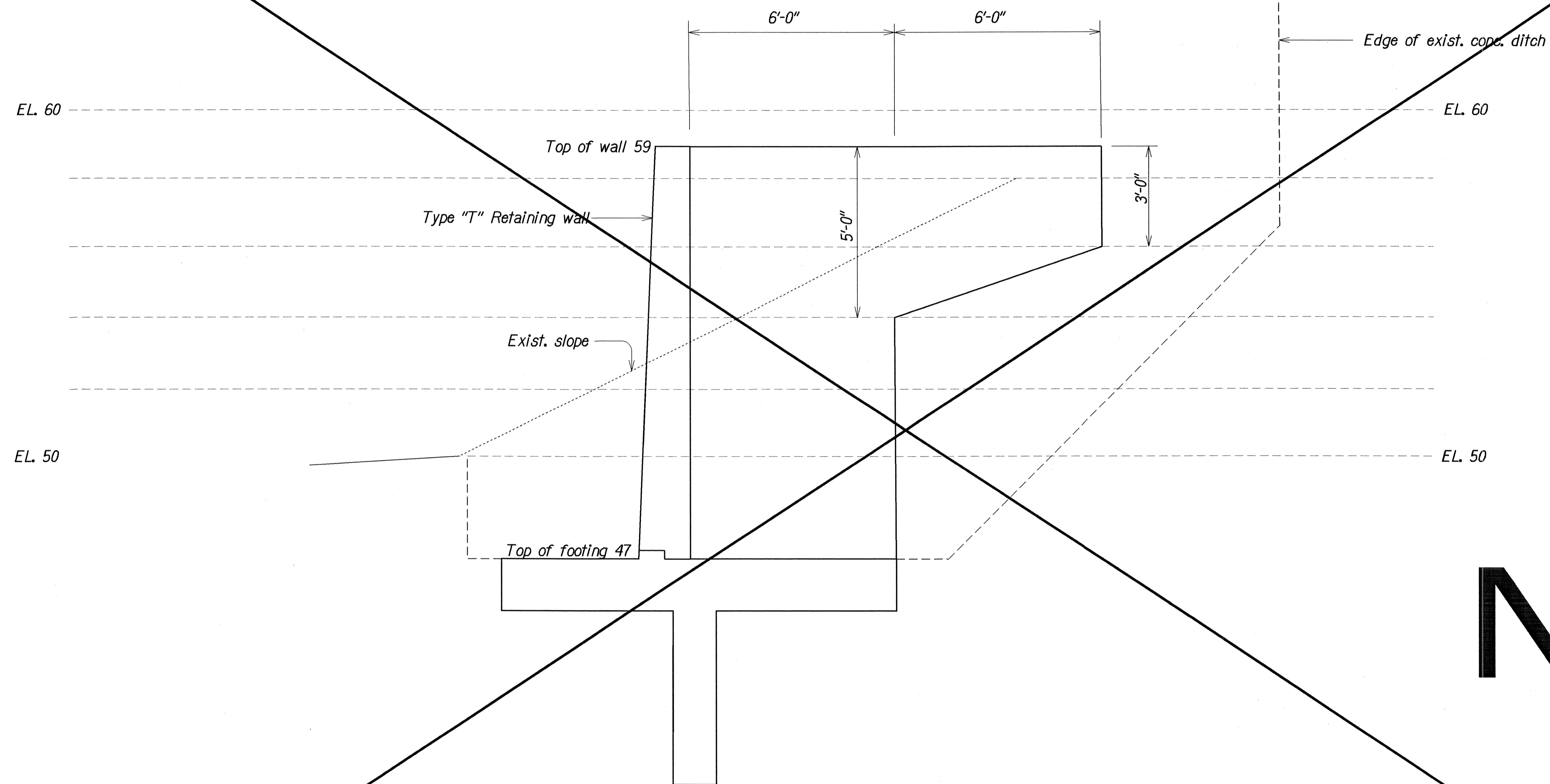
ELEVATION

E
R4 R4

N.I.C.

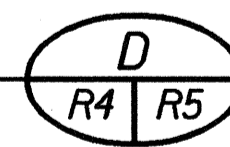
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION
RETAINING WALL PLAN, SECTIONS AND TYPICAL JOINT DETAILS
FARRINGTON HWY. RET. WALL ABOVE WAIKAPU HS. ATHLETIC FIELD Project No. 7101A-02-98
Scale: As Noted Date: Apr. 2000
SHEET No. R4 OF 9 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	7101A-02-98	2000	16	22



N.I.C.

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

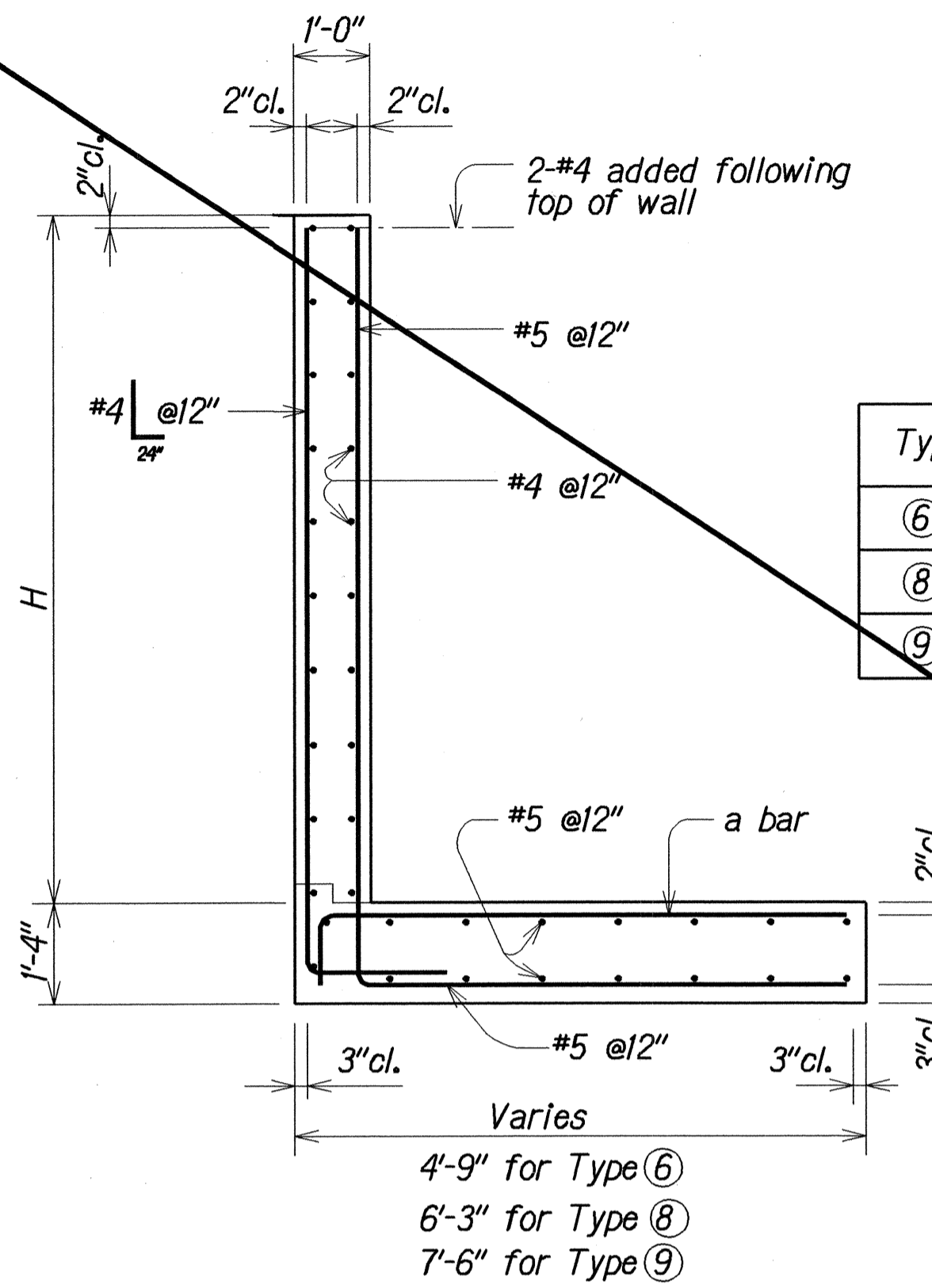


ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
	KMU	Apr 2000
NOTE BOOK	DESIGNED BY	DATE
	DKT	Apr 2000
	QUANTITIES BY	DATE
	DKT	Apr 2000
	CHECKED BY	DATE
	DKT	Apr 2000

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION
RETAINING WALL LEFT RETURN WALL SECTION
FARRINGTON HWY. RET. WALL ABOVE WAI'AHU H.S. ATHLETIC FIELD Project No. 7101A-02-98
Scale: As Noted Date: Apr 2000

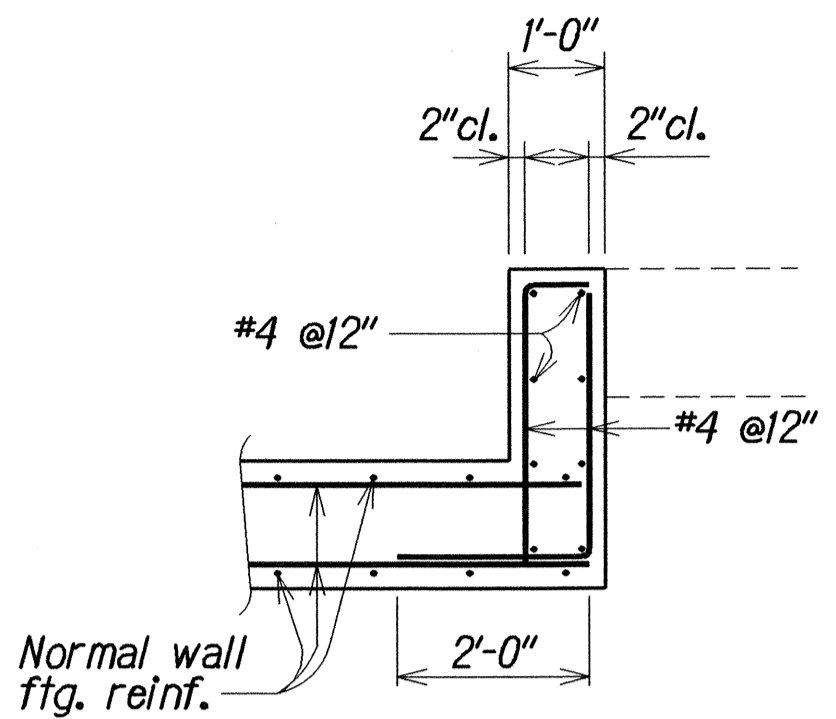
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FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	7101A-02-98	2000	17	22

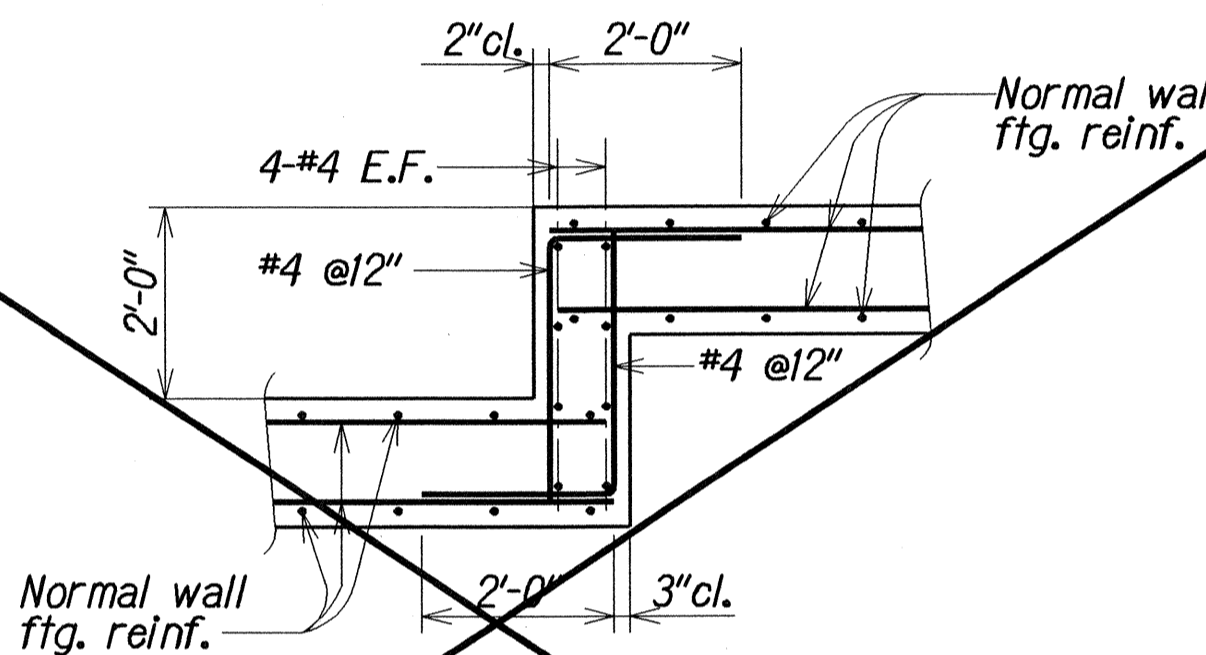


Type	a bar	Average Height (H)
⑥	#5@12"	6'-0"
⑧	#5@9"	8'-0"
⑨	#5@5"	9'-0"

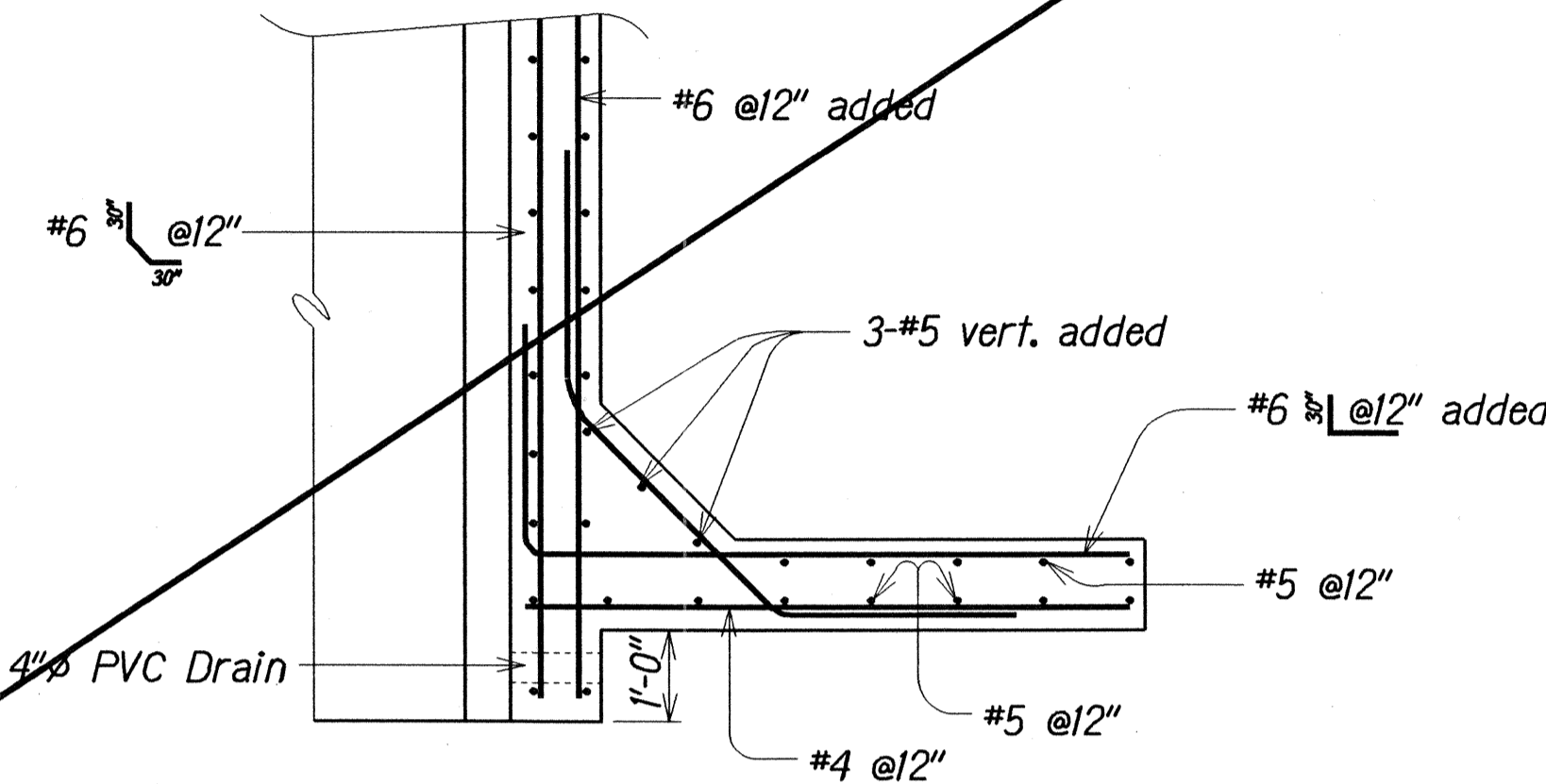
TYPICAL SECTION
Scale: 1/2" = 1'-0"



SECTION A
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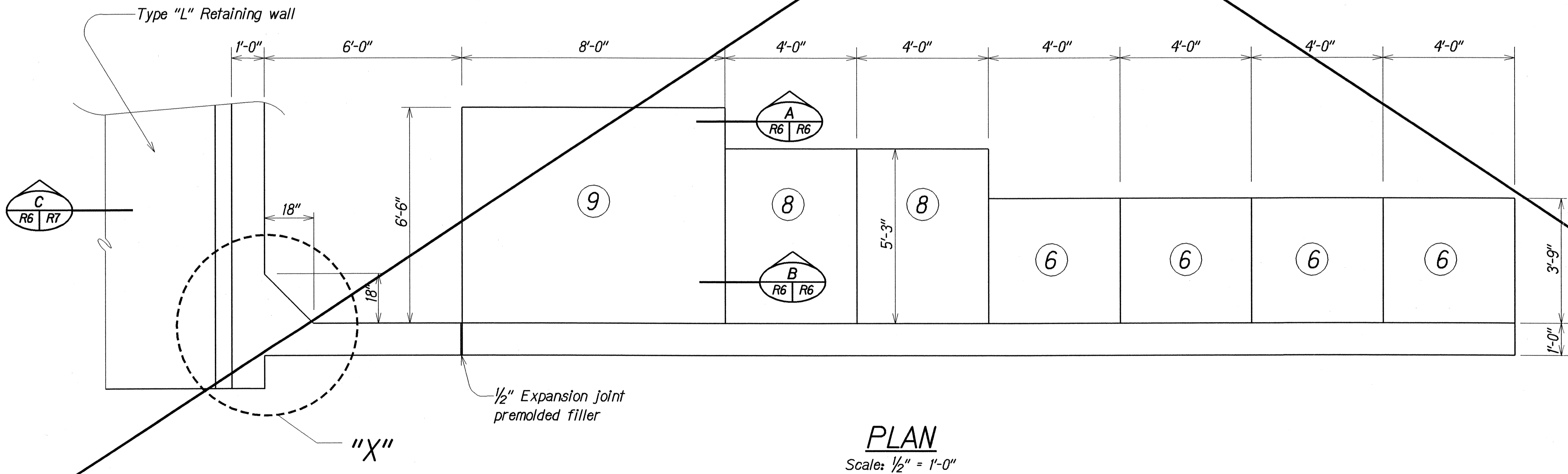


SECTION B
Scale: 1/2" = 1'-0"



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

N.I.C.



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

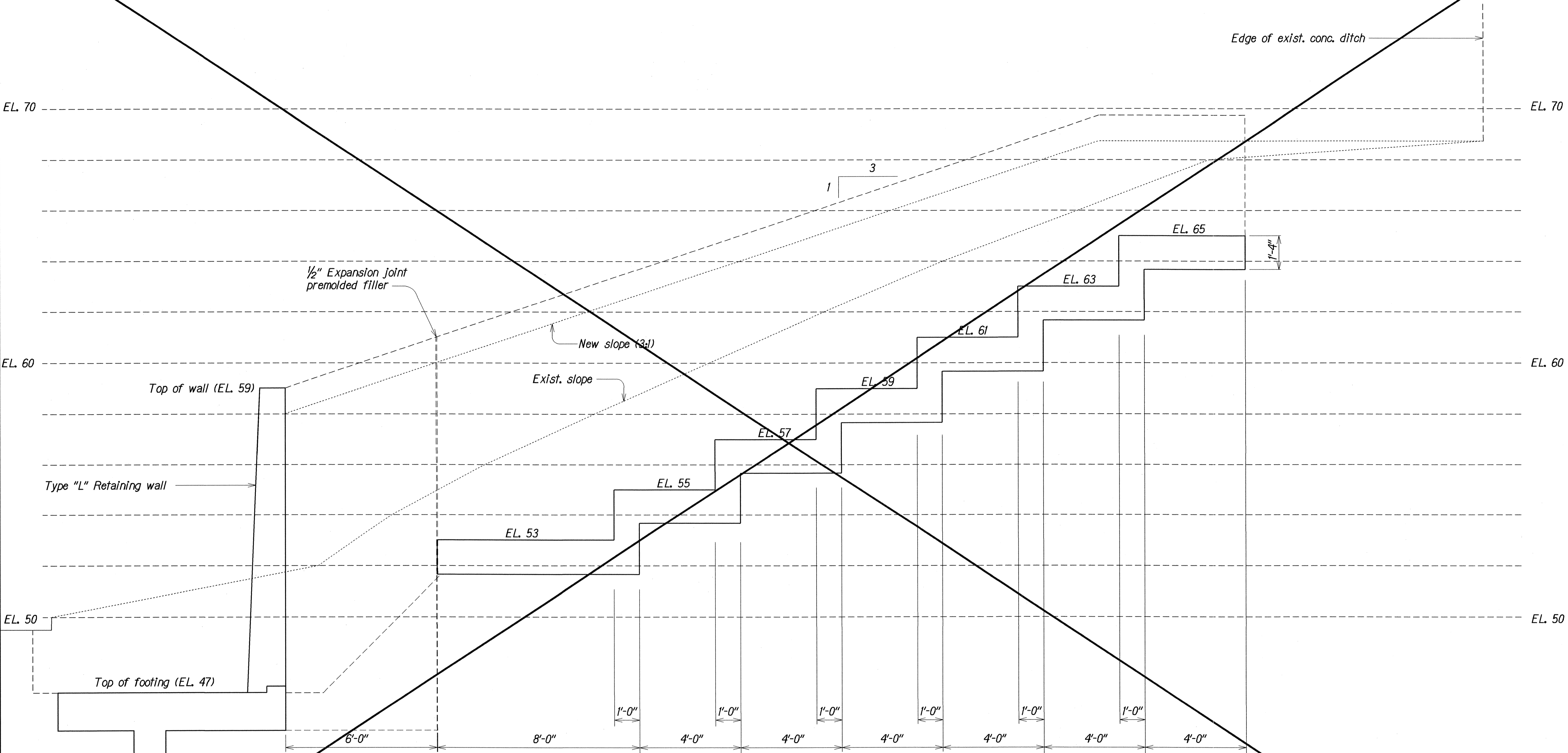
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

RETAINING WALL
RIGHT RETURN WALL PLAN AND SECTIONS
FARRINGTON HWY. RET. WALL ABOVE WAI'AHU H.S. ATHLETIC FIELD
Project No. 7101A-02-98

Scale: As Noted
Date: Apr. 2000

SHEET No. R6 OF 9 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	7101A-02-98	2000	18	22



DESIGNED BY	DATE
DRAWN BY	Apr 2000
CHECKED BY	Apr 2000
NOTED BY	Apr 2000
REVISIONS	Apr 2000
1. [Signature]	

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

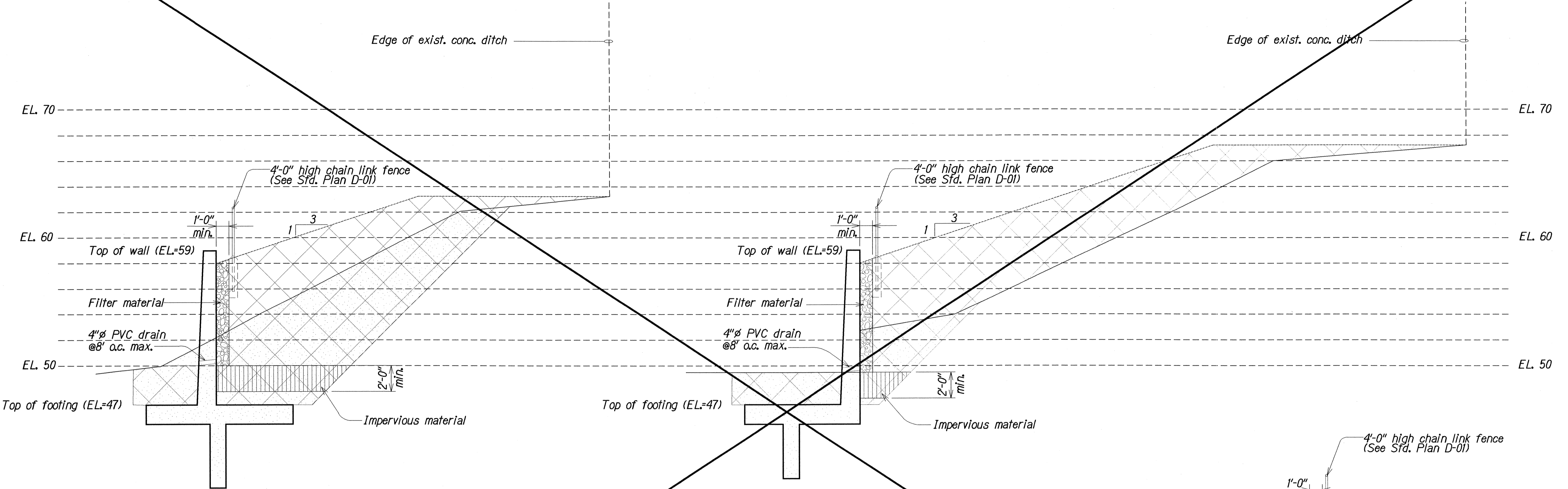
N.I.C.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

RETAINING WALL
RIGHT RETURN WALL SECTION
FARRINGTON HWY. RET. WALL ABOVE WAIKAKULI H.S. ATHLETIC FIELD
Project No. 7101A-02-98

Scale: As Noted
Date: Apr 2000

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	7101A-02-98	2000	19	22

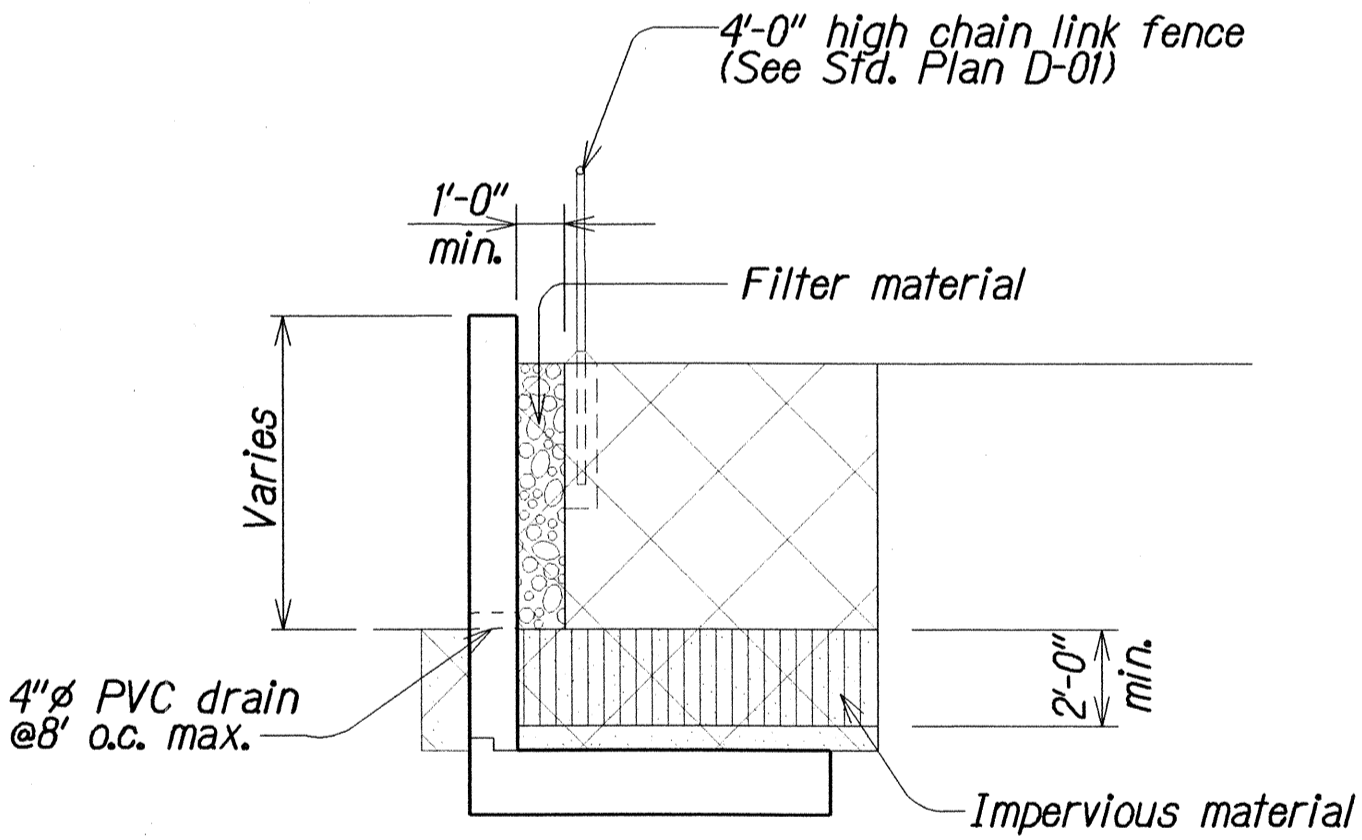


TYPE "T" RETAINING WALL

TYPE "L" RETAINING WALL

TYPICAL SECTION - EXCAVATION AND BACKFILL

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



RETURN WALLS

- Legend:
- Excavation area
 - Backfill area
 - Impervious material
 - Filter material

- NOTE:
- Impervious material as selected by the Engineer shall be made as impervious as possible by pneumatic tamping or other approved methods and shall be incidental to structure backfill.
 - Contractor shall be responsible for stability and erosion control of the excavated slope and footing excavation prior to backfill.
 - 4"Ø PVC drain @8' o.c. max. spacing to be provided for all new walls. PVC drains shall be considered material to concrete in retaining walls.

N.I.C.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

RETAINING WALL

TYPICAL SECTION -

EXCAVATION AND BACKFILL LIMITS

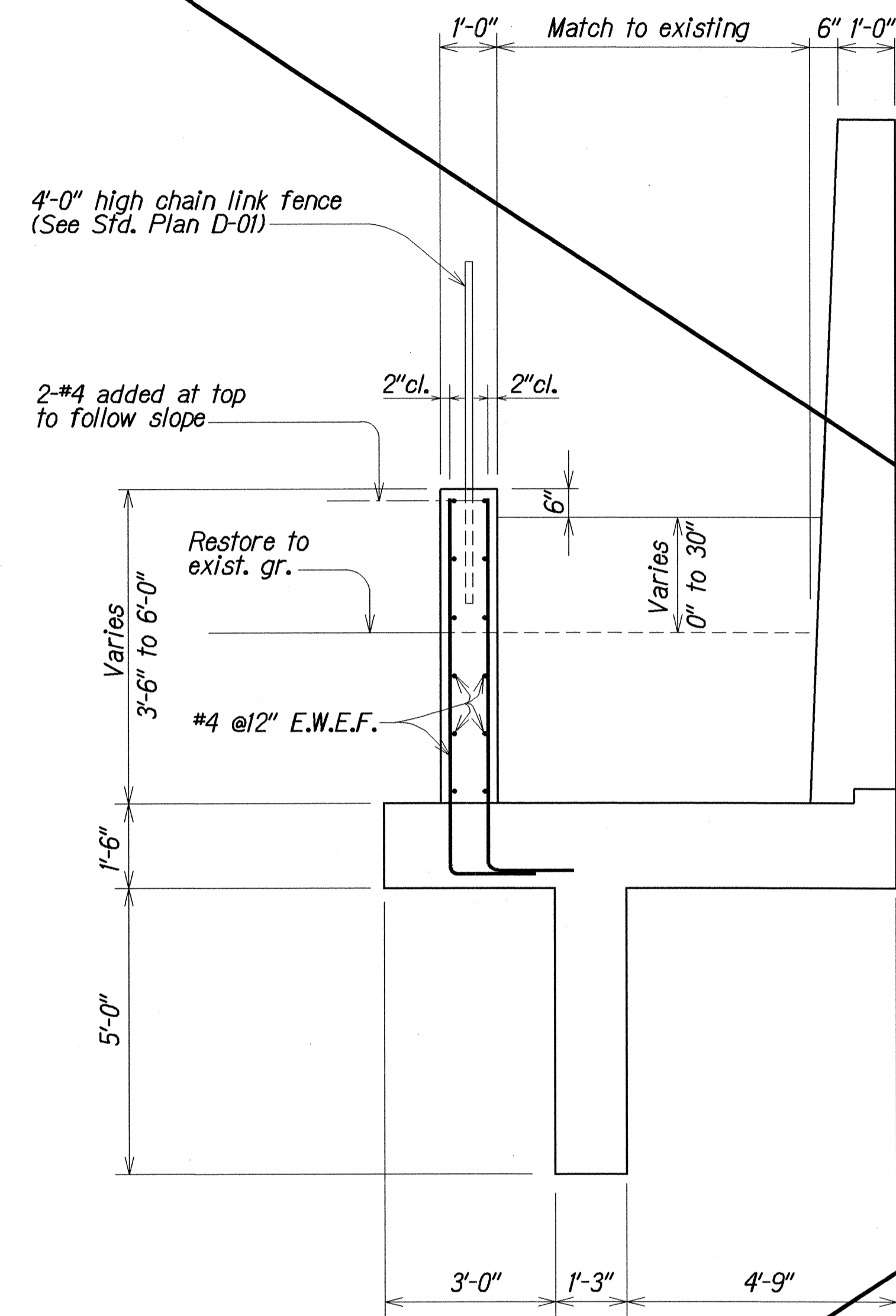
FARRINGTON HWY. RET. WALL ABOVE WAIPIHO H.S. ATHLETIC FIELD

Project No. 7101A-02-98

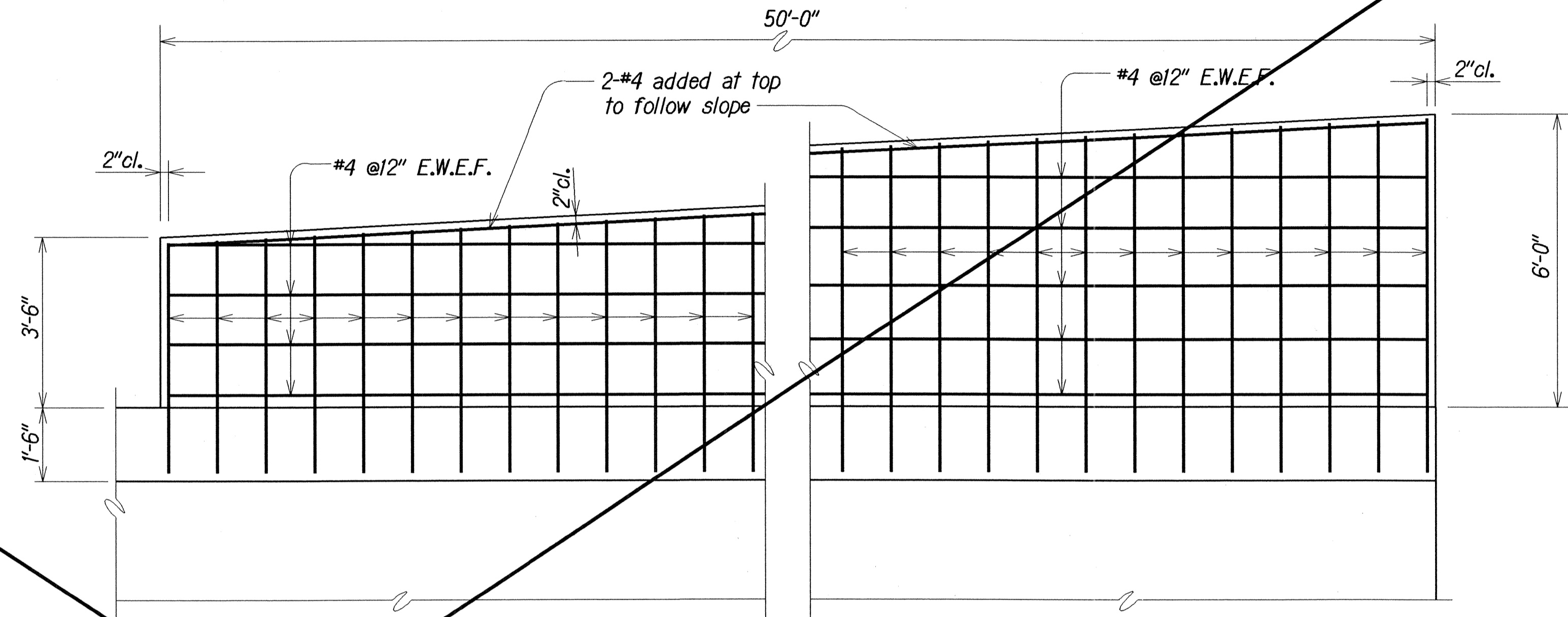
Scale: As Noted

Date: Apr. 2000

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	7101A-02-98	2000	20	22



TYPICAL SECTION - CONCRETE RAMP
Scale: 1/2" = 1'-0"



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

DESIGNED BY	DATE
NOTED BY	4/27/2000
CHECKED BY	4/27/2000
APPROVED BY	4/27/2000
PROJECT NO.	7101A-02-98
SHEET NO.	20
TOTAL SHEETS	22

N.I.C.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

RETAINING WALL

CONCRETE RAMP DETAILS

FARRINGTON HWY. RET. WALL ABOVE WAIKAKULU H.S. ATHLETIC FIELD
Project No. 7101A-02-98

Scale: As Noted
Date: Apr. 2000

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	7101A-02-98	2000	205-1	22

INDEX TO DRAWINGS

SHEET NO.	DESCRIPTION
S1	INDEX, GENERAL NOTES, ABBREVIATIONS AND SYMBOLS
S2	LAYOUT PLAN
S3	TYPICAL WALL SECTIONS AND ELEVATIONS
S4	WALL ELEVATIONS
S5	TYPICAL KEYSTONE WALL DETAILS
S6	TYPICAL KEYSTONE WALL DETAILS
S7	TYPICAL KEYSTONE WALL DETAILS
S8	TYPICAL RAMP WALL DETAILS

GENERAL NOTES

DESIGN SPECIFICATIONS - AASHTO:

1. AASHTO LRFD Bridge Design Specifications, 1998, with 1999 interim revisions.

MATERIALS:

1. Reinforced concrete: $f'c = 4,000$ psi
2. Reinforcing steel: ASTM A 615, Grade 60.
3. Admixture in concrete: See Special Provisions
4. All expansion, premolded joint filler and flashing material shall be incidental to concrete and will not be paid for separately.

CONSTRUCTION METHODS:

1. Refer to Hawaii Standard Specifications for Road, Bridge and Public Works Construction, 1994 Edition and Special Provisions.
2. Except as noted otherwise, all dimensions are measured plumb.
3. For concrete finish, see Special Provisions.
4. Steel reinforcing shall be supported, bent and placed as per the ACI Detailing Manual, 1994.
5. The minimum cover measured from the surface of the concrete to the face of any reinforcing bars shall be as follows, except as noted otherwise:
a. Concrete cast or finished to a smooth surface: 2"
b. Concrete cast against and permanently exposed to earth: 3"
6. At time concrete is placed, reinforcing shall be free from mud, oil, laitance or other coatings adversely affecting bond capacity.
7. Reinforcement, dowels and other embedded items shall be positively secured before pouring.
8. All dimensions relating to reinforcing bars (e.g. spacing of bars, etc.) are to centers of bars unless noted otherwise.

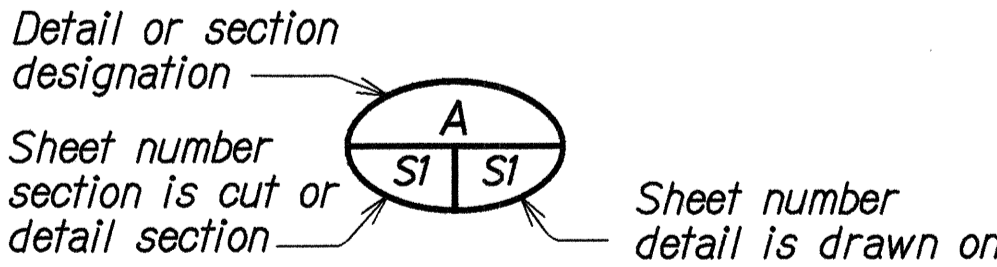
KEYSTONE NOTES:

1. Units shall be Keystone 21" Standard Blocks.
2. Reinforcing shall be Tensar UXM ESA4 60.
3. Bottom of wall be embedded a minimum of 24" below the finish grade in front of the wall.
4. The Contractor shall follow the recommendations of the Manufacturer or his representative.

ABBREVIATIONS

AB	Anchor Bolt	FF	Front Face	Pav't.	Pavement
Abut.	Abutment	Fin.	Finish	PL	Plate
Alum.	Aluminum	Ga.	Gage, gauge	R	Radius
Approx.	Approximate	Galv.	Galvanized	Rdwy.	Roadway
⌀	Baseline	gdi	Exist. grated drop inlet	Ref.	Reference
Bal.	Balance	Gr.	Grade	Req'd	Required
Beg.	Begin, Beginning	h	Height	Reinf.	Reinforcing
Bm.	Beam	Horiz.	Horizontal	Rfg	Roofing
Brg., Brgs.	Bearing, Bearings	HS	High Strength	sdmh	Exist. storm drain manhole
⊕	Center line	IB	Inbound	Sect.	Section
CBC	Concrete Box Culvert	Jt.	Joint	Shld.	Shoulder
odi	Exist. conc. drop inlet	L	Length	Sht.	Sheet
Cl.	Clear	LC	Length of Curve	Spes.	Spaces
Col.	Column	Lg.	Long	Spcg.	Spacing
Conc.	Concrete	Longit.	Longitudinal	Sta.	Station
Cont.	Continuous	Max.	Maximum	Std.	Standard
CR	Corrosion Resistant	Min.	Minimum	Struct.	Structural
d	Depth	No.	Number	Str.	Structure
Det.	Detail	NIC	Not In Contract	T#B	Top and Bottom
Dia.	Diameter	oc	On Center	Thk.	Thick
Diag.	Diagonal	OB	Outbound	TOF	Top of Footing
Ea.	Each	OD	Outside Dimension	TOW	Top of Wall
EF	Each Face			TS	Tubular Steel
Elev.	Elevation			Typ.	Typical
EP	Edge of Pavement			Vert.	Vertical
Eq.	Equal			w/	with
Exist.	Existing			w	Width
Exp.	Expansion				

SYMBOLS

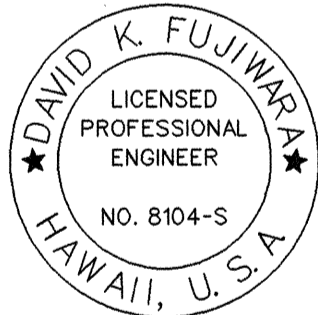


REFERENCE:

1. Refer to Standard Plans for additional details and notes not covered by details and typical drawings.

GENERAL:

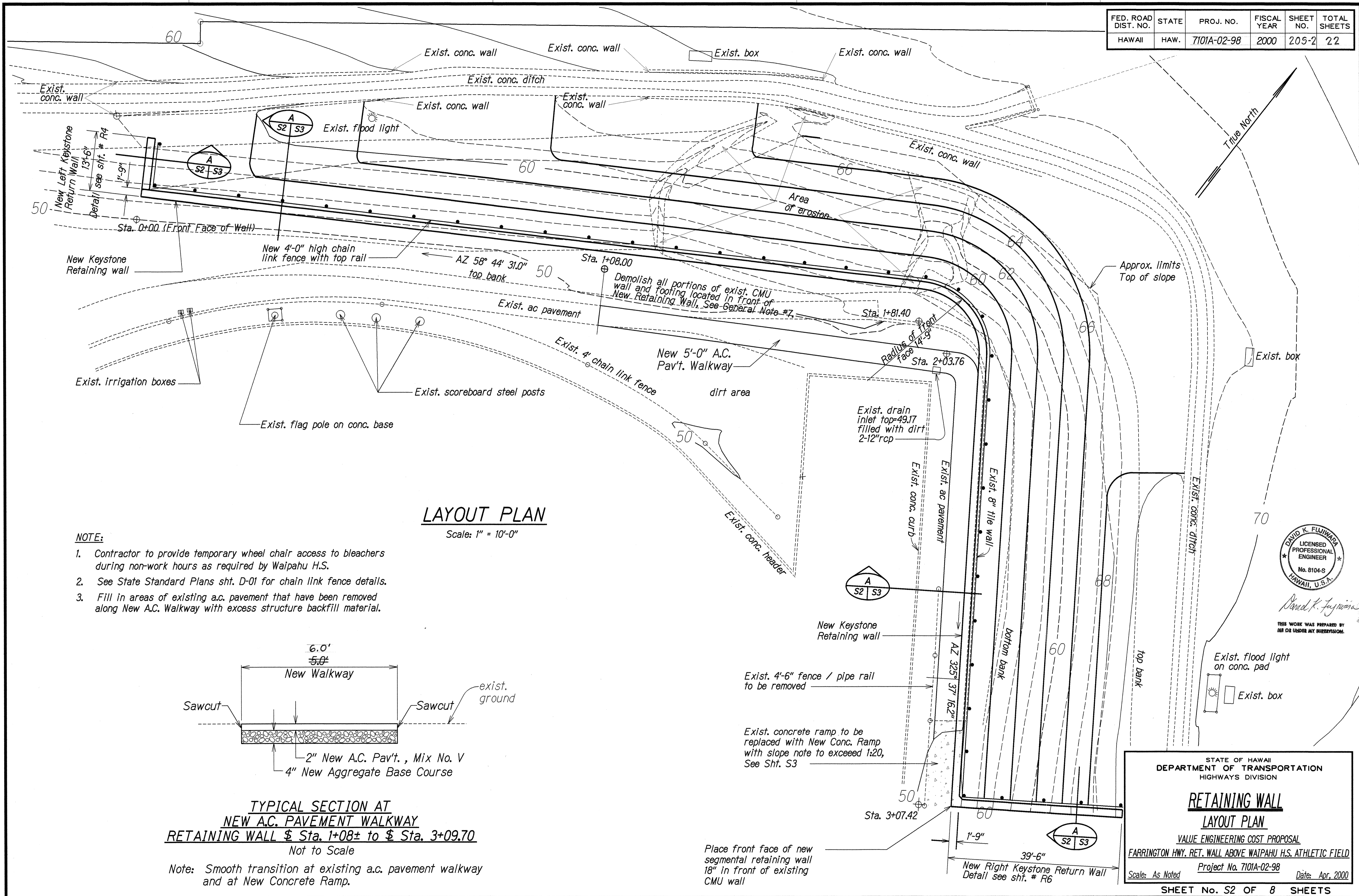
1. All items noted incidental will not be paid for separately.
2. The Contractor shall verify the locations of all existing utility lines and notify their respective owners before commencing with any work.
3. The Contractor shall verify all grades and dimensions in the field before commencing with any work.
4. The Contractor shall be solely responsible for the protection of adjacent property, utilities and existing and new structures from damage due to construction. Repairing any damage shall be at the Contractor's own expense, to the satisfaction of the Engineer. He shall conduct his work in such a manner and provide such temporary shoring or other measures as may be necessary to insure the safety of all concerned and to protect existing structures.
*5. Unless noted otherwise, chamfer all exposed concrete edges three-quarters (3/4) of an inch.
6. 4" PVC drains shall be provided in retaining walls @ 8' o/c max. spacing. PVC drains shall be considered incidental to concrete in retaining wall.
7. Demolition and removal of existing 8" CMU tile wall and ftg. foundation shall be considered incidental to structural excavation for retaining wall.



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
RETAINING WALL
INDEX, GENERAL NOTES
ABBREVIATIONS AND SYMBOLS
VALUE ENGINEERING COST PROPOSAL
FARRINGTON HWY. RET. WALL ABOVE WAIPAHU H.S. ATHLETIC FIELD
Project No. 7101A-02-98
Scale: As Noted Date: Apr. 2000
SHEET No. S1 OF 8 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	7101A-02-98	2000	205-2	22

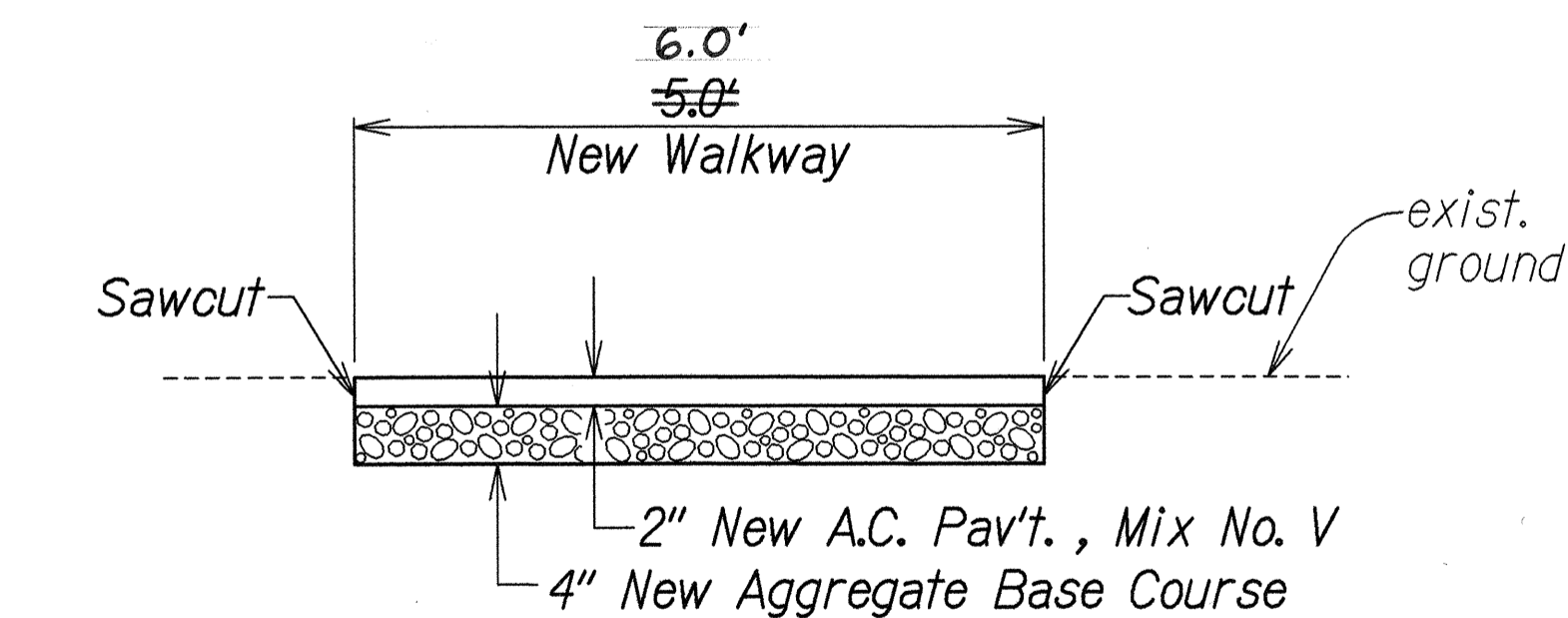


NOTE:

1. Contractor to provide temporary wheel chair access to bleachers during non-work hours as required by Waipahu H.S.
2. See State Standard Plans sht. D-01 for chain link fence details.
3. Fill in areas of existing a.c. pavement that have been removed along New A.C. Walkway with excess structure backfill material.

LAYOUT PLAN

Scale: 1" = 10'-0"



**TYPICAL SECTION AT
NEW A.C. PAVEMENT WALKWAY
RETAINING WALL \$ Sta. 1+08± to \$ Sta. 3+09.70**
Not to Scale

Note: Smooth transition at existing a.c. pavement walkway and at New Concrete Ramp.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**RETAINING WALL
LAYOUT PLAN**

VALUE ENGINEERING COST PROPOSAL
FARRINGTON HWY. RET. WALL ABOVE WAIPAHU H.S. ATHLETIC FIELD
Project No. 7101A-02-98
Scale: As Noted Date: Apr. 2000

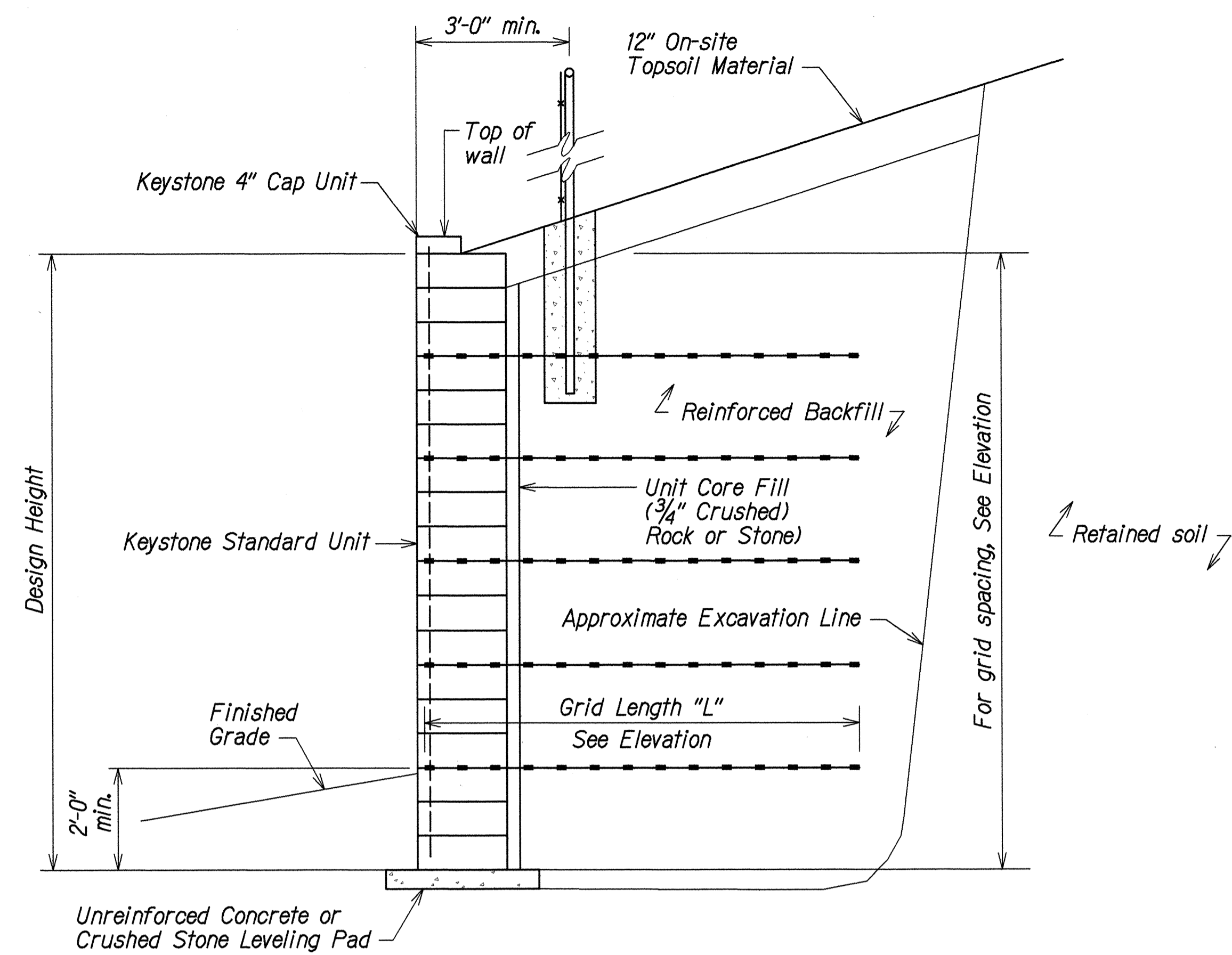
SHEET No. S2 OF 8 SHEETS

DAVID K. FUJIMURA
LICENSED PROFESSIONAL ENGINEER
No. 8104-S
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION.

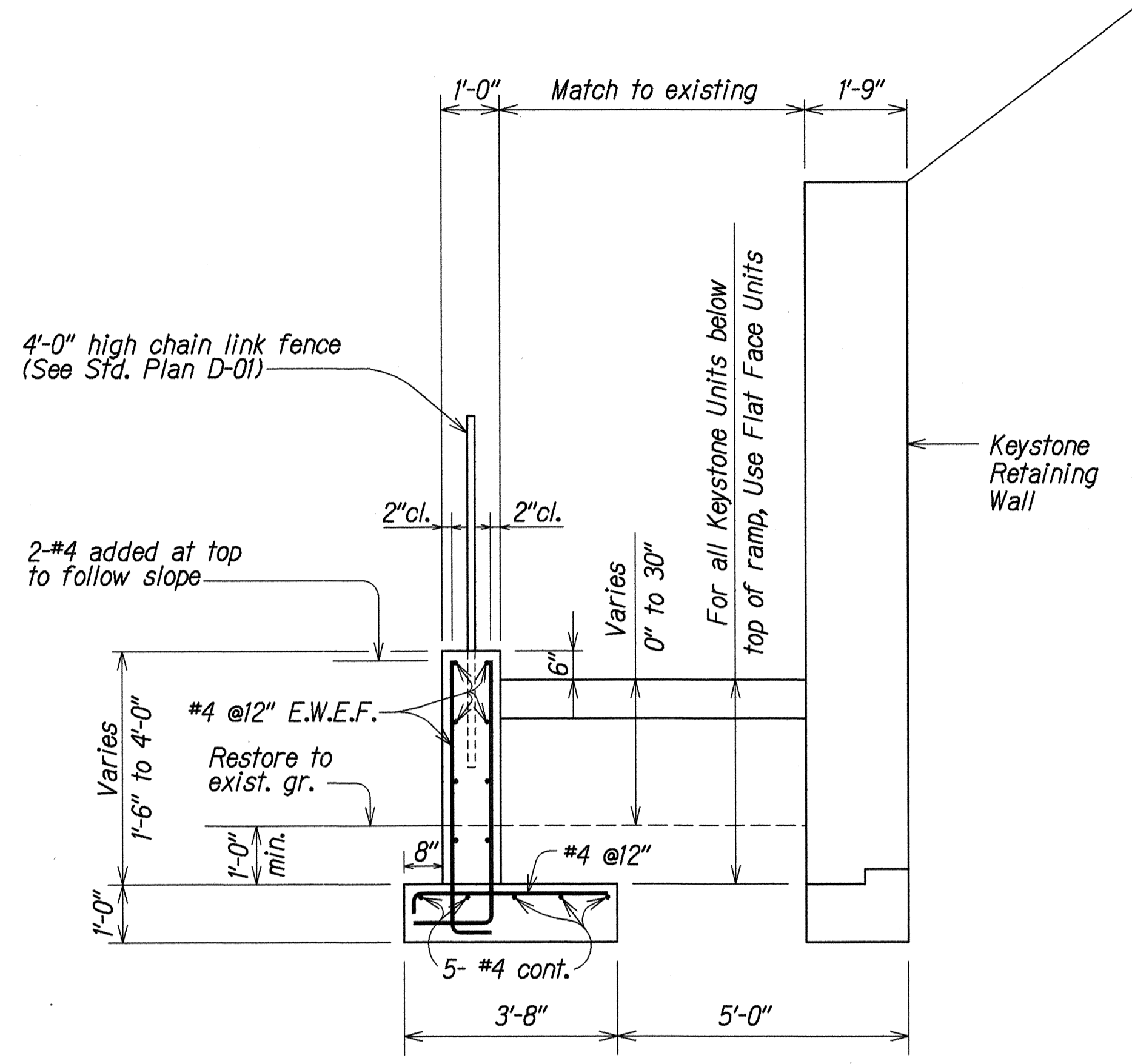
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DESIGNED BY	DATE	APR 2000
TRACED BY	DATE	APR 2000
QUANTITIES BY	DATE	APR 2000
CHECKED BY	DATE	APR 2000

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	7101A-02-98	2000	205-3	22



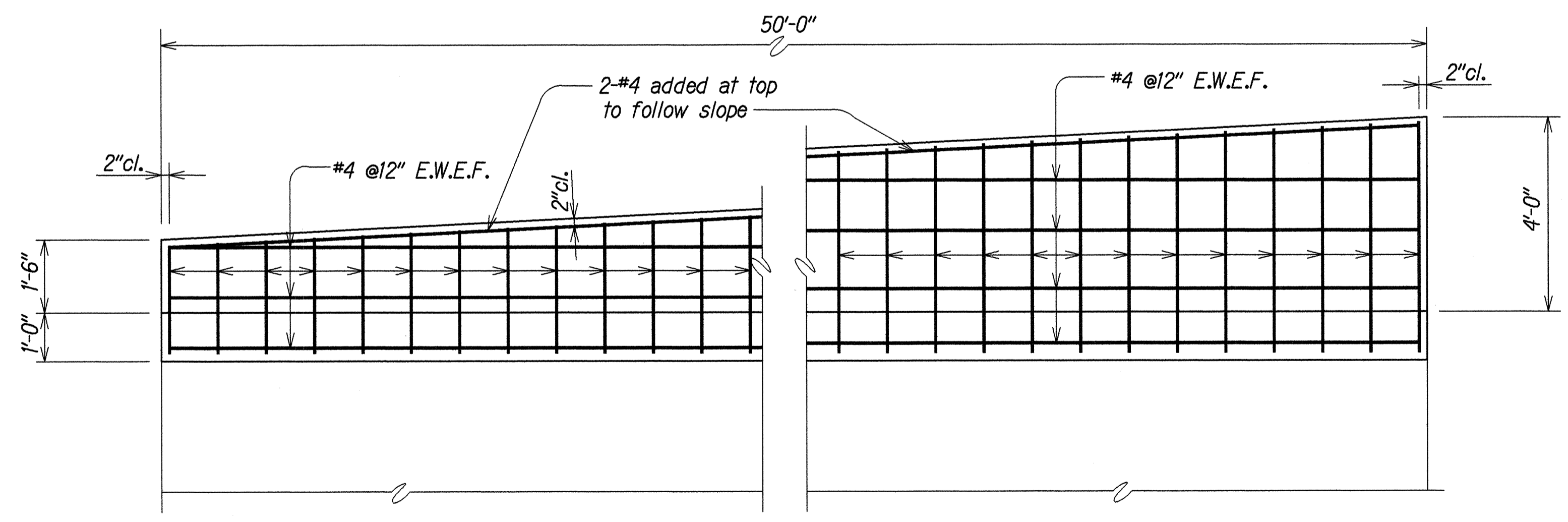
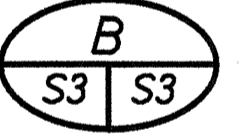
TYPICAL REINFORCED SECTION

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



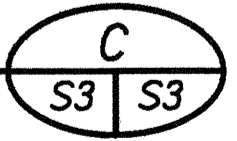
TYPICAL SECTION - CONCRETE RAMP

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

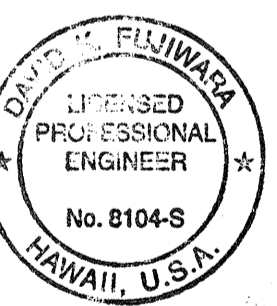


ELEVATION

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



ORIGINAL PLAN	DATE	XXX 1991
DESIGNED BY	XXX	XXX 1991
CHECKED BY	XXX	XXX 1991
NOTED BY	XXX	XXX 1991
QUANTITIES BY	XXX	XXX 1991
NO.	XXXXXXXX	



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

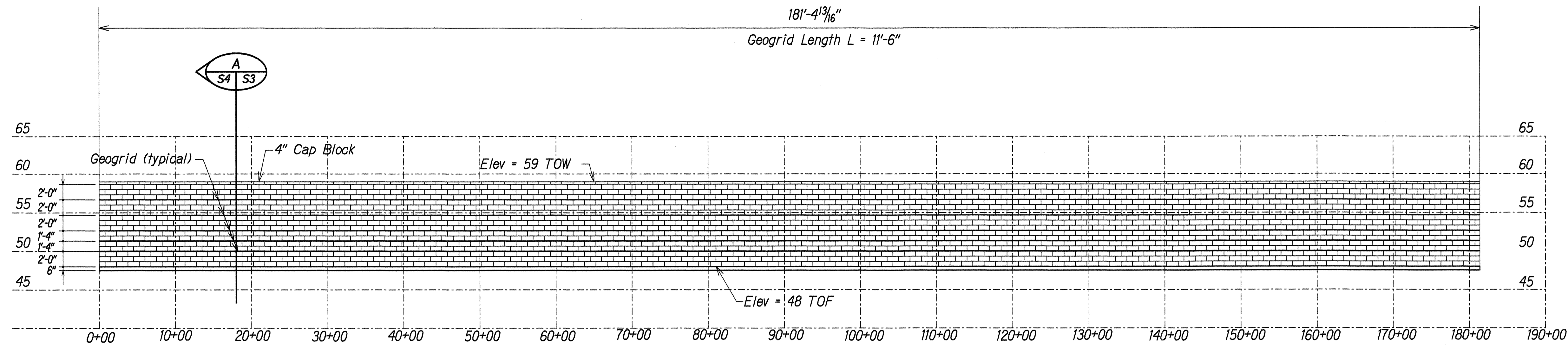
RETAINING WALL
TYPICAL REINFORCED SECTIONS

VALUE ENGINEERING COST PROPOSAL
FARRINGTON HWY. RET. WALL ABOVE WAIKAPU H.S. ATHLETIC FIELD
Project No. 7101A-02-98

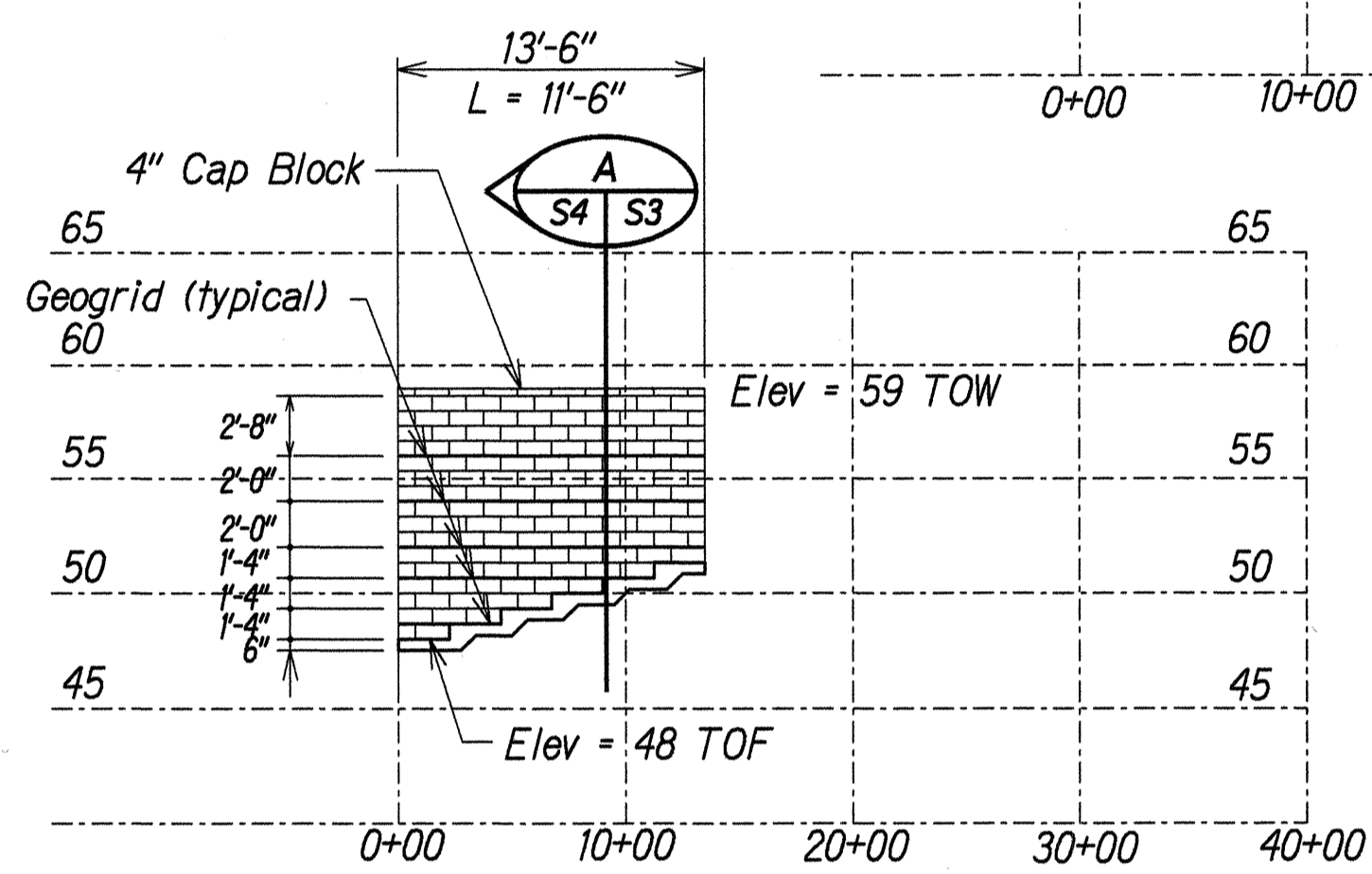
Scale: As Noted Date: Jan. 2001

SHEET No. S3 OF 8 SHEETS

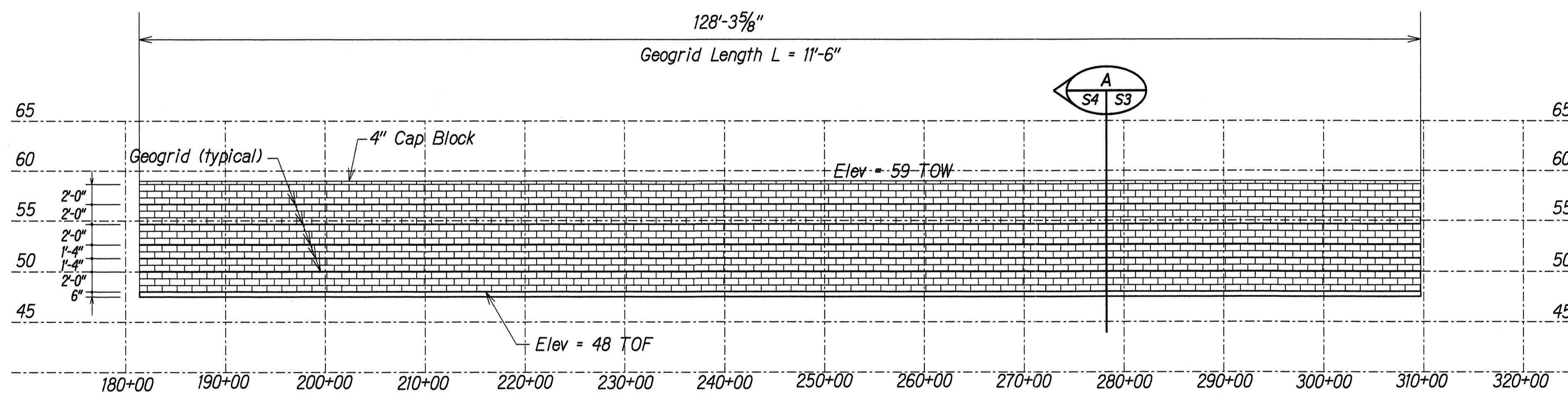
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	7101A-02-98	2000	205-4	22



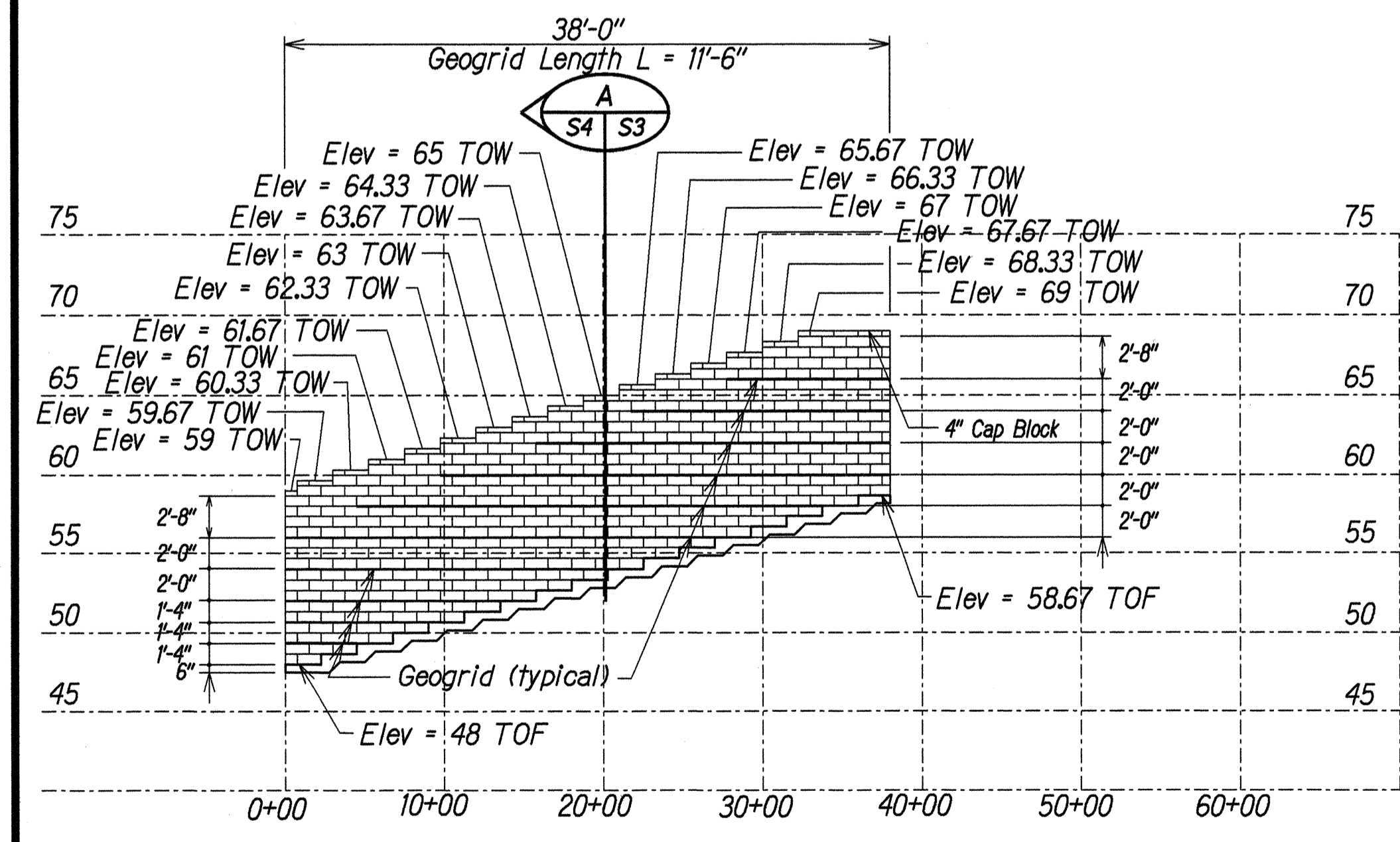
ELEVATION - NORTH WALL
Scale: 1/8" = 1'-0"



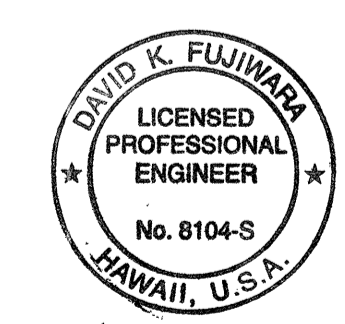
LEFT RETURN WALL
Scale: 1/8" = 1'-0"



ELEVATION - EAST WALL
Scale: 1/8" = 1'-0"



RIGHT RETURN WALL
Scale: 1/8" = 1'-0"



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

RETAINING WALL
WALL ELEVATION

VALUE ENGINEERING COST PROPOSAL
FARRINGTON HWY. RET. WALL ABOVE WAIPAHU H.S. ATHLETIC FIELD
Project No. 7101A-02-98

Scale: As Noted Date: Jan. 2001

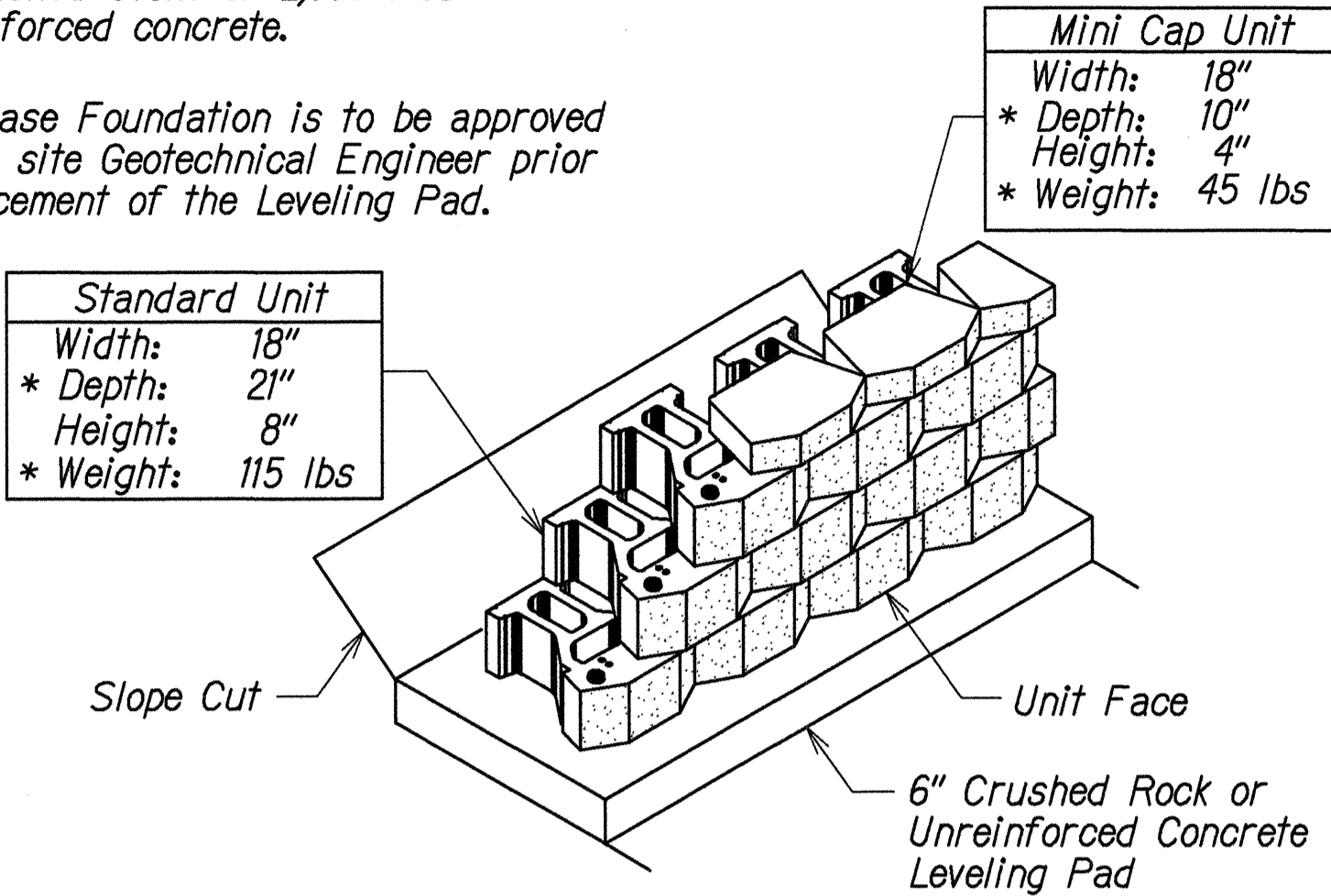
SHEET No. S4 OF 8 SHEETS

ORIGINAL PLAN	DATE	XXX 1991
SURVEY PLOTTED BY	XXX	XXX 1991
DESIGNED BY	XXX	XXX 1991
QUANTITIES BY	XXX	XXX 1991
CHECKED BY	XXX	XXX 1991

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	7101A-02-98	2000	205-5	22

BASE LEVELING PAD NOTES:

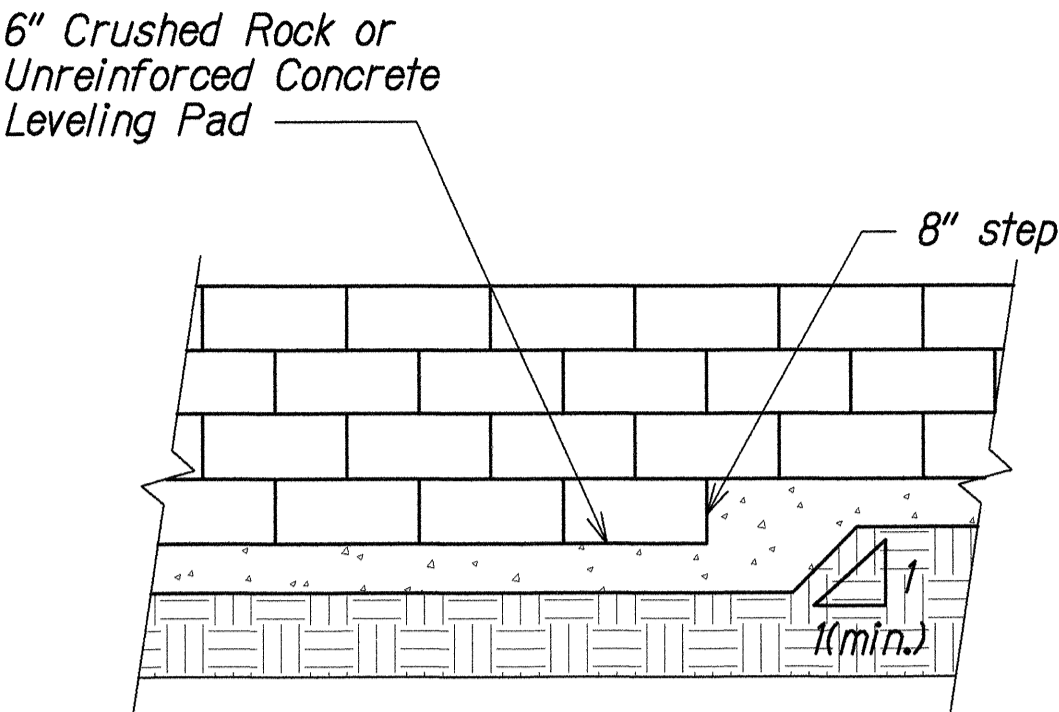
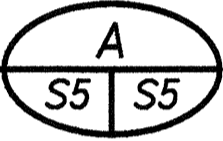
- The Leveling Pad is to be constructed of Crushed Stone or 2,000 PSI± unreinforced concrete.
- The Base Foundation is to be approved by the site Geotechnical Engineer prior to placement of the Leveling Pad.



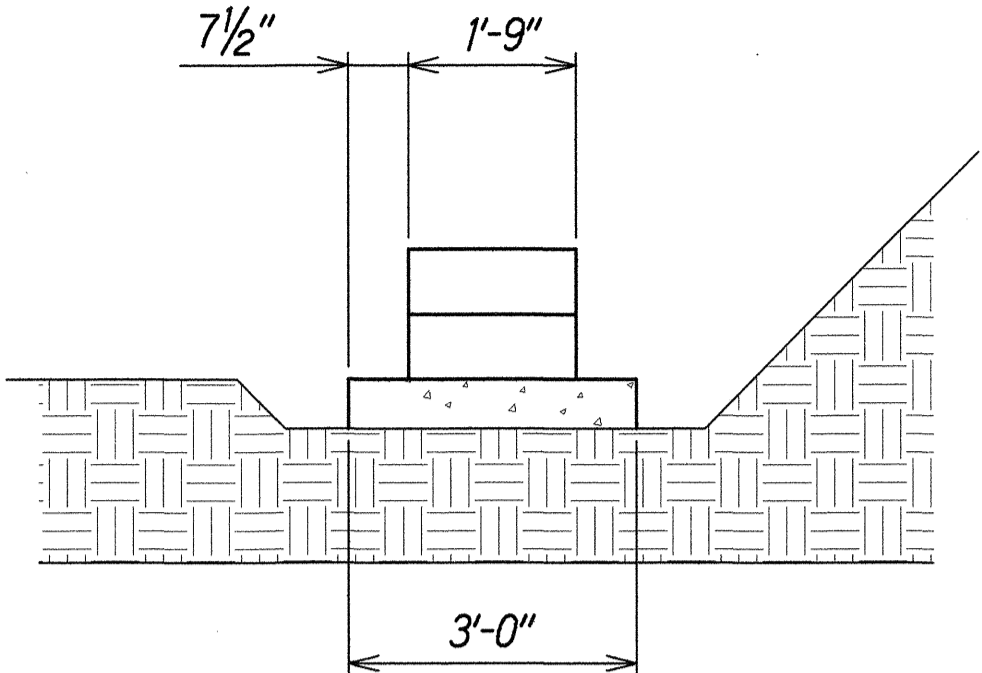
* Dimensions & weight may vary by region

STANDARD UNIT/BASE
PAD ISOMETRIC VIEW

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



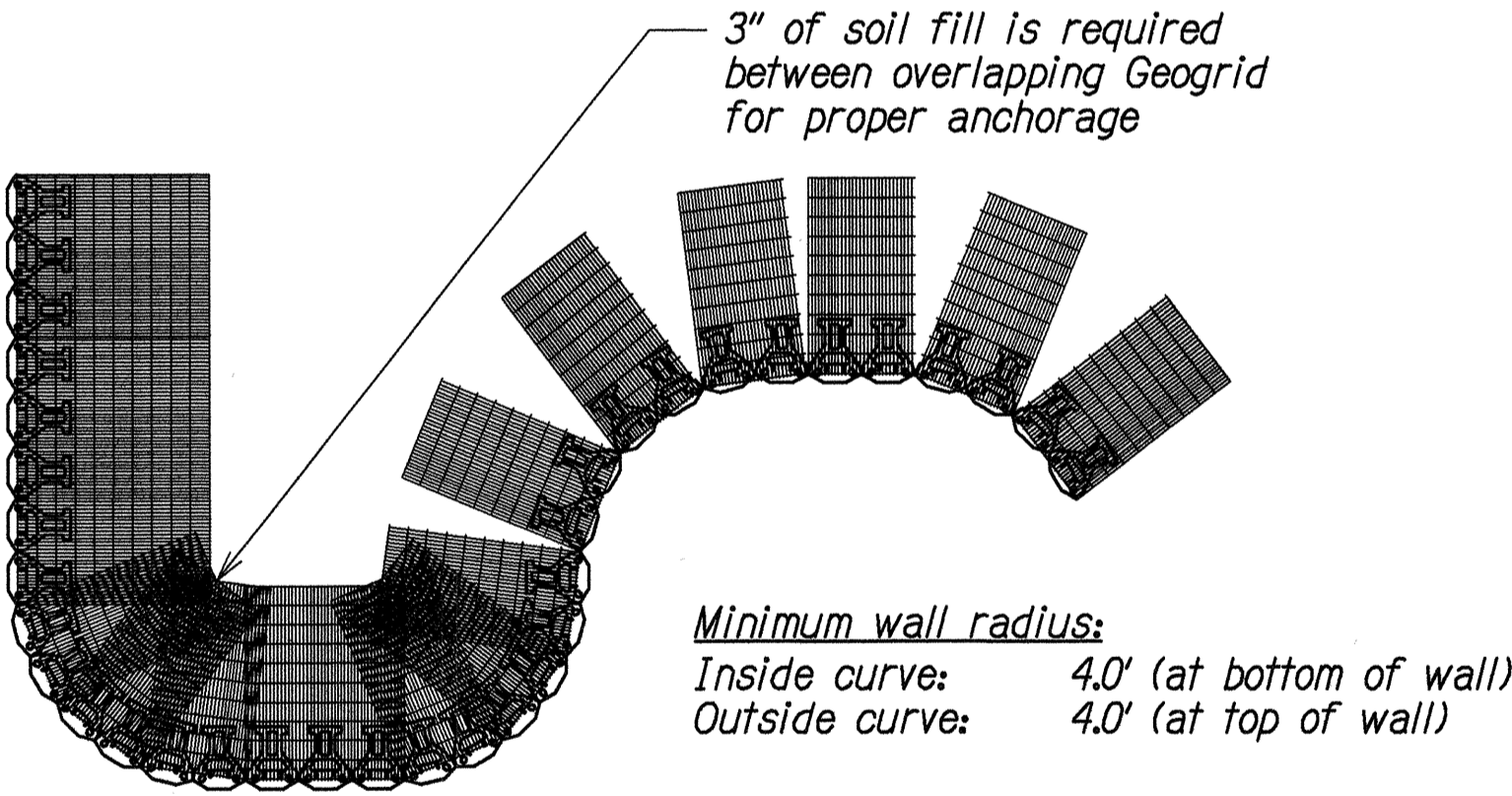
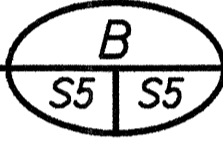
ELEVATION



SECTION

LEVELING PAD DETAIL

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

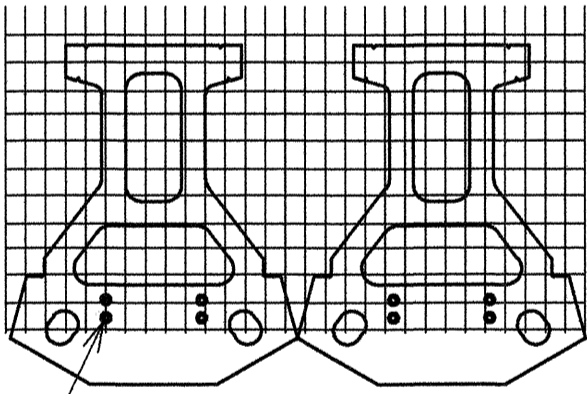
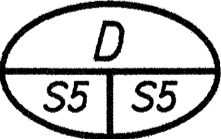


Note:

- Check with manufacturer specifications on correct direction of orientation for Geogrid to obtain proper strength.

GEOGRID INSTALLATION ON
CURVES OR 90° OUTSIDE CORNER

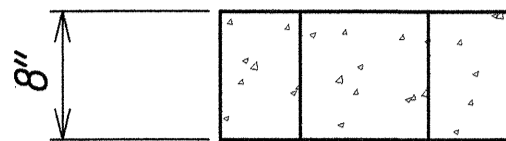
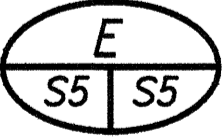
Scale: 3/16" = 1'-0"



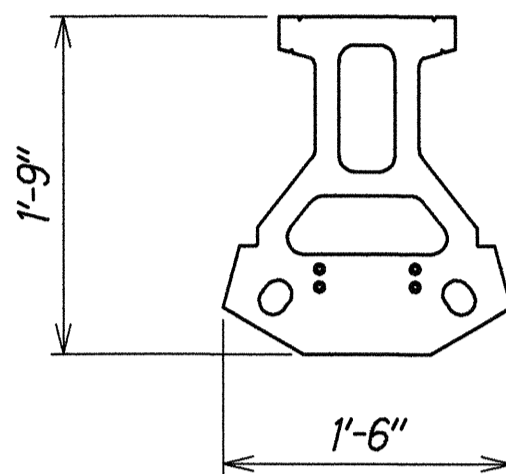
Geogrid is to be placed on level backfill and extended over the Fiberglass Pins. Place next unit. Pull Grid taught and backfill. Stake as required.

GRID AND PIN CONNECTION

Scale: 1" = 1'-0"



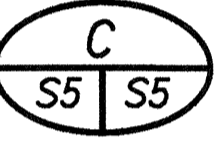
STANDARD ELEVATION



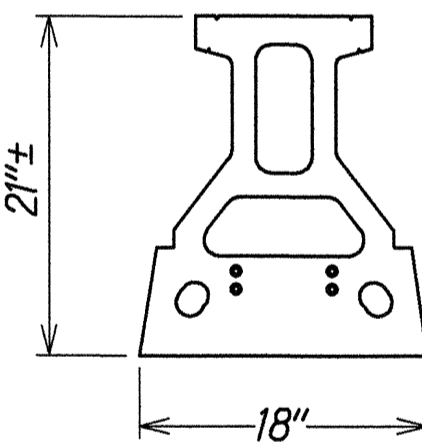
STANDARD PLAN

STANDARD UNIT

Scale: 1" = 1'-0"



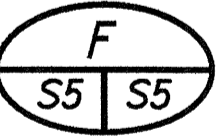
FLATFACE ELEVATION



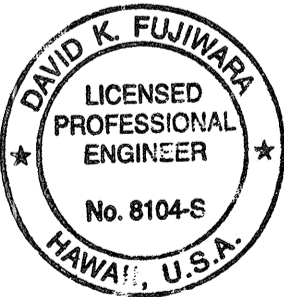
FLATFACE PLAN

FLATFACE UNIT

Scale: 1" = 1'-0"



ORIGINAL PLAN	DATE
SURVEY PLOTTED BY	XXX 1991
DESIGNED BY	XXX 1991
QUANTITIES BY	XXX 1991
CHECKED BY	XXX 1991



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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

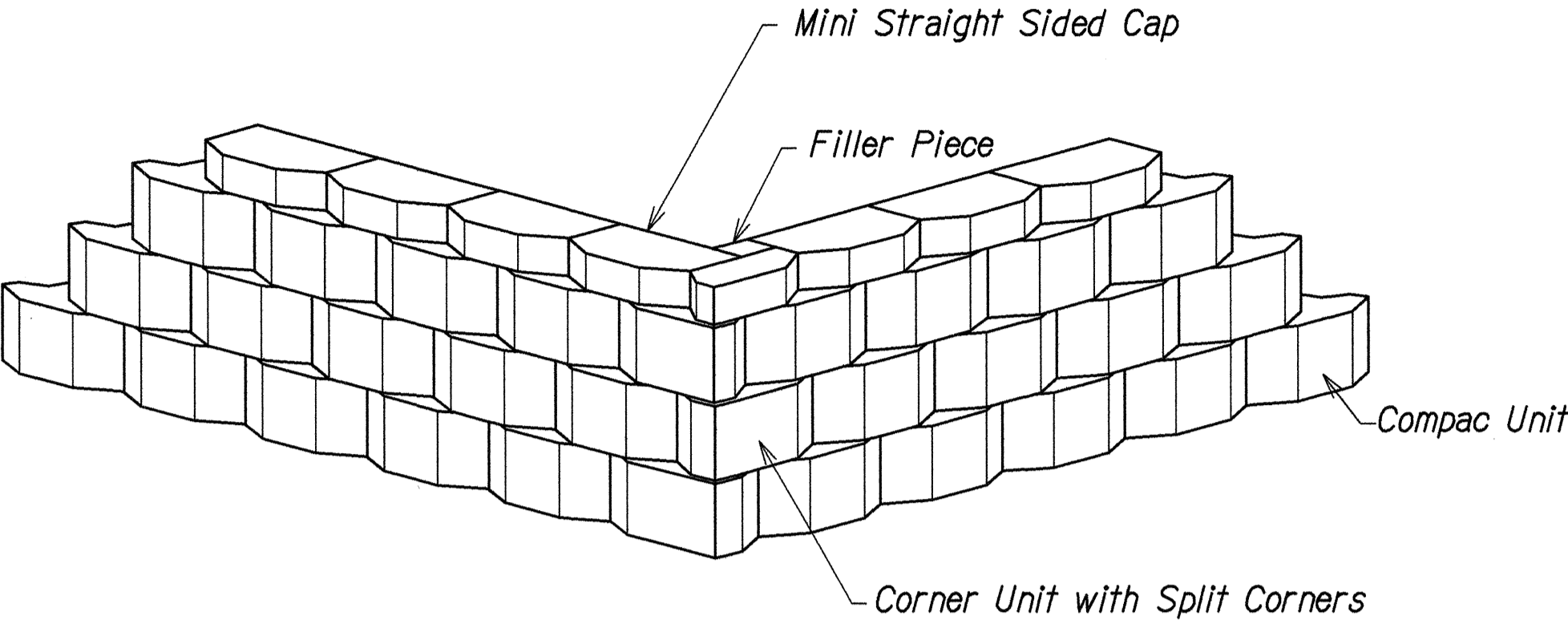
RETAINING WALL
TYPICAL KEYSTONE WALL DETAILS

VALUE ENGINEERING COST PROPOSAL
FARRINGTON HWY. RET. WALL ABOVE WAIAPAHU H.S. ATHLETIC FIELD
Project No. 7101A-02-98

Scale: As Noted Date: Jan. 2001

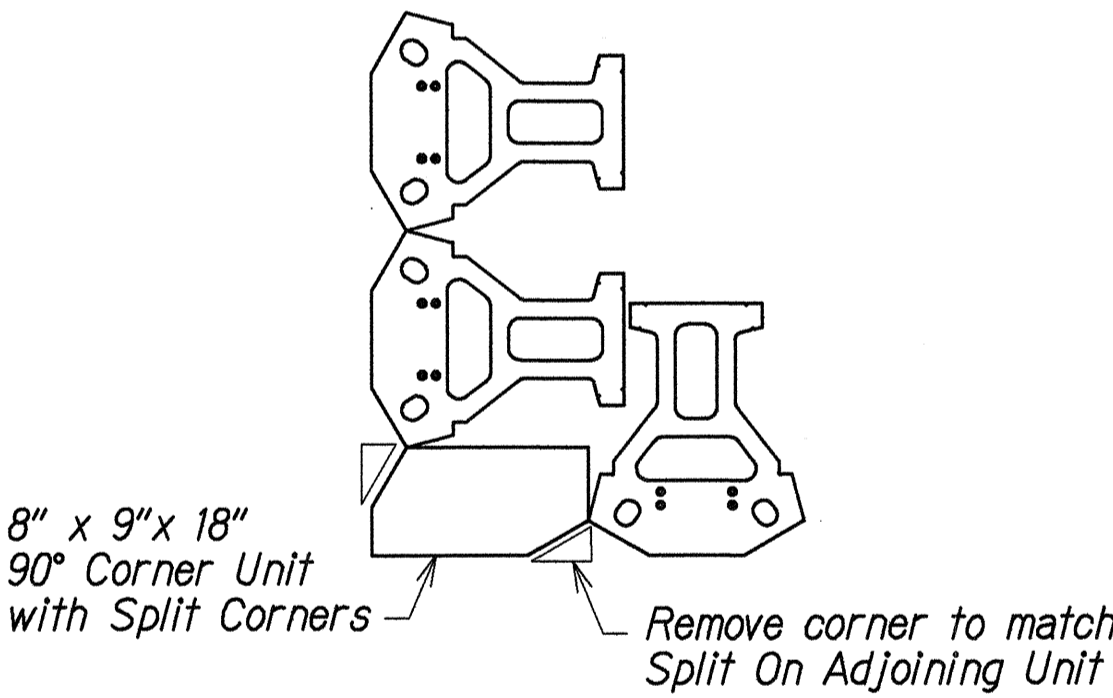
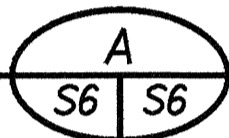
SHEET No. S5 OF 8 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	7101A-02-98	2000	205-6	22



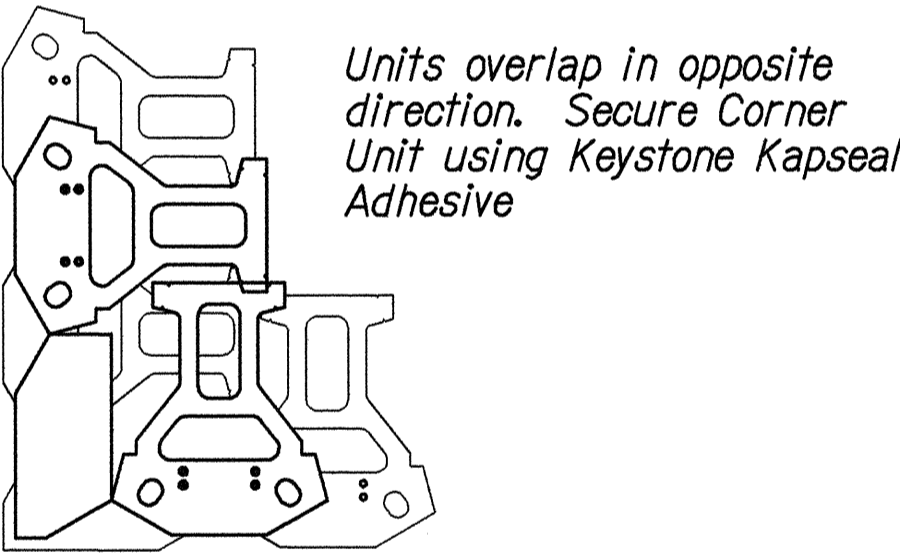
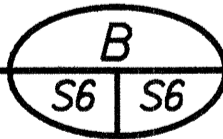
90° OUTSIDE CORNER

Scale: 1" = 1'-0"



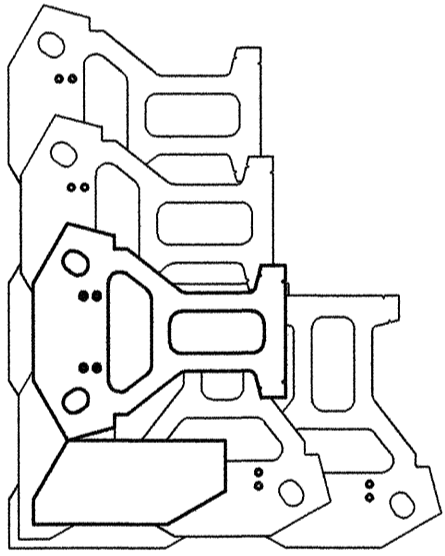
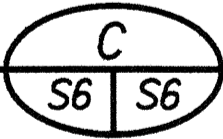
FIRST COURSE

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



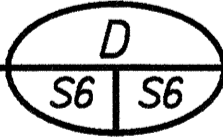
SECOND COURSE

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

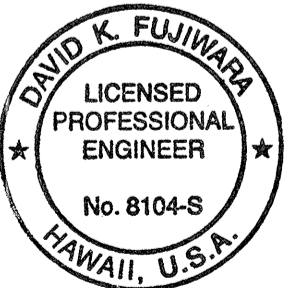


ADDITIONAL COURSE

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



ORIGINAL PLAN	DATE
SURVEY PLOTTED BY	XXX 1991
TRACED BY	XXX 1991
DESIGNED BY	XXX 1991
QUANTITIES BY	XXX 1991
CHECKED BY	XXX 1991



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DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

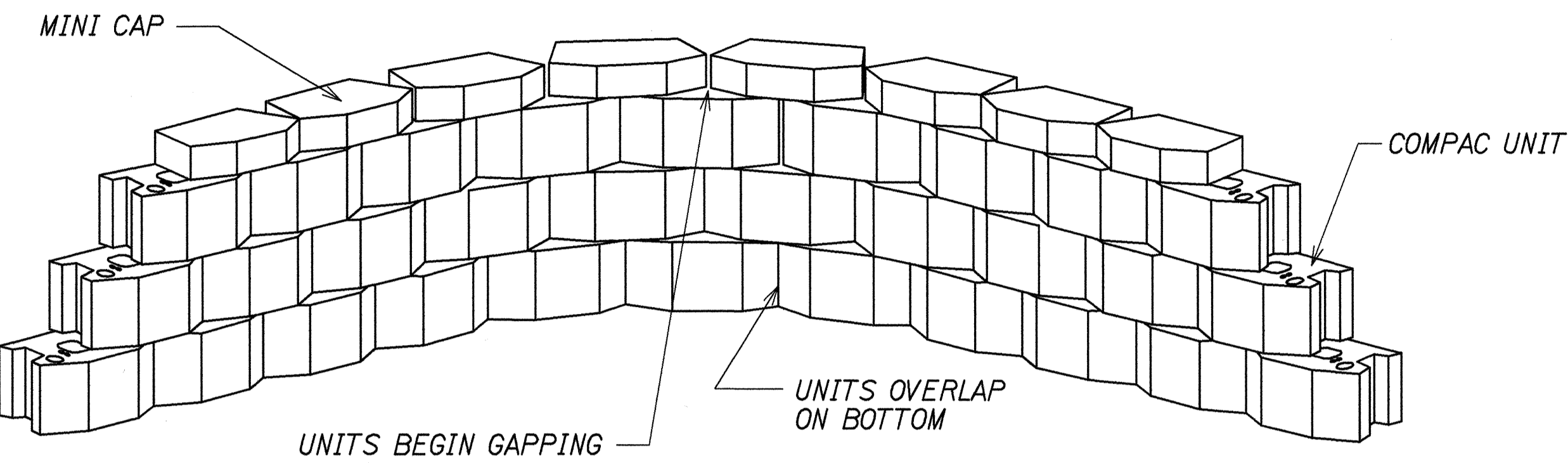
RETAINING WALL

TYPICAL KEYSTONE WALL DETAILS

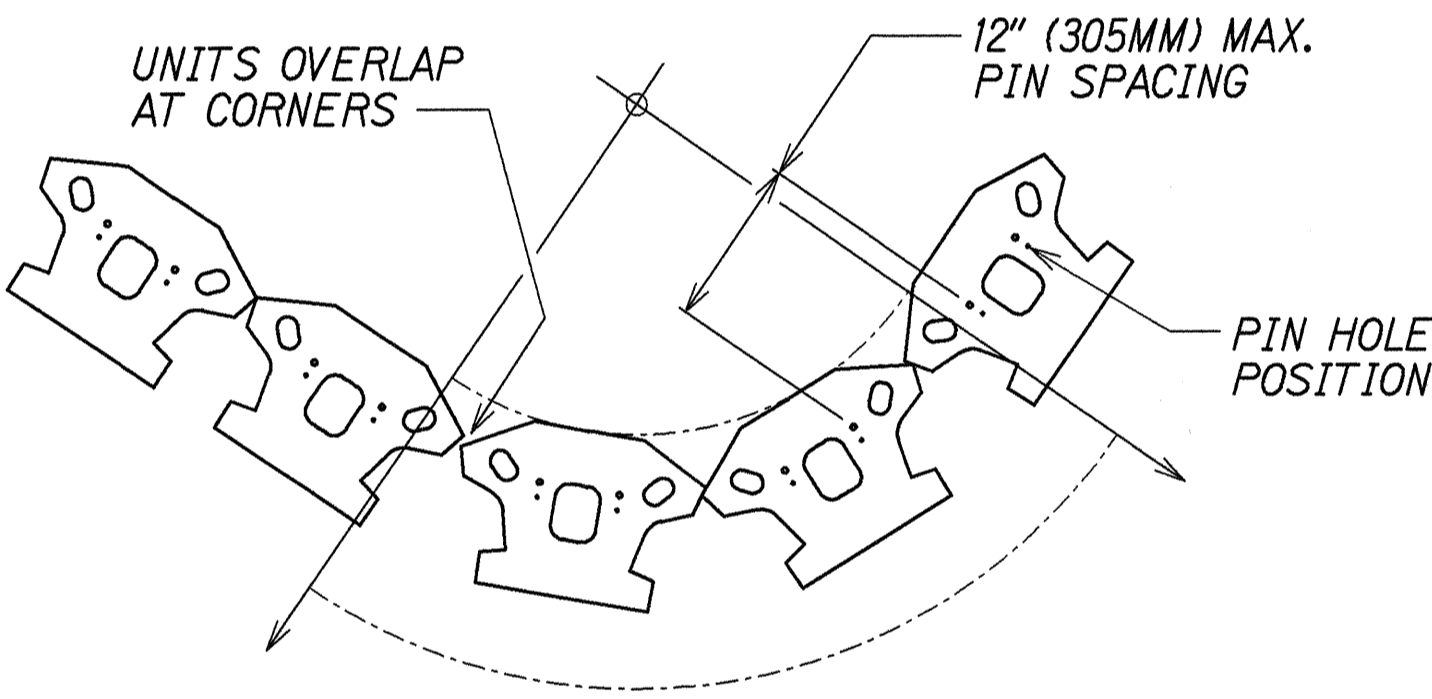
VALUE ENGINEERING COST PROPOSAL
FARRINGTON HWY. RET. WALL ABOVE WAIPAHU H.S. ATHLETIC FIELD
Project No. 7101A-02-98

Scale: As Noted
Date: Jan. 2001

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	7101A-02-98	2000	205-7	22



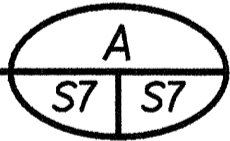
NOTE:
ALL UNITS SHOWN WITH SCULPTURED
ROCK FACE FINISH.



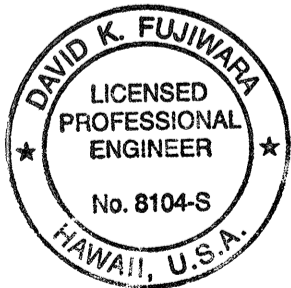
ALL UNITS BATTER OR STEP BACK AWAY FROM THE POINT
OF RADIUS. UNITS WILL GAP. THE AMOUNT OF GAP AND
BATTER IS CONTROLLED BY THE PIN POSITION.

CORNER DETAIL

N.T.S.



ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	XXX 1997
NO. XXXXXXXX	DESIGNED BY	XXX 1997
	QUANTITIES BY	XXX 1997
	CHECKED BY	XXX 1997



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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

RETAINING WALL

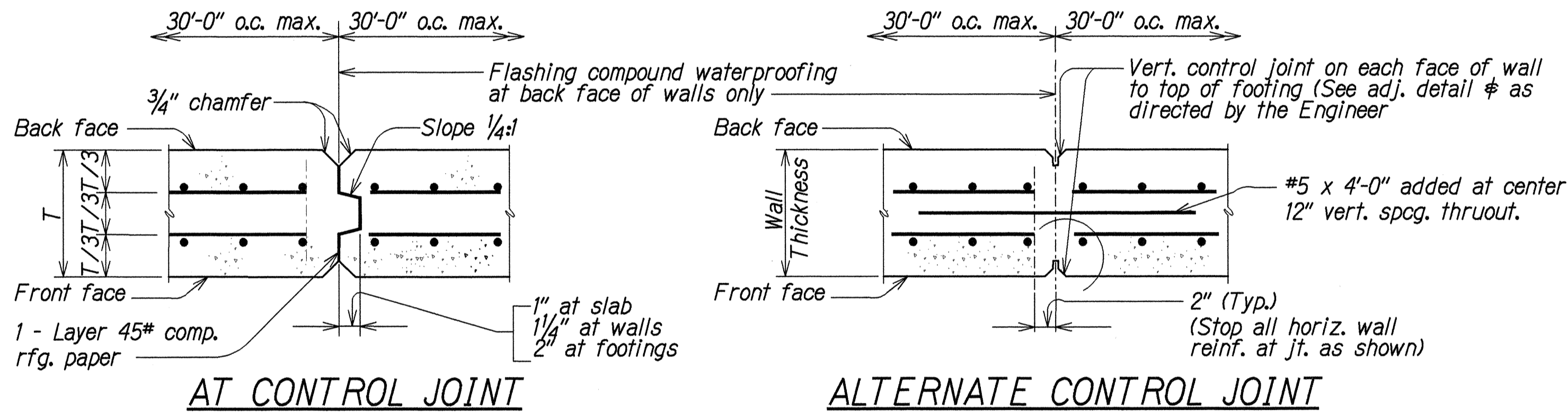
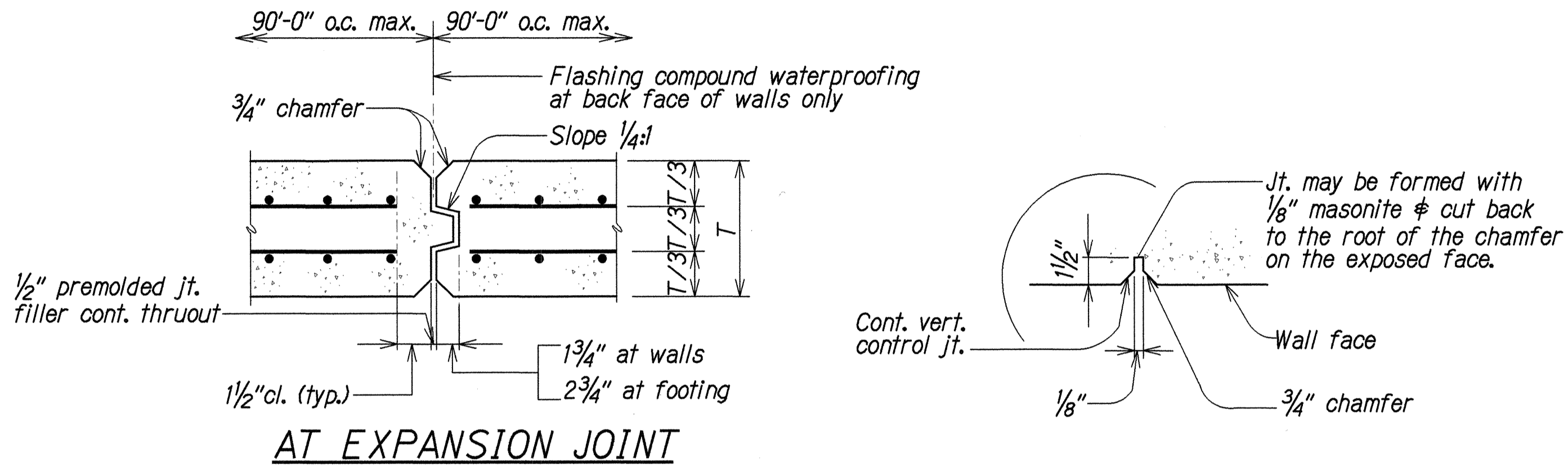
TYPICAL KEYSTONE WALL DETAILS

VALUE ENGINEERING COST PROPOSAL
FARRINGTON HWY. RET. WALL ABOVE WAIPAHU H.S. ATHLETIC FIELD
Project No. 7101A-02-98

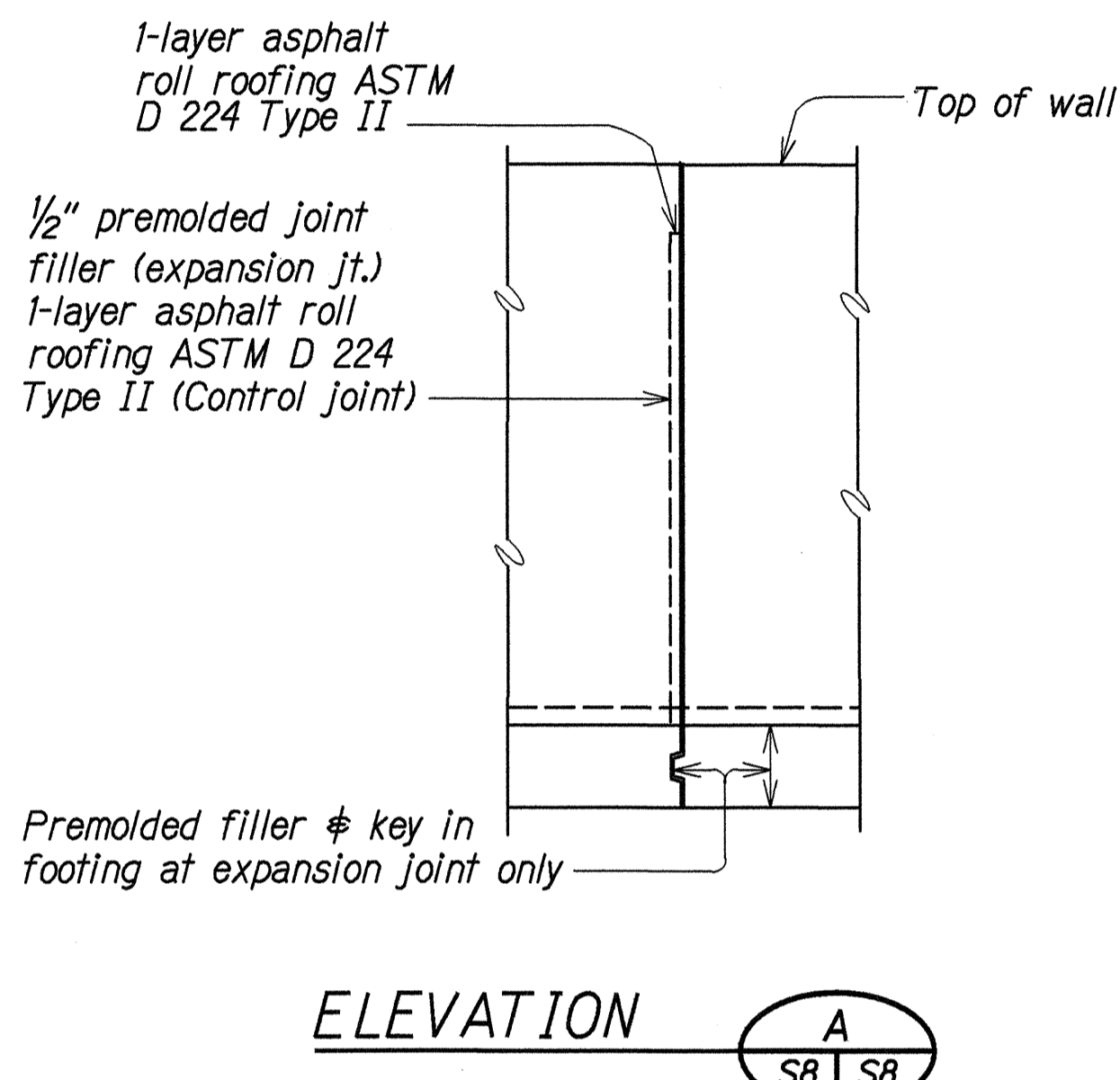
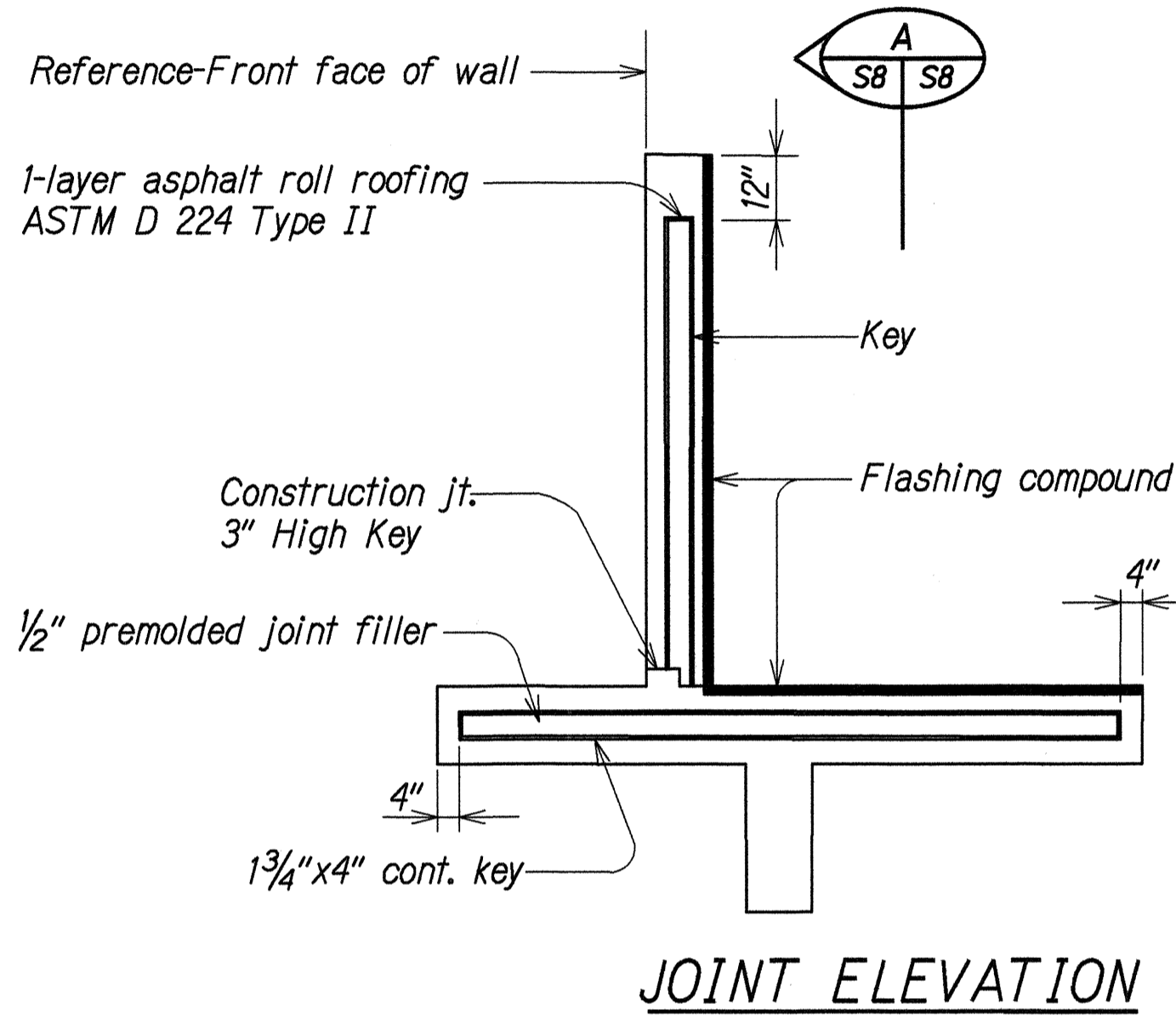
Scale: As Noted Date: Jan, 2001

SHEET No. S7 OF 8 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	7101A-02-98	2000	205-8	22

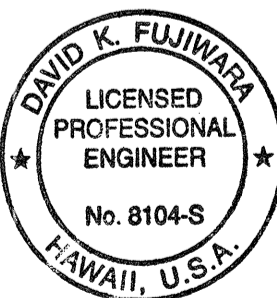


TYPICAL JOINT DETAILS
Not To Scale



TYPICAL EXPANSION JOINT DETAILS
Not To Scale

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DESIGNED BY	Apr. 2000
QUANTITIES BY	CHECKED BY	Apr. 2000
As J. J. J. J. J.		Apr. 2000



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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
RETAINING WALL
TYPICAL RAMP WALL DETAILS
VALUE ENGINEERING COST PROPOSAL
FARRINGTON HWY. RET. WALL ABOVE WAIPIAHU H.S. ATHLETIC FIELD
Project No. 7101A-02-98
Scale: As Noted
Date: Apr. 2000

SHEET No. S8 OF 8 SHEETS
205-8