FLORIDA DEPARTMENT OF TRANSPORTATION

STRUCTURES DESIGN OFFICE

STANDARD DRAWINGS

1989 EDITION

11-MAY-1989 20:14 ST2:[120,151]COVER.DGN;l

This document was promulgated at an annual cost of $11.83 per copy to provide Standards and criteria for the design, construction and maintenance of highway transportation facilities by governmental agencies, consultants, contractors and the citizens of the State of Florida.

FLORIDA DEPARTMENT OF TRANSPORTATION

STRUCTURES DESIGN OFFICE

STANDARDS

TABLE OF CONTENTS

NOTES:

1. An Index Number beginning with a prefix letter S, i.e. S-102, is used to designate a Semi-Standard sheet.
2. An Index Number beginning with a prefix letter I, i.e. I-124, is used to designate a sheet providing instructions
3. An asterisk (*) adjacent to an Index Number designates a drawing not yet available at time of printing.
4. Comments and or questions concerning these Standards shall be directed (preferably in writing) to: Angelo J. Garcia.

FED. ROAD DIST. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.			

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

PREFACE

These Standard Drawings, except for some of the Detour Bridge Standards, were produced with the use of our Computer Aided Design and Drafting (CADD) equipment.

The drawings herein depict common structural components or elements suitable for standardization. Whenever possible the drawings were developed to full completion, that is they are ready for insertion in the Contract Documents. These drawings are commonly referred to as "Standards" (Index Number).

Some other drawings are not fully developed and should, therefore, be completed by the designer prior to their inclusion in the Contract Documents. These drawing are commonly referred to as "Semi-Standards" (S-Index Number).

Some occasions may arise where the designer will need to alter a "Standard" drawing to suit a particular design. In this event the designer may proceed as follows:

1.- Produce a new project specific drawing using the "Standard" as a guide.

2.- Obtain a reproducible copy of the "Standard" and perform the needed modifications on the reproducible copy. At this time, the drawing will cease to be a "Standard" and the original index number and initials (designers and others) shall be deleted.

3.- Show the modifications on a separate sheet and provide cross-reference notes stating that the "Standard" is subject to modifications shown on another sheet.

It should be clearly understood that any modification to a "Standard" transfers the responsibility for that drawing to the designer, <u>in total</u>, and requires his seal and signature.

REVISIONS							Names	Dates
Date	By	Description	Date	By	Description	Drawn by		
						Checked by		
						Designed by		
						Checked by		
						Approved by	AJG	

ENGINEER OF RECORD:

LOGO:

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

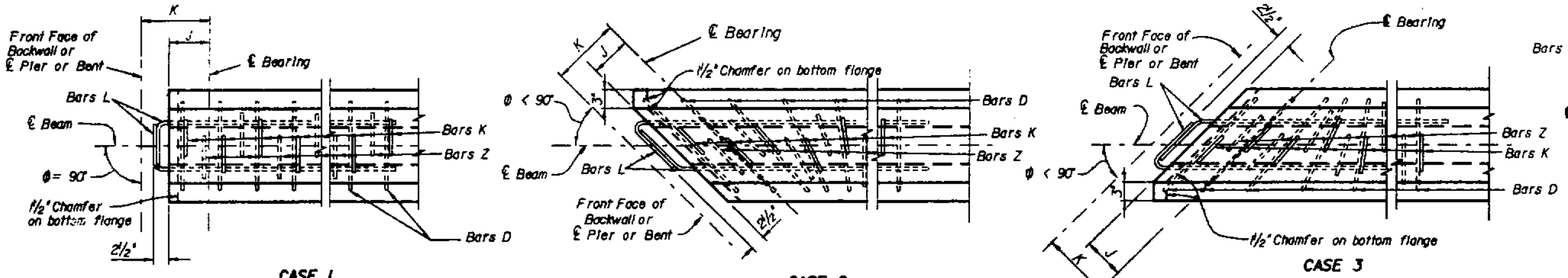
ROAD NO.	COUNTY	PROJECT NO.

SHEET TITLE: PREFACE

PROJECT NAME:

Drawing No. 1 of 1

Index No. 001



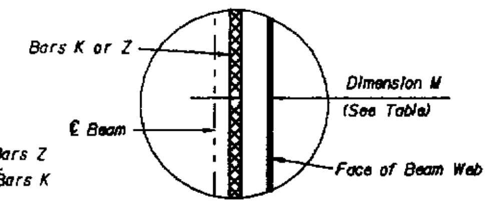
CASE 1

CASE 2
(See Note)

CASE 3
(See Note)

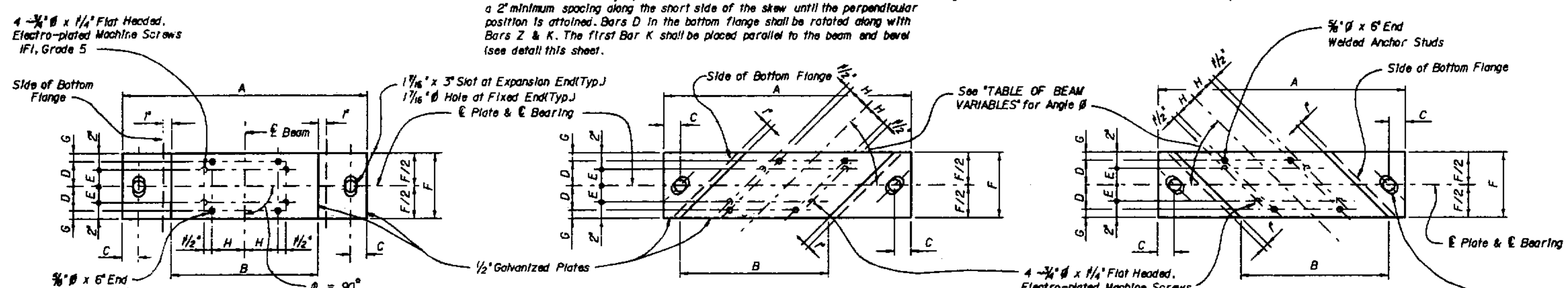
PLAN ENDS OF BEAMS

Note: For both Plan Views Case 2 and Case 3, the first Bar Z and the first two Bars K shall be placed parallel to the skewed end of the Beam. The remainder of the Bars Z & K shall be placed so as to transition from an axis parallel to the skewed end to an axis perpendicular to the centerline of the beam while maintaining a 2" minimum spacing along the short side of the skew until the perpendicular position is attained. Bars D in the bottom flange shall be rotated along with Bars Z & K. The first Bar K shall be placed parallel to the beam and bevel (see detail this sheet.



SECTION THRU BEAM WEB
(Showing Cover on Stirrups)

TABLE OF DIMENSIONS M	
BEAM TYPE	DIMENSION M
II	2"
III	2½"
IV	3"



CASE 1

CASE 2

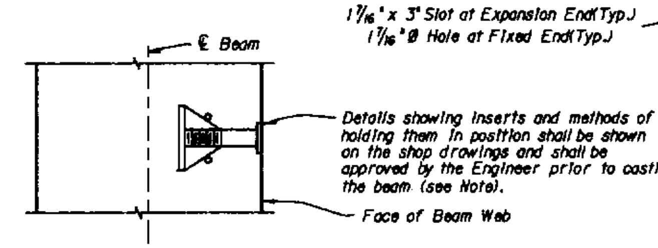
BEARING PLATE DETAILS

NOTE: Bearing Plates required on Beams only as scheduled in the Table of Beam Variables.

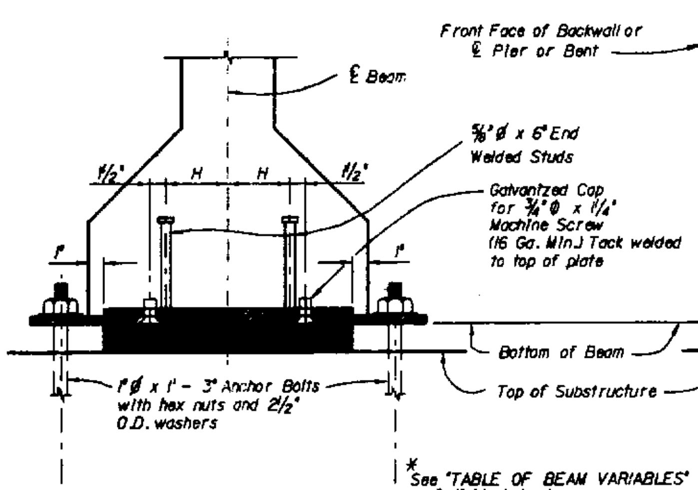
CASE 3

TABLE OF BEARING PLATE DIMENSIONS								
BEAM TYPE	DIMENSIONS (INCHES)							
	A	B	C	D	E	F	G	H
II	B+2C+(6/SINØ)	16/SIN Ø	2+0.78K(COSØ)	3	2½	9	1½	3
III		20/SIN Ø			2	8	1	5
IV		24/SIN Ø			3	10	2	7

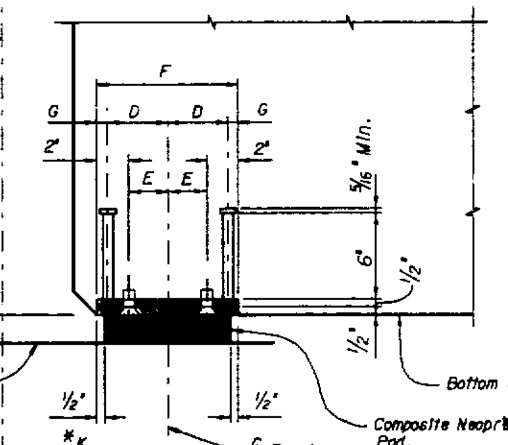
NOTE: Insert shall be 1" Ø, zinc-electroplated, ferrule wing nut, UNC threads, 1/0 minimum gage wire, not more than 4" in depth and shall have a minimum ultimate tensile strength of 11,400 lbs. in 4,000 p.s.i. concrete.



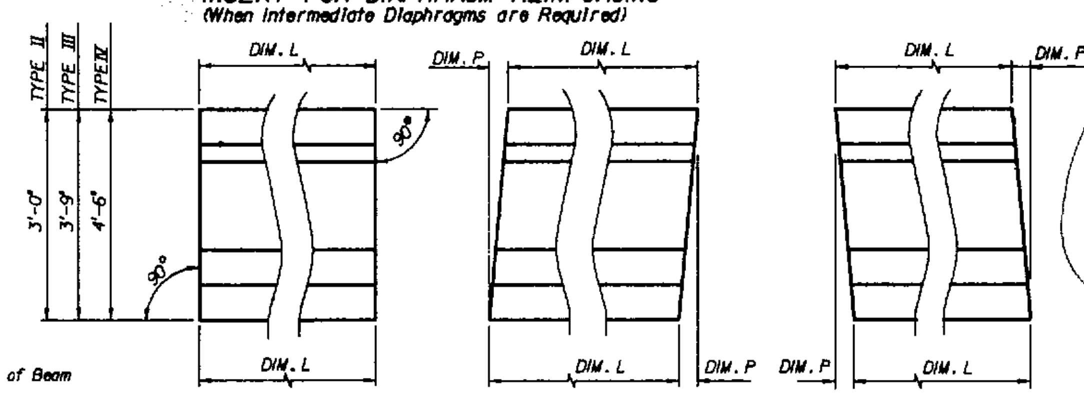
SECTION THRU BEAM WEB AT INSERT FOR DIAPHRAGM REINFORCING
(When Intermediate Diaphragms are Required)



END ELEVATION-SECTION OF BEARING ASSEMBLY
(Perpendicular to ℄ Beam)



SIDE ELEVATION-SECTION OF BEARING ASSEMBLY
(Perpendicular To ℄ Bearing)



CONDITION 1
(P = 0'-0")

CONDITION 2

CONDITION 3

END ELEVATIONS OF BEAMS
(Showing Vertical Bevel of Beam End)

NOTES: 1. See Table on individual beam sheets for Dimension P.
2. Bar K adjacent to the end of the beam shall be placed parallel to the end bevel of the beam for Condition 2 and Condition 3.

GENERAL NOTES

MORTAR LEAKAGE: Any mortar leakage that occurs and stains resulting from leakage shall be removed so that beams have a uniform appearance.

STRANDS: At the option of the Contractor, other types, sizes and/or configurations of strands may be used in lieu of the stranding shown on these sheets. Calculations shall be submitted showing the substitution meets the following requirements:
1. The strands meet all the requirements of ASTM-A416 for the grade of strands proposed.
2. The net compressive stress in the concrete due to prestressing acting alone, after all losses, is at least as large as that provided by the stranding shown on these sheets.
3. The ultimate strength of the structure with the proposed stranding is at least equal to the ultimate strength of the original design.
4. The proposed stranding complies in all respects with the Department's Structures Design Guidelines.

FINISH: 3" on each of the top outside edges of beams shall have a smooth finish. The remaining top surface of the beam shall be rough floated and then scrubbed transversely with a coarse wire brush to remove all laitance and to produce a roughened surface for bonding. All beams shall receive a Class 3 surface finish.

SHOP DRAWINGS: Shop Drawings for prestressed beams shall show a complete detensioning schedule such as to minimize tension in the concrete during release of the strands. Detailed concrete stresses during each operation of detensioning shall be submitted with the Shop Drawings. Shop Drawings shall show complete details of the prestressed beams including all reinforcing steel.

STRAND DETENSIONING: The strand detensioning schedule required to be included on the Shop Drawings shall be based upon the following priority, from first to last, of strand detensioning:
1. Top dormant strands (Bars N)
2. Fully bonded strands
3. Partially debonded (shielded) strands

FORMS AND PALLETS: All beams shall be cast on concrete based pallets and in metal forms.

HANDLING: In the handling of beams, they must be maintained in an upright position at all times and must be picked up from points located a maximum distance of 3ft. from the ends of the beam.

STORAGE AND TRANSPORTATION: Beams shall be stored on adequate dunnage and supported during transit within 18" from ends of beam.

STRAND EXTENSION: All strands shall extend 2½" beyond ends of beams.

CONCRETE: Refer to Table of Beam Variables on the individual beam sheets for the class of concrete, 28-day strength (f'c) and cylinder strength at transfer of the tensioning load (f'ci).

REINFORCING STEEL: All reinforcing steel shall be Grade 60.

BEARING PADS: The cost of installing bearing pads shall be included in the contract unit price of prestressed beams. The composite neoprene pads may or may not be furnished to the contractor by FDOT. See the General Notes for the bridge, or the Bid Item Notes, for additional information regarding who the pads provider will be.

MISCELLANEOUS: Bearing plates, anchor bolts, nuts and washers shall be hot dip galvanized in accordance with requirements of A.S.T.M. Specification A123. Bearing plates shall conform to A.S.T.M. Specification A36. Anchor bolts may be A36 or A307.
The cost of bearing plates, anchor bolts, nuts, washers, premoulded expansion material at bearings and inserts for diaphragm tie bars shall be included in the contract unit prices for prestressed beams.

NOTE: Work this sheet with individual beam sheets, Type II, III and IV Only.

A123 (plates)
A153 (hardware)

REVISIONS					
Date	By	Description	Date	By	Description

	Names	Dates
Drawn by	WEH	1-89
Checked by	DCP	1-89
Designed by	DCP	1-89
Checked by	WEH	1-89
Approved by	REN	

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Tallahassee, Florida 32399-0450

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FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.

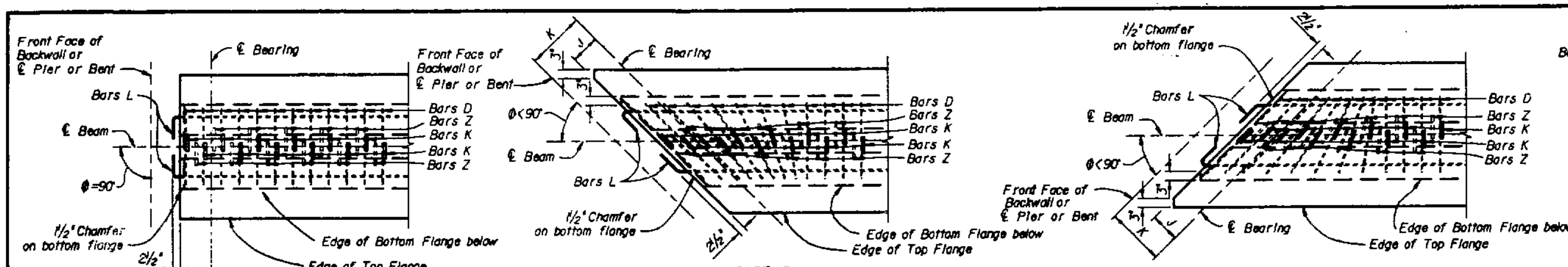
SHEET TITLE:
TYPICAL NOTES AND DETAILS FOR AASHTO TYPE II, III AND IV PRESTRESSED BEAMS

PROJECT NAME:

Drawing No. 1 of 1

Index No. 100

FISCAL YEAR	STATE	PROJECT NO.	SHEET NO.
3	FLA.		



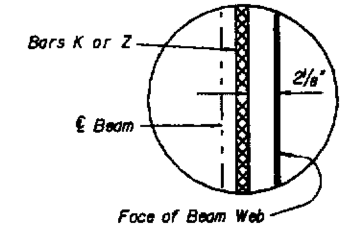
CASE 1

CASE 2
(See Note)

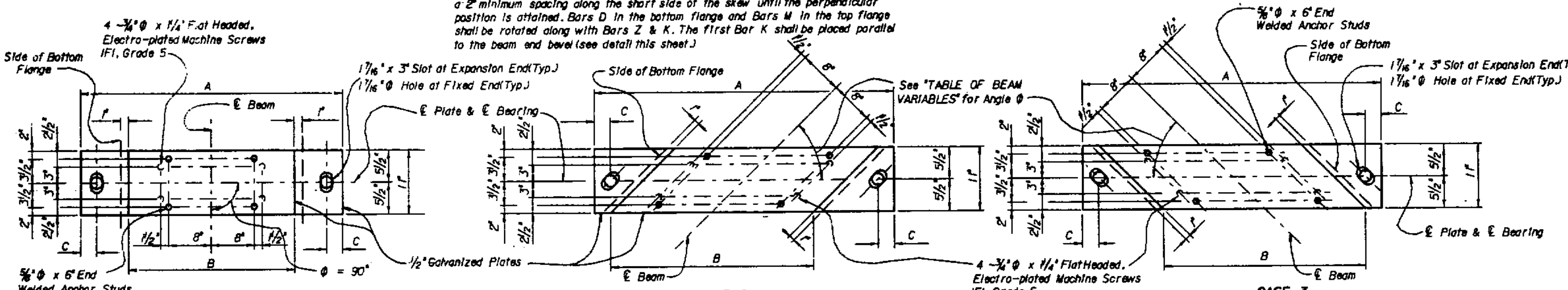
PLAN ENDS OF BEAMS
(Bars M in top flange omitted for clarity.)

CASE 3
(See Note)

Note: For both Plan Views Case 2 and Case 3, the first Bar Z and the first two Bars K shall be placed parallel to the skewed end of the Beam. The remainder of the Bars Z & K shall be placed so as to transition from an axis parallel to the skewed end to an axis perpendicular to the centerline of the beam while maintaining a 2" minimum spacing along the short side of the skew until the perpendicular position is attained. Bars D in the bottom flange and Bars M in the top flange shall be rotated along with Bars Z & K. The first Bar K shall be placed parallel to the beam end bevel (see detail this sheet.)



SECTION THRU BEAM WEB
(Showing Cover on Stirrups)



CASE 1

CASE 2

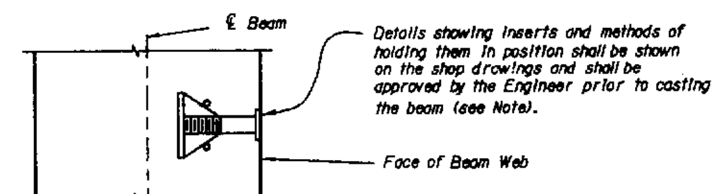
CASE 3

BEARING PLATE DETAILS
NOTE: Bearing Plates required on Beams only as scheduled in the Table of Beam Variables.

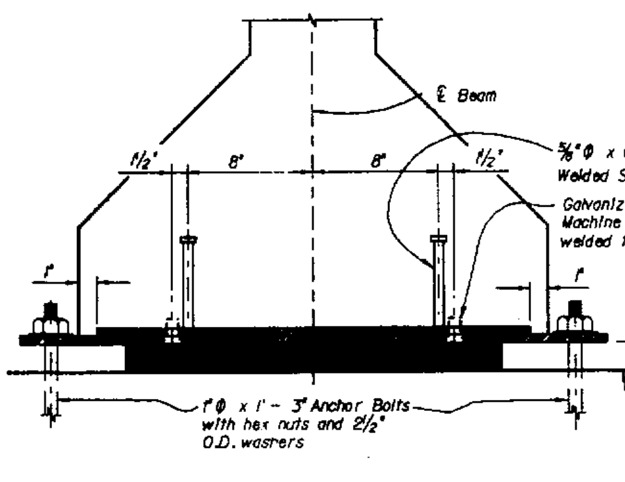
TABLE OF BEARING PLATE DIMENSIONS

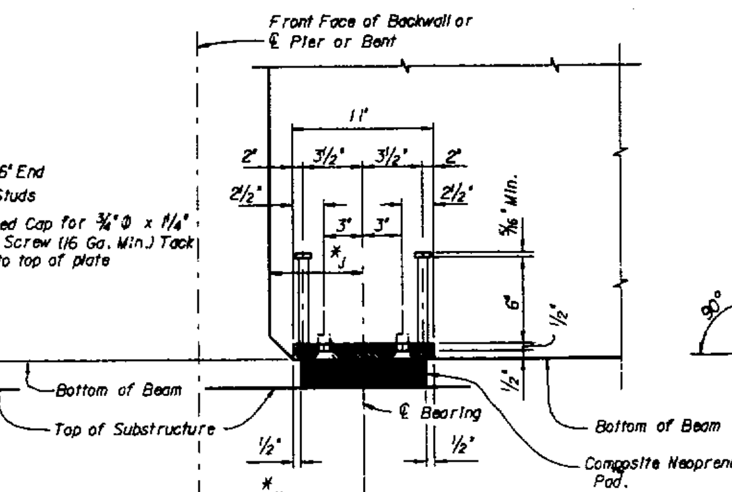
BEAM TYPE	DIMENSIONS (INCHES)		
	A	B	C
V or VI	5+2C+(6/SINφ)	26/SIN φ	2+0.78KCOSφ)

NOTE: Insert shall be 1" ϕ, zinc-electroplated, ferrule wing nut, UNC threads, 1/0 minimum gage wire, not more than 4" in depth and shall have a minimum ultimate tensile strength of 11,400 lbs. in 4,000 p.s.i. concrete.



SECTION THRU BEAM WEB AT INSERT FOR DIAPHRAGM REINFORCING
(When Intermediate Diaphragms are Required)

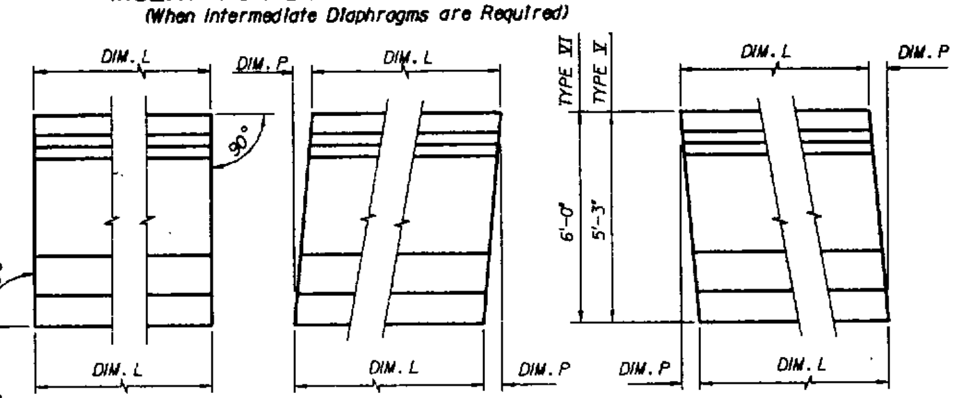




*See "TABLE OF BEAM VARIABLES" on Individual Sheets.

END ELEVATION-SECTION OF BEARING ASSEMBLY
(Perpendicular to ℄ Beam)

SIDE ELEVATION-SECTION OF BEARING ASSEMBLY
(Perpendicular To ℄ Bearing)



CONDITION 1
(P = 0'-0")

CONDITION 2

CONDITION 3

END ELEVATIONS OF BEAMS
(Showing Vertical Bevel of Beam End)

NOTES: 1. See Table on Individual beam sheets for Dimension P.
2. Bar K adjacent to the end of the beam shall be placed parallel to the end bevel of the beam for Condition 2 and Condition 3.

GENERAL NOTES

MORTAR LEAKAGE: Any mortar leakage that occurs and stains resulting from leakage shall be removed so that beams have a uniform appearance.

STRANDS: At the option of the Contractor, other types, sizes and/or configurations of strands may be used in lieu of the stranding shown on these sheets. Calculations shall be submitted showing the substitution meets the following requirements:
1. The strands meet all the requirements of ASTM-A416 for the grade of strands proposed.
2. The net compressive stress in the concrete due to prestressing acting alone, after all losses, is at least as large as that provided by the stranding shown on these sheets.
3. The ultimate strength of the structure with the proposed stranding is at least equal to the ultimate strength of the original design.
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STRAND DETENSIONING: The strand detensioning schedule required to be included on the Shop Drawings shall be based upon the following priority, from first to last, of strand detensioning:
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3. Partially debonded (shielded) strands

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HANDLING: In the handling of beams, they must be maintained in an upright position at all times and must be picked up from points located a maximum distance of 3ft. from the ends of the beam.

STORAGE AND TRANSPORTATION: Beams shall be stored on adequate dunnage and supported during transit within 18" from ends of beam.

STRAND EXTENSION: All strands shall extend 2 1/2" beyond ends of beams.

CONCRETE: Refer to Table of Beam Variables on the individual beam sheets for the class of concrete, 28-day strength (f'c) and cylinder strength at transfer of the tensioning load (f'ci).

REINFORCING STEEL: All reinforcing steel shall be Grade 60.

BEARING PADS: The cost of installing bearing pads shall be included in the contract unit price of prestressed beams. The composite neoprene pads may or may not be furnished to the contractor by FDOT. See the General Notes for the bridge, or the Bid Item Notes, for additional information regarding who the pads provider will be.

MISCELLANEOUS: Bearing plates, anchor bolts, nuts and washers shall be hot dip galvanized in accordance with requirements of A.S.T.M. Specification A123. Bearing plates shall conform to A.S.T.M. Specification A36. Anchor bolts may be A36 or A307. The cost of bearing plates, anchor bolts, nuts, washers, premoulded expansion material at bearings and inserts for diaphragm tie bars shall be included in the contract unit prices for prestressed beams.

NOTE: Work this sheet with individual beam sheets. Type V and VI only.

REVISIONS							Names	Dates
Date	By	Description	Date	By	Description	Drawn by	WEH	1-89
						Checked by	DCP	1-89
						Designed by	DCP	1-89
						Checked by	WEH	1-89
						Approved by	REN	

ENGINEER OF RECORD:
STRUCTURES DESIGN OFFICE
605 Suwannee Street, MS 33
Tallahassee, Florida 32399-0450

LOGO:

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.

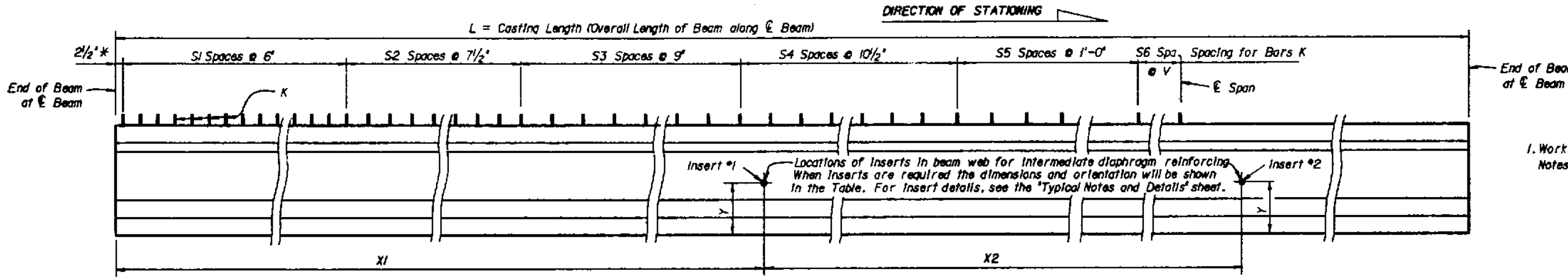
SHEET TITLE: TYPICAL NOTES AND DETAILS FOR AASHTO TYPE V AND VI PRESTRESSED BEAMS

PROJECT NAME:

Drawing No. 1 of 1

Index No. 101

FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.			

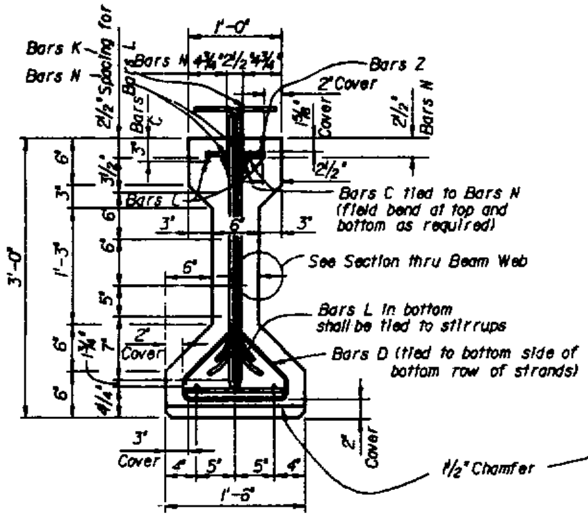


ELEVATION

NOTE: Dimension R has been included in the lengths (L) of beams to compensate for elastic and time-dependent shortening effects.

GENERAL NOTES

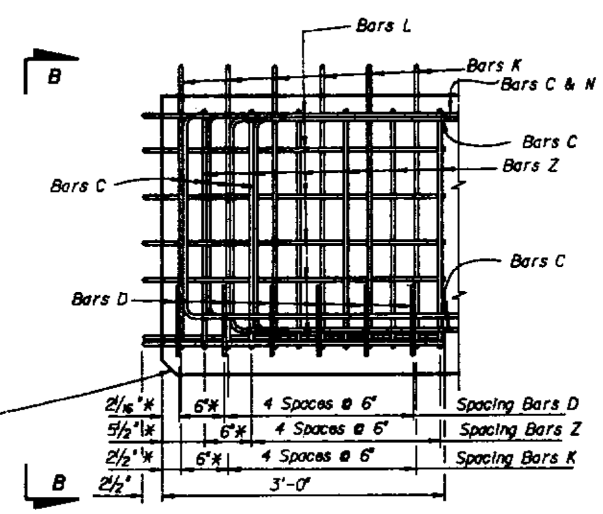
1. Work this sheet with the "Typical Notes and Details" sheet.



VIEW B-B

(With strands omitted, see Table for reference to strand pattern and treatment of Bars C)

NOTE: Place Bars K and Z one (1) each space (alternate).

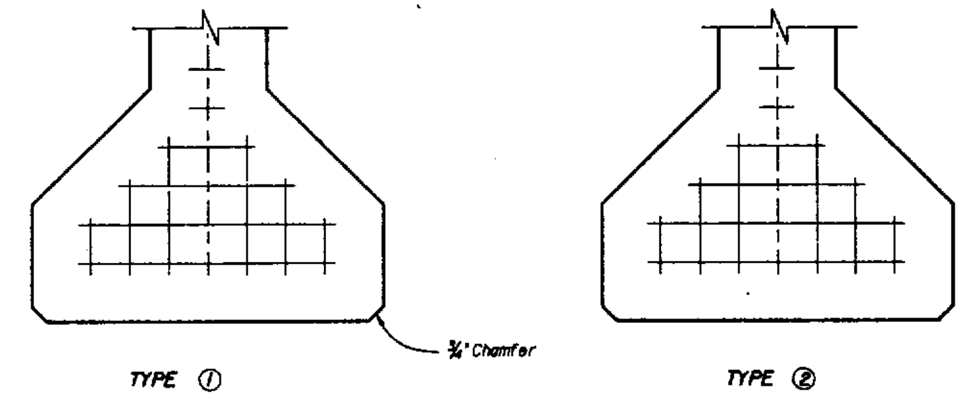


DETAIL AT END OF BEAM

NOTE: Stirrups shall be placed and tied to the top of the non-shielded prestressing strands in the bottom row.

Bars C shall be tied to Bars N in the top flange, to the vertical legs of Bars K and Z, and to non-shielded prestressing strands in the bottom flange as shown in the "Strand Pattern and Debonding Schedule".

* Note: Spacing of Bars D, K, and Z shown are Measured along center line of beam, except that for skewed beam ends, all spacing dimensions shown from the end of the beam to the second Bar K (8½") are measured perpendicular to the skewed beam end.



STRAND PATTERNS AND DEBONDING SCHEDULE

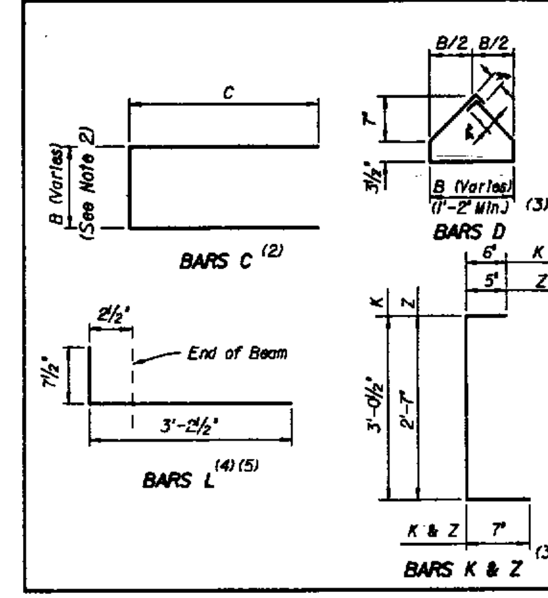
(Showing treatment of Bars C in Bottom flange)

NOTE: ○ - indicates fully bonded strands.
□ - indicates referenced pair of strands to be debonded the length shown, measured from the centerline of bearing.

BILL OF REINFORCING STEEL FOR ONE BEAM ONLY

MARK	SIZE	NO. REQUIRED	LENGTH (1)
C (2)	½"⌀ Strand (2)	8	See Table
D (3)(7)	3	12	Varies(4'-2" Min.)
K (3)	4	See Table	4'-2"
L (4)(5)	4	18	3'-10"
N (6)	⅜"⌀ Strand (6)	2	See Table
Z (3)	4	12	3'-7"

BENDING DIAGRAMS (1)



NOTES:
(1) All bar dimensions are out-to-out.
(2) Bars C shall be either ASTM A416, Grade 270, seven-wire strands, 1/2" diameter or larger, or No. 7, Grade 60 deformed bars. Dimension B, which determines the exact length of Bars C, varies with the Contractor's method of bending and placement. The dimensions, bending and placement of Bars C shall be included on the Shop Drawings.
(3) Bars D, K, and Z shall be bent around pins having the following diameters for respective sizes:

Bar Size	Pin Diameters
#3	1"
#4	2"

(4) Bars L shall be bent prior to the beam leaving the prestressing yard. For treatment of bars L at skewed beam ends, see "Plan Ends of Beams".
(5) Caution should be used with Bars L in the ends of exterior beams to assure that the bent portion of the bar is properly oriented so that the bar will be embedded in the diaphragm concrete.
(6) Bars N shall be either ASTM A416, Grade 250 or 270, seven-wire strands 3/8" diameter or larger, stressed to 5,000 pounds each.
(7) Hooks for Bars D shall be bent so that Bars D are fabricated as a single plane of reinforcing. The minimum Dimension B and length of Bars D shown apply to Bars D placed perpendicular to the centerline of the beam. Dimension B and the length of Bars D for beams with skewed ends vary with the skew (See "Plan Ends of Beams") and shall be scheduled on the Shop Drawings.
(8) (NS) means Near Side and (FS) means Far Side, both refering to which face of the beam web is to receive the insert for the dimensioned location. (NS) and (FS) are referenced to the DIRECTION OF STATIONING shown.
(9) Black means standard finish and Epoxy means epoxy coated reinforcing steel.

TABLE OF BEAM VARIABLES / REINFORCING STEEL

BEAM ID.	CONCRETE PROPERTIES: CLASS	STRENGTHS: REL. (f'ci)	STRENGTHS: 28-DAY (f'c)	STND PTRN TYPE	PLAN VIEW CASE	END ELEV COND.	BRG. PLATE CASE	END OF BEAM AND BRG. ℄ DIMENSIONS: ANGLE θ	DIM P	DIM J	DIM K	BEAM DIMENSIONS: DIM L	DIM R	DIM V	NUMBER OF SPACES FOR STIRRUP BARS K: S1	S2	S3	S4	S5	S6	DIAPHRAGM INSERT LOCATIONS: DIM X1	DIM X2	DIM Y	NS/FS (8) #1	NS/FS (8) #2	TYPE OF (9) REINF.	C: C	C: APPROX LENGTH	K: NO. REQ'D	N: LENGTH

REVISIONS							Names	Dates
Date	By	Description	Date	By	Description	Drawn by		
						Checked by		
						Designed by		
						Checked by		
						Approved by		

ENGINEER OF RECORD:

LOGO:

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.

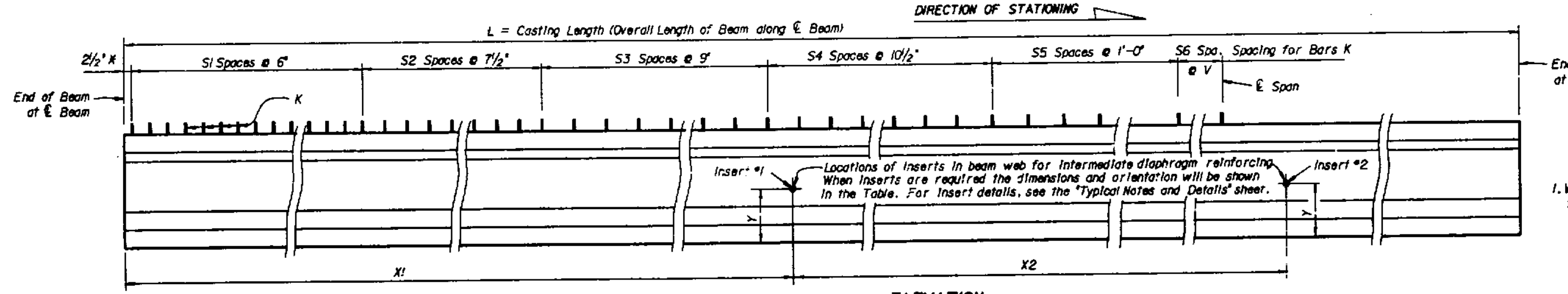
SHEET TITLE: AASHTO TYPE II BEAMS

PROJECT NAME:

Drawing No. 1 of 1

Index No. S-102

FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.			



ELEVATION

NOTE: Dimension R has been included in the lengths (L) of beams to compensate for elastic and time-dependent shortening effects.

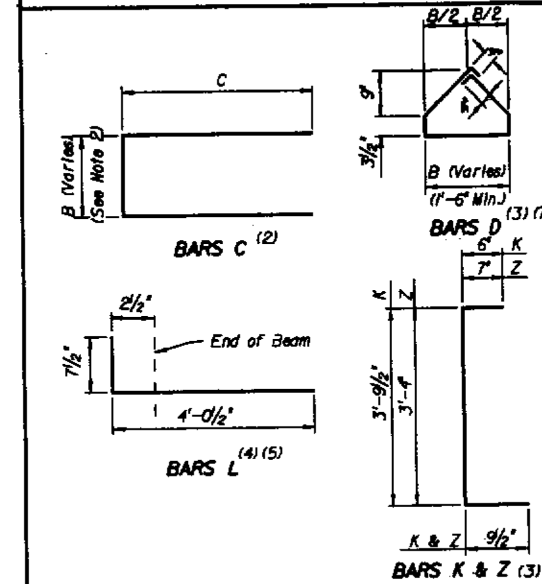
GENERAL NOTES

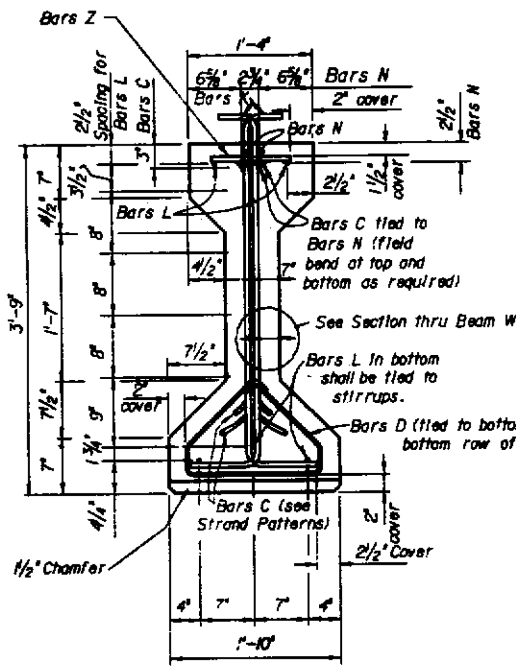
1. Work this sheet with the "Typical Notes and Details" sheet.

BILL OF REINFORCING STEEL FOR ONE BEAM ONLY

MARK	SIZE	NO. REQUIRED	LENGTH (1)
C (2)	½" Ø strand (2)	8	See Table
D (3)(7)	3	16	Varies(4'-11" Min.)
K (3)	4	See Table	5'-1"
L (4)(5)	4	18	4'-8"
N (6)	⅜" Ø Strand (6)	2	See Table
Z	4	16	4'-9"

(3) BENDING DIAGRAMS (1)

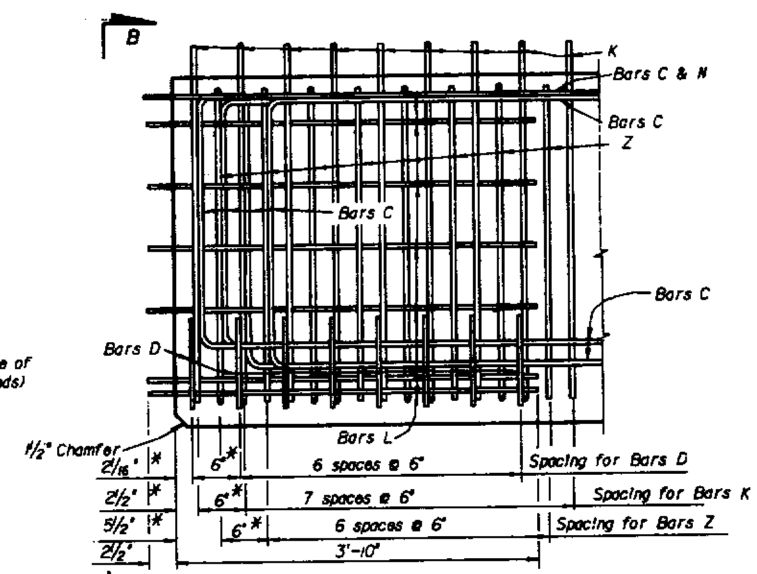




VIEW B-B

(With strands omitted, see Table for reference to strand pattern and treatment of Bars C)

NOTE: Place Bars K and Z one (1) each space (alternate).

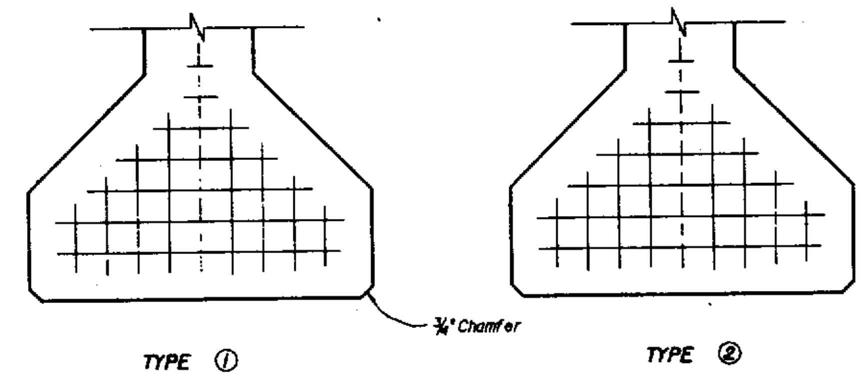


DETAIL AT END OF BEAM

NOTE: Stirrups shall be placed and tied to the top of the non-shielded prestressing strands in the bottom row.

Bars C shall be tied to Bars N in the top flange, to the vertical legs of Bars K and Z, and to non-shielded prestressing strands in the bottom flange as shown in the "Strand Pattern and Debonding Schedule".

* Note: Spacing of Bars D, K, and Z shown are Measured along center line of beam, except that for skewed beam ends, all spacing dimensions shown from the end of the beam to the second Bar K (8½") are measured perpendicular to the skewed beam end.



STRAND PATTERNS AND DEBONDING SCHEDULE

(Showing treatment of Bars C in Bottom flange)

NOTE: ○ -indicates fully bonded strands.
□ -indicates referenced pair of strands to be debonded the length shown, measured from the centerline of bearing.

NOTES:

(1) All bar dimensions are out-to-out.
(2) Bars C shall be either ASTM A416, Grade 270, seven-wire strands, 1/2" diameter or larger, or No. 7, Grade 60 deformed bars. Dimension B, which determines the exact length of Bars C, varies with the Contractor's method of bending and placement. The dimensions, bending and placement of Bars C shall be included on the Shop Drawings.
(3) Bars D, K, and Z shall be bent around pins having the following diameters for respective sizes:

Bar Size	Pin Diameters
#3	1"
#4	2"

(4) Bars L shall be bent prior to the beam leaving the prestressing yard. For treatment of bars L at skewed beam ends, see "Plan Ends of Beams".
(5) Caution should be used with Bars L in the ends of exterior beams to assure that the bent portion of the bar is properly oriented so that the bar will be embedded in the diaphragm concrete.
(6) Bars N shall be either ASTM A416, Grade 250 or 270, seven-wire strands 3/8" diameter or larger, stressed to 5,000 pounds each.
(7) Hooks for Bars D shall be bent so that Bars D are fabricated as a single plane of reinforcing. The minimum Dimension B and length of Bars D shown apply to Bars D placed perpendicular to the centerline of the beam. Dimension B and the length of Bars D for beams with skewed ends vary with the skew (See "Plan Ends of Beams") and shall be scheduled on the Shop Drawings.
(8) (NS) means Near Side and (FS) means Far Side, both refering to which face of the beam web is to receive the Insert for the dimensioned location. (NS) and (FS) are referenced to the DIRECTION OF STATIONING shown.
(9) Black means standard finish and Epoxy means epoxy coated reinforcing steel.

TABLE OF BEAM VARIABLES / REINFORCING STEEL

BEAM ID.	CONCRETE PROPERTIES			STND PTRN TYPE	PLAN VIEW CASE	END ELEV COND.	BRG. PLATE CASE	END OF BEAM AND BRG. ℗ DIMENSIONS				BEAM DIMENSIONS			NUMBER OF SPACES FOR STIRRUP BARS K						DIAPHRAGM INSERT LOCATIONS					TYPE OF (9) REINF.	C		K	N
	CLASS	STRENGTHS																						NS/FS (8)						
		REL. (f'ci)	28-DAY (f'c)					ANGLE Ø	DIM P	DIM J	DIM K	DIM L	DIM R	DIM V	S1	S2	S3	S4	S5	S6	DIM X1	DIM X2	DIM Y	#1	#2		C	APPROX. LENGTH	NO. REQ'D	LENGTH

REVISIONS						
Date	By	Description	Date	By	Description	

	Names	Dates
Drawn by		
Checked by		
Designed by		
Checked by		
Approved by		

ENGINEER OF RECORD:

LOGO:

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.

SHEET TITLE: AASHTO TYPE III BEAMS

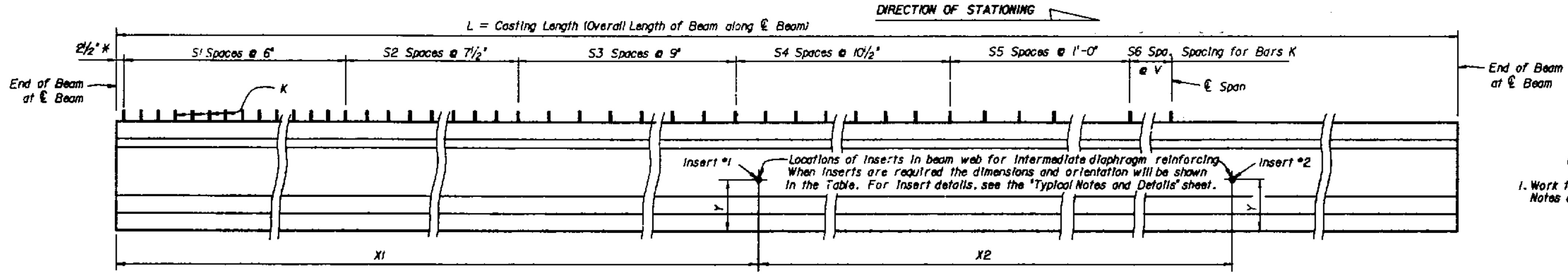
PROJECT NAME:

Drawing No. 1 of 1

Index No. S-103

11-MAY-1989 16:20 ST2:[120.J51]BMTYP3.DGN;1

FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.			

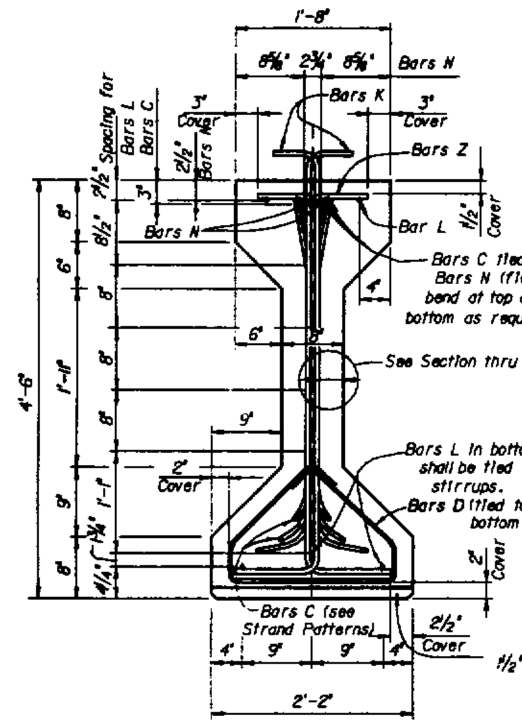


ELEVATION

NOTE: Dimension R has been included in the lengths (L) of beams to compensate for elastic and time-dependent shortening effects.

GENERAL NOTES

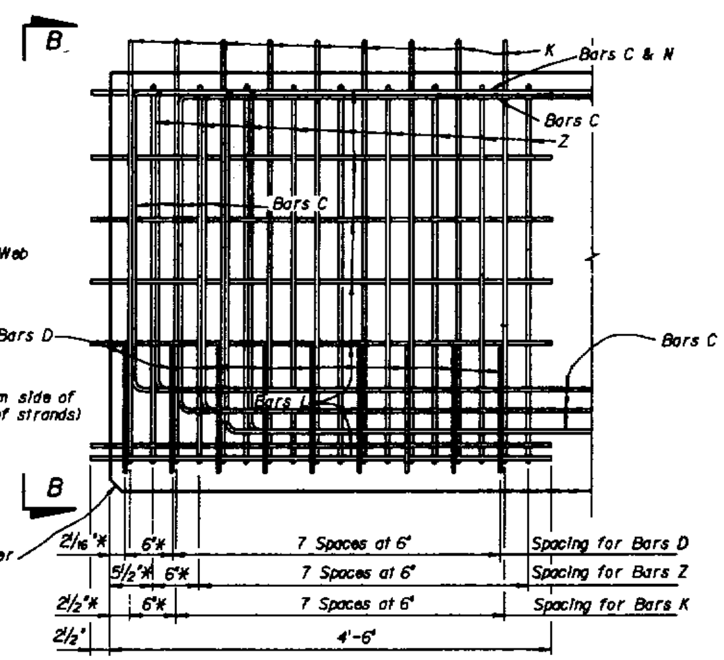
1. Work this sheet with the "Typical Notes and Details" sheet.



VIEW B-B

(With strands omitted, see Table for reference to strand pattern and treatment of Bars C)

NOTE: Place Bars K and Z one (1) each space (alternate).

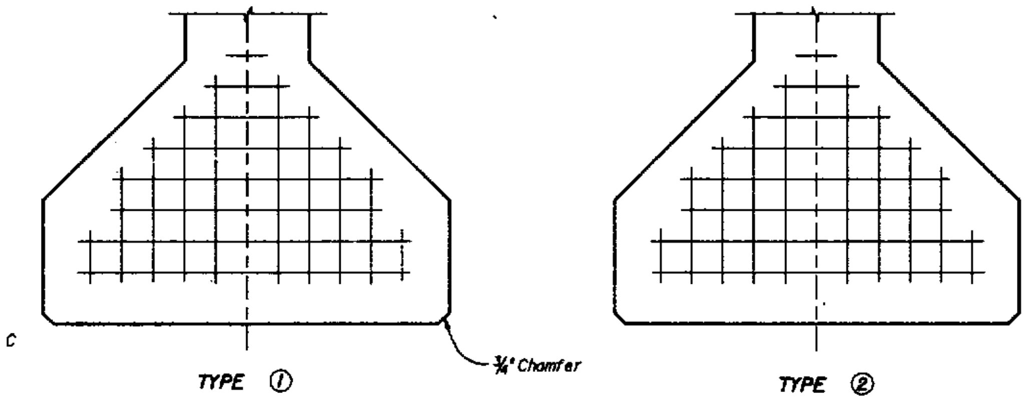


DETAIL AT END OF BEAM

NOTE: Stirrups shall be placed and tied to the top of the non-shielded prestressing strands in the bottom row.

Bars C shall be tied to Bars N in the top flange, to the vertical legs of Bars K and Z, and to non-shielded prestressing strands in the bottom flange as shown in the "Strand Pattern and Debonding Schedule".

* Note: Spacing of Bars D, K, and Z shown are Measured along center line of beam, except that for skewed beam ends, all spacing dimensions shown from the end of the beam to the second Bar K (8½") are measured perpendicular to the skewed beam end.



STRAND PATTERNS AND DEBONDING SCHEDULE

(Showing treatment of Bars C in Bottom flange)

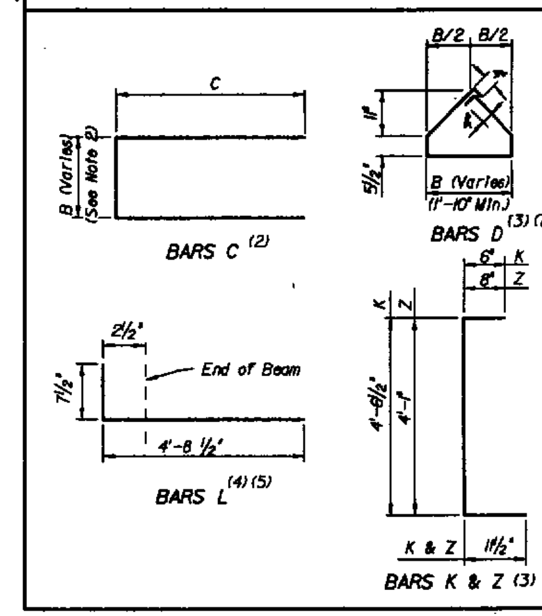
NOTE: ○ -Indicates fully bonded strands.

□ -Indicates referenced pair of strands to be debonded the length shown, measured from the centerline of bearing.

BILL OF REINFORCING STEEL FOR ONE BEAM ONLY

MARK	SIZE	NO. REQUIRED	LENGTH (1)
C (2)	½"Ø strand (2)	12	See Table
D (3)(7)	3	18	Varies(6'-1" Min.)
K (3)	4	See Table	6'-0"
L (4)(5)	4	18	5'-4"
N (6)	⅜"Ø Strand (6)	2	See Table
Z	4	18	5'-9"

(3) BENDING DIAGRAMS (1)



NOTES:

(1) All bar dimensions are out-to-out.

(2) Bars C shall be either ASTM A416, Grade 270, seven-wire strands, 1/2" diameter or larger, or No. 7, Grade 60 deformed bars. Dimension B, which determines the exact length of Bars C, varies with the Contractor's method of bending and placement. The dimensions, bending and placement of Bars C shall be included on the Shop Drawings.

(3) Bars D, K, and Z shall be bent around pins having the following diameters for respective sizes:

Bar Size	Pin Diameters
#3	1"
#4	2"

(4) Bars L shall be bent prior to the beam leaving the prestressing yard. For treatment of bars L at skewed beam ends, see "Plan Ends of Beams".

(5) Caution should be used with Bars L in the ends of exterior beams to assure that the bent portion of the bar is properly oriented so that the bar will be embedded in the diaphragm concrete.

(6) Bars N shall be either ASTM A416, Grade 250 or 270, seven-wire strands 3/8" diameter or larger, stressed to 5,000 pounds each.

(7) Hooks for Bars D shall be bent so that Bars D are fabricated as a single plane of reinforcing. The minimum Dimension B and length of Bars D shown apply to Bars D placed perpendicular to the centerline of the beam. Dimension B and the length of Bars D for beams with skewed ends vary with the skew (See "Plan Ends of Beams") and shall be scheduled on the Shop Drawings.

(8) (NS) means Near Side and (FS) means Far Side, both refering to which face of the beam web is to receive the insert for the dimensioned location. (NS) and (FS) are referenced to the DIRECTION OF STATIONING shown.

(9) Black means standard finish and Epoxy means epoxy coated reinforcing steel.

TABLE OF BEAM VARIABLES / REINFORCING STEEL

BEAM ID.	CONCRETE PROPERTIES CLASS	STRENGTHS REL. (f'ci)	STRENGTHS 28-DAY (f'c)	STND PTRN TYPE	PLAN VIEW CASE	END ELEV COND.	BRG. PLATE CASE	END OF BEAM AND BRG. ℙ DIMENSIONS ANGLE θ	DIM P	DIM J	DIM K	BEAM DIMENSIONS DIM L	DIM R	DIM V	NUMBER OF SPACES FOR STIRRUP BARS K S1	S2	S3	S4	S5	S6	DIAPHRAGM INSERT LOCATIONS DIM X1	DIM X2	DIM Y	NS/FS (8) #1	#2	TYPE OF (9) REINF.	C	C APPROX LENGTH	K NO. REQ'D	N LENGTH

REVISIONS Date	By	Description	Date	By	Description

	Names	Dates
Drawn by		
Checked by		
Designed by		
Checked by		
Approved by		

ENGINEER OF RECORD:

LOGO:

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

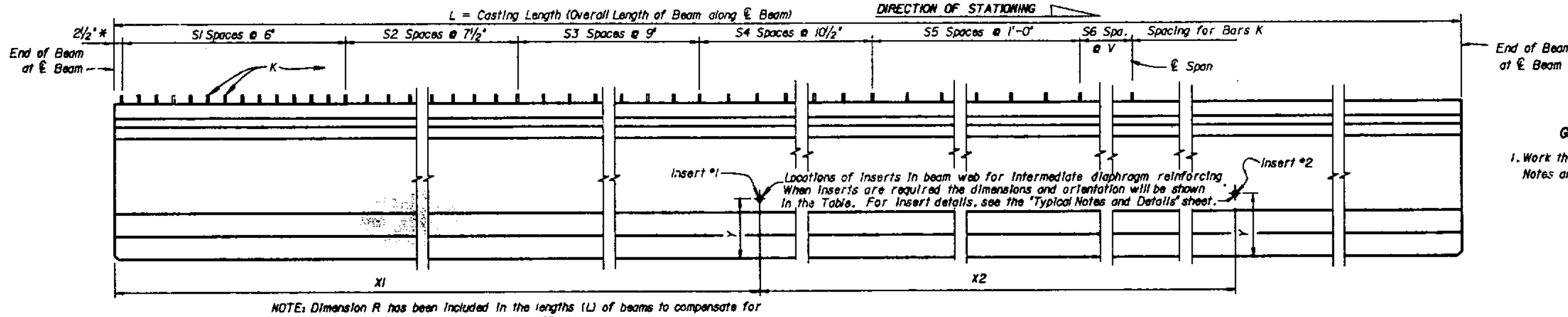
ROAD NO.	COUNTY	PROJECT NO.

SHEET TITLE: AASHTO TYPE IV BEAMS

PROJECT NAME:

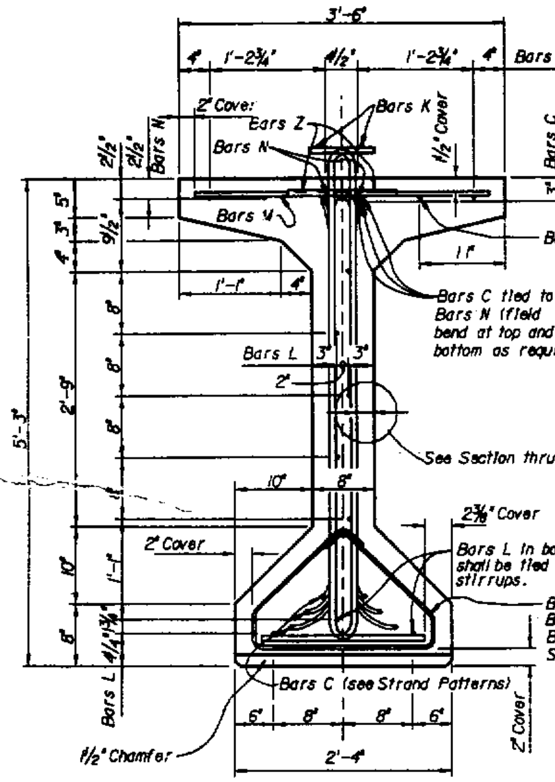
Drawing No. 1 of 1

Index No. S-104



NOTE: Dimension R has been included in the lengths (L) of beams to compensate for elastic and time-dependent shortening effects.

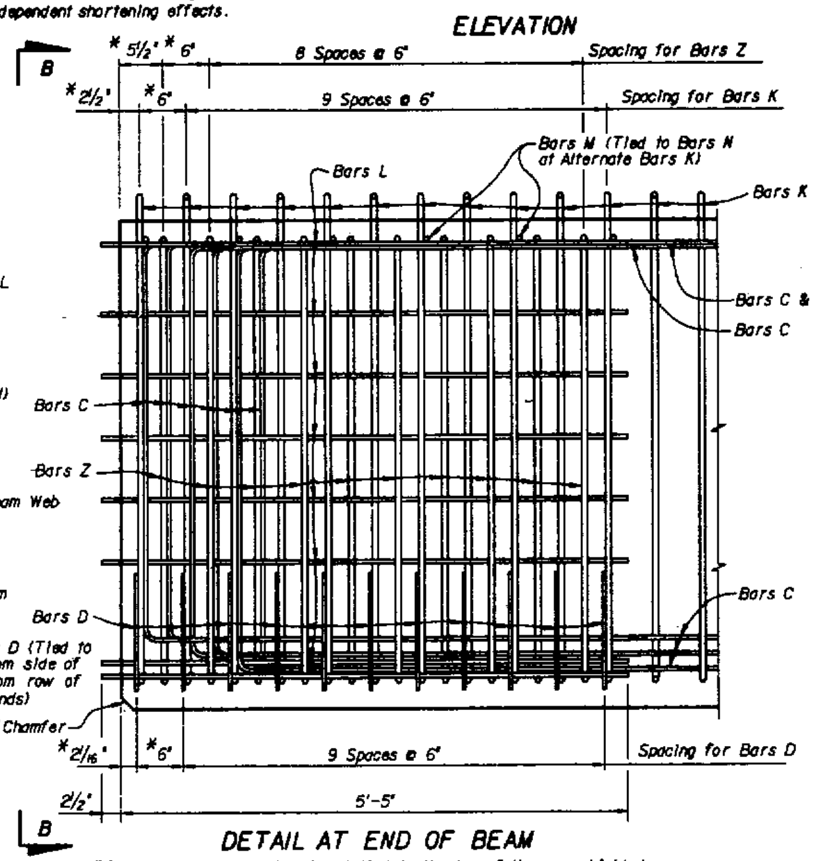
ELEVATION



VIEW B-B

(With strands omitted, see Table for reference to strand pattern and treatment of Bars C)

NOTE: Place Bars K and Z one (1) each space (alternate).



DETAIL AT END OF BEAM

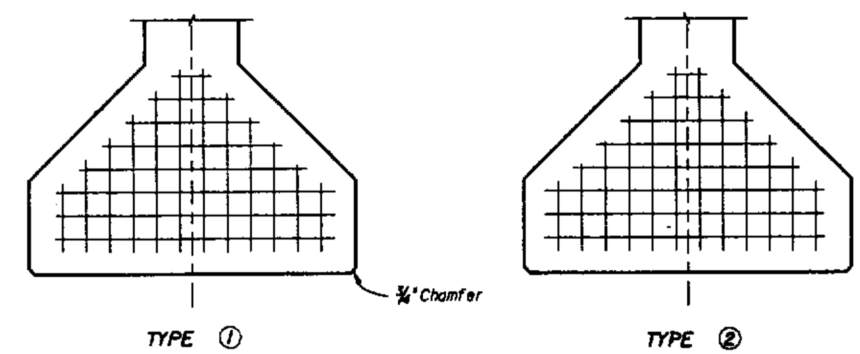
NOTE: Stirrups shall be placed and tied to the top of the non-shielded prestressing strands in the bottom row.

Bars C shall be tied to Bars N in the top flange, to the vertical legs of Bars K and Z, and to non-shielded prestressing strands in the bottom flange as shown in the "Strand Pattern and Debonding Schedule".

* Note: Spacing of Bars D, K, M and Z shown are Measured along center line of beam, except that for skewed beam ends, all spacing dimensions shown from the end of the beam to the second Bar K (8½") are measured perpendicular to the skewed beam end.

GENERAL NOTES

1. Work this sheet with the "Typical Notes and Details" sheet.



STRAND PATTERNS AND DEBONDING SCHEDULE

(Showing treatment of Bars C in Bottom Flange)

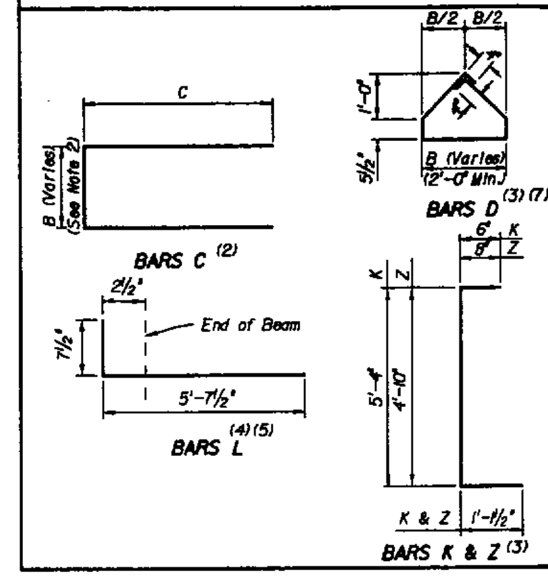
NOTE: ○ -Indicates fully bonded strands.

□ -Indicates referenced pair of strands to be debonded the length shown, measured from the centerline of bearing.

BILL OF REINFORCING STEEL FOR ONE BEAM ONLY

MARK	SIZE	NO. REQUIRED	LENGTH (1)
C (2)	½"Ø Strand (2)	12	See Table
D (3)(7)	3	22	Varies 6'-8" Min.
K (3)	4	See Table	7'-0"
L (4)(5)	4	20	6'-3"
M	4	See Table	3'-2"
N (6)	⅜"Ø Strand (6)	4	See Table
Z (3)	4	20	6'-8"

BENDING DIAGRAMS (1)



NOTES:

(1) All bar dimensions are out-to-out.

(2) Bars C shall be either ASTM A416, Grade 270, seven-wire strands, ½" diameter or larger, or No. 7, Grade 60 deformed bars. Dimension B, which determines the exact length of Bars C, varies with the Contractor's method of bending and placement. The dimensions, bending and placement of Bars C shall be included on the Shop Drawings.

(3) Bars D, K, and Z shall be bent around pins having the following diameters for respective sizes:

Bar Size	Pin Diameters
#3	1"
#4	2"

(4) Bars L shall be bent prior to the beam leaving the prestressing yard. For treatment of bars L at skewed beam ends, see "Plan Ends of Beams".

(5) Caution should be used with Bars L in the ends of exterior beams to assure that the bent portion of the bar is properly oriented so that the bar will be embedded in the diaphragm concrete.

(6) Bars N shall be either ASTM A416, Grade 250 or 270, seven-wire strands ⅜" diameter or larger, stressed to 5,000 pounds each.

(7) Hooks for Bars D shall be bent so that Bars D are fabricated as a single plane of reinforcing. The minimum Dimension B and length of Bars D shown apply to Bars D placed perpendicular to the centerline of the beam. Dimension B and the length of Bars D for beams with skewed ends vary with the skew (See "Plan Ends of Beams") and shall be scheduled on the Shop Drawings.

(8) (NS) means Near Side and (FS) means Far Side, both refering to which face of the beam web is to receive the Insert for the dimensioned location. (NS) and (FS) are referenced to the DIRECTION OF STATIONING shown.

(9) Black means standard finish and Epoxy means epoxy coated reinforcing steel.

TABLE OF BEAM VARIABLES / REINFORCING STEEL VARIABLES

BEAM ID.	CONCRETE PROPERTIES: CLASS	STRENGTHS: REL. (f'ci)	STRENGTHS: 28-DAY (f'c)	STND PTRN TYPE	PLAN VIEW CASE	END ELEV COND.	BRG. PLATE CASE	END OF BEAM AND BRG. ℄ DIMENSIONS: ANGLE Ø	DIM P	DIM J	DIM K	BEAM DIMENSIONS: DIM L	DIM R	DIM V		NUMBER OF SPACES FOR STIRRUP BARS K: S1	S2	S3	S4	S5	S6	DIAPHRAGM INSERT LOCATIONS: DIM X1	DIM X2	DIM Y	NS/FS (8) #1	NS/FS (8) #2	TYPE OF (9) REINF.	C: C	C: APPROX. LENGTH	K: NO. REQ'D	N: LENGTH	M: NO. REQ'D

REVISIONS					
Date	By	Description	Date	By	Description

	Names	Dates
Drawn by		
Checked by		
Designed by		
Checked by		
Approved by		

ENGINEER OF RECORD:

LOGO:

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.

SHEET TITLE: AASHTO TYPE V BEAMS

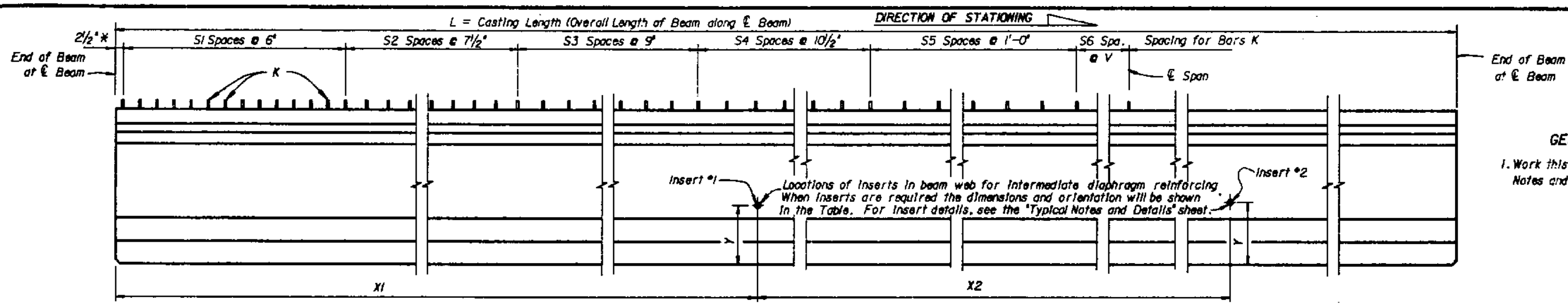
PROJECT NAME:

Drawing No. 1 of 1

Index No. S-105

11-MAY-1989 16:37 ST2:[120.J5]BMTYP5.DGN;

FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.			



NOTE: Dimension R has been included in the lengths (L) of beams to compensate for elastic and time-dependent shortening effects.

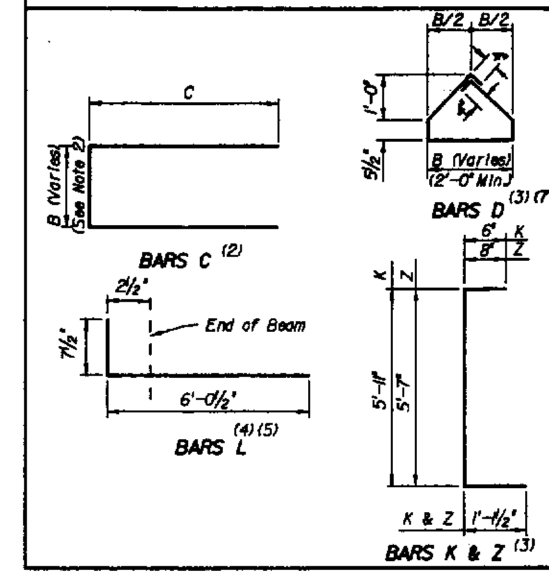
ELEVATION

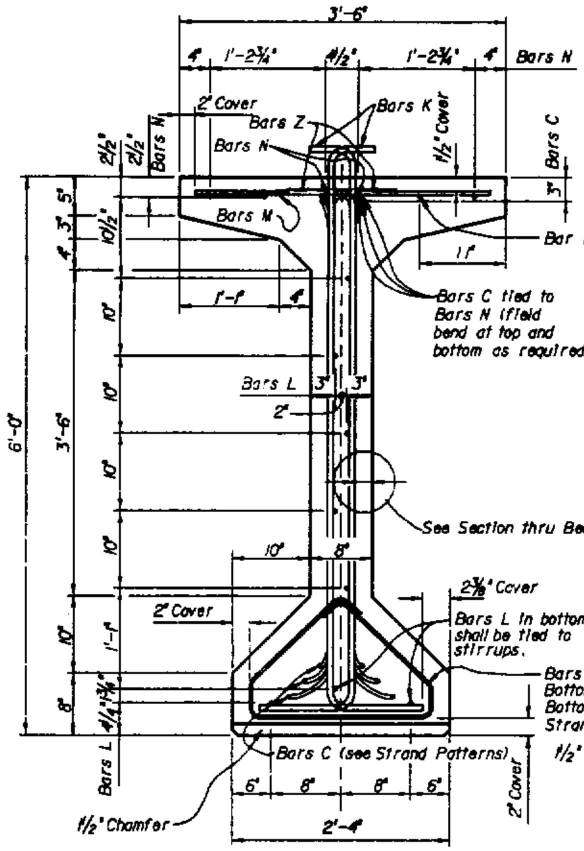
GENERAL NOTES

1. Work this sheet with the "Typical Notes and Details" sheet.

BILL OF REINFORCING STEEL FOR ONE BEAM ONLY			
MARK	SIZE	NO. REQUIRED	LENGTH (1)
C (2)	½"⌀ Strand (2)	12	See Table
D (3)(7)	3	22	Varies 6'-8" Min.
K (3)	4	See Table	7'-9"
L (4)(5)	4	20	6'-8"
M	4	See Table	3'-2"
N (6)	⅜"⌀ Strand (6)	4	See Table
Z (3)	4	22	7'-5"

BENDING DIAGRAMS (1)

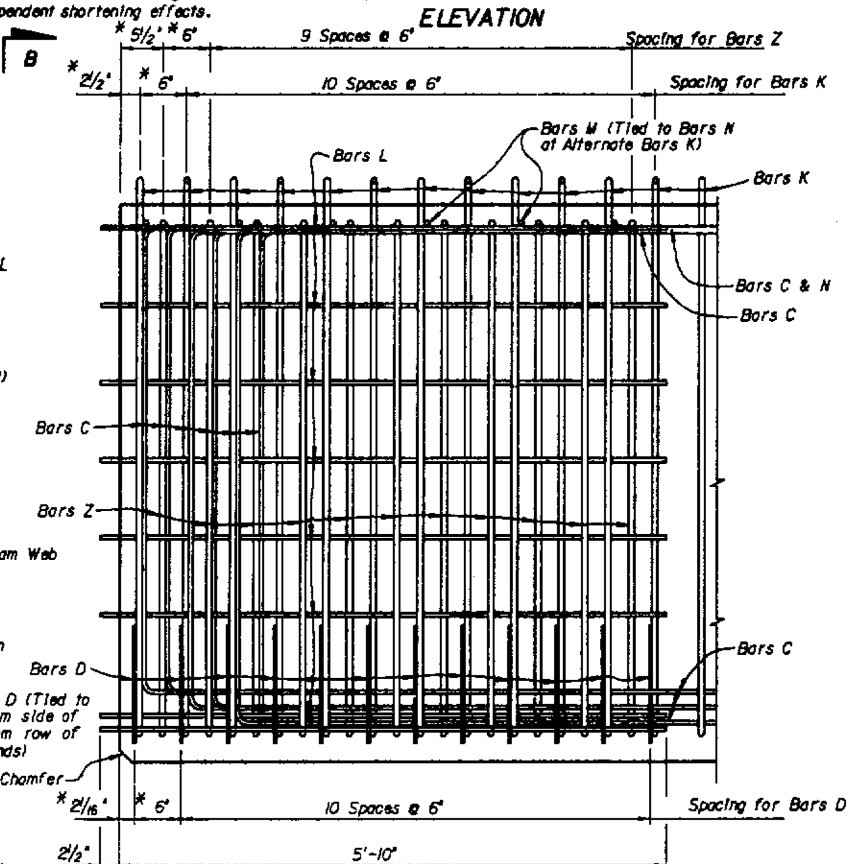




VIEW B-B

(With strands omitted, see Table for reference to strand pattern and treatment of Bars C)

NOTE: Place Bars K and Z one (1) each space (alternate).

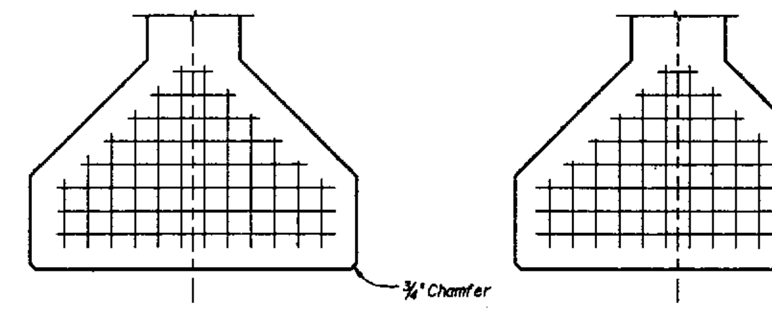


DETAIL AT END OF BEAM

NOTE: Stirrups shall be placed and tied to the top of the non-shielded prestressing strands in the bottom row.

Bars C shall be tied to Bars N in the top flange, to the vertical legs of Bars K and Z, and to non-shielded prestressing strands in the bottom flange as shown in the "Strand Pattern and Debonding Schedule".

* Note: Spacing of Bars D, K, M and Z shown are Measured along center line of beam, except that for skewed beam ends, all spacing dimensions shown from the end of the beam to the second Bar K (8½") are measured perpendicular to the skewed beam end.



STRAND PATTERNS AND DEBONDING SCHEDULE

(Showing treatment of Bars C in Bottom Flange)

NOTE: ○ -Indicates fully bonded strands.

□ -Indicates referenced pair of strands to be debonded the length shown, measured from the centerline of bearing.

NOTES:

(1) All bar dimensions are out-to-out.

(2) Bars C shall be either ASTM A416, Grade 270, seven-wire strands, ½" diameter or larger, or No. 7, Grade 60 deformed bars. Dimension B, which determines the exact length of Bars C, varies with the Contractor's method of bending and placement. The dimensions, bending and placement of Bars C shall be included on the Shop Drawings.

(3) Bars D, K, and Z shall be bent around pins having the following diameters for respective sizes:

Bar Size	Pin Diameters
#3	1"
#4	2"

(4) Bars L shall be bent prior to the beam leaving the prestressing yard. For treatment of bars L at skewed beam ends, see "Plan Ends of Beams".

(5) Caution should be used with Bars L in the ends of exterior beams to assure that the bent portion of the bar is properly oriented so that the bar will be embedded in the diaphragm concrete.

(6) Bars N shall be either ASTM A416, Grade 250 or 270, seven-wire strands ⅜" diameter or larger, stressed to 5,000 pounds each.

(7) Hooks for Bars D shall be bent so that Bars D are fabricated as a single plane of reinforcing. The minimum Dimension B and length of Bars D shown apply to Bars D placed perpendicular to the centerline of the beam. Dimension B and the length of Bars D for beams with skewed ends vary with the skew (See "Plan Ends of Beams") and shall be scheduled on the Shop Drawings.

(8) (NS) means Near Side and (FS) means Far Side, both refering to which face of the beam web is to receive the insert for the dimensioned location. (NS) and (FS) are referenced to the DIRECTION OF STATIONING shown.

(9) Black means standard finish and Epoxy means epoxy coated reinforcing steel.

TABLE OF BEAM VARIABLES / REINFORCING STEEL VARIABLES

BEAM ID.	CONCRETE PROPERTIES			STND PTRN TYPE	PLAN VIEW CASE	END ELEV COND.	BRG. PLATE CASE	END OF BEAM AND BRG. ℞ DIMENSIONS				BEAM DIMENSIONS				NUMBER OF SPACES FOR STIRRUP BARS K						DIAPHRAGM INSERT LOCATIONS					TYPE OF (9) REINF.	C		K	N	M
	CLASS	STRENGTHS REL. (f'ci)	STRENGTHS 28-DAY (f'c)					ANGLE θ	DIM P	DIM J	DIM K	DIM L	DIM R	DIM V		S1	S2	S3	S4	S5	S6	DIM X1	DIM X2	DIM Y	NS/FS (8) #1	NS/FS (8) #2		C	APPROX. LENGTH	NO. REQ'D	LENGTH	NO. REQ'D

REVISIONS							
Date	By	Description	Date	By	Description		

	Names	Dates
Drawn by		
Checked by		
Designed by		
Checked by		
Approved by		

ENGINEER OF RECORD:

LOGO:

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.

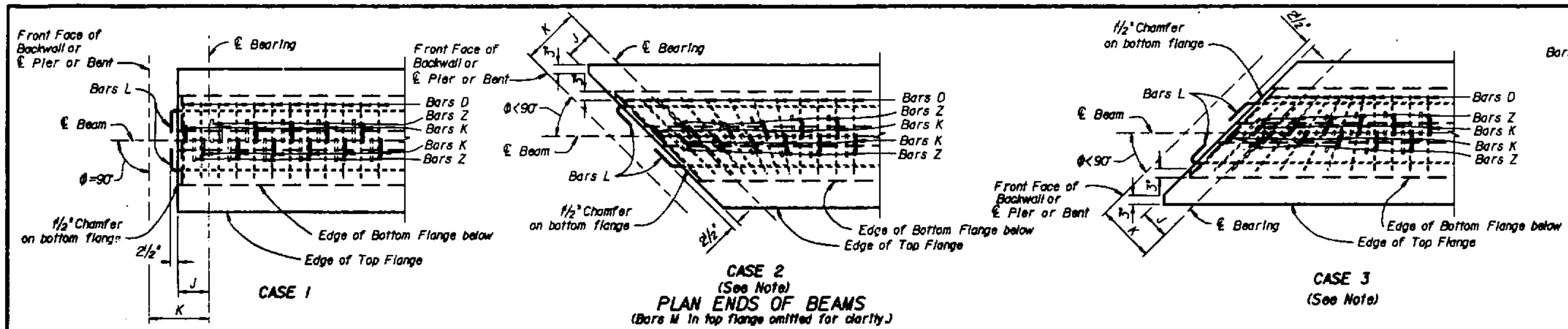
SHEET TITLE: AASHTO TYPE VI BEAMS

PROJECT NAME:

Drawing No. 1 of 1

Index No. S-106

FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.			



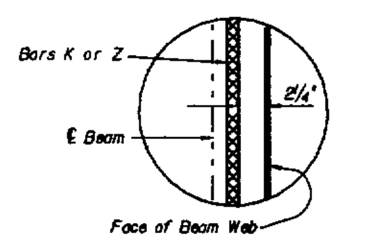
CASE 1

CASE 2
(See Note)

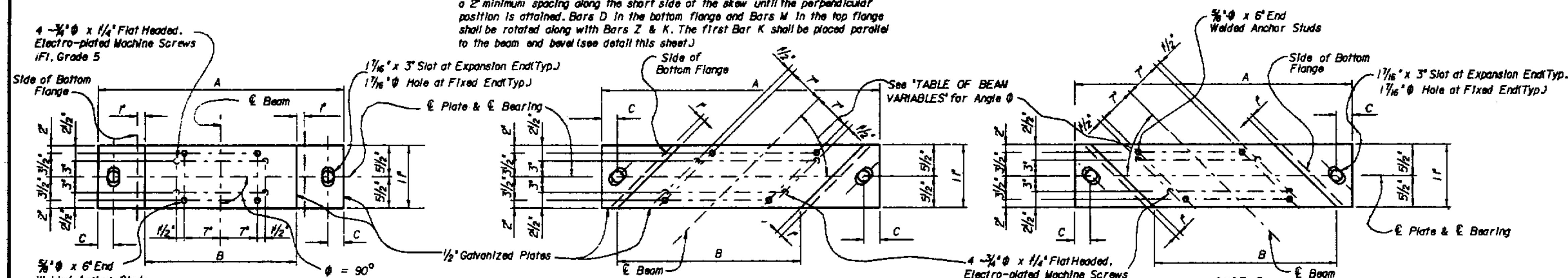
CASE 3
(See Note)

PLAN ENDS OF BEAMS
(Bars M in top flange omitted for clarity.)

Note: For both Plan Views Case 2 and Case 3, the first Bar Z and the first two Bars K shall be placed parallel to the skewed end of the Beam. The remainder of the Bars Z & K shall be placed so as to transition from an axis parallel to the skewed end to an axis perpendicular to the centerline of the beam while maintaining a 2" minimum spacing along the short side of the skew until the perpendicular position is attained. Bars D in the bottom flange and Bars M in the top flange shall be rotated along with Bars Z & K. The first Bar K shall be placed parallel to the beam end and bevel (see detail this sheet.)



SECTION THRU BEAM WEB
(Showing Cover on Stirrups)



CASE 1

CASE 2

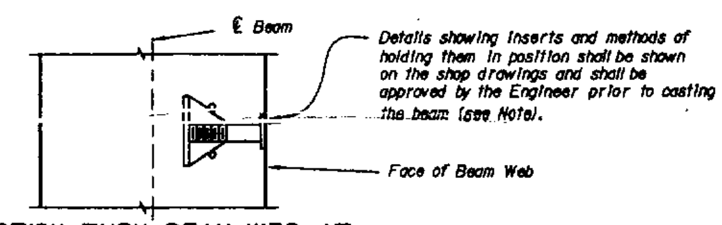
CASE 3

BEARING PLATE DETAILS
NOTE: Bearing Plates required on Beams only as scheduled in the Table of Beam Variables.

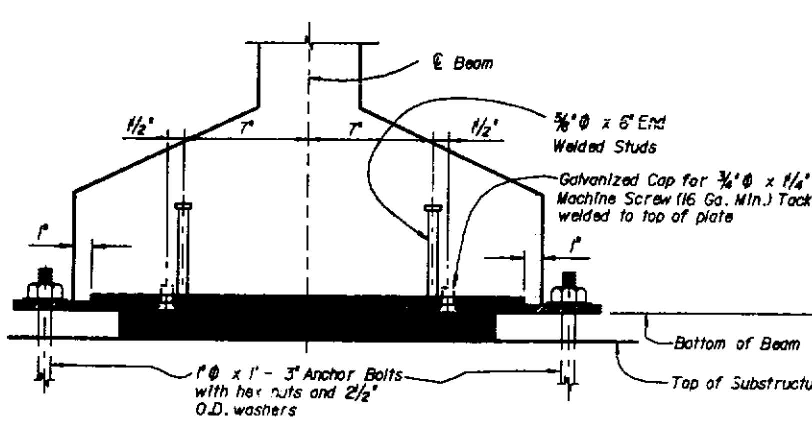
TABLE OF BEARING PLATE DIMENSIONS

BEAM TYPE	DIMENSIONS (INCHES)		
	A	B	C
FBT54 FBT63 FBT72	$B+2C+\left(\frac{6}{SIN\phi}\right)$	26/SIN ϕ	2+0.78(COSϕ)

NOTE: Insert shall be 1"ϕ, zinc-electroplated, ferrule wing nut, UNC threads, 1/0 minimum gage wire, not more than 4" in depth and shall have a minimum ultimate tensile strength of 11,400 lbs. in 4,000 p.s.i. concrete.

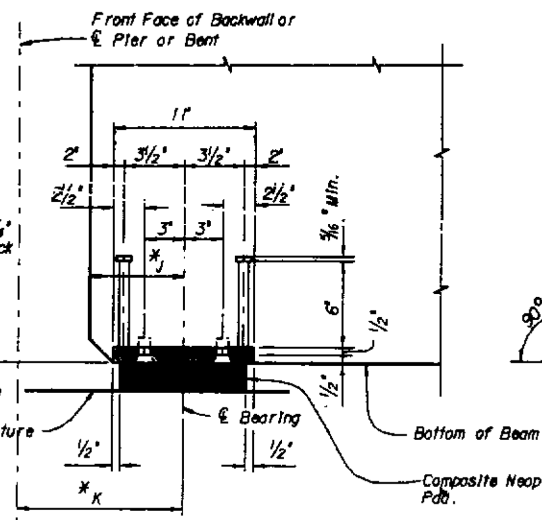


SECTION THRU BEAM WEB AT INSERT FOR DIAPHRAGM REINFORCING
(When Intermediate Diaphragms are Required)

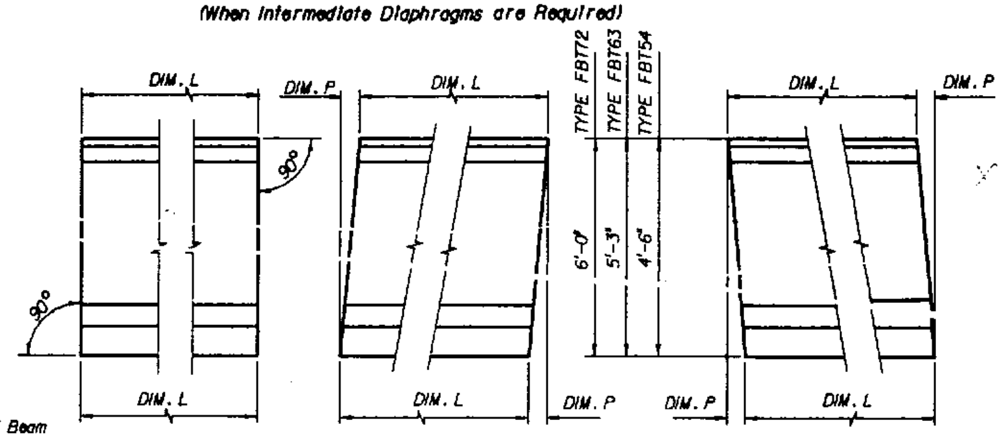


*See "TABLE OF BEAM VARIABLES" on individual sheets.

END ELEVATION-SECTION OF BEARING ASSEMBLY
(Perpendicular to ℄ Beam)



SIDE ELEVATION-SECTION OF BEARING ASSEMBLY
(Perpendicular To ℄ Bearing)



CONDITION 1
(P = 0'-0")

CONDITION 2

CONDITION 3

END ELEVATIONS OF BEAMS
(Showing Vertical Bevel of Beam End)

NOTES: 1. See Table on individual beam sheets for Dimension P.
2. Bar K adjacent to the end of the beam shall be placed parallel to the end bevel of the beam for Condition 2 and Condition 3.

GENERAL NOTES

MORTAR LEAKAGE: Any mortar leakage that occurs and stains resulting from leakage shall be removed so that beams have a uniform appearance.

STRANDS: At the option of the Contractor, other types, sizes and/or configurations of strands may be used in lieu of the stranding shown on these sheets. Calculations shall be submitted showing the substitution meets the following requirements:
1. The strands meet all the requirements of ASTM-A416 for the grade of strands proposed.
2. The net compressive stress in the concrete due to prestressing acting alone, after all losses, is at least as large as that provided by the stranding shown on these sheets.
3. The ultimate strength of the structure with the proposed stranding is at least equal to the ultimate strength of the original design.
4. The proposed stranding complies in all respects with the Department's Structures Design Guidelines.

FINISH: 3" on each of the top outside edges of beams shall have a smooth finish. The remaining top surface of the beam shall be rough floated and then scrubbed transversely with a coarse wire brush to remove all laitance and to produce a roughened surface for bonding. All beams shall receive a Class 3 surface finish.

SHOP DRAWINGS: Shop Drawings for prestressed beams shall show a complete detensioning schedule such as to minimize tension in the concrete during release of the strands. Detailed concrete stresses during each operation of detensioning shall be submitted with the Shop Drawings. Shop Drawings shall show complete details of the prestressed beams including all reinforcing steel.

STRAND DETENSIONING: The strand detensioning schedule required to be included on the Shop Drawings shall be based upon the following priority, from first to last, of strand detensioning:
1. Top dormant strands (Bars N)
2. Fully bonded strands
3. Partially debonded (shielded) strands

FORMS AND PALLETS: All beams shall be cast on concrete based pallets and in metal forms.

HANDLING: In the handling of beams, they must be maintained in an upright position at all times and must be picked up from points located a maximum distance of 3ft. from the ends of the beam.

STORAGE AND TRANSPORTATION: Beams shall be stored on adequate dunnage and supported during transit within 18" from ends of beam.

STRAND EXTENSION: All strands shall extend 2½" beyond ends of beams.

CONCRETE: Refer to Table of Beam Variables on the individual beam sheets for the class of concrete, 28-day strength (f'c) and cylinder strength at transfer of the tensioning load (f'ci).

REINFORCING STEEL: All reinforcing steel shall be Grade 60.

BEARING PADS: The cost of installing bearing pads shall be included in the contract unit price of prestressed beams. The composite neoprene pads may or may not be furnished to the contractor by FDOT. See the General Notes for the bridge, or the Bid Item Notes, for additional information regarding who the pads provider will be.

MISCELLANEOUS: Bearing plates, anchor bolts, nuts and washers shall be hot dip galvanized in accordance with requirements of A.S.T.M. Specification A123. Bearing plates shall conform to A.S.T.M. Specification A36. Anchor bolts may be A36 or A307. The cost of bearing plates, anchor bolts, nuts, washers, premoulded expansion material at bearings and inserts for diaphragm tie bars shall be included in the contract unit prices for prestressed beams.

NOTE: Work this sheet with individual beam sheets. Florida Bulb-T 54, 63 and 72.

REVISIONS					
Date	By	Description	Date	By	Description

	Names	Dates
Drawn by	WEH	1-89
Checked by	DCP	1-89
Designed by	DCP	1-89
Checked by	WEH	1-89
Approved by	REN	

ENGINEER OF RECORD:
STRUCTURES DESIGN OFFICE
605 Suwannee Street, MS 33
Tallahassee, Florida 32399-0450

LOGO:

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.

SHEET TITLE: TYPICAL NOTES AND DETAILS FOR FLORIDA BULB-T 54, 63 & 72 PRESTRESSED BEAMS

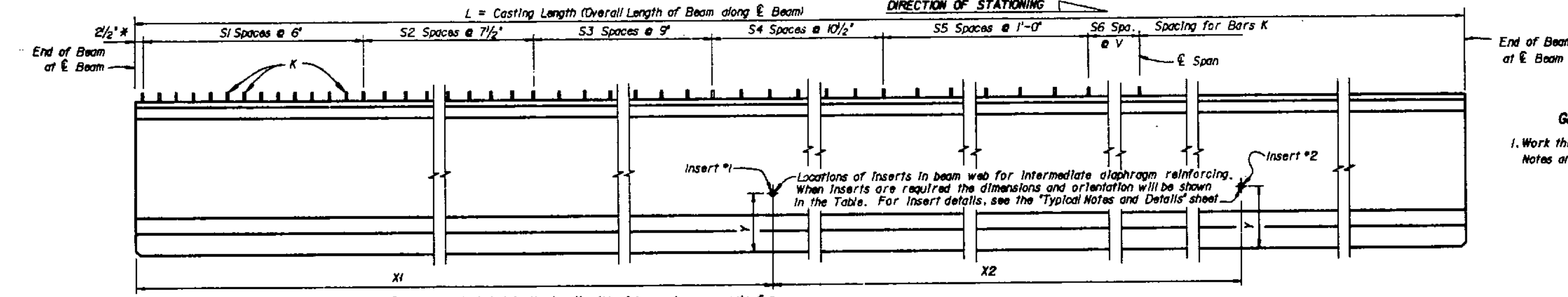
PROJECT NAME:

Drawing No. 1 of 1

Index No. 110

17-MAY-1989 16:36 ST2:[120.15]JFBTCOVR.DGN;

FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.			



NOTE: Dimension R has been included in the lengths (L) of beams to compensate for elastic and time-dependent shortening effects.

ELEVATION

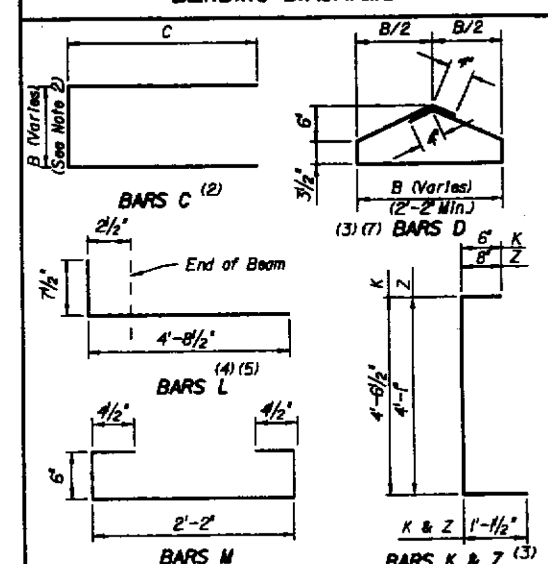
GENERAL NOTES

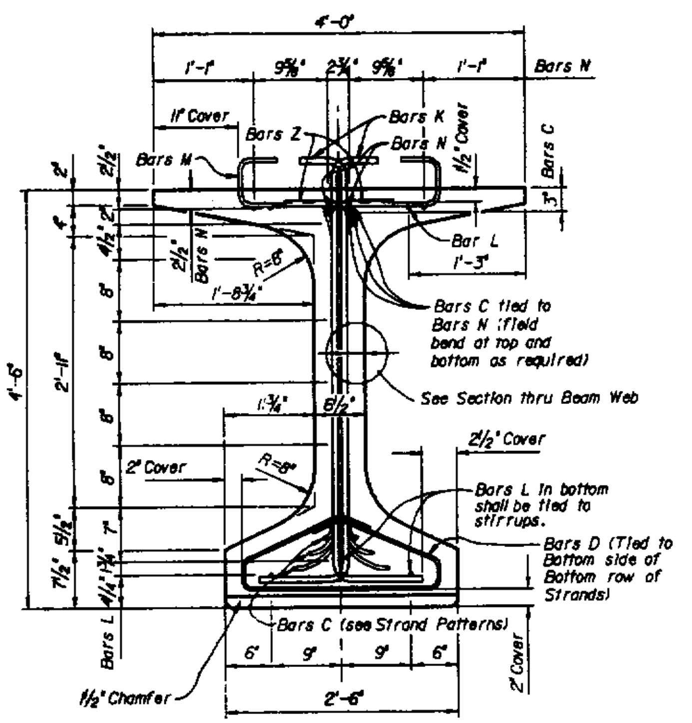
1. Work this sheet with the "Typical Notes and Details" sheet.

BILL OF REINFORCING STEEL FOR ONE BEAM ONLY

MARK	SIZE	NO. REQUIRED	LENGTH (1)
C (2)	½"Ø Strand (2)	12	See Table
D (3)(7)	3	18	Varies 5'-10" Min.
K (3)	4	See Table	6'-2"
L (4)(5)	4	18	5'-4"
M	4	See Table	3'-11"
N (6)	⅜"Ø Strand (6)	4	See Table
Z (3)	4	18	5'-11"

BENDING DIAGRAMS (1)

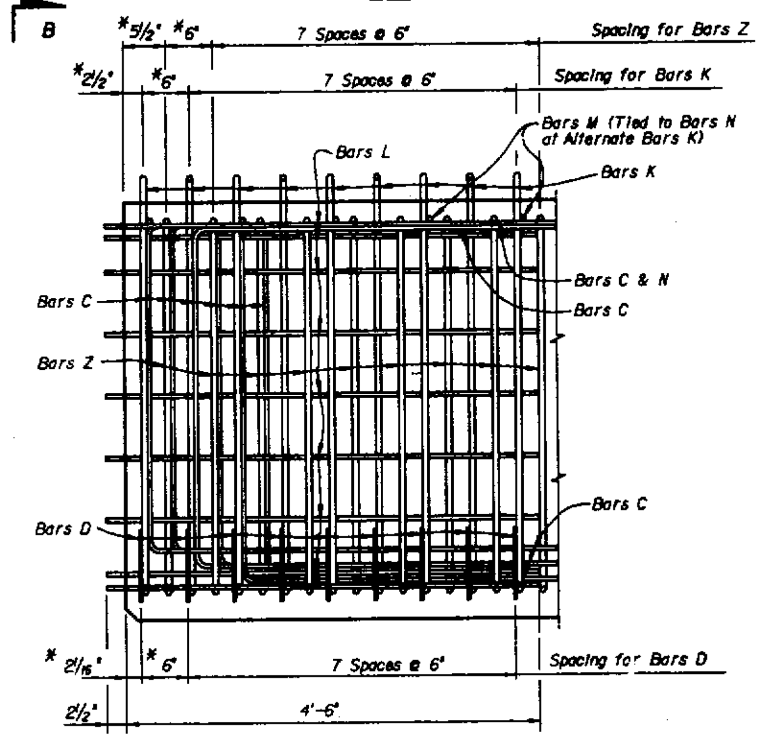




VIEW B-B

(With strands omitted, see Table for reference to strand pattern and treatment of Bars C)

NOTE: Place Bars K and Z one (1) each space (alternate).

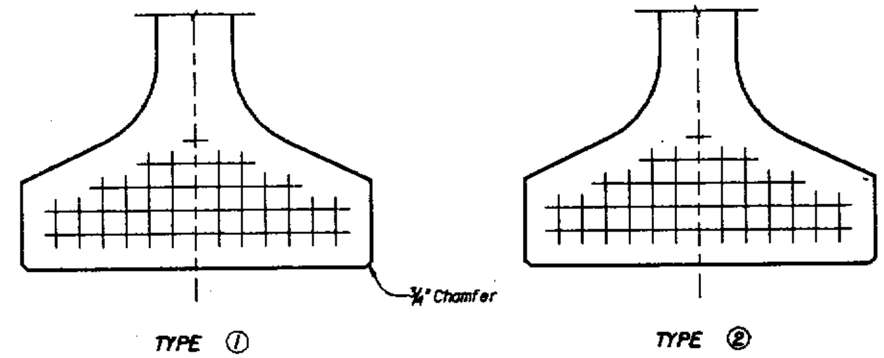


DETAIL AT END OF BEAM

NOTE: Stirrups shall be placed and tied to the top of the non-shielded prestressing strands in the bottom row.

Bars C shall be tied to Bars N in the top flange, to the vertical legs of Bars K and Z, and to non-shielded prestressing strands in the bottom flange as shown in the "Strand Pattern and Debonding Schedule".

* Note: Spacing of Bars D, K, M and Z shown are Measured along center line of beam, except that for skewed beam ends, all spacing dimensions shown from the end of the beam to the second Bar K (8½") are measured perpendicular to the skewed beam end.



STRAND PATTERNS AND DEBONDING SCHEDULE

(Showing treatment of Bars C in Bottom Flange)

NOTE: ○ -Indicates fully bonded strands.

□ -Indicates referenced pair of strands to be debonded the length shown, measured from the centerline of bearing.

NOTES:

(1) All bar dimensions are out-to-out.

(2) Bars C shall be either ASTM A416, Grade 270, seven-wire strands, ½" diameter or larger, or No. 7, Grade 60 deformed bars. Dimension B, which determines the exact length of Bars C, varies with the Contractor's method of bending and placement. The dimensions, bending and placement of Bars C shall be included on the Shop Drawings.

(3) Bars D, K, and Z shall be bent around pins having the following diameters for respective sizes:

Bar Size	Pin Diameters
#3	1"
#4	2"

(4) Bars L shall be bent prior to the beam leaving the prestressing yard. For treatment of bars L at skewed beam ends, see "Plan Ends of Beams".

(5) Caution should be used with Bars L in the ends of exterior beams to assure that the bent portion of the bar is properly oriented so that the bar will be embedded in the diaphragm concrete.

(6) Bars N shall be either ASTM A416, Grade 250 or 270, seven-wire strands ⅜" diameter or larger, stressed to 5,000 pounds each.

(7) Hooks for Bars D shall be bent so that Bars D are fabricated as a single plane of reinforcing. The minimum Dimension B and length of Bars D shown apply to Bars D placed perpendicular to the centerline of the beam. Dimension B and the length of Bars D for beams with skewed ends vary with the skew (See "Plan Ends of Beams") and shall be scheduled on the Shop Drawings.

(8) (NS) means Near Side and (FS) means Far Side, both refering to which face of the beam web is to receive the Insert for the dimensioned location. (NS) and (FS) are referenced to the DIRECTION OF STATIONING shown.

(9) Black means standard finish and Epoxy means epoxy coated reinforcing steel.

TABLE OF BEAM VARIABLES / REINFORCING STEEL VARIABLES

BEAM ID.	CONCRETE PROPERTIES			STND PTRN TYPE	PLAN VIEW CASE	END ELEV COND.	BRG. PLATE CASE	END OF BEAM AND BRG. ℄ DIMENSIONS				BEAM DIMENSIONS			NUMBER OF SPACES FOR STIRRUP BARS K						DIAPHRAGM INSERT LOCATIONS					TYPE OF (9) REINF.	C		K	N	M
	CLASS	STRENGTHS REL. (f'ci)	STRENGTHS 28-DAY (f'c)					ANGLE Ø	DIM P	DIM J	DIM K	DIM L	DIM R	DIM V	S1	S2	S3	S4	S5	S6	DIM X1	DIM X2	DIM Y	NS/FS (8) #1	NS/FS (8) #2		C	APPROX. LENGTH	NO. REQ'D	LENGTH	NO. REQ'D

REVISIONS							Names	Dates
Date	By	Description	Date	By	Description	Drawn by		
						Checked by		
						Designed by		
						Checked by		
						Approved by		

ENGINEER OF RECORD:

LOGO:

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.

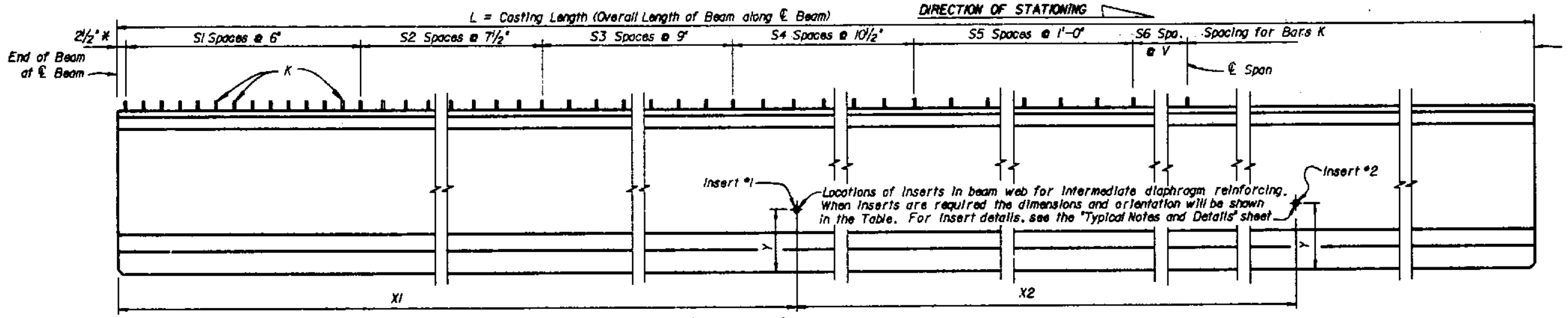
SHEET TITLE: FLORIDA BULB-T 54 BEAMS

PROJECT NAME:

Drawing No. 1 of 1

Index No. S-111

11-MAY-1989 20:16 ST2:[120.51]FBT54.DGN;1



NOTE: Dimension R has been included in the lengths (L) of beams to compensate for elastic and time-dependent shortening effects.

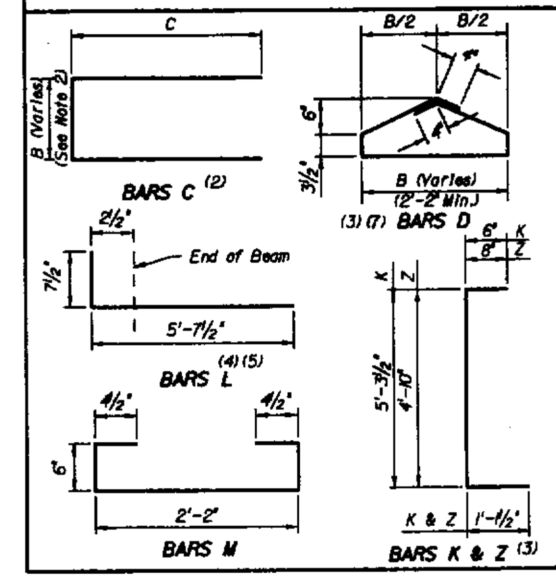
ELEVATION

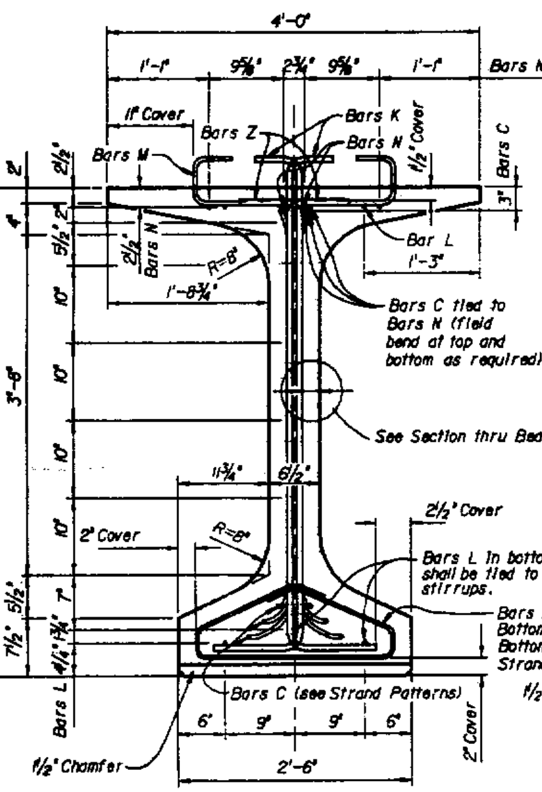
GENERAL NOTES

1. Work this sheet with the "Typical Notes and Details" sheet.

BILL OF REINFORCING STEEL FOR ONE BEAM ONLY			
MARK	SIZE	NO. REQUIRED	LENGTH (1)
C (2)	½"Ø Strand (2)	12	See Table
D (3)(7)	3	22	Varies 5'-10" Min.
K (3)	4	See Table	7'-8"
L (4)(5)	4	20	6'-3"
M	4	See Table	3'-11"
N (6)	⅜"Ø Strand (6)	4	See Table
Z (3)	4	20	6'-8"

BENDING DIAGRAMS (1)

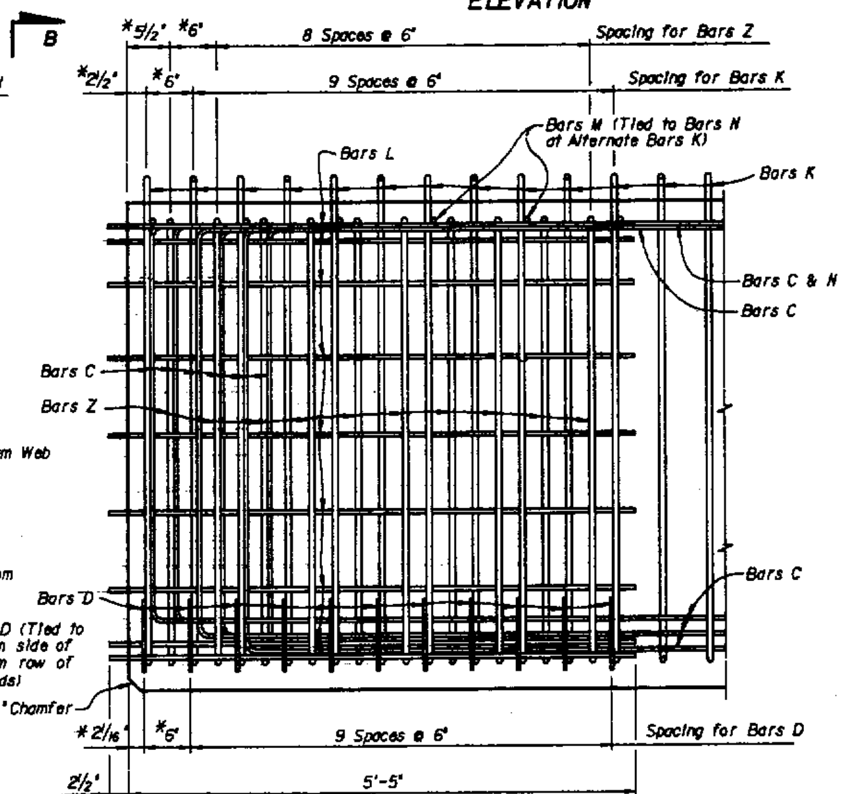




VIEW B-B

(With strands omitted, see Table for reference to strand pattern and treatment of Bars C)

NOTE: Place Bars K and Z one (1) each space (alternate).

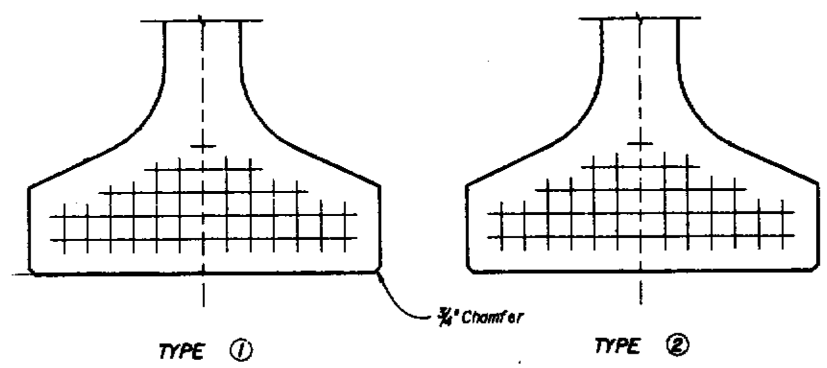


DETAIL AT END OF BEAM

NOTE: Stirrups shall be placed and tied to the top of the non-shielded prestressing strands in the bottom row.

Bars C shall be tied to Bars N in the top flange, to the vertical legs of Bars K and Z, and to non-shielded prestressing strands in the bottom flange as shown in the "Strand Pattern and Debonding Schedule".

* Note: Spacing of Bars D, K, M and Z shown are Measured along center line of beam, except that for skewed beam ends, all spacing dimensions shown from the end of the beam to the second Bar K (8½") are measured perpendicular to the skewed beam end.



STRAND PATTERNS AND DEBONDING SCHEDULE

(Showing treatment of Bars C in Bottom Flange)

NOTE: ○ -Indicates fully bonded strands.

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NOTES:

(1) All bar dimensions are out-to-out.

(2) Bars C shall be either ASTM A416, Grade 270, seven-wire strands, ½" diameter or larger, or No. 7, Grade 60 deformed bars. Dimension B, which determines the exact length of Bars C, varies with the Contractor's method of bending and placement. The dimensions, bending and placement of Bars C shall be included on the Shop Drawings.

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(9) Black means standard finish and Epoxy means epoxy coated reinforcing steel.

TABLE OF BEAM VARIABLES / REINFORCING STEEL VARIABLES

BEAM ID.	CONCRETE PROPERTIES: CLASS	STRENGTHS: REL. (f'ci)	STRENGTHS: 28-DAY (f'c)	STND PTRN TYPE	PLAN VIEW CASE	END ELEV COND	BRG. PLATE CASE	END OF BEAM AND BRG. ℞ DIMENSIONS: ANGLE Ø	DIM P	DIM J	DIM K	BEAM DIMENSIONS: DIM L	DIM R	DIM V	NUMBER OF SPACES FOR STIRRUP BARS K: S1	S2	S3	S4	S5	S6	DIAPHRAGM INSERT LOCATIONS: DIM X1	DIM X2	DIM Y	NS/FS (8) #1	NS/FS (8) #2	TYPE OF (9) REINF.	C: C	C: APPROX LENGTH	K: NO. REQ'D	N: LENGTH	M: NO. REQ'D

REVISIONS					
Date	By	Description	Date	By	Description

	Names	Dates
Drawn by		
Checked by		
Designed by		
Checked by		
Approved by		

ENGINEER OF RECORD:

LOGO:

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.

FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.			

SHEET TITLE: FLORIDA BULB-T 63 BEAMS

PROJECT NAME:

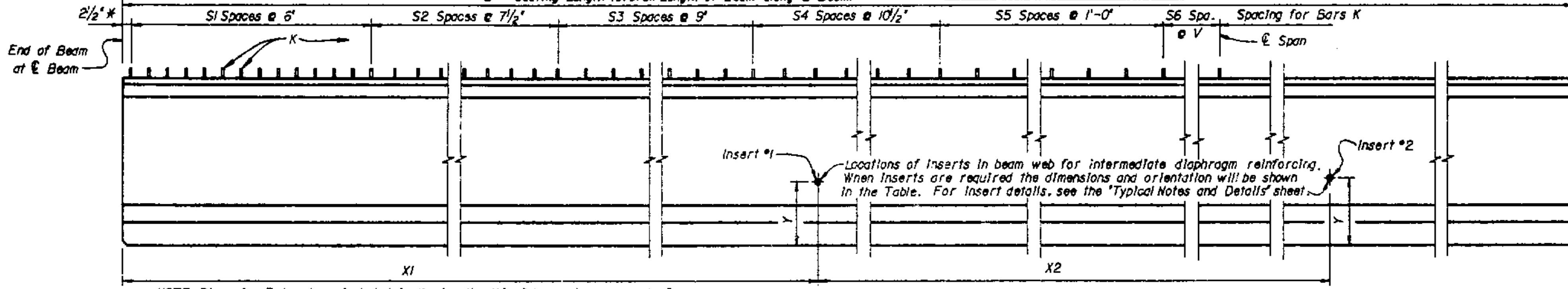
Drawing No. 1 of 1

Index No. S-112

11-MAY-1989 20:23 ST2:[120J5]FBT63.DGN;

FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.			

L = Casting Length (Overall Length of Beam along ℄ Beam) DIRECTION OF STATIONING



NOTE: Dimension R has been included in the lengths (L) of beams to compensate for elastic and time-dependent shortening effects.

ELEVATION

GENERAL NOTES

1. Work this sheet with the "Typical Notes and Details" sheet.

BILL OF REINFORCING STEEL FOR ONE BEAM ONLY			
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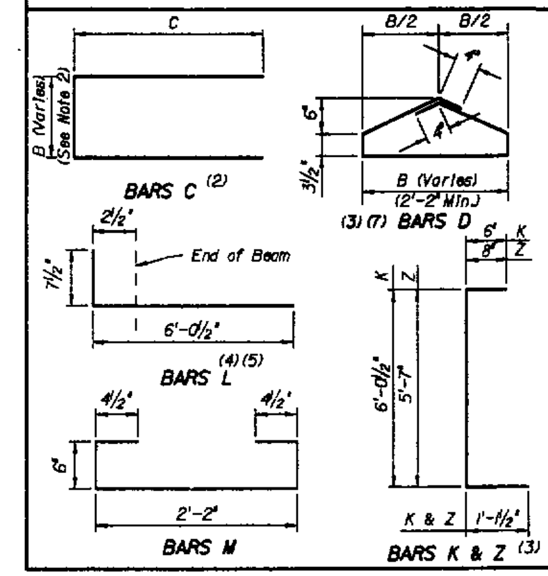
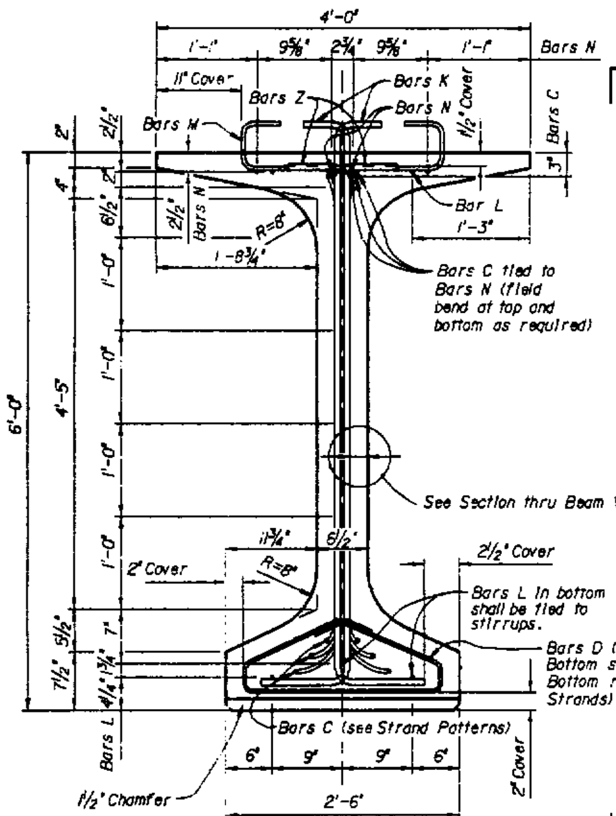
M	4	See Table	3'-11"
N (6)	⅜"Ø Strand (6)	4	See Table
Z (3)	4	22	7'-5"

BENDING DIAGRAMS (1)

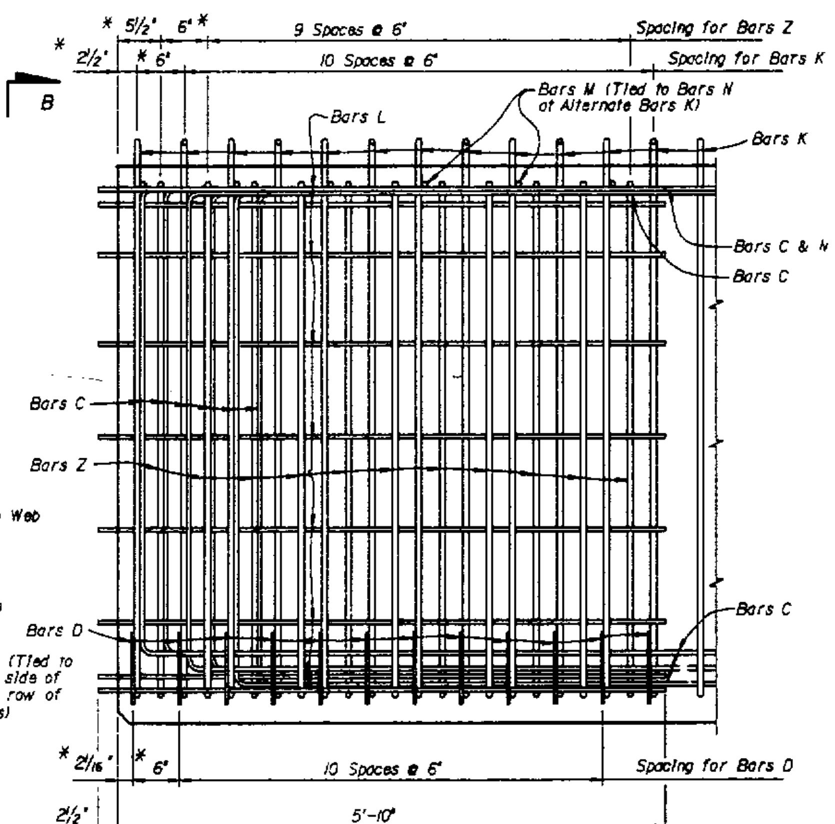




VIEW B-B

(With strands omitted, see Table for reference to strand pattern and treatment of Bars C)

NOTE: Place Bars K and Z one (1) each space (alternate).



DETAIL AT END OF BEAM

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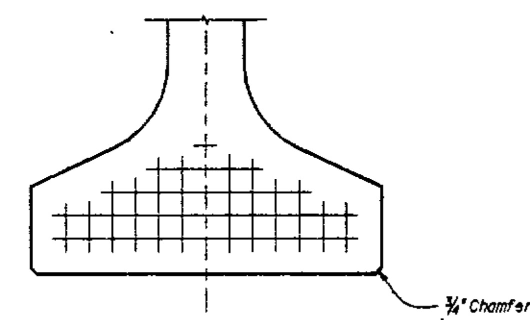
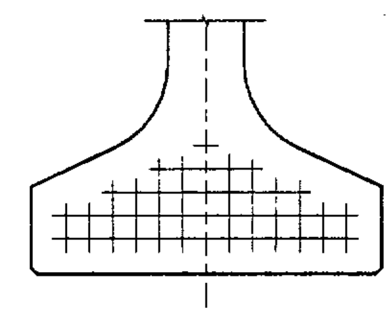


TYPE ①



TYPE ②

STRAND PATTERNS AND DEBONDING SCHEDULE

(Showing treatment of Bars C in Bottom Flange)

NOTE: ○ -Indicates fully bonded strands.

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TABLE OF BEAM VARIABLES / REINFORCING STEEL VARIABLES

BEAM ID.	CONCRETE PROPERTIES: CLASS	STRENGTHS: REL. (f'ci)	STRENGTHS: 28-DAY (f'c)	STND PTRN TYPE	PLAN VIEW CASE	END ELEV COND.	BRG. PLATE CASE	END OF BEAM AND BRG. PL DIMENSIONS: ANGLE Ø	DIM P	DIM J	DIM K	BEAM DIMENSIONS: DIM L	DIM R	DIM V		NUMBER OF SPACES FOR STIRRUP BARS K: S1	S2	S3	S4	S5	S6	DIAPHRAGM INSERT LOCATIONS: DIM X1	DIM X2	DIM Y	NS/FS (8) #1	NS/FS (8) #2	TYPE OF (9) REINF.	C: C	C: APPROX. LENGTH	K: NO. REQ'D	N: LENGTH	M: NO. REQ'D

REVISIONS								
Date	By	Description	Date	By	Description		Names	Dates
						Drawn by		
						Checked by		
						Designed by		
						Checked by		
						Approved by		

ENGINEER OF RECORD:

LOGO:

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.

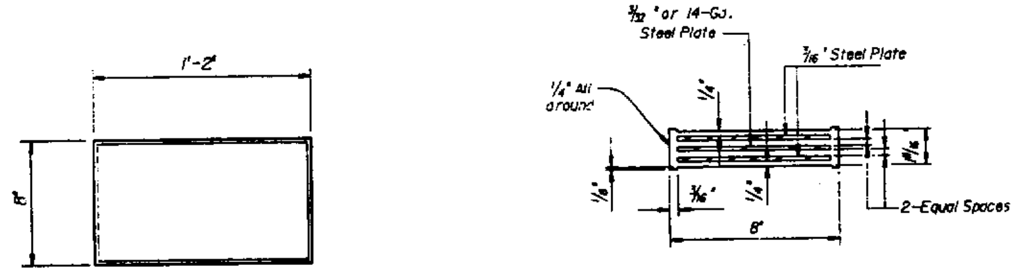
SHEET TITLE: FLORIDA BULB-T 72 BEAMS

PROJECT NAME:

Drawing No. 1 of 1

Index No. S-113

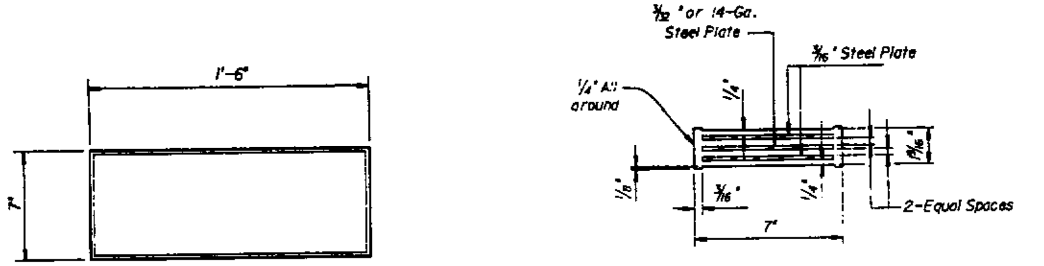
11 MAY 1999 20:30 STRS/120 IS/113BT72.DGN



PLAN

TYPICAL SECTION

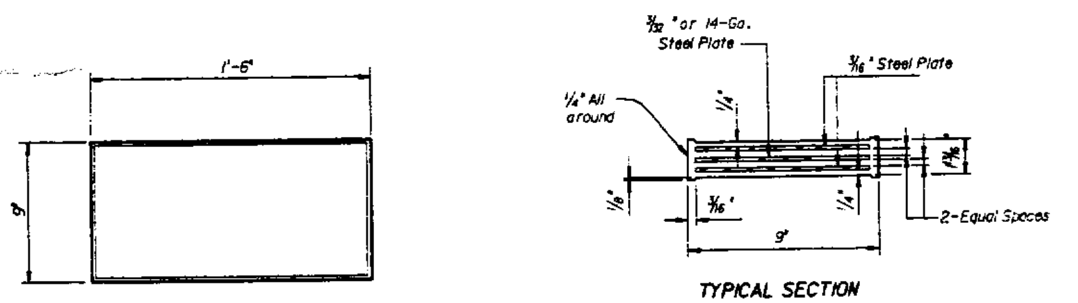
COMPOSITE PAD TYPE II



PLAN

TYPICAL SECTION

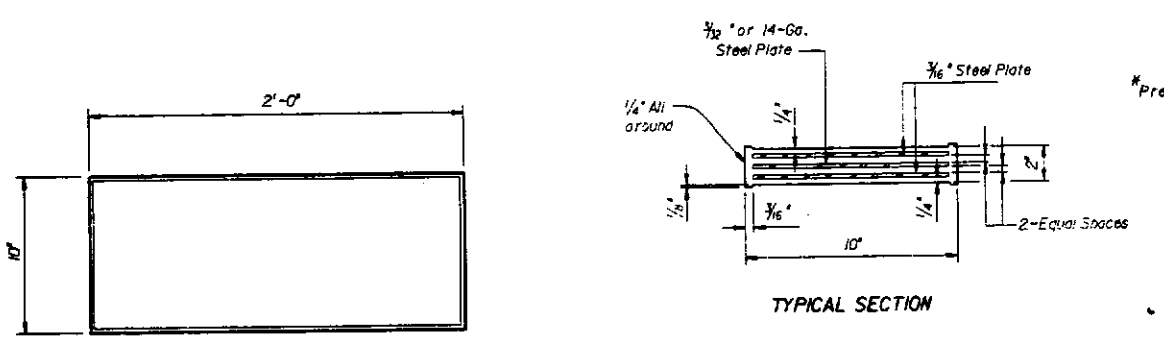
COMPOSITE PAD TYPE III



PLAN

TYPICAL SECTION

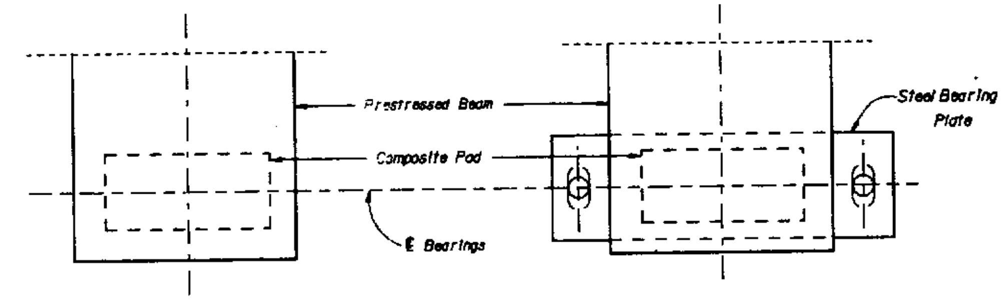
COMPOSITE PAD TYPE IV



PLAN

TYPICAL SECTION

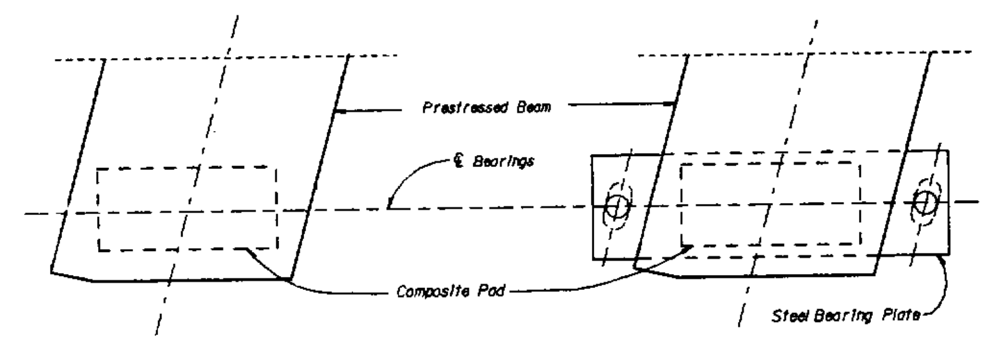
COMPOSITE PAD TYPE V



STRAIGHT BRIDGE

STRAIGHT BRIDGE (With Bearing ℞)

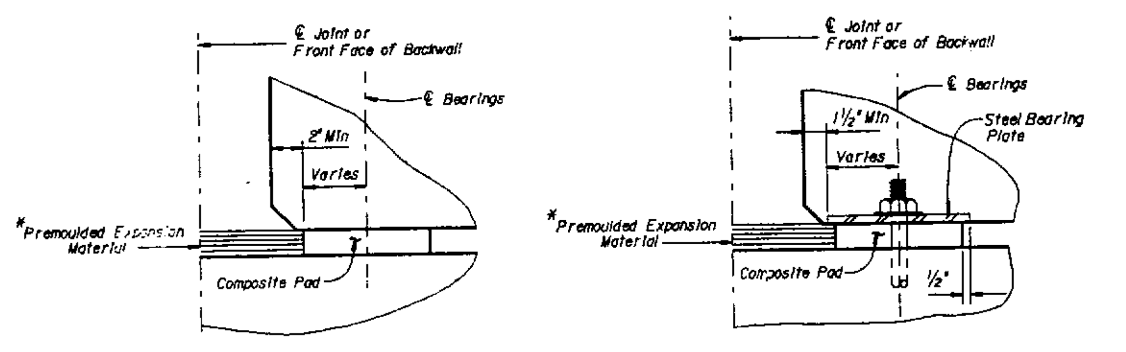
PART PLAN



SKEWED BRIDGE

SKEWED BRIDGE (With Bearing ℞)

PART PLAN



TYPICAL PAD DETAIL

TYPICAL PAD DETAIL (With Bearing ℞)

PART ELEVATION

* Premoulded Expansion Material is required for Cast-In-Place Beam Extension.

GENERAL NOTES

Neoprene in all Bearing Pads shall have a Grade 50 durometer hardness.

Steel Plates in composite pads shall conform to A.S.T.M. A-36, A-245 Grade C or D, A-570 Grade C, SAE 1010 or SAE 1020.

Variations in pad dimensions will be allowed provided revised pads will meet the current specifications and are approved by the Engineer.

Bearing seat shall be finished parallel to the bottom of Beam.

Steel Bearing Plates, Anchor Bolts, Nuts and Washers shall be hot dip galvanized in accordance with A.S.T.M. Specification A-123. Payment for steel bearing plate assemblies shall be included in the Contract Unit Price for Prestressed Beams or Structural Steel.

Location of Anchored Bearings: A minimum of two (2) beams per span shall be provided with bearing plates at both ends. The plates may be located at exterior or interior beams (exterior beam locations are preferred), and the distance (perpendicular to ℄ of bridge) between extreme anchored bearings shall not exceed 41 Ft., unless provisions are made for expansion in the transverse direction. The anchored bearings shall be located symmetrically about the longitudinal centerline of the bridge. For location and details of Bearing Plates, see Beam Sheets.

NOTE TO DESIGNER: Utilization of the standard composite neoprene bearing pads shown on this sheet shall be limited to applications that do not exceed the following values:

PAD TYPE	MAX. REACTION (DL + LL)	MAX. SHEAR DEFLECTION (Δ's)
II	90 Kips	0.60"
III	115 Kips	0.55"
IV	130 Kips	0.67"
V	192 Kips	0.75"

Prestressed Beam applications shall be as follows:

PAD TYPE	BEAM TYPE
II	Type II AASHTO Shape
III	Type III AASHTO Shape
IV	Type IV AASHTO Shape
V	Type V & VI AASHTO Shapes & Florida Bulb-T Shapes

NOTE: The above Maximum Reaction Limitations apply to Prestressed Concrete Beam applications. These Standard Composite Pads may also be utilized as Bearings for other types of beams such as Structural Steel Beams; however, in this event the Designer shall verify that the Design meets the requirements of the AASHTO Specifications.

FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.			

REVISIONS

Date	By	Description	Date	By	Description

	Names	Dates
Drawn by	HRF	11-85
Checked by	RDS	1-86
Designed by	BR	2-89
Checked by	TJB	2-89
Approved by	AJG	

ENGINEER OF RECORD:
STRUCTURES DESIGN OFFICE
605 Suwannee Street, MS 33
Tallahassee, Florida 32399-0450

LOGO:

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO. | COUNTY | PROJECT NO.

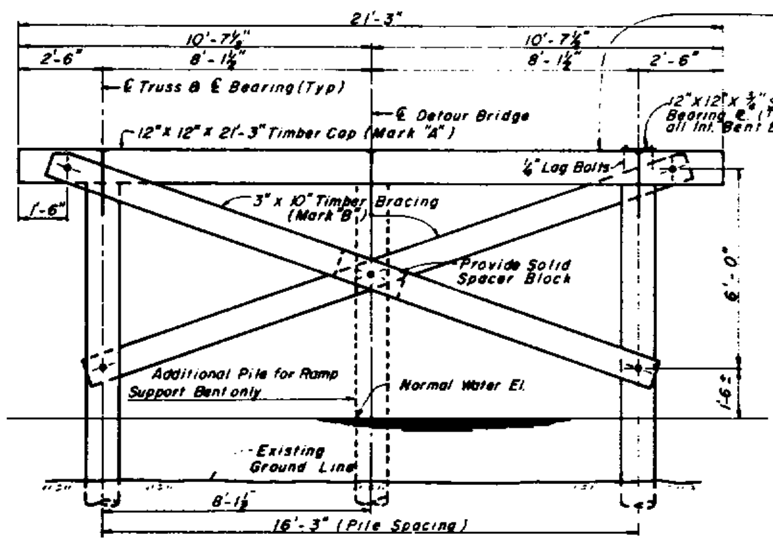
SHEET TITLE: COMPOSITE NEOPRENE BEARING PADS

PROJECT NAME:

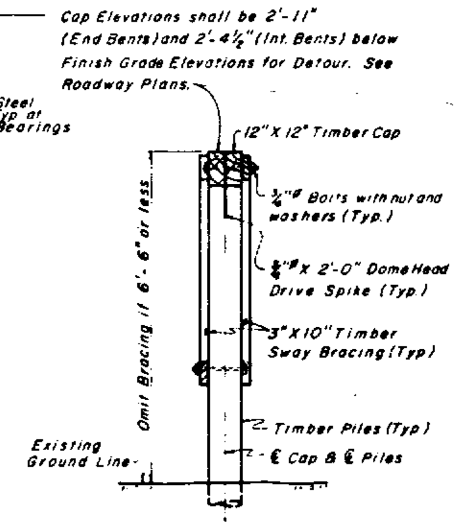
Drawing No. 1 of 1

Index No. 200

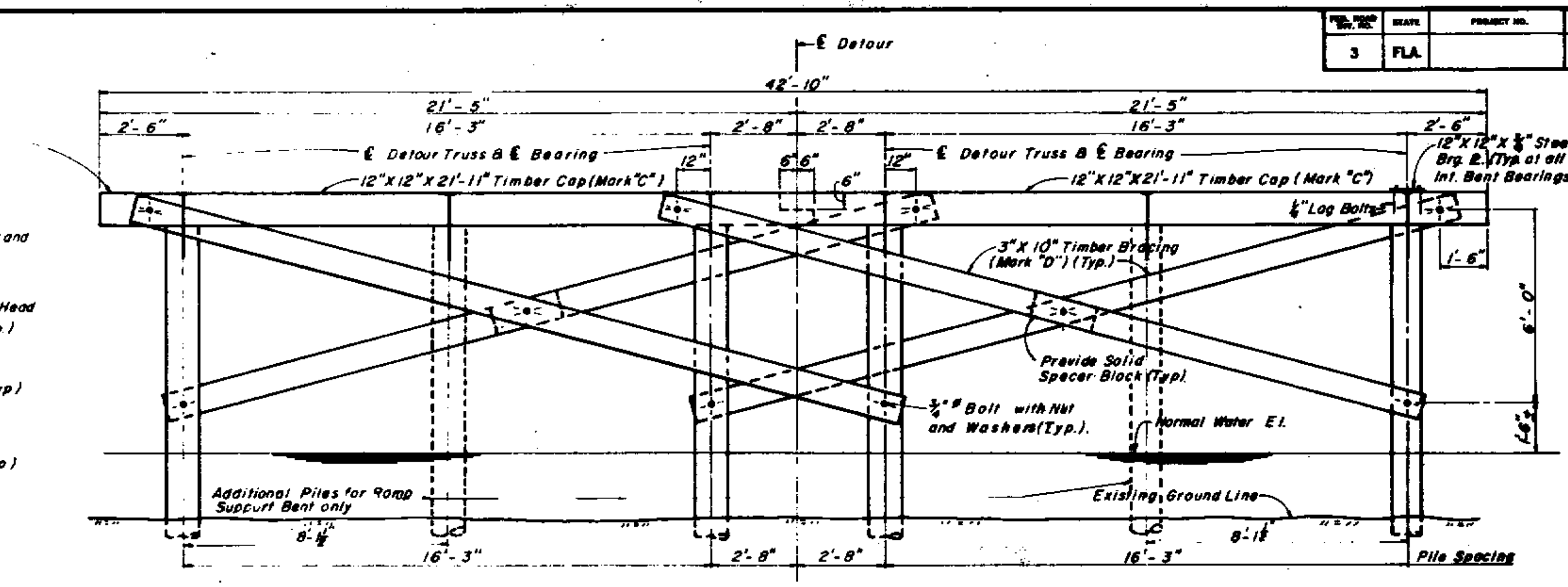
14-JUN-1989 14:53 ST2£120 J5I]BEAMPAD.DGN



SINGLE BRIDGE



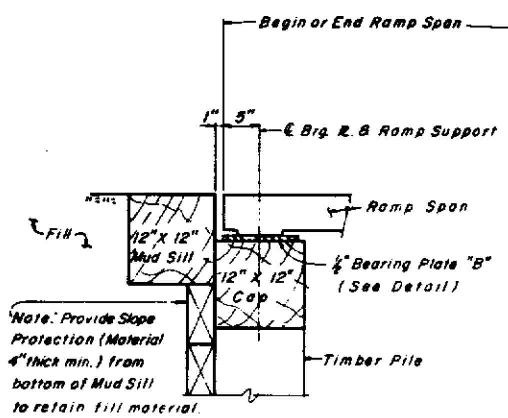
END VIEW



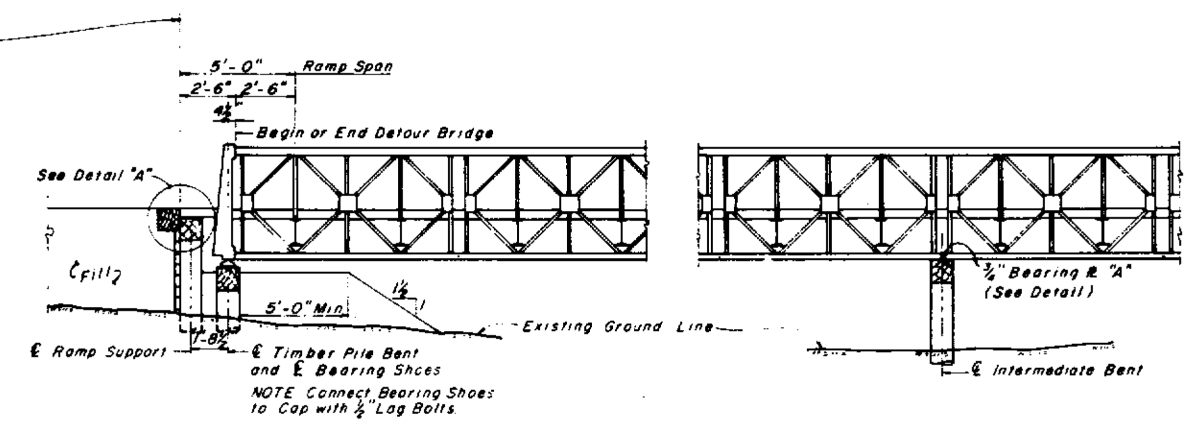
DUAL BRIDGE

NOTE: 3 Piles are required for Ramp Support Bents for single bridge.
6 Piles are required for Ramp Support Bents for Dual Bridge.

TIMBER PILE BENT ELEVATIONS



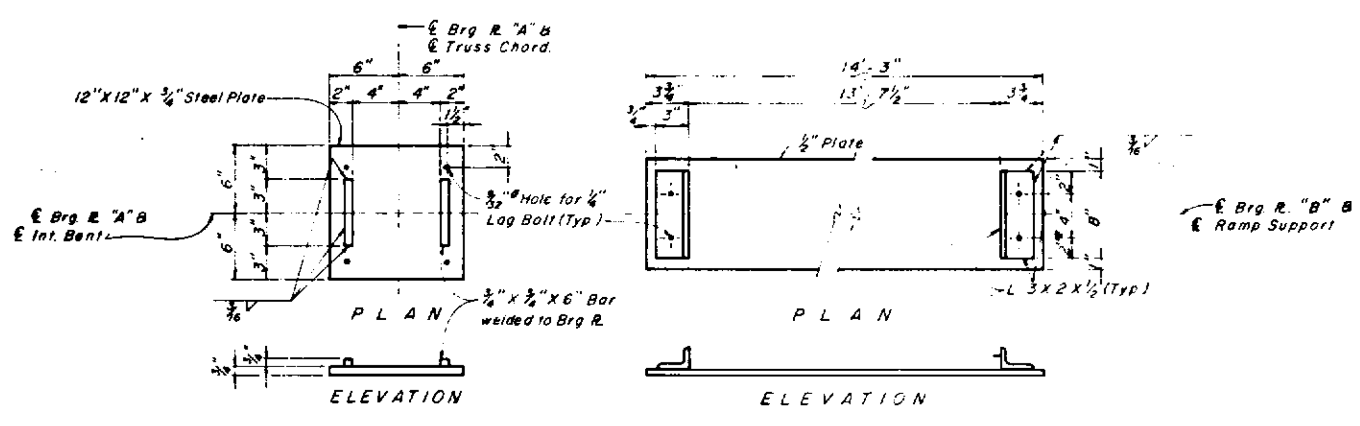
DETAIL "A"



PART ELEVATION

BILL OF STRUCTURAL TIMBER *													
SINGLE BRIDGE							DUAL BRIDGE						
LOCATION	MARK	SIZE	LENGTH	NO. REQD.	F.B.M.	TOTAL F.B.M.	LOCATION	MARK	SIZE	LENGTH	NO. REQD.	F.B.M.	TOTAL F.B.M.
BENT WITH BRACING	"A"	12" X 12"	21'-3"	1	0.255		BENT WITH BRACING	"C"	12" X 12"	21'-11"	2	0.526	
	"B"	3" X 10"	19'-3"	2	0.096			"D"	3" X 10"	24'-3"	4	0.242	
						0.351							0.768
BENT WITHOUT BRACING	"A"	12" X 12"	21'-3"	1	0.255		BENT WITHOUT BRACING	"C"	12" X 12"	21'-11"	2	0.526	
						0.255							0.526
RAMP SUPPORT	"A"	12" X 12"	21'-3"	1	0.255		RAMP SUPPORT	"C"	12" X 12"	21'-11"	2	0.526	
						0.255							0.526

* Bill of Structural Timber is for One Bent or One Ramp Support only. Contractor shall also provide Mud Sill and Slope Protection Material as indicated in Detail "A".



BEARING PLATE DETAILS (A-36)

NOTE: Contractor shall provide all Bearing Plates ("A" & "B")

GENERAL NOTES

DESIGN LOAD FOR PILES: 20 Tons
LOADING: H20-44
STRUCTURAL TIMBER: Timber Piles and Structural Timber may be treated or untreated at the option of the Contractor.
SPAN LENGTH: 30'-0" maximum
PAYMENT: See Roadway Plans for payment of Detour.
ERECTION: The Contractor shall erect the Detour Bridge in accordance with the Specifications, these plans, the Acrow Panel Bridge Technical Handbook.
AVAILABILITY: Acrow Panel Bridge components will be available at the Orlando D.O.T. Structural Aluminum Shop. Steel grid bridge flooring will be furnished.

FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.			

ONE AND TWO LANE SINGLE SINGLE EXTRA WIDE

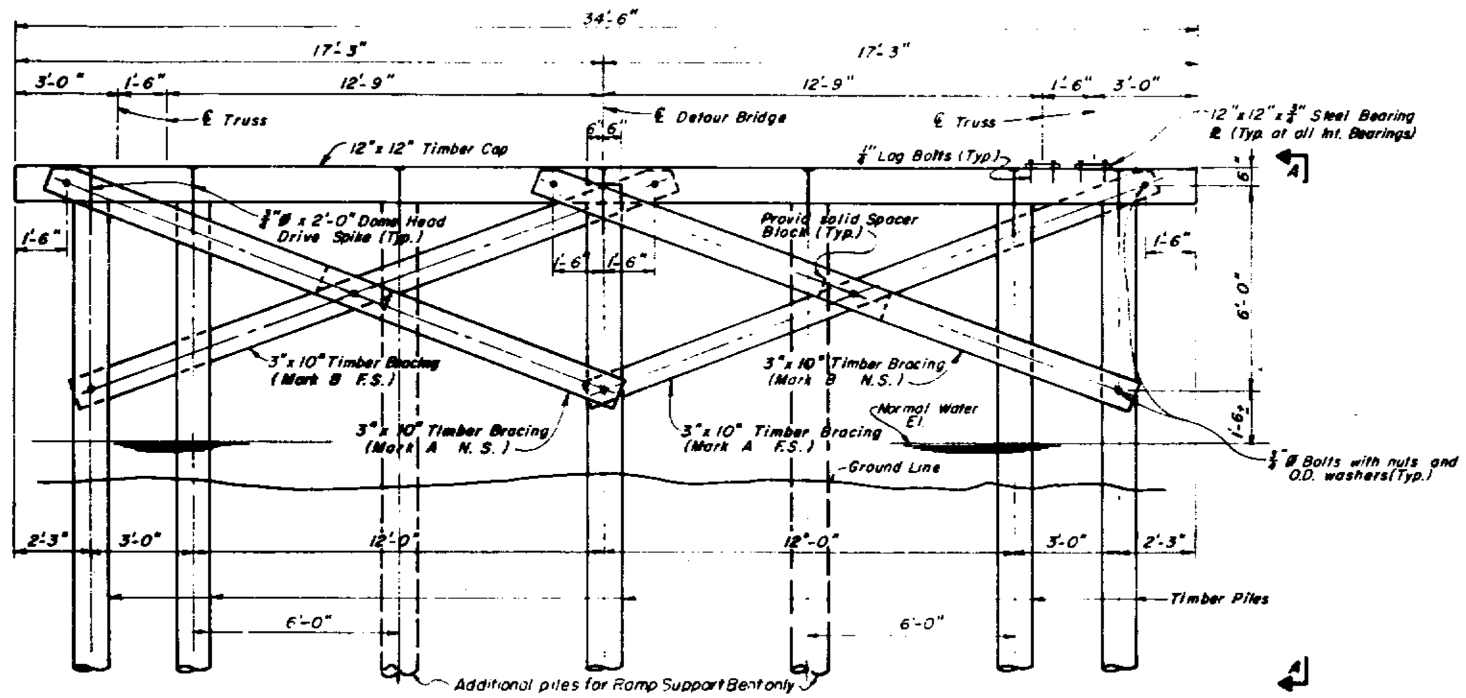
STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES

TIMBER BENTS
FOR TYPE ACROW DETOUR BRIDGE

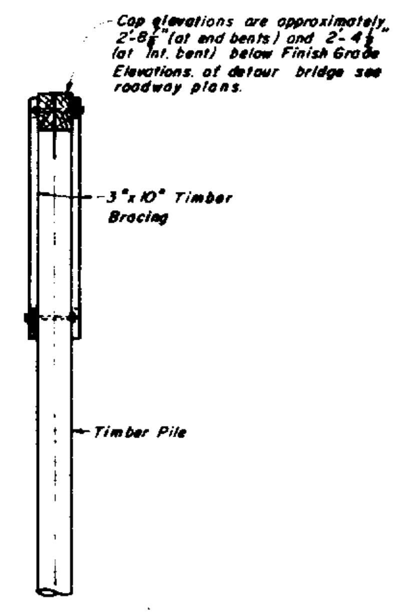
REVISIONS	
Dates	Descriptions

ROAD NO.	COUNTY	PROJECT NO.

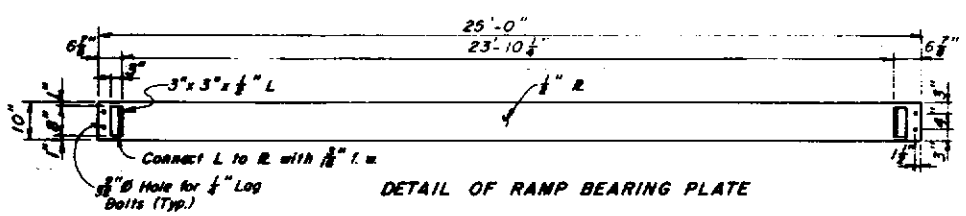
	Names	Dates	APPROVED BY
Designed by			
Checked by			
Quantities by			Deputy Design Engineer, Structures
Checked by			Drawing No. 1 of 1
Supervised by			Index No. S-300



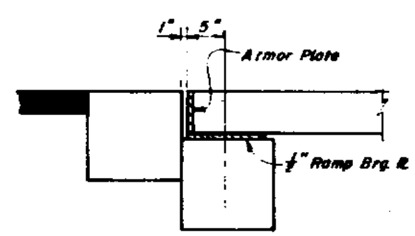
ELEVATION
(TIMBER PILE BENT)



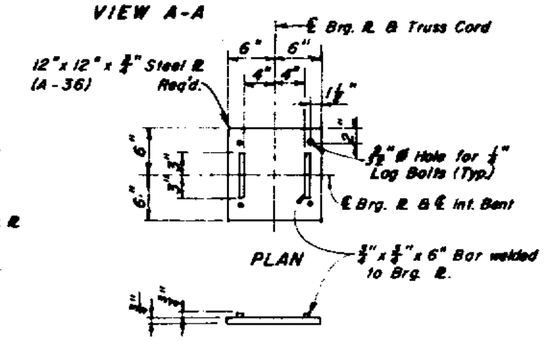
VIEW A-A



DETAIL OF RAMP BEARING PLATE



DETAIL OF END RAMP



DETAIL OF BEARING ℞

BILL OF STRUCTURAL TIMBER*

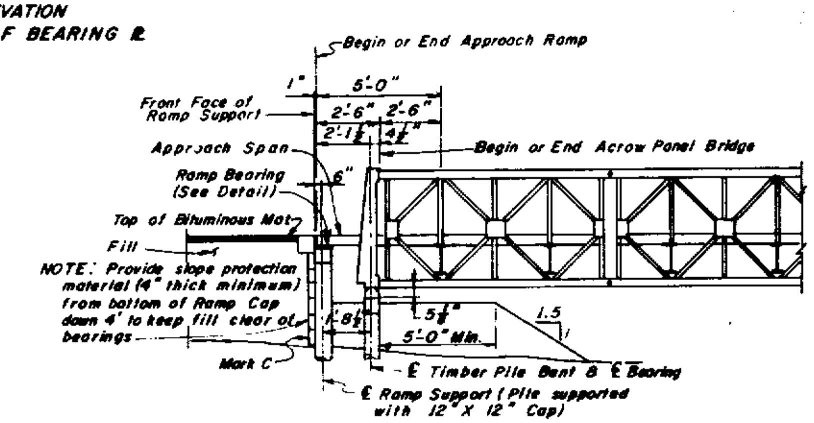
ITEM	SIZE	LENGTH	NO. REQ'D. RAMP SUP.	NO. REQ'D. END BENT	NO. REQ'D. INT. BENT	F. B. M. RAMP SUP.	F. B. M. END BENT	F. B. M. INT. BENT	CUTTING DIMENSIONS
Cap	12"x 12"	17'-9"	4	2	2	852	426	426	16'-9"
Mark A **	3"x 10"	18'-0"	—	—	2	—	—	90	18'-0" Field Cut as required
Mark B **	3"x 10"	18'-6"	—	—	2	—	—	93	18'-6" Field Cut as required
Mark C	4"x 8"	18'-0"	12	—	—	576	—	—	18'-0"
Spacer Blocks **	10"x 12"	2'-0"	—	—	2	—	—	40	2'-0" 10"
TOTAL						1,428	426	649	

* Quantities shown are for one Timber Bent only.
** No bracing required on Bents No.

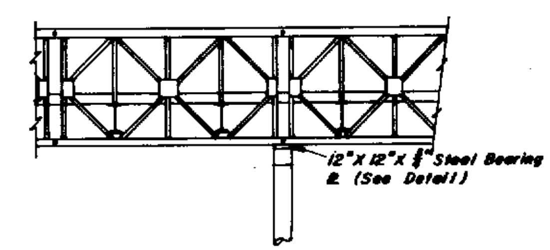
NOTE: 7 Piles are required for Ramp Support Bents

GENERAL NOTES

DESIGN LOAD FOR PILES: 20 Tons.
LOADING: H 20 - 44.
STRUCTURAL TIMBER: Timber piles and structural timber may be treated or untreated at the option of the contractor
SPAN LENGTH: 30'-0" maximum.
PAYMENT: See Roadway Plans for payment of detour bridge.
ERECTION: The contractor shall erect the detour bridge in accordance with the Specifications, these plans and the Acrow Panel Bridge Technical Handbook.
AVAILABILITY: Acrow Panel Bridge components will be available at the Orlando D.O.T. Structural Aluminum Shop. Steel grid bridge flooring will be furnished.



DETAIL AT BEGIN OR END BRIDGE



DETAIL AT INTERMEDIATE SUPPORT

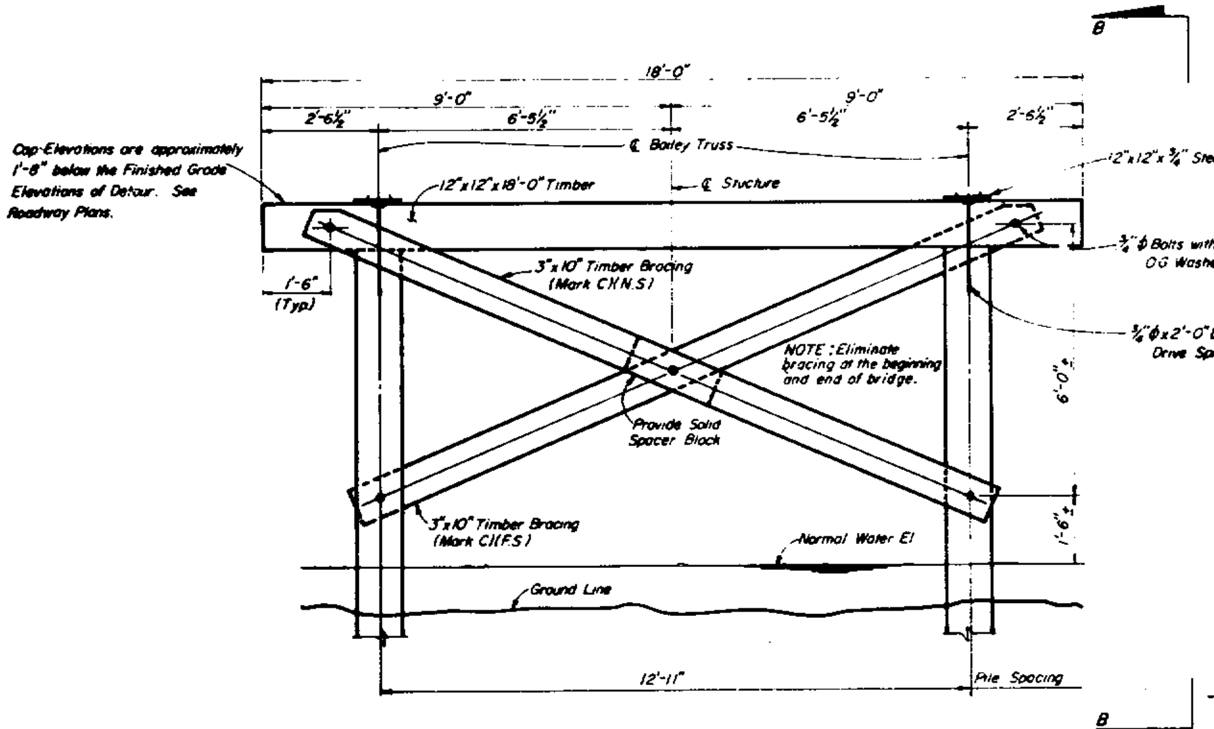
TWO LANE SINGLE SINGLE DOUBLE WIDE

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES

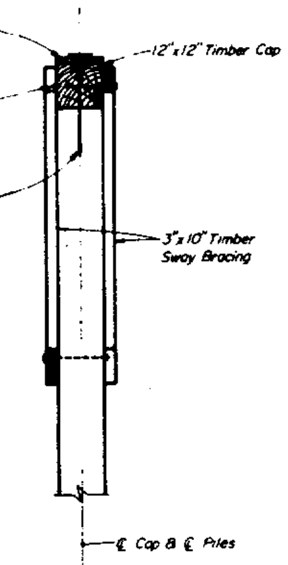
TIMBER BENTS FOR ACROW DETOUR BRIDGE

REVISIONS	ROAD NO.	COUNTY	PROJECT NO.
Date / Description	Designed by / Checked by / Quantities by / Checked by / Supervised by	APPROVED BY: Deputy Design Engineer, Structures	Drawing No. 1 of 1 / Index No. S-301

FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.			



TIMBER PILE BENT
(For Single Lane Bailey Bridge)



VIEW B-B

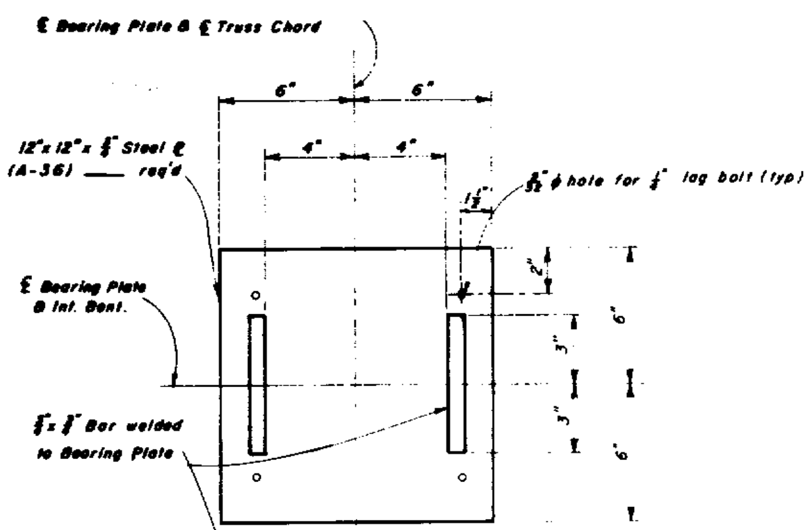
LIST OF STRUCTURAL TIMBER *

ITEM	SIZE	LENGTH	NO. REQ'D.	F.B.M.	CUTTING DIMENSIONS
Cap	12"x12"	18'-0"	** 1	216	18'-0", 12"
Mark C	3"x10"	16'-0"	2	80	16'-0", Field cut as required, 10"
Spacer Block	10"x12"	2'-0"	1	20	2'-0", 12"
			TOTAL	316	

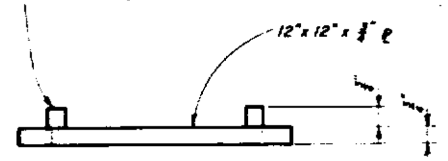
* Quantities shown are for One Timber Bent Only.
** Two (2) additional caps of same size are required for "Mud Sills" for ends of grating approaches on fill.

GENERAL NOTES

DESIGN LOAD FOR PILES: 20 tons
LOADING: H20-44
STRUCTURAL TIMBER: Timber piles and structural timber may be treated or untreated at the option of the Contractor.
SPAN LENGTH: 30'-0" maximum
PAYMENT: See Roadway Plans for payment of detour
ERECTION: The Contractor shall erect the the detour bridge in accordance with the specifications, these plans, and the "Bailey Uniflote Handbook". Steelgrid bridge flooring will be furnished in lieu of Bailey Bridge Flooring and shall be welded to the transom. Welds shall be made and removed with care to avoid damage to the transom.
AVAILABILITY: BaileyBridge components will be available at the DeFuniak Springs, Florida D.O.T. Maintenance Yard.



PLAN



ELEVATION

BEARING PLATE DETAILS

NOTES: Bearing Assemblies are to be furnished by the Contractor and shall become the property of the D.O.T. when the detour bridge is dismantled.
The cost of the Bearing Assemblies shall be included in the Contract Lump Sum Price for Special Detour (see Roadway Plans)
The Estimated weight of each bearing assembly is approximately 32 lbs.

ONE LANE SINGLE SINGLE (M-1 BAILEY)

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES

TIMBER BENTS FOR BAILEY BRIDGES

REVISIONS	
Dates	Description

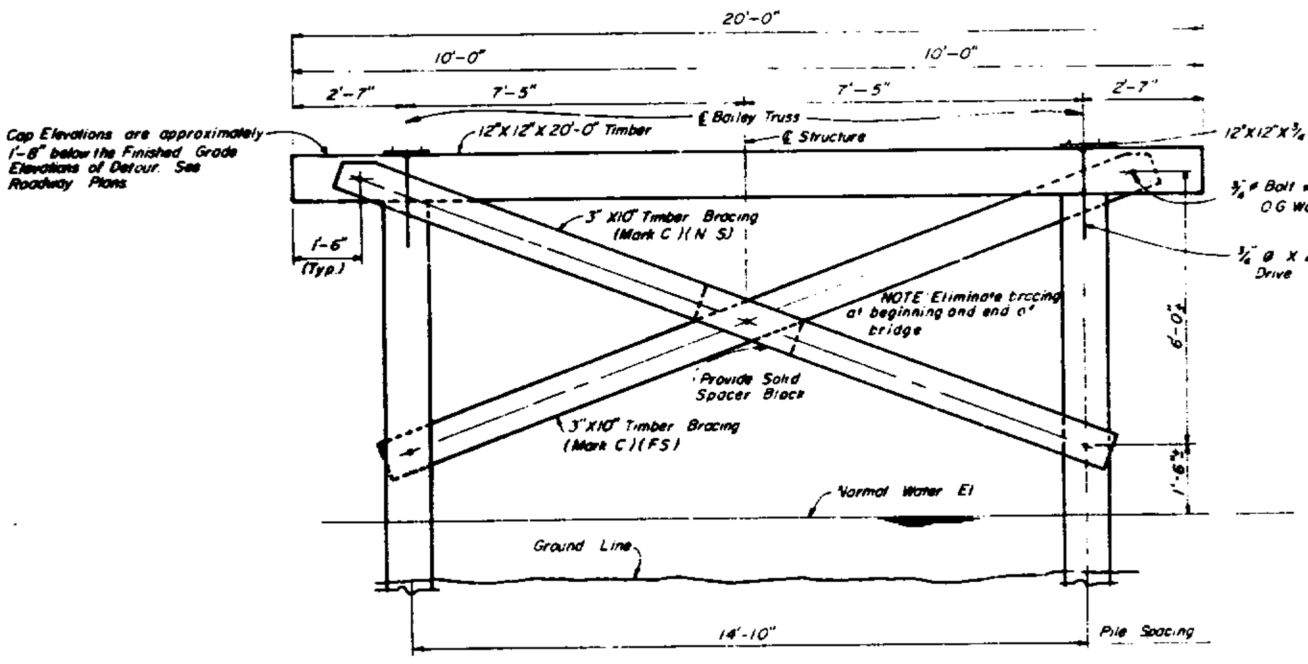
ROAD NO.	COUNTY	PROJECT NO.

	Names	Dates
Designed by		
Checked by		
Quantities by		
Checked by		
Supervised by		

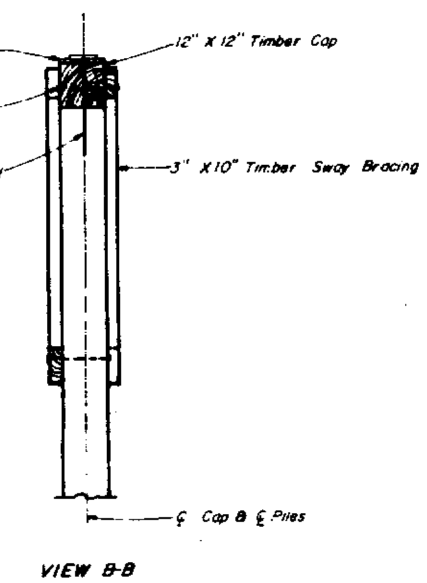
APPROVED BY
Deputy Design Engineer, Structures

Drawing No.	Index No.
1 of 1	S-310

3	FLA.				



TIMBER PILE BENT
For Single Lane Bailey Bridge)



VIEW B-B

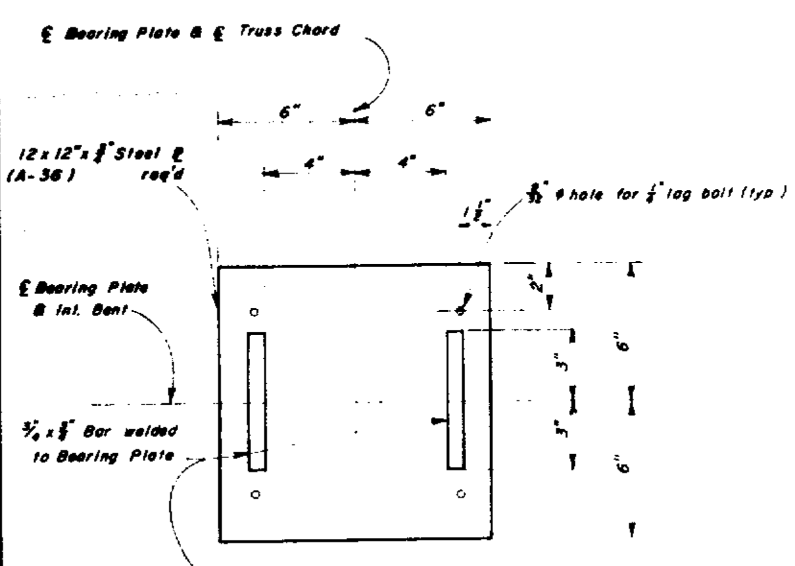
LIST OF STRUCTURAL TIMBER *

ITEM	SIZE	LENGTH	NO. REQ'D.	F.B.M.	CUTTING DIMENSIONS
Cap	12" X12"	20'-0"	** 1	240	19'-0"
Mark C	3"X10"	18'-0"	2	90	18'-0" Field cut as required
Spacer Block	10"X12"	2'-0"	1	20	2'-0"
			TOTAL	338	

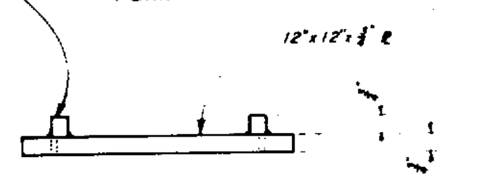
* Quantities shown are for One Timber Bent Only.
** Two (2) additional caps required for mud sills at ends of grating approaches.

GENERAL NOTES

DESIGN LOAD FOR PILES: 20 tons
LOADING: H20-44
STRUCTURAL TIMBER: Timber piles and structural timber may be treated or untreated at the option of the Contractor.
SPAN LENGTH: 30'-0" Maximum
PAYMENT: See roadway plans for payment of detour
ERECTION: The Contractor shall erect the detour bridge in accordance with the specifications, these plans, and the "Bailey Uniflote Handbook".
Steel grid bridge flooring will be furnished in lieu of Bailey Bridge flooring and shall be welded to the transom. Welds shall be made and removed with care to avoid damage to the transom.
AVAILABILITY: Bailey Bridge components will be available at the DeFuniak Springs, Florida, D.O.T. Maintenance Yard.



PLAN



ELEVATION

BEARING PLATE DETAILS

NOTES: Bearing Assemblies are to be furnished by the Contractor and shall become the property of the D.O.T. when the detour bridge is dismantled.
The cost of the Bearing Assemblies shall be included in the Contract Lump Sum price for Special Detour (see roadway plans)
The estimated weight of each bearing assembly is approximately 32 lbs.

ONE LANE SINGLE SINGLE (M-2 BAILEY)

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES

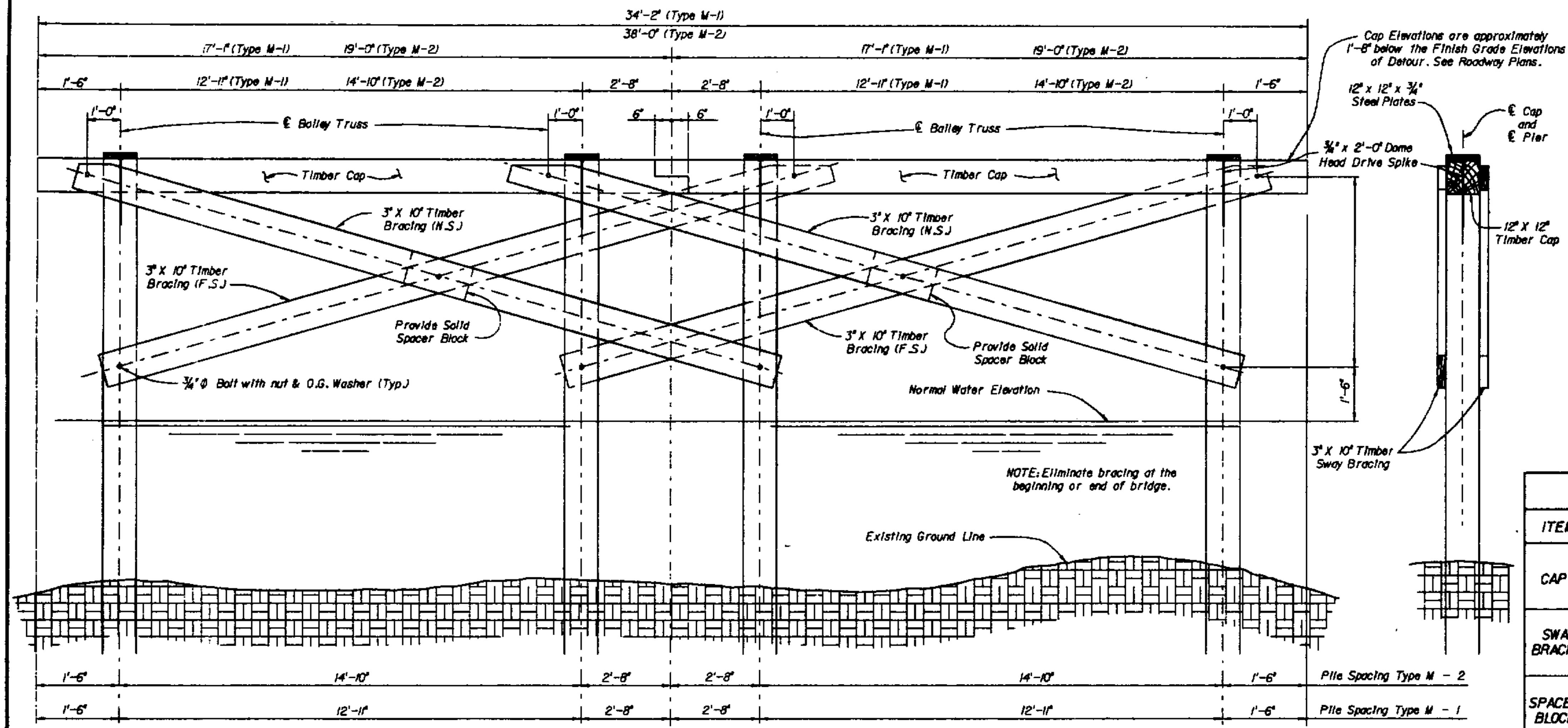
TIMBER BENTS FOR BAILEY BRIDGE

REVISIONS	
Dates	Descriptions

ROAD NO.	COUNTY	PROJECT NO.

	Names	Dates	APPROVED BY
Designed by			
Checked by			
Quantities by			Deputy Bridge Engineer, Structures
Checked by			Drawing No. 1 of 1
Supervised by			Index No. S-311

FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.			



GENERAL NOTES

DESIGN LOAD FOR PILES: 20 TONS

LOADING: HS20-44

STRUCTURAL TIMBER: Timber piles and structural timber may be treated or untreated at the option of the contractor.

SPAN LENGTH: 30'-0" Maximum

PAYMENT: See Roadway Plans for payment of detour.

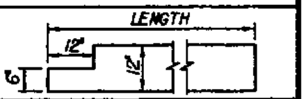
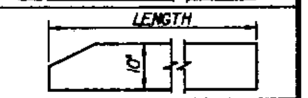
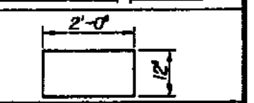
ERECTION: The contractor shall erect the detour bridge in accordance with the specifications, these plans, and the "Bailey Uniflote Handbook". Steel grid bridge flooring will be furnished in lieu of Bailey Bridge flooring. Steel grid bridge flooring shall be brought into full contact with each transom and then securely fastened at each transom. The Engineer shall approve final assembly of Bailey Bridge components prior to placing traffic on the Bailey Bridge.

AVAILABILITY: Contractor shall pickup and return all Bailey Bridge components at the FDOT maintenance yard located in Defuniak Springs, Florida.

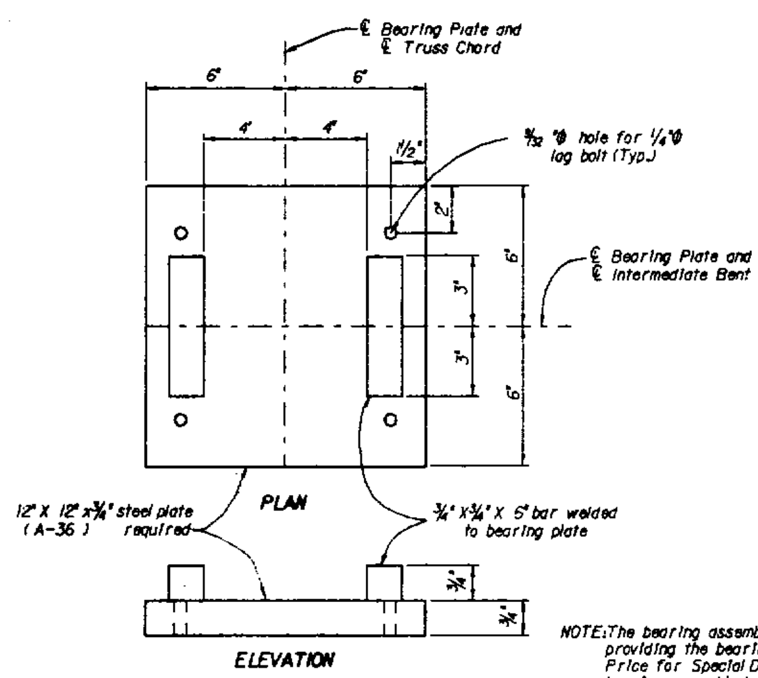
DAMAGE: Contractor shall be responsible for damage to the Bailey Bridge components which occurs while in his possession. FDOT Inspection of the Bailey Bridge components for damage will be upon return of the Bailey Bridge components to the FDOT maintenance yard.

DETOUR BRIDGE TYPE: The contractor shall be responsible for contacting the District Structures Engineer prior to driving piles or purchasing timber to determine if a Type M-1 or a Type M-2 Bailey Bridge will be furnished for this project.

LIST OF STRUCTURAL TIMBER

ITEM	SIZE	LENGTH M-1	LENGTH M-2	No. REQ'D	F.B.M. M-1	F.B.M. M-2	CUTTING DIAGRAMS
CAP	12" X 12"	17'-7"	19'-6"	2	422	468	
SWAY BRACING	3" X 10"	22'-1"	24'-0"	4	222	240	
SPACER BLOCK	10" X 12"	2'-0"	2'-0"	2	40	40	
				TOTAL	684	748	

NOTE: Quantities are for one bent only.



BEARING PLATE DETAILS

NOTE: The bearing assemblies are to be furnished by the Contractor. The cost of providing the bearing assemblies shall be included in the Contract Lump Sum Price for Special Detour. (See Roadway Plans). Estimated weight of each bearing assembly is approximately 32 lbs.

REVISIONS					
Date	By	Description	Date	By	Description

	Names	Dates
Drawn by		
Checked by		
Designed by		
Checked by		
Approved by		

ENGINEER OF RECORD:

LOGO:

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.

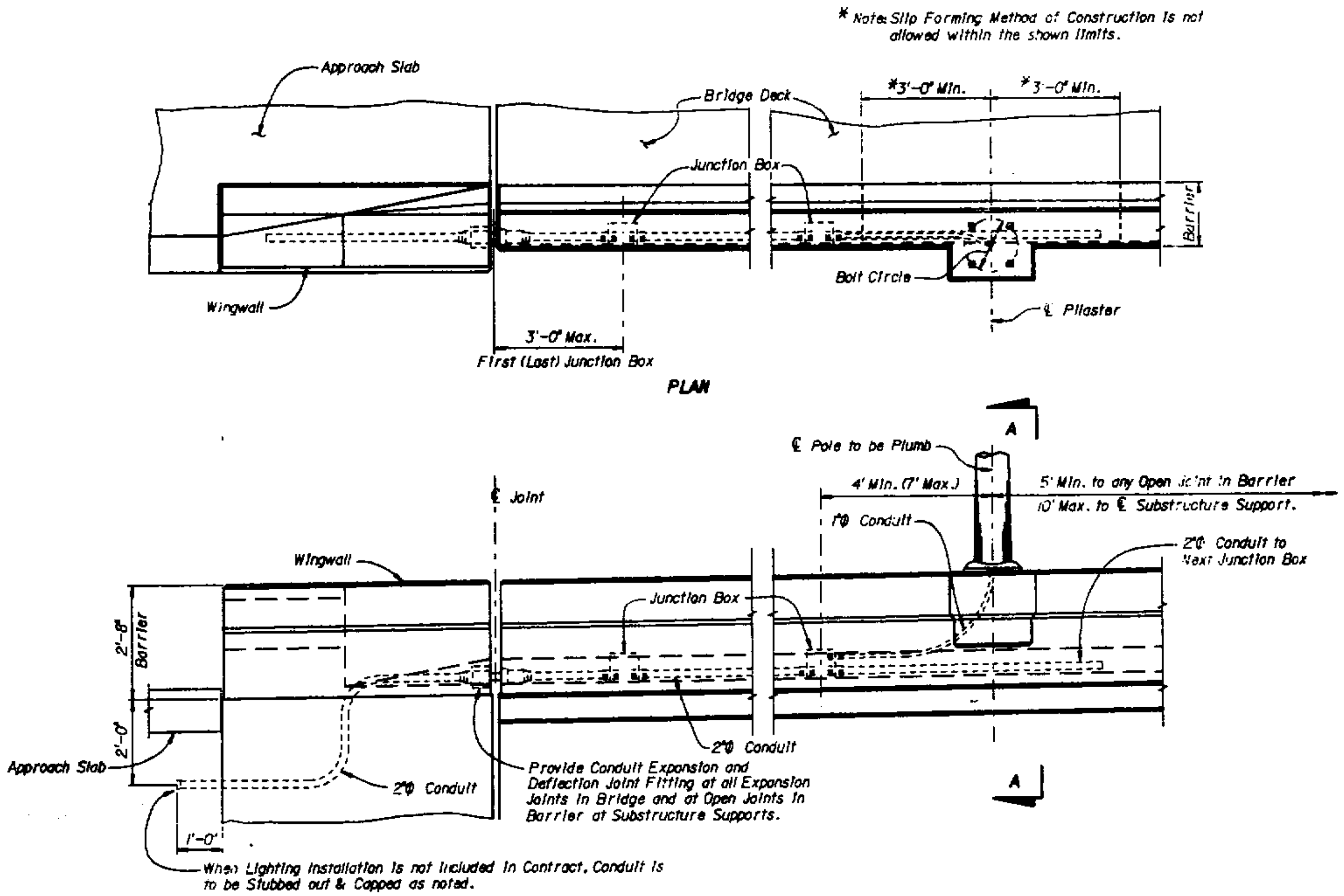
SHEET TITLE: TIMBER BENTS FOR BAILEY BRIDGE
TWO LANES SINGLE-SINGLE
(TYPE M-1 AND M-2)

PROJECT NAME:

Drawing No. 1 of 1

Index No. S-312

FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.			



PLAN

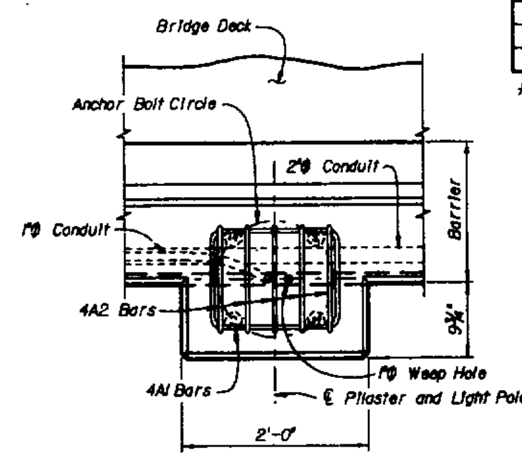
ELEVATION

*BILL OF REINFORCING STEEL

MARK	SIZE	NO. REQ'D	LENGTH	BENDING
4A1	4	3	6'-0"	See Diagram
4A2	4	5	6'-1"	" "
5A1	5	22	4'-7"	" "
5P	5	10 Additional		
5V3	5	20	5'-1"	See Diagram

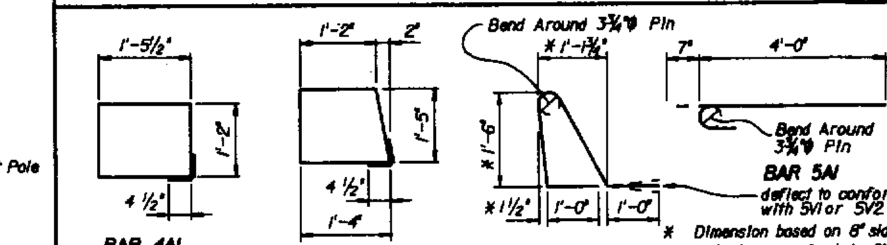
* Quantities and Bill of Reinforcing Steel are for one Pilaster.
For Details of Bar 5P, See Traffic Railing Barrier Sheet.
The 20 Required Bars 5V3 shall be used instead of 10 Bars 5V1 or 5V2.

***QUANTITY**
Concrete Required : 0.10 C.Y.
Steel Required : 311.34 Lbs.

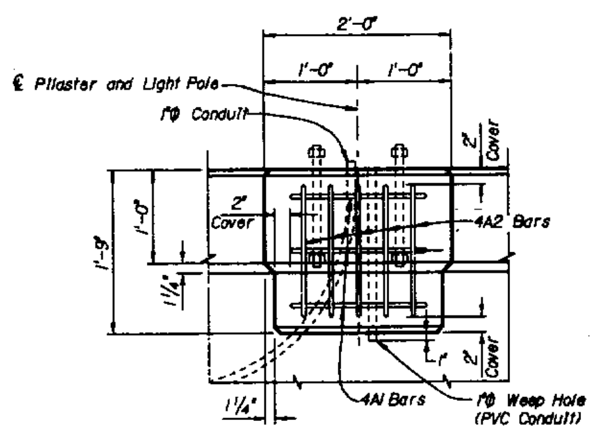


PILASTER PLAN VIEW

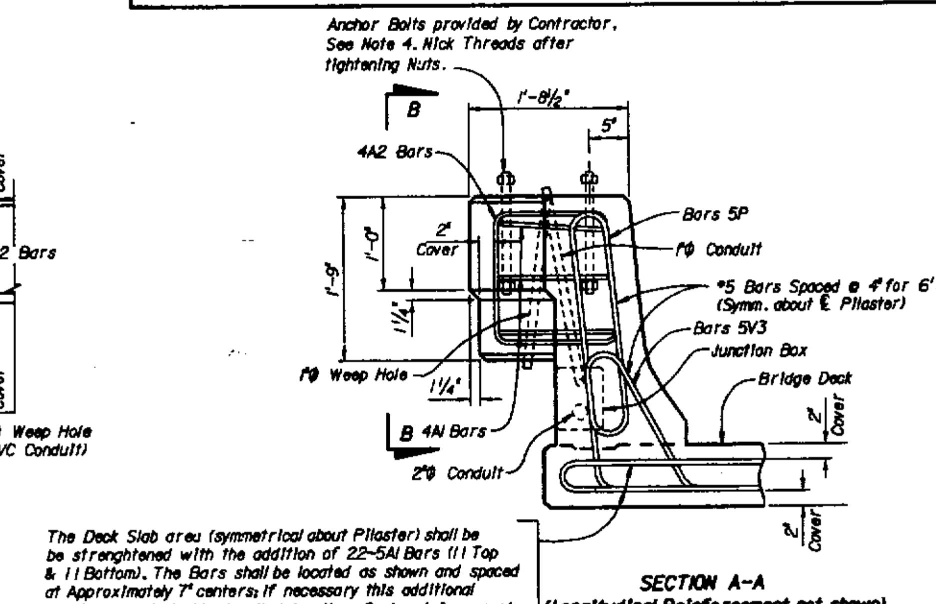
BAR BENDING DIAGRAMS



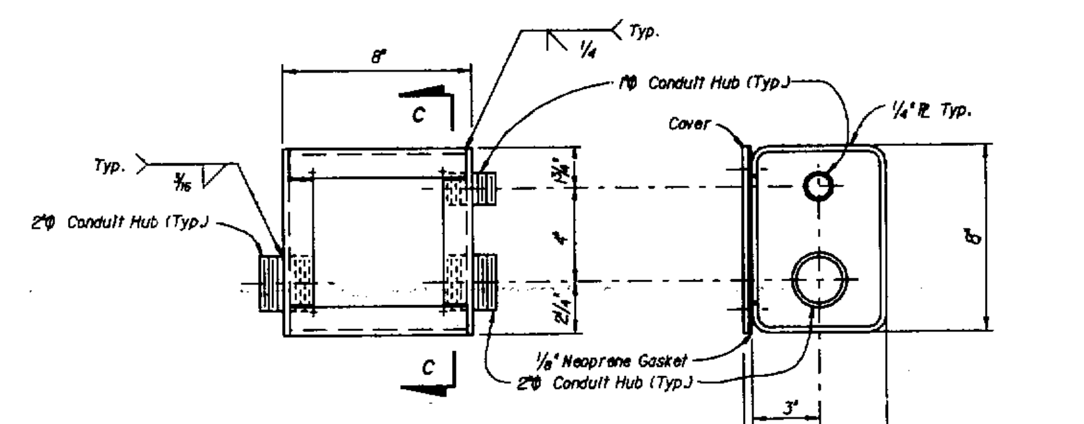
BAR 4A1 BAR 4A2 BAR 5V3 BAR 5A1



VIEW B-B



SECTION A-A
(Longitudinal Reinforcement not shown)



FRONT VIEW OF JUNCTION BOX
(Cover removed)

SECTION C-C

NOTES

1. Additional Concrete and Reinforcing Steel required for the Construction of the Pilaster shall meet the same requirements as that of the Traffic Railing.

2. Top of Pilaster shall be finished to a truly level area.

3. Light Pole Pilaster and adjacent Traffic Rail Barrier and Superstructure Slab area shown on this sheet, are designed to resist Working Loads (in any direction) from the Light Pole applied at the top of the Pilaster as follows:

Longitudinal Moment	=	30,000	Ft. Pounds
Transverse Moment	=	6,000	Ft. Pounds
Longitudinal Shear	=	1,000	Pounds
Transverse Shear	=	200	Pounds
Torsion	=	3,000	Ft. Pounds
Axial	=	400	Pounds

If the Light Pole provided applies Loads that are in excess of those shown above, the Contractor shall redesign the Pilaster and submit his Design to the Department for Review. The Contractor's Redesign shall be Prepared, Signed and Sealed by a Professional Engineer Registered in the State of Florida, and Qualified to perform the work.

4. The Contractor is responsible for providing Anchor Bolts that Effectively transmit the Light Pole Loads to the Pilaster and that fit the Reinforcing cage. Calculations Signed and Sealed by a Professional Engineer Registered in the State of Florida shall be submited by the Contractor to the Department for Review and Approval showing that these Requirements have been met prior to Construction.

5. Steel for Junction Boxes shall conform with ASTM-A36. The Boxes shall be Hot Dip Galvanized after fabrication. In lieu of Steel Boxes the Contractor may submit for Approval molded P.V.C. Boxes (Schedule 40).

6. Junction Boxes shall be mounted at each end of the Bridge and in the vicinity of each Light Pole in accordance with details on this sheet. For location of additional Junction Boxes, see Roadway Lighting Plans.

7. All Conduits shall be Rigid Galvanized Steel or Schedule 40 P.V.C.

8. The Cost of Anchor Bolts shall be included in the Bid Price for Light Poles.

9. PAYMENT: The Cost of all Labor, Concrete and Reinforcing Steel required for the Construction of the Pilasters and all Conduits, Expansion Couplings, Junction Boxes and Miscellaneous hardware required for completion of the Electrical Installation within the limits shown on this sheet, shall be included in the Contractor's Bid Price for the Traffic Railing Barrier.

REVISIONS					
Date	By	Description	Date	By	Description

	Names	Dates
Drawn by	DCP	3-89
Checked by	AJG	3-89
Designed by	TJB	3-89
Checked by	AJG	3-89
Approved by	AJG	

ENGINEER OF RECORD:
STRUCTURES DESIGN OFFICE
605 Suwannee Street, MS 33
Tallahassee, Florida 32399-0450

LOGO:

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.

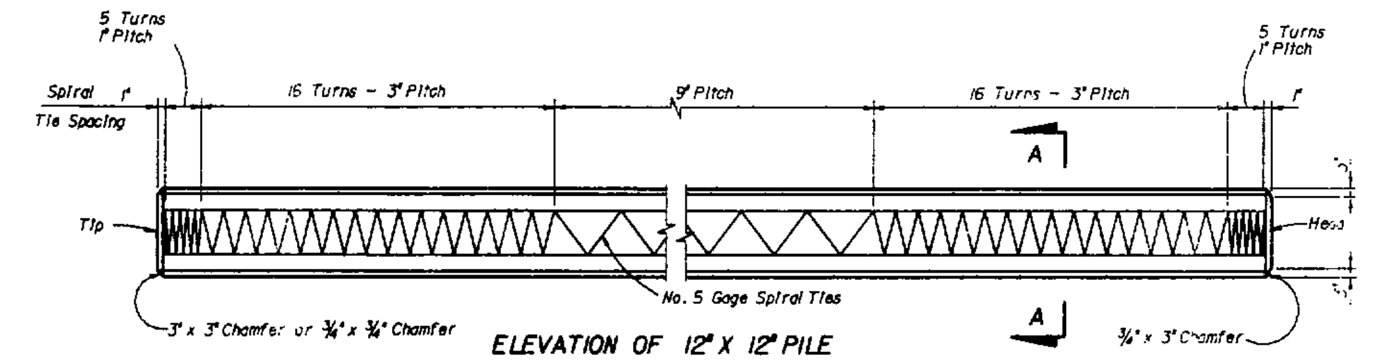
SHEET TITLE: LIGHT POLE PILASTER

PROJECT NAME:

Drawing No. 1 of 1

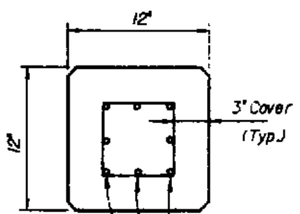
Index No. 500

14-JUN-1989 14:26 ST2:[120J5]LIGHT.DGN



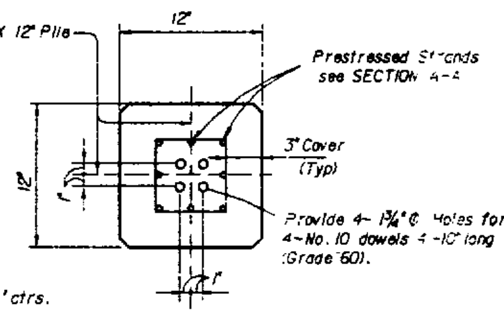
ELEVATION OF 12" X 12" PILE

Maximum Length - 50' Single Point Pick-up
Maximum Length - 70' Double Point Pick-up
Over 70' Triple Point Pick-up
See Pile Pick-up Details



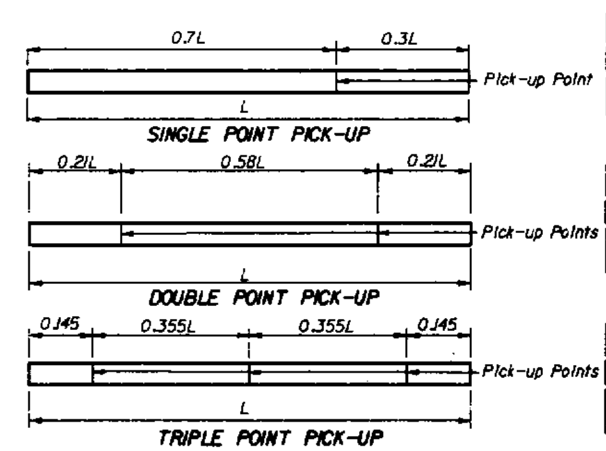
SECTION A-A

8 ~ 7/16"Ø L.R.S.-As = 0.115In.² - 270K at 21,700# ea. spaced 2 9/16" ctrs.
8 ~ 1/2"Ø S.R.-As = 0.144In.² - 250K at 24,100# ea. spaced 2 1/2" ctrs.
12 ~ 3/8"Ø L.R.S.-As = 0.085In.² - 270K at 14,800# ea. spaced 1 11/16" ctrs.
12 ~ 3/8"Ø S.R.-As = 0.085In.² - 270K at 15,600# ea. spaced 1 11/16" ctrs.

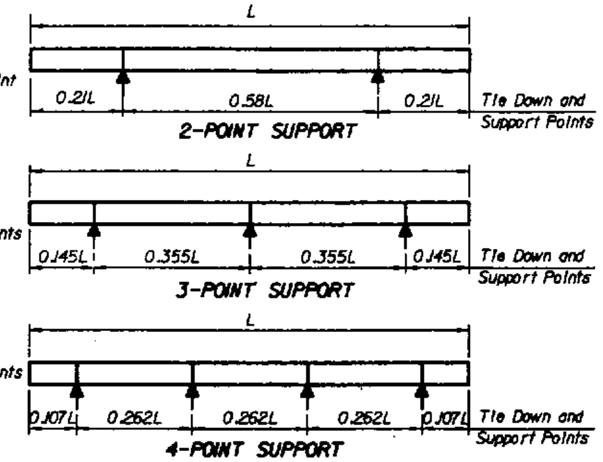


SECTION B-B
(See Splice Details)

DETAILS FOR 12" X 12" PRESTRESSED CONCRETE PILE

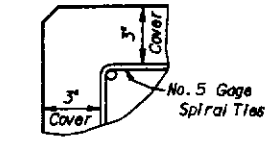


PILE PICK-UP DETAILS

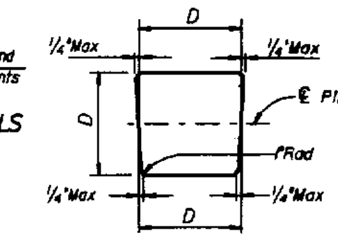


STORAGE AND TRANSPORTATION SUPPORT DETAILS

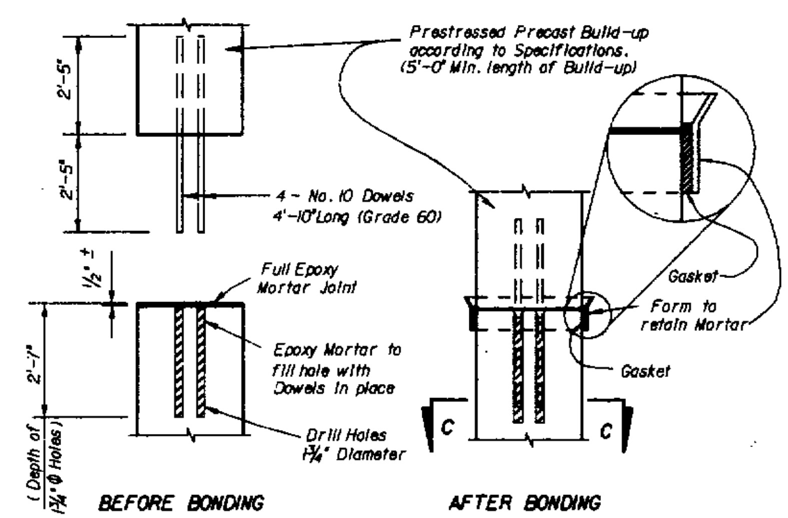
FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.			



TYPICAL DETAIL SHOWING COVER DIMENSION



TYPICAL PILE SHAPE FOR MOLD FORMS



EPOXY BONDED SPLICE DETAILS FOR 12" AND 14" PILES

GENERAL NOTES

SPIRAL TIES: Each wrap of spirals shall be tied to at least two corner strands. One turn required for spiral splices. Spirals may be manufactured from stock meeting requirements of any grade of reinforcing steel or hard drawn steel.

PILE CUT OFF: Piles required to be cut off shall be sawcut at the pile cut off elevation shown on the contract plans with an abrasive saw. Unless otherwise noted on contract plans, the cut shall be made to the depth into the pile necessary to cleanly cut through the prestressed strand.

CONCRETE CLASS: Concrete for all piles shall be Class V(Special). Class V(Special) Concrete shall conform to the requirements for Class V Concrete except for the 28-day strength as noted below.

CONCRETE STRENGTH: The cylinder strength shall be 6,000 p.s.i. minimum at 28 days and 4,000 p.s.i. minimum at transfer of the Prestressing Force.

SPLICED PILES: Piles may be spliced in accordance with Section 455-5.12 of the standard specifications. Precast buildups shall be prestressed and reinforced according to pile details for the "head" section of the pile shown on this sheet. Spliced piles may be driven after splice is two days old.

PICK-UP POINTS: Piles shall be marked at the pick-up points to indicate proper points for attaching handling lines.

STORAGE AND TRANSPORTATION: Piles shall be supported on adequate dunage both in the precasting yard and at the jobsite and shall be supported and tied down during transit in accordance with the following schedule:

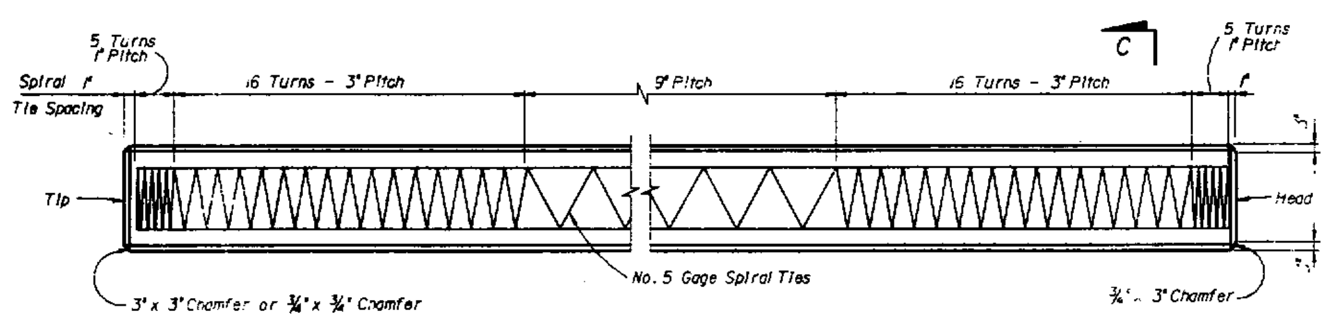
Type Pickup Required by Pile Length	Type Storage and Transportation Support Detail
Single or Double	2,3 or 4 Point Support
Triple	3 or 4 Point Support

REINFORCING STEEL: All Reinforcing Steel shall be either Grade 40 or 60, unless otherwise noted. See Environmental Requirements Note for splice reinforcing only (Spiral ties and prestressing strand are uncoated for all environmental classes).

STRAND NOMENCLATURE:
S.R. = Stress Relieved Strand
L.R.S. = Low-Relaxation Strand

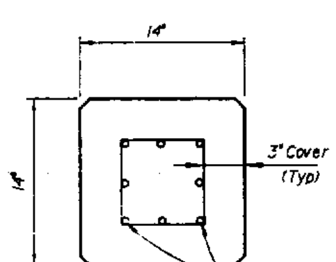
ENVIRONMENTAL REQUIREMENTS: The substructures' environmental class is shown in the "GENERAL NOTES" for the structure. Provide splice reinforcing in accordance with the following schedule for the appropriate environmental class:

	Slightly Aggressive Environment	Moderately Aggressive Environment	Extremely Aggressive Environment
Reinforcing Bonded Splice Treatment	Uncoated (Black)	Uncoated (Black)	Coated (Epoxy)



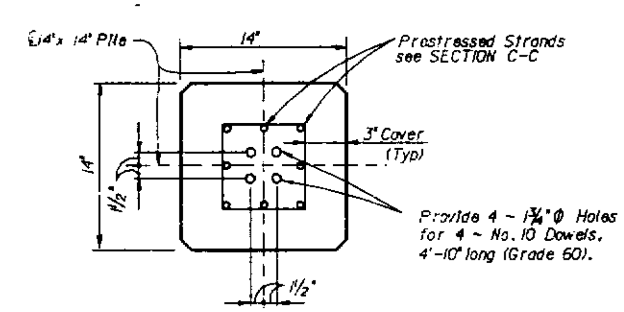
ELEVATION OF 14" X 14" PILE

Maximum Length - 55' Single Point Pick-up
Maximum Length - 75' Double Point Pick-up
Over 75' Triple Point Pick-up
See Pile Pick-up Details



SECTION C-C

8 ~ 1/2"Ø (Spec.)L.R.S. - As=0.167 In.²-270K at 30,000# ea. spaced 3 1/2" ctrs
8 ~ 1/2"Ø (Spec.)S.R. - As=0.167 In.²-270K at 31,570# ea. spaced 3 1/2" ctrs.
8 ~ 1/2"Ø L.R.S.- As=0.153 In.²-270K at 29,500# ea. spaced 3 1/2" ctrs.
12 ~ 7/16"Ø S.R. - As=0.115 In.²-270K at 21,200# ea. spaced 2 3/8" ctrs.
12 ~ 1/2"Ø S.R.- As=0.144 In.²-250K at 22,600# ea. spaced 2 5/16" ctrs.
16 ~ 3/8"Ø S.R. - As=0.085 In.²-270K at 16,070# ea. spaced 1 3/4" ctrs.



SECTION B-B
(See Splice Details)

DETAILS FOR 14" X 14" PRESTRESSED CONCRETE PILE

REVISIONS

Date	By	Description	Date	By	Description

	Names	Dates
Drawn by	WEH	9-87
Checked by	AGM	9-87
Designed by		
Checked by		
Approved by	NICHOLS	

ENGINEER OF RECORD:
STRUCTURES DESIGN OFFICE
605 Suwannee Street, MS 33
Tallahassee, Florida 32399-0450

LOGO:

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.

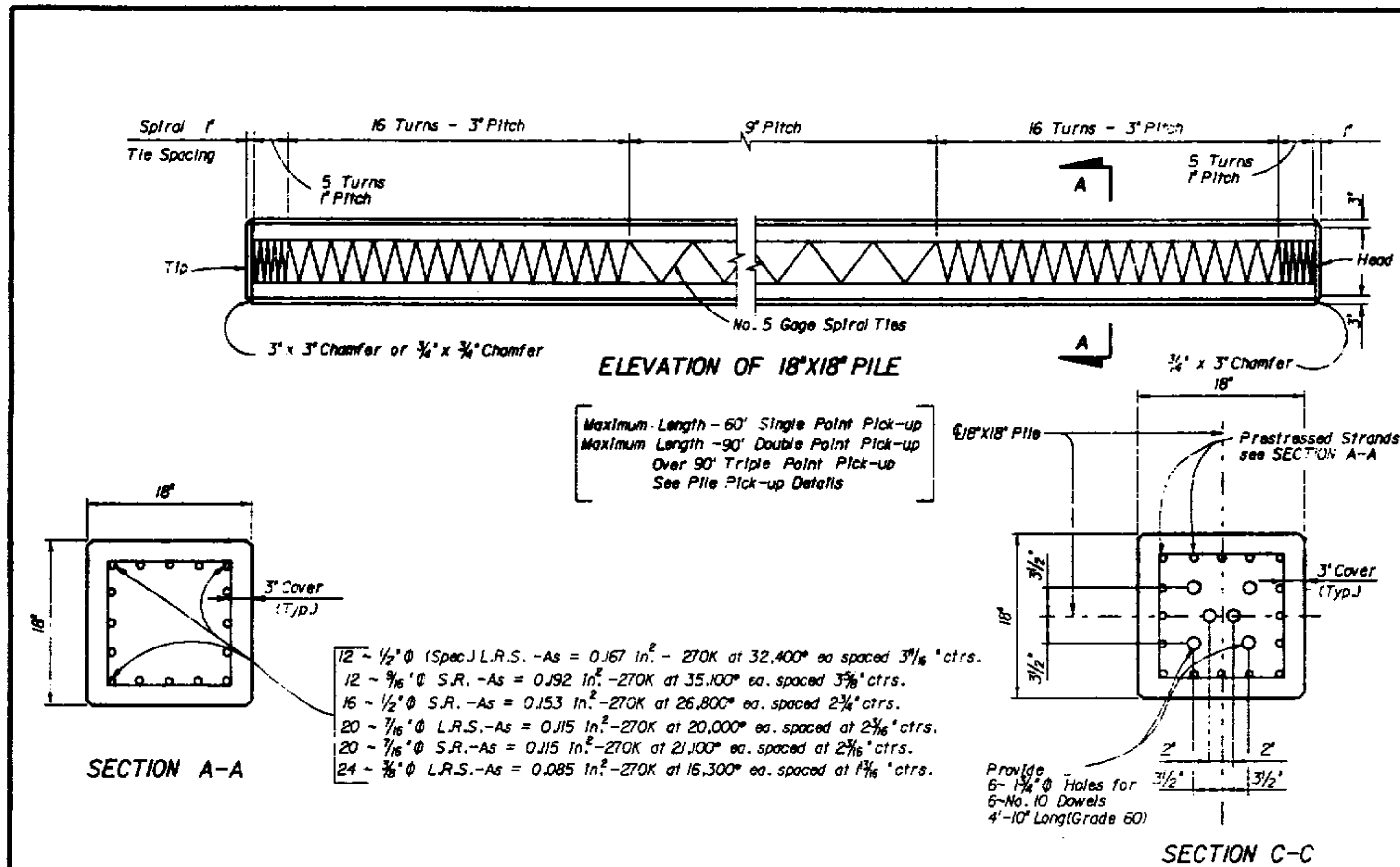
SHEET TITLE:
12" AND 14"
PRESTRESSED CONCRETE PILES

PROJECT NAME:

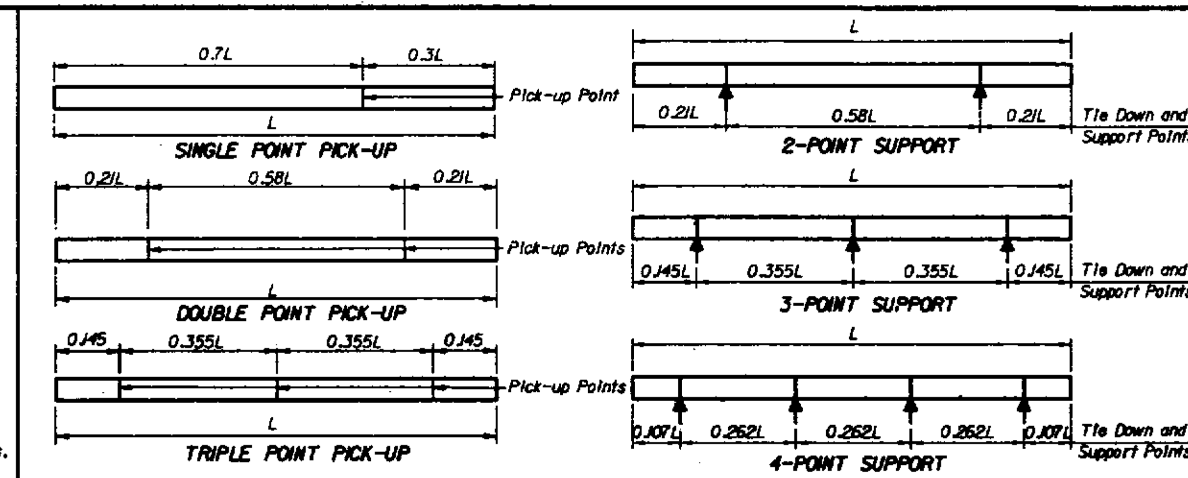
Drawing No.
1 of 1

Index No.
600

FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.			

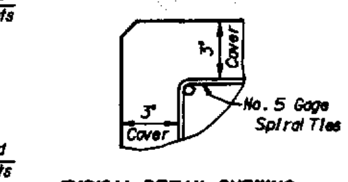


DETAILS FOR 18" X 18" PRESTRESSED CONCRETE PILE

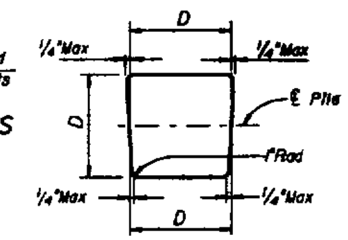


PILE PICK-UP DETAILS

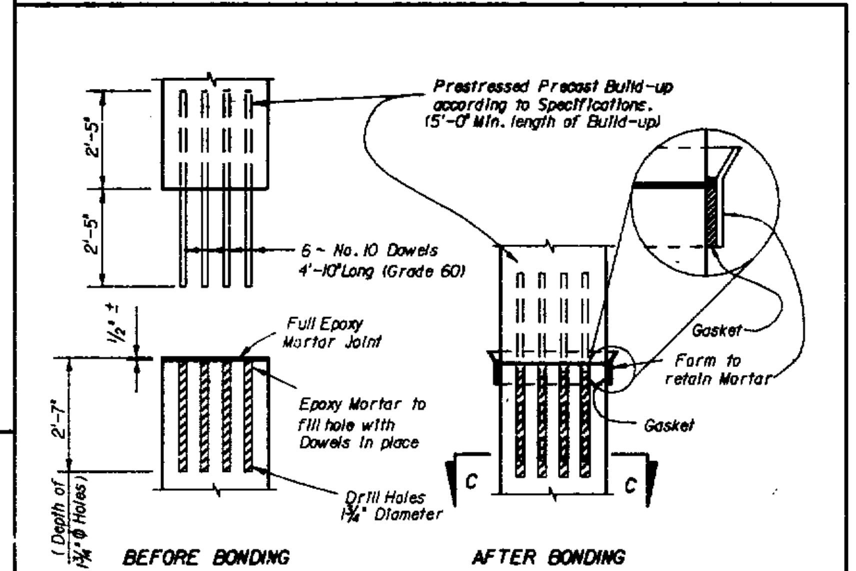
STORAGE AND TRANSPORTATION SUPPORT DETAILS



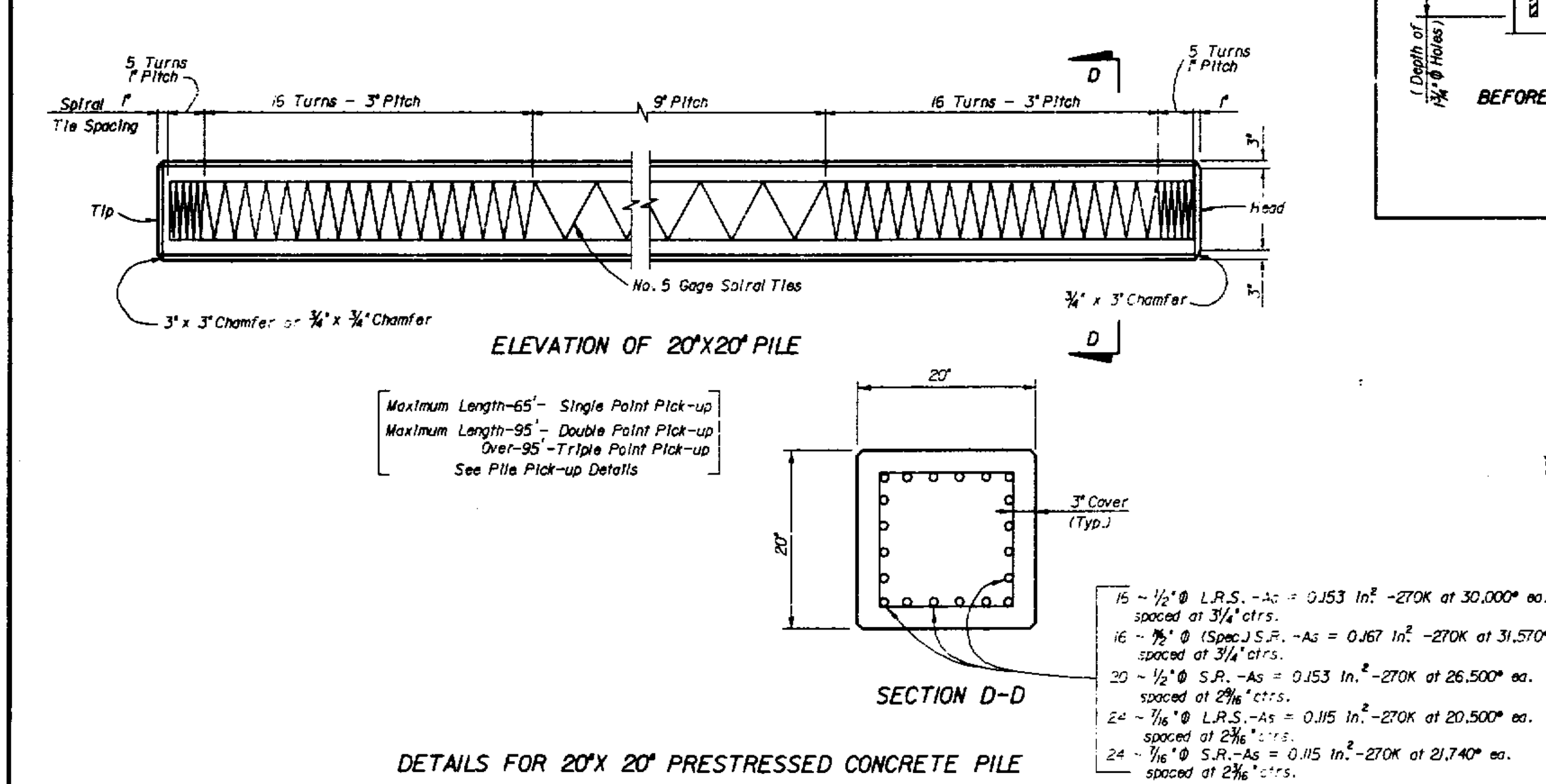
TYPICAL DETAIL SHOWING COVER DIMENSION



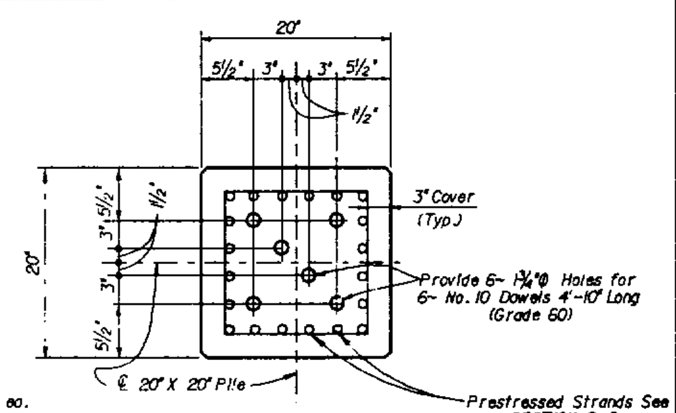
TYPICAL PILE SHAPE FOR MOLD FORMS



EPOXY BONDED SPLICE DETAILS FOR 18" AND 20" PILES



DETAILS FOR 20"X 20" PRESTRESSED CONCRETE PILE



SECTION C-C
(See Splice Details)

GENERAL NOTES

SPIRAL TIES: Each wrap of spirals shall be tied to at least two corner strands. One turn required for spiral splices. Spirals may be manufactured from stock meeting requirements of any grade of reinforcing steel or hard drawn steel.

PILE CUT OFF: Piles required to be cut off shall be sawcut at the pile cut off elevation shown on the contract plans with an abrasive saw. Unless otherwise noted on contract plans, the cut shall be made to the depth into the pile necessary to cleanly cut through the prestressed strand.

CONCRETE CLASS: Concrete for all piles shall be Class V(Special). Class V(Special) Concrete shall conform to the requirements for Class V Concrete except for the 28-day strength as noted below.

CONCRETE STRENGTH: The cylinder strength shall be 6,000 p.s.i. minimum at 28 days and 4,000 p.s.i. minimum at transfer of the Prestressing Force.

SPLICED PILES: Piles may be spliced in accordance with Section 455-5.12 of the standard specifications. Precast buildups shall be prestressed and reinforced according to pile details for the "head" section of the pile shown on this sheet. Spliced piles may be driven after splice is two days old.

PICK-UP POINTS: Piles shall be marked at the pick-up points to indicate proper points for attaching handling lines.

STORAGE AND TRANSPORTATION: Piles shall be supported on adequate dunage both in the precasting yard and at the jobsite and shall be supported and tied down during transit in accordance with the following schedule:

Type Pickup Required by Pile Length	Type Storage and Transportation Support Detail
Single or Double	2,3 or 4 Point Support
Triple	3 or 4 Point Support

REINFORCING STEEL: All Reinforcing Steel shall be either Grade 40 or 60, unless otherwise noted. See Environmental Requirements Note for splice reinforcing only (Spiral ties and prestressing strand are uncoated for all environmental classes).

STRAND NOMENCLATURE:
S.R. = Stress Relieved Strand
L.R.S. = Low-Relaxation Strand

ENVIRONMENTAL REQUIREMENTS: The substructures' environmental class is shown in the "GENERAL NOTES" for the structure. Provide splice reinforcing in accordance with the following schedule for the appropriate environmental class:

	Slightly Aggressive Environment	Moderately Aggressive Environment	Extremely Aggressive Environment
Reinforcing Bonded Splice Treatment	Uncoated (Black)	Uncoated (Black)	Coated (Epoxy)

REVISIONS

Date	By	Description	Date	By	Description

	Names	Dates
Drawn by	WEH	9-87
Checked by	AGM	9-87
Designed by		
Checked by		
Approved by	NICHOLS	

ENGINEER OF RECORD:
STRUCTURES DESIGN OFFICE
605 Suwannee Street, MS 33
Tallahassee, Florida 32399-0450

LOGO:

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO. | COUNTY | PROJECT NO.

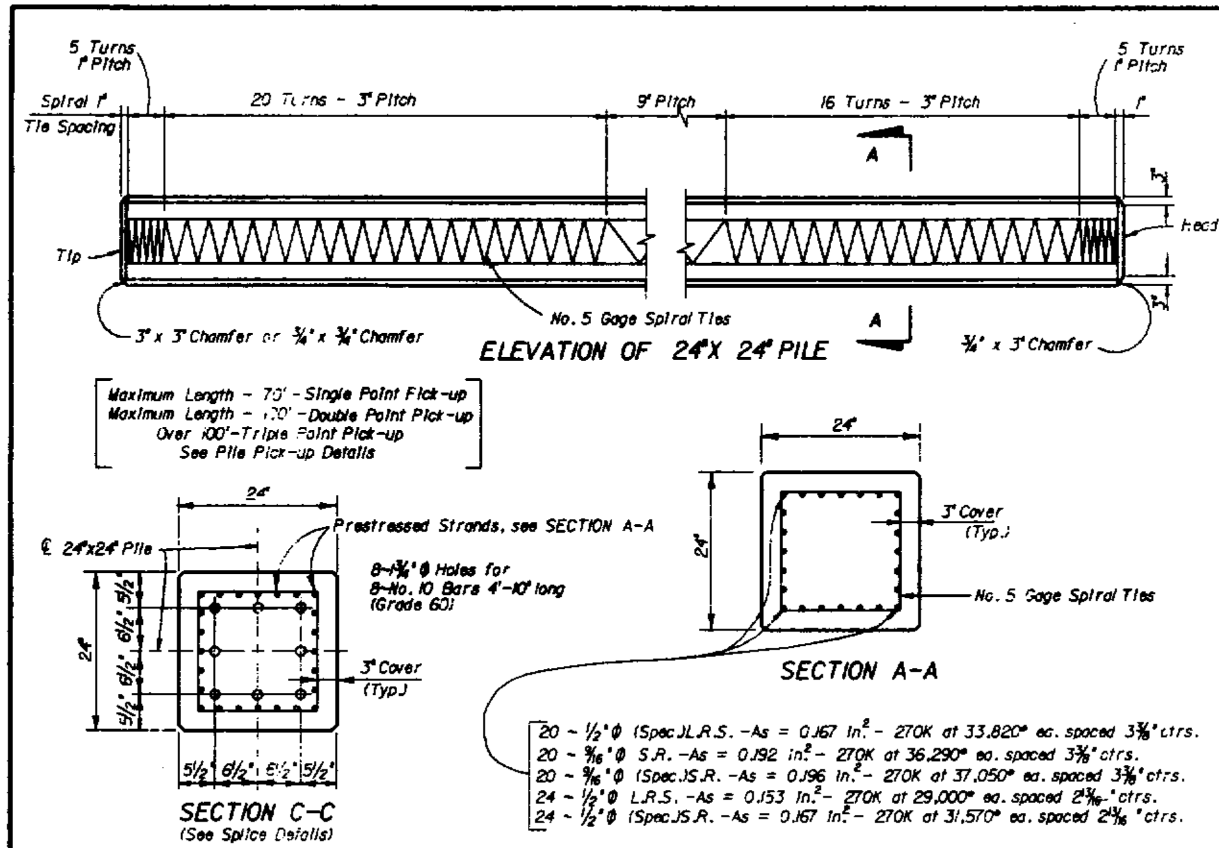
SHEET TITLE: 18" AND 20" PRESTRESSED CONCRETE PILES

PROJECT NAME:

Drawing No. 1 of 1

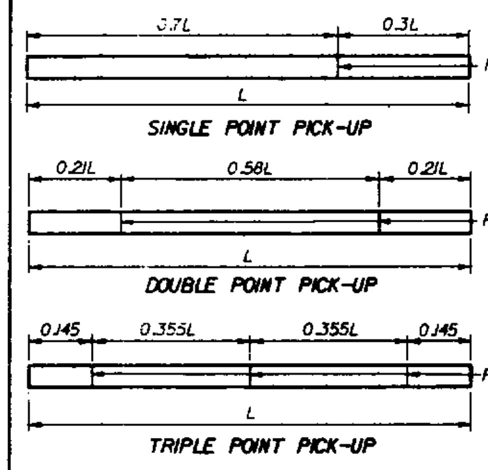
Index No. 601

FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.			

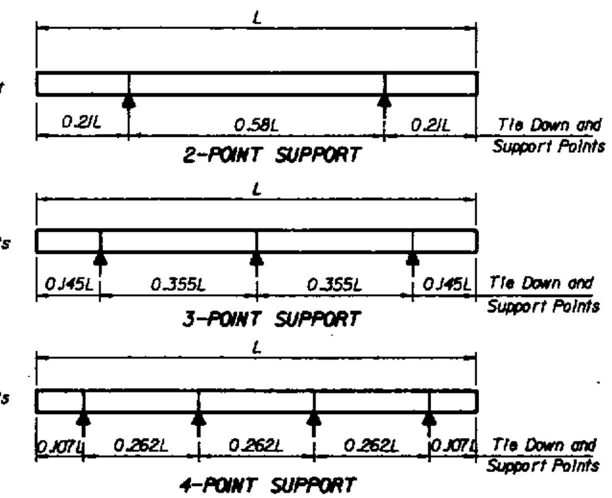


20 ~ 1/2"ϕ (Spec.)L.R.S. -As = 0.167 in² - 270K at 33,820# ea. spaced 3 3/8" ctrs.
20 ~ 7/16"ϕ S.R. -As = 0.192 in² - 270K at 36,290# ea. spaced 3 3/8" ctrs.
20 ~ 7/16"ϕ (Spec.)S.R. -As = 0.196 in² - 270K at 37,050# ea. spaced 3 3/8" ctrs.
24 ~ 1/2"ϕ L.R.S. -As = 0.153 in² - 270K at 29,000# ea. spaced 2 13/16" ctrs.
24 ~ 1/2"ϕ (Spec.)S.R. -As = 0.167 in² - 270K at 31,570# ea. spaced 2 13/16" ctrs.

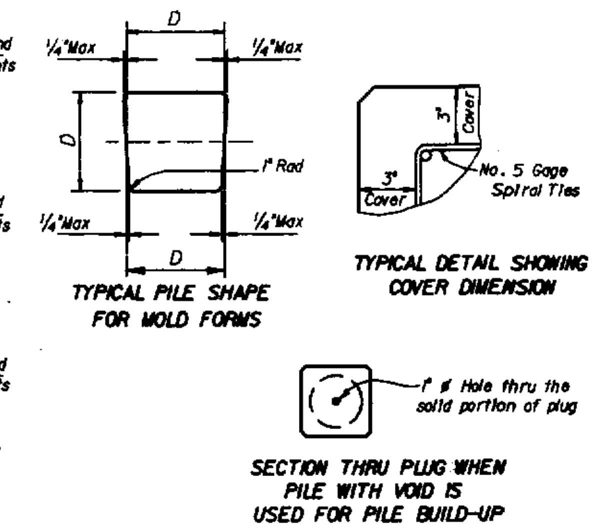
DETAILS FOR 24"X24" PRESTRESSED CONCRETE PILE

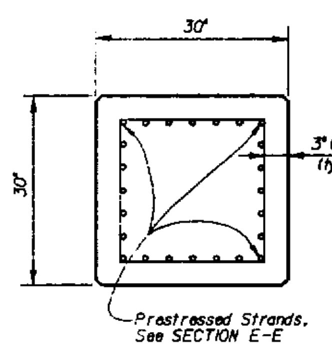


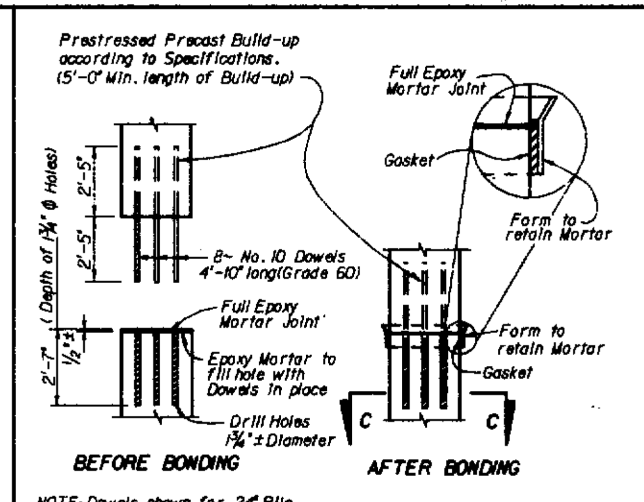
PILE PICK-UP DETAILS



STORAGE AND TRANSPORTATION SUPPORT DETAILS







NOTE: Dowels shown for 24" Pile. See SECTION C-C for spacing & Number of Dowels for 30" Pile.

EPOXY BONDED SPLICE DETAILS FOR 24" AND 30" PILES

GENERAL NOTES

SPIRAL TIES: Each wrap of spirals shall be tied to at least two corner strands. One turn required for spiral splices. Spirals may be manufactured from stock meeting requirements of any grade of reinforcing steel or hard drawn steel.

PILE CUT OFF: Piles required to be cut off shall be sawcut at the pile cut off elevation shown on the contract plans with an abrasive saw. Unless otherwise noted on contract plans, the cut shall be made to the depth into the pile necessary to cleanly cut through the prestressed strand.

CONCRETE CLASS: Concrete for all piles shall be Class VI(Special). Class VI(Special) Concrete shall conform to all requirements for Class V Concrete except for the 28-day strength as noted below.

CONCRETE STRENGTH: The cylinder strength shall be 6,000 p.s.i. minimum at 28 days and 4,000 p.s.i. minimum at transfer of the Prestressing Force.

SPLICED PILES: Piles may be spliced in accordance with Section 455-5.12 of the standard specifications. Precast buildups shall be prestressed and reinforced according to pile details for the "head" section of the pile shown on this sheet. Spliced piles may be driven after splice is two days old. For 30" piles only, one (1) vent hole, 3/4" in diameter, shall be drilled on two (2) opposite faces of the pile at a depth of 5'-0" below the pile cut-off elevation.

PICK-UP POINTS: Piles shall be marked at the pick-up points to indicate proper points for attaching handling lines.

STORAGE AND TRANSPORTATION: Piles shall be supported on adequate dunage both in the precasting yard and at the jobsite and shall be supported and tied down during transit in accordance with the following schedule:

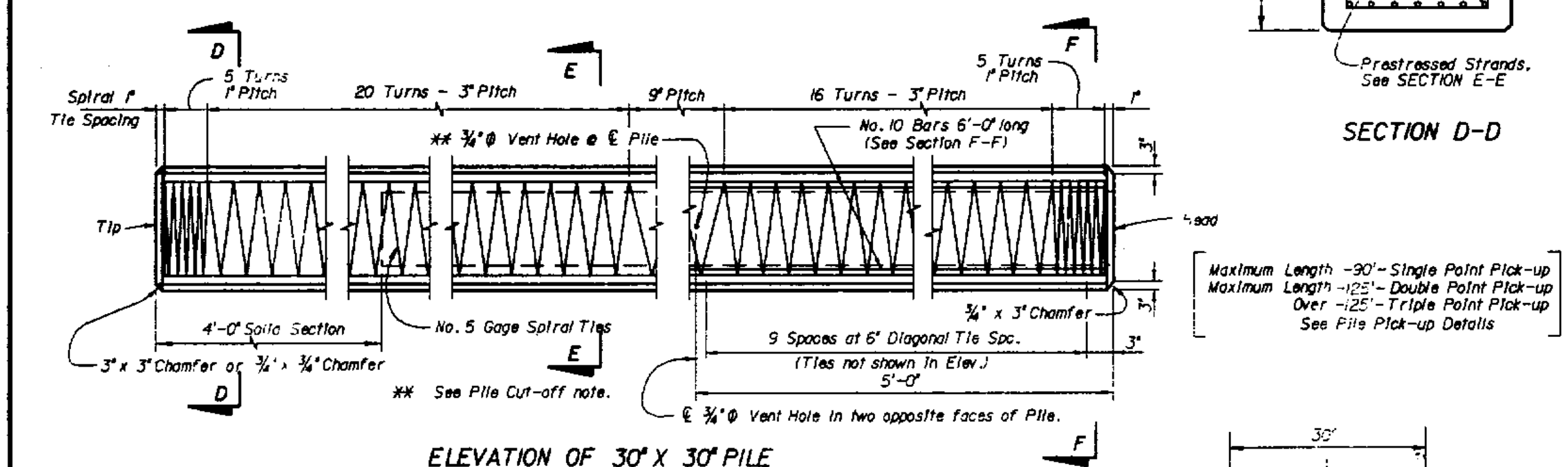
Type Pickup Required by Pile Length	Type Storage and Transportation Support Detail
Single or Double	2,3 or 4 Point Support
Triple	3 or 4 Point Support

REINFORCING STEEL: All Reinforcing Steel shall be either Grade 40 or 60, unless otherwise noted. See Environmental Requirements Note for splice reinforcing only (Spiral ties and prestressing strand are uncoated for all environmental classes).

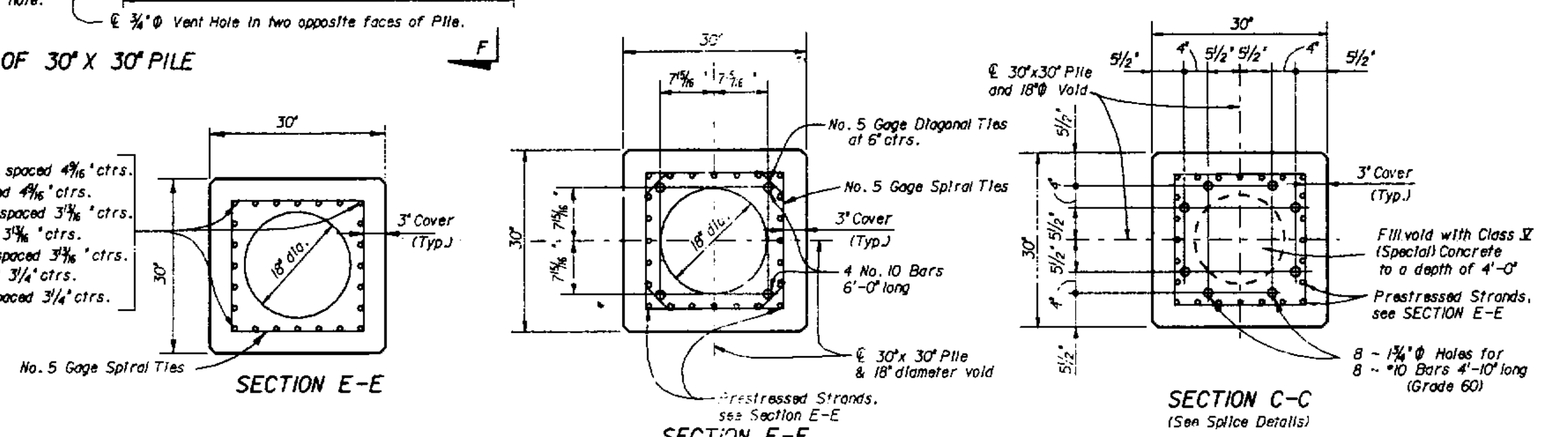
STRAND NOMENCLATURE:
S.R. = Stress Relieved Strand
L.R.S. = Low-Relaxation Strand

ENVIRONMENTAL REQUIREMENTS: The substructures' environmental class is shown in the "GENERAL NOTES" for the structure. Provide splice reinforcing in accordance with the following schedule for the appropriate environmental class:

	Slightly Aggressive Environment	Moderately Aggressive Environment	Extremely Aggressive Environment
Bonded Splice Reinforcing Treatment	Uncoated (Black)	Uncoated (Black)	Coated (Epoxy)



20 ~ 7/16"ϕ (Spec.)L.R.S. -As = 0.196 in² - 270K at 38,600# ea. spaced 4 3/16" ctrs.
20 ~ 7/16"ϕ L.R.S. -As = 0.192 in² - 270K at 38,880# ea. spaced 4 3/16" ctrs.
24 ~ 1/2"ϕ (Spec.)L.R.S. -As = 0.167 in² - 270K at 32,300# ea. spaced 3 7/16" ctrs.
24 ~ 7/16"ϕ S.R. -As = 0.192 in² - 270K at 35,000# ea. spaced 3 7/16" ctrs.
24 ~ 7/16"ϕ (Spec.)S.R. -As = 0.196 in² - 270K at 35,200# ea. spaced 3 7/16" ctrs.
28 ~ 1/2"ϕ L.R.S. -As = 0.153 in² - 270K at 28,100# ea. spaced 3 1/4" ctrs.
28 ~ 1/2"ϕ (Spec.)S.R. -As = 0.167 in² - 270K at 30,200# ea. spaced 3 1/4" ctrs.



DETAILS FOR 30"X 30" PRESTRESSED CONCRETE PILE

REVISIONS						
Date	By	Description	Date	By	Description	

	Names	Dates
Drawn by	WEH	9-87
Checked by	AGM	9-87
Designed by		
Checked by		
Approved by	NICHOLS	

ENGINEER OF RECORD:
STRUCTURES DESIGN OFFICE
605 Suwannee Street, MS 33
Tallahassee, Florida 32399-0450

LOGO:

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.

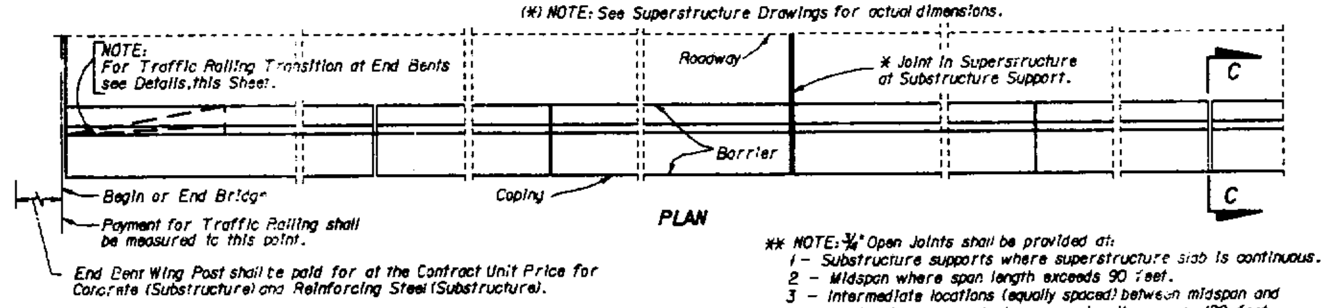
SHEET TITLE:
24" AND 30" PRESTRESSED CONCRETE PILES

PROJECT NAME:

Drawing No. 1 of 1

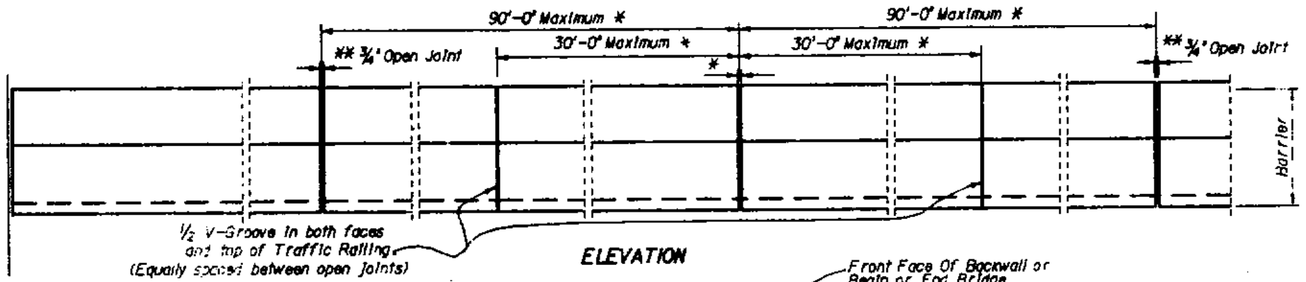
Index No. 602

(*) NOTE: See Superstructure Drawings for actual dimensions.

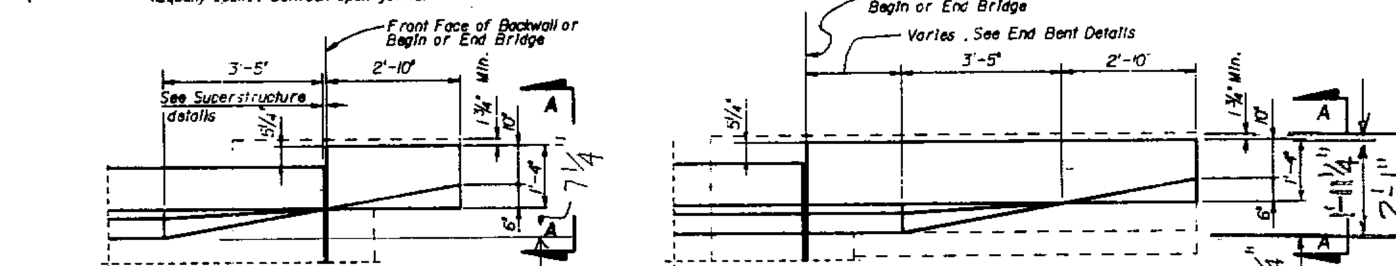


PLAN

** NOTE: 3/4" Open Joints shall be provided at:
1 - Substructure supports where superstructure slab is continuous.
2 - Midspan where span length exceeds 90 feet.
3 - Intermediate locations (equally spaced) between midspan and substructure support where span length exceeds 180 feet.

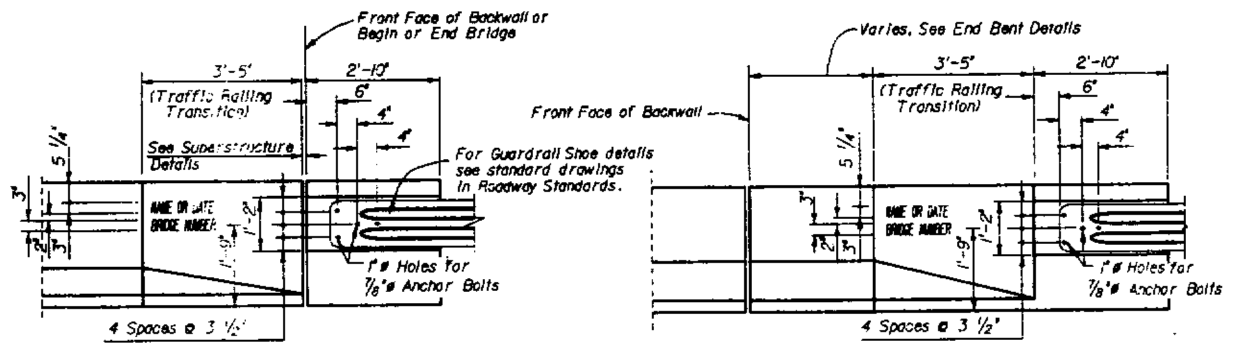


ELEVATION



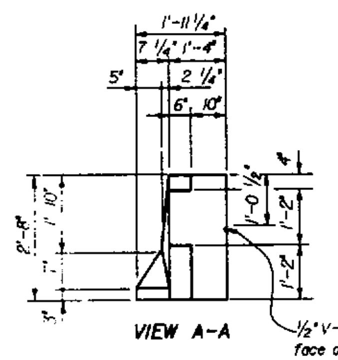
PLAN OF WING POST AND TRAFFIC RAILING TRANSITION FOR SLAB TYPE SUPERSTRUCTURE

PLAN OF WING POST FOR SLAB AND GIRDER TYPE SUPERSTRUCTURE

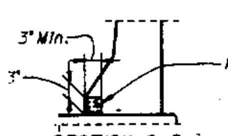


ELEVATION OF WING POST AND TRAFFIC RAILING TRANSITION FOR SLAB TYPE SUPERSTRUCTURE

ELEVATION OF WING POST FOR SLAB AND GIRDER TYPE SUPERSTRUCTURE

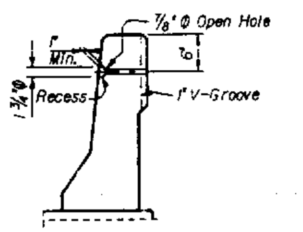


VIEW A-A



SECTION C-C

NOTE: When open joint in Barrier is not coincident with joint in the superstructure, the lower 3" portion of the open joint shall be plugged by filling with mortar in accordance with Article 400-15-1.



HOLES FOR INCIDENTAL SIGNING

NOTE: Holes and grooves shall be placed on barrier type Traffic Railings of divided and undivided bridges as shown in the plans for designated Type 'C' Single Column, Informational, Guide, Regulatory and Warning Sign locations (see Signing Plans) and at approximately 500' intervals along the right railings of bridges between designated locations for future signs as directed by the Engineer. The cost of the extra holes and grooves shall be included in the contract unit price for Traffic Railing (Barrier). If Signing Plans are not available the Project Engineer should secure necessary information from the District Maintenance or Traffic Operations Office.

BENDING DIAGRAMS

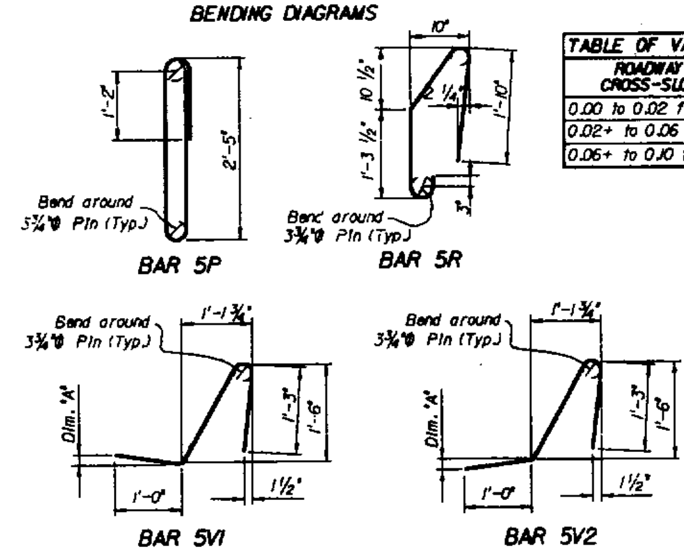


TABLE OF VARIABLE DIMENSIONS	
ROADWAY CROSS-SLOPE	DIM. "A" (Bars 5V1 & 5V2)
0.00 to 0.02 ft./ft.	0"
0.02+ to 0.06 ft./ft.	1/2"
0.06+ to 0.10 ft./ft.	1"

BAR BENDING NOTES

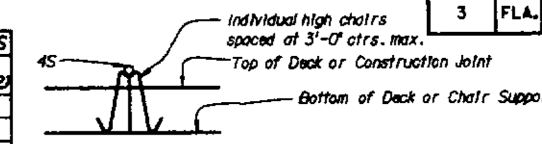
NOTE: All bar dimensions are out-to-out.
NOTE: Bar 5V1 is for low side gutter. Bar 5V2 is for high side gutter.
Adjust or field bend Bars 5V in Traffic Railing transition on slab type Superstructure as required to fit.
Adjust length of Bars 5V as required for slab thickness. Dimensions shown are based on a 8" slab, see Superstructure Drawings. For thicker slabs adjust the (1'-6" vertical and the 1'-1 3/4" horizontal) dimensions as follows: Add the amount that the slab depth exceeds 8" to the 1'-6" vertical dimension and add 0.59 of this excess to the 1'-1 3/4" horizontal dimension.

EXAMPLE: 1'-0" Slab. Excess = 12"-8"=4"
Vertical Dimension = (1'-6") + (4") = 1'-10"
Horizontal Dimension = (1'-1 3/4") + (4" x 0.59) = 1'-4 1/8"

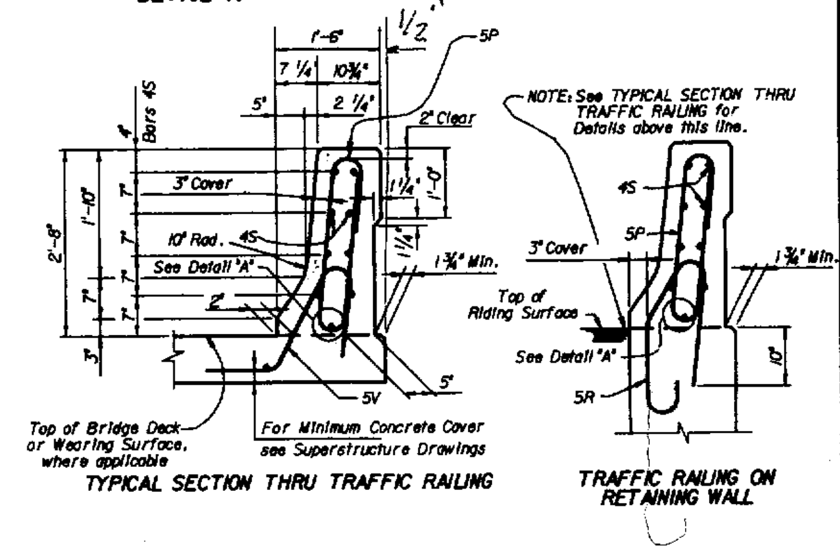
TYPICAL TRAFFIC RAILING QUANTITIES

NOTE: Quantities are based on 8" slab and 0.02'/foot roadway cross-slope.

CONCRETE: 0.1030 C.Y. per linear foot of Traffic Railing.
REINFORCING STEEL: 22.58 lbs. per linear foot of Traffic Railing on Slab
24.03 lbs. per linear foot of Traffic Railing on Wall

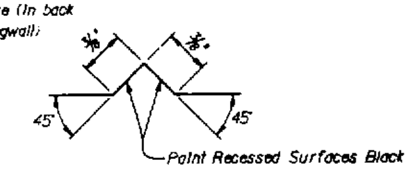


DETAIL "A"

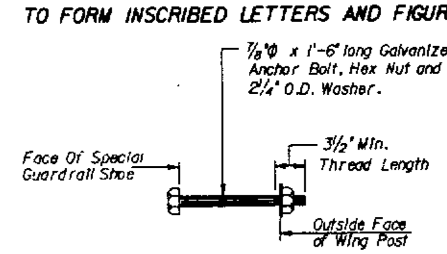


TYPICAL SECTION THRU TRAFFIC RAILING

TRAFFIC RAILING ON RETAINING WALL



SECTION THRU RECESSED 'V' GROOVE TO FORM INSCRIBED LETTERS AND FIGURES



ANCHOR BOLT DETAIL

NOTE: The Cost of Anchor Bolts is to be included in the Contract Unit Price for Guardrail

REINFORCING STEEL NOTES

Place longitudinal steel in bottom of slab as shown above to facilitate tying bars 5V. Do not add reinforcing steel for tie purposes. For precast slab units place bars 5V on top of the prestressed strands and tie. For cast-in-place slabs without girders place bars 5V on top of longitudinal steel and tie.

All vertical reinforcing steel in Traffic Railing shall be No. 5 Bars spaced at 8" c.c. and all longitudinal reinforcing steel shall be No. 4 Bars. At all open joints all reinforcing shall have 2" minimum cover. At all construction joints Bars 4S may be continuous or spliced. All splices in Bars 4S shall be 1'-4" minimum.

TRAFFIC RAILING NOTES

CONCRETE AND REINFORCING STEEL: See General Notes.
PAYMENT: Traffic Railing shall be paid for per linear foot (Item No. 400-148-1), which shall include all Concrete and Reinforcing Steel. Traffic Railing shall be measured along the centerline of the top surface of the concrete barrier.
CYLINDER STRENGTH: The Cylinder Strength of the Concrete shall be 3,400 p.s.i. minimum at 28 days.
MARKERS: Markers recording the elevation shall be placed on top of the Traffic Railing at End Bents. On bridges longer than 100 ft. long, one marker shall be placed at each end of the bridge. On bridges 100 ft. or less, one marker shall be placed at one end of the bridge only. Markers are to be furnished by the Florida Department of Transportation and installed by the Contractor. The cost of installing the markers shall be included in the Contract Unit Price for Traffic Railing (Barrier).
TRAFFIC RAIL CONSTRUCTION: The contractor may construct the railing by the use of stationary removable forms or by the use of slip forms without altering the rail dimensions shown above.
SUPERELEVATED BRIDGES: At the option of the Contractor, Traffic Railing and End Bent Wing Posts on superelevated bridges, may be constructed perpendicular to the roadway surface. The cost of modifications shall be at the Contractor's expense.
ANCHOR BOLTS: Anchor Bolts, Nuts, and Washers shall be hot dip galvanized in accordance with A.S.T.M. A-123.
RETAINING WALL: If the Barrier is to be provided on a retaining wall, the Barrier Section shall be as shown above. Other details such as transition for guardrail attachment, maximum spacing of 3/4" open joint and 1/2" V-Groove shall also apply.
NAME AND BRIDGE NUMBER: The Name and Bridge Number to be placed on the Traffic Railing shall be seen on the driver's right when approaching bridge. The date is to be placed on the driver's left when approaching the bridge. The date shall be the year the bridge is constructed.
Black plastic letters and figures 3" in height, as approved by the Engineer, may be used, in lieu of letters and figures formed by 3/4" V-Grooves. V-Grooves shall be formed by preformed letters and figures.

FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.			

REVISIONS					
Date	By	Description	Date	By	Description

	Names	Dates
Drawn by	WEH	2-89
Checked by	AJG	2-89
Designed by	—	—
Checked by	—	—
Approved by	AJG	

ENGINEER OF RECORD:
STRUCTURES DESIGN OFFICE
605 Suwannee Street, MS 33
Tallahassee, Florida 32399-0450

LOGO:

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.

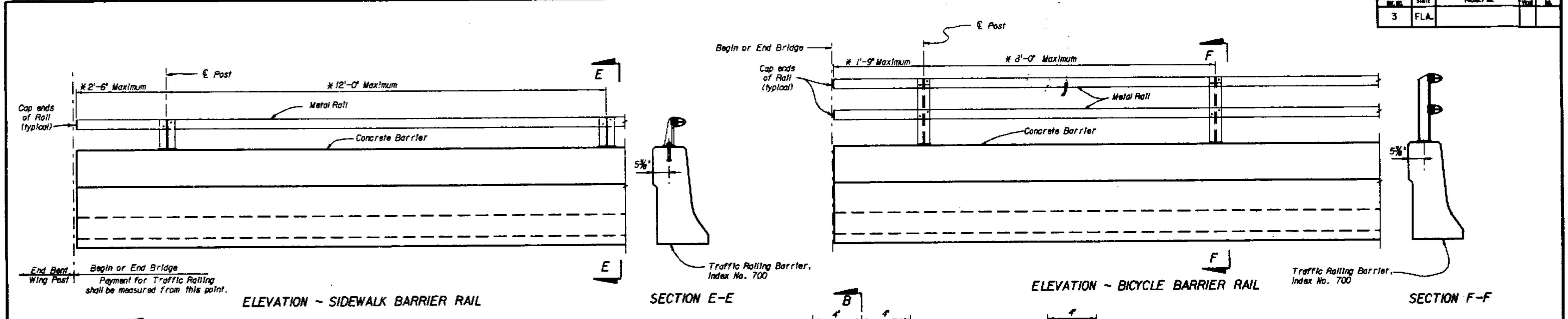
SHEET TITLE: TRAFFIC RAILING BARRIER

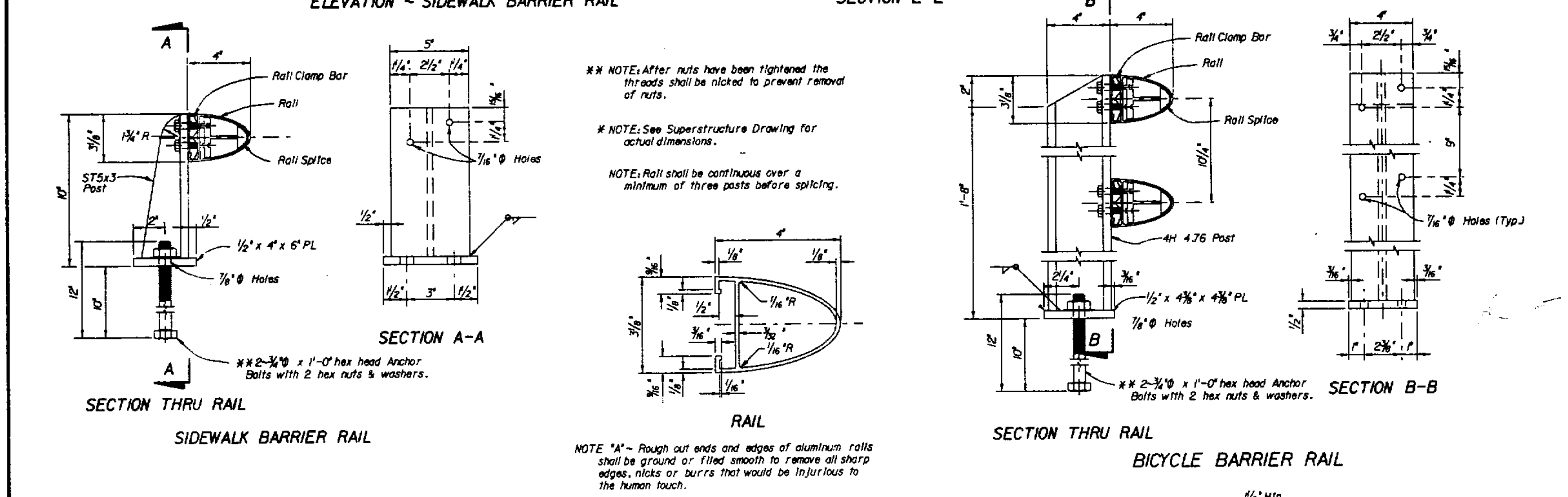
PROJECT NAME:

Drawing No. 1 of 1

Index No. 700

FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.			





** NOTE: After nuts have been tightened the threads shall be nicked to prevent removal of nuts.

* NOTE: See Superstructure Drawing for actual dimensions.

NOTE: Rail shall be continuous over a minimum of three posts before splicing.

NOTE "A" ~ Rough cut ends and edges of aluminum rails shall be ground or filed smooth to remove all sharp edges, nicks or burrs that would be injurious to the human touch.

NOTES

TRAFFIC RAILING BARRIER: For details of Traffic Railing Barrier, See Index 700 .

PAYMENT: Traffic Railing (Sidewalk Barrier Type) shall be paid for per linear foot Item No. 400-148-2 and Traffic Railing (Bicycle Barrier Type) shall be paid for per linear foot Item No. 400-148-3. These items shall included all Metal Rail, Concrete and Reinforcing Steel. Railing shall be measured along the centerline of the top surface of the concrete barrier.

SPECIFICATIONS FOR METAL RAIL

POST: Fabricated wrought aluminum; A.S.T.M. B221, alloy 6061-T6 or alloy 6351-T5 with welding using filler wire 4043.

RAIL AND RAIL SPLICE: Aluminum; A.S.T.M. B221, alloy 6061-T6 or alloy 6351-T5.

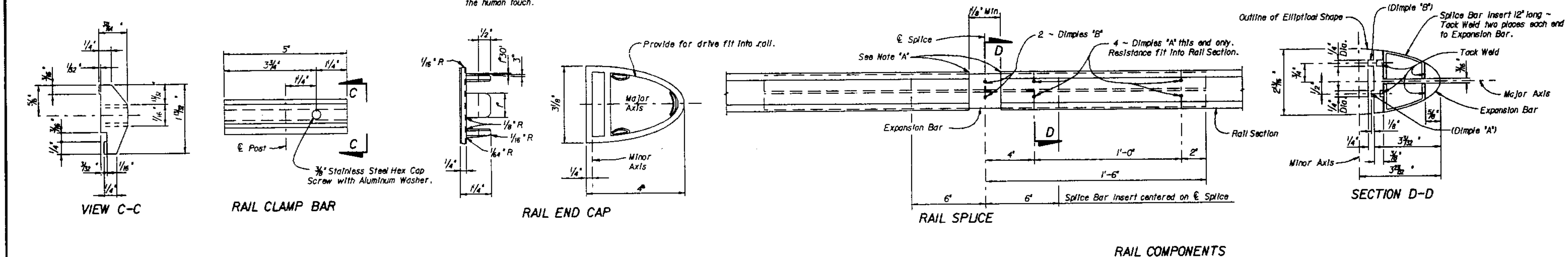
RAIL CLAMP BAR: Aluminum; A.S.T.M. B221, alloy 6061-T6 or alloy 6351-T5.

ANCHOR BOLTS: Anchor bolts shall be in accordance with A.S.T.M. A-36 or A-307. Anchor bolts, Nuts and washers shall be hot-dip galvanized in accordance with A.S.T.M. designation A-153.

RAIL END CAP: A.S.T.M. B-26 sand cast aluminum alloy, SG 70A-F(Aluminum Association alloy designation A-356-F).

RAIL INSTALLATION: Rail Post shall be normal to Profile Grade. Post shall be seated on 1/8 " resilient pads in accordance with Article 932-2J. The dimension shall be the same as the post base. Rail expansion joint shall occur in the panel between posts on either side of Bridge expansion joint. Rail expansion joint shall be similar to rail splice with provision for movement equal to 1.5 times the bridge joint opening.

SHOP DRAWINGS: Complete details and description of materials of the proposed metal rail shall be submitted by the contractor for the Engineer's approval prior to fabrication.



RAIL COMPONENTS

REVISIONS					
Date	By	Description	Date	By	Description

	Names	Dates
Drawn by	WEH	2-89
Checked by	AJG	2-89
Designed by	——	——
Checked by	——	——
Approved by	AJG	

ENGINEER OF RECORD: STRUCTURES DESIGN OFFICE, 605 Suwannee Street, MS 33, Tallahassee, Florida 32399-0450

LOGO:

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.

SHEET TITLE: TRAFFIC RAILING (SIDEWALK TYPE AND BICYCLE TYPE)

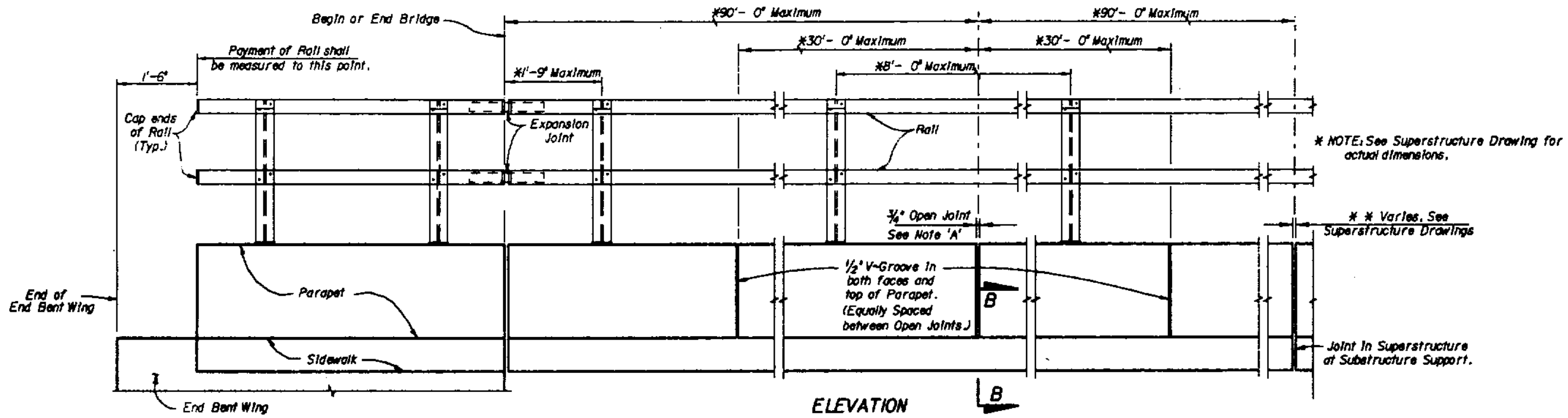
PROJECT NAME:

Drawing No. 1 of 1

Index No. 710

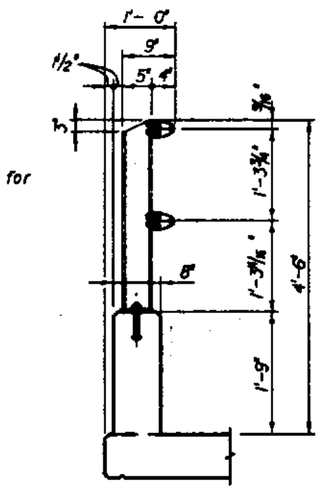
11-MAY-1989 21:59   ST2:[120.J51]SWRAIL.DGN;

FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.			

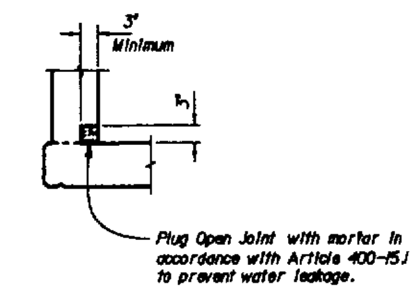


ELEVATION

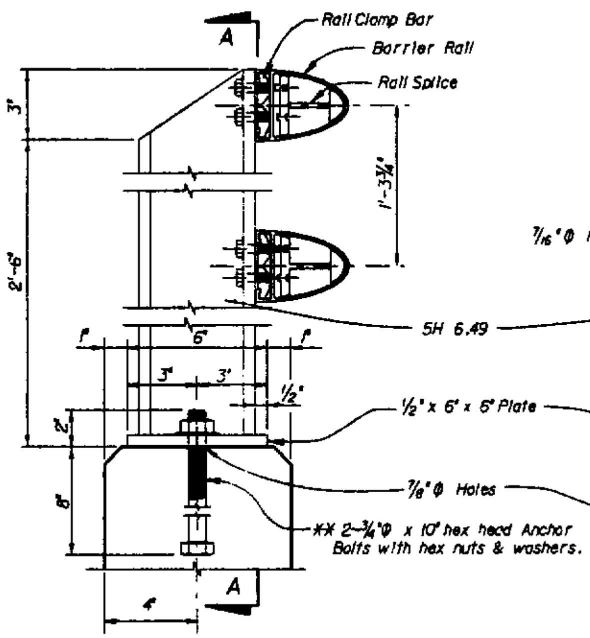
Note 'A': 3/4" Open Joints shall be provided:
1. Substructure Supports where Superstructure Slab is continuous.
2. Mid-Span where Span length exceeds 90 feet.
3. Intermediate locations (equally spaced) between Mid-Span and Superstructure Support where Span length exceeds 180 feet.
4. Coincide with location used for Traffic Railing Barrier.



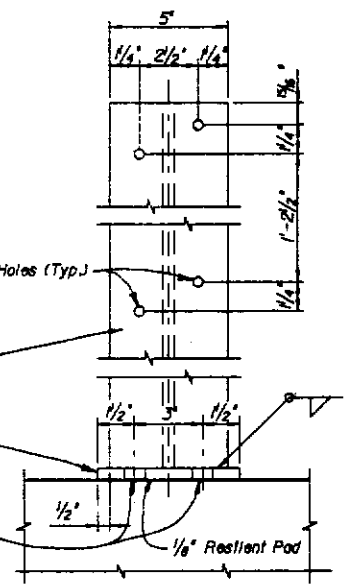
TYPICAL SECTION THRU PARAPET AND RAIL



SECTION B-B



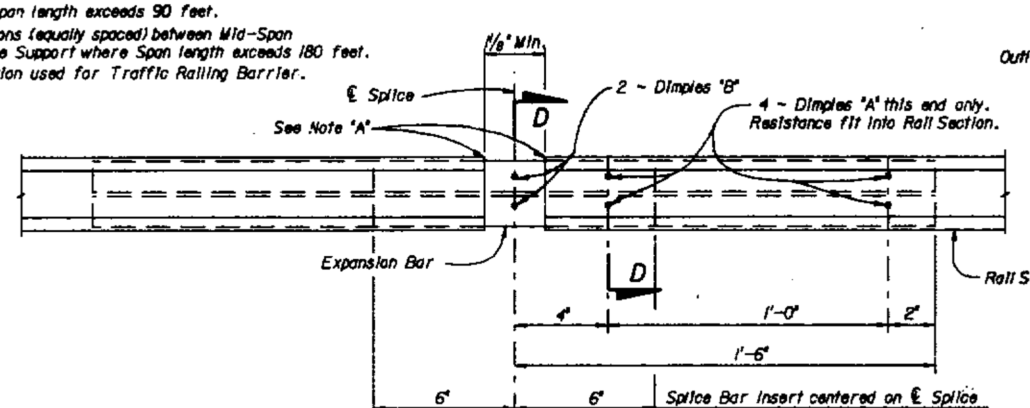
SECTION THRU RAIL



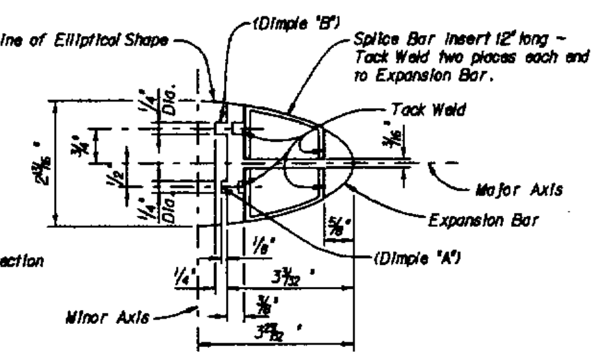
SECTION A-A

** NOTE: After nuts have been tightened the threads shall be nicked to prevent removal of nuts.

NOTE: Rail shall be continuous over a minimum of three posts before splicing.

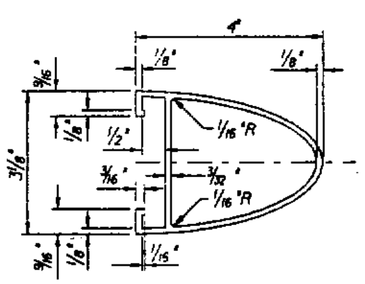


RAIL SPLICE



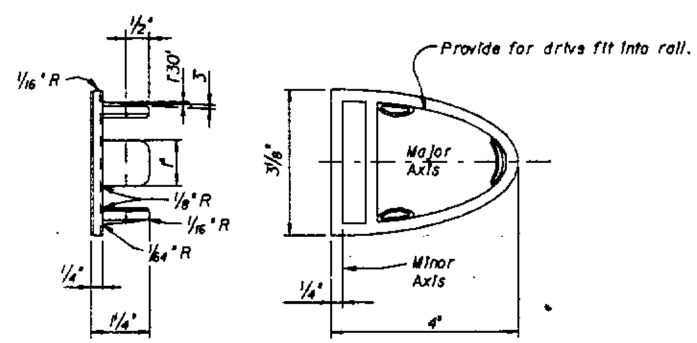
SECTION D-D

RAIL COMPONENTS

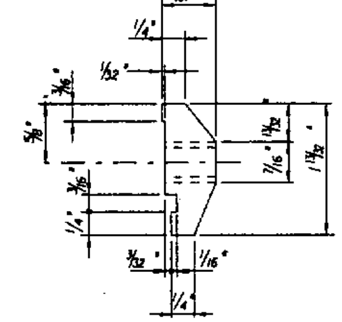


RAIL

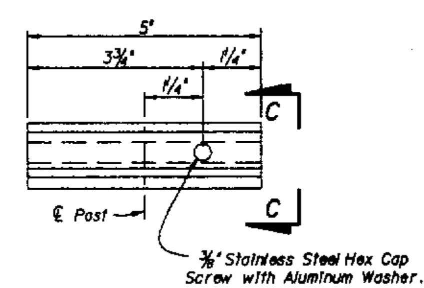
NOTE 'A' ~ Rough cut ends and edges of aluminum rails shall be ground or filed smooth to remove all sharp edges, nicks or burrs that would be injurious to the human touch.



RAIL END CAP



VIEW C-C



RAIL CLAMP BAR

NOTES

PAYMENT: The cost of all materials in Parapet shall be included in Concrete (Superstructure) and Reinforcing Steel (Superstructure). Aluminum Rail shall be paid for per linear foot and shall be measured along the centerline of the top surface of the rail. Payment includes Anchor Bolts, Nuts, Resilient Pads, and all incidental materials and labor required to complete the installation.

SPECIFICATIONS FOR BRIDGE RAIL

POST: Fabricated wrought aluminum A.S.T.M. B221, alloy 6061-T6 or alloy 6351-T5 with welding using filler wire 4043.
RAIL & RAIL SPLICE: Aluminum; A.S.T.M. B221, alloy 6061-T6 or alloy 6351-T-5.
RAIL CLAMP BAR: Aluminum A.S.T.M. B221, alloy 6061-T6 or alloy 6351-T5.
ANCHOR BOLTS: Anchor Bolts shall be in accordance with A.S.T.M. A-36 or A-307. Anchor Bolts, nuts and washers shall be hot-dip galvanized in accordance with A.S.T.M. Designation A-153.
RAIL END CAP: A.S.T.M. B-26 sand cast aluminum alloy, SG 70A-F (Aluminum Association alloy designation A-356-F).
RAIL INSTALLATION: Rail Post shall be normal to Profile Grade. Posts shall be seated on 1/8" thick resilient pads in accordance with Article 932-2.). The dimension shall be the same as the post base.
Rail expansion joints shall occur in the panel between posts on either side of Bridge expansion joints. Rail expansion joints shall be similar to rail splices with provision for movement equal to 1 1/2 times the bridge joint opening.
SHOP DRAWINGS: Complete details and description of materials of the proposed bridge rail shall be submitted by the contractor for the Engineer's approval prior to fabrication.

REVISIONS					
Date	By	Description	Date	By	Description

	Names	Dates
Drawn by	LFC	12-85
Checked by	RDS	1-86
Designed by	—	—
Checked by	—	—
Approved by	AJG	

ENGINEER OF RECORD:
STRUCTURES DESIGN OFFICE
605 Suwannee Street, MS 33
Tallahassee, Florida 32399-0450

LOGO:

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.

SHEET TITLE: PEDESTRIAN/BICYCLE RAILING

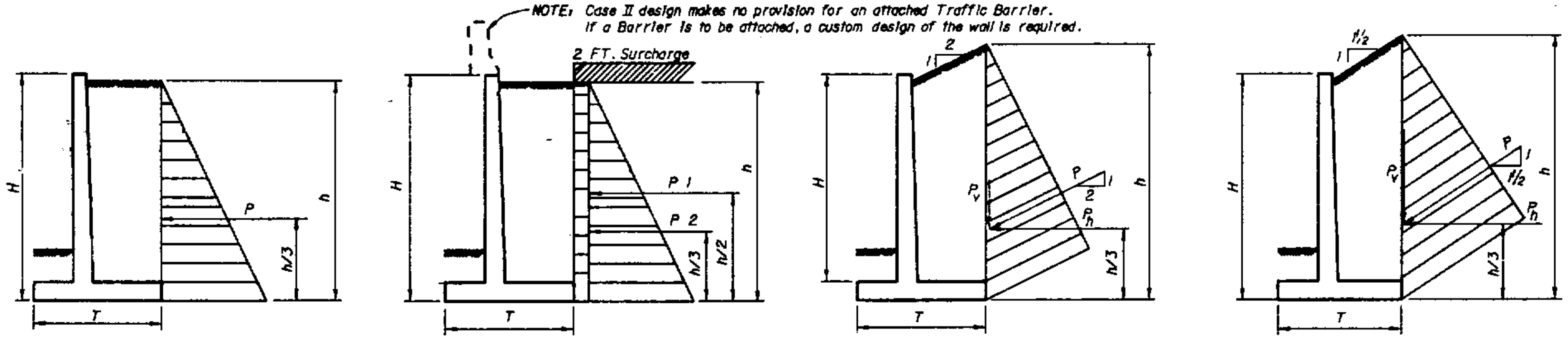
PROJECT NAME:

Drawing No. 1 of 1

Index No. 720

11-MAY-1989 21:20 ST2:[120.J51]PARABAR.DGN;2

NOTE: Case II design makes no provision for an attached Traffic Barrier. If a Barrier is to be attached, a custom design of the wall is required.

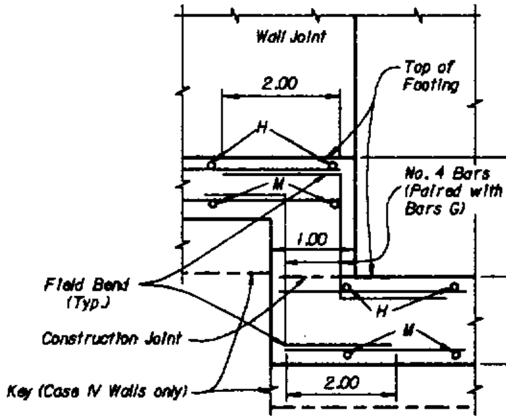


CASE I

CASE II

CASE III

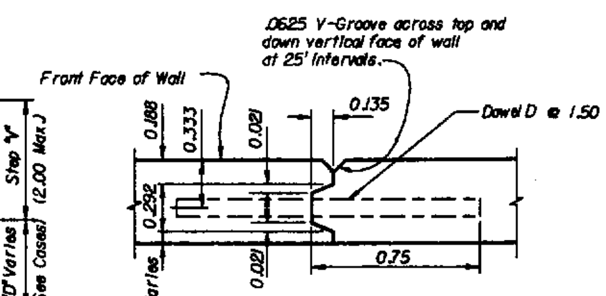
CASE IV



FOOTING STEP DETAIL

NOTE: Quantities for Footing Step are not included in wall Quantities.

Quantities per Step
Concrete (C.Y.) = (0.037) (V) (T)
Steel (LBS.) = (1.336) (T=1) (V=4.5)
(V & T in feet)



CONSTRUCTION JOINT DETAIL

GENERAL NOTES

GENERAL SPECIFICATIONS: Florida Department of Transportation Standard Specifications for Road and Bridge Construction. Current Edition with Approved Supplements thereto.

DESIGN SPECIFICATIONS: American Association of State Highway and Transportation Officials (AASHTO) Standard Specifications for Highway Bridges. Current Edition with Approved Revisions thereto.

MATERIAL STRESSES: All allowable stresses are in accordance with current AASHTO Standard Specifications for all the materials shown in the plans.

MAXIMUM CONCRETE STRESSES: (fc = Maximum Working Stress; f'c = Minimum 28 Day Compressive Strength)
Class II Concrete (Retaining Wall) fc = 1360 psi (f'c = 3400 psi)
Class IV Concrete (Retaining Wall) fc = 1360 psi (f'c = 3400 psi)

CLASS OF CONCRETE: Retaining walls in a non-corrosive (slightly aggressive) environment shall use Class II Concrete reinforced with uncoated (black) reinforcing steel. Retaining walls in a non-corrosive (moderately aggressive) environment shall use Class IV Concrete reinforced with uncoated (black) reinforcing steel. Retaining walls in a corrosive (extremely aggressive) environment shall use Class IV concrete reinforced with epoxy coated reinforcing steel.

REINFORCING STEEL: All reinforcing steel shall be grade 60 (fs = 24000 psi). Retaining walls located in a corrosive (extremely aggressive) environment shall use epoxy coated reinforcing bars.

ENVIRONMENT: These plans apply to cast-in-place retaining walls located in all environments.

SURFACE FINISH: A Class 5 Applied Finish Coating shall be applied to the exposed face and top of the walls above the ground line.

RUSTICATION: Alternate Architectural treatments may be substituted for the Striated Pattern as Approved by the Engineer.

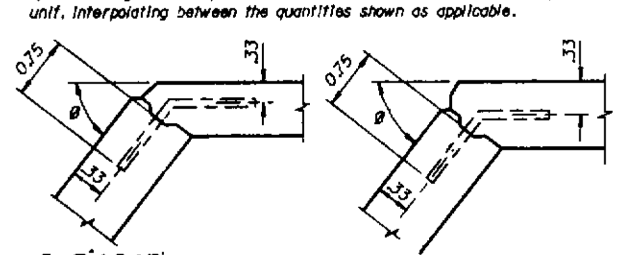
DIMENSIONS: All Dimensions are in decimals of a foot, except for bar bending diagrams.

PAYMENT: Retaining walls in a non-corrosive (slightly aggressive) environment shall be paid for at the Contract Unit Price for Class II Concrete (Retaining Walls) (Cu Yd) Item No. 400-2-11 and Reinforcing Steel (Retaining Wall) (lbs) Item No. 415-1-3.

Retaining walls in a non-corrosive (moderately aggressive) environment shall be paid for at the Contract Unit Price for Class IV Concrete (Retaining Walls) (Cu Yd) Item No. 400-4-11 and Reinforcing Steel (Retaining Wall) (lbs) Item No. 415-1-3.

Retaining walls in a corrosive (extremely aggressive) environment shall be paid for at the Contract Unit Price for Class IV Concrete (Retaining Walls) (Cu Yd) Item No. 400-4-11 and Reinforcing Steel (Retaining Wall) (lbs) Item No. 9415-1-3.

QUANTITIES: Concrete and Reinforcing Steel Quantities shall be based upon the average height (H) of each 25 ft Unit Interpolating between the "PER 25' UNIT" quantities shown on the appropriate case sheet. Quantities for units less than 25' in length shall be based upon the length of the partial unit times the "PER LIN. FT" quantity for the partial unit, interpolating between the quantities shown as applicable.

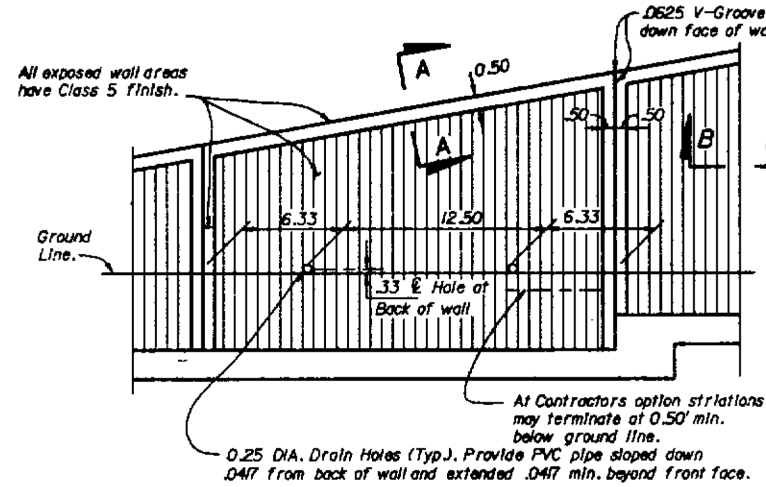


For 0° < θ ≤ 45°

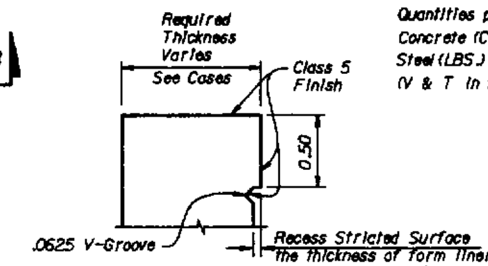
For 45° < θ ≤ 90°

TYPICAL JOINT DETAILS AT CORNERS

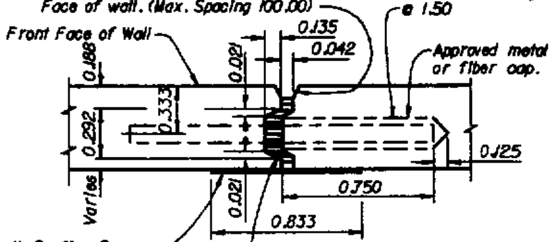
NOTE : See "Construction Joint Detail" For Notes and Details not shown



NOTE: Add 0.002(H'-D+12)c.y. of concrete for each 25' unit to the Quantities shown for striated walls. H' is the wall height at midlength of a 25' unit.



SECTION A-A



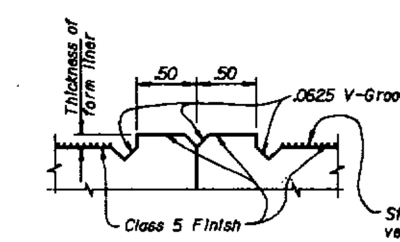
2 Layers of 55 lb. Smooth Roofing Paper. Mop all contacting surfaces of concrete and Roofing paper with cut-back asphalt.

0.0417 Premoulded Expansion Material

EXPANSION JOINT DETAIL

NOTE: Key to stop 0.50 from top of wall. Joint across top of wall to be a straight line. Extend V-Groove down back of wall to 0.50 min. below ground

NOTE: Number of Dowel Bars D (No. 6 Bars) required per unit for each wall height as follows:
6' & 7',4; 8',5; 9' & 10',6; 11' & 12',7; 13' & 14',8;
15' & 16',9; 17' & 18',10; 19',11; 20' & 21',12; 22' & 23',13; 24',14; 25',15.
Weight of Dowels for each 25.00 unit included in Quantities.



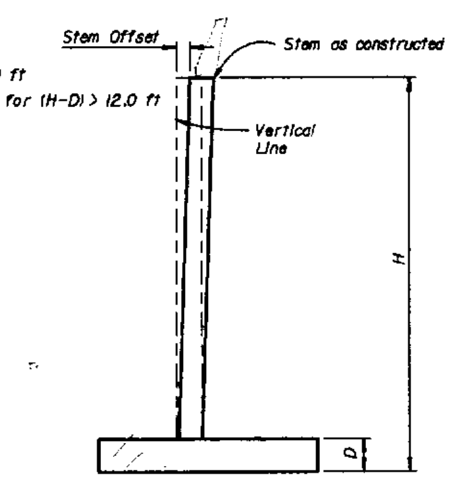
SECTION B-B

Offset = (H-D)/16, for (H-D) < 12.0 ft
Offset = [(H-D)-6]/8, 0.208 max., for (H-D) > 12.0 ft

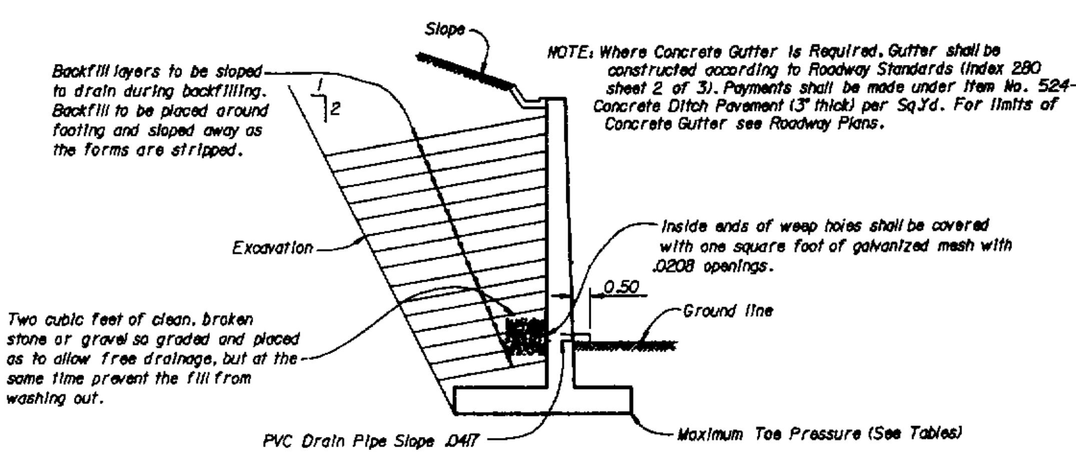
STEM OFFSET

(H-D) ≤ 12: Offset = (H-D)÷16
(H-D) > 12: Offset = [(H-D)-6] ÷ 8

Note: Offset in inches
Maximum Offset = 2½"
H & D in feet.



STEM OFFSET VALUES



NOTE: Where Concrete Gutter is Required, Gutter shall be constructed according to Roadway Standards (Index 280 sheet 2 of 3). Payments shall be made under Item No. 524-1-1 Concrete Ditch Pavement (3" thick) per Sq.Yd. For limits of Concrete Gutter see Roadway Plans.

TYPICAL BACKFILL DETAIL

NOTE: The base of the Wall Footings and Front Face of Footing shall be poured against undisturbed material.

REVISIONS					
Date	By	Description	Date	By	Description

	Names	Dates
Drawn by	M.J.	3/87
Checked by	M.P.	3/87
Designed by	W.E.H.	9/81
Checked by	T.D.H.	9/81
Approved by	A.G.M.	

ENGINEER OF RECORD:
STRUCTURES DESIGN OFFICE
605 Suwannee Street, MS 33
Tallahassee, Florida 32399-0450

LOGO:

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.

SHEET TITLE: CANTILEVER RETAINING WALLS GENERAL NOTES AND DETAILS

PROJECT NAME:

Drawing No. 1 of 1

Index No. 800

RETAINING WALL DATA

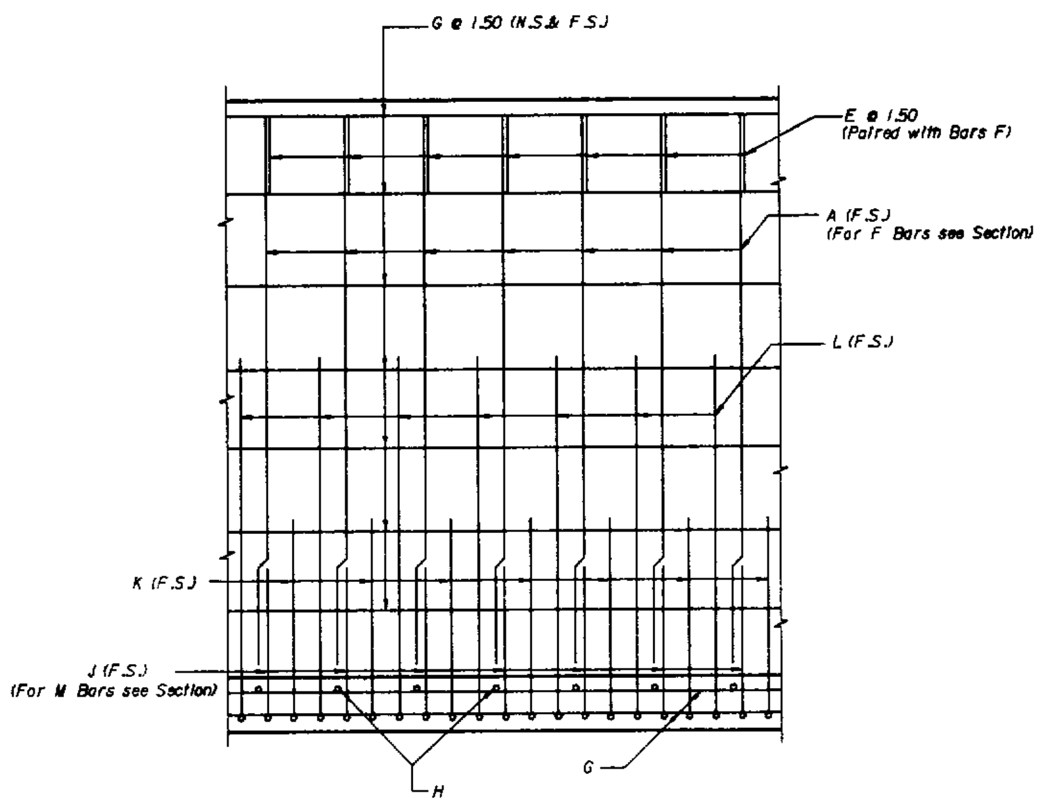
WALL DIMENSIONS / REINFORCING STEEL SCHEDULE

H	B	D	T	BARS J SIZE	BARS J NO.	BARS J SPACING	BARS J a	BARS J b	BARS J LENGTH	BARS F SIZE	BARS F NO.	BARS F LENGTH	BARS G SIZE	BARS G NO.	BARS G LENGTH
6	0.67	0.92	3.05	4	26	1.00	5.58	1.08	6.66	4	18	5.00	4	14	24.50
7	0.83	0.92	3.50	4	26	1.00	6.58	1.27	7.86	4	18	6.00	4	16	24.50
8	1.00	0.92	3.96	4	26	1.00	7.58	1.47	9.06	4	18	7.00	4	18	24.50
9	1.17	0.92	4.50	4	27	0.96	8.58	1.67	10.26	4	18	8.00	4	20	24.50
10	1.25	0.92	5.12	4	28	0.92	9.58	1.78	11.36	4	18	9.00	4	22	24.50
11	1.50	0.92	5.86	4	31	0.83	10.58	2.06	12.65	4	18	10.00	4	24	24.50
12	1.75	1.00	6.75	4	38	0.67	11.58	2.33	13.93	4	18	10.91	4	26	24.50
13	2.00	1.00	7.61	4	38	0.67	12.58	2.77	15.37	4	18	11.91	4	28	24.50
14	2.25	1.00	8.64	4	51	0.50	13.58	3.05	16.66	4	18	12.91	4	30	24.50
15	2.50	1.00	9.57	5	19	1.33	2.83	3.33	6.19	4	18	13.91	4	34	24.50
16	2.83	1.00	10.63	5	17	1.50	2.83	3.69	6.55	4	18	14.91	4	38	24.50
17	3.08	1.17	11.86	5	19	1.38	3.00	4.00	7.00	4	18	15.75	4	40	24.50
18	3.50	1.17	12.71	6	17	1.50	3.42	4.42	7.87	4	18	16.75	4	42	24.50
19	3.83	1.17	13.95	6	19	1.38	3.42	4.78	8.23	4	18	17.75	4	44	24.50
20	4.17	1.17	14.98	7	17	1.50	4.83	5.15	10.01	4	18	18.75	4	46	24.50

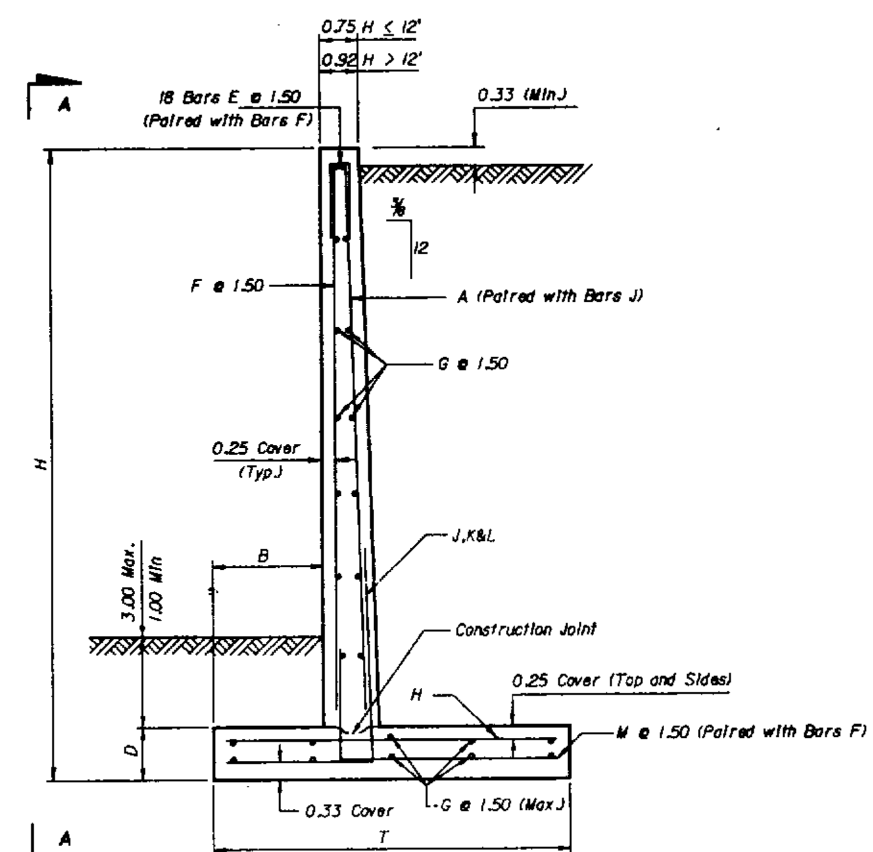
H	BARS H SIZE	BARS H NO.	BARS H SPACING	BARS H LENGTH	BARS M SIZE	BARS M NO.	BARS M c	BARS M LENGTH	BARS A SIZE	BARS A NO.	BARS A LENGTH
6	4	18	1.42	2.55	4	18	1.96	4.04			
7	4	18	1.42	3.00	4	18	2.25	4.33			
8	4	18	1.42	3.46	4	18	2.54	4.62			
9	4	19	1.33	4.00	4	18	2.91	4.99			
10	4	28	0.92	4.62	4	18	3.45	5.53			
11	4	40	0.63	5.36	4	18	3.94	6.02			
12	4	39	0.67	6.25	4	18	4.58	6.66			
13	4	46	0.54	7.11	4	18	5.19	7.27			
14	4	56	0.46	8.14	4	18	5.97	8.05			
15	5	50	0.50	9.07	4	18	6.65	8.73	5	19	13.91
16	6	44	0.58	10.13	4	18	7.38	9.46	5	17	14.91
17	6	39	0.63	11.36	4	18	8.36	10.44	5	19	15.75
18	6	50	0.50	12.21	4	18	8.79	10.87	5	17	16.25
19	6	55	0.46	13.45	4	18	9.70	11.78	5	19	17.75
20	7	41	0.63	14.48	4	18	10.39	12.47	6	17	18.75

H	BARS K SIZE	BARS K NO.	BARS K SPACING	BARS K a	BARS K b	BARS K LENGTH	BARS L SIZE	BARS L NO.	BARS L SPACING	BARS L a	BARS L b	BARS L LENGTH
6												
7												
8												
9												
10												
11												
12												
13												
14												
15	5	18	1.33	10.75	3.33	14.11						
16	5	16	1.50	4.75	3.69	8.47	5	16	1.50	14.75	3.69	18.47
17	5	18	1.38	4.92	4.00	8.92	5	18	1.38	13.92	4.00	17.92
18	6	16	1.50	5.92	4.42	10.37	6	16	1.50	14.92	4.42	19.37
19	6	18	1.38	6.33	4.78	11.14	6	18	1.38	15.33	4.78	20.11
20	6	16	1.50	6.33	5.15	11.51	6	16	1.50	16.33	5.15	21.48

H	QUANTITIES CONCRETE / 25' UNIT C.Y.	STEEL / 25' UNIT LBS.	CONCRETE PER LIN.FT. C.Y.	STEEL PER LIN.FT. LBS.	ACTUAL MAXIMUM BEARING PRESSURE KIPS/SQ.FT.	H
6	6.46	524	0.26	21	1.34	6
7	7.73	599	0.31	24	1.52	7
8	9.01	673	0.36	27	1.69	8
9	10.38	759	0.42	30	1.82	9
10	11.85	874	0.47	35	1.95	10
11	13.45	1031	0.54	41	1.97	11
12	15.64	1198	0.63	48	1.97	12
13	19.32	1340	0.77	54	1.99	13
14	21.47	1657	0.86	66	1.98	14
15	23.58	2007	0.94	80	2.00	15
16	25.83	2457	1.03	98	1.97	16
17	29.88	2576	1.20	103	1.99	17
18	32.12	3182	1.28	127	1.98	18
19	34.80	3660	1.39	146	1.97	19
20	37.30	4003	1.49	160	1.98	20



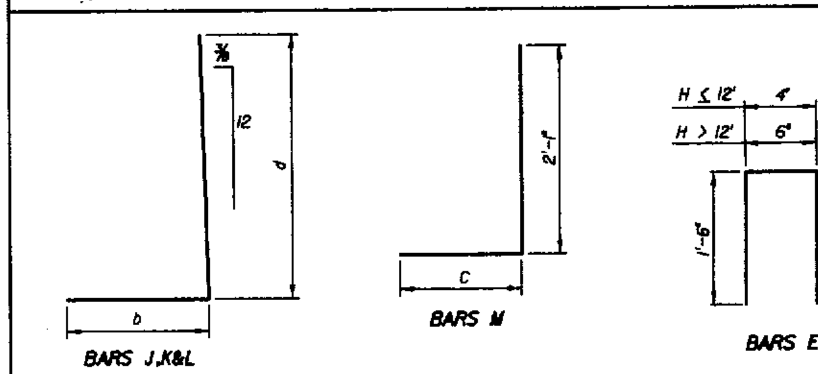
VIEW A-A



TYPICAL SECTION

NOTE:
To accommodate the Variable Height of a wall Unit, vertical Bars may be field cut to fit and the number of horizontal Bars G required by the highest wall dimension within a 25' Unit shall be equally spaced at each end of the Unit.

BENDING DIAGRAM



NOTE: All bar dimensions are out to out.

NOTE:
Bars M & E Paired with Bars F and Bars A Paired with Bars J. Bars E,F and M are No.4 Bars. Bars J are as shown.

Note:
Work this Drawing with Standard Index No. 800.

All Dimensions shown on this Sheet are in Decimals of a Foot, except for Bar Bending Diagrams.

REVISIONS					
Date	By	Description	Date	By	Description

	Names	Dates
Drawn by	M.J.	3/87
Checked by	M.P.	3/87
Designed by	C.W.	6/85
Checked by	R.N.	6/85
Approved by	A.G.M.	

ENGINEER OF RECORD:
STRUCTURES DESIGN OFFICE
605 Suwannee Street, MS 33
Tallahassee, Florida 32399-0450

LOGO:

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.

SHEET TITLE:
CASE I (2.0 KIPS/SQ.FT. MAX. BEARING PRESSURE)
6 FT. TO 20 FT. HEIGHT

PROJECT NAME:

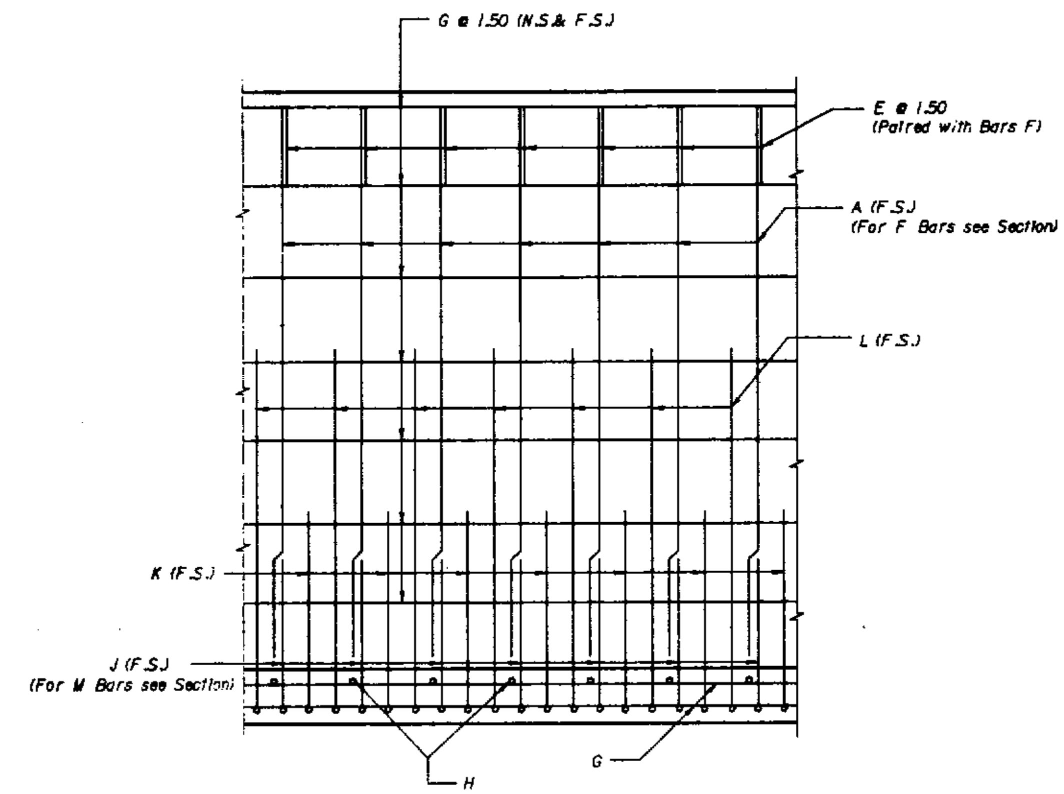
Drawing No.
1 of 1

Index No.
801

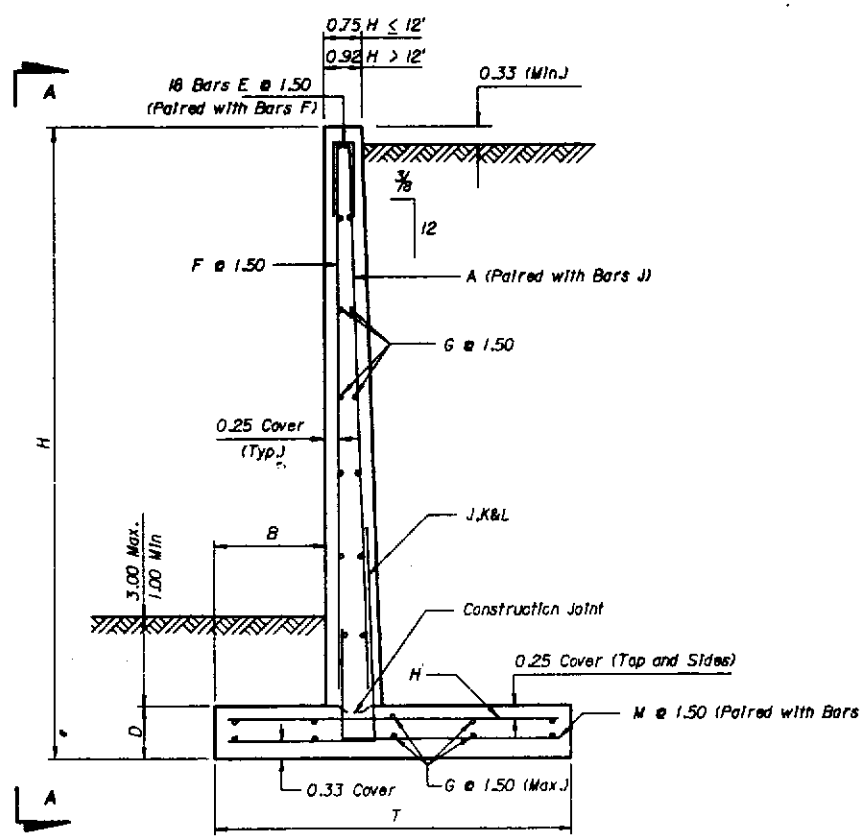
FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.			

RETAINING WALL DATA

H	WALL DIMENSIONS B	D	T	BARS J SIZE	BARS J NO.	BARS J SPACING	BARS J a	BARS J b	BARS J LENGTH	BARS F SIZE	BARS F NO.	BARS F LENGTH	BARS G SIZE	BARS G NO.	BARS G LENGTH	BARS H SIZE	BARS H NO.	BARS H SPACING	BARS H LENGTH	BARS M SIZE	BARS M NO.	BARS M c	BARS M LENGTH	BARS A SIZE	BARS A NO.	BARS A LENGTH	BARS K SIZE	BARS K NO.	BARS K SPACING	BARS K a	BARS K b	BARS K LENGTH	BARS L SIZE	BARS L NO.	BARS L SPACING	BARS L a	BARS L b	BARS L LENGTH	CONCRETE / 25' UNIT C.Y.	STEEL / 25' UNIT LBS.	CONCRETE PER LIN.FT. C.Y.	STEEL PER LIN.FT. LBS.	ACTUAL MAXIMUM BEARING PRESSURE KIPS/SQ.FT.	H
6	0.67	0.92	3.05	4	26	1.00	5.58	1.08	6.66	4	18	5.00	4	14	24.50	4	18	1.42	2.55	4	18	1.96	4.04																6.46	524	0.26	21	1.34	6
7	0.83	0.92	3.50	4	26	1.00	6.58	1.28	7.86	4	18	6.00	4	16	24.50	4	18	1.42	3.00	4	18	2.25	4.33																7.73	599	0.31	24	1.52	7
8	1.00	0.92	3.96	4	26	1.00	7.58	1.48	9.06	4	18	7.00	4	18	24.50	4	18	1.42	3.46	4	18	2.54	4.62																9.01	673	0.36	27	1.69	8
9	1.17	0.92	4.50	4	27	0.96	8.58	1.68	10.26	4	18	8.00	4	20	24.50	4	19	1.33	4.00	4	18	2.91	4.99																10.38	763	0.42	31	1.82	9
10	1.25	0.92	4.93	4	28	0.92	9.58	1.79	11.37	4	18	9.00	4	22	24.50	4	27	0.96	4.43	4	18	3.26	5.34																11.69	865	0.47	35	2.04	10
11	1.33	0.92	5.50	4	31	0.83	10.58	1.90	12.48	4	18	10.00	4	24	24.50	4	40	0.63	5.00	4	18	3.75	5.83																13.14	1015	0.53	41	2.20	11
12	1.50	1.00	5.93	4	38	0.67	11.58	2.10	13.68	4	18	10.92	4	26	24.50	4	39	0.67	5.43	4	18	4.01	6.09																14.88	1161	0.60	46	2.39	12
13	1.58	1.00	6.28	4	38	0.67	12.58	2.38	14.96	4	18	11.92	4	28	24.50	4	46	0.54	5.78	4	18	4.28	6.36																18.08	1277	0.72	51	2.67	13
14	1.75	1.00	6.80	4	51	0.50	13.58	2.57	16.15	4	18	12.92	4	28	24.50	4	56	0.46	6.30	4	18	4.63	6.71																19.78	1522	0.79	61	2.80	14
15	1.83	1.00	7.36	5	19	1.33	3.25	2.69	5.94	4	18	13.92	4	32	24.50	5	50	0.50	6.86	4	18	5.11	7.19	5	19	13.92	5	18	1.33	9.58	2.69	11.29							21.53	1783	0.86	71	2.96	15
16	2.08	1.00	8.16	5	17	1.50	3.25	2.97	6.22	4	18	14.92	4	34	24.50	6	44	0.58	7.66	4	18	5.66	7.74	5	17	14.92	5	16	1.50	4.75	2.97	7.22	5	16	1.50	14.75	2.97	17.72	23.54	2168	0.94	87	2.93	16
17	2.25	1.17	9.01	5	19	1.38	3.42	3.16	6.58	4	18	15.75	4	34	24.50	6	39	0.63	8.51	4	18	6.34	8.42	5	19	15.75	5	18	1.38	4.92	3.16	8.08	5	18	1.38	13.92	3.16	17.08	26.80	2303	1.07	92	2.96	17
18	2.58	1.17	9.69	6	17	1.50	4.33	3.53	7.86	4	18	16.75	4	38	24.50	6	50	0.50	9.19	4	18	6.69	8.77	5	17	16.75	6	16	1.50	6.00	3.53	9.53	6	16	1.50	14.92	3.53	18.45	28.85	2831	1.15	113	2.96	18
19	2.75	1.17	10.54	6	19	1.38	4.33	3.73	8.06	4	18	17.75	4	40	24.50	7	44	0.58	10.04	4	18	7.37	9.45	5	19	17.75	6	18	1.38	6.33	3.73	10.06	6	18	1.38	15.33	3.73	19.06	31.12	3296	1.24	132	2.99	19
20	3.08	1.17	11.41	7	17	1.50	4.33	4.09	8.42	4	18	18.75	4	42	24.50	7	51	0.50	10.91	4	18	7.91	9.99	6	17	18.75	7	16	1.50	6.67	4.09	10.76	7	16	1.50	16.33	4.09	20.42	33.44	4003	1.34	160	2.95	20
21	3.33	1.42	12.34	7	17	1.50	5.17	4.37	9.54	4	18	19.50	4	42	24.50	7	43	0.58	11.84	4	18	8.59	10.67	6	17	19.50	7	16	1.50	7.17	4.37	11.54	7	16	1.50	11.17	4.37	15.54	38.36	3848	1.53	154	2.98	21
22	3.58	1.42	13.71	8	17	1.50	5.17	4.65	9.82	4	18	20.50	4	46	24.50	7	50	0.50	12.71	4	18	9.21	11.29	6	17	20.50	8	16	1.50	8.15	4.65	12.82	8	16	1.50	12.17	4.65	16.82	40.92	4712	1.64	188	2.99	22
23	3.83	1.42	14.18	8	17	1.50	5.83	4.93	10.76	4	18	21.50	4	50	24.50	8	44	0.58	13.68	4	18	9.92	12.01	6	17	21.50	8	16	1.50	8.83	4.93	13.76	8	16	1.50	13.17	4.93	18.10	43.66	5269	1.75	211	3.00	23
24	4.17	1.42	15.01	8	19	1.38	5.83	4.29	11.12	4	18	22.50	4	52	24.50	8	50	0.50	14.51	4	18	10.42	12.50	6	19	22.50	8	18	1.38	9.83	5.29	15.12	8	18	1.38	14.17	5.29	19.46	46.24	6119	1.85	245	3.00	24
25	4.42	1.42	16.34	9	17	1.50	6.92	5.57	12.49	4	18	23.50	4	54	24.50	9	46	0.54	15.84	4	18	11.50	13.58	6	17	23.50	9	16	1.50	10.50	5.57	16.07	9	16	1.50	17.50	5.57	23.07	49.50	7300	1.98	292	2.96	25
26	4.92	1.67	17.04	9	19	1.38	8.00	6.10	14.10	4	18	24.25	4	58	24.50	9	39	0.63	16.54	4	18	11.70	13.78	6	19	24.25	9	18	1.38	11.00	6.10	17.10	9	18	1.38	18.25	6.10	24.35	55.51	7781	2.22	311	2.96	26
27	5.25	1.67	17.95	10	17	1.50	9.00	6.46	15.46	4	18	25.25	4	58	24.50	9	44	0.58	17.45	4	18	12.28	14.36	6	17	25.25	10	16	1.50	11.50	6.46	17.96	10	16	1.50	18.75	6.46	25.21	58.49	8826	2.34	353	3.97	27
28	5.58	1.67	18.78	10	19	1.38	10.00	6.82	16.82	4	18	26.25	4	62	24.50	9	50	0.50	18.28	4	18	12.78	14.86	7	19	26.25	10	18	1.38	12.00	6.82	18.82	10	18	1.38	19.75	6.82	26.57	61.37	10569	2.45	423	2.98	28
29	5.00	1.67	19.52	11	17	1.50	10.50	7.27	17.77	4	18	27.25	4	64	24.50	9	54	0.46	19.02	4	18	13.10	15.18	8	17	27.25	11	16	1.50	12.50	7.27	19.77	11	16	1.50	20.75	7.27	28.02	64.14	11996	2.57	480	2.99	29
30	6.42	1.67	20.20	11	19	1.38	11.00	7.72	18.72	4	18	28.25	4	66	24.50	10	43	0.58	19.76	4	18	13.42	15.50	8	19	28.25	11	18	1.38	13.00	7.72	20.72	11	18	1.38	21.75	7.72	29.47	66.84	13427	2.67	537	2.99	30



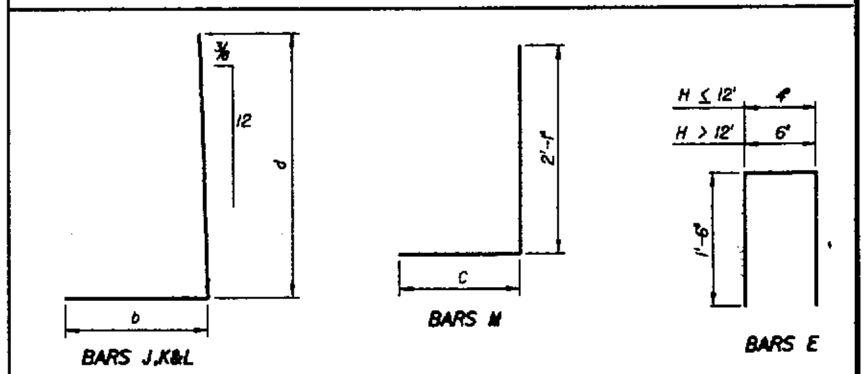
VIEW A-A



TYPICAL SECTION

NOTE:
To accommodate the Variable Height of a wall Unit, vertical Bars may be field cut to fit and the number of horizontal Bars G required by the highest wall dimension within a 25' Unit shall be equally spaced at each end of the Unit.

BENDING DIAGRAM



NOTE: All bar dimensions are out to out.

NOTE:
Bars M & E Paired with Bars F and Bars A Paired with Bars J. Bars E,F and M are No.4 Bars. Bars J are as shown.

Note:
Work this Drawing with Standard Index No. 800.

All Dimensions shown on this Sheet are in Decimals of a Foot, except for Bar Bending Diagrams.

REVISIONS							Names	Dates
Date	By	Description	Date	By	Description	Drawn by	M.J.	3/87
						Checked by	M.P.	3/87
						Designed by		
						Checked by		
						Approved by	A.G.M.	

ENGINEER OF RECORD:
STRUCTURES DESIGN OFFICE
605 Suwannee Street, MS 33
Tallahassee, Florida 32399-0450

LOGO:

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.

SHEET TITLE:
CASE I (3.0 KIPS/SQ.FT. MAX. BEARING PRESSURE)
6 FT. TO 30 FT. HEIGHT

PROJECT NAME:

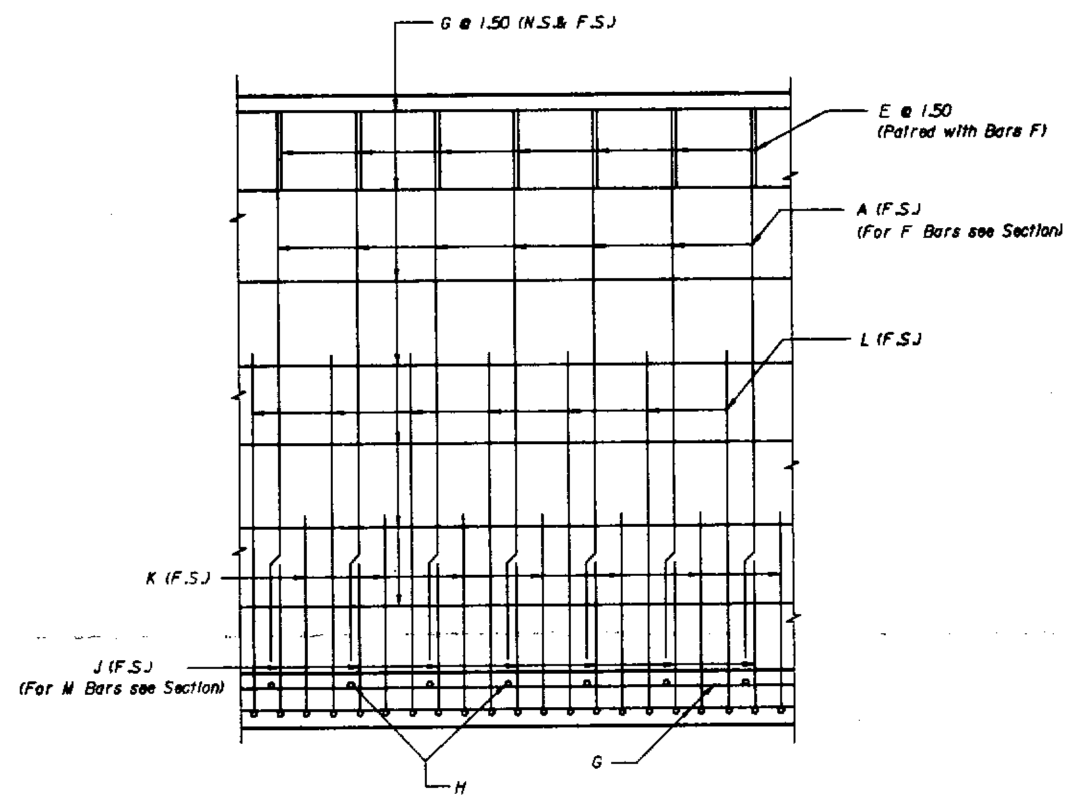
Drawing No.
1 of 1

Index No.
802

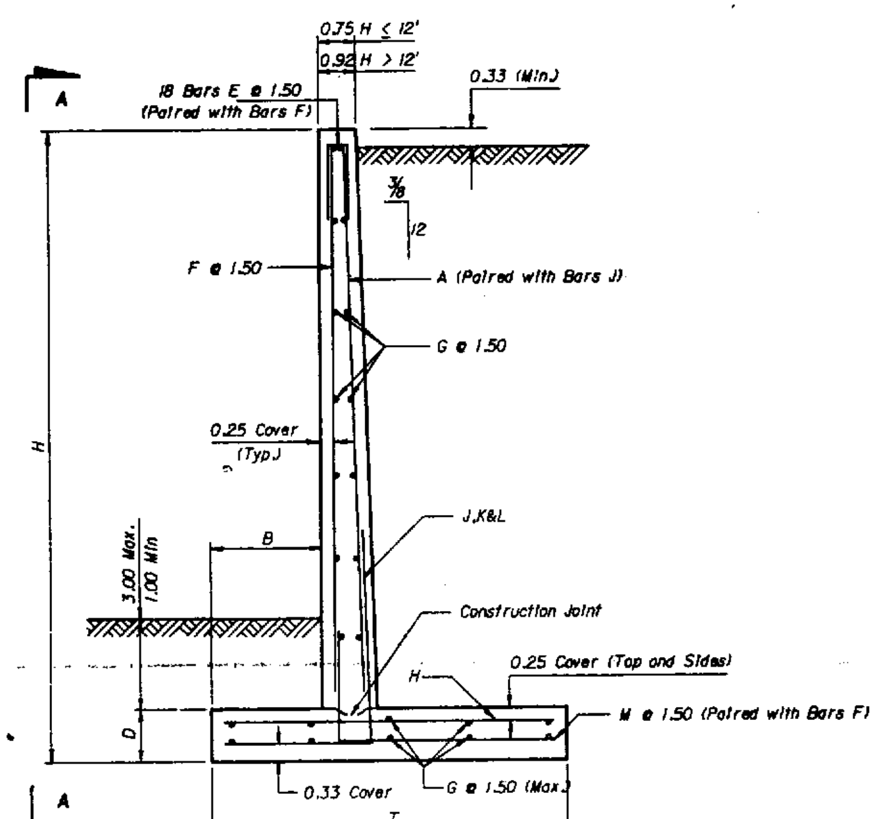
RETAINING WALL DATA

WALL DIMENSIONS				REINFORCING STEEL SCHEDULE																			
H	B	D	T	BARS J						BARS F			BARS G			BARS H				BARS M			
				SIZE	NO.	SPACING	a	b	LENGTH	SIZE	NO.	LENGTH	SIZE	NO.	LENGTH	SIZE	NO.	SPACING	LENGTH	SIZE	NO.	c	LENGTH
6	0.67	0.92	3.05	4	26	1.00	5.58	1.08	6.66	4	18	5.00	4	14	24.50	4	18	1.42	2.55	4	18	1.96	4.04
7	0.83	0.92	3.50	4	26	1.00	6.58	1.28	7.86	4	18	6.00	4	16	24.50	4	18	1.42	3.00	4	18	2.25	4.33
8	1.00	0.92	3.96	4	26	1.00	7.58	1.48	9.06	4	18	7.00	4	18	24.50	4	18	1.42	3.46	4	18	2.54	4.62
9	1.17	0.92	4.50	4	27	0.96	8.58	1.68	10.26	4	18	8.00	4	20	24.50	4	19	1.33	4.00	4	18	2.91	4.99
10	1.25	0.92	4.93	4	28	0.92	9.58	1.79	11.37	4	18	9.00	4	22	24.50	4	27	0.96	4.43	4	18	3.26	5.34
11	1.33	0.92	5.50	4	31	0.83	10.58	1.90	12.48	4	18	10.00	4	24	24.50	4	40	0.63	5.00	4	18	3.75	5.83
12	1.50	1.00	5.93	4	38	0.67	11.58	2.10	13.68	4	18	10.92	4	26	24.50	4	39	0.67	5.43	4	18	4.01	6.09
13	1.58	1.00	6.28	4	38	0.67	12.58	2.38	14.96	4	18	11.92	4	28	24.50	4	46	0.54	5.78	4	18	4.28	6.36
14	1.75	1.00	6.80	4	51	0.50	13.58	2.58	16.16	4	18	12.92	4	28	24.50	4	56	0.46	6.30	4	18	4.63	6.71
15	1.83	1.00	7.36	5	19	1.33	2.83	2.69	5.52	4	18	13.92	4	32	24.50	5	50	0.50	6.86	4	18	5.11	7.19
16	2.00	1.00	7.69	5	17	1.50	2.83	2.89	5.72	4	18	14.92	4	34	24.50	6	39	0.63	7.19	4	18	5.28	7.36
17	2.00	1.17	8.16	5	19	1.38	3.00	2.91	5.91	4	18	15.75	4	34	24.50	6	39	0.63	7.66	4	18	5.74	7.83
18	2.25	1.17	8.78	6	17	1.50	4.33	3.20	7.53	4	18	16.75	4	38	24.50	6	50	0.50	8.28	4	18	6.11	8.20
19	2.33	1.17	9.15	6	19	1.38	3.42	3.31	6.73	4	18	17.75	4	40	24.50	7	39	0.63	8.65	4	18	6.40	8.49
20	2.50	1.17	9.68	7	17	1.50	3.42	3.51	6.93	4	18	18.75	4	42	24.50	7	39	0.63	9.18	4	18	6.76	8.84
21	2.67	1.42	10.32	7	17	1.50	5.17	3.70	8.87	4	18	19.50	4	44	24.50	7	43	0.58	9.82	4	18	7.23	9.31
22	2.92	1.42	11.03	8	17	1.50	4.58	3.98	8.56	4	18	20.50	4	46	24.50	7	50	0.50	10.53	4	18	7.69	9.77
23	3.08	1.42	11.86	8	17	1.50	5.83	4.18	10.01	4	18	21.50	4	50	24.50	8	46	0.54	11.36	4	18	8.36	10.44
24	3.42	1.42	12.55	8	19	1.38	5.83	4.54	10.37	4	18	22.50	4	50	24.50	8	50	0.50	12.05	4	18	8.71	10.79
25	3.58	1.42	13.52	9	17	1.50	6.92	4.74	11.66	4	18	23.50	4	52	24.50	9	46	0.54	13.02	4	18	9.52	11.60
26	4.00	1.67	14.12	9	19	1.38	7.42	5.18	12.60	4	18	24.25	4	54	24.50	9	39	0.63	13.62	4	18	9.70	11.78
27	4.25	1.67	14.99	10	17	1.50	7.92	5.46	13.38	4	18	25.25	4	56	24.50	9	46	0.54	14.49	4	18	10.32	12.40
28	4.58	1.67	15.72	10	19	1.38	8.42	5.83	14.25	4	18	26.25	4	60	24.50	9	50	0.50	15.22	4	18	10.72	12.80
29	4.92	1.67	16.44	11	17	1.50	8.92	6.20	15.12	4	18	27.25	4	62	24.50	9	54	0.46	15.94	4	18	11.10	13.18
30	5.33	1.67	17.13	11	19	1.38	9.42	6.64	16.06	4	18	28.25	4	64	24.50	10	50	0.50	16.63	4	18	11.38	13.46

REINFORCING STEEL SCHEDULE (cont.)															QUANTITIES				ACTUAL MAXIMUM BEARING PRESSURE	H
BARS A			BARS K						BARS L						CONCRETE / 25' UNIT	STEEL / 25' UNIT	CONCRETE PER LIN.FT.	STEEL PER LIN.FT.		
SIZE	NO.	LENGTH	SIZE	NO.	SPACING	a	b	LENGTH	SIZE	NO.	SPACING	a	b	LENGTH	C.Y.	LBS.	C.Y.	LBS.	KIPS/SQ.FT.	
															6.46	524	0.26	21	1.34	6
															7.73	599	0.31	24	1.52	7
															9.01	673	0.36	27	1.69	8
															10.38	759	0.42	30	1.82	9
															11.69	862	0.47	35	2.04	10
															13.14	1015	0.53	41	2.20	11
															14.88	1161	0.60	46	2.39	12
															18.08	1277	0.72	51	2.67	13
															19.78	1522	0.79	61	2.80	14
5	19	13.92	5	18	1.33	10.75	2.69	13.44							21.53	1815	0.86	73	2.96	15
5	17	14.92	5	16	1.50	4.75	2.89	7.64	5	16	1.50	14.75	2.89	17.64	23.11	2075	0.92	83	3.18	16
5	19	15.75	5	18	1.38	4.92	2.91	7.83	5	18	1.38	13.92	2.91	16.83	25.88	2223	1.04	89	3.45	17
5	17	16.75	6	16	1.50	5.92	3.20	9.12	6	16	1.50	14.92	3.20	18.12	27.87	2730	1.11	109	3.49	18
5	19	17.75	6	18	1.38	6.33	3.31	9.64	6	18	1.38	15.33	3.32	18.64	29.62	3010	1.18	120	3.74	19
6	17	18.75	7	16	1.50	6.33	3.51	9.84	7	16	1.50	16.33	3.51	19.84	31.57	3483	1.26	139	3.87	20
6	17	19.50	7	16	1.50	7.17	3.70	10.87	7	16	1.50	11.17	3.70	14.87	35.70	3620	1.43	145	3.98	21
6	17	20.50	8	16	1.50	8.17	3.98	12.15	8	16	1.50	12.17	3.98	16.15	38.06	4356	1.52	174	3.98	22
6	17	21.50	8	16	1.50	8.83	4.18	13.01	8	16	1.50	13.17	4.18	17.35	40.62	4940	1.62	198	3.99	23
6	19	22.50	8	18	1.38	9.83	4.54	14.37	8	18	1.38	14.17	4.54	18.71	43.01	5627	1.72	225	3.98	24
6	17	23.50	9	16	1.50	10.50	4.74	15.24	9	16	1.50	17.50	4.74	22.24	45.80	6665	1.83	267	3.96	25
6	19	24.25	9	18	1.38	11.34	5.18	16.52	9	18	1.38	18.25	5.18	23.43	51.02	7116	2.04	285	3.98	26
6	17	25.25	10	16	1.50	11.75	5.46	17.21	10	16	1.50	18.75	5.46	24.21	53.91	8153	2.16	326	3.97	27
7	19	26.25	10	18	1.38	12.25	5.83	18.08	10	18	1.38	19.75	5.83	25.58	56.64	9958	2.27	398	3.97	28
8	17	27.25	11	16	1.50	12.75	6.20	18.95	11	16	1.50	20.75	6.20	26.95	59.38	10974	2.38	439	3.98	29
8	19	28.25	11	18	1.38	13.00	6.64	19.64	11	18	1.38	21.75	6.64	28.39	62.10	12817	2.48	513	3.96	30



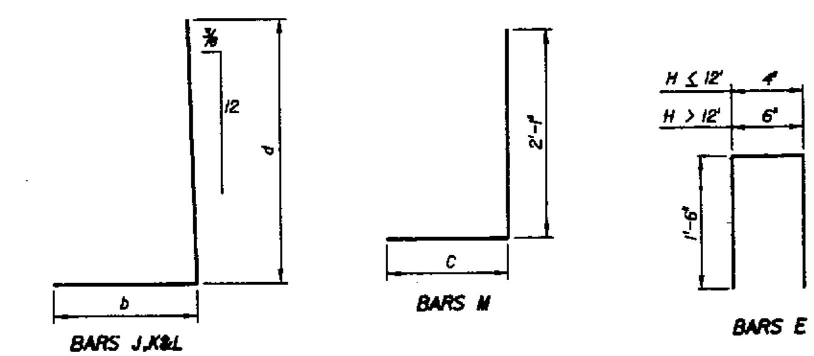
VIEW A-A



TYPICAL SECTION

NOTE:
To accommodate the Variable Height of a wall Unit, vertical Bars may be field cut to fit and the number of horizontal Bars G required by the highest wall dimension within a 25' Unit shall be equally spaced at each end of the Unit.

BENDING DIAGRAM



NOTE: All bar dimensions are out to out.

NOTE:
Bars M & E Paired with Bars F and Bars A Paired with Bars J. Bars E,F and M are No.4 Bars. Bars J are as shown.

Note:
Work this Drawing with Standard Index No. 800.

All Dimensions shown on this Sheet are in Decimals of a Foot, except for Bar Bending Diagrams.

REVISIONS									
Date	By	Description	Date	By	Description		Names	Dates	
						Drawn by	M.J.	3/87	
						Checked by	M.P.	3/87	
						Designed by			
						Checked by			
						Approved by	A.G.M.		

ENGINEER OF RECORD:
STRUCTURES DESIGN OFFICE
605 Suwannee Street, MS 33
Tallahassee, Florida 32399-0450

LOGO:

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO. | COUNTY | PROJECT NO.

SHEET TITLE:
CASE I (4.0 KIPS/SQ. FT. MAX. BEARING PRESSURE)
6 FT. TO 30 FT. HEIGHT

PROJECT NAME:

Drawing No. 1 of 1

Index No. 803

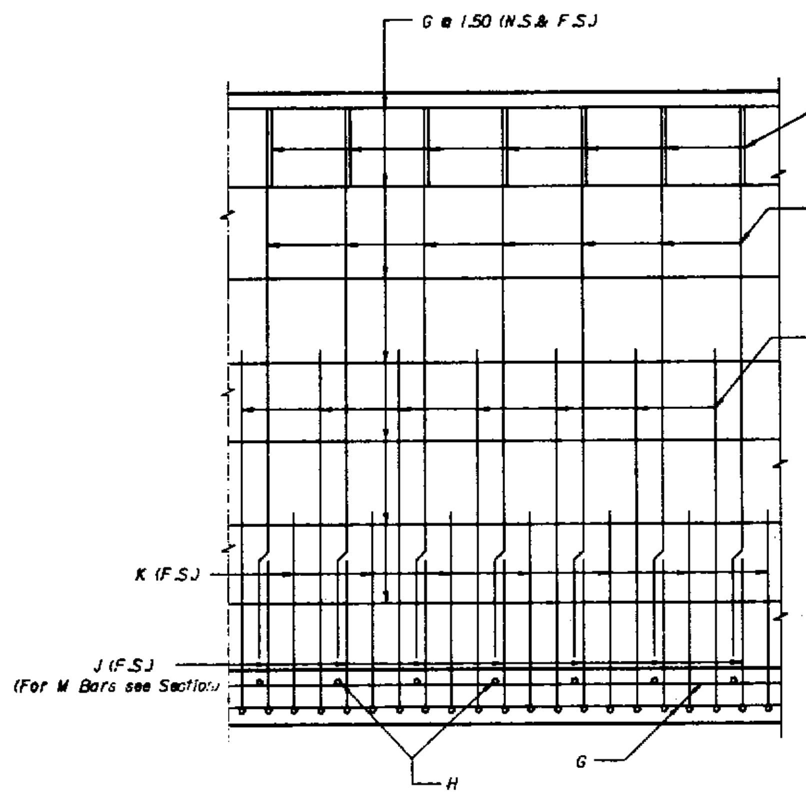
FISCAL YEAR	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.			

RETAINING WALL DATA

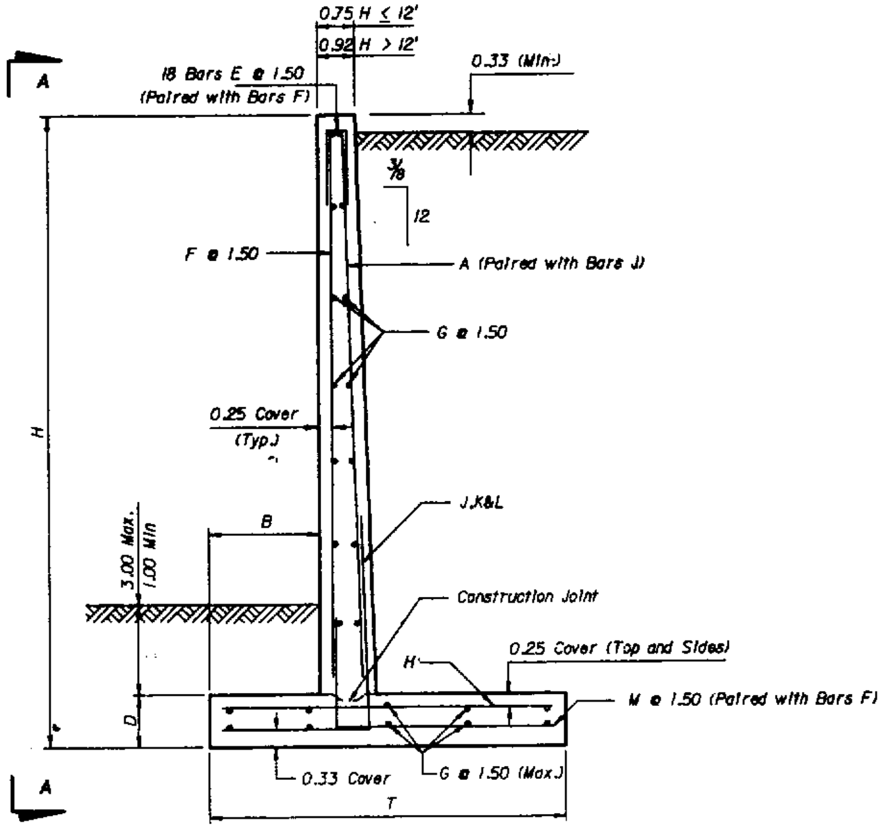
WALL DIMENSIONS / REINFORCING STEEL SCHEDULE

H	B	D	T	BARS J SIZE	BARS J NO.	BARS J SPACING	BARS J a	BARS J b	BARS J LENGTH	BARS F SIZE	BARS F NO.	BARS F LENGTH	BARS G SIZE	BARS G NO.	BARS G LENGTH	BARS H SIZE	BARS H NO.	BARS H SPACING	BARS H LENGTH	BARS M SIZE	BARS M NO.	BARS M c	BARS M LENGTH
6	0.67	0.92	3.05	4	26	1.00	5.58	1.08	6.66	4	18	5.00	4	14	24.50	4	18	1.42	2.55	4	18	1.96	4.04
7	0.83	0.92	3.50	4	26	1.00	6.58	1.28	7.86	4	18	6.00	4	16	24.50	4	18	1.42	3.00	4	18	2.25	4.33
8	1.00	0.92	3.96	4	26	1.00	7.58	1.48	9.06	4	18	7.00	4	18	24.50	4	18	1.42	3.46	4	18	2.54	4.62
9	1.17	0.92	4.50	4	27	0.96	8.58	1.68	10.26	4	18	8.00	4	20	24.50	4	19	1.33	4.00	4	18	2.92	5.00
10	1.25	0.92	4.93	4	28	0.92	9.58	1.79	11.37	4	18	9.00	4	22	24.50	4	27	0.96	4.43	4	18	3.26	5.35
11	1.33	0.92	5.50	4	31	0.83	10.58	1.90	12.48	4	18	10.00	4	24	24.50	4	40	0.63	5.00	4	18	3.75	5.83
12	1.50	1.00	5.93	4	38	0.67	11.58	2.10	13.68	4	18	10.92	4	26	24.50	4	39	0.67	5.43	4	18	4.01	6.10
13	1.58	1.00	6.28	4	38	0.67	12.58	2.38	14.96	4	18	11.92	4	28	24.50	4	46	0.54	5.78	4	18	4.28	6.36
14	1.75	1.00	6.80	4	51	0.50	13.58	2.58	16.16	4	18	12.92	4	28	24.50	4	56	0.46	6.30	4	18	4.64	6.72
15	1.83	1.00	7.36	5	19	1.33	2.83	2.69	5.52	4	18	13.92	4	32	24.50	5	50	0.50	6.86	4	18	5.11	7.19
16	2.00	1.00	7.69	5	17	1.50	2.83	2.89	5.72	4	18	14.92	4	34	24.50	6	39	0.63	7.19	4	18	5.28	7.36
17	2.00	1.17	8.16	5	19	1.38	3.00	2.91	5.91	4	18	15.75	4	34	24.50	6	39	0.63	7.66	4	18	5.74	7.83
18	2.25	1.17	8.78	6	17	1.50	4.33	3.20	7.53	4	18	16.75	4	38	24.50	6	50	0.50	8.28	4	18	6.11	8.20
19	2.33	1.17	9.15	6	19	1.38	3.42	3.31	6.73	4	18	17.75	4	40	24.50	7	39	0.63	8.65	4	18	6.40	8.49
20	2.50	1.17	9.68	7	17	1.50	3.42	3.51	6.93	4	18	18.75	4	42	24.50	7	39	0.63	9.18	4	18	6.76	8.84
21	2.58	1.42	10.04	7	17	1.50	5.17	3.62	8.79	4	18	19.50	4	44	24.50	7	43	0.58	9.54	4	18	7.04	9.12
22	2.83	1.42	10.56	8	17	1.50	4.58	3.90	8.48	4	18	20.50	4	46	24.50	7	50	0.50	10.06	4	18	7.31	9.40
23	2.83	1.42	11.02	8	17	1.50	5.83	3.93	9.76	4	18	21.50	4	48	24.50	8	46	0.54	10.52	4	18	7.77	9.86
24	3.08	1.42	11.46	8	19	1.38	5.83	4.21	10.04	4	18	22.50	4	50	24.50	8	50	0.50	10.96	4	18	7.96	10.04
25	3.08	1.42	12.02	9	17	1.50	6.92	4.24	11.16	4	18	23.50	4	52	24.50	9	50	0.50	11.52	4	18	8.52	10.61
26	3.42	1.67	12.45	9	19	1.38	7.42	4.60	12.02	4	18	24.25	4	54	24.50	9	39	0.63	11.95	4	18	8.62	10.70
27	3.67	1.67	13.15	10	17	1.50	7.92	4.88	12.80	4	18	25.25	4	56	24.50	9	46	0.54	12.65	4	18	9.07	11.15
28	4.00	1.67	13.75	10	19	1.38	8.42	5.24	13.66	4	18	26.25	4	60	24.50	9	50	0.50	13.25	4	18	9.34	11.42
29	4.25	1.67	14.44	11	17	1.50	8.92	5.52	14.44	4	18	27.25	4	62	24.50	10	46	0.54	13.94	4	18	9.77	11.86
30	4.67	1.67	15.05	11	19	1.38	9.42	5.97	15.39	4	18	28.25	4	64	24.50	10	50	0.50	14.55	4	18	9.96	12.05

H	BARS A SIZE	BARS A NO.	BARS A LENGTH	BARS K SIZE	BARS K NO.	BARS K SPACING	BARS K a	BARS K b	BARS K LENGTH	BARS L SIZE	BARS L NO.	BARS L SPACING	BARS L a	BARS L b	BARS L LENGTH	QUANTITIES CONCRETE / 25' UNIT C.Y.	STEEL / 25' UNIT LBS.	CONCRETE PER LIN.FT. C.Y.	STEEL PER LIN.FT. LBS.	ACTUAL MAXIMUM BEARING PRESSURE KIPS/SQ.FT.	H
6																6.46	524	0.26	21	1.34	6
7																7.73	599	0.31	24	1.52	7
8																9.01	673	0.36	27	1.69	8
9																10.38	759	0.42	30	1.82	9
10																11.69	862	0.47	35	2.04	10
11																13.14	1015	0.53	41	2.20	11
12																14.88	1159	0.60	46	2.39	12
13																18.08	1277	0.72	51	2.67	13
14																19.78	1523	0.79	61	2.80	14
15	5	19	13.92	5	18	1.33	10.75	2.69	13.44							21.53	1815	0.86	73	2.96	15
16	5	17	14.92	5	16	1.50	4.75	2.89	7.64	5	16	1.50	14.75	2.89	17.64	23.11	2075	0.92	83	3.18	16
17	5	19	15.75	5	18	1.38	4.92	2.91	7.83	5	18	1.38	13.92	2.91	16.83	25.88	2223	1.04	89	3.45	17
18	5	17	16.75	6	16	1.50	5.92	3.20	9.12	6	16	1.50	14.92	3.20	18.12	27.87	2730	1.11	109	3.49	18
19	5	19	17.75	6	18	1.38	6.33	3.31	9.64	6	18	1.38	15.33	3.31	18.64	29.62	3010	1.18	120	3.74	19
20	6	17	18.75	7	16	1.50	6.33	3.51	9.84	7	16	1.50	16.33	3.51	19.84	31.57	3483	1.26	139	3.87	20
21	6	17	19.50	7	16	1.50	7.17	3.62	10.79	7	16	1.50	11.17	3.62	14.79	35.34	3585	1.41	143	4.16	21
22	6	17	20.50	8	16	1.50	8.17	3.90	12.07	8	16	1.50	12.17	3.90	16.07	37.46	4293	1.50	172	4.24	22
23	6	17	21.50	8	16	1.50	8.83	3.93	12.76	8	16	1.50	13.17	3.93	17.10	39.52	4764	1.58	191	4.49	23
24	6	19	22.50	8	18	1.38	9.83	4.21	14.04	8	18	1.38	14.17	4.21	18.38	41.58	5424	1.66	217	4.62	24
25	6	17	23.50	9	16	1.50	10.50	4.24	14.74	9	16	1.50	17.50	4.24	21.74	43.83	6491	1.75	260	4.82	25
26	6	19	24.25	9	18	1.38	11.34	4.60	15.94	9	18	1.38	18.25	4.60	22.85	48.44	6776	1.94	271	4.94	26
27	6	17	25.25	10	16	1.50	11.75	4.88	16.63	10	16	1.50	18.75	4.88	23.63	51.08	7728	2.04	309	4.94	27
28	7	19	26.25	10	18	1.38	12.25	5.24	17.49	10	18	1.38	19.75	5.24	24.99	53.61	9156	2.14	366	4.95	28
29	8	17	27.25	11	16	1.50	12.75	5.52	18.27	11	16	1.50	20.75	5.52	26.27	56.29	10614	2.25	425	4.96	29
30	8	19	28.25	11	18	1.38	13.00	5.97	18.97	11	18	1.38	21.75	5.97	27.72	58.88	12156	2.36	486	4.94	30



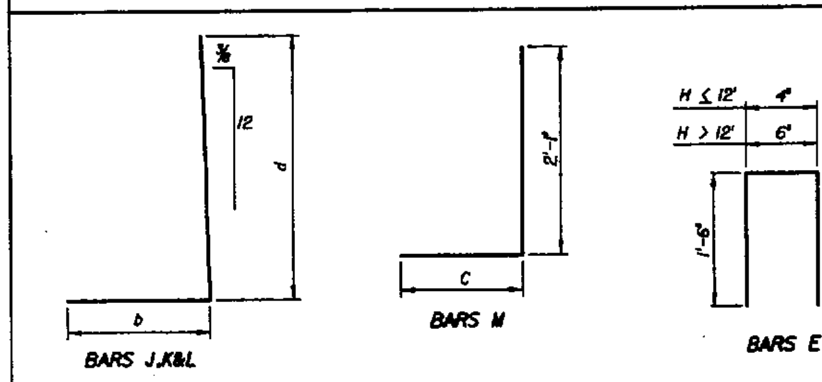
VIEW A-A



TYPICAL SECTION

NOTE:
To accommodate the Variable Height of a wall Unit, vertical Bars may be field cut to fit and the number of horizontal Bars G required by the highest wall dimension within a 25' Unit shall be equally spaced at each end of the Unit.

BENDING DIAGRAM



NOTE: All bar dimensions are out to out.

NOTE:
Bars M & E Paired with Bars F and Bars A Paired with Bars J. Bars E,F and M are No.4 Bars. Bars J are as shown.

Note:
Work this Drawing with Standard Index No. 800.

All Dimensions shown on this Sheet are in Decimals of a Foot, except for Bar Bending Diagrams.

REVISIONS						
Date	By	Description	Date	By	Description	

	Names	Dates
Drawn by	M.J.	3/87
Checked by	M.P.	3/87
Designed by		
Checked by		
Approved by	A.G.M.	

ENGINEER OF RECORD:
STRUCTURES DESIGN OFFICE
605 Suwannee Street, MS 33
Tallahassee, Florida 32399-0450

LOGO:

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.

SHEET TITLE:
CASE I (5.0 KIPS/SQ. FT. MAX. BEARING PRESSURE)
6 FT. TO 30 FT. HEIGHT

PROJECT NAME:

Drawing No.
1 of 1

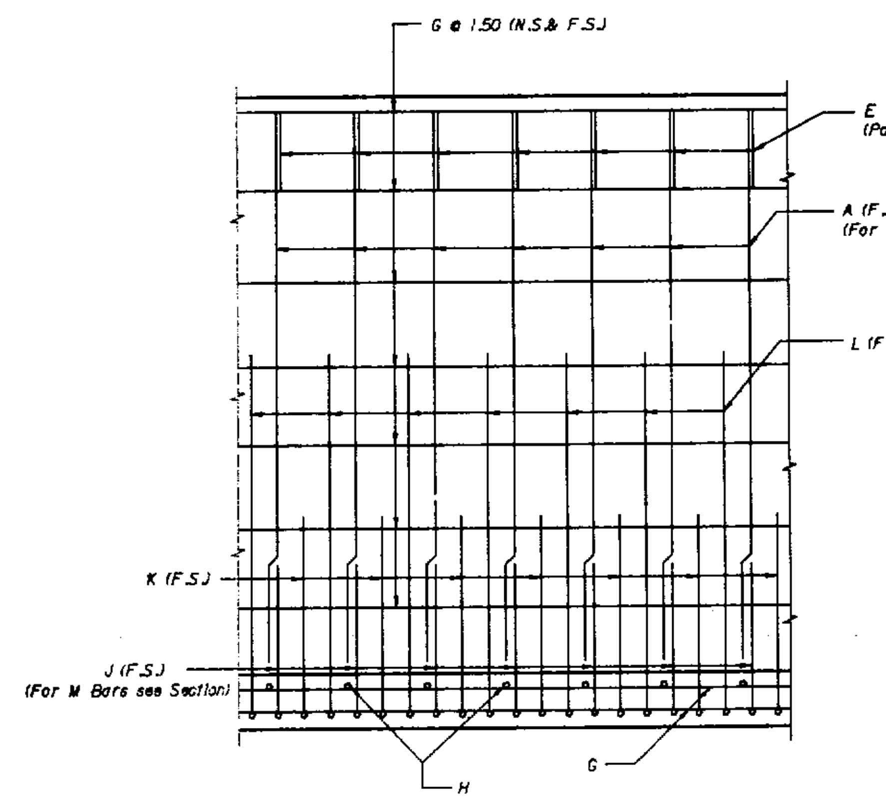
Index No.
804

11-MAY-1989 17:18 ST2£120J5IJCASI5.DGN

FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.			

RETAINING WALL DATA

WALL DIMENSIONS				REINFORCING STEEL SCHEDULE																																				QUANTITIES				ACTUAL MAXIMUM BEARING PRESSURE	
				BARS J						BARS F			BARS G			BARS H				BARS M				BARS A			BARS K						BARS L						CONCRETE / 25' UNIT	STEEL / 25' UNIT	CONCRETE PER LIN.FT.	STEEL PER LIN.FT.		
H	B	D	T	SIZE	NO.	SPACING	a	b	LENGTH	SIZE	NO.	LENGTH	SIZE	NO.	LENGTH	SIZE	NO.	SPACING	LENGTH	SIZE	NO.	c	LENGTH	SIZE	NO.	LENGTH	SIZE	NO.	SPACING	a	b	LENGTH	SIZE	NO.	SPACING	a	b	LENGTH	C.Y.	LBS.	C.Y.	LBS.	KIPS/SQ.FT.	H
6	0.67	0.92	3.05	4	26	1.00	5.58	1.08	6.66	4	18	5.00	4	14	24.50	4	18	1.42	2.55	4	18	1.97	4.05																6.46	524	0.26	21	1.34	6
7	0.83	0.92	3.50	4	26	1.00	6.58	1.28	7.86	4	18	6.00	4	16	24.50	4	18	1.42	3.00	4	18	2.25	4.33																7.73	599	0.31	24	1.52	7
8	1.00	0.92	3.96	4	26	1.00	7.58	1.48	9.06	4	18	7.00	4	18	24.50	4	18	1.42	3.46	4	18	2.54	4.62																9.01	673	0.36	27	1.69	8
9	1.17	0.92	4.50	4	27	0.96	8.58	1.68	10.26	4	18	8.00	4	20	24.50	4	19	1.33	4.00	4	18	2.92	5.00																10.38	759	0.42	30	1.82	9
10	1.25	0.92	4.93	4	28	0.92	9.58	1.79	11.37	4	18	9.00	4	22	24.50	4	26	0.96	4.43	4	18	3.26	5.35																11.69	862	0.47	35	2.04	10
11	1.33	0.92	5.50	4	31	0.83	10.58	1.90	12.48	4	18	10.00	4	24	24.50	4	40	0.63	5.00	4	18	3.75	5.83																13.14	1015	0.53	41	2.20	11
12	1.50	1.00	5.93	4	38	0.67	11.58	2.10	13.68	4	18	10.92	4	26	24.50	4	39	0.67	5.43	4	18	4.01	6.10																14.88	1159	0.60	46	2.39	12
13	1.58	1.00	6.28	4	38	0.67	12.58	2.38	14.96	4	18	11.92	4	28	24.50	4	46	0.54	5.78	4	18	4.28	6.36																18.08	1277	0.72	51	2.67	13
14	1.75	1.00	6.80	4	51	0.50	13.58	2.58	16.16	4	18	12.92	4	28	24.50	4	56	0.46	6.30	4	18	4.64	6.72																19.78	1523	0.79	61	2.80	14
15	1.83	1.00	7.36	5	19	1.33	2.83	2.69	5.52	4	18	13.92	4	32	24.50	5	50	0.50	6.86	4	18	5.11	7.19	5	19	13.92	5	18	1.33	10.75	2.69	13.44							21.53	1823	0.86	73	2.96	15
16	2.00	1.00	7.69	5	17	1.50	2.83	2.89	5.72	4	18	14.92	4	34	24.50	6	39	0.63	7.19	4	18	5.28	7.36	5	17	14.92	5	16	1.50	4.75	2.89	7.64	5	16	1.50	14.75	2.89	17.64	23.11	2075	0.92	83	3.18	16
17	2.00	1.17	8.16	5	19	1.38	3.00	2.91	5.91	4	18	15.75	4	34	24.50	6	39	0.63	7.66	4	18	5.74	7.83	5	19	15.75	5	18	1.38	4.92	2.91	7.83	5	18	1.38	13.92	2.91	16.83	25.88	2223	1.04	89	3.45	17
18	2.25	1.17	8.78	6	17	1.50	4.33	3.20	7.53	4	18	16.75	4	38	24.50	6	50	0.50	8.28	4	18	6.11	8.20	5	17	16.75	6	16	1.50	5.92	3.20	9.12	5	16	1.50	14.92	3.20	18.12	27.87	2730	1.11	109	3.49	18
19	2.33	1.17	9.15	6	19	1.38	3.42	3.31	6.73	4	18	17.75	4	40	24.50	7	39	0.63	8.65	4	18	6.40	8.49	5	19	17.75	6	18	1.38	6.33	3.31	9.64	6	18	1.38	15.33	3.31	18.64	29.62	3010	1.18	120	3.74	19
20	2.50	1.17	9.68	7	17	1.50	3.42	3.51	6.93	4	18	18.75	4	42	24.50	7	39	0.63	9.18	4	18	6.76	8.84	6	17	18.75	7	16	1.50	6.33	3.51	9.84	7	16	1.50	16.33	3.51	19.84	31.57	3483	1.26	139	3.87	20
21	2.58	1.42	10.04	7	17	1.50	5.17	3.62	8.79	4	18	19.50	4	44	24.50	7	43	0.58	9.54	4	18	7.04	9.12	6	17	19.50	7	16	1.50	7.17	3.62	10.79	7	16	1.50	11.17	3.62	14.79	35.34	3585	1.41	143	4.16	21
22	2.83	1.42	10.56	8	17	1.50	4.58	3.90	8.48	4	18	20.50	4	46	24.50	7	50	0.50	10.06	4	18	7.31	9.40	6	17	20.50	8	16	1.50	8.17	3.90	12.07	8	16	1.50	12.17	3.90	16.07	37.46	4293	1.50	172	4.24	22
23	2.83	1.42	11.02	8	17	1.50	5.83	3.93	9.76	4	18	21.50	4	48	24.50	8	46	0.54	10.52	4	18	7.77	9.86	6	17	21.50	8	16	1.50	8.83	3.93	12.76	8	16	1.50	13.17	3.93	17.10	39.52	4764	1.58	191	4.49	23
24	3.08	1.42	11.46	8	19	1.38	5.83	4.21	10.04	4	18	22.50	4	50	24.50	8	50	0.50	10.96	4	18	7.96	10.04	6	19	22.50	8	18	1.38	9.83	4.21	14.04	8	18	1.38	14.17	4.21	18.38	41.58	5424	1.66	217	4.62	24
25	3.08	1.42	12.02	9	17	1.50	6.92	4.24	11.16	4	18	23.50	4	52	24.50	9	50	0.50	11.52	4	18	8.52	10.61	6	17	23.50	9	16	1.50	10.50	4.24	14.74	9	16	1.50	17.50	4.24	21.74	43.83	6491	1.75	260	4.82	25
26	3.42	1.67	12.45	9	19	1.38	7.42	4.60	12.02	4	18	24.25	4	54	24.50	9	39	0.63	11.95	4	18	8.62	10.70	6	19	24.25	9	18	1.38	11.34	4.60	15.94	9	18	1.38	18.25	4.60	22.85	48.44	6776	1.94	271	4.94	26
27	3.58	1.67	12.89	10	17	1.50	7.92	4.80	12.72	4	18	25.25	4	56	24.50	9	46	0.54	12.39	4	18	8.89	10.97	6	17	25.25	10	16	1.50	11.75	4.80	16.55	10	16	1.50	18.75	4.80	23.55	50.68	7668	2.03	307	5.11	27
28	3.83	1.67	13.42	10	19	1.38	8.42	5.08	13.50	4	18	26.25	4	60	24.50	9	50	0.50	12.92	4	18	9.17	11.25	7	19	26.25	10	18	1.38	12.25	5.08	17.33	11	18	1.38	20.25	5.08	25.83	53.09	9607	2.12	384	5.19	28
29	4.08	1.67	13.77	11	17	1.50	8.92	5.36	14.28	4	18	27.25	4	62	24.50	10	46	0.54	13.27	4	18	9.27	11.35	8	17	27.25	11	16	1.50	12.75	5.36	18.11	11	16	1.50	20.75	5.36	26.11	55.27	10433	2.21	417	5.36	29
30	4.42	1.67	14.48	11	19	1.38	9.42	5.72	15.14	4	18	28.25	4	64	24.50	10	50	0.50	13.98	4	18	9.65	11.73	8	19	28.25	11	18	1.38	13.00	5.72	18.72	11	18	1.38	21.75	5.72	27.47	58.01	11957	2.32	478	5.31	30



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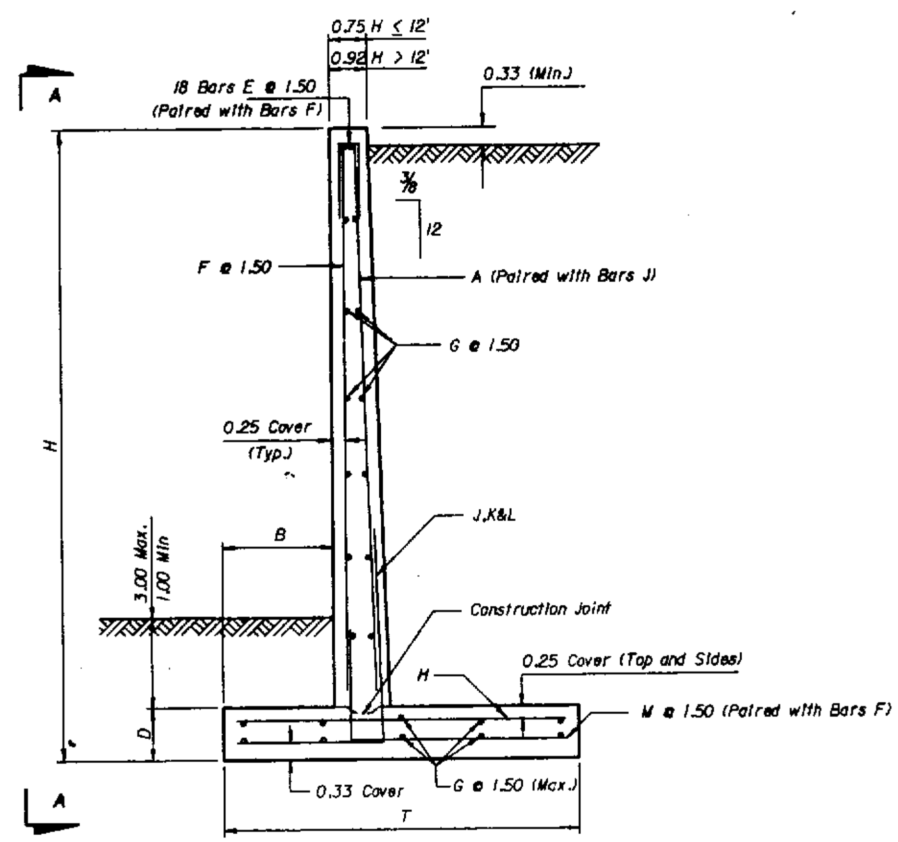
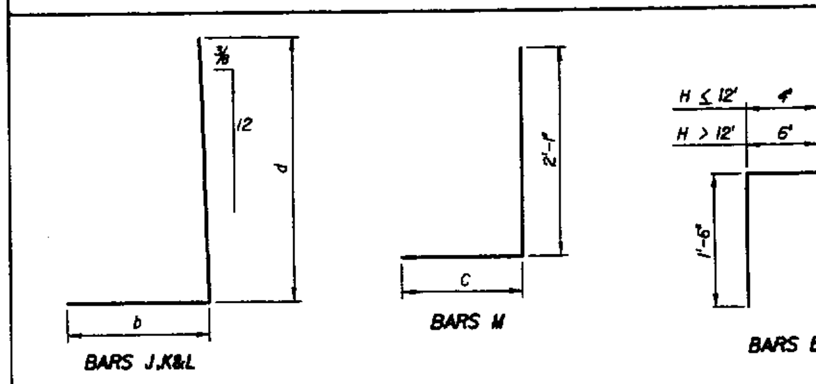


TYPICAL SECTION

NOTE:
To accommodate the Variable Height of a wall Unit, vertical Bars may be field cut to fit and the number of horizontal Bars G required by the highest wall dimension within a 25' Unit shall be equally spaced at each end of the Unit.

BENDING DIAGRAM



NOTE: All bar dimensions are out to out.

NOTE:
Bars M & E Paired with Bars F and Bars A Paired with Bars J. Bars E,F and M are No.4 Bars. Bars J are as shown.

Note:
Work this Drawing with Standard Index No. 800.

All Dimensions shown on this Sheet are in Decimals of a Foot, except for Bar Bending Diagrams.

REVISIONS							Names	Dates
Date	By	Description	Date	By	Description	Drawn by	M.J.	3/87
						Checked by	M.P.	3/87
						Designed by		
						Checked by		
						Approved by	A.G.M.	

ENGINEER OF RECORD:
STRUCTURES DESIGN OFFICE
605 Suwannee Street, MS 33
Tallahassee, Florida 32399-0450

LOGO:

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.

SHEET TITLE:
CASE I (6.0 KIPS/SQ.FT. MAX. BEARING PRESSURE)
6 FT. TO 30 FT. HEIGHT

PROJECT NAME:

Drawing No.
1 of 1

Index No.
805

11-MAY-1989 17:31   ST2:[120.J51]CASI6.DGN;1

FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.			

RETAINING WALL DATA

REINFORCING STEEL SCHEDULE

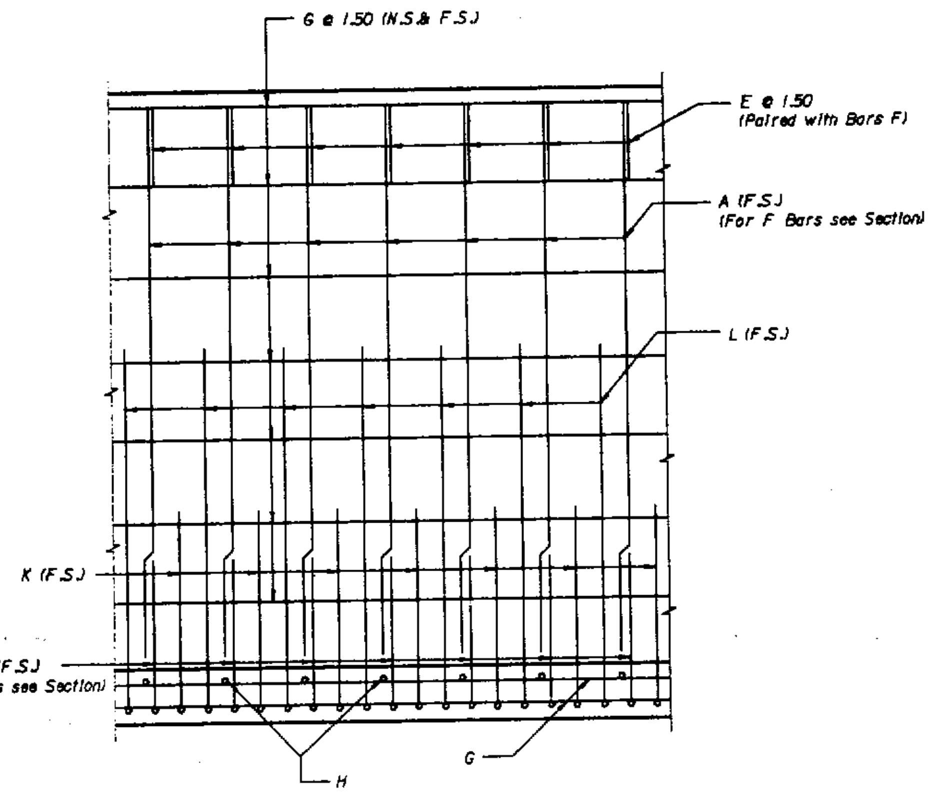
WALL DIMENSIONS				BARS J						BARS F			BARS G		
H	B	D	T	SIZE	NO.	SPACING	a	b	LENGTH	SIZE	NO.	LENGTH	SIZE	NO.	LENGTH
6	1.08	0.92	4.25	4	26	1.00	5.58	1.50	7.08	4	18	5.00	4	14	24.50
7	1.17	0.92	4.83	4	26	1.00	6.58	1.61	8.19	4	18	6.00	4	16	24.50
8	1.33	0.92	5.23	4	26	1.00	7.58	1.81	9.39	4	18	7.00	4	20	24.50
9	1.58	0.92	5.78	4	31	0.83	8.58	2.09	10.67	4	18	8.00	4	22	24.50
10	1.67	0.92	6.32	4	40	0.63	9.58	2.21	11.79	4	18	9.00	4	24	24.50
11	1.83	0.92	7.19	4	26	1.00	10.58	2.41	12.99	4	18	10.00	4	26	24.50
12	2.17	1.00	8.12	5	21	1.25	11.58	2.77	14.35	4	18	10.91	4	28	24.50
13	2.50	1.00	9.03	5	19	1.33	12.58	3.30	15.88	4	18	11.91	4	30	24.50
14	2.75	1.00	10.09	5	24	1.08	13.58	3.58	17.16	4	18	12.91	4	32	24.50
15	3.00	1.00	11.23	5	28	0.92	3.25	3.86	7.11	4	18	13.91	4	34	24.50
16	3.33	1.00	12.27	6	17	1.50	3.25	4.22	7.47	4	18	14.91	4	36	24.50
17	3.67	1.17	13.65	6	19	1.38	3.42	4.57	7.99	4	18	15.75	4	40	24.50
18	4.00	1.17	14.55	7	17	1.50	4.33	4.95	9.28	4	18	16.75	4	44	24.50
19	4.33	1.17	15.80	7	19	1.38	4.33	5.31	9.64	4	18	17.75	4	46	24.50
20	4.75	1.17	16.91	8	17	1.50	4.33	5.76	10.09	4	18	18.75	4	48	24.50

	BARS H				BARS M				BARS A		
H	SIZE	NO.	SPACING	LENGTH	SIZE	NO.	c	LENGTH	SIZE	NO.	LENGTH
6	4	18	1.42	3.75	4	18	2.75	4.83			
7	4	19	1.33	4.33	4	18	3.24	5.32			
8	4	27	0.96	4.73	4	18	3.48	5.56			
9	4	34	0.75	5.28	4	18	3.78	5.86			
10	4	50	0.50	5.82	4	18	4.23	6.31			
11	5	43	0.58	6.69	4	18	4.94	7.02			
12	5	38	0.67	7.62	4	18	5.53	7.61			
13	5	47	0.50	8.53	4	18	6.11	8.19			
14	6	38	0.67	9.59	4	18	6.92	9.00			
15	6	50	0.50	10.73	4	18	7.81	9.89	5	28	13.91
16	6	59	0.42	11.77	4	18	8.52	10.60	6	17	14.91
17	6	54	0.46	13.15	4	18	9.56	11.64	6	19	15.75
18	8	35	0.71	14.05	4	18	10.13	12.21	6	17	16.75
19	8	40	0.63	15.30	4	18	11.05	13.13	6	19	17.75
20	8	50	0.50	16.41	4	18	11.74	13.82	6	17	18.75

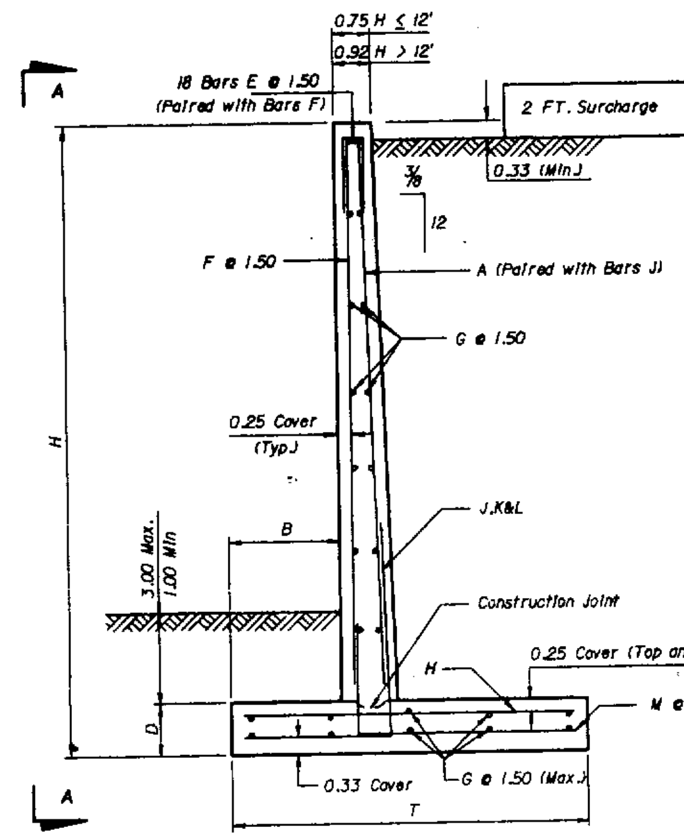
	BARS K						BARS L					
H	SIZE	NO.	SPACING	a	b	LENGTH	SIZE	NO.	SPACING	a	b	LENGTH
6												
7												
8												
9												
10												
11	4	25	1.00	4.58	2.41	6.99						
12	5	20	1.25	2.75	2.77	5.52						
13	5	18	1.33	5.75	3.30	9.05						
14	5	23	1.08	3.75	3.58	7.33						
15	5	27	0.92	4.17	3.86	8.03						
16	6	16	1.50	3.17	4.22	7.39	6	16	1.50	6.17	4.22	10.39
17	6	18	1.38	3.33	4.57	7.90	6	18	1.38	6.33	4.57	10.90
18	7	16	1.50	3.33	4.95	8.28	7	16	1.50	7.33	4.95	12.28
19	7	18	1.38	4.92	5.31	10.23	7	18	1.38	8.92	5.31	14.23
20	8	16	1.50	4.92	5.76	10.68	8	16	1.50	9.92	5.76	15.68

QUANTITIES				ACTUAL MAXIMUM BEARING PRESSURE	
CONCRETE / 25' UNIT	STEEL / 25' UNIT	CONCRETE PER LIN.FT.	STEEL PER LIN.FT.		H
C.Y.	LBS.	C.Y.	LBS.	KIPS/SQ.FT.	
7.51	555	0.30	22	1.31	6
8.86	635	0.35	25	1.48	7
10.08	767	0.40	31	1.68	8
11.46	908	0.46	36	1.79	9
12.86	1126	0.51	46	1.96	10
14.57	1313	0.58	53	1.99	11
16.90	1452	0.68	58	1.99	12
20.63	1677	0.83	67	1.99	13
22.82	1982	0.91	79	1.98	14
25.12	2531	1.00	101	1.98	15
27.35	2979	1.09	119	1.98	16
31.81	3278	1.27	131	1.97	17
34.10	3946	1.36	158	2.00	18
36.81	4581	1.47	183	1.99	19
39.38	5473	1.58	219	1.99	20

NOTE: Case II design makes no provision for an attached Traffic Barrier. If a Barrier is to be attached, a custom design of the wall is required.



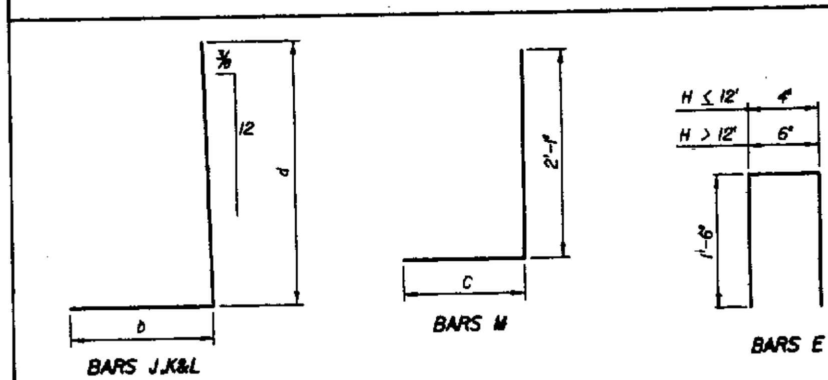
VIEW A-A



TYPICAL SECTION

NOTE: To accommodate the Variable Height of a wall Unit, vertical Bars may be field cut to fit and the number of horizontal Bars G required by the highest wall dimension within a 25' Unit shall be equally spaced at each end of the Unit.

BENDING DIAGRAM



NOTE: All bar dimensions are out to out.

NOTE: Bars M & E Paired with Bars F and Bars A Paired with Bars J. Bars E,F and M are No.4 Bars. Bars J are as shown.

Note: Work this Drawing with Standard Index No. 800.

All Dimensions shown on this Sheet are in Decimals of a Foot, except for Bar Bending Diagrams.

REVISIONS					
Date	By	Description	Date	By	Description

	Names	Dates
Drawn by	M.J.	3/87
Checked by	M.P.	3/87
Designed by		
Checked by		
Approved by	A.G.M.	

ENGINEER OF RECORD: STRUCTURES DESIGN OFFICE, 605 Suwannee Street, MS 33, Tallahassee, Florida 32399-0450

LOGO:

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO. | COUNTY | PROJECT NO.

SHEET TITLE: CASE II (2.0 KIPS/SQ.FT. MAX. BEARING PRESSURE) 6 FT. TO 20 FT. HEIGHT

PROJECT NAME:

Drawing No. 1 of 1

Index No. 806

11-MAY-1989 17:44 ST2&I20J5IJCAS22.DGN

FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.			

RETAINING WALL DATA

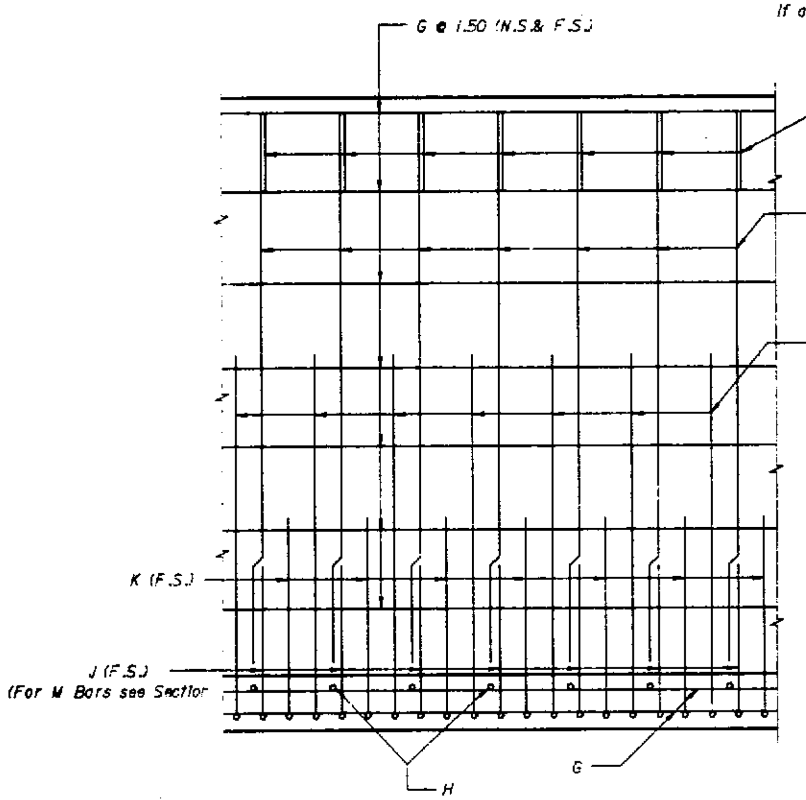
WALL DIMENSIONS / REINFORCING STEEL SCHEDULE

H	B	D	T	BARS J SIZE	BARS J NO.	BARS J SPACING	BARS J a	BARS J b	BARS J LENGTH	BARS F SIZE	BARS F NO.	BARS F LENGTH	BARS G SIZE	BARS G NO.	BARS G LENGTH	BARS H SIZE	BARS H NO.	BARS H SPACING	BARS H LENGTH	BARS M SIZE	BARS M NO.	BARS M c	BARS M LENGTH
6	1.08	0.92	4.25	4	26	1.00	5.58	1.50	7.08	4	18	5.00	4	14	24.50	4	18	1.42	3.75	4	18	2.75	4.83
7	1.17	0.92	4.83	4	26	1.00	6.58	1.61	8.19	4	18	6.00	4	18	24.50	4	19	1.33	4.33	4	18	3.25	5.33
8	1.33	0.92	5.23	4	26	1.00	7.58	1.81	9.39	4	18	7.00	4	20	24.50	4	26	0.96	4.73	4	18	3.48	5.56
9	1.58	0.92	5.78	4	31	0.83	8.58	2.09	10.67	4	18	8.00	4	22	24.50	4	33	0.75	5.28	4	18	3.78	5.86
10	1.58	0.92	6.23	4	40	0.63	9.58	2.12	11.70	4	18	9.00	4	24	24.50	4	50	0.50	5.73	4	18	4.23	6.31
11	1.67	0.92	6.62	4	26	1.00	10.58	2.24	12.82	4	18	10.00	4	24	24.50	5	43	0.58	6.12	4	18	4.53	6.61
12	1.92	1.00	7.11	5	21	1.25	11.58	2.51	14.09	4	18	10.91	4	25	24.50	5	37	0.67	6.61	4	18	4.77	6.85
13	2.00	1.00	7.61	5	19	1.33	12.58	2.79	15.37	4	18	11.91	4	30	24.50	5	46	0.54	7.11	4	18	5.19	7.27
14	2.08	1.00	8.09	5	24	1.08	13.58	2.91	16.49	4	18	12.91	4	30	24.50	6	43	0.58	7.59	4	18	5.59	7.67
15	2.25	1.00	8.55	5	28	0.92	3.25	3.11	6.36	4	18	13.91	4	32	24.50	6	50	0.50	8.05	4	18	5.88	7.96
16	2.50	1.00	9.34	6	17	1.50	3.25	3.39	6.64	4	18	14.92	4	34	24.50	7	46	0.54	8.84	4	18	6.42	8.50
17	2.67	1.17	10.24	6	19	1.38	3.42	3.58	7.00	4	18	15.75	4	36	24.50	7	43	0.58	9.74	4	18	7.15	9.23
18	3.00	1.17	11.06	7	17	1.50	4.33	3.95	8.28	4	18	16.75	4	40	24.50	7	50	0.50	10.56	4	18	7.64	9.72
19	3.25	1.17	12.01	7	19	1.38	4.33	4.23	8.56	4	18	17.75	4	44	24.50	8	46	0.54	11.51	4	18	8.34	10.42
20	3.50	1.17	12.78	8	17	1.00	4.33	4.51	8.84	4	18	18.75	4	44	24.50	8	54	0.46	12.28	4	18	8.86	10.94
21	3.75	1.42	13.92	8	17	1.50	5.67	4.78	10.45	4	18	19.50	4	48	24.50	8	46	0.54	13.42	4	18	9.75	11.83
22	4.08	1.42	14.84	9	17	1.50	5.67	5.15	10.82	4	18	20.50	4	48	24.50	8	50	0.50	14.34	4	18	10.34	12.42
23	4.33	1.42	15.86	9	17	1.50	6.92	5.43	12.35	4	18	21.50	4	52	24.50	9	46	0.54	15.36	4	18	11.11	13.19
24	4.67	1.42	16.84	9	21	1.25	6.92	5.76	12.68	4	18	22.50	4	56	24.50	9	54	0.46	16.34	4	18	11.75	13.83
25	4.92	1.42	18.04	10	17	1.50	8.50	6.07	14.57	4	18	23.50	4	58	24.50	10	50	0.50	17.54	4	18	12.70	14.78
26	5.42	1.67	18.81	10	19	1.38	9.00	6.60	15.60	4	18	24.25	4	60	24.50	10	40	0.63	18.31	4	18	12.97	15.05
27	5.75	1.67	19.70	11	17	1.50	9.50	6.96	16.45	4	18	25.25	4	62	24.50	10	46	0.54	19.20	4	18	13.53	15.61
28	6.17	1.67	20.57	11	19	1.38	10.00	7.41	17.41	4	18	26.25	4	64	24.50	10	50	0.50	20.07	4	18	13.98	16.06
29	6.58	1.67	21.44	11	20	1.32	10.50	7.86	18.36	4	18	27.25	4	68	24.50	10	54	0.46	20.94	4	18	14.44	16.52
30	7.08	1.67	22.03	11	22	1.19	11.00	8.39	19.39	4	18	28.25	4	70	24.50	11	50	0.50	21.53	4	18	14.53	16.61

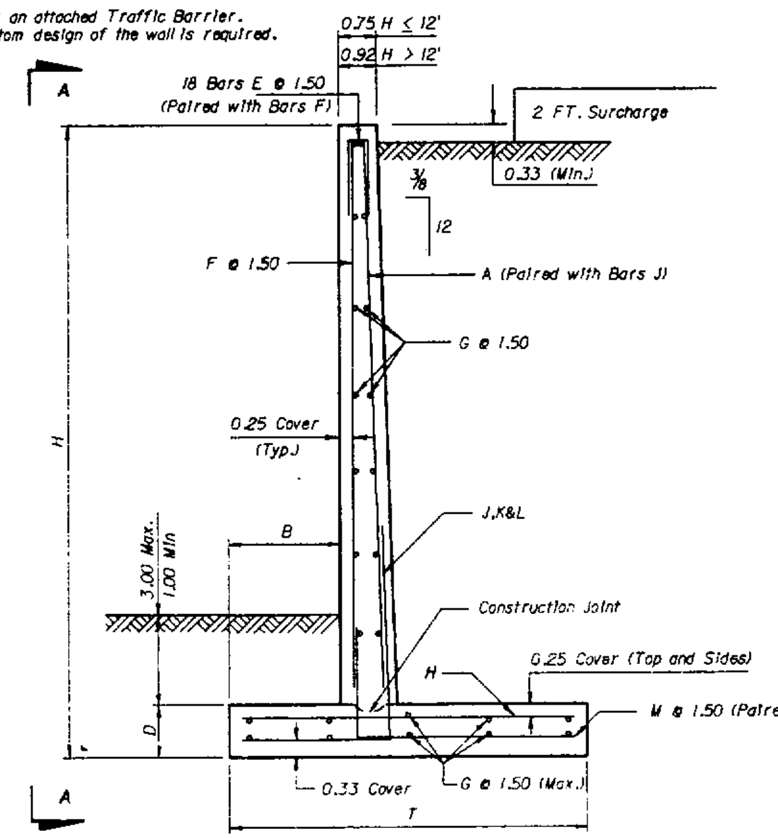
REINFORCING STEEL SCHEDULE (continued) / QUANTITIES

H	BARS A SIZE	BARS A NO.	BARS A LENGTH	BARS K SIZE	BARS K NO.	BARS K SPACING	BARS K a	BARS K b	BARS K LENGTH	BARS L SIZE	BARS L NO.	BARS L SPACING	BARS L a	BARS L b	BARS L LENGTH	CONCRETE / 25' UNIT C.Y.	STEEL / 25' UNIT LBS.	CONCRETE PER LIN.FT. C.Y.	STEEL PER LIN.FT. LBS.	ACTUAL MAXIMUM BEARING PRESSURE KIPS/SQ.FT.	H
6																7.51	555	0.30	22	1.31	6
7																8.86	635	0.35	25	1.48	7
8																10.08	767	0.40	31	1.68	8
9																11.46	908	0.46	36	1.79	9
10																12.79	1121	0.51	45	2.02	10
11				4	25	1.00	4.58	2.24	6.82							14.09	1244	0.56	50	2.26	11
12				5	20	1.25	2.75	2.51	5.26							15.97	1355	0.64	54	2.41	12
13				5	18	1.33	5.75	2.79	8.54							19.32	1570	0.77	63	2.60	13
14				5	23	1.08	3.75	2.91	6.66							20.97	1843	0.84	74	2.80	14
15	5	28	13.91	5	27	0.92	4.17	3.11	7.28							22.63	2270	0.91	89	2.97	15
16	6	17	14.92	6	16	1.50	3.17	3.39	6.56	6	16	1.50	6.17	3.39	9.56	24.63	2649	0.99	106	2.97	16
17	6	19	15.75	6	18	1.38	3.33	3.58	6.91	6	18	1.38	6.33	3.58	9.91	28.12	2892	1.12	116	3.00	17
18	6	17	16.75	7	16	1.50	3.33	3.95	7.28	7	16	1.50	7.33	3.95	11.28	30.34	3417	1.21	137	2.97	18
19	6	19	17.75	7	18	1.38	4.92	4.23	9.15	7	18	1.38	8.92	4.23	13.15	32.71	4174	1.31	167	2.96	19
20	6	17	18.75	8	16	1.50	4.92	4.51	9.43	8	16	1.50	9.92	4.51	14.43	34.93	4789	1.40	192	3.00	20
21	6	17	19.50	8	16	1.50	6.83	4.78	11.61	8	16	1.50	11.83	4.78	16.61	40.43	5030	1.62	201	2.99	21
22	7	17	20.50	9	16	1.50	5.58	5.15	10.73	9	16	1.50	10.83	5.15	15.98	43.07	5904	1.72	236	2.98	22
23	7	17	21.50	9	16	1.50	7.50	5.43	12.93	9	16	1.50	13.50	5.43	18.93	45.86	6906	1.83	276	2.99	23
24	7	21	22.50	9	20	1.25	7.58	5.76	13.26	9	20	1.25	13.50	5.76	19.26	48.63	8478	1.95	339	2.98	24
25	7	17	23.50	10	16	1.50	9.42	6.07	15.49	10	16	1.50	15.50	6.07	21.57	51.72	9659	2.07	386	2.97	25
26	7	19	24.25	10	18	1.38	9.42	6.60	16.02	10	18	1.38	17.50	6.60	26.10	58.24	9818	2.33	393	2.98	26
27	8	17	25.25	11	16	1.50	10.00	6.96	19.96	11	16	1.50	18.00	6.96	24.96	61.19	11545	2.45	462	2.99	27
28	8	19	26.25	11	18	1.38	10.00	7.41	17.41	11	18	1.38	18.00	7.41	25.41	64.13	13100	2.57	524	2.99	28
29	8	21	27.25	11	19	1.32	11.50	7.86	19.36	11	19	1.32	19.50	7.86	27.36	67.10	14699	2.68	587	2.98	29
30	8	22	28.25	11	21	1.19	11.50	8.39	19.89	11	21	1.19	19.50	8.39	28.39	69.66	16759	2.79	670	2.98	30

NOTE: Case II design makes no provision for an attached Traffic Barrier. If a Barrier is to be attached, a custom design of the wall is required.



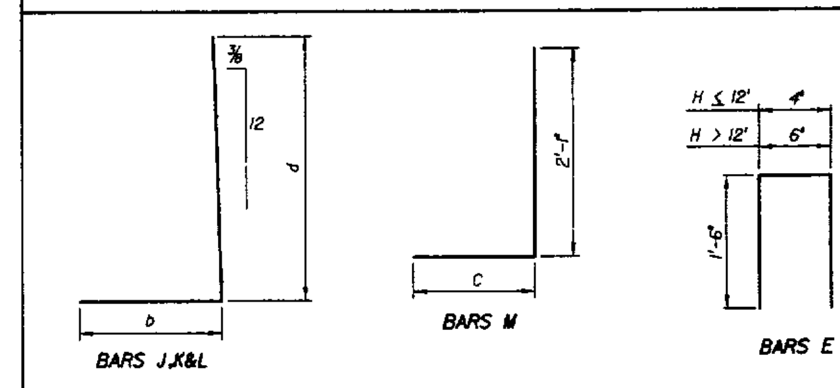
VIEW A-A



TYPICAL SECTION

NOTE:
To accommodate the Variable Height of a wall Unit, vertical Bars may be field cut to fit and the number of horizontal Bars G required by the highest wall dimension within a 25' Unit shall be equally spaced at each end of the Unit.

BENDING DIAGRAM



NOTE: All bar dimensions are out to out.

NOTE:
Bars M & E Paired with Bars F and Bars A Paired with Bars J. Bars E,F and M are No.4 Bars. Bars J are as shown.

Note:
Work this Drawing with Standard Index No. 800.

All Dimensions shown on this Sheet are in Decimals of a Foot, except for Bar Bending Diagrams.

REVISIONS					
Date	By	Description	Date	By	Description

	Names	Dates
Drawn by	M.J.	3/87
Checked by	M.P.	3/87
Designed by		
Checked by		
Approved by	A.G.M.	

ENGINEER OF RECORD:
STRUCTURES DESIGN OFFICE
605 Suwannee Street, MS 33
Tallahassee, Florida 32399-0450

LOGO:

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.

SHEET TITLE:
CASE II (3.0 KIPS/SQ. FT. MAX. BEARING PRESSURE)
6 FT. TO 30 FT. HEIGHT

PROJECT NAME:

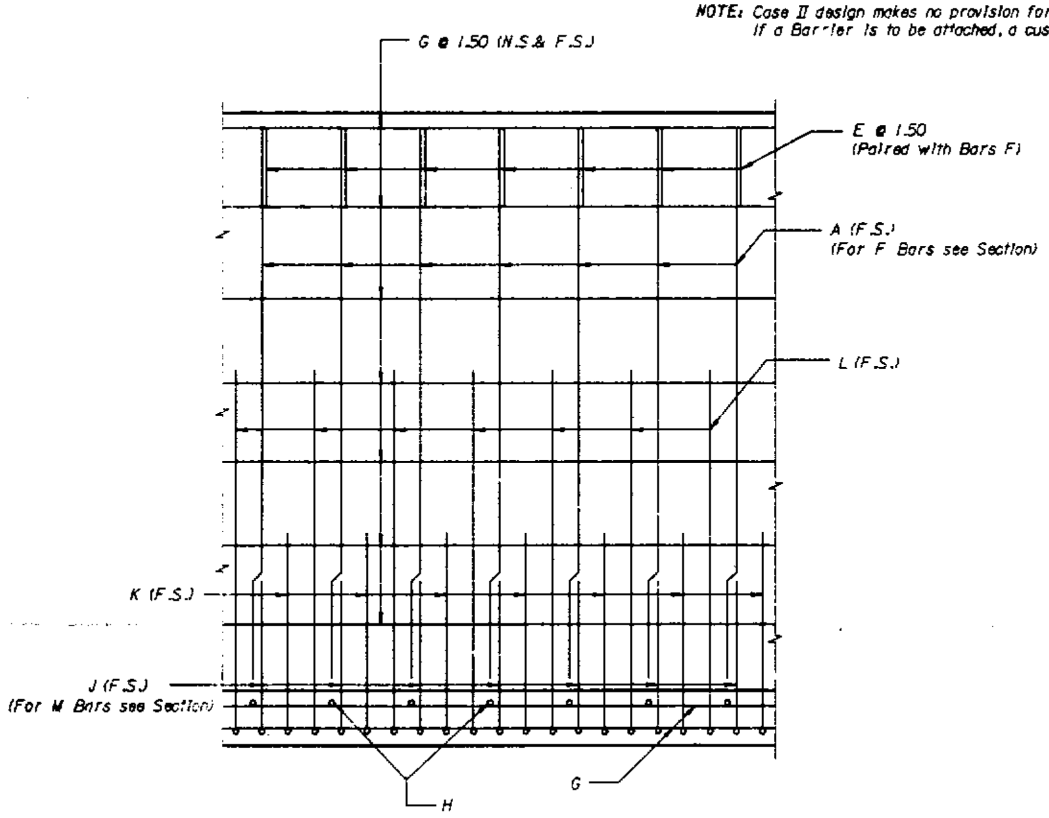
Drawing No. 1 of 1

Index No. 807

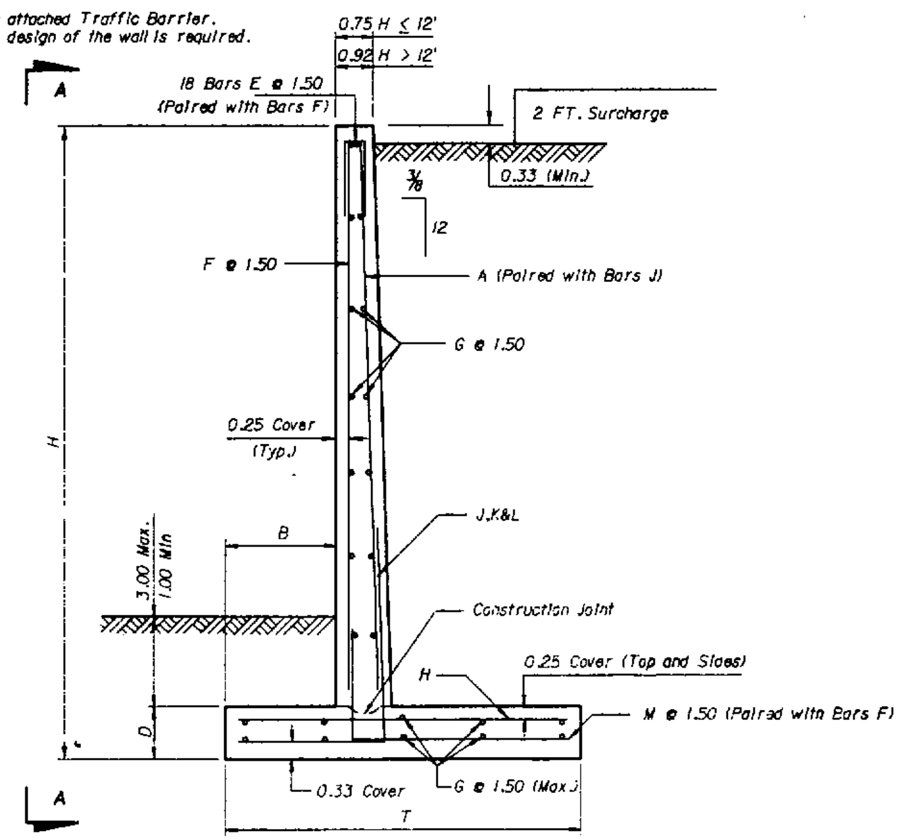
RETAINING WALL DATA

WALL DIMENSIONS				REINFORCING STEEL SCHEDULE																																				QUANTITIES				ACTUAL MAXIMUM BEARING PRESSURE	H
H	B	D	T	BARS J						BARS F			BARS G			BARS H				BARS M				BARS A			BARS K						BARS L						CONCRETE / 25' UNIT	STEEL / 25' UNIT	CONCRETE PER LIN.FT.	STEEL PER LIN.FT.		
				SIZE	NO.	SPACING	a	b	LENGTH	SIZE	NO.	LENGTH	SIZE	NO.	LENGTH	SIZE	NO.	SPACING	LENGTH	SIZE	NO.	c	LENGTH	SIZE	NO.	LENGTH	SIZE	NO.	SPACING	a	b	LENGTH	SIZE	NO.	SPACING	a	b	LENGTH	C.Y.	LBS.	C.Y.	LBS.	KIPS/SQ.FT.	
6	1.08	0.92	4.25	4	26	1.00	5.58	1.50	7.08	4	18	5.00	4	14	24.50	4	18	1.42	3.75	4	18	2.75	4.83																7.51	555	0.30	22	1.31	6
7	1.17	0.92	4.83	4	26	1.00	6.58	1.61	8.19	4	18	6.00	4	16	24.50	4	19	1.33	4.33	4	18	3.24	5.32																8.86	635	0.35	25	1.48	7
8	1.33	0.92	5.23	4	26	1.00	7.58	1.81	9.39	4	18	7.00	4	20	24.50	4	27	0.96	4.73	4	18	3.48	5.56																10.08	767	0.40	31	1.68	8
9	1.58	0.92	5.78	4	31	0.83	8.58	2.09	10.67	4	18	8.00	4	22	24.50	4	34	0.75	5.28	4	18	3.78	5.86																11.46	908	0.46	36	1.79	9
10	1.58	0.92	6.23	4	40	0.63	9.58	2.12	11.70	4	18	9.00	4	24	24.50	4	50	0.50	5.73	4	18	4.23	6.31																12.79	1121	0.51	45	2.02	10
11	1.67	0.92	6.62	4	26	1.00	10.58	2.24	12.82	4	18	10.00	4	24	24.50	5	43	0.58	6.12	4	18	4.53	6.61				4	25	1.00	4.58	2.24	6.82							14.09	1244	0.56	50	2.26	11
12	1.92	1.00	7.11	5	21	1.25	11.58	2.51	14.09	4	18	10.92	4	26	24.50	5	37	0.67	6.61	4	18	4.77	6.85				5	20	1.25	2.75	2.51	5.26							15.97	1355	0.64	54	2.41	12
13	2.00	1.00	7.61	5	19	1.33	12.58	2.79	15.37	4	18	11.92	4	28	24.50	5	46	0.54	7.11	4	18	5.19	7.27				5	18	1.33	5.75	2.79	8.54							19.32	1537	0.77	61	2.60	13
14	2.08	1.00	8.09	5	24	1.08	13.58	2.91	16.49	4	18	12.92	4	30	24.50	6	43	0.58	7.59	4	18	5.59	7.67				5	23	1.08	3.75	2.91	6.66							20.97	1843	0.84	74	2.80	14
15	2.25	1.00	8.55	5	28	0.92	3.25	3.10	6.35	4	18	13.92	4	32	24.50	6	50	0.50	8.05	4	18	5.88	7.96	5	28	13.92	5	27	0.92	4.17	3.10	7.27							22.63	2230	0.91	89	2.97	15
16	2.42	1.00	9.07	6	17	1.50	3.25	3.31	6.56	4	18	14.92	4	34	24.50	7	46	0.54	8.57	4	18	6.23	8.31	6	17	14.92	6	16	1.50	3.17	3.31	6.48	6	16	1.50	6.17	3.31	9.48	24.38	2616	0.98	105	3.12	16
17	2.42	1.17	9.58	6	19	1.38	3.42	3.33	6.75	4	18	15.75	4	36	24.50	7	43	0.58	9.08	4	18	6.74	8.82	6	19	15.75	6	18	1.38	3.33	3.33	6.66	6	18	1.38	6.33	3.33	9.66	27.42	2808	1.10	112	3.35	17
18	2.67	1.17	9.96	7	17	1.50	4.33	3.61	7.94	4	18	16.75	4	38	24.50	7	50	0.50	9.46	4	18	6.87	8.95	6	17	16.75	7	16	1.50	3.33	3.61	6.94	7	16	1.50	7.33	3.61	10.94	29.15	3228	1.17	129	3.52	18
19	2.75	1.17	10.54	7	19	1.38	4.33	3.73	8.06	4	18	17.75	4	42	24.50	8	46	0.54	10.04	4	18	7.37	9.45	6	19	17.75	7	18	1.38	4.92	3.73	8.65	7	18	1.38	8.92	3.73	12.65	31.12	3893	1.24	156	3.67	19
20	2.92	1.17	11.05	8	17	1.50	4.33	3.93	8.28	4	18	18.75	4	42	24.50	8	54	0.46	10.55	4	18	7.71	9.79	6	17	18.75	8	16	1.50	4.92	3.93	8.85	8	16	1.50	9.92	3.93	13.85	33.05	4418	1.32	177	3.82	20
21	3.08	1.42	11.70	8	17	1.50	5.67	4.12	9.79	4	18	19.50	4	44	24.50	8	46	0.54	11.20	4	18	8.20	10.28	6	17	19.50	8	16	1.50	6.83	4.12	10.95	8	16	1.50	11.83	4.12	15.95	37.52	4587	1.50	183	3.93	21
22	3.33	1.42	12.39	9	17	1.50	5.67	4.40	10.07	4	18	20.50	4	46	24.50	8	50	0.50	11.89	4	18	8.64	10.72	7	17	20.50	9	16	1.50	5.58	4.40	9.98	9	16	1.50	10.83	4.40	15.23	39.85	5423	1.59	217	3.97	22
23	3.50	1.42	13.26	9	17	1.50	6.92	4.59	11.51	4	18	21.50	4	48	24.50	9	50	0.50	12.76	4	18	9.34	11.42	7	17	21.50	9	16	1.50	7.50	4.59	12.09	9	16	1.50	13.50	4.59	18.09	42.45	6447	1.70	258	3.98	23
24	3.83	1.42	13.92	9	21	1.25	6.92	4.96	11.88	4	18	22.50	4	50	24.50	9	54	0.46	13.42	4	18	9.67	11.75	7	21	22.50	9	20	1.25	7.50	4.76	12.26	9	20	1.25	13.50	4.79	18.29	44.80	7628	1.79	305	4.00	24
25	4.00	1.42	14.93	10	17	1.50	8.50	5.16	13.66	4	18	23.50	4	52	24.50	10	50	0.50	14.43	4	18	10.51	12.50	7	17	23.50	10	16	1.50	9.42	5.16	14.58	10	16	1.50	15.50	5.16	20.66	47.65	8673	1.91	347	3.98	25
26	4.42	1.67	15.63	10	19	1.38	9.00	5.60	14.60	4	18	24.25	4	54	24.50	9	54	0.46	15.13	4	18	10.79	12.87	7	19	24.25	10	18	1.38	9.42	5.60	15.02	10	18	1.38	15.50	5.60	21.10	53.34	9083	2.13	363	3.99	26
27	4.75	1.67	16.38	11	17	1.50	9.50	5.96	15.46	4	18	25.25	4	56	24.50	10	46	0.54	15.88	4	18	11.21	13.29	8	17	25.25	11	16	1.50	10.00	5.96	15.96	11	16	1.50	18.00	5.96	23.96	56.06	10501	2.24	420	3.99	27
28	5.08	1.67	17.25	11	19	1.38	10.00	6.33	16.33	4	18	26.25	4	58	24.50	10	50	0.50	16.75	4	18	11.75	12.83	8	19	26.25	11	18	1.38	10.00	6.33	16.33	11	18	1.38	18.00	6.33	24.33	59.00	11934	2.36	477	3.97	28
29	5.42	1.67	17.94	11	20	1.32	10.50	6.69	17.19	4	18	27.25	4	62	24.50	11	46	0.54	17.44	4	18	12.10	14.18	8	20	27.25	11	19	1.32	11.50	6.69	18.19	11	19	1.32	19.50	6.69	26.19	61.70	13579	2.47	543	3.99	29
30	5.92	1.67	18.66	11	22	1.19	11.00	7.22	17.22	4	18	28.25	4	62	24.50	11	50	0.50	18.16	4	18	12.32	14.40	8	22	28.25	11	21	1.19	11.50	7.22	18.72	11	21	1.19	19.50	7.22	26.72	64.46	15253	2.58	610	3.95	30

NOTE: Case II design makes no provision for an attached Traffic Barrier. If a Barrier is to be attached, a custom design of the wall is required.



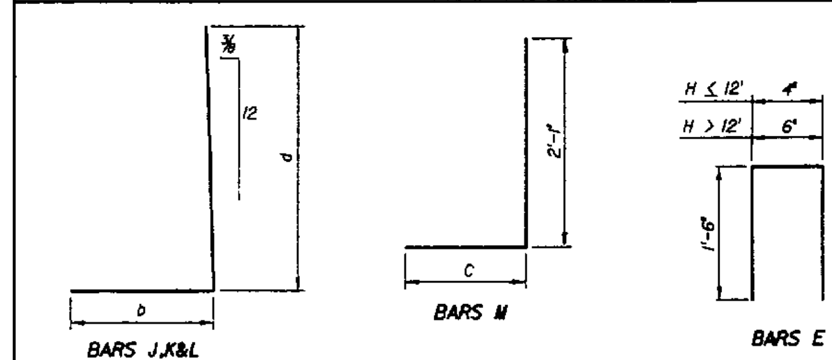
VIEW A-A



TYPICAL SECTION

NOTE:
To accommodate the Variable Height of a wall Unit, vertical Bars may be field cut to fit and the number of horizontal Bars G required by the highest wall dimension within a 25' Unit shall be equally spaced at each end of the Unit.

BENDING DIAGRAM



NOTE: All bar dimensions are out to out.

NOTE:
Bars M & E Paired with Bars F and Bars A Paired with Bars J. Bars E,F and M are No.4 Bars. Bars J are as shown.

Note:
Work this Drawing with Standard Index No. 800.

All Dimensions shown on this Sheet are in Decimals of a Foot, except for Bar Bending Diagrams.

REVISIONS							Names	Dates
Date	By	Description	Date	By	Description	Drawn by	M.J.	3/87
						Checked by	M.P.	3/87
						Designed by		
						Checked by		
						Approved by	A.G.M.	

ENGINEER OF RECORD:
STRUCTURES DESIGN OFFICE
605 Suwannee Street, MS 33
Tallahassee, Florida 32399-0450

LOGO:

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.

SHEET TITLE:
CASE II (4.0 KIPS/SQ. FT. MAX. BEARING PRESSURE)
6 FT. TO 30 FT. HEIGHT

PROJECT NAME:

Drawing No.
1 of 1

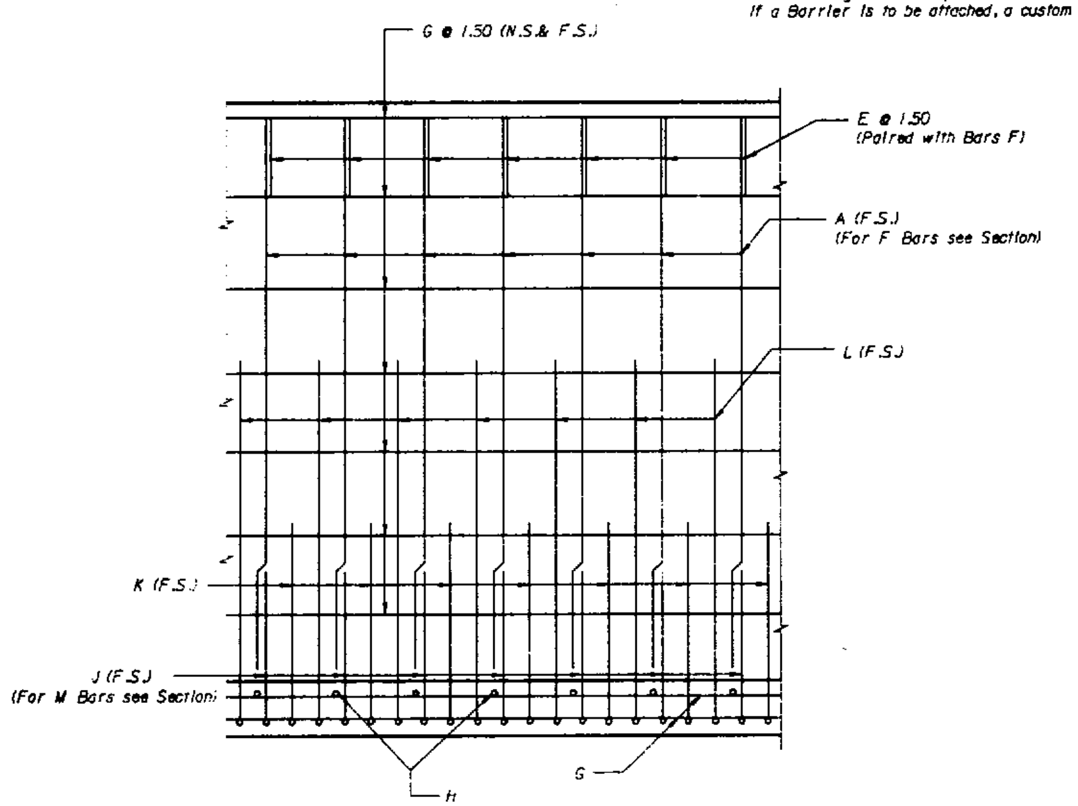
Index No.
808

FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.			

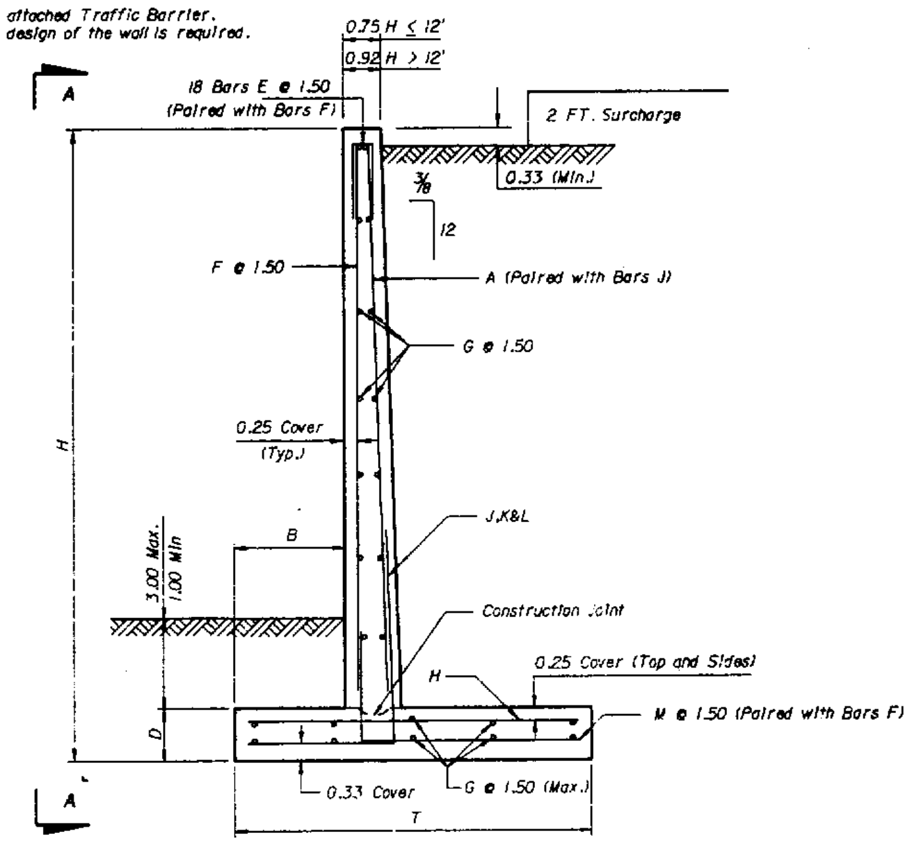
RETAINING WALL DATA

	WALL DIMENSIONS			REINFORCING STEEL SCHEDULE																																				QUANTITIES				ACTUAL MAXIMUM BEARING PRESSURE	
H	B	D	T	BARS J						BARS F			BARS G			BARS H				BARS M				BARS A			BARS K						BARS L						CONCRETE / 25' UNIT	STEEL / 25' UNIT	CONCRETE PER LIN.FT.	STEEL PER LIN.FT.		H
				SIZE	NO.	SPACING	a	b	LENGTH	SIZE	NO.	LENGTH	SIZE	NO.	LENGTH	SIZE	NO.	SPACING	LENGTH	SIZE	NO.	c	LENGTH	SIZE	NO.	LENGTH	SIZE	NO.	SPACING	a	b	LENGTH	SIZE	NO.	SPACING	a	b	LENGTH	C.Y.	LBS.	C.Y.	LBS.	KIPS/SQ.FT.	
6	1.08	0.92	4.25	4	26	1.00	5.58	1.50	7.08	4	18	5.00	4	14	24.50	4	18	1.42	3.75	4	18	2.75	4.83																7.51	555	0.30	22	1.31	6
7	1.17	0.92	4.83	4	26	1.00	6.58	1.61	8.19	4	18	6.00	4	16	24.50	4	19	1.33	4.33	4	18	3.24	5.32																8.86	635	0.35	25	1.48	7
8	1.33	0.92	5.23	4	26	1.00	7.58	1.81	9.39	4	18	7.00	4	20	24.50	4	27	0.96	4.73	4	18	3.48	5.56																10.08	767	0.40	31	1.68	8
9	1.58	0.92	5.78	4	31	0.83	8.58	2.09	10.67	4	18	8.00	4	22	24.50	4	34	0.75	5.28	4	18	3.78	5.86																11.46	908	0.46	36	1.79	9
10	1.58	0.92	6.23	4	40	0.63	9.58	2.12	11.70	4	18	9.00	4	24	24.50	4	50	0.50	5.73	4	18	4.23	6.31																12.79	1121	0.51	45	2.02	10
11	1.67	0.92	6.62	4	26	1.00	10.58	2.24	12.82	4	18	10.00	4	24	24.50	5	43	0.58	6.12	4	18	4.54	6.62				4	25	1.00	4.58	2.24	6.82							14.09	1244	0.56	50	2.26	11
12	1.92	1.00	7.11	5	21	1.25	11.58	2.52	14.10	4	18	10.91	4	26	24.50	5	37	0.67	6.61	4	18	4.77	6.85				5	20	1.25	2.75	2.52	5.27							15.97	1355	0.64	54	2.41	12
13	2.00	1.00	7.61	5	19	1.33	12.58	2.79	15.37	4	18	11.91	4	28	24.50	5	46	0.54	7.11	4	18	5.19	7.27				5	18	1.33	5.75	2.79	8.54							19.32	1537	0.77	61	2.60	13
14	2.08	1.00	8.09	5	24	1.08	13.58	2.90	16.48	4	18	12.91	4	30	24.50	6	43	0.58	7.59	4	18	5.59	7.67				5	23	1.08	3.75	2.90	6.65							20.97	1843	0.84	74	2.80	14
15	2.25	1.00	8.55	5	28	0.92	3.25	3.10	6.35	4	18	13.91	4	32	24.50	6	50	0.50	8.05	4	18	5.88	7.96	5	28	13.92	5	27	0.92	4.17	3.10	7.27							22.63	2230	0.91	89	2.97	15
16	2.42	1.00	9.07	6	17	1.50	3.25	3.30	6.55	4	18	14.91	4	34	24.50	7	46	0.54	8.57	4	18	6.23	8.31	6	17	14.92	6	16	1.50	3.17	3.30	6.47	6	16	1.50	6.17	3.30	9.47	24.38	2615	0.98	105	3.12	16
17	2.42	1.17	9.58	6	19	1.38	3.42	3.33	6.75	4	18	15.75	4	36	24.50	7	43	0.58	9.08	4	18	6.74	8.82	6	19	15.75	6	18	1.38	3.33	3.33	6.66	6	18	1.38	6.33	3.33	9.66	27.42	2808	1.10	112	3.35	17
18	2.67	1.17	9.96	7	17	1.50	4.33	3.61	7.94	4	18	16.75	4	38	24.50	7	50	0.50	9.46	4	18	6.87	8.95	6	17	16.75	7	16	1.50	3.33	3.61	6.94	7	16	1.50	7.33	3.61	10.94	29.15	3228	1.17	129	3.52	18
19	2.75	1.17	10.54	7	19	1.38	4.33	3.73	8.06	4	18	17.75	4	42	24.50	8	46	0.54	10.04	4	18	7.37	9.45	6	19	17.75	7	18	1.38	4.92	3.73	6.65	7	18	1.38	8.92	3.73	12.65	31.12	3819	1.24	153	3.67	19
20	2.92	1.17	11.05	8	17	1.50	4.33	3.93	8.26	4	18	18.75	4	42	24.50	8	54	0.46	10.55	4	18	7.71	9.80	6	17	18.75	8	16	1.50	4.92	3.93	8.85	8	16	1.50	9.92	3.93	13.85	33.05	4417	1.32	177	3.82	20
21	3.00	1.42	11.43	8	17	1.50	5.67	4.04	9.71	4	18	19.50	4	44	24.50	8	46	0.54	10.93	4	18	8.01	10.09	6	17	19.50	8	16	1.50	6.83	4.04	10.87	8	16	1.50	11.83	4.04	15.87	37.16	4541	1.49	182	4.09	21
22	3.17	1.42	11.84	9	17	1.50	5.67	4.23	9.90	4	18	20.50	4	46	24.50	8	50	0.50	11.34	4	18	8.25	10.33	7	17	20.50	9	16	1.50	5.58	4.23	9.81	9	16	1.50	10.83	4.23	15.06	39.14	5317	1.57	213	4.27	22
23	3.25	1.42	12.42	9	17	1.50	6.92	4.34	11.26	4	18	21.50	4	48	24.50	9	50	0.50	11.92	4	18	8.75	10.83	7	17	21.50	9	16	1.50	7.50	4.34	11.84	9	16	1.50	13.50	4.34	17.84	41.35	6255	1.65	250	4.43	23
24	3.50	1.42	12.82	9	21	1.25	6.92	4.62	11.54	4	18	22.50	4	50	24.50	9	54	0.46	12.32	4	18	8.90	10.98	7	21	22.50	9	20	1.25	7.50	4.62	12.12	9	20	1.25	13.50	4.62	18.12	43.37	7371	1.73	295	4.57	24
25	3.50	1.42	13.44	10	17	1.50	8.50	4.66	13.16	4	18	23.50	4	52	24.50	10	50	0.50	12.94	4	18	9.52	11.60	7	17	23.50	10	16	1.50	9.42	4.66	14.08	10	16	1.50	15.50	4.66	20.16	45.69	8236	1.83	329	4.75	25
26	3.83	1.67	13.78	10	19	1.38	9.00	5.02	14.02	4	18	24.25	4	54	24.50	10	43	0.58	13.28	4	18	9.53	11.61	7	19	24.25	10	18	1.38	9.42	5.02	14.44	10	18	1.38	15.50	5.02	20.52	50.48	8610	2.02	344	4.92	26
27	4.08	1.67	14.46	11	17	1.50	9.50	5.29	14.79	4	18	25.25	4	54	24.50	10	46	0.54	13.96	4	18	9.96	12.04	8	17	25.25	11	16	1.50	10.00	5.29	15.29	11	16	1.50	18.00	5.29	23.29	53.10	9899	2.12	396	4.94	27
28	4.42	1.67	15.20	11	19	1.38	10.00	5.66	15.66	4	18	26.25	4	56	24.50	10	50	0.50	14.70	4	18	10.36	12.44	8	19	26.25	11	18	1.38	10.00	5.66	15.66	11	18	1.38	18.00	5.66	23.66	55.85	11259	2.23	450	4.91	28
29	4.75	1.67	15.94	11	20	1.32	10.50	6.02	16.52	4	18	27.25	4	60	24.50	11	46	0.54	15.44	4	18	10.77	12.85	8	20	27.25	11	19	1.32	11.50	6.02	17.52	11	19	1.32	19.50	6.02	25.52	58.61	12835	2.34	513	4.89	29
30	5.17	1.67	16.65	11	22	1.19	11.00	6.47	17.47	4	18	28.25	4	60	24.50	11	50	0.50	16.15	4	18	11.06	13.14	8	22	28.25	11	21	1.19	11.50	6.47	17.97	11	21	1.19	19.50	6.47	25.97	61.35	14416	2.45	577	4.84	30

NOTE: Case II design makes no provision for an attached Traffic Barrier. If a Barrier is to be attached, a custom design of the wall is required.



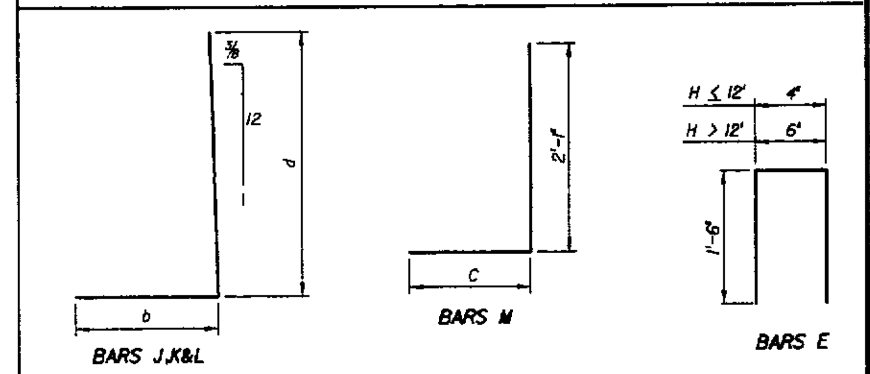
VIEW A-A



TYPICAL SECTION

NOTE:
To accommodate the Variable Height of a wall Unit, vertical Bars may be field cut to fit and the number of horizontal Bars G required by the highest wall dimension within a 25' Unit shall be equally spaced at each end of the Unit.

BENDING DIAGRAM



NOTE: All bar dimensions are out to out.

NOTE:
Bars M & E Paired with Bars F and Bars A Paired with Bars J. Bars E,F and M are No.4 Bars. Bars J are as shown.

Note:
Work this Drawing with Standard Index No. 800.

All Dimensions shown on this Sheet are in Decimals of a Foot, except for Bar Bending Diagrams.

REVISIONS								
Date	By	Description	Date	By	Description		Names	Dates
						Drawn by	M.J.	3/87
						Checked by	M.P.	3/87
						Designed by		
						Checked by		
						Approved by	A.G.M.	

ENGINEER OF RECORD:
STRUCTURES DESIGN OFFICE
605 Suwannee Street, MS 33
Tallahassee, Florida 32399-0450

LOGO:

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.

SHEET TITLE: CASE II (5.0 & 6.0 KIPS/SQ. FT. MAX. BEARING PRESSURE) 6 FT. TO 30 FT. HEIGHT

PROJECT NAME:

Drawing No. 1 of 1

Index No. 809

11-MAY-1989 18:17 ST2£I20J5IJCAS25.DGNJ

FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.			

RETAINING WALL DATA

WALL DIMENSIONS / REINFORCING STEEL SCHEDULE — BARS J

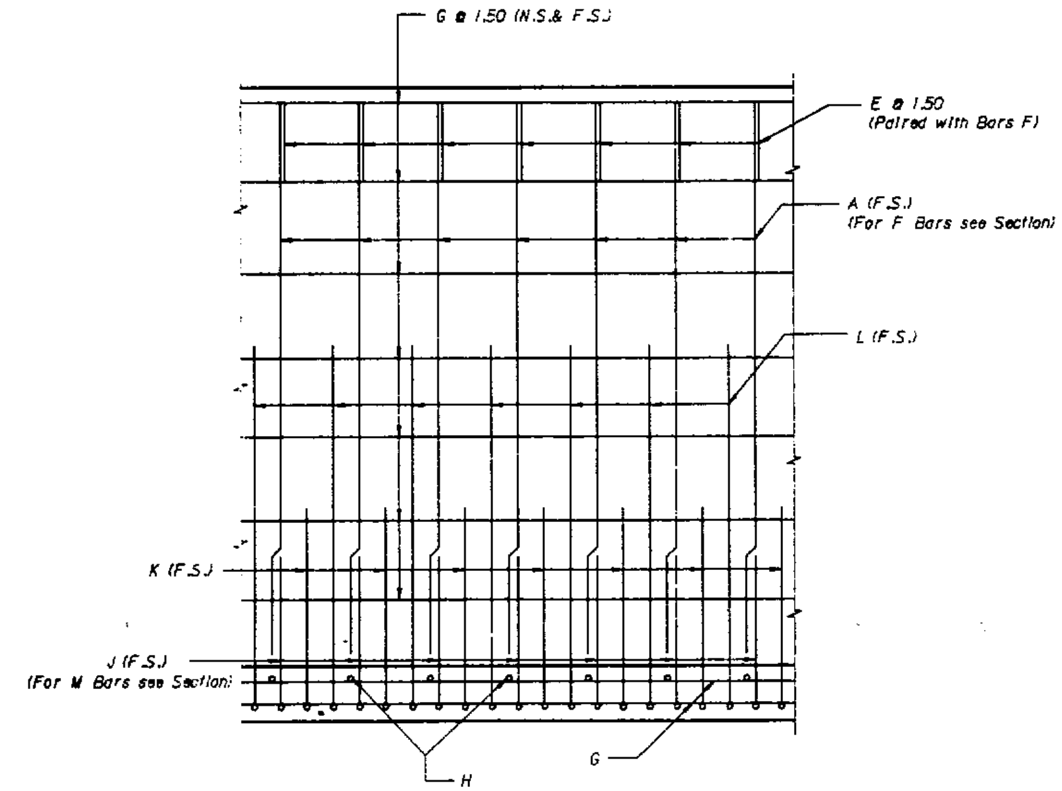
H	B	D	T	BARS J SIZE	NO.	SPACING	a	b	LENGTH
6	0.67	0.92	2.86	4	26	1.00	5.58	1.08	6.66
7	0.83	0.92	3.50	4	26	1.00	6.58	1.28	7.86
8	1.08	0.92	4.23	4	26	1.00	7.58	1.56	9.14
9	1.33	0.92	5.01	4	28	0.92	8.58	1.84	10.42
10	1.58	0.92	6.04	4	31	0.83	9.58	2.12	11.70
11	1.83	0.92	7.19	5	26	1.00	10.58	2.40	12.98
12	2.25	1.00	8.20	5	32	0.79	11.58	2.85	14.43
13	2.50	1.00	9.21	5	32	0.79	12.58	3.29	15.87
14	2.83	1.00	10.36	5	40	0.63	13.53	3.58	17.16
15	3.17	1.00	11.59	5	51	0.50	14.58	4.02	18.60

H	BARS F SIZE	NO.	LENGTH	BARS G SIZE	NO.	LENGTH	BARS H SIZE	NO.	SPACING	LENGTH
6	4	18	5.00	4	14	24.50	4	18	1.42	2.36
7	4	18	6.00	4	16	24.50	4	18	1.42	3.00
8	4	18	7.00	4	18	24.50	4	18	1.42	3.73
9	4	18	8.00	4	20	24.50	4	18	1.42	4.51
10	4	18	9.00	4	22	24.50	4	22	1.17	5.54
11	4	18	10.00	4	24	24.50	4	28	0.92	6.69
12	4	18	10.92	4	28	24.50	4	26	1.00	7.70
13	4	18	11.92	4	30	24.50	4	28	0.92	8.71
14	4	18	12.92	4	32	24.50	4	29	0.88	9.86
15	4	18	13.92	4	36	24.50	4	34	0.75	11.09

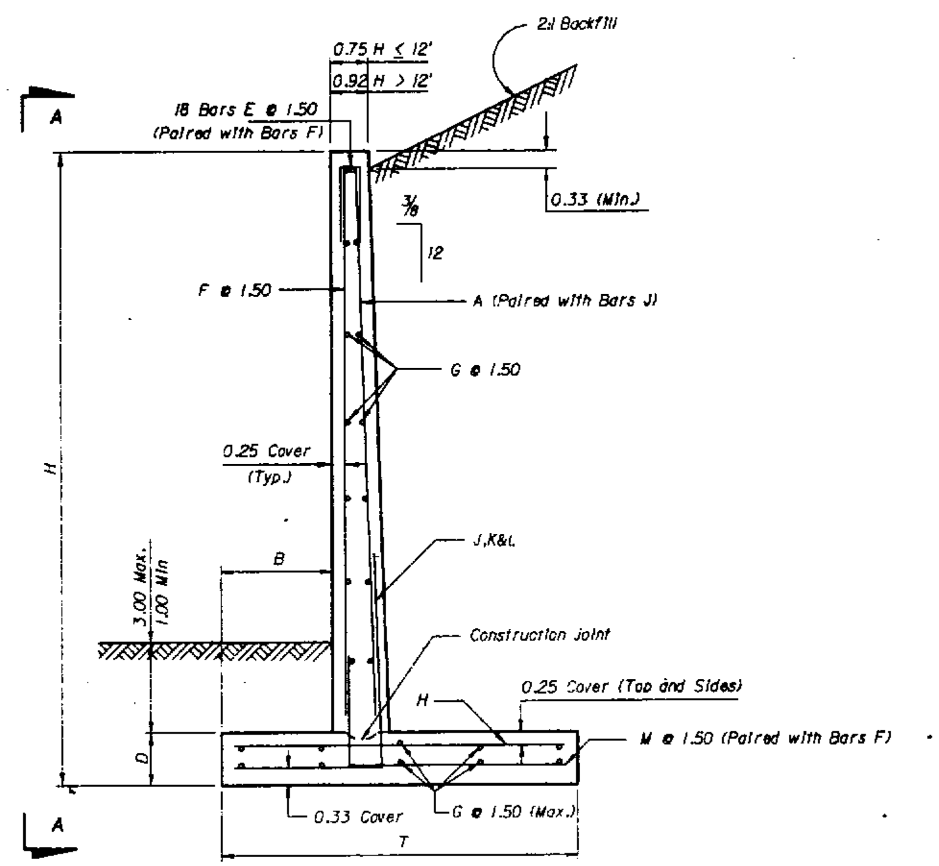
H	BARS M SIZE	NO.	c	LENGTH	BARS A SIZE	NO.	LENGTH	BARS K SIZE	NO.	SPACING	a	b	LENGTH	BARS L SIZE	NO.	SPACING	a	b	LENGTH
6	4	18	1.78	3.86															
7	4	18	2.25	4.33															
8	4	18	2.73	4.81															
9	4	18	3.26	5.34															
10	4	18	4.04	6.12															
11	4	18	4.94	7.02															
12	4	18	5.53	7.62															
13	4	18	6.29	8.38															
14	4	18	7.11	9.19															
15	4	18	8.01	10.09															

QUANTITIES

CONCRETE / 25' UNIT C.Y.	STEEL / 25' UNIT LBS.	CONCRETE PER LIN.FT. C.Y.	STEEL PER LIN.FT. LBS.	ACTUAL MAXIMUM BEARING PRESSURE KIPS/SQ.FT.	H
6.33	521	0.25	21	1.77	6
7.73	599	0.31	24	1.91	7
9.23	680	0.37	27	1.95	8
10.81	774	0.43	31	1.99	9
12.63	906	0.51	36	1.98	10
14.57	1115	0.58	45	1.97	11
16.98	1336	0.68	53	1.94	12
20.80	1470	0.83	59	1.98	13
23.07	1739	0.92	70	1.99	14
25.45	2160	1.02	86	2.00	15



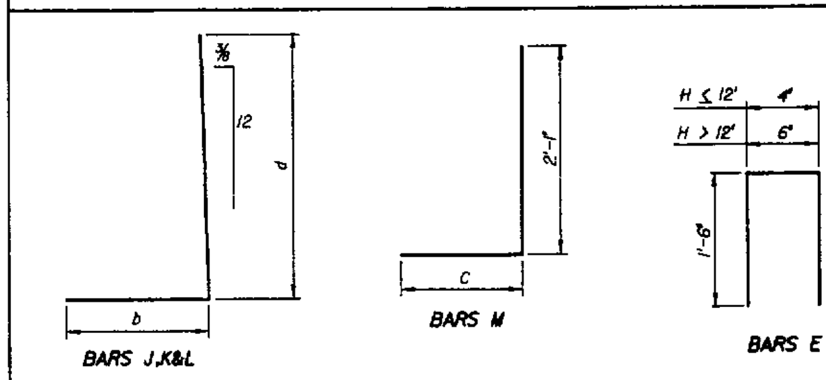
VIEW A-A



TYPICAL SECTION

NOTE:
To accommodate the Variable Height of a wall Unit, vertical Bars may be field cut to fit and the number of horizontal Bars G required by the highest wall dimension within a 25' Unit shall be equally spaced at each end of the Unit.

BENDING DIAGRAM



NOTE: All bar dimensions are out to out.

NOTE:
Bars M & E Paired with Bars F and Bars A Paired with Bars J. Bars E,F and M are No.4 Bars. Bars J are as shown.

Note:
Work this Drawing with Standard Index No. 800.

All Dimensions shown on this Sheet are in Decimals of a Foot, except for Bar Bending Diagrams.

REVISIONS					
Date	By	Description	Date	By	Description

	Names	Dates
Drawn by	M.J.	3/87
Checked by	M.P.	3/87
Designed by		
Checked by		
Approved by	A.G.M.	

ENGINEER OF RECORD:
STRUCTURES DESIGN OFFICE
605 Suwannee Street, MS 33
Tallahassee, Florida 32399-0450

LOGO:

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.

SHEET TITLE:
CASE III (2.0 KIPS/SQ. FT. MAX. BEARING PRESSURE)
6 FT. TO 15 FT. HEIGHT

PROJECT NAME:

Drawing No.
1 of 1

Index No.
810

FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.			

RETAINING WALL DATA

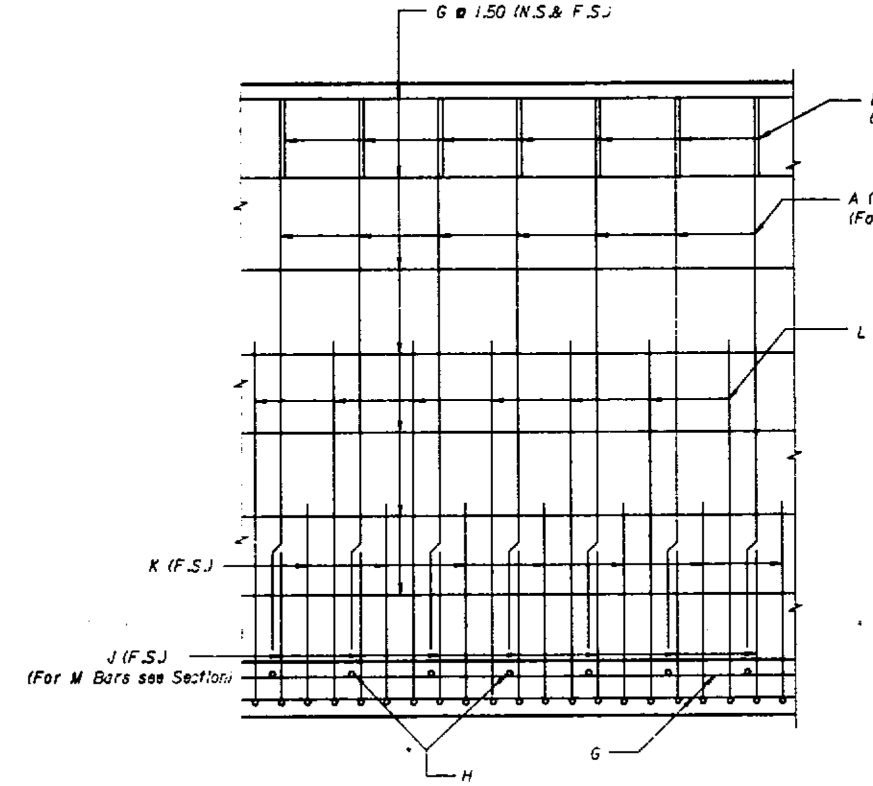
REINFORCING STEEL SCHEDULE

WALL DIMENSIONS				BARS J						BARS F			BARS G		
H	B	D	T	SIZE	NO.	SPACING	a	b	LENGTH	SIZE	NO.	LENGTH	SIZE	NO.	LENGTH
6	0.67	0.92	2.86	4	26	1.00	5.58	1.08	6.67	4	18	5.00	4	14	24.50
7	0.75	0.92	3.41	4	26	1.00	6.58	1.20	7.78	4	18	6.00	4	16	24.50
8	0.92	0.92	3.87	4	26	1.00	7.58	1.39	8.97	4	18	7.00	4	18	24.50
9	1.17	0.92	4.33	4	28	0.92	8.58	1.68	10.26	4	18	8.00	4	20	24.50
10	1.33	0.92	5.21	4	31	0.83	9.58	1.87	11.45	4	18	9.00	4	22	24.50
11	1.58	0.92	6.14	5	26	1.00	10.58	2.15	12.73	4	18	10.00	4	22	24.50
12	1.83	1.00	7.02	5	32	0.79	11.58	2.43	14.01	4	18	10.92	4	26	24.50
13	2.08	1.00	7.88	5	32	0.79	12.58	2.88	15.46	4	18	11.92	4	28	24.50
14	2.33	1.00	8.91	5	40	0.63	13.58	3.16	16.74	4	18	12.92	4	30	24.50
15	2.67	1.00	9.93	5	26	1.00	14.58	3.52	18.10	4	18	13.92	4	32	24.50
16	3.00	1.00	10.98	5	21	1.25	2.83	3.89	6.72	4	18	14.92	4	34	24.50
17	3.42	1.17	12.16	6	17	1.50	3.42	4.33	7.75	4	18	15.75	4	38	24.50
18	3.67	1.17	13.63	6	21	1.25	3.42	4.61	8.03	4	18	16.75	4	42	24.50
19	4.17	1.67	14.57	7	17	1.50	4.83	5.13	9.96	4	18	17.25	4	44	24.50
20	4.67	1.67	15.24	7	19	1.38	4.83	5.66	10.49	4	18	18.25	4	48	24.50

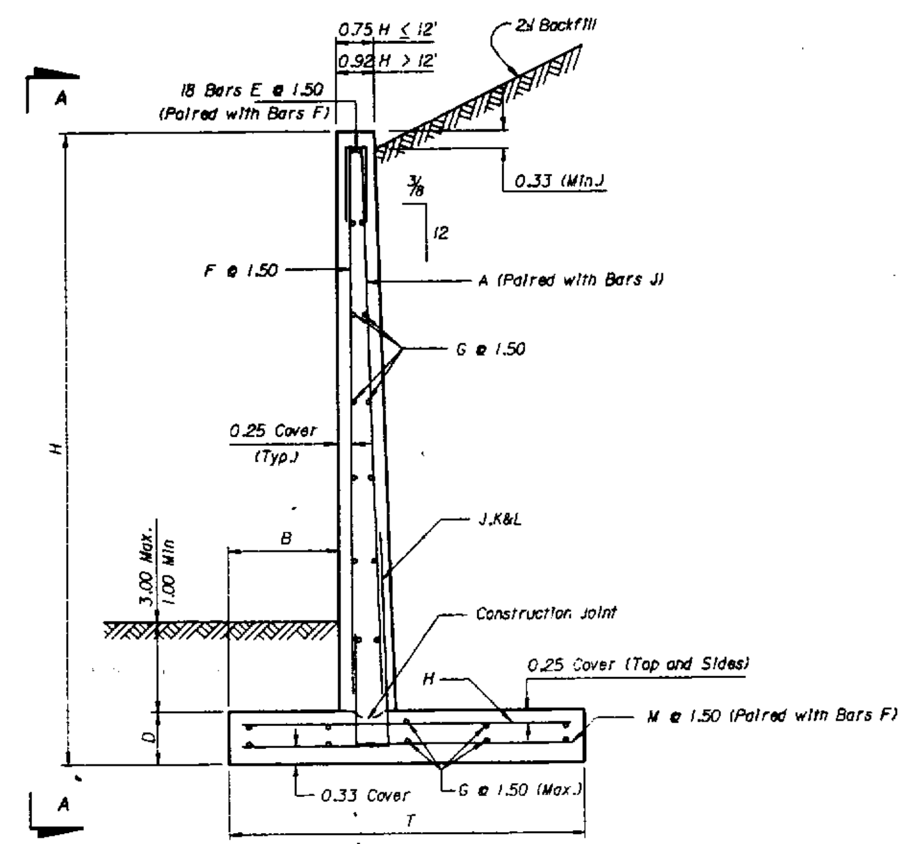
	BARS H				BARS M				BARS A		
H	SIZE	NO.	SPACING	LENGTH	SIZE	NO.	c	LENGTH	SIZE	NO.	LENGTH
6	4	18	1.42	2.36	4	18	1.77	3.85			
7	4	18	1.42	2.91	4	18	2.24	4.32			
8	4	18	1.42	3.37	4	18	2.54	4.62			
9	4	18	1.42	3.83	4	18	2.75	4.83			
10	4	26	1.00	4.71	4	18	3.46	5.54			
11	4	32	0.79	5.64	4	18	4.14	6.22			
12	4	31	0.83	6.52	4	18	4.77	6.85			
13	4	34	0.75	7.38	4	18	5.38	7.46			
14	4	31	0.83	8.41	4	18	6.17	8.25			
15	5	32	0.79	9.43	4	18	6.84	8.92			
16	5	36	0.71	10.48	4	18	7.56	9.64	5	21	14.92
17	5	31	0.83	11.66	4	18	8.32	10.40	6	17	15.75
18	5	34	0.75	13.13	4	18	9.55	11.63	6	21	16.75
19	5	31	0.83	14.07	4	18	9.99	12.07	6	17	17.25
20	5	31	0.83	14.74	4	18	10.16	12.24	6	19	18.25

	BARS K						BARS L					
H	SIZE	NO.	SPACING	a	b	LENGTH	SIZE	NO.	SPACING	a	b	LENGTH
6												
7												
8												
9												
10												
11												
12												
13												
14												
15	5	25	1.00	5.75	3.50	9.25						
16	5	20	1.25	4.75	3.89	8.64	5	20	1.25	10.75	3.89	14.64
17	6	16	1.50	5.33	4.33	9.66	6	16	1.50	8.33	4.33	12.66
18	6	20	1.25	5.33	4.61	9.94	6	20	1.25	8.33	4.61	12.94
19	6	16	1.50	6.42	5.13	11.55	7	16	1.50	10.42	4.83	15.25
20	7	18	1.38	7.42	5.66	13.08	7	18	1.38	11.42	4.83	16.25

QUANTITIES				ACTUAL MAXIMUM BEARING PRESSURE	H
CONCRETE / 25' UNIT	STEEL / 25' UNIT	CONCRETE PER LIN.FT.	STEEL PER LIN.FT.		
C.Y.	LBS.	C.Y.	LBS.	KIPS/SQ.FT.	
6.33	520	0.25	21	1.77	6
7.66	596	0.31	24	2.02	7
8.93	671	0.36	27	2.26	8
10.23	760	0.41	30	2.43	9
11.92	894	0.48	36	2.45	10
13.69	1061	0.55	42	2.42	11
15.89	1283	0.64	51	2.46	12
19.56	1417	0.78	57	2.48	13
21.73	1660	0.87	66	2.50	14
23.91	1887	0.96	75	2.48	15
26.16	2280	1.05	91	2.48	16
30.20	2433	1.21	100	2.45	17
33.11	3005	1.32	120	2.45	18
41.55	3233	1.66	129	2.48	19
43.95	3678	1.76	147	2.48	20



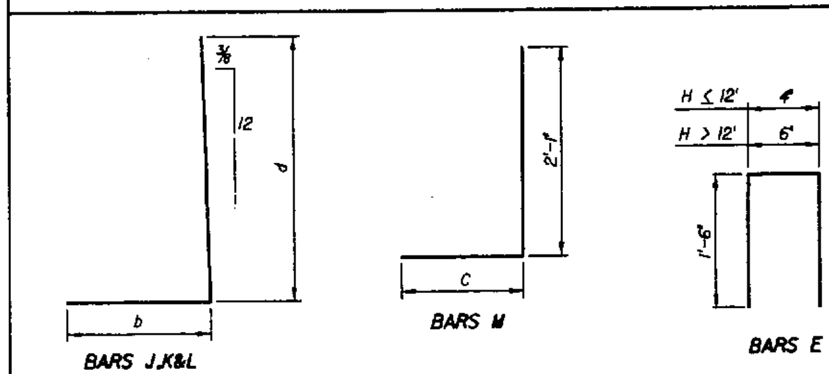
VIEW A-A



TYPICAL SECTION

NOTE:
To accommodate the Variable Height of a wall Unit, vertical Bars may be field cut to fit and the number of horizontal Bars G required by the highest wall dimension within a 25' Unit shall be equally spaced at each end of the Unit.

BENDING DIAGRAM



NOTE: All bar dimensions are out to out.

NOTE:
Bars M & E Paired with Bars F and Bars A Paired with Bars J. Bars E,F and M are No.4 Bars. Bars J are as shown.

Note:
Work this Drawing with Standard Index No. 800.

All Dimensions shown on this Sheet are in Decimals of a Foot, except for Bar Bending Diagrams.

REVISIONS								
Date	By	Description	Date	By	Description		Names	Dates
						Drawn by	M.J.	6/85
						Checked by	M.P.	6/85
						Designed by		
						Checked by		
						Approved by	A.G.M.	

ENGINEER OF RECORD:
STRUCTURES DESIGN OFFICE
605 Suwannee Street, MS 33
Tallahassee, Florida 32399-0450

LOGO:

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.

SHEET TITLE:
CASE III (2.5 KIPS/SQ. FT. MAX. BEARING PRESSURE)
6 FT. TO 20 FT. HEIGHT

PROJECT NAME:

Drawing No. 1 of 1

Index No. 811

11-MAY-1989 18:33 ST2:[120.15]CAS325.DGN;

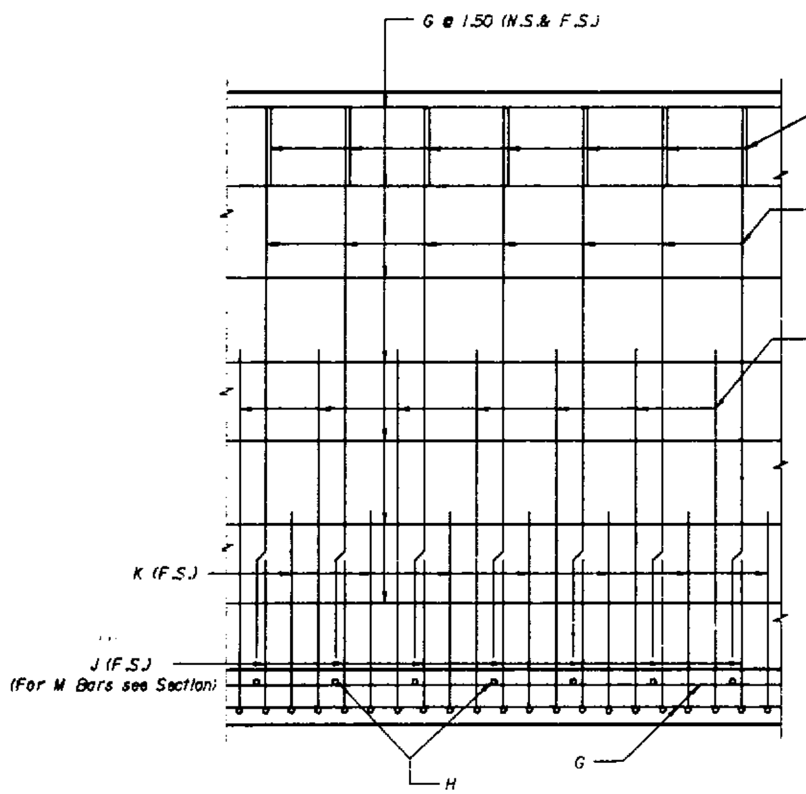
FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.			

RETAINING WALL DATA

WALL DIMENSIONS / REINFORCING STEEL SCHEDULE

	WALL DIMENSIONS			BARS J						BARS F			BARS G			BARS H			
H	B	D	T	SIZE	NO.	SPACING	a	b	LENGTH	SIZE	NO.	LENGTH	SIZE	NO.	LENGTH	SIZE	NO.	SPACING	LENGTH
6	0.67	0.92	2.86	4	26	1.00	5.58	1.08	6.66	4	18	5.00	4	14	24.50	4	18	1.42	2.36
7	0.75	0.92	3.41	4	26	1.00	6.58	1.20	7.78	4	18	6.00	4	16	24.50	4	18	1.42	2.91
8	0.92	0.92	3.87	4	26	1.00	7.58	1.39	8.97	4	18	7.00	4	18	24.50	4	18	1.42	3.37
9	1.17	0.92	4.33	4	28	0.92	8.58	1.68	10.26	4	18	8.00	4	20	24.50	4	18	1.42	3.83
10	1.17	0.92	4.85	4	31	0.83	9.58	1.71	11.29	4	18	9.00	4	22	24.50	4	26	1.00	4.35
11	1.33	0.92	5.50	5	26	1.00	10.58	1.90	12.48	4	18	10.00	4	22	24.50	4	36	0.71	5.00
12	1.58	1.00	6.20	5	32	0.79	11.58	2.18	13.76	4	18	10.92	4	26	24.50	4	32	0.79	5.70
13	1.83	1.00	6.89	5	32	0.79	12.58	2.63	15.21	4	18	11.92	4	28	24.50	4	38	0.67	6.39
14	2.08	1.00	7.90	5	40	0.63	13.58	2.91	16.49	4	18	12.92	4	28	24.50	4	34	0.75	7.40
15	2.33	1.00	8.82	5	26	1.00	14.58	3.19	17.77	4	18	13.92	4	32	24.50	5	36	0.71	8.32
16	2.58	1.00	9.80	5	21	1.25	2.83	3.47	6.30	4	18	14.92	4	34	24.50	5	43	0.58	9.30
17	2.92	1.17	10.73	5	17	1.50	3.42	3.83	7.25	4	18	15.75	4	36	24.50	5	38	0.67	10.23
18	3.17	1.17	11.93	6	21	1.25	3.42	4.11	7.53	4	18	15.75	4	38	24.50	5	46	0.54	11.43
19	3.67	1.67	12.81	7	17	1.50	4.83	4.63	9.46	4	18	17.25	4	40	24.50	5	31	0.83	12.31
20	4.08	1.67	13.49	7	19	1.38	4.83	5.08	9.91	4	18	18.25	4	44	24.50	5	34	0.75	12.99
21	4.50	1.67	14.38	8	17	1.50	5.92	5.52	11.44	4	18	19.25	4	46	24.50	5	36	0.71	13.88
22	4.92	1.67	15.13	8	19	1.38	6.08	5.97	12.05	4	18	20.25	4	48	24.50	5	40	0.63	14.63
23	5.50	2.17	16.20	8	21	1.25	6.58	6.57	13.15	4	18	20.75	4	52	24.50	5	43	0.58	15.70
24	5.92	2.17	16.98	9	19	1.38	7.67	7.02	14.69	4	18	21.75	4	52	24.50	5	43	0.58	16.48
25	5.33	2.17	17.91	9	21	1.25	7.67	7.47	15.14	4	18	22.75	4	56	24.50	5	43	0.58	17.41

	BARS M				BARS A			BARS K						BARS L						QUANTITIES				ACTUAL MAXIMUM BEARING PRESSURE	
																				CONCRETE / 25' UNIT	STEEL / 25' UNIT	CONCRETE PER LIN.FT.	STEEL PER LIN.FT.		
H	SIZE	NO.	c	LENGTH	SIZE	NO.	LENGTH	SIZE	NO.	SPACING	a	b	LENGTH	SIZE	NO.	SPACING	a	b	LENGTH	C.Y.	LBS.	C.Y.	LBS.	KIPS/SQ.FT.	H
6	4	18	1.77	3.86																6.33	520	0.25	21	1.77	6
7	4	18	2.25	4.33																7.66	596	0.31	24	2.02	7
8	4	18	2.54	4.63																8.93	671	0.36	27	2.26	8
9	4	18	2.74	4.82																10.23	759	0.41	30	2.43	9
10	4	18	3.26	5.34																11.61	882	0.46	35	2.77	10
11	4	18	3.75	5.83																13.14	1049	0.53	42	2.89	11
12	4	18	4.20	6.28																15.13	1253	0.61	50	2.96	12
13	4	18	4.64	6.72																18.65	1393	0.75	56	2.99	13
14	4	18	5.40	7.48																20.79	1602	0.83	64	2.94	14
15	4	18	6.07	8.15				5	25	1.00	5.75	3.19	8.94							22.89	1859	0.92	74	2.95	15
16	4	18	6.80	8.88	5	21	14.92	5	20	1.25	4.75	3.47	8.22	5	20	1.25	10.75	3.47	14.22	25.06	2235	1.00	89	2.96	16
17	4	18	7.40	9.48	6	17	15.92	6	16	1.50	5.33	3.83	9.16	6	16	1.50	8.33	3.83	12.16	28.66	2444	1.15	98	2.98	17
18	4	18	8.35	10.43	6	21	16.92	6	20	1.25	5.33	4.61	9.44	6	20	1.25	8.33	4.11	12.44	31.27	2968	1.25	119	2.97	18
19	4	18	8.73	10.81	6	17	17.25	7	16	1.50	6.42	4.63	11.05	7	16	1.50	10.42	4.63	15.05	38.83	3055	1.55	122	2.97	19
20	4	18	8.99	11.07	6	19	18.25	7	18	1.38	7.42	5.08	12.50	7	18	1.38	11.42	5.08	16.50	41.25	3548	1.65	142	2.99	20
21	4	18	9.46	11.54	6	17	19.25	8	16	1.50	9.08	5.52	14.60	8	16	1.50	13.08	5.52	18.60	44.01	4115	1.76	165	2.98	21
22	4	18	9.80	11.88	6	19	20.25	8	18	1.38	9.08	5.97	15.05	8	18	1.38	14.08	5.97	20.05	46.59	4700	1.86	188	3.00	22
23	4	18	10.28	12.36	6	21	20.75	8	20	1.25	9.58	6.57	16.15	8	20	1.25	14.58	6.57	21.15	56.45	4898	2.26	196	2.97	23
24	4	18	10.65	12.73	6	19	21.75	9	18	1.38	10.25	7.02	17.27	9	18	1.38	16.25	7.02	23.27	59.49	6098	2.38	244	2.99	24
25	4	18	11.16	13.24	6	21	22.75	9	20	1.25	11.25	7.47	18.72	9	20	1.25	17.25	7.47	24.72	62.86	6925	2.51	277	2.99	25



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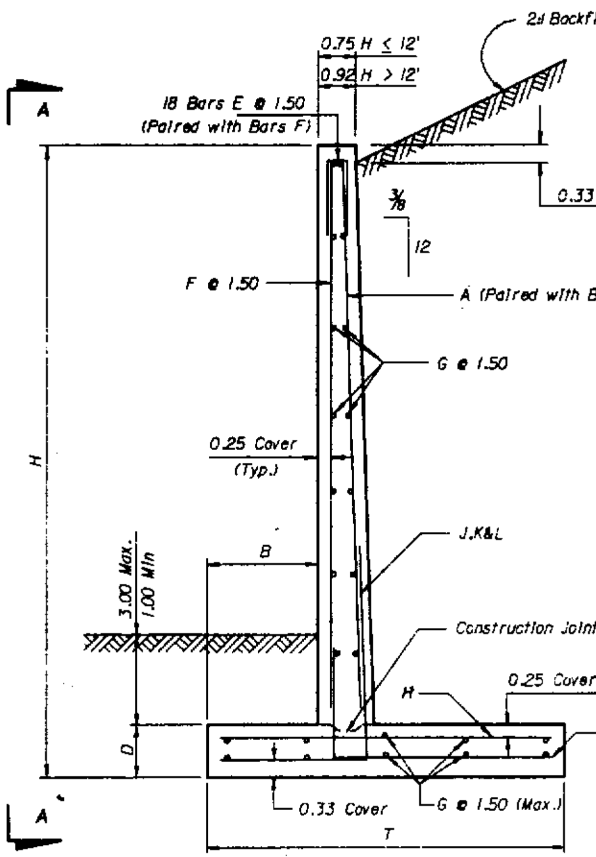
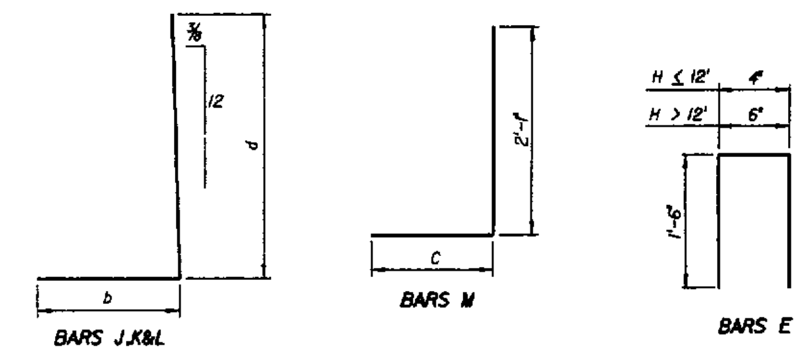


TYPICAL SECTION

NOTE:
To accommodate the Variable Height of a wall Unit, vertical Bars may be field cut to fit and the number of horizontal Bars G required by the highest wall dimension within a 25' Unit shall be equally spaced at each end of the Unit.

BENDING DIAGRAM



NOTE: All bar dimensions are out to out.

NOTE:
Bars M & E Paired with Bars F and Bars A Paired with Bars J. Bars E,F and M are No.4 Bars. Bars J are as shown.

Note:
Work this Drawing with Standard Index No. 800.

All Dimensions shown on this Sheet are in Decimals of a Foot, except for Bar Bending Diagrams.

REVISIONS							Names	Dates
Date	By	Description	Date	By	Description	Drawn by	M.J.	3/87
						Checked by	M.P.	3/87
						Designed by		
						Checked by		
						Approved by	A.G.M.	

ENGINEER OF RECORD:
STRUCTURES DESIGN OFFICE
605 Suwannee Street, MS 33
Tallahassee, Florida 32399-0450

LOGO:

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.

SHEET TITLE:
CASE III (3.0 KIPS/SQ. FT. MAX. BEARING PRESSURE)
6 FT. TO 25 FT. HEIGHT

PROJECT NAME:

Drawing No.
1 of 1

Index No.
812

11-MAY-1999 18:40 ST2-I120.15\JCAS33.DGN

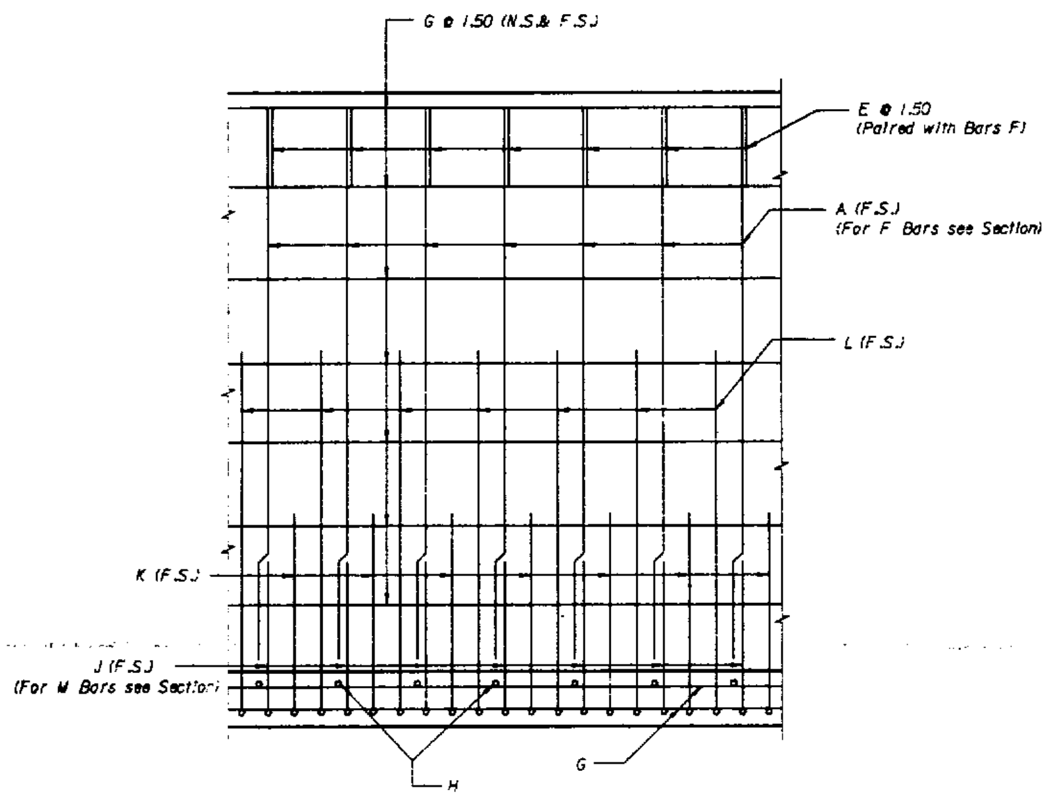
FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.			

RETAINING WALL DATA

WALL DIMENSIONS / REINFORCING STEEL SCHEDULE

H	B	D	T	BARS J SIZE	BARS J NO.	BARS J SPACING	BARS J a	BARS J b	BARS J LENGTH	BARS F SIZE	BARS F NO.	BARS F LENGTH	BARS G SIZE	BARS G NO.	BARS G LENGTH	BARS H SIZE	BARS H NO.	BARS H SPACING	BARS H LENGTH	BARS M SIZE	BARS M NO.	BARS M c	BARS M LENGTH
6	0.67	0.92	2.86	4	26	1.00	5.58	1.08	6.66	4	18	5.00	4	14	24.50	4	18	1.42	2.36	4	18	1.77	3.85
7	0.75	0.92	3.41	4	26	1.00	6.58	1.19	7.77	4	18	6.00	4	16	24.50	4	18	1.42	2.91	4	18	2.24	4.32
8	0.92	0.92	3.87	4	26	1.00	7.58	1.39	8.97	4	18	7.00	4	18	24.50	4	18	1.42	3.37	4	18	2.53	4.61
9	1.17	0.92	4.33	4	28	0.92	8.58	1.67	10.25	4	18	8.00	4	20	24.50	4	18	1.42	3.83	4	18	2.74	4.82
10	1.17	0.92	4.85	4	31	0.83	9.58	1.71	11.29	4	18	9.00	4	22	24.50	4	26	0.92	4.35	4	18	3.26	5.34
11	1.33	0.92	5.50	5	26	1.00	10.58	1.90	12.48	4	18	10.00	4	24	24.50	4	36	0.71	4.80	4	18	3.55	5.63
12	1.50	1.00	5.74	5	32	0.79	11.58	2.09	13.57	4	18	10.91	4	26	24.50	4	34	0.75	5.24	4	18	3.82	5.90
13	1.67	1.00	6.36	5	32	0.79	12.58	2.46	15.04	4	18	11.91	4	28	24.50	4	40	0.63	5.86	4	18	4.27	6.35
14	1.83	1.00	7.08	5	40	0.63	13.58	2.66	16.24	4	18	12.91	4	30	24.50	4	50	0.50	6.58	4	18	4.83	6.91
15	2.08	1.00	7.99	5	26	1.00	14.58	2.93	17.51	4	18	13.91	4	32	24.50	5	40	0.63	7.49	4	18	5.49	7.59
16	2.33	1.00	8.79	5	21	1.25	2.83	3.22	6.05	4	18	14.91	4	36	24.50	5	50	0.50	8.29	4	18	6.04	8.12
17	2.58	1.17	9.66	6	17	1.50	3.42	3.50	6.92	4	18	15.75	4	36	24.50	5	46	0.54	9.16	4	18	6.66	8.74
18	2.83	1.17	10.80	6	21	1.25	3.42	3.78	7.20	4	18	16.75	4	38	24.50	5	54	0.46	10.30	4	18	7.55	9.63
19	3.25	1.67	11.49	7	17	1.50	4.83	4.21	9.04	4	18	17.25	4	40	24.50	5	35	0.71	10.99	4	18	7.82	9.90
20	3.67	1.67	12.24	7	19	1.38	4.83	4.65	9.48	4	18	18.25	4	42	24.50	5	37	0.67	11.74	4	18	8.15	10.23
21	4.08	1.67	13.02	8	17	1.50	5.92	5.10	11.02	4	18	19.25	4	46	24.50	5	43	0.58	12.52	4	18	8.52	10.60
22	4.50	1.67	13.82	8	19	1.38	6.01	5.58	11.63	4	18	20.25	4	46	24.50	5	50	0.50	13.32	4	18	8.90	10.98
23	4.92	2.17	14.76	8	21	1.25	6.58	5.98	12.56	4	18	20.75	4	50	24.50	5	43	0.58	14.26	4	18	9.42	11.50
24	5.33	2.17	15.58	9	19	1.38	7.67	6.43	14.10	4	18	21.75	4	52	24.50	5	43	0.58	15.08	4	18	9.83	11.91
25	5.75	2.17	16.40	9	21	1.25	7.67	6.88	14.55	4	18	22.75	4	56	24.50	5	46	0.54	15.90	4	18	10.23	12.31
26	6.17	2.17	17.27	9	21	1.25	8.17	7.49	15.66	4	18	23.75	4	58	24.50	5	46	0.54	16.77	4	18	10.68	12.76
27	6.67	2.67	18.31	9	21	1.25	8.67	8.01	16.68	4	18	24.25	4	60	24.50	5	54	0.46	17.81	4	18	11.22	13.30
28	7.08	2.67	19.15	10	19	1.38	9.17	8.46	17.63	4	18	25.25	4	64	24.50	5	54	0.46	18.65	4	18	11.65	13.73
29	7.50	2.67	19.99	10	21	1.25	9.67	8.91	18.58	4	18	26.25	4	64	24.50	5	43	0.46	19.49	4	18	12.07	14.15
30	8.08	3.17	21.22	11	17	1.50	10.17	9.51	19.68	4	18	26.75	4	68	24.50	6	46	0.54	20.72	4	18	12.72	14.80

H	BARS A SIZE	BARS A NO.	BARS A LENGTH	BARS K SIZE	BARS K NO.	BARS K SPACING	BARS K a	BARS K b	BARS K LENGTH	BARS L SIZE	BARS L NO.	BARS L SPACING	BARS L a	BARS L b	BARS L LENGTH	QUANTITIES CONCRETE / 25' UNIT C.Y.	QUANTITIES STEEL / 25' UNIT LBS.	QUANTITIES CONCRETE PER LIN.FT. C.Y.	QUANTITIES STEEL PER LIN.FT. LBS.	ACTUAL MAXIMUM BEARING PRESSURE KIPS/SQ.FT.	H
6																6.33	520	0.25	21	1.77	6
7																7.66	596	0.31	24	2.02	7
8																8.93	671	0.36	27	2.26	8
9																10.23	759	0.41	30	2.43	9
10																11.61	882	0.46	36	2.77	10
11																12.97	1107	0.52	44	3.01	11
12																14.71	1245	0.59	50	3.28	12
13																18.16	1378	0.73	55	3.38	13
14																20.03	1669	0.80	67	3.48	14
15				5	25	1.00	5.75	2.93	8.68							22.12	1838	0.88	74	3.43	15
16	5	21	14.91	5	20	1.25	4.75	3.22	7.97	5	20	1.25	10.75	3.22	13.97	24.13	2257	0.97	90	3.45	16
17	6	17	15.75	6	16	1.50	5.33	3.50	8.83	6	16	1.50	8.33	3.50	11.91	27.50	2442	1.10	98	3.49	17
18	6	21	16.75	6	20	1.25	5.33	3.78	9.11	6	20	1.25	8.33	3.78	12.11	30.05	2955	1.20	118	3.44	18
19	6	17	17.25	7	16	1.50	6.42	4.21	10.63	7	16	1.50	10.42	4.21	14.63	36.79	3005	1.47	120	3.50	19
20	6	19	18.25	7	18	1.38	7.42	4.65	12.07	7	18	1.38	11.42	4.65	16.07	39.32	3449	1.57	138	3.48	20
21	6	17	19.25	8	16	1.50	9.08	5.10	14.18	8	16	1.50	13.08	5.10	18.18	41.92	4089	1.68	164	3.46	21
22	6	19	20.25	8	18	1.38	9.08	5.58	14.63	8	18	1.38	14.08	5.58	19.63	44.57	4679	1.78	187	3.45	22
23	6	21	20.75	8	20	1.25	9.58	5.98	15.56	8	20	1.25	14.58	5.98	20.56	53.58	5175	2.14	207	3.49	23
24	6	19	21.75	9	18	1.38	10.25	6.43	16.68	9	18	1.38	16.25	6.43	22.68	56.68	5915	2.27	237	3.48	24
25	6	21	22.75	9	20	1.25	11.25	6.88	18.13	9	20	1.25	17.25	6.88	24.13	59.83	6773	2.39	271	3.48	25
26	7	21	23.75	9	20	1.25	12.25	7.49	20.24	9	20	1.25	18.25	7.49	25.74	63.10	7499	2.52	300	3.46	26
27	7	21	24.25	9	20	1.25	12.75	8.01	20.76	9	20	1.25	18.75	8.01	26.76	74.42	7945	2.98	318	3.47	27
28	8	19	25.25	10	18	1.38	13.75	8.46	21.21	10	18	1.38	19.75	8.46	28.21	78.06	9090	3.12	364	3.48	28
29	8	21	26.25	10	20	1.25	14.75	8.91	23.66	10	20	1.25	20.75	8.91	29.66	81.74	10412	3.27	416	3.50	29
30	8	17	26.75	11	16	1.50	15.25	9.51	24.26	11	16	1.50	21.25	9.51	30.76	95.41	10755	3.82	430	3.47	30



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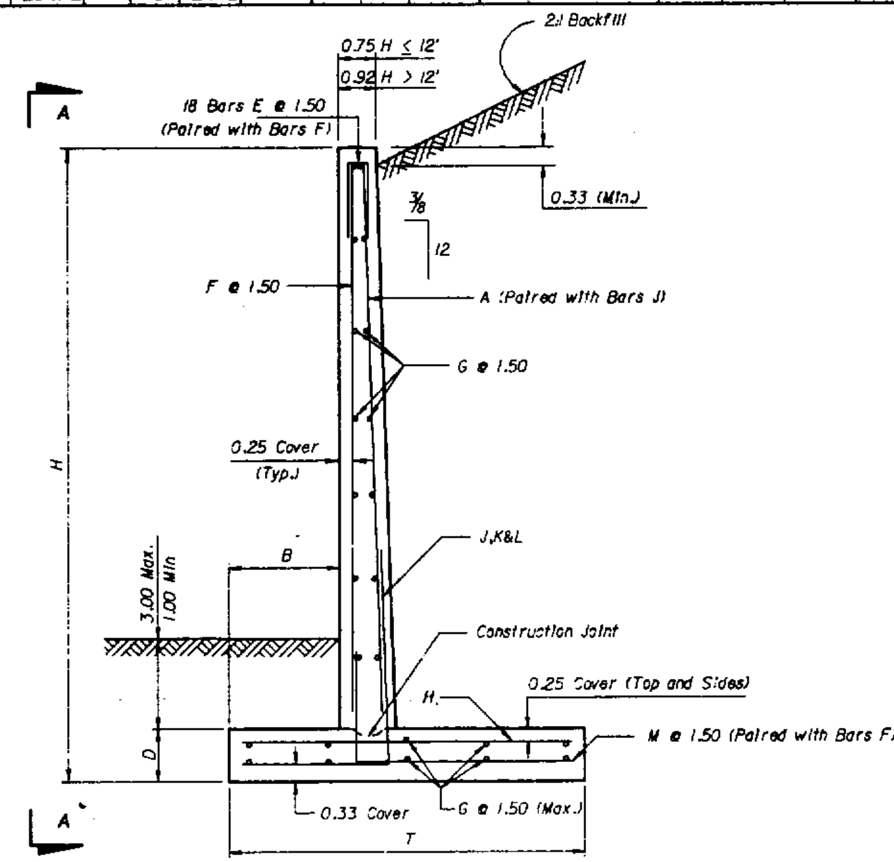
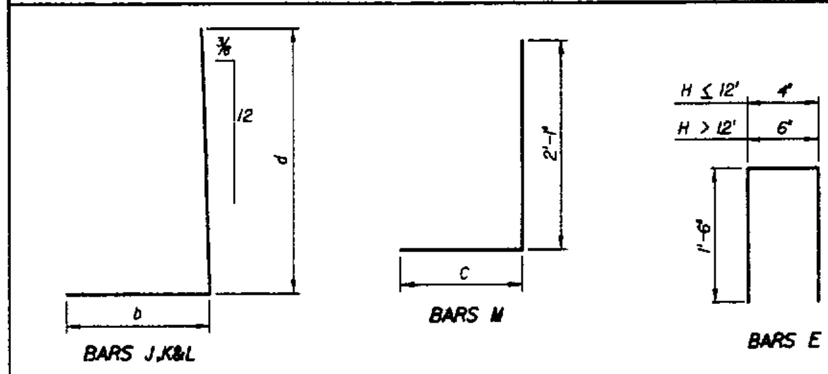


TYPICAL SECTION

NOTE:
To accommodate the Variable Height of a wall Unit, vertical Bars may be field cut to fit and the number of horizontal Bars G required by the highest wall dimension within a 25' Unit shall be equally spaced at each end of the Unit.

BENDING DIAGRAM



NOTE: All bar dimensions are out to out.

NOTE:
Bars M & E Paired with Bars F and Bars A Paired with Bars J. Bars E,F and M are No.4 Bars. Bars J are as shown.

Note:
Work this Drawing with Standard Index No. 800.

All Dimensions shown on this Sheet are in Decimals of a Foot, except for Bar Bending Diagrams.

REVISIONS					
Date	By	Description	Date	By	Description

	Names	Dates
Drawn by	M.J.	3/87
Checked by	M.P.	3/87
Designed by		
Checked by		
Approved by	A.G.M.	

ENGINEER OF RECORD:
STRUCTURES DESIGN OFFICE
605 Suwannee Street, MS 33
Tallahassee, Florida 32399-0450

LOGO:

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.

SHEET TITLE:
CASE III (3.5 KIPS/SQ. FT. MAX. BEARING PRESSURE)
6 FT. TO 30 FT. HEIGHT

PROJECT NAME:

Drawing No.
1 of 1

Index No.
813

11-MAY-1989 18:47 ST2:[120.151]CAS335.DGN;1

FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.			

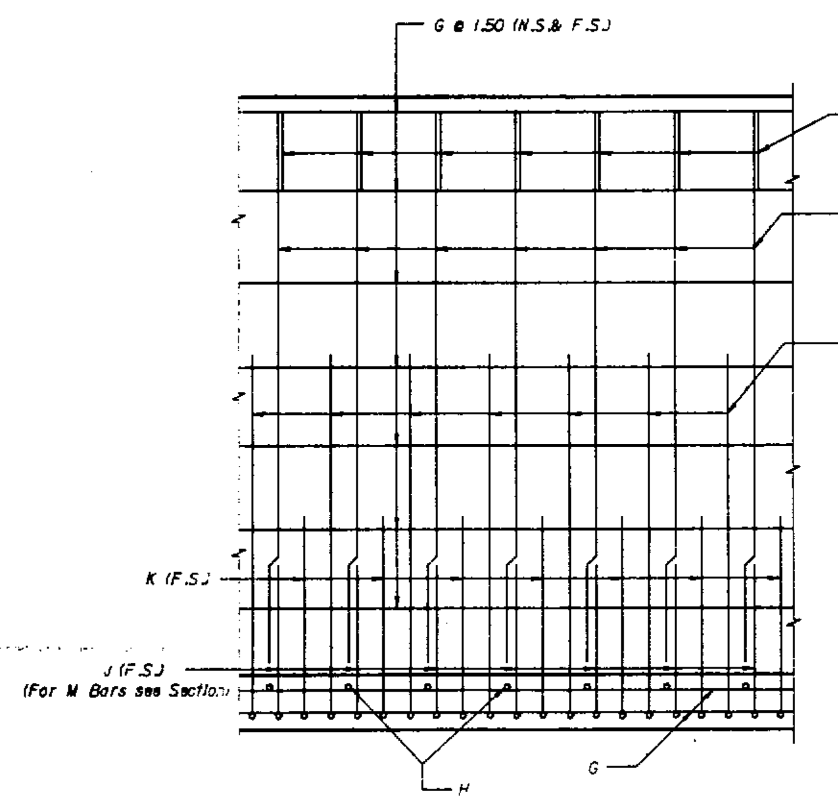
RETAINING WALL DATA

WALL DIMENSIONS / REINFORCING STEEL SCHEDULE

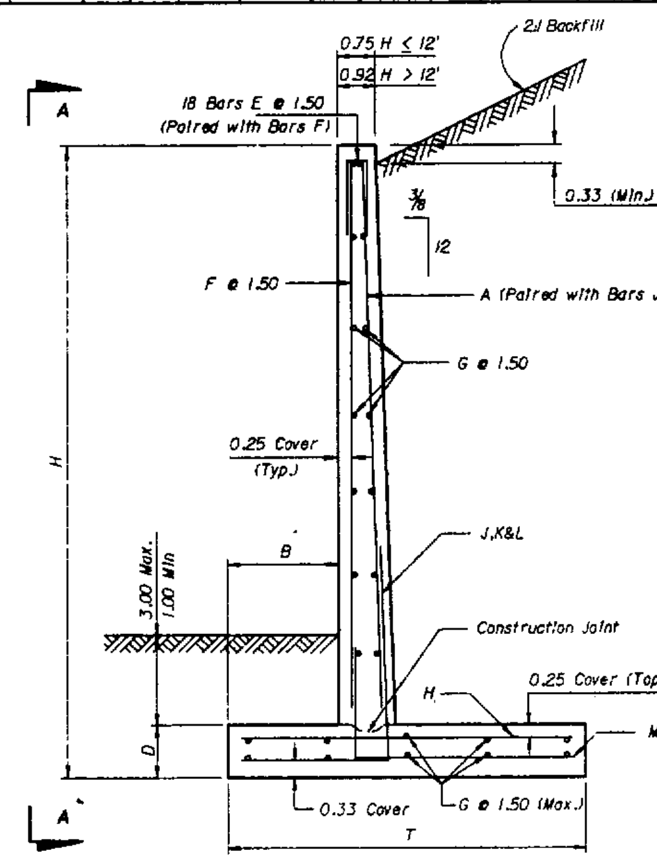
	WALL DIMENSIONS			BARS J						BARS F			BARS G			BARS H				BARS M			
H	B	D	T	SIZE	NO.	SPACING	a	b	LENGTH	SIZE	NO.	LENGTH	SIZE	NO.	LENGTH	SIZE	NO.	SPACING	LENGTH	SIZE	NO.	c	LENGTH
6	0.67	0.92	2.86	4	26	1.00	5.58	1.08	6.66	4	18	5.00	4	14	24.50	4	18	1.42	2.36	4	18	1.77	3.85
7	0.75	0.92	3.41	4	26	1.00	6.58	1.20	7.78	4	18	6.00	4	16	24.50	4	18	1.42	2.91	4	18	2.24	4.32
8	0.92	0.92	3.87	4	26	1.00	7.58	1.39	8.97	4	18	7.00	4	18	24.50	4	18	1.42	3.37	4	18	2.53	4.61
9	1.17	0.92	4.33	4	28	0.92	8.58	1.69	10.25	4	18	8.00	4	20	24.50	4	18	1.42	3.83	4	18	2.74	4.82
10	1.17	0.92	4.85	4	31	0.83	9.58	1.71	11.29	4	18	9.00	4	22	24.50	4	26	1.00	4.35	4	18	3.26	5.34
11	1.33	0.92	5.30	5	26	1.00	10.58	1.90	12.48	4	18	10.00	4	24	24.50	4	34	0.75	4.80	4	18	3.55	5.63
12	1.50	1.00	5.74	5	32	0.79	11.58	2.10	13.68	4	18	10.92	4	26	24.50	4	34	0.75	5.24	4	18	3.82	5.90
13	1.58	1.00	6.28	5	32	0.79	12.58	2.38	14.96	4	18	11.92	4	26	24.50	4	40	0.63	5.78	4	18	4.28	6.36
14	1.67	1.00	6.72	5	40	0.63	13.58	2.49	16.07	4	18	12.92	4	30	24.50	4	54	0.46	6.22	4	18	4.63	6.71
15	1.83	1.00	7.36	5	26	1.00	14.58	2.69	17.27	4	18	13.92	4	32	24.50	5	43	0.58	6.86	4	18	5.11	7.19
16	2.08	1.00	8.16	5	21	1.25	2.83	2.97	5.80	4	18	14.92	4	34	24.50	5	54	0.46	7.66	4	18	5.66	7.74
17	2.33	1.17	8.85	6	17	1.50	3.42	3.25	6.67	4	18	15.75	4	36	24.50	5	50	0.50	8.35	4	18	6.10	8.18
18	2.50	1.17	9.86	6	21	1.25	3.42	3.45	6.87	4	18	16.75	4	38	24.50	5	59	0.42	9.36	4	18	6.94	9.02
19	2.92	1.67	10.61	7	17	1.50	4.83	3.88	8.71	4	18	17.25	4	40	24.50	5	38	0.67	10.11	4	18	7.27	9.31
20	3.33	1.67	11.24	7	19	1.38	4.83	4.33	9.16	4	18	18.25	4	44	24.50	5	43	0.58	10.74	4	18	7.49	9.57
21	3.67	1.67	11.98	8	17	1.50	5.92	4.69	10.61	4	18	19.25	4	46	24.50	5	50	0.50	11.48	4	18	7.89	9.97
22	4.08	1.67	12.67	8	19	1.38	6.08	5.14	11.22	4	18	20.25	4	46	24.50	5	54	0.46	12.17	4	18	8.17	10.25
23	4.50	2.17	13.64	8	21	1.25	6.58	5.57	12.15	4	18	20.75	4	50	24.50	5	43	0.58	13.14	4	18	8.72	10.80
24	4.92	2.17	14.34	9	19	1.38	7.67	6.02	13.69	4	18	21.75	4	52	24.50	5	46	0.54	13.84	4	18	9.00	11.08
25	5.33	2.17	15.20	9	21	1.25	7.67	6.47	14.14	4	18	22.75	4	54	24.50	5	50	0.50	14.70	4	18	9.45	11.53
26	5.67	2.17	16.00	9	21	1.25	8.17	6.99	15.16	4	18	23.75	4	56	24.50	5	54	0.46	15.50	4	18	9.92	12.00
27	6.08	2.67	16.97	9	21	1.25	8.67	7.42	16.09	4	18	24.25	4	58	24.50	5	54	0.46	16.47	4	18	10.47	12.55
28	6.50	2.67	17.71	10	19	1.38	9.17	7.88	17.05	4	18	25.25	4	60	24.50	5	54	0.46	17.21	4	18	10.79	12.87
29	6.92	2.67	18.57	10	21	1.25	9.67	8.33	18.00	4	18	26.25	4	64	24.50	5	54	0.46	18.07	4	18	11.23	13.31
30	7.42	3.17	19.61	11	17	1.50	10.17	8.84	18.81	4	18	26.75	4	66	24.50	6	46	0.54	19.11	4	18	11.77	13.85

REINFORCING STEEL SCHEDULE (continued) / QUANTITIES

	BARS A			BARS K						BARS L						CONCRETE / 25' UNIT	STEEL / 25' UNIT	CONCRETE PER LIN.FT.	STEEL PER LIN.FT.	ACTUAL MAXIMUM BEARING PRESSURE	
H	SIZE	NO.	LENGTH	SIZE	NO.	SPACING	a	b	LENGTH	SIZE	NO.	SPACING	a	b	LENGTH	C.Y.	LBS.	C.Y.	LBS.	KIPS/SQ.FT.	H
6																6.33	520	0.25	21	1.77	6
7																7.66	596	0.31	24	2.02	7
8																8.93	671	0.36	27	2.26	8
9																10.23	759	0.41	30	2.43	9
10																11.61	882	0.46	35	2.77	10
11																12.97	1068	0.52	43	3.01	11
12																14.71	1245	0.59	50	3.28	12
13																18.08	1341	0.72	54	3.50	13
14																19.70	1664	0.79	67	3.82	14
15				5	25	1.00	5.75	2.69	8.44							21.53	1816	0.86	73	3.95	15
16	5	21	14.92	5	20	1.25	4.75	2.97	7.72	5	20	1.25	10.75	2.97	13.72	23.54	2203	0.94	88	3.92	16
17	6	17	15.75	6	16	1.50	5.33	3.25	8.58	6	16	1.50	8.33	3.25	11.58	26.63	2411	1.07	96	4.00	17
18	6	21	16.75	6	20	1.25	5.33	3.45	8.78	6	20	1.25	8.33	3.45	11.78	29.04	2870	1.16	115	3.99	18
19	6	17	17.25	7	16	1.50	6.42	3.88	10.30	7	16	1.50	10.42	3.88	14.30	35.44	2965	1.42	119	3.99	19
20	6	19	18.25	7	18	1.38	7.42	4.33	11.75	7	18	1.38	11.42	4.33	15.75	37.77	3467	1.51	139	3.98	20
21	6	17	19.25	8	16	1.50	9.08	4.69	13.77	8	16	1.50	13.08	4.69	17.77	40.31	4065	1.61	163	4.00	21
22	6	19	20.25	8	18	1.38	9.08	5.14	14.22	8	18	1.38	14.08	5.14	19.22	42.79	4634	1.71	185	3.99	22
23	6	21	20.75	8	20	1.25	9.58	5.57	15.15	8	20	1.25	14.58	5.57	20.15	51.32	5050	2.05	202	3.98	23
24	6	19	21.75	9	18	1.38	10.25	6.02	16.27	9	18	1.38	16.25	6.02	22.27	54.21	5816	2.17	233	3.98	24
25	6	21	22.75	9	20	1.25	11.25	6.47	17.72	9	20	1.25	17.25	6.47	23.72	57.41	6650	2.30	266	3.94	25
26	7	21	23.75	9	20	1.25	12.25	6.99	19.24	9	20	1.25	18.25	6.99	25.24	60.56	7388	2.42	296	39.5	26
27	7	21	24.25	9	20	1.25	12.75	7.42	20.17	9	20	1.25	18.75	7.42	26.17	71.13	7702	2.85	308	3.99	27
28	8	19	25.25	10	18	1.38	13.75	7.88	21.63	10	18	1.38	19.75	7.88	27.63	74.51	8642	2.98	346	4.00	28
29	8	21	26.25	10	20	1.25	14.75	8.33	23.08	10	20	1.25	20.75	8.33	29.08	78.23	10170	3.13	407	3.99	29
30	8	17	26.75	11	16	1.50	15.25	8.84	24.09	11	16	1.50	21.25	8.84	30.09	90.70	10450	3.63	418	3.99	30



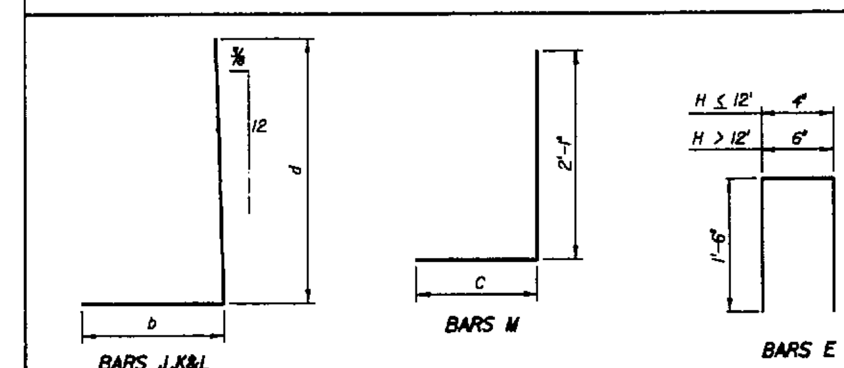
VIEW A-A



TYPICAL SECTION

NOTE:
To accommodate the Variable Height of a wall Unit, vertical Bars may be field cut to fit and the number of horizontal Bars G required by the highest wall dimension within a 25' Unit shall be equally spaced at each end of the Unit.

BENDING DIAGRAM



NOTE: All bar dimensions are out to out.

NOTE:
Bars M & E Paired with Bars F and Bars A Paired with Bars J. Bars E,F and M are No.4 Bars. Bars J are as shown.

Note:
Work this Drawing with Standard Index No. 800.

All Dimensions shown on this Sheet are in Decimals of a Foot, except for Bar Bending Diagrams.

REVISIONS					
Date	By	Description	Date	By	Description

	Names	Dates
Drawn by	M.J.	3/87
Checked by	M.P.	3/87
Designed by		
Checked by		
Approved by	A.G.M.	

ENGINEER OF RECORD:
STRUCTURES DESIGN OFFICE
605 Suwannee Street, MS 33
Tallahassee, Florida 32399-0450

LOGO:

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.

SHEET TITLE:
CASE III (4.0 KIPS/SQ. FT. MAX. BEARING PRESSURE)
6 FT. TO 30 FT. HEIGHT

PROJECT NAME:

Drawing No. 1 of 1

Index No. 814

11-MAY-1989 18:56 ST2:[120.J51]CAS34.DGN;1

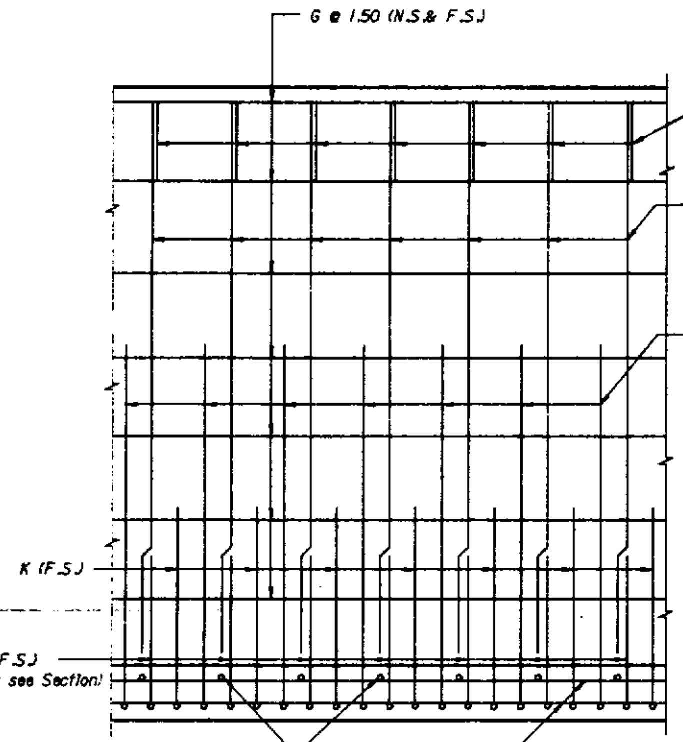
FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.			

RETAINING WALL DATA

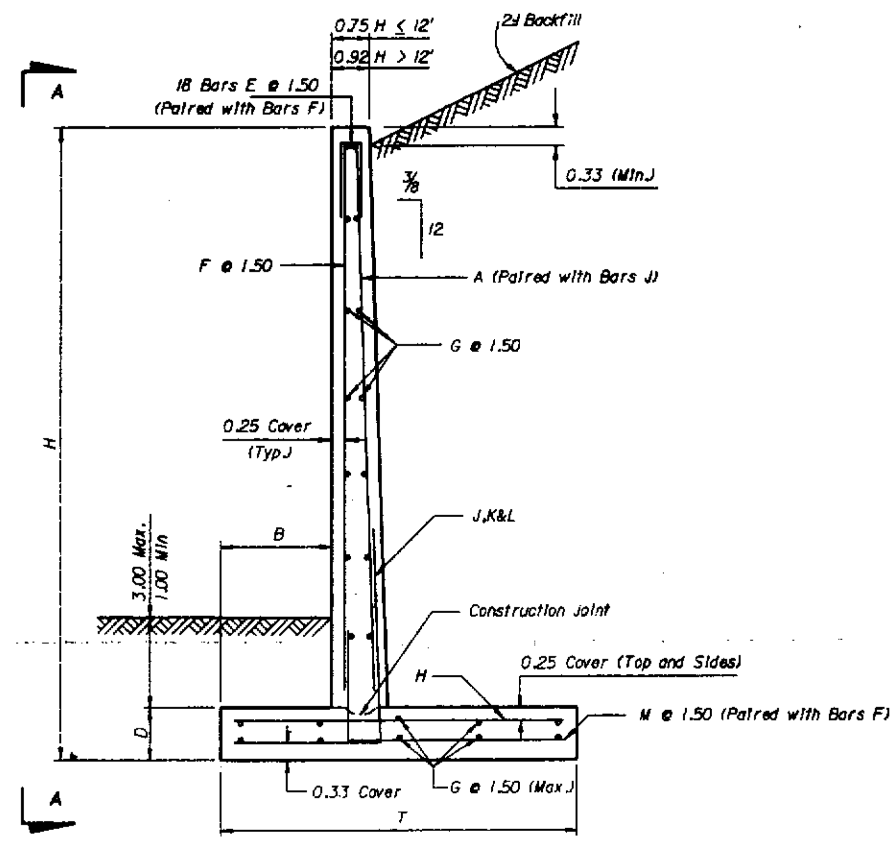
WALL DIMENSIONS / REINFORCING STEEL SCHEDULE

WALL DIMENSIONS				BARS J						BARS F			BARS G			BARS H			
H	B	D	T	SIZE	NO.	SPACING	a	b	LENGTH	SIZE	NO.	LENGTH	SIZE	NO.	LENGTH	SIZE	NO.	SPACING	LENGTH
6	0.67	0.92	2.86	4	26	1.00	5.58	1.08	6.66	4	18	5.00	4	14	24.50	4	18	1.42	2.36
7	0.75	0.92	3.41	4	26	1.00	6.58	1.19	7.77	4	18	6.00	4	16	24.50	4	18	1.42	2.91
8	0.92	0.92	3.87	4	26	1.00	7.58	1.39	8.97	4	18	7.00	4	18	24.50	4	18	1.42	3.37
9	1.17	0.92	4.33	4	28	0.92	8.58	1.67	10.25	4	18	8.00	4	18	24.50	4	18	1.42	3.83
10	1.17	0.92	4.85	4	31	0.83	9.58	1.71	11.29	4	18	9.00	4	22	24.50	4	26	0.96	4.35
11	1.33	0.92	5.30	5	26	1.00	10.58	1.90	12.48	4	18	10.00	4	24	24.50	4	34	0.75	4.80
12	1.50	1.00	5.74	5	32	0.79	11.58	2.09	13.67	4	18	10.92	4	26	24.50	4	34	0.75	5.24
13	1.58	1.00	6.28	5	32	0.79	12.58	2.38	14.96	4	18	11.92	4	28	24.50	4	40	0.63	5.78
14	1.67	1.00	6.72	5	40	0.63	13.58	2.49	16.07	4	18	12.92	4	28	24.50	4	54	0.46	6.22
15	1.83	1.00	7.16	5	26	1.00	14.58	2.69	17.27	4	18	13.92	4	32	24.50	5	43	0.58	6.66
16	1.92	1.00	7.61	5	21	1.25	2.83	2.80	5.63	4	18	14.92	4	34	24.50	5	54	0.42	7.11
17	2.17	1.17	8.31	6	17	1.50	3.42	3.08	6.50	4	18	15.75	4	36	24.50	5	50	0.50	7.81
18	2.33	1.17	9.10	6	21	1.25	3.42	3.28	6.70	4	18	16.75	4	38	24.50	5	59	0.42	8.60
19	2.75	1.67	9.91	7	17	1.50	4.83	3.71	8.54	4	18	17.25	4	40	24.50	5	40	0.63	9.41
20	3.08	1.67	10.59	7	19	1.38	4.83	4.07	8.90	4	18	18.25	4	42	24.50	5	46	0.54	9.99
21	3.42	1.67	11.11	8	17	1.50	5.92	4.44	10.36	4	18	19.25	4	44	24.50	5	50	0.50	10.61
22	3.75	1.67	11.89	8	19	1.38	6.08	4.80	10.88	4	18	20.25	4	46	24.50	5	54	0.46	11.39
23	4.17	2.17	12.74	8	21	1.25	6.58	5.24	11.82	4	18	20.75	4	48	24.50	5	46	0.54	12.24
24	4.58	2.17	13.47	9	19	1.38	7.67	5.69	13.36	4	18	21.75	4	50	24.50	5	50	0.50	12.97
25	4.92	2.17	14.12	9	21	1.25	7.67	6.05	13.72	4	18	22.75	4	52	24.50	5	54	0.46	13.62
26	5.25	2.17	14.95	9	21	1.25	8.17	6.58	14.75	4	18	23.75	4	54	24.50	5	54	0.46	14.45
27	5.67	2.67	15.81	9	21	1.25	8.67	7.01	15.68	4	18	24.25	4	56	24.50	5	54	0.46	15.31
28	6.08	2.67	16.68	10	19	1.38	9.17	7.46	16.63	4	18	25.25	4	60	24.50	5	54	0.46	16.18
29	6.42	2.67	17.47	10	21	1.25	9.67	7.83	17.50	4	18	26.25	4	62	24.50	5	59	0.42	16.97
30	6.92	3.17	18.41	11	17	1.50	10.17	8.34	18.51	4	18	26.75	4	64	24.50	6	46	0.54	17.91

H	BARS M				BARS A			BARS K						BARS L						QUANTITIES				ACTUAL MAXIMUM BEARING PRESSURE	H
																				CONCRETE / 25' UNIT	STEEL / 25' UNIT	CONCRETE PER LIN.FT.	STEEL PER LIN.FT.		
H	SIZE	NO.	c	LENGTH	SIZE	NO.	LENGTH	SIZE	NO.	SPACING	a	b	LENGTH	SIZE	NO.	SPACING	a	b	LENGTH	C.Y.	LBS.	C.Y.	LBS.	KIPS/SQ.FT.	H
6	4	18	1.77	3.85																6.33	520	0.25	21	1.77	6
7	4	18	2.24	4.32																7.66	596	0.31	24	2.02	7
8	4	18	2.53	4.61																8.93	671	0.36	27	2.26	8
9	4	18	2.74	4.82																10.23	727	0.41	29	2.43	9
10	4	18	3.26	5.34																11.61	882	0.46	35	2.77	10
11	4	18	3.55	5.63																12.97	1068	0.52	43	3.01	11
12	4	18	3.82	5.90																14.71	1243	0.59	50	3.28	12
13	4	18	4.28	6.36																18.08	1374	0.72	55	3.50	13
14	4	18	4.63	6.71																19.70	1631	0.79	65	3.82	14
15	4	18	4.91	6.99				5	25	1.00	5.75	2.69	8.44							21.35	1804	0.85	72	4.06	15
16	4	18	5.27	7.35	5	21	14.92	5	20	1.25	4.75	2.80	7.55	5	20	1.25	10.75	2.80	13.55	23.03	2157	0.92	86	4.38	16
17	4	18	5.72	7.80	6	17	15.75	6	16	1.50	5.33	3.08	8.41	6	16	1.50	8.33	3.08	11.41	26.05	2445	1.04	98	4.41	17
18	4	18	6.35	8.43	6	21	16.75	6	20	1.25	5.33	3.28	8.61	6	20	1.25	8.33	3.28	11.61	28.21	2843	1.13	114	4.47	18
19	4	18	6.74	8.82	6	17	17.25	7	16	1.50	6.42	3.71	10.13	7	16	1.50	10.42	3.71	14.13	34.35	2933	1.37	117	4.40	19
20	4	18	6.99	9.07	6	19	18.25	7	18	1.38	7.42	4.07	11.49	7	18	1.38	11.42	4.07	15.49	36.62	3396	1.46	136	4.45	20
21	4	18	7.27	9.35	6	17	19.25	8	16	1.50	9.08	4.44	13.52	8	16	1.50	13.08	4.44	17.52	38.96	3947	1.56	158	4.49	21
22	4	18	7.72	9.80	6	19	20.25	8	18	1.38	9.08	4.80	13.88	8	18	1.38	14.08	4.80	18.88	41.59	4502	1.66	180	4.47	22
23	4	18	8.15	10.23	6	21	20.75	8	20	1.25	9.58	5.24	14.82	8	20	1.25	14.58	5.24	19.82	49.52	4954	1.98	198	4.46	23
24	4	18	8.47	10.55	6	19	21.75	9	18	1.38	10.25	5.69	15.94	9	18	1.38	16.25	5.69	21.94	52.44	5727	2.10	229	4.43	24
25	4	18	8.78	10.86	6	21	22.75	9	20	1.25	11.25	6.05	17.30	9	20	1.25	17.25	6.05	23.30	55.25	6522	2.21	261	4.49	25
26	4	18	9.28	11.36	7	21	23.75	9	20	1.25	12.25	6.58	18.83	9	20	1.25	18.25	6.58	24.83	58.43	7203	2.34	288	4.45	26
27	4	18	9.72	11.80	7	21	24.25	9	20	1.25	12.75	7.01	19.76	9	20	1.25	18.75	7.01	25.76	68.25	7510	2.73	300	4.49	27
28	4	18	10.18	12.26	8	19	25.25	10	18	1.38	13.75	7.46	21.21	10	18	1.38	19.75	7.46	27.21	71.97	8777	2.88	351	4.45	28
29	4	18	10.63	12.71	8	21	26.25	10	20	1.25	14.75	7.83	22.58	10	20	1.25	20.75	7.83	28.58	75.51	10026	3.02	401	4.48	29
30	4	18	11.07	13.15	8	17	26.75	11	16	1.50	15.25	8.34	23.59	11	16	1.50	21.25	8.34	29.59	87.16	10213	3.49	409	4.47	30



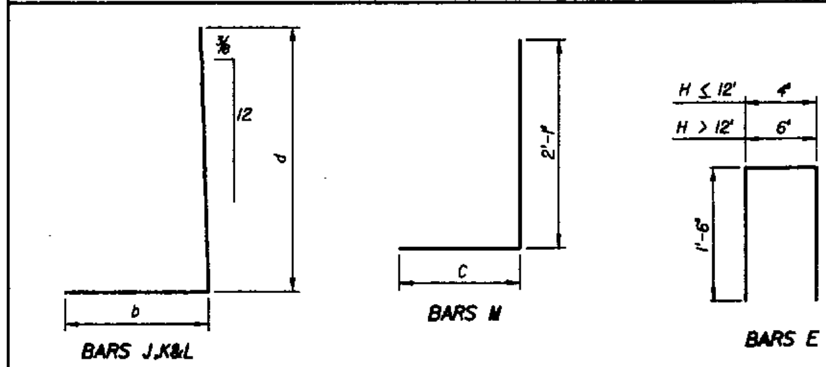
VIEW A-A



TYPICAL SECTION

NOTE:
To accommodate the Variable Height of a wall Unit, vertical Bars may be field cut to fit and the number of horizontal Bars G required by the highest wall dimension within a 25' Unit shall be equally spaced at each end of the Unit.

BENDING DIAGRAM



NOTE: All bar dimensions are out to out.

NOTE:
Bars M & E Paired with Bars F and Bars A Paired with Bars J. Bars E,F and M are No.4 Bars. Bars J are as shown.

Note:
Work this Drawing with Standard Index No. 800.

All Dimensions shown on this Sheet are in Decimals of a Foot, except for Bar Bending Diagrams.

REVISIONS							Names	Dates
Date	By	Description	Date	By	Description	Drawn by	M.J.	3/87
						Checked by	M.P.	3/87
						Designed by		
						Checked by		
						Approved by	A.G.M.	

ENGINEER OF RECORD:

LOGO:

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.

SHEET TITLE:
CASE III (4.5 KIPS/SQ. FT. MAX. BEARING PRESSURE)
6 FT. TO 30 FT. HEIGHT

PROJECT NAME:

Drawing No.
1 of 1

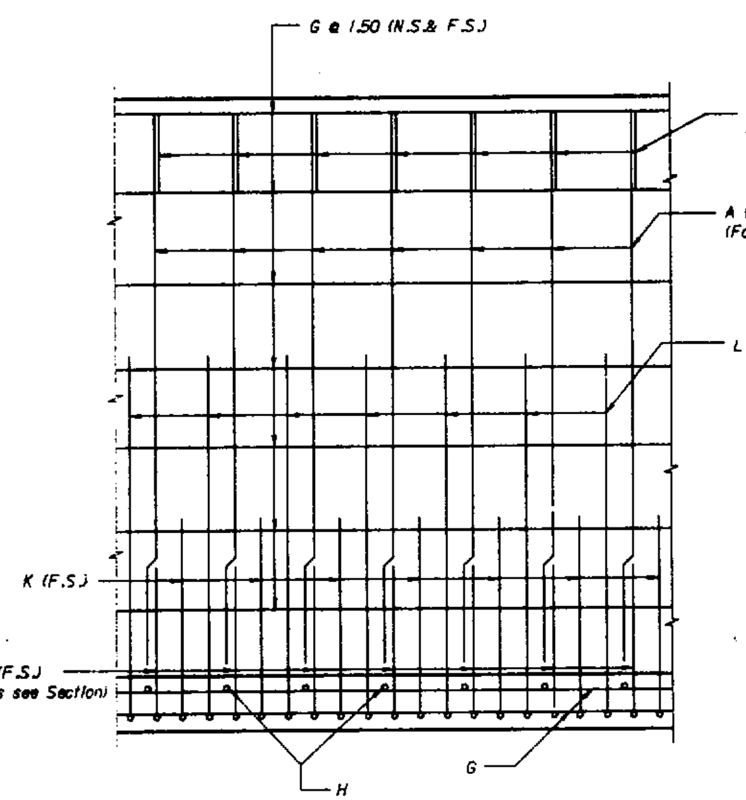
Index No.
815

FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.			

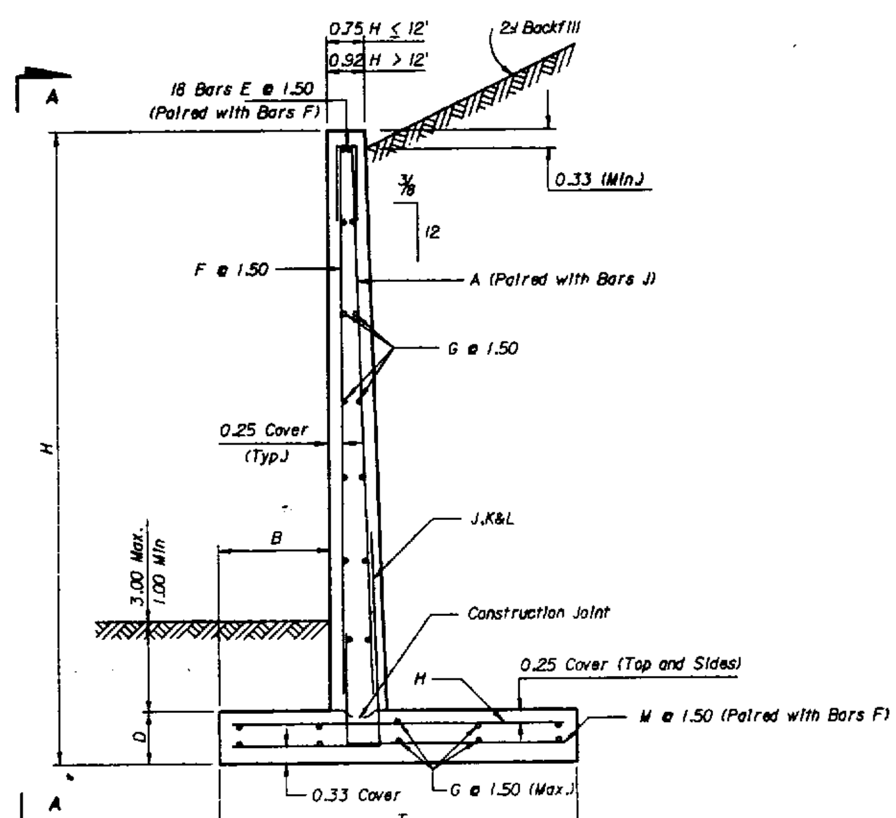
RETAINING WALL DATA

WALL DIMENSIONS				REINFORCING STEEL SCHEDULE																			
				BARS J						BARS F			BARS G			BARS H				BARS M			
H	B	D	T	SIZE	NO.	SPACING	a	b	LENGTH	SIZE	NO.	LENGTH	SIZE	NO.	LENGTH	SIZE	NO.	SPACING	LENGTH	SIZE	NO.	c	LENGTH
6	0.67	0.92	2.86	4	26	1.00	5.58	1.08	6.66	4	18	5.00	4	14	24.50	4	18	1.42	2.36	4	18	1.77	3.85
7	0.75	0.92	3.41	4	26	1.00	6.58	1.19	7.77	4	18	6.00	4	16	24.50	4	18	1.42	2.91	4	18	2.24	4.32
8	0.92	0.92	3.87	4	26	1.00	7.58	1.39	8.97	4	18	7.00	4	18	24.50	4	18	1.42	3.37	4	18	2.53	4.61
9	1.17	0.92	4.33	4	28	0.92	8.58	1.68	10.26	4	18	8.00	4	20	24.50	4	18	1.42	3.83	4	18	2.74	4.82
10	1.17	0.92	4.85	4	31	0.83	9.58	1.71	11.29	4	18	9.00	4	22	24.50	4	27	0.96	4.35	4	18	3.26	5.34
11	1.33	0.92	5.30	5	26	1.00	10.58	1.90	12.48	4	18	10.00	4	22	24.50	4	36	0.71	4.80	4	18	3.55	5.63
12	1.50	1.00	5.74	5	32	0.79	11.58	2.09	13.67	4	18	10.92	4	26	24.50	4	34	0.75	5.24	4	18	3.82	5.90
13	1.58	1.00	6.28	5	32	0.79	12.58	2.38	14.96	4	18	11.92	4	28	24.50	4	40	0.63	5.78	4	18	4.28	6.36
14	1.67	1.00	6.72	5	40	0.63	13.58	2.49	16.07	4	18	12.92	4	28	24.50	4	55	0.46	6.22	4	18	4.63	6.71
15	1.83	1.00	7.16	5	26	1.00	14.58	2.69	17.26	4	18	13.92	4	32	24.50	5	43	0.58	6.66	4	18	4.91	6.99
16	1.92	1.00	7.61	5	21	1.25	2.83	2.81	5.63	4	18	14.92	4	34	24.50	5	55	0.46	7.11	4	18	5.27	7.35
17	2.17	1.17	8.13	6	17	1.50	3.42	3.08	6.50	4	18	15.75	4	36	24.50	5	50	0.50	7.63	4	18	5.54	7.62
18	2.17	1.17	8.73	6	21	1.25	3.42	3.11	6.53	4	18	16.75	4	38	24.50	6	47	0.54	8.23	4	18	6.14	8.22
19	2.50	1.67	9.29	7	17	1.50	4.83	3.46	8.29	4	18	17.25	4	40	24.50	6	31	0.83	8.79	4	18	6.37	8.45
20	2.83	1.67	9.91	7	19	1.38	4.83	3.83	8.66	4	18	18.25	4	44	24.50	6	34	0.75	9.41	4	18	6.66	8.74
21	3.17	1.67	10.54	8	17	1.50	5.92	4.19	10.11	4	18	19.25	4	44	24.50	6	38	0.67	10.04	4	18	6.95	9.03
22	3.50	1.67	11.19	8	19	1.38	6.08	4.56	10.64	4	18	20.25	4	46	24.50	6	43	0.58	10.69	4	18	7.27	9.35
23	3.92	2.17	11.92	8	21	1.25	6.58	4.99	11.57	4	18	20.75	4	48	24.50	6	32	0.79	11.42	4	18	7.58	9.66
24	4.25	2.17	12.59	9	19	1.38	7.67	5.35	13.02	4	18	21.75	4	50	24.50	6	36	0.71	12.09	4	18	7.92	10.00
25	4.58	2.17	13.26	9	21	1.25	7.67	5.72	13.39	4	18	22.75	4	50	24.50	6	40	0.63	12.76	4	18	8.26	10.34
26	4.92	2.17	14.10	9	21	1.25	8.17	6.25	14.42	4	18	23.75	4	54	24.50	6	43	0.58	13.60	4	18	8.76	10.84
27	5.33	2.67	14.97	9	21	1.25	8.67	6.68	15.35	4	18	24.25	4	56	24.50	6	38	0.67	14.47	4	18	9.22	11.30
28	5.67	2.67	15.65	10	19	1.38	9.17	7.05	16.22	4	18	25.25	4	58	24.50	6	40	0.63	15.15	4	18	9.56	11.64
29	6.00	2.67	16.45	10	21	1.25	9.67	7.41	17.08	4	18	26.25	4	62	24.50	6	43	0.58	15.95	4	18	10.03	12.11
30	6.50	3.17	17.40	11	17	1.50	10.17	7.93	18.09	4	18	26.75	4	62	24.50	6	47	0.54	16.90	4	18	10.48	12.56

H	REINFORCING STEEL SCHEDULE (cont.)															QUANTITIES				ACTUAL MAXIMUM BEARING PRESSURE	H
	BARS A			BARS K						BARS L						CONCRETE / 25' UNIT	STEEL / 25' UNIT	CONCRETE PER LIN.FT.	STEEL PER LIN.FT.		
	SIZE	NO.	LENGTH	SIZE	NO.	SPACING	a	b	LENGTH	SIZE	NO.	SPACING	a	b	LENGTH	C.Y.	LBS.	C.Y.	LBS.	KIPS/SQ.FT.	
6																6.33	520	0.25	21	1.77	6
7																7.66	596	0.31	24	2.02	7
8																8.93	671	0.36	27	2.26	8
9																10.23	759	0.41	30	2.43	9
10																11.61	885	0.46	35	2.77	10
11																12.97	1037	0.52	42	3.01	11
12																14.71	1245	0.59	50	3.28	12
13																18.08	1374	0.72	55	3.50	13
14																19.70	1631	0.79	65	3.82	14
15				5	25	1.00	5.75	2.69	8.44							21.35	1804	0.85	72	4.06	15
16	5	21	14.91	5	20	1.25	4.75	2.81	7.56	5	20	1.25	10.75	2.83	13.56	23.03	2164	0.92	87	4.38	16
17	6	17	15.75	6	16	1.50	5.33	3.08	8.41	6	16	1.50	8.33	3.08	11.41	25.85	2355	1.03	94	4.53	17
18	6	21	16.75	6	20	1.25	5.33	3.11	8.44	6	20	1.25	8.33	3.11	11.44	27.82	2877	1.11	115	4.82	18
19	6	17	17.25	7	16	1.50	6.42	3.46	9.88	7	16	1.50	10.42	3.46	13.88	33.40	2921	1.34	117	4.91	19
20	6	19	18.25	7	18	1.38	7.42	3.83	11.25	7	18	1.38	11.42	3.83	15.25	35.72	3431	1.43	137	4.92	20
21	6	17	19.25	8	16	1.50	9.08	4.19	13.27	8	16	1.50	13.08	4.19	17.27	38.09	3930	1.52	157	4.93	21
22	6	19	20.25	8	18	1.38	9.08	4.56	13.64	8	18	1.38	14.08	4.56	18.64	40.51	4510	1.62	180	4.95	22
23	6	21	20.75	8	20	1.25	9.58	4.99	14.57	8	20	1.25	14.58	4.99	19.57	47.88	4869	1.92	195	4.95	23
24	6	19	21.75	9	18	1.38	10.25	5.35	15.60	9	18	1.38	16.25	5.35	21.60	50.68	5634	2.03	225	4.97	24
25	6	21	22.75	9	20	1.25	11.25	5.72	16.97	9	20	1.25	17.25	5.72	22.97	53.52	6414	2.14	257	5.00	25
26	7	21	23.75	9	20	1.25	12.25	6.25	18.50	9	20	1.25	18.25	6.25	24.50	56.74	7193	2.27	288	4.93	26
27	7	21	24.25	9	20	1.25	12.75	6.68	19.43	9	20	1.25	18.75	6.68	25.43	66.19	7399	2.65	296	4.93	27
28	8	19	25.25	10	18	1.38	13.75	7.05	20.80	10	18	1.38	19.75	7.05	26.80	69.43	8639	2.78	346	4.98	28
29	8	21	26.25	10	20	1.25	14.75	7.42	22.16	10	20	1.25	20.75	7.41	28.16	73.01	9894	2.92	396	4.98	29
30	8	17	26.75	11	16	1.50	15.25	7.97	23.22	11	16	1.50	21.25	7.97	29.22	84.21	10028	3.37	401	4.94	30



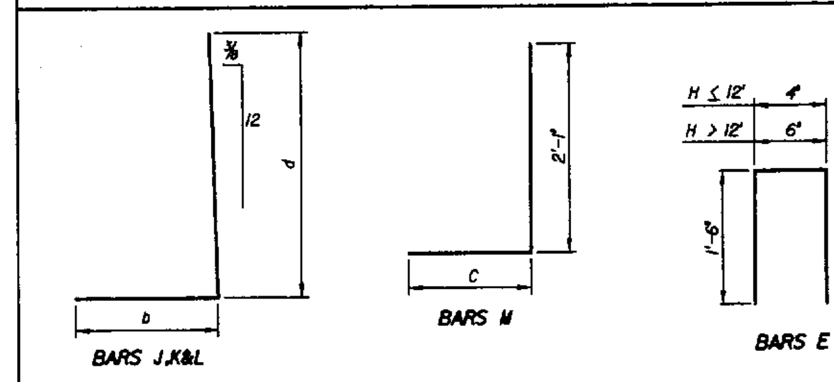
VIEW A-A



TYPICAL SECTION

NOTE:
To accommodate the Variable Height of a wall Unit, vertical Bars may be field cut to fit and the number of horizontal Bars G required by the highest wall dimension within a 25' Unit shall be equally spaced at each end of the Unit.

BENDING DIAGRAM



NOTE: All bar dimensions are out to out.

NOTE:
Bars M & E Paired with Bars F and Bars A Paired with Bars J. Bars E,F and M are No.4 Bars. Bars J are as shown.

Note:
Work this Drawing with Standard Index No. 800.

All Dimensions shown on this Sheet are in Decimals of a Foot, except for Bar Bending Diagrams.

REVISIONS								
Date	By	Description	Date	By	Description		Names	Dates
						Drawn by	M.J.	3/87
						Checked by	M.P.	3/87
						Designed by		
						Checked by		
						Approved by	A.G.M.	

ENGINEER OF RECORD:
STRUCTURES DESIGN OFFICE
605 Suwannee Street, MS 33
Tallahassee, Florida 32399-0450

LOGO:

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.

SHEET TITLE:
CASE III (5.0 KIPS/SQ FT MAX BEARING PRESSURE)
6 FT. TO 30 FT. HEIGHT

PROJECT NAME:

Drawing No.
1 of 1

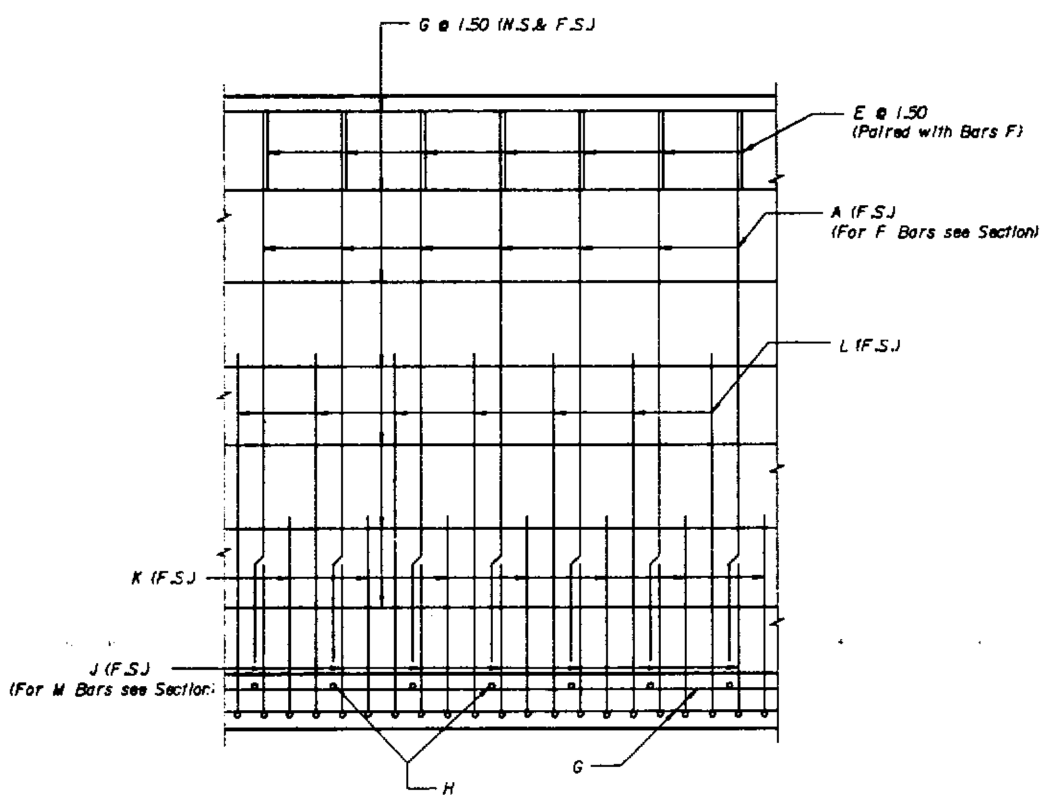
Index No.
816

11-MAY-1989 19:15   ST2:[120J51]CAS35.DGN;l

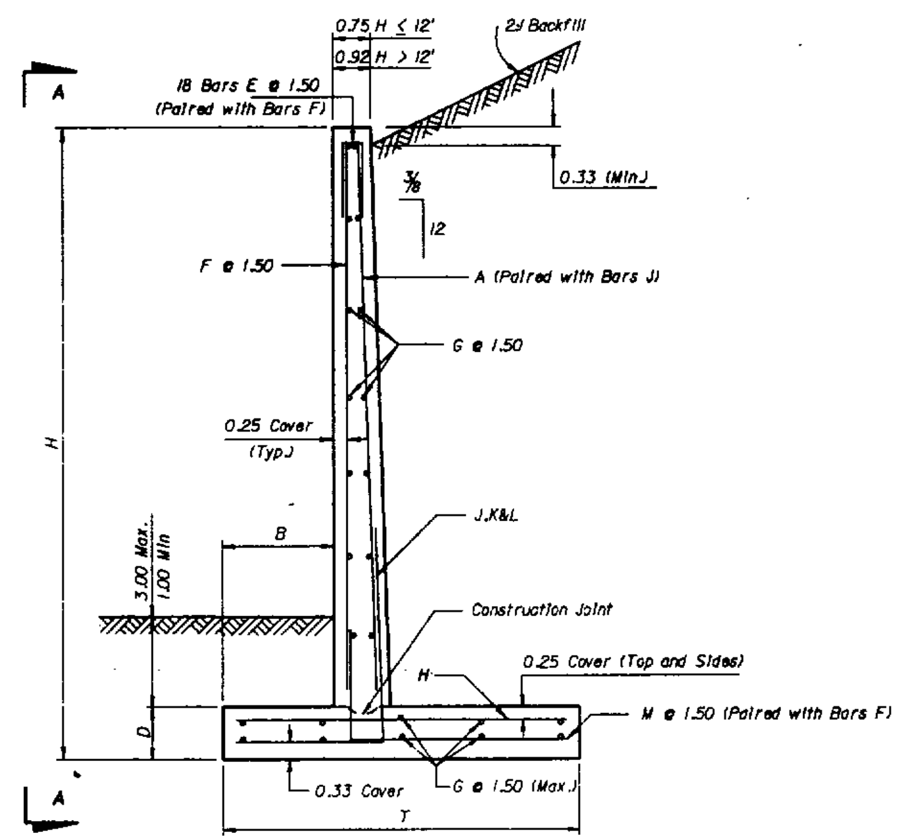
FISCAL YEAR	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.			

RETAINING WALL DATA

WALL DIMENSIONS				REINFORCING STEEL SCHEDULE																																				QUANTITIES				ACTUAL MAXIMUM BEARING PRESSURE	
				BARS J						BARS F			BARS G			BARS H				BARS M				BARS A			BARS K						BARS L						CONCRETE / 25' UNIT	STEEL / 25' UNIT	CONCRETE PER LIN. FT.	STEEL PER LIN. FT.		
H	B	D	T	SIZE	NO.	SPACING	a	b	LENGTH	SIZE	NO.	LENGTH	SIZE	NO.	LENGTH	SIZE	NO.	SPACING	LENGTH	SIZE	NO.	c	LENGTH	SIZE	NO.	LENGTH	SIZE	NO.	SPACING	a	b	LENGTH	SIZE	NO.	SPACING	a	b	LENGTH	C.Y.	LBS.	C.Y.	LBS.	KIPS/SQ.FT.	H
6	0.67	0.92	2.86	4	26	1.00	5.58	1.08	6.66	4	18	5.00	4	14	24.50	4	18	1.42	2.36	4	18	1.78	3.86																6.33	521	0.25	21	1.77	6
7	0.75	0.92	3.41	4	26	1.00	6.58	1.20	7.78	4	18	6.00	4	16	24.50	4	18	1.42	2.91	4	18	2.25	4.33																7.66	596	0.31	24	2.02	7
8	0.92	0.92	3.87	4	26	1.00	7.58	1.39	8.97	4	18	7.00	4	18	24.50	4	18	1.42	3.37	4	18	2.54	4.62																8.93	671	0.36	27	2.26	8
9	1.17	0.92	4.33	4	28	0.92	8.58	1.68	10.26	4	18	8.00	4	20	24.50	4	18	1.42	3.83	4	18	2.74	4.82																10.23	759	0.41	30	2.43	9
10	1.17	0.92	4.85	4	31	0.83	9.58	1.71	11.29	4	18	9.00	4	22	24.50	4	27	0.96	4.35	4	18	3.26	5.34																11.61	906	0.46	36	2.77	10
11	1.33	0.92	5.30	5	26	1.00	10.58	1.90	12.48	4	18	10.00	4	24	24.50	4	34	0.71	4.80	4	18	3.55	5.63																12.97	1068	0.52	43	3.01	11
12	1.50	1.00	5.74	5	32	0.79	11.58	2.10	13.68	4	18	10.92	4	26	24.50	4	34	0.75	5.24	4	18	3.82	5.90																14.71	1245	0.59	50	3.28	12
13	1.58	1.00	6.28	5	32	0.79	12.58	2.38	14.96	4	18	11.92	4	26	24.50	4	40	0.63	5.78	4	18	4.28	6.36																18.08	1341	0.72	54	3.50	13
14	1.67	1.00	6.72	5	40	0.63	13.58	2.49	16.07	4	18	12.92	4	28	24.50	4	54	0.46	6.22	4	18	4.64	6.72																19.70	1631	0.79	65	3.82	14
15	1.83	1.00	7.16	5	26	1.00	14.58	2.69	17.27	4	18	13.92	4	32	24.50	5	43	0.58	6.66	4	18	4.91	6.99				5	25	1.00	5.75	2.69	8.44							21.35	1804	0.85	72	4.06	15
16	1.92	1.00	7.61	5	21	1.25	2.83	2.81	5.64	4	18	14.92	4	34	24.50	5	54	0.46	7.11	4	18	5.28	7.36	5	21	14.92	5	20	1.25	4.75	2.81	7.56	5	20	1.25	10.75	2.81	13.56	23.03	2158	0.92	86	4.38	16
17	2.17	1.17	8.13	6	17	1.50	3.42	3.08	6.50	4	18	15.75	4	36	24.50	5	50	0.50	7.63	4	18	5.54	7.62	6	17	15.75	6	16	1.50	5.33	3.08	8.41	6	16	1.50	8.33	3.08	11.41	25.85	2355	1.03	94	4.53	17
18	2.17	1.17	8.73	6	21	1.25	3.42	3.11	6.53	4	18	16.75	4	38	24.50	6	46	0.54	8.23	4	18	6.15	8.23	6	21	16.75	6	20	1.25	5.33	3.11	8.44	6	20	1.25	8.33	3.11	11.44	27.82	2865	1.11	115	4.82	18
19	2.42	1.67	9.03	7	17	1.50	4.83	3.38	8.21	4	18	17.25	4	40	24.50	5	43	0.58	8.53	4	18	6.20	8.28	6	17	17.25	7	16	1.50	6.42	3.38	9.80	7	16	1.50	10.42	3.38	13.80	33.00	3052	1.32	122	5.14	19
20	2.75	1.67	9.49	7	19	1.38	4.83	3.74	8.57	4	18	18.25	4	44	24.50	5	50	0.50	8.99	4	18	6.33	8.41	6	19	18.25	7	18	1.38	7.42	3.74	11.16	7	18	1.38	11.42	3.74	15.16	35.07	3374	1.40	135	5.24	20
21	3.00	1.67	9.91	8	17	1.50	5.92	4.02	9.94	4	18	19.25	4	44	24.50	5	54	0.46	9.41	4	18	6.49	8.57	6	17	19.25	8	16	1.50	9.08	4.02	13.10	8	16	1.50	13.08	4.02	17.10	37.11	3860	1.48	154	5.43	21
22	3.33	1.67	10.58	8	19	1.38	6.08	4.39	10.47	4	18	20.25	4	46	24.50	6	43	0.58	10.08	4	18	6.83	8.91	6	19	20.25	8	18	1.38	9.08	4.39	13.47	8	18	1.38	14.08	4.39	18.47	39.57	4441	1.58	177	5.40	22
23	3.67	2.17	11.25	8	21	1.25	6.58	4.74	11.32	4	18	20.75	4	50	24.50	5	50	0.50	10.75	4	18	7.16	9.24	6	21	20.75	8	20	1.25	9.58	4.74	14.32	8	20	1.25	14.58	4.74	19.32	46.52	4867	1.86	195	5.46	23
24	4.00	2.17	11.93	9	19	1.38	7.67	5.10	12.77	4	18	21.75	4	52	24.50	5	54	0.46	11.43	4	18	7.51	9.59	6	19	21.75	9	18	1.38	10.25	5.10	15.35	9	18	1.38	16.25	5.10	21.35	49.36	5606	1.97	224	5.45	24
25	4.33	2.17	12.61	9	21	1.25	7.67	5.47	13.14	4	18	22.75	4	50	24.50	6	43	0.58	12.11	4	18	7.86	9.94	6	21	22.75	9	20	1.25	11.25	5.47	16.72	9	20	1.25	17.25	5.47	22.72	52.23	6374	2.09	255	5.45	25
26	4.58	2.17	13.38	9	21	1.25	8.17	5.74	13.91	4	18	23.75	4	54	24.50	6	46	0.54	12.88	4	18	8.38	10.46	7	21	23.75	9	20	1.25	12.25	5.74	17.99	9	20	1.25	18.25	5.74	23.99	55.30	7094	2.21	284	5.45	26
27	5.00	2.67	14.14	9	21	1.25	8.67	6.18	14.85	4	18	24.25	4	58	24.50	6	38	0.67	13.64	4	18	8.72	10.80	7	21	24.25	9	20	1.25	12.75	6.18	18.93	9	20	1.25	18.75	6.18	24.93	64.13	7275	2.57	291	5.45	27
28	5.33	2.67	14.83	10	19	1.38	9.17	6.54	15.71	4	18	25.25	4	60	24.50	6	43	0.58	14.33	4	18	9.08	11.16	8	19	25.25	10	18	1.38	13.75	6.54	20.29	10	18	1.38	19.75	6.54	26.29	67.40	8561	2.70	342	5.48	28
29	5.67	2.67	15.64	10	21	1.25	9.67	6.91	16.58	4	18	26.25	4	62	24.50	6	46	0.54	15.14	4	18	9.56	11.64	8	21	26.25	10	20	1.25	14.75	6.91	21.66	10	20	1.25	20.75	6.91	27.66	71.00	9773	2.84	391	5.46	29
30	6.08	3.17	16.40	11	17	1.50	10.17	7.34	17.51	4	18	26.75	4	64	24.50	6	46	0.54	15.90	4	18	9.90	11.98	8	17	26.75	11	16	1.50	15.25	7.34	22.59	11	16	1.50	21.25	7.34	28.59	81.27	9800	3.25	392	5.50	30



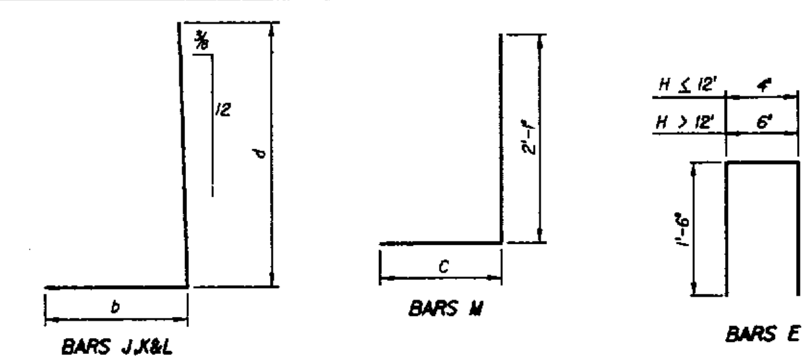
VIEW A-A



TYPICAL SECTION

NOTE:
To accommodate the Variable Height of a wall Unit, vertical Bars may be field cut to fit and the number of horizontal Bars G required by the highest wall dimension within a 25' Unit shall be equally spaced at each end of the Unit.

BENDING DIAGRAM



NOTE: All bar dimensions are out to out.

NOTE:
Bars M & E Paired with Bars F and Bars A Paired with Bars J. Bars E,F and M are No.4 Bars. Bars J are as shown.

Note:
Work this Drawing with Standard Index No. 800.

All Dimensions shown on this Sheet are in Decimals of a Foot, except for Bar Bending Diagrams.

REVISIONS							Names	Dates
Date	By	Description	Date	By	Description	Drawn by	M.J.	3/87
						Checked by	M.P.	3/87
						Designed by		
						Checked by		
						Approved by	A.G.M.	

ENGINEER OF RECORD:
STRUCTURES DESIGN OFFICE
605 Suwannee Street, MS 33
Tallahassee, Florida 32399-0450

LOGO:

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.

SHEET TITLE:
CASE III (5.5 KIPS/SQ. FT. MAX. BEARING PRESSURE)
6 FT. TO 30 FT. HEIGHT

PROJECT NAME:

Drawing No. 1 of 1

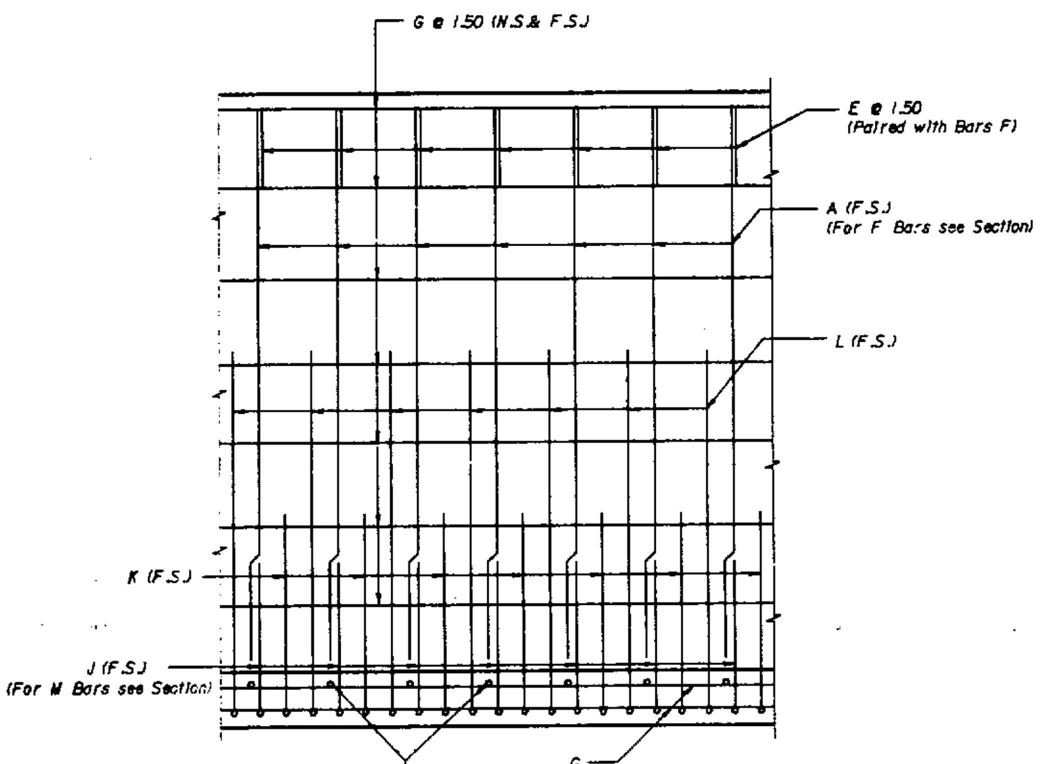
Index No. 817

11-MAY-1989 19:23 ST2:[120J51]CAS355.DGN;1

RETAINING WALL DATA

WALL DIMENSIONS				REINFORCING STEEL SCHEDULE																			
				BARS J						BARS F			BARS G			BARS H				BARS M			
H	B	D	T	SIZE	NO.	SPACING	a	b	LENGTH	SIZE	NO.	LENGTH	SIZE	NO.	LENGTH	SIZE	NO.	SPACING	LENGTH	SIZE	NO.	c	LENGTH
6	0.67	0.92	2.86	4	26	1.00	5.58	1.08	6.66	4	18	5.00	4	14	24.50	4	18	1.42	2.36	4	18	1.77	3.85
7	0.75	0.92	3.41	4	26	1.00	6.58	1.19	7.77	4	18	6.00	4	16	24.50	4	18	1.42	2.91	4	18	2.24	4.32
8	0.92	0.92	3.87	4	26	1.00	7.58	1.39	8.97	4	18	7.00	4	18	24.50	4	18	1.42	3.37	4	18	2.53	4.61
9	1.17	0.92	4.33	4	28	0.92	8.58	1.68	10.26	4	18	8.00	4	20	24.50	4	18	1.42	3.83	4	18	2.74	4.82
10	1.17	0.92	4.85	4	31	0.83	9.58	1.70	11.28	4	18	9.00	4	22	24.50	4	27	0.96	4.35	4	18	3.26	5.34
11	1.33	0.92	5.30	5	26	1.00	10.58	1.89	12.47	4	18	10.00	4	22	24.50	4	34	0.75	4.80	4	18	3.55	5.63
12	1.50	1.00	5.74	5	32	0.79	11.58	2.08	13.66	4	18	10.91	4	26	24.50	4	34	0.75	5.24	4	18	3.82	5.90
13	1.58	1.00	6.28	5	32	0.79	12.58	2.35	14.93	4	18	11.91	4	28	24.50	4	40	0.63	5.78	4	18	4.28	6.36
14	1.67	1.00	6.72	5	40	0.63	13.58	2.47	16.05	4	18	12.91	4	28	24.50	4	54	0.46	6.22	4	18	4.63	6.71
15	1.83	1.00	7.16	5	26	1.00	14.58	2.66	17.24	4	18	13.91	4	32	24.50	5	44	0.58	6.66	4	18	4.91	6.99
16	1.92	1.00	7.61	5	21	1.25	2.83	2.78	5.61	4	18	14.91	4	34	24.50	5	55	0.46	7.11	4	18	5.27	7.35
17	2.17	1.17	8.13	6	17	1.50	3.42	3.06	6.48	4	18	15.75	4	36	24.50	5	51	0.50	7.63	4	18	5.54	7.62
18	2.17	1.17	8.73	6	21	1.25	3.42	3.09	6.51	4	18	15.75	4	38	24.50	6	47	0.54	8.23	4	18	6.14	8.22
19	2.42	1.67	9.03	7	17	1.50	4.83	3.35	8.18	4	18	17.25	4	40	24.50	5	44	0.58	8.53	4	18	6.19	8.27
20	2.75	1.67	9.49	7	19	1.38	4.83	3.71	8.54	4	18	18.25	4	44	24.50	6	34	0.75	8.99	4	18	6.83	8.90
21	3.00	1.67	9.91	8	17	1.50	5.92	3.99	9.91	4	18	19.25	4	44	24.50	6	38	0.67	9.41	4	18	6.49	8.57
22	3.25	1.67	10.35	8	19	1.38	6.58	4.27	10.85	4	18	20.25	4	46	24.50	6	44	0.58	9.85	4	18	6.18	8.26
23	3.50	2.17	10.80	8	21	1.25	6.58	4.53	11.11	4	18	20.75	4	48	24.50	6	34	0.75	10.30	4	18	6.88	8.96
24	3.75	2.17	11.41	9	19	1.38	7.67	4.82	12.49	4	18	21.75	4	50	24.50	5	55	0.46	10.91	4	18	7.24	9.32
25	4.08	2.17	11.97	9	21	1.25	7.67	5.18	12.85	4	18	22.75	4	50	24.50	5	60	0.42	11.47	4	18	7.47	9.55
26	4.33	2.17	12.75	9	21	1.25	8.17	5.45	13.62	4	18	23.75	4	54	24.50	7	34	0.75	12.25	4	18	8.00	10.08
27	4.75	2.67	13.51	9	21	1.25	8.67	5.89	14.56	4	18	24.25	4	56	24.50	6	38	0.67	13.01	4	18	8.34	10.42
28	5.08	2.67	14.21	10	19	1.38	9.17	6.25	15.42	4	18	25.25	4	58	24.50	7	31	0.83	13.71	4	18	8.71	10.79
29	5.42	2.67	14.91	10	21	1.25	9.67	6.62	16.29	4	18	26.25	4	62	24.50	6	47	0.54	14.41	4	18	9.07	11.15
30	5.75	3.17	15.71	11	17	1.50	10.17	6.97	17.14	4	18	26.75	4	62	24.50	6	47	0.54	15.21	4	18	9.54	11.62

	REINFORCING STEEL SCHEDULE															QUANTITIES				ACTUAL MAXIMUM BEARING PRESSURE	
	BARS A			BARS K						BARS L						CONCRETE / 25' UNIT	STEEL / 25' UNIT	CONCRETE PER LIN.FT.	STEEL PER LIN.FT.		
H	SIZE	NO.	LENGTH	SIZE	NO.	SPACING	a	b	LENGTH	SIZE	NO.	SPACING	a	b	LENGTH	C.Y.	LBS.	C.Y.	LBS.	KIPS/SQ.FT.	H
6																6.33	520	0.25	21	1.77	6
7																7.66	596	0.31	24	2.02	7
8																8.93	671	0.36	27	2.26	8
9																10.23	759	0.41	30	2.43	9
10																11.61	885	0.46	35	2.77	10
11																12.97	1036	0.52	41	3.01	11
12																14.71	1243	0.59	50	3.28	12
13																18.08	1373	0.72	55	3.50	13
14																19.70	1639	0.79	66	3.82	14
15				5	25	1.00	5.75	2.66	8.41							21.35	1810	0.85	72	4.06	15
16	5	21	14.92	5	20	1.25	4.75	2.78	7.53	5	20	1.25	10.75	2.78	13.53	23.03	2162	0.92	86	4.38	16
17	6	17	15.75	6	16	1.50	5.33	3.06	8.39	6	16	1.50	8.33	3.06	11.39	25.85	2361	1.03	94	4.53	17
18	6	21	16.75	6	20	1.25	5.33	3.09	8.42	6	20	1.25	8.33	3.09	11.42	27.82	2874	1.11	115	4.82	18
19	6	17	17.25	7	16	1.50	6.42	3.35	9.77	7	16	1.50	10.42	3.35	13.77	33.00	2890	1.32	116	5.14	19
20	6	19	18.25	7	18	1.38	7.42	3.71	11.13	7	18	1.38	11.42	3.71	15.13	35.07	3366	1.40	135	5.24	20
21	6	17	19.25	8	16	1.50	9.08	3.99	13.07	8	16	1.50	13.08	3.99	17.07	37.11	3863	1.48	155	5.43	21
22	6	19	20.25	8	18	1.38	9.08	4.27	13.35	8	18	1.38	14.08	4.27	18.35	39.21	4441	1.57	178	5.61	22
23	6	21	20.75	8	20	1.25	9.58	4.53	14.11	8	20	1.25	14.58	4.53	19.11	46.52	4762	1.82	190	5.86	23
24	6	19	21.75	9	18	1.38	10.25	4.82	15.07	9	18	1.38	16.25	4.82	21.07	48.31	5499	1.93	220	5.94	24
25	6	21	22.75	9	20	1.25	11.25	5.18	16.43	9	20	1.25	17.25	5.18	22.43	50.93	6244	2.04	250	5.98	25
26	7	21	23.75	9	20	1.25	12.25	5.45	17.70	9	20	1.25	18.25	5.45	23.70	54.02	6991	2.16	280	5.93	26
27	7	21	24.25	9	20	1.25	12.75	5.89	18.64	9	20	1.25	18.75	5.89	24.64	62.59	7142	2.50	286	5.91	27
28	8	19	25.25	10	18	1.38	13.75	6.25	20.00	10	18	1.38	19.75	6.25	26.00	65.88	8398	2.64	336	5.91	28
29	8	21	26.25	10	20	1.25	14.75	6.62	21.37	10	20	1.25	20.75	6.62	27.37	69.20	9662	2.77	386	5.91	29
30	8	17	26.75	11	16	1.50	15.25	6.97	22.22	11	16	1.50	21.25	6.97	28.22	79.26	9642	3.17	386	5.96	30



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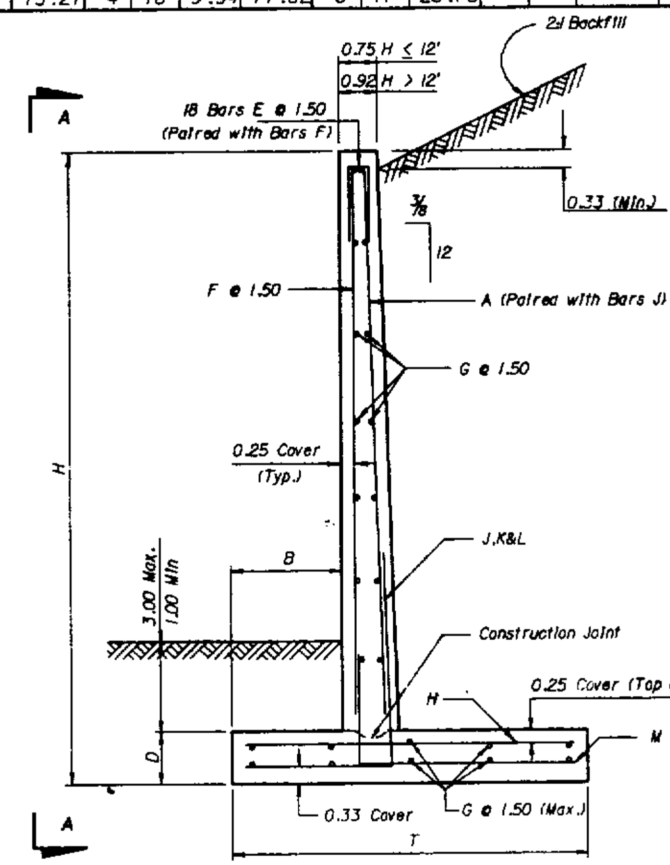
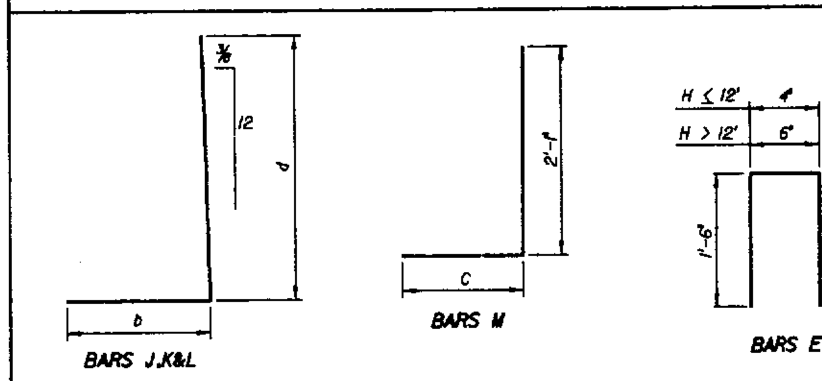


TYPICAL SECTION

NOTE:
To accommodate the Variable Height of a wall Unit, vertical Bars may be field cut to fit and the number of horizontal Bars G required by the highest wall dimension within a 25' Unit shall be equally spaced at each end of the Unit.

BENDING DIAGRAM



NOTE: All bar dimensions are out to out.

NOTE:
Bars M & E Paired with Bars F and Bars A Paired with Bars J. Bars E,F and M are No.4 Bars. Bars J are as shown.

Note:
Work this Drawing with Standard Index No. 800.

All Dimensions shown on this Sheet are in Decimals of a Foot, except for Bar Bending Diagrams.

REVISIONS						
Date	By	Description		Date	By	Description

	Names	Dates
Drawn by	M.J.	3/87
Checked by	M.P.	3/87
Designed by		
Checked by		
Approved by	A.G.M.	

ENGINEER OF RECORD:
STRUCTURES DESIGN OFFICE
605 Suwannee Street, MS 33
Tallahassee, Florida 32399-0450

LOGO:

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO. | COUNTY | PROJECT NO.

SHEET TITLE:
CASE III (6.0 KIPS/SQ.FT. MAX. BEARING PRESSURE)
6 FT. TO 30 FT. HEIGHT

PROJECT NAME:

Drawing No. 1 of 1

Index No. 818

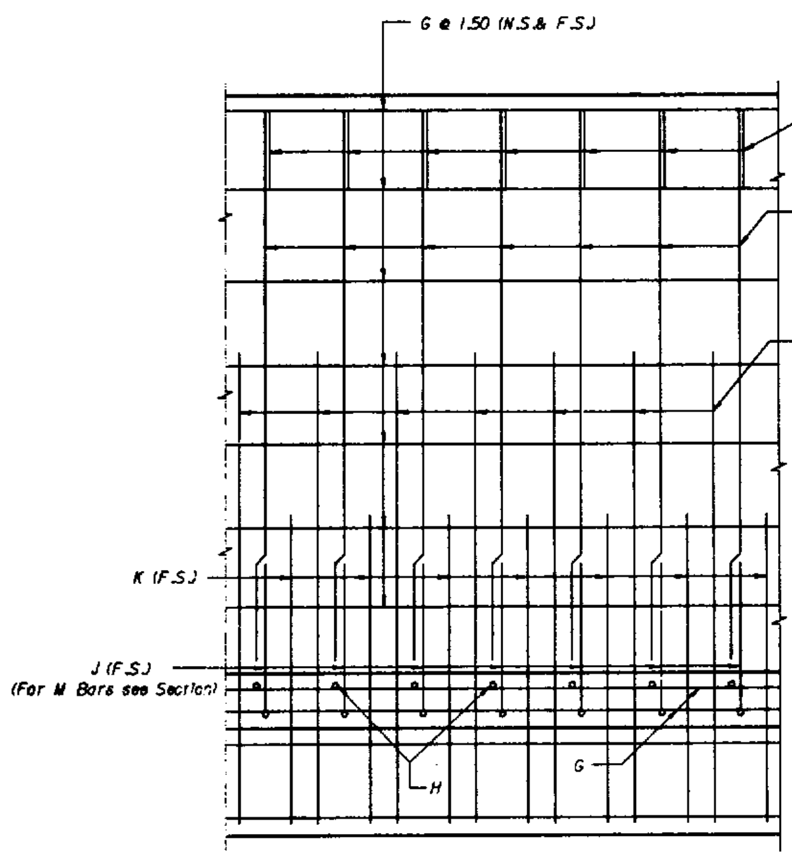
RETAINING WALL DATA

WALL DIMENSIONS / REINFORCING STEEL SCHEDULE

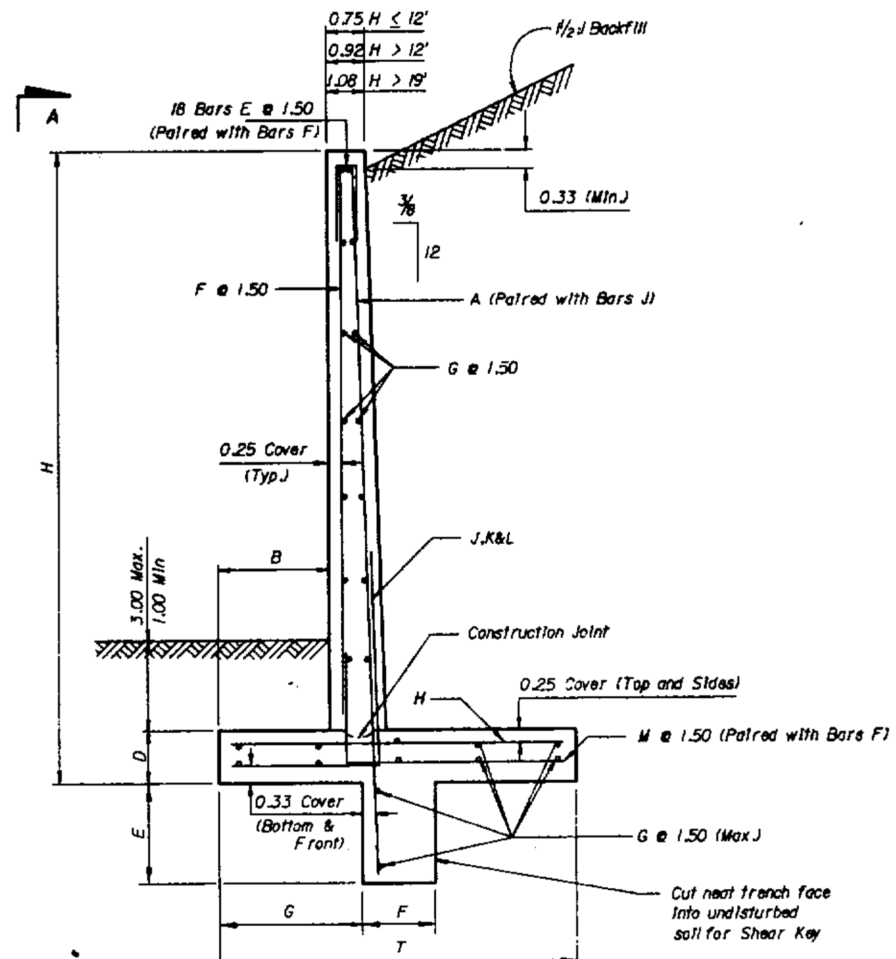
WALL DIMENSIONS				BARS J						BARS F			BARS G		
H	B	D	T	SIZE	NO.	SPACING	a	b	LENGTH	SIZE	NO.	LENGTH	SIZE	NO.	LENGTH
6	0.83	0.92	3.91	4	26	1.00	5.58	1.25	6.83	4	18	5.00	4	14	24.50
7	1.25	0.92	4.69	4	26	1.00	6.58	1.70	8.28	4	18	6.00	4	16	24.50
8	1.25	1.00	5.31	4	27	0.96	7.58	1.75	9.33	4	18	6.92	4	18	24.50
9	1.67	1.00	6.25	4	21	1.25	8.58	2.17	10.75	4	18	7.92	4	24	24.50
10	2.25	1.17	8.20	4	28	0.92	9.58	2.75	12.33	4	18	8.75	4	26	24.50
11	3.00	1.17	10.48	5	24	1.08	10.58	3.58	14.16	4	18	9.75	4	30	24.50
12	3.50	1.42	11.50	5	28	0.92	11.58	4.08	15.66	4	18	10.50	4	32	24.50
13	4.00	1.42	13.20	5	28	0.92	12.58	4.75	17.33	4	18	11.50	4	36	24.50
14	5.00	1.67	16.22	6	26	1.00	13.57	5.85	19.40	4	18	12.25	4	40	24.50
15	7.00	1.67	22.25	6	21	1.25	3.91	7.83	11.75	4	18	13.25	4	52	24.50

H	BARS H				BARS M				BARS A1			BARS A2				BARS A3			
	SIZE	NO.	SPACING	LENGTH	SIZE	NO.	c	LENGTH	SIZE	NO.	LENGTH	SIZE	NO.	SPACING	LENGTH	SIZE	NO.	SPACING	LENGTH
6	4	18	1.42	3.41	4	18	2.66	4.49											
7	4	18	1.42	4.19	4	18	3.02	4.85											
8	4	24	1.08	4.81	4	18	3.64	5.47											
9	4	24	1.08	5.75	4	18	4.17	6.00				4	20	1.25	5.67				
10	4	30	0.83	7.70	4	18	5.53	7.36				4	27	0.92	4.92				
11	4	30	0.83	9.98	4	18	7.06	8.89				5	23	1.08	5.92				
12	5	26	1.00	11.00	4	18	7.58	9.91				5	27	0.92	6.75				
13	5	26	1.00	12.70	4	18	8.78	11.11				5	27	0.92	7.08				
14	5	30	0.83	15.72	4	18	10.80	13.13				6	25	1.00	7.50				
15	7	33	0.75	21.75	4	18	14.83	17.16	5	21	13.25	6	20	1.25	7.83	6	20	1.25	10.83

H	SHEAR KEY DIMENSIONS			QUANTITIES				ACTUAL MAXIMUM BEARING PRESSURE	H
	E	F	G	CONCRETE / 25' UNIT C.Y.	STEEL / 25' UNIT LBS.	CONCRETE PER LIN.FT. C.Y.	STEEL PER LIN.FT. LBS.	KIPS/SQ.FT.	
6				7.23	543	0.29	22	2.26	6
7				8.74	627	0.35	25	2.35	7
8				10.48	729	0.42	29	2.91	8
9	1.00	1.00	2.09	13.19	919	0.53	37	2.96	9
10	1.00	1.00	2.70	17.05	1133	0.68	45	2.83	10
11	1.00	1.00	3.48	20.47	1452	0.82	58	2.73	11
12	1.00	1.00	4.00	24.94	1755	1.00	70	2.86	12
13	1.00	1.00	4.69	30.01	1953	1.20	78	2.93	13
14	1.00	1.00	5.72	38.63	2533	1.55	101	2.97	14
15	1.00	1.00	7.75	49.22	3947	1.97	158	3.00	15



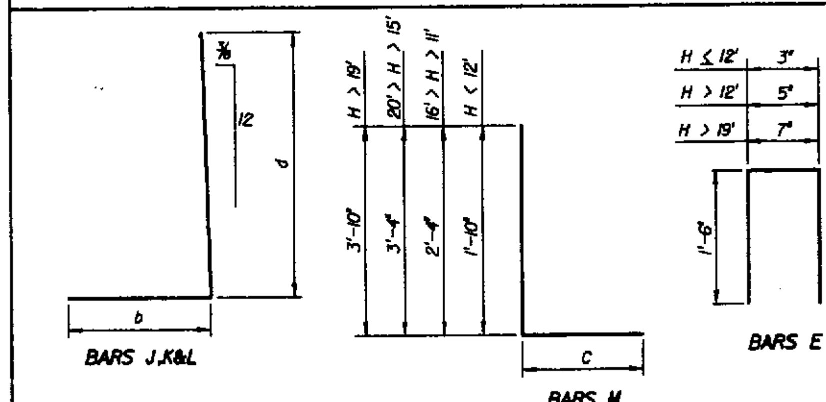
VIEW A-A



TYPICAL SECTION

NOTE: To accommodate the Variable Height of a wall Unit, vertical Bars may be field cut to fit and the number of horizontal Bars G required by the highest wall dimension within a 25' Unit shall be equally spaced at each end of the Unit.

BENDING DIAGRAM



NOTE: All bar dimensions are out to out.

NOTE: Bars M & E Paired with Bars F and Bars A Paired with Bars J. Bars E,F and M are No.4 Bars. Bars J are as shown.

Note: Work this Drawing with Standard Index No. 800.

All Dimensions shown on this Sheet are in Decimals of a Foot, except for Bar Bending Diagrams.

REVISIONS					
Date	By	Description	Date	By	Description

	Names	Dates
Drawn by	M.J.	3/87
Checked by	M.P.	3/87
Designed by		
Checked by		
Approved by	A.G.M.	

ENGINEER OF RECORD: STRUCTURES DESIGN OFFICE, 605 Suwannee Street, MS 33, Tallahassee, Florida 32399-0450

LOGO:

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.

SHEET TITLE: CASE IV (3.0 KIPS/SQ FT MAX BEARING PRESSURE) 6 FT. TO 15 FT. HEIGHT

PROJECT NAME:

Drawing No. 1 of 1

Index No. 819

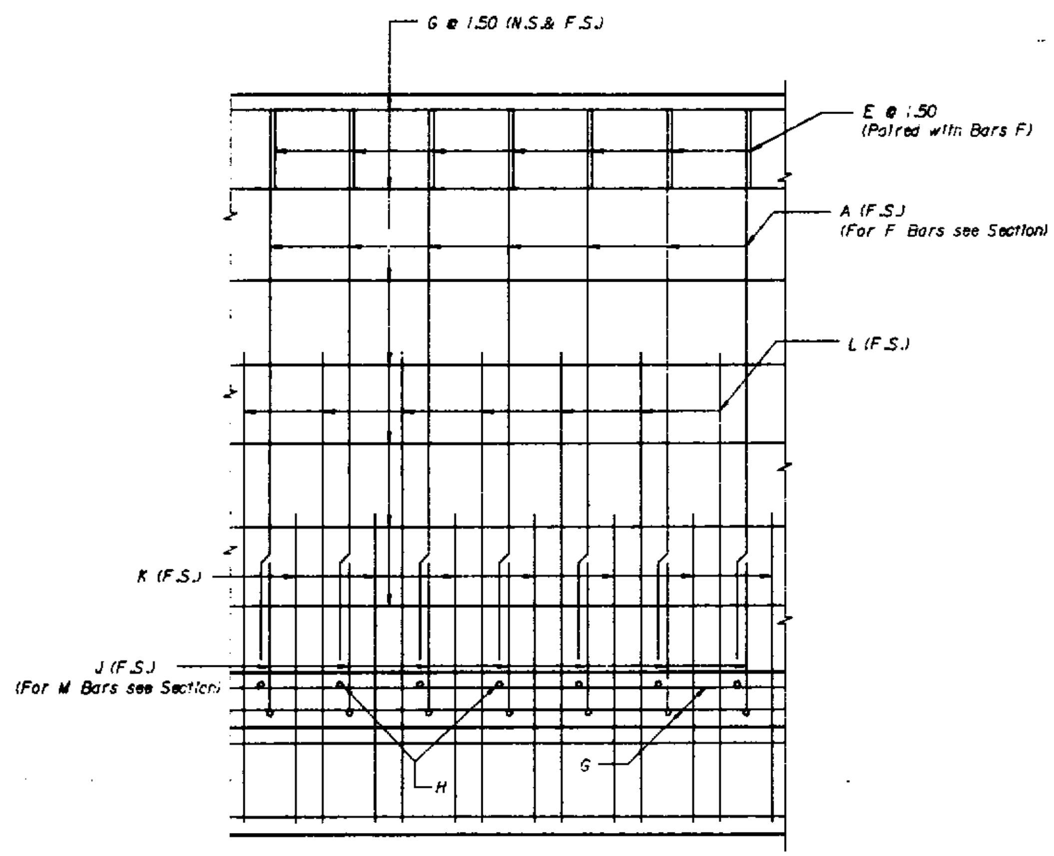
RETAINING WALL DATA

WALL DIMENSIONS / REINFORCING STEEL SCHEDULE

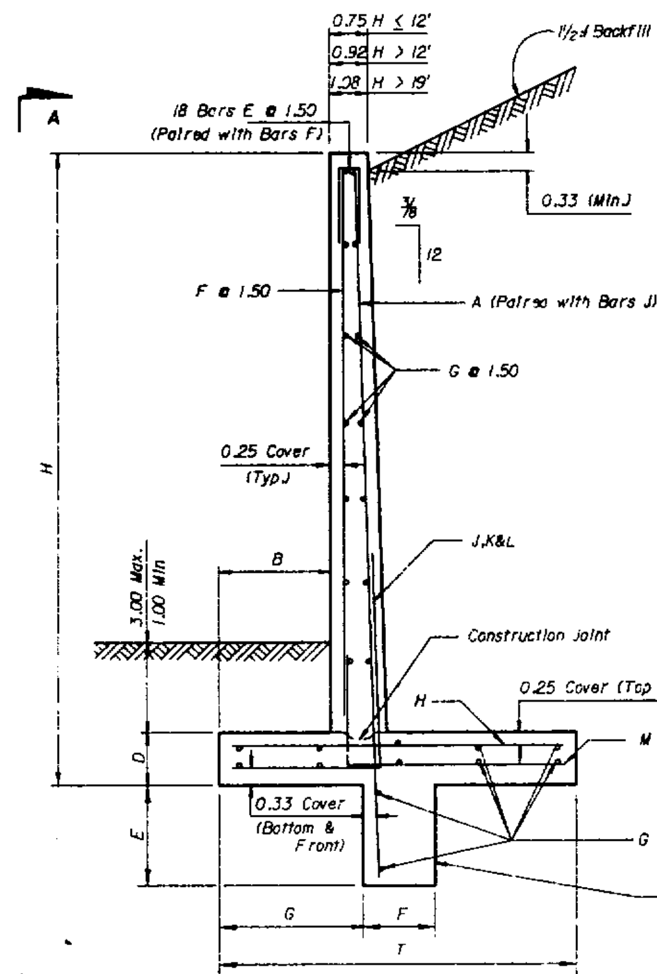
H	B	D	T	BARS J SIZE	BARS J NO.	BARS J SPACING	BARS J a	BARS J b	BARS J LENGTH	BARS F SIZE	BARS F NO.	BARS F LENGTH	BARS G SIZE	BARS G NO.	BARS G LENGTH
6	0.83	0.92	3.91	4	26	1.00	5.58	1.25	6.83	4	18	5.00	4	14	24.50
7	1.25	0.92	4.69	4	26	1.00	6.58	1.67	8.25	4	18	6.00	4	16	24.50
8	1.25	1.00	5.31	4	27	0.96	7.58	1.75	9.33	4	18	6.92	4	18	24.50
9	1.50	1.00	5.84	4	21	1.25	8.58	2.00	10.58	4	18	7.92	4	22	24.50
10	1.67	1.17	6.61	4	28	0.92	9.58	2.17	11.75	4	18	8.75	4	24	24.50
11	1.83	1.17	7.39	5	24	1.08	10.58	2.42	13.00	4	18	9.75	4	26	24.50
12	2.25	1.42	9.25	5	28	0.92	11.58	2.83	14.41	4	18	10.50	4	28	24.50
13	3.00	1.42	10.70	5	28	0.92	12.58	3.79	16.36	4	18	11.50	4	34	24.50
14	3.50	1.67	11.72	6	26	1.00	13.58	4.30	17.88	4	18	12.25	4	36	24.50
15	4.00	1.67	13.25	6	21	1.25	3.92	4.83	8.75	4	18	13.25	4	36	24.50
16	4.50	2.17	14.77	7	17	1.50	5.33	5.35	10.68	4	18	13.75	4	42	24.50
17	5.50	2.67	17.78	7	19	1.38	7.01	6.37	13.38	4	18	14.25	4	46	24.50
18	6.50	2.67	20.82	8	17	1.50	8.75	7.40	16.15	4	18	15.25	4	52	24.50
19	7.50	2.67	23.85	9	17	1.50	8.1	8.43	16.60	4	18	16.25	4	56	24.50

H	BARS H SIZE	BARS H NO.	BARS H SPACING	BARS H LENGTH	BARS M SIZE	BARS M NO.	BARS M c	BARS M LENGTH	BARS A1 SIZE	BARS A1 NO.	BARS A1 LENGTH	BARS A2 SIZE	BARS A2 NO.	BARS A2 SPACING	BARS A2 LENGTH	BARS A3 SIZE	BARS A3 NO.	BARS A3 SPACING	BARS A3 LENGTH
6	4	18	1.42	3.41	4	18	2.66	4.50											
7	4	18	1.42	4.19	4	18	3.02	4.85											
8	4	24	1.08	4.81	4	18	3.64	5.47											
9	4	24	1.08	5.34	4	18	3.92	5.75				4	20	1.25	5.67				
10	4	28	0.88	6.11	4	18	4.53	6.36				4	27	0.92	4.92				
11	5	25	1.00	6.89	4	18	5.14	6.97				5	23	1.08	5.92				
12	5	25	1.00	8.75	4	18	6.58	8.91				5	27	0.92	6.75				
13	5	25	1.00	10.20	4	18	7.28	9.61				5	27	0.92	7.08				
14	5	32	0.79	11.22	4	18	7.80	10.13				6	25	1.00	7.50				
15	5	32	0.79	12.75	4	18	8.84	11.17	5	21	13.25	6	20	1.25	7.83	6	20	1.25	10.83
16	5	43	0.58	14.27	4	18	9.85	12.18	5	17	13.75	6	16	1.50	8.33	6	16	1.50	12.33
17	5	54	0.46	17.28	4	18	11.87	15.20	5	19	14.25	6	18	1.38	9.83	6	18	1.38	12.83
18	5	54	0.46	20.32	4	18	13.90	17.23	5	17	15.25	6	16	1.50	10.83	6	16	1.50	13.83
19	5	54	0.46	23.35	4	18	15.93	19.26	5	17	16.25	8	16	1.50	12.50	8	16	1.50	19.50

H	SHEAR KEY DIMENSIONS E	SHEAR KEY DIMENSIONS F	SHEAR KEY DIMENSIONS G	QUANTITIES CONCRETE / 25' UNIT C.Y.	QUANTITIES STEEL / 25' UNIT LBS.	QUANTITIES CONCRETE PER LIN.FT. C.Y.	QUANTITIES STEEL PER LIN.FT. LBS.	ACTUAL MAXIMUM BEARING PRESSURE KIPS/SQ.FT.	H
6				7.23	543	0.29	22	2.26	6
7				8.74	627	0.35	25	2.35	7
8				10.48	729	0.42	29	2.91	8
9	1.00	1.00	1.88	12.81	874	0.51	35	3.23	9
10	1.00	1.00	2.07	15.33	1037	0.61	41	3.58	10
11	1.00	1.00	2.26	17.14	1314	0.69	53	3.91	11
12	1.00	1.00	2.70	22.03	1571	0.88	63	3.85	12
13	1.00	1.00	3.65	26.89	1793	1.08	72	3.56	13
14	1.23	1.08	4.16	31.99	2253	1.28	90	3.66	14
15	1.58	1.25	4.69	36.17	2510	1.45	100	3.73	15
16	1.33	1.08	5.20	45.47	2793	1.82	112	3.89	16
17	0.83	1.00	6.21	59.81	3537	2.39	141	3.86	17
18	1.00	1.00	7.24	68.75	4016	2.75	161	3.87	18
19	1.08	1.00	8.26	77.61	5383	3.10	215	3.95	19



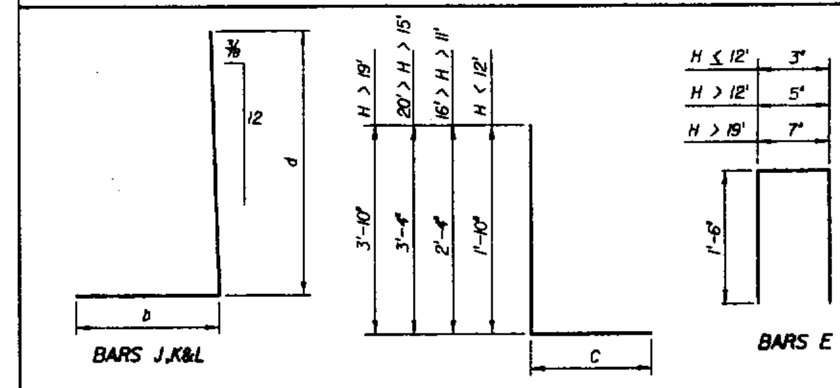
VIEW A-A



TYPICAL SECTION

NOTE:
To accommodate the Variable Height of a wall Unit, vertical Bars may be field cut to fit and the number of horizontal Bars G required by the highest wall dimension within a 25' Unit shall be equally spaced at each end of the Unit.

BENDING DIAGRAM



NOTE: All bar dimensions are out to out.

NOTE:
Bars M & E Paired with Bars F and Bars A Paired with Bars J. Bars E,F and M are No.4 Bars. Bars J are as shown.

Note:
Work this Drawing with Standard Index No. 800.

All Dimensions shown on this Sheet are in Decimals of a Foot, except for Bar Bending Diagrams.

REVISIONS									
Date	By	Description	Date	By	Description		Names	Dates	
						Drawn by	M.J.	3/87	
						Checked by	M.P.	3/87	
						Designed by			
						Checked by			

ENGINEER OF RECORD:
STRUCTURES DESIGN OFFICE
605 Suwannee Street, MS 33
Tallahassee, Florida 32399-0450

LOGO:

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO. | COUNTY | PROJECT NO.

SHEET TITLE:
CASE IV (4.0 KIPS/SQ FT MAX BEARING PRESSURE)
6 FT. TO 19 FT. HEIGHT

PROJECT NAME:

Drawing No.
1 of 1

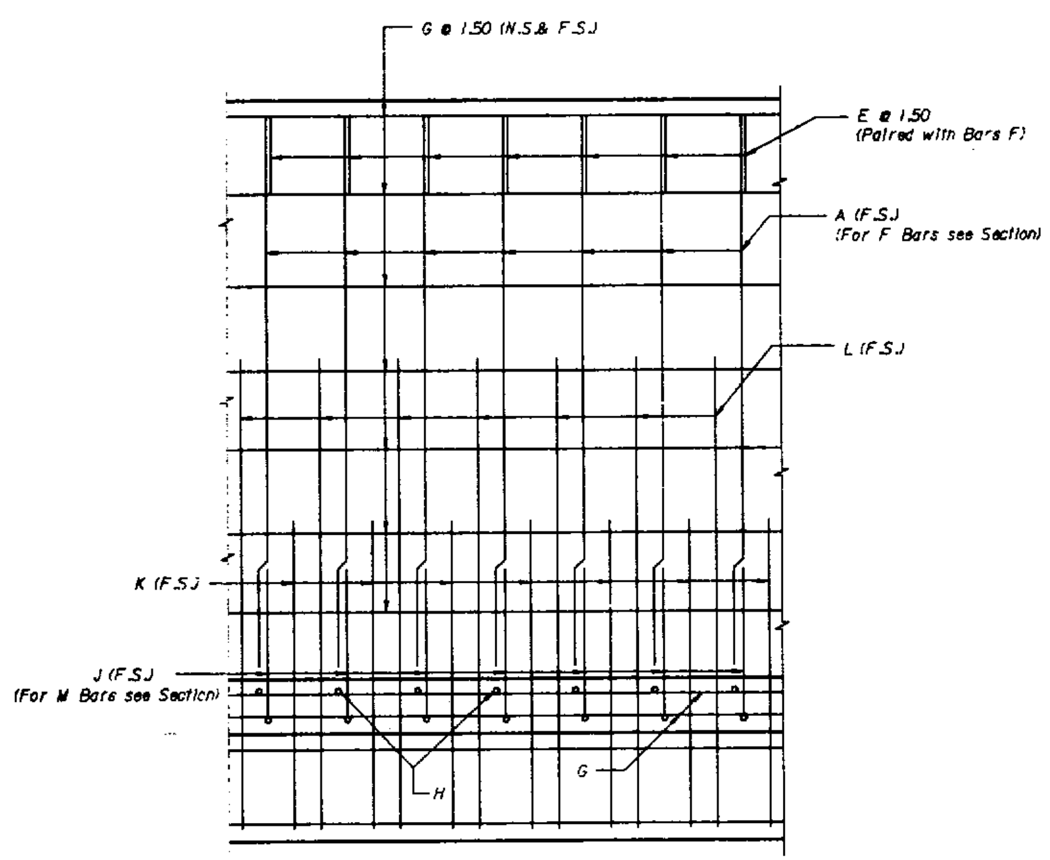
Index No.
820

FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.			

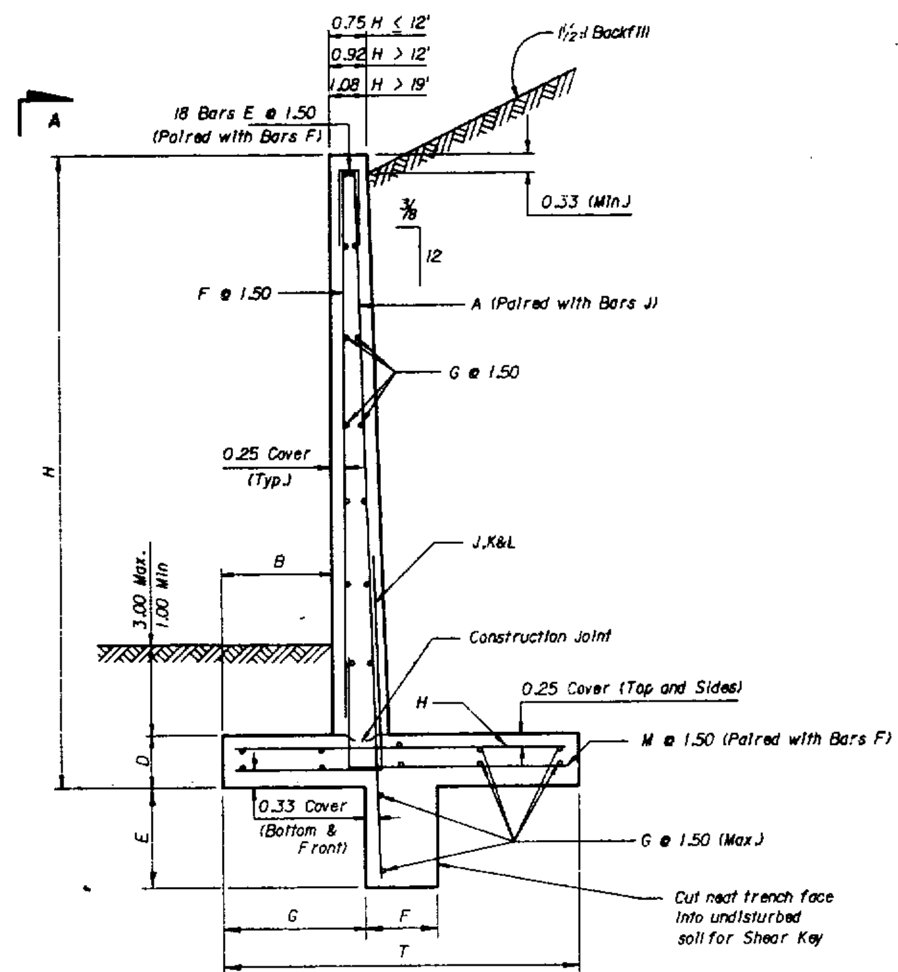
RETAINING WALL DATA

H	WALL DIMENSIONS B	D	T	REINFORCING STEEL SCHEDULE: BARS J SIZE	NO.	SPACING	a	b	LENGTH	BARS F SIZE	NO.	LENGTH	BARS G SIZE	NO.	LENGTH	BARS H SIZE	NO.	SPACING	LENGTH
6	0.83	0.92	3.91	4	26	1.00	5.58	1.25	6.83	4	18	5.00	4	14	24.50	4	18	1.42	3.41
7	1.25	0.92	4.69	4	26	1.00	6.58	1.70	8.28	4	18	6.00	4	16	24.50	4	18	1.42	4.19
8	1.25	1.00	5.31	4	27	0.96	7.58	1.72	9.30	4	18	6.92	4	18	24.50	4	24	1.08	4.81
9	1.50	1.00	5.84	4	21	1.25	8.58	2.00	10.58	4	18	7.92	4	22	24.50	4	24	1.08	5.33
10	1.67	1.17	6.61	4	28	0.92	9.58	2.20	11.78	4	18	8.75	4	24	24.50	4	28	0.88	6.11
11	1.83	1.17	7.06	5	24	1.08	10.58	2.39	12.97	4	18	9.75	4	26	24.50	5	25	1.00	6.56
12	2.00	1.42	8.00	5	28	0.92	11.58	2.58	14.16	4	18	10.50	4	30	24.50	5	25	1.00	7.50
13	2.25	1.42	8.45	5	28	0.92	12.58	3.03	15.61	4	18	11.50	4	30	24.50	5	27	0.92	7.94
14	2.50	1.67	9.72	6	26	1.00	13.58	3.30	16.88	4	18	12.25	4	34	24.50	6	22	1.17	9.22
15	3.00	1.67	10.75	6	21	1.25	3.92	3.84	7.76	4	18	13.25	4	34	24.50	6	23	1.08	10.25
16	3.50	2.17	11.77	7	17	1.50	5.33	4.35	9.68	4	18	13.75	4	38	24.50	6	30	0.83	11.27
17	4.00	2.67	13.28	7	19	1.38	7.08	4.87	11.95	4	18	14.25	4	40	24.50	7	29	0.88	12.78
18	4.50	2.67	14.82	8	17	1.50	8.75	5.40	14.15	4	18	15.25	4	44	24.50	7	29	0.88	14.32
19	5.00	2.67	16.35	9	17	1.50	8.17	5.93	14.10	4	13	15.25	4	46	24.50	7	29	0.88	15.85
20	5.50	2.92	18.04	9	17	1.50	8.42	6.62	15.04	4	18	17.00	4	50	24.50	8	25	1.00	17.54
21	6.50	2.92	21.07	9	19	1.38	8.42	7.65	16.07	4	18	18.00	4	54	24.50	8	25	1.00	20.57
22	7.00	2.92	22.60	10	17	1.50	10.25	8.18	18.43	4	18	19.00	4	60	24.50	8	25	1.00	22.10
23	8.00	3.17	25.62	10	19	1.38	10.25	9.21	19.46	4	18	19.75	4	64	24.50	8	26	0.96	25.12

H	BARS M SIZE	NO.	c	LENGTH	BARS A1 SIZE	NO.	LENGTH	BARS A2 SIZE	NO.	SPACING	LENGTH	BARS A3 SIZE	NO.	SPACING	LENGTH	SHEAR KEY DIMENSIONS E	F	G	QUANTITIES: CONCRETE / 25' UNIT C.Y.	STEEL / 25' UNIT LBS.	CONCRETE PER LIN.FT. C.Y.	STEEL PER LIN.FT. LBS.	ACTUAL MAXIMUM BEARING PRESSURE KIPS/SQ.FT.	H
6	4	18	2.66	4.49															7.23	543	0.29	22	2.26	6
7	4	18	3.02	4.85															8.74	627	0.35	25	2.35	7
8	4	18	3.64	5.47															10.48	728	0.42	29	2.91	8
9	4	18	3.92	5.75				4	20	1.25	5.67					1.00	1.00	1.92	12.81	874	0.51	35	3.23	9
10	4	18	4.53	6.36				4	27	0.92	4.92					1.00	1.00	2.12	15.33	1038	0.61	42	3.58	10
11	4	18	4.81	6.64				5	23	1.08	5.92					1.00	1.00	2.31	16.78	1300	0.67	52	4.01	11
12	4	18	5.58	7.91				5	27	0.92	6.75					1.25	1.17	2.50	20.82	1552	0.83	62	4.32	12
13	4	18	5.78	8.11				5	27	0.92	7.08					1.42	1.17	2.95	24.40	1648	0.98	66	4.56	13
14	4	18	6.80	9.13				6	25	1.00	7.50					1.50	1.25	2.95	29.41	2101	1.18	84	4.72	14
15	4	18	7.33	9.66	5	21	13.25	6	20	1.25	7.83	6	20	1.25	10.83	1.83	1.25	3.69	32.60	2324	1.30	93	4.69	15
16	4	18	7.85	11.18	5	17	13.75	6	16	1.50	8.33	6	16	1.50	12.33	1.75	1.25	4.20	40.15	2548	1.61	102	4.76	16
17	4	18	8.86	12.19	5	19	14.25	6	18	1.38	9.83	6	18	1.38	12.83	1.33	1.33	4.74	49.57	3131	1.98	125	4.81	17
18	4	18	9.90	13.23	5	17	15.25	6	16	1.50	10.83	6	16	1.50	13.83	1.75	1.33	5.27	55.16	3459	2.21	138	4.83	18
19	4	18	10.93	14.26	5	17	16.25	8	16	1.50	12.50	8	16	1.50	19.50	2.00	1.50	5.75	60.87	4573	2.43	183	4.88	19
20	4	18	12.12	15.95	6	17	17.00	8	16	1.50	12.00	8	16	1.50	16.00	2.00	1.50	6.45	72.85	4929	2.91	197	4.93	20
21	4	18	14.15	17.98	6	19	18.00	8	18	1.38	13.33	8	18	1.38	17.33	2.17	1.50	7.48	82.79	5759	3.31	230	4.79	21
22	4	18	15.18	19.01	6	17	19.00	9	16	1.50	14.33	9	16	1.50	19.33	2.50	1.50	8.00	88.92	6623	3.56	265	4.92	22
23	4	18	17.20	21.03	7	19	19.75	10	18	1.38	15.67	10	18	1.38	20.67	2.50	1.67	9.12	104.57	8498	4.18	340	494	23



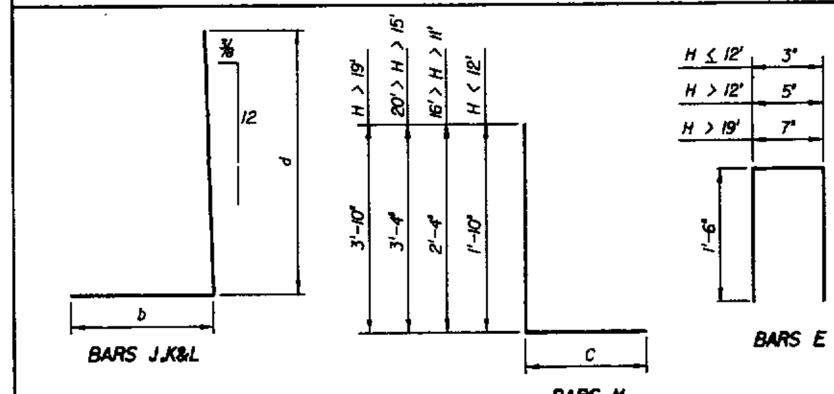
VIEW A-A



TYPICAL SECTION

NOTE:
To accommodate the Variable Height of a wall Unit, vertical Bars may be field cut to fit and the number of horizontal Bars G required by the highest wall dimension within a 25' Unit shall be equally spaced at each end of the Unit.

BENDING DIAGRAM



NOTE: All bar dimensions are out to out.

NOTE:
Bars M & E Paired with Bars F and Bars A Paired with Bars J. Bars E,F and M are No.4 Bars. Bars J are as shown.

Note:
Work this Drawing with Standard Index No. 800.

All Dimensions shown on this Sheet are in Decimals of a Foot, except for Bar Bending Diagrams.

REVISIONS							Names	Dates
Date	By	Description	Date	By	Description	Drawn by	M.P.	3/87
						Checked by	M.J.	3/87
						Designed by		
						Checked by		
						Approved by	A.G.M.	

ENGINEER OF RECORD:
STRUCTURES DESIGN OFFICE
605 Suwannee Street, MS 33
Tallahassee, Florida 32399-0450

LOGO:

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.

SHEET TITLE:
CASE IV (5.0 KIPS/SQ FT MAX BEARING PRESSURE)
6 FT. TO 23 FT. HEIGHT

PROJECT NAME:

Drawing No.
1 of 1

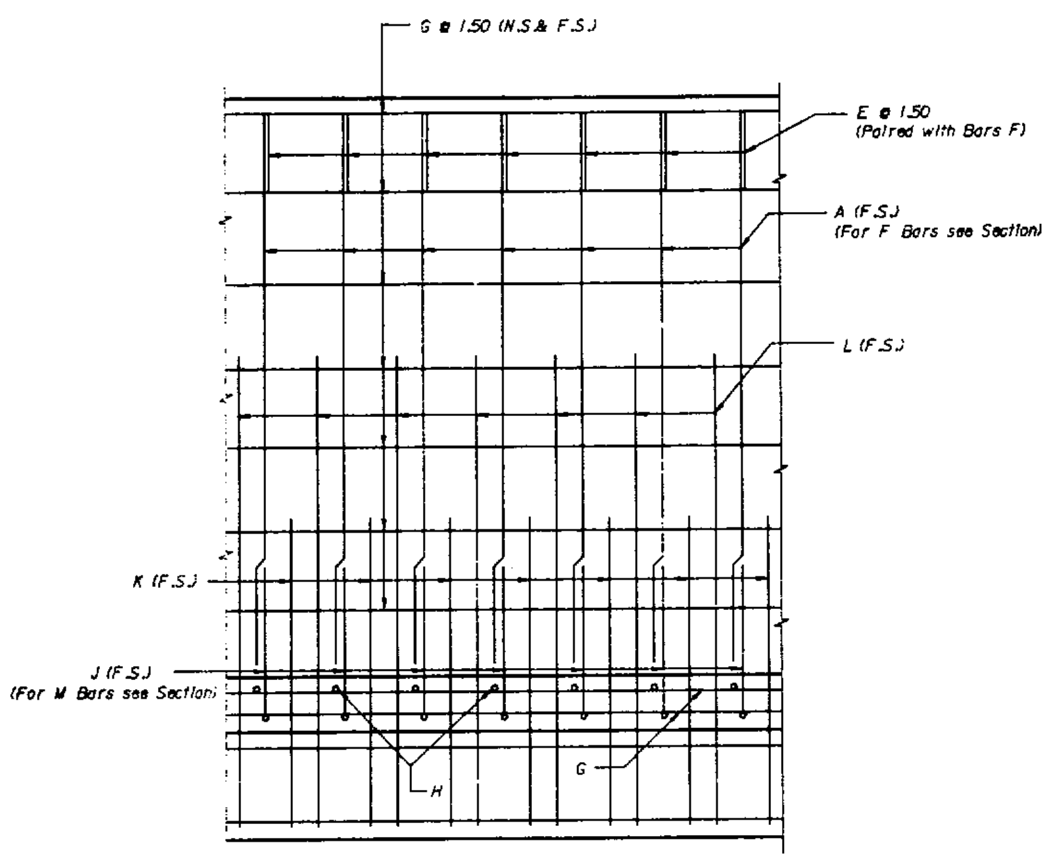
Index No.
821

FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.			

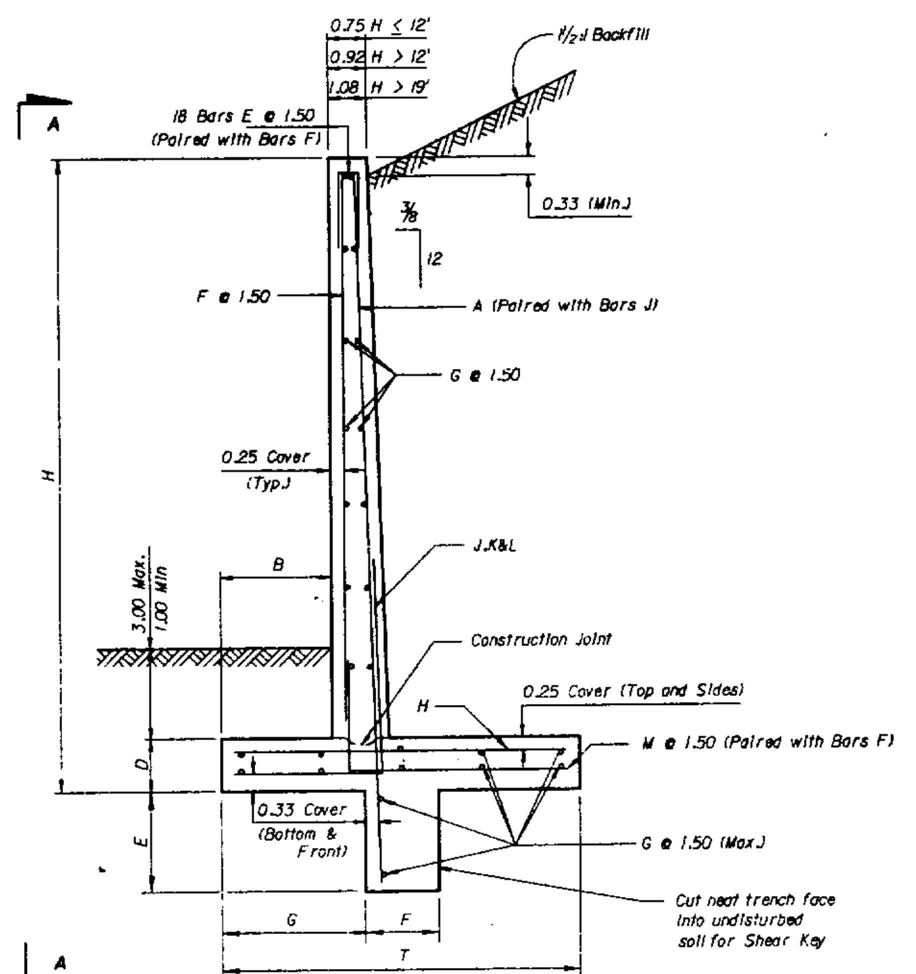
RETAINING WALL DATA

H	WALL DIMENSIONS B	D	T	BARS J SIZE	NO.	SPACING	a	b	LENGTH	BARS F SIZE	NO.	LENGTH	BARS G SIZE	NO.	LENGTH	BARS H SIZE	NO.	SPACING	LENGTH	BARS M SIZE	NO.	c	LENGTH
6	0.83	0.92	3.91	4	26	1.00	5.58	1.25	6.83	4	18	5.00	4	14	24.50	4	18	1.42	3.41	4	18	2.66	4.49
7	1.25	0.92	4.69	4	26	1.00	6.58	1.70	8.28	4	18	6.00	4	16	24.50	4	18	1.42	4.19	4	18	3.02	4.85
8	1.25	1.00	5.31	4	27	0.96	7.58	1.72	9.30	4	18	6.92	4	16	24.50	4	24	1.08	4.81	4	18	3.64	5.47
9	1.50	1.00	5.84	4	21	1.25	8.58	2.00	10.58	4	18	7.92	4	22	24.50	4	24	1.08	5.34	4	18	3.92	5.75
10	1.67	1.17	6.61	4	28	0.92	9.58	2.20	11.78	4	18	8.75	4	24	24.50	4	29	0.88	6.11	4	18	4.52	6.35
11	1.83	1.17	7.06	5	24	1.08	10.58	2.39	12.97	4	18	10.50	4	26	24.50	4	38	0.67	6.56	4	18	4.81	6.54
12	2.00	1.42	8.00	5	28	0.92	11.58	2.58	14.16	4	18	11.50	4	28	24.50	4	38	0.67	7.50	4	18	5.58	7.91
13	2.25	1.42	8.45	5	28	0.92	12.58	3.03	15.61	4	18	12.25	4	30	24.50	4	43	0.58	7.95	4	18	5.78	8.11
14	2.25	1.67	9.47	6	26	1.00	13.58	3.05	16.63	4	18	13.25	4	32	24.50	5	32	0.79	8.97	4	18	6.80	9.13
15	2.50	1.67	9.75	6	21	1.25	3.92	3.33	7.25	4	18	13.75	4	32	24.50	5	38	0.67	9.25	4	18	6.83	9.16
16	3.00	2.17	10.77	7	17	1.50	5.33	3.85	9.18	4	18	14.25	4	36	24.50	5	43	0.58	10.27	4	18	7.35	10.68
17	3.50	2.67	11.78	7	19	1.38	7.08	4.37	11.45	4	18	15.25	4	38	24.50	5	54	0.46	11.28	4	18	7.86	11.19
18	3.50	2.67	12.82	8	17	1.50	8.75	4.40	13.15	4	18	16.25	4	40	24.50	5	54	0.46	12.32	4	18	8.90	12.23
19	4.00	2.67	13.35	9	17	1.50	8.17	4.93	13.10	4	18	17.00	4	42	24.50	5	54	0.46	12.85	4	18	8.93	12.26
20	4.50	2.92	15.04	9	17	1.50	8.42	5.62	14.04	4	18	18.00	4	44	24.50	6	43	0.58	14.54	4	18	10.11	13.44
21	5.00	2.92	16.57	9	19	1.38	8.42	6.15	14.57	4	18	19.00	4	48	24.50	6	43	0.58	16.07	4	18	11.15	14.48
22	5.50	2.92	18.10	10	17	1.50	8.42	6.68	15.10	4	18	19.75	4	52	24.50	6	43	0.58	17.60	4	18	12.18	15.51
23	6.00	3.17	19.62	10	19	1.38	10.25	7.21	17.46	4	18	20.75	4	54	24.50	6	46	0.54	19.12	4	18	13.20	16.53
24	6.50	3.17	21.15	11	17	1.50	11.92	7.74	19.66	4	18	21.75	4	59	24.50	6	46	0.54	20.65	4	18	14.23	17.56
25	7.50	3.17	24.19	11	20	1.25	11.92	8.77	20.69	4	18	22.75	4	63	24.50	6	46	0.54	23.69	4	18	16.27	19.60
26	8.00	3.42	25.71	11	20	1.25	11.92	9.29	21.21	4	18	23.75	4	65	24.50	6	49	0.50	25.21	4	18	17.29	20.62

H	BARS A1 SIZE	NO.	LENGTH	BARS A2 SIZE	NO.	SPACING	LENGTH	BARS A3 SIZE	NO.	SPACING	LENGTH	SHEAR KEY DIMENSIONS E	F	G	CONCRETE / 25' UNIT C.Y.	STEEL / 25' UNIT LBS.	CONCRETE PER LIN.FT. C.Y.	STEEL PER LIN.FT. LBS.	ACTUAL MAXIMUM BEARING PRESSURE KIPS/SQ.FT.	H
6															7.23	543	0.29	22	2.26	6
7															8.74	627	0.35	25	2.35	7
8															10.48	696	0.42	28	2.91	8
9				4	20	1.25	5.67					1.00	1.00	1.88	12.74	874	0.51	35	3.23	9
10				4	27	0.92	4.92					1.00	0.92	2.07	15.26	1042	0.61	42	3.58	10
11				5	23	1.08	5.92					1.00	1.00	2.26	16.78	1305	0.67	52	4.01	11
12				5	27	0.92	6.75					1.08	1.00	2.45	20.46	1526	0.82	61	4.23	12
13				6	27	0.92	7.08					1.42	1.00	2.89	24.17	1749	0.97	70	4.56	13
14				6	25	1.00	7.50					1.50	1.08	2.91	28.78	2065	1.15	83	5.03	14
15	5	21	13.25	6	20	1.25	7.83	6	20	1.25	10.83	2.00	1.25	3.19	31.25	2287	1.25	91	5.42	15
16	5	17	13.75	6	16	1.50	8.33	6	16	1.50	12.33	1.75	1.25	3.71	38.14	2451	1.53	98	5.41	16
17	5	19	14.25	6	18	1.38	9.83	6	18	1.38	12.83	1.50	1.17	4.23	45.85	2957	1.83	118	5.44	17
18	5	17	15.25	6	16	1.50	10.83	6	16	1.50	13.83	2.00	1.25	4.26	50.39	3193	2.02	128	5.88	18
19	5	17	16.25	8	16	1.50	12.50	8	16	1.50	19.50	2.33	1.33	4.77	53.56	4219	2.14	169	5.95	19
20	6	17	17.00	8	16	1.50	12.00	8	16	1.50	16.00	2.25	1.33	5.46	64.75	4523	2.51	181	5.80	20
21	6	19	18.00	8	18	1.38	13.33	8	18	1.38	17.33	2.67	1.50	5.99	71.33	5199	2.85	208	5.79	21
22	6	17	19.00	9	16	1.50	14.33	9	16	1.50	19.33	3.00	1.58	6.51	77.68	5877	3.11	235	5.81	22
23	7	19	19.75	10	18	1.38	15.67	10	18	1.38	20.67	3.00	1.50	7.02	87.28	7706	3.49	308	5.90	23
24	7	17	20.75	10	16	1.50	15.92	10	16	1.50	21.92	3.33	1.58	7.55	94.06	8011	3.76	320	5.97	24
25	7	20	21.75	10	19	1.25	17.17	10	19	1.25	21.17	3.50	1.58	8.57	104.85	9689	4.19	388	5.78	25
26	7	20	22.75	11	19	1.25	16.92	11	19	1.25	25.42	3.58	1.58	9.10	116.60	10955	4.66	438	5.94	26



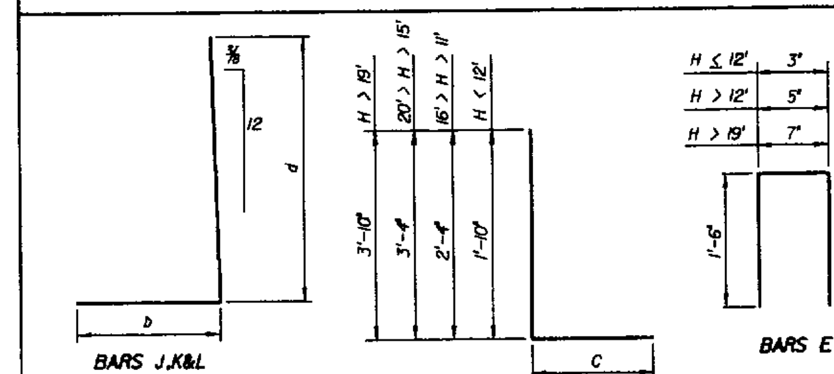
VIEW A-A



TYPICAL SECTION

NOTE:
To accommodate the Variable Height of a wall Unit, vertical Bars may be field cut to fit and the number of horizontal Bars G required by the highest wall dimension within a 25' Unit shall be equally spaced at each end of the Unit.

BENDING DIAGRAM



NOTE: All bar dimensions are out to out.

NOTE:
Bars M & E Paired with Bars F and Bars A Paired with Bars J. Bars E,F and M are No.4 Bars. Bars J are as shown.

Note:
Work this Drawing with Standard Index No. 800.

All Dimensions shown on this Sheet are in Decimals of a Foot, except for Bar Bending Diagrams.

REVISIONS					
Date	By	Description	Date	By	Description

	Names	Dates
Drawn by	M.J.	3/87
Checked by	M.P.	3/87
Designed by		
Checked by		
Approved by	A.G.M.	

ENGINEER OF RECORD:
STRUCTURES DESIGN OFFICE
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Tallahassee, Florida 32399-0450

LOGO:

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

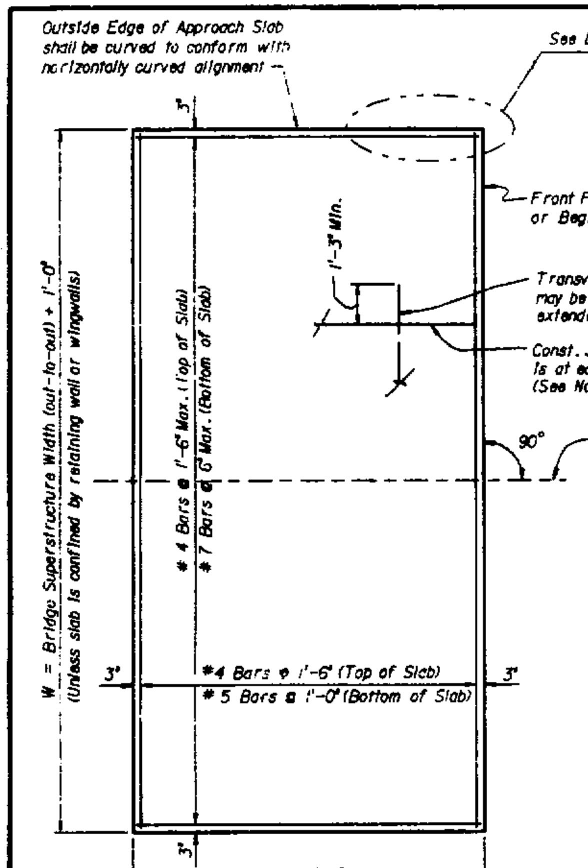
ROAD NO.	COUNTY	PROJECT NO.

SHEET TITLE:
CASE IV (6.0 KIPS/SQ FT MAX BEARING PRESSURE)
6 FT. TO 26 FT. HEIGHT

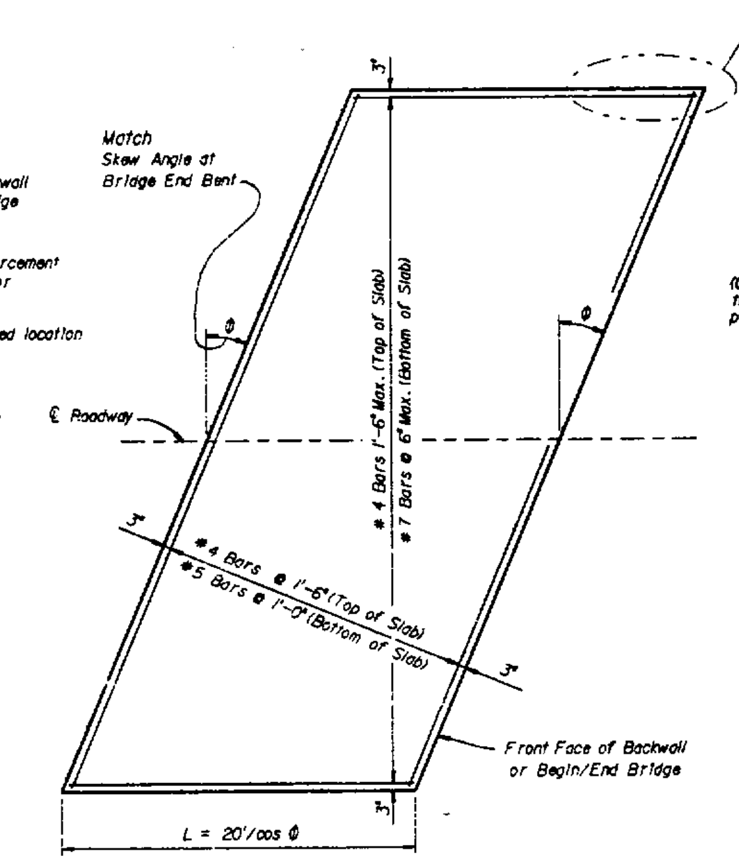
PROJECT NAME:

Drawing No.
1 of 1

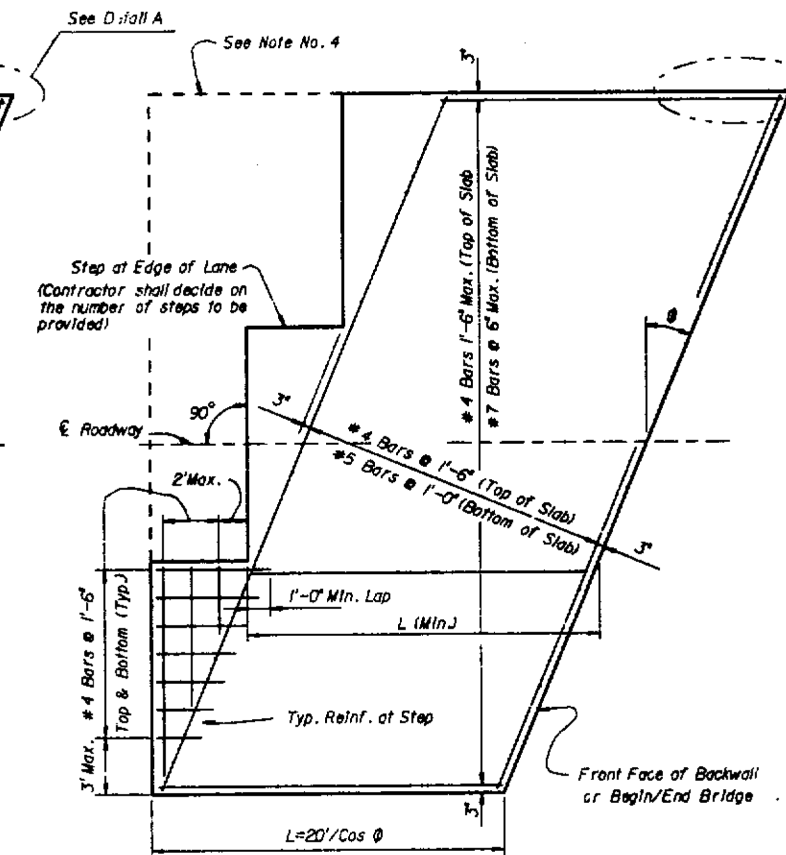
Index No.
822



CASE I
(See Note No.2)



CASE II
(See Note No.3)



CASE III
(See Note No.4)

GENERAL NOTES

GENERAL SPECIFICATIONS: Florida Department of Transportation Standard Specifications for Road & Bridge Construction (1986) and Supplements thereto.

DESIGN SPECIFICATIONS: Designed in accordance with the 1983 edition of the AASHTO Specifications for Highway Bridges and Approved Revisions.

DESIGN LOADING: HS 20-44

CONCRETE STRESSES: Class II: f'c = 3400 psi (if environment is slightly aggressive). Class IV: f'c = 3400 psi (if environment is moderately or extremely aggressive). (See Bridge Plans for Environment Classification).

REINFORCING STEEL: Reinforcing Steel shall be Grade 60 (epoxy coated if the environment is extremely aggressive).

SURFACE TREATMENT: The top of the approach slab shall be given the same treatment as the bridge deck.

SUBBASE: The subbase shall consist of the same material shown in the Roadway Plans, and shall be placed parallel to the bottom of the Approach Slab.

PAYMENT: Payment shall be made under: Item No. 360-1 Concrete Approach Slab-each. The work shall comply with the details on this sheet, the Bridge and Roadway Plans, and Section 360. The bid price for approach Slab shall include all items placed on the slab, such as sidewalks, barriers, raised median etc., unless otherwise noted in the Bridge or Roadway Plans. Grooving of the Approach Slab riding surface is a Bridge Pay Item, See Bridge Plans.

Note No. 1: If a longitudinal joint is necessary or allowed by the Engineer, the transverse steel shall be extended as shown.

Note No. 2: **Case I** indicates an approach slab adjacent to a nonskewed bridge. Unless otherwise indicated, all details shown apply to **Cases II** and **III** also.

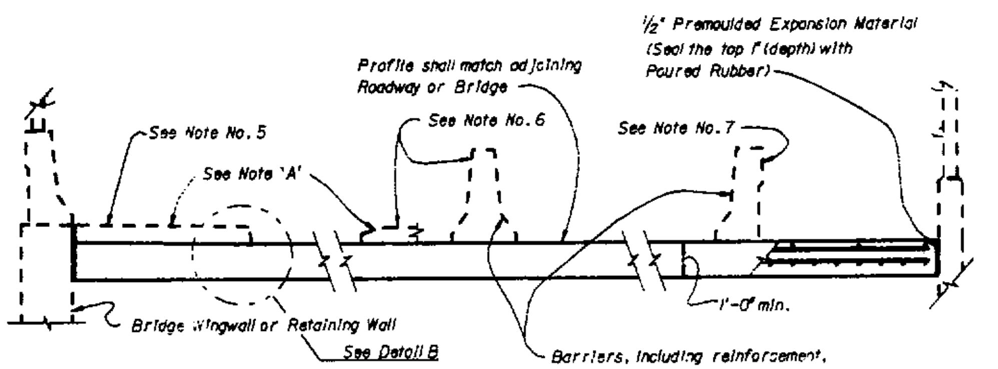
Note No. 3: **Case II** indicates an approach slab between a flexible roadway approach pavement and a skewed bridge.

Note No. 4: **Case III** indicates an approach slab between a rigid roadway approach pavement and a skewed bridge. The Contractor may at his option construct the entire approach slab trapezoidal or provide steps as shown.

Note No. 5: If the bridge or roadway plans indicate a raised sidewalk, this shall be provided on the approach slab.

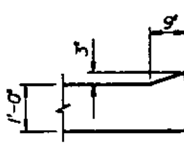
Note No. 6: If the bridge or roadway plans indicate a barrier wall or a raised median, this shall be provided on the approach slab.

Note No. 7: If the bridge or roadway plans indicate a traffic railing (barrier), this shall be provided on the approach slab. If guardrail connection is required the barrier shall be transitioned as indicated on the standard drawings.

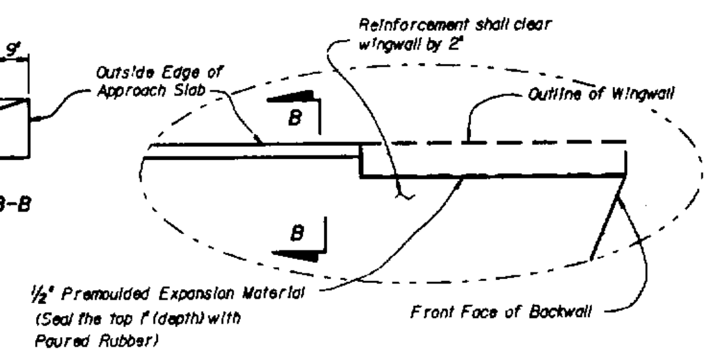


Note 'A':
Sidewalks and raised median shall be built using plain (unreinforced) concrete. The sidewalk width shall be extended to the outside edge of approach slab at areas beyond wingwall. See Roadway Plans for additional details.

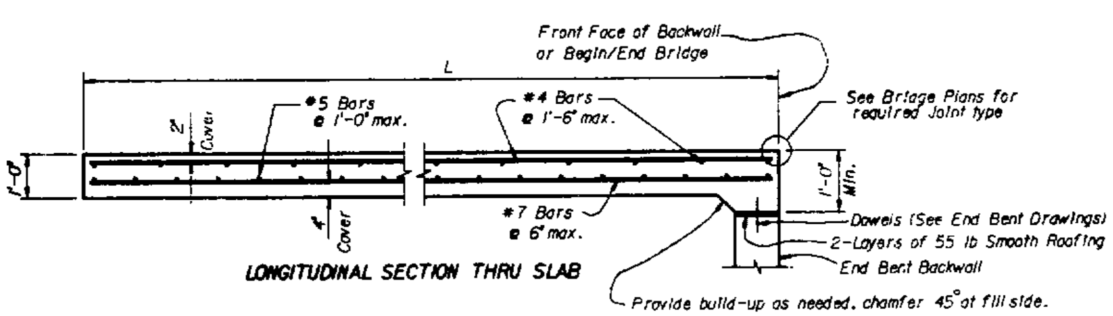
TRANSVERSE SECTION



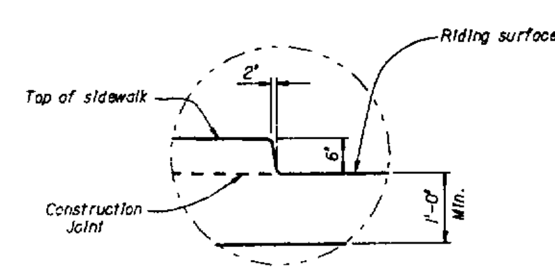
SECTION B-B



DETAIL A
(Part Plan) (**Cases II** and **III** Shown)



LONGITUDINAL SECTION THRU SLAB



DETAIL B

*ESTIMATED QUANTITIES		
ITEM	UNIT	QUANTITY
Concrete	C.Y.	0.333
Reinforcing Steel	LB.	54.200

* Quantities shown are per square yard (plan area), and do not include items placed on the slab such as: sidewalks, raised median and barriers.

NOTE: Total area of Approach Slab is given in the Bridge Plans.

FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.			

REVISIONS

Date	By	Description	Date	By	Description

	Names	Dates
Drawn by	SHM	2-89
Checked by	AJG	2-89
Designed by	AJG	3-89
Checked by	TJB	3-89
Approved by	AJG	

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SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.

SHEET TITLE: APPROACH SLABS

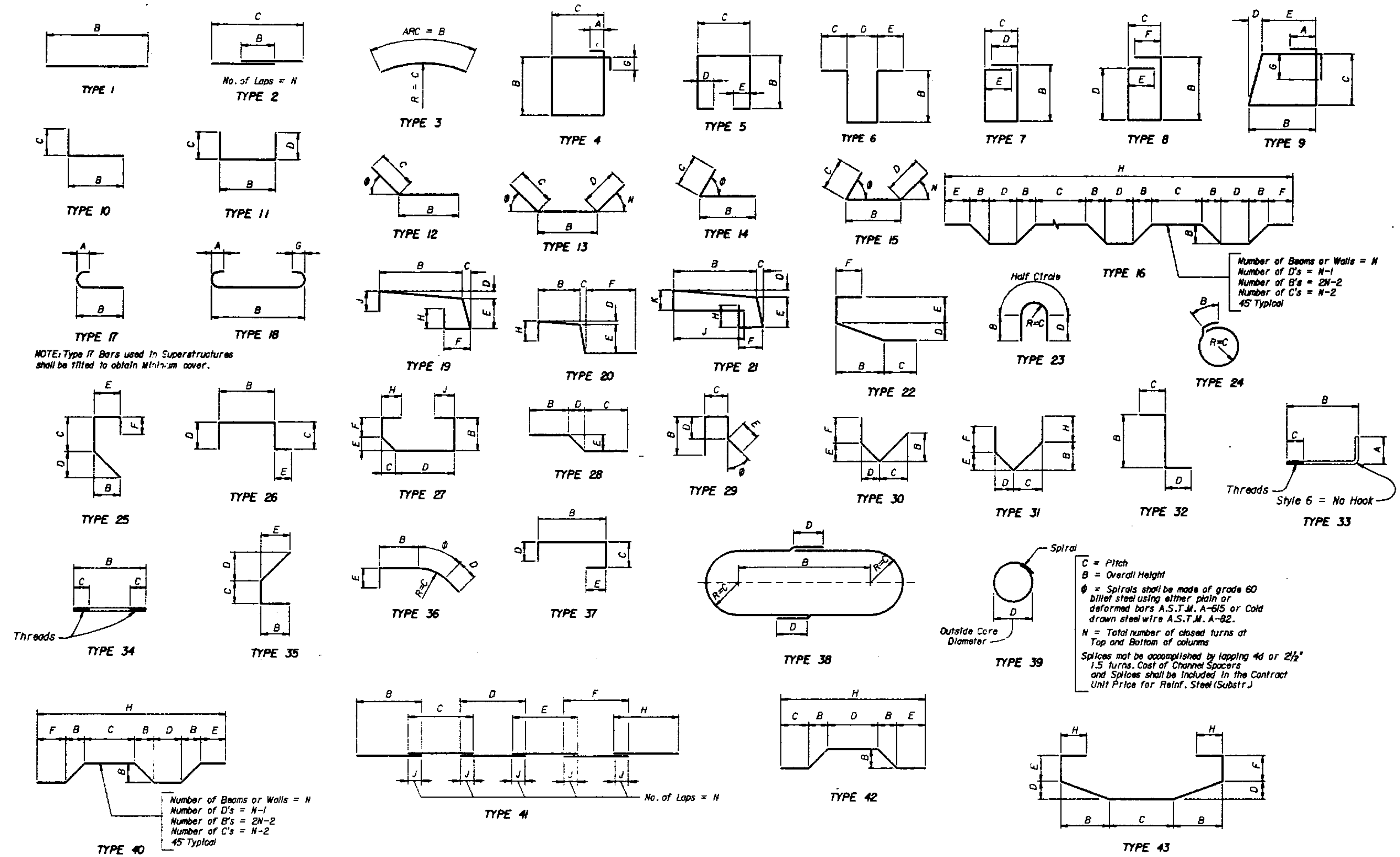
PROJECT NAME:

Drawing No. 1 of 1

Index No. 900

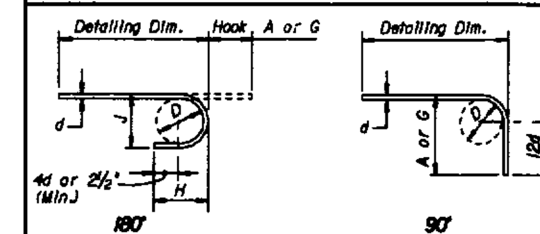
ST2:[120.15]APSLAB.DGN

FISCAL YEAR	STATE	PROJECT NO.	SHEET NO.
3	FLA.		



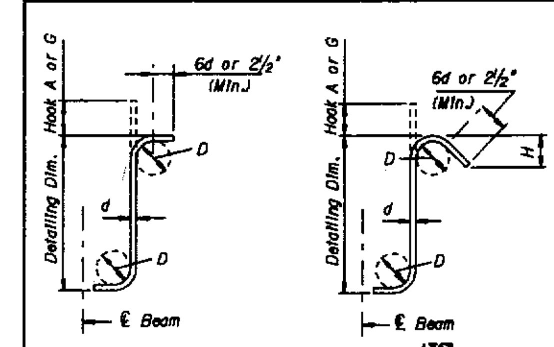
NOTE: For Bar Dimensions See REINFORCING BAR LIST Sheet.

HOOK DETAILS



RECOMMENDED END HOOKS
ALL GRADES
D = 6d for #3 thru #8
D = 8d for #9, #10 and #11
D = 10d for #14 and #18

BAR SIZE	180° HOOKS		90° HOOKS
	A OR G	J	A OR G
#3	5"	3"	6"
#4	6"	4"	8"
#5	7"	5"	10"
#6	8"	6"	1'-0"
#7	10"	7"	1'-2"
#8	11"	8"	1'-4"
#9	1'-3"	11¾"	1'-7"
#10	1'-5"	1'-1¼"	1'-10"
#11	1'-7"	1'-2¾"	2'-0"
#14	2'-3"	1'-9¾"	2'-7"
#18	3'-0"	2'-4½"	3'-5"
STYLE	1		3



STIRRUPS
(TIES SIMILAR)

RECOMMENDED STIRRUP & TIE HOOK DIMENSIONS

BAR SIZE	D (IN.)	90° HOOKS	135° HOOKS	
		HOOK A or G	HOOK A or G	APPROX. H
#3	1½"	4"	4"	2½"
#4	2"	4½"	4½"	3"
#5	2½"	6"	5½"	3¾"
#6	4½"	1'-0"	7¾"	4½"
#7	5½"	1'-2"	9"	5¼"
#8	6"	1'-4"	10¼"	6"
STYLE		4	5	

STYLE 6 = NO HOOK

Hook Styles Detailed on this sheet are for Illustration Only.

Actual Hook Style for any particular bar will be shown under A or G Heading on REINFORCING BAR LIST sheet.

All Dimensions are out to out.

REVISIONS					
Date	By	Description	Date	By	Description

	Names	Dates
Drawn by	RDH	1-86
Checked by	RDS	1-86
Designed by		
Checked by		
Approved by	AGM	

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SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.

SHEET TITLE:
STANDARD BAR BENDING DETAILS–

PROJECT NAME:

Drawing No. 1 of 1

Index No. 1300

11-MAY-1989 15:20 ST2:[120.J5]]BARBEN.DGN;1