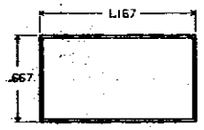
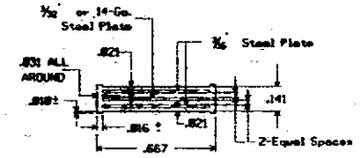
STRUCTURES STANDARDS

JANUARY 1986

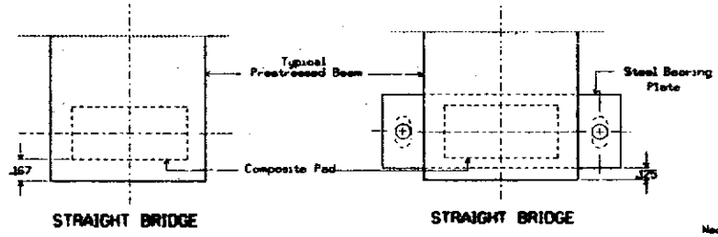


PLAN



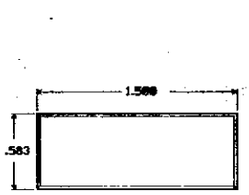
TYPICAL SECTION

COMPOSITE PAD
FOR TYPE II BEAMS



STRAIGHT BRIDGE

STRAIGHT BRIDGE



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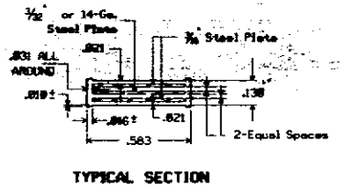
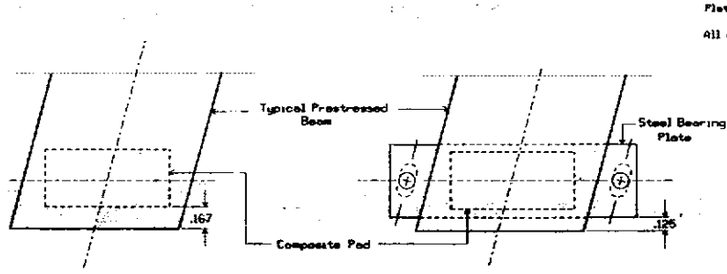


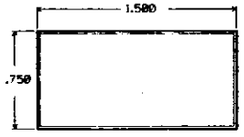
TYPICAL SECTION

COMPOSITE PAD
FOR TYPE III BEAMS



SKEWED BRIDGE

SKEWED BRIDGE



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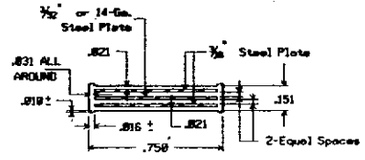
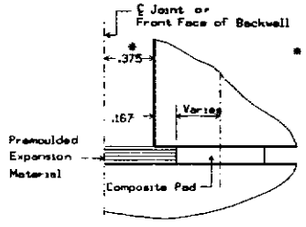
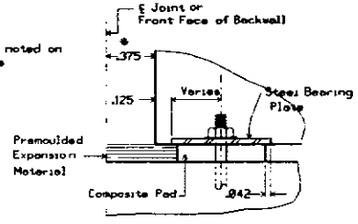


TYPICAL SECTION

COMPOSITE PAD
FOR TYPE II BEAMS

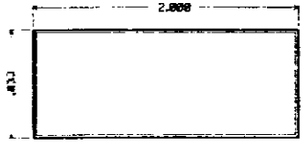


* Unless otherwise noted on Beam Sheets

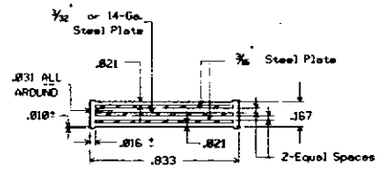


TYPICAL PAD DETAIL
INTERIOR BEAM

TYPICAL PAD DETAIL
EXTERIOR BEAM



PLAN



TYPICAL SECTION

COMPOSITE PAD
FOR TYPE X & XI BEAMS

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 or A-245 Grade C or D, or A-570 Grade C or SAE 1018, 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. For location and details of Bearing Plates see Beam sheets.

All dimensions are in decimals of a foot, except dimensions of steel plates.

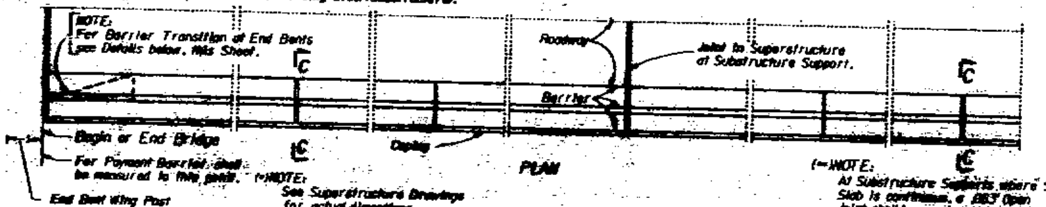
REVISIONS			
Date	Description		
3-88	Revised Neoprene Pad Thickness for all Types, Added .005 inches to all heights of steel Laminations.		

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION
BUREAU OF STRUCTURES

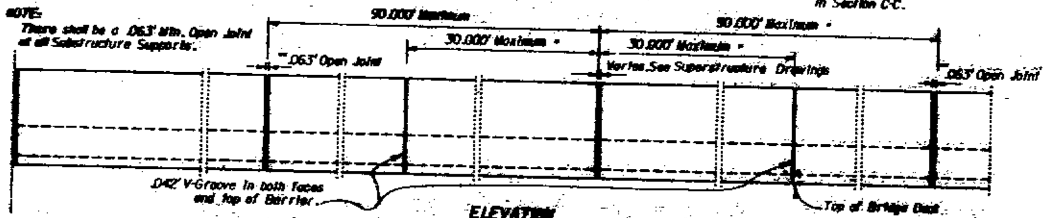
COMPOSITE NEOPRENE BEARING PADS

	STATE	COUNTY	PROJECT NO.
Drawn by	H. F.	11-85	APPROVED BY
Checked by	R.D.S.	1-86	CHIEF, BUREAU OF STRUCTURES
Quantities by			
Checked by			Drawing No. 1 of 1
Approved by	A.S.M.		Index No. 12037 CADD

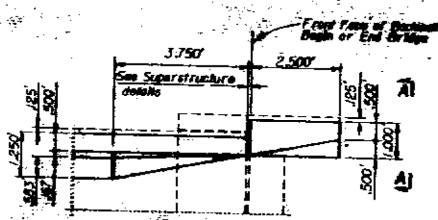
NOTE: End Bent Wing Post shall be paid for at the Contract Unit Price for Concrete (Substructure) and Reinforcing Steel (Substructure).



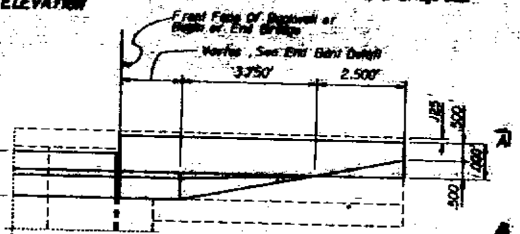
PLAN



ELEVATION



PLAN OF WING POST AND BARRIER TRANSITION FOR SLAB TYPE SUPERSTRUCTURE



PLAN OF WING POST FOR SLAB AND GIRDER TYPE SUPERSTRUCTURE

BENDING DIAGRAMS

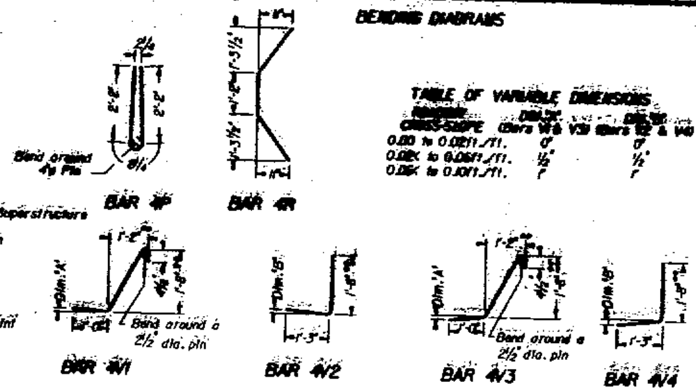


TABLE OF VARIABLE DIMENSIONS

ROADWAY CROSS-SLOPE	DIM. "A" (Bars V1 & V3)	DIM. "B" (Bars V2 & V4)
0.00 to 0.02ft./ft.	0"	0"
0.02 to 0.06ft./ft.	½"	½"
0.06 to 0.10ft./ft.	1"	1"

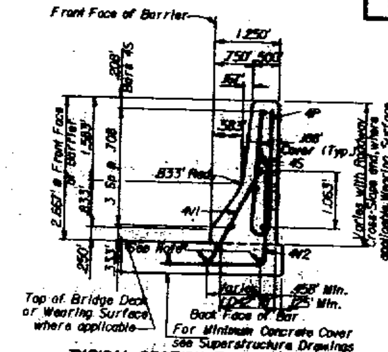
BAR BENDING NOTES

NOTE: Bars 4V1 & 4V2 are for low side gutter. Bars 4V3 & 4V4 are for high side gutter. Adjust or field bend Bars 4V in barrier transition on slab type Superstructure as required for minimum cover.
Adjust length of Bars 4V as required for slab thickness. Dimensions shown are based on a .583' slab, see Superstructure Drawings. For thicker slabs adjust the 1'-8" vertical and the 1'-2" horizontal dimensions as follows: Add the amount that the slab depth exceeds 7" to the 1'-8" vertical dimension and add .45 of this excess to the 1'-2" horizontal dimension.

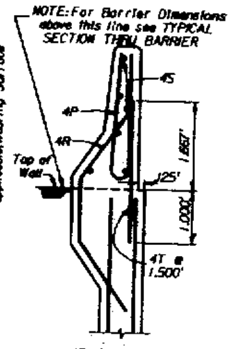
EXAMPLE: 1'-0" Slab Excess = 12"-7"=5"
Vertical Dimension 1'-8") + (5") = 2'-1"
Horizontal Dimension + (1'-2") + (5" x .45) = 1'-4 1/4"

TYPICAL BARRIER QUANTITIES

NOTE: Quantities are based on .583' slab and .02'/foot roadway cross-slope.
CLASS II CONCRETE: 0.07594 C.Y. per linear foot of Barrier
REINFORCING STEEL: 15.26 lbs. per linear foot of Barrier on Slab
14.55 lbs. per linear foot of Barrier on Wall
NOTE: All bar dimensions are out-to-out.



TYPICAL SECTION THRU BARRIER



BARRIER ON RETAINING WALL

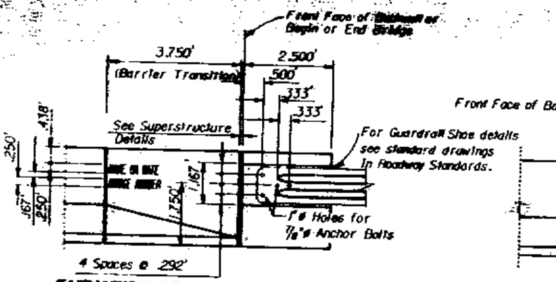
REINFORCING STEEL NOTES:

* Place normal bottom slab longitudinal reinforcing steel at each position as shown above to facilitate tying anchor bars in Concrete Handrail Barrier. Do not add reinforcing steel for tie purposes. For Precast Slab Units place Bars 4V on top of the prestressed strands and tie. For cast-in-place slabs without girders place Bars 4V on top of longitudinal reinforcing and tie.

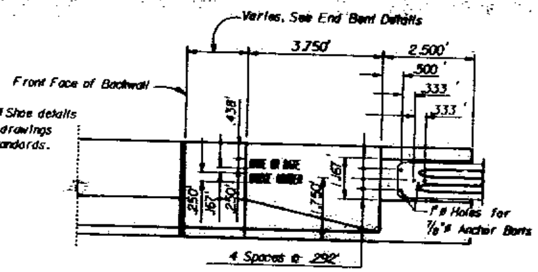
All reinforcing steel in Barrier shall be No. 4's. Bars 4P, 4R & 4V shall be spaced at .667' c.c.. At all open joints all reinforcing steel shall have .167' minimum cover. At all construction joints Bars 4S may be continuous or spliced. All splices in Bars 4S shall be 1.333' minimum.

GENERAL NOTES

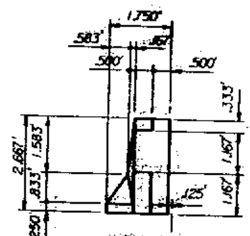
CONCRETE: Class II Concrete shall be used in Barrier.
REINFORCING STEEL: Reinforcing Steel shall be Grade 60.
PAYMENT: Barrier shall be paid for per linear foot, which shall include all Concrete and Reinforcing Steel. Barrier shall be measured along the centerline of the top surface of the Barrier.
CYLINDER 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 Barrier at End Bents. On bridges longer than 100 ft. one marker shall be placed at each end of bridge. On Bridges less than 100 ft. long, 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 Concrete Barrier.
SLIP FORMING: At the option of the Contractor, Barrier Walls may be constructed by slip-forming subject to the following: the width shall be increased .167' and the front face at the base of each barrier shall infringe on the clear roadway width no more than .042'. Additional materials required are at the expense of the Contractor. The shape of the Barrier on the Roadway side shall not be altered.
SUPERELEVATED BRIDGES: At the option of the Contractor, Handrail Barriers and End Bent Wingwalls on superelevated bridges, may be constructed perpendicular to the roadway surface. The cost of modifications shall be at the Contractors expense.
ANCHOR BOLTS: Anchor Bolts, Nuts, and Washers shall be hot dip galvanized in accordance with A.S.T.M. A-123.
REINFORCING COVER: All reinforcing in barrier shall have .167' min. cover. Cover detail includes tolerances for fabrication and placing bars.



ELEVATION OF WING POST AND BARRIER TRANSITION FOR SLAB TYPE SUPERSTRUCTURE



ELEVATION OF WING POST FOR SLAB AND GIRDER TYPE SUPERSTRUCTURE

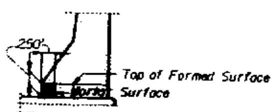


VIEW A-A

NOTES

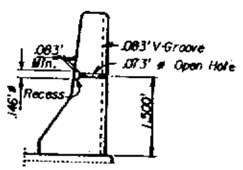
The Name and Bridge Number to be placed on the Barrier shall be seen on the drivers right when approaching bridge. The Date is to be placed on the drivers left when approaching bridge. The Date shall be the Year the Bridge is constructed.
Black Plastic Letters and Figures .250' in height, as approved by the Engineer, may be used in lieu of Letters and Figures formed by .031' "V" Grooves. "V" Grooves shall be formed by Preformed Letters and Figures.

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



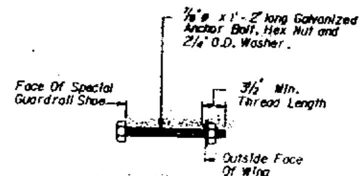
SECTION C-C

NOTE: When using fixed forms to construct the barrier, the vertical face at the gutter side shall be filled (.250' above the roadway surface) either by forming or by filling the bottom .250' height of the opening for a width of .250' minimum, as shown above, with mortar in accordance with Article 400-15).
When barriers are slipformed the opening shall be constructed for the limits described above for forming.



HOLES FOR INCIDENTAL SIGNING

NOTE: Holes and grooves shall be placed on barrier type handrails 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 handrails 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 Concrete Handrail (Barrier). If Signing Plans are not available the Project Engineer should secure necessary information from the District Maintenance or Traffic Operations Office.



ANCHOR BOLT DETAIL

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

BARRIER

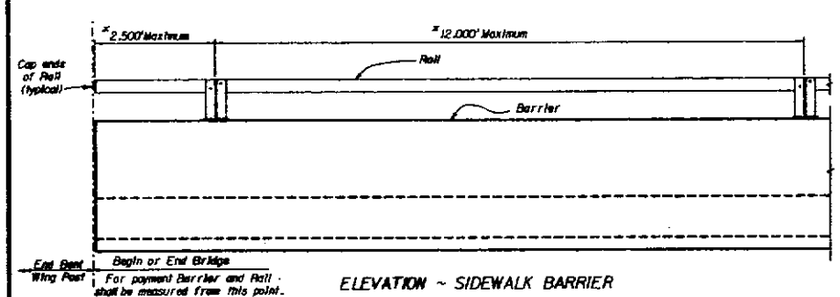
STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION
BUREAU OF STRUCTURES

CONCRETE HANDRAIL

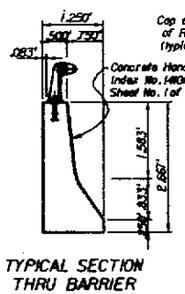
	Name	Date
Drawn by	L.F.C.	12-85
Checked by	P.D.S.	1-86
Designed by	———	———
Checked by	———	———
Approved by	A.G.M.	

CHIEF, BUREAU OF STRUCTURES

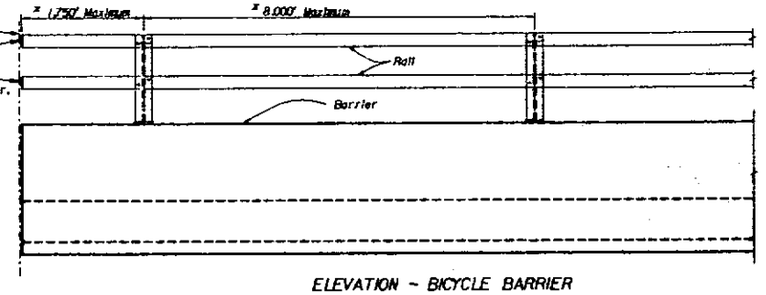
Drawing No. 1 of 2 — Index No. HRDI CADD



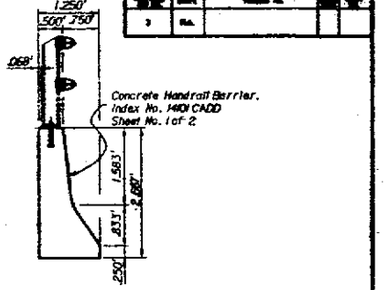
ELEVATION ~ SIDEWALK BARRIER



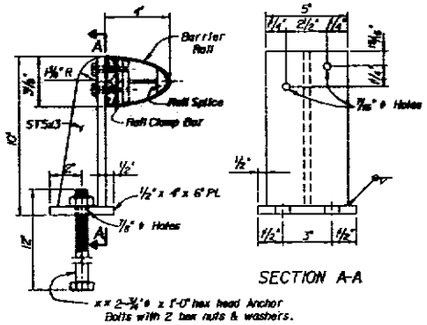
TYPICAL SECTION THRU BARRIER



ELEVATION ~ BICYCLE BARRIER



TYPICAL SECTION THRU BARRIER



SECTION A-A

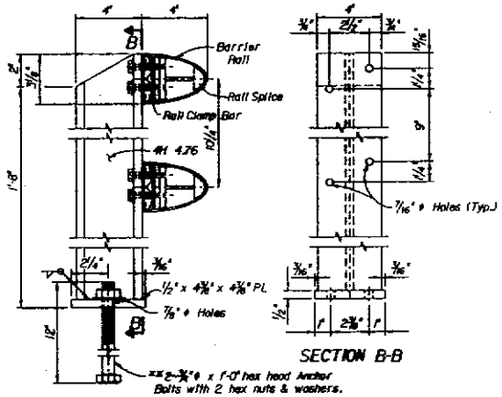
SECTION THRU RAIL

SIDEWALK BARRIER RAIL

** 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.



SECTION B-B

SECTION THRU RAIL

BICYCLE BARRIER RAIL

NOTES

CONCRETE HANDRAIL BARRIER: For details of Concrete Handrail Barrier, see drawing No. 1 of 2, Index No. 1401 CADD.

PAYMENT: Barrier shall be paid for per linear foot, which shall include all Rail, Concrete and Reinforcing Steel. Barrier shall be measured along the centerline of the top surface of the Barrier.

DIMENSIONS: Concrete Barrier and Rail Post spacing dimensions are given in decimals of a foot. Rail Components dimensions are given in feet and inches.

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.

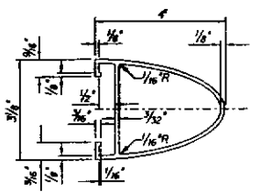
RAIL CLAMP BAR: Aluminum A.S.T.M. B221, alloy 6061-T6 or alloy 6351-T5.

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.

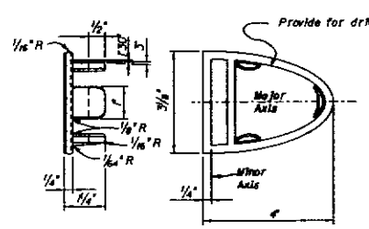
RAIL END CAP: A.S.T.M. B-26 sand cast aluminum alloy, SG 70A-F (Aluminum Association alloy designation A-356-F).

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.J. 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 1.5 times the bridge joint opening.

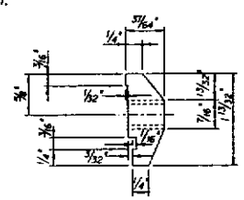
SHOP DRAWINGS: Complete details and description of materials of the proposed bridge rail shall be submitted by the contractor for the Engineers approval prior to fabrication.



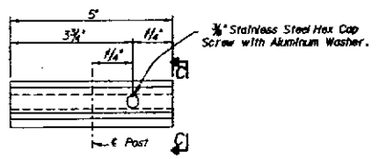
RAIL



RAIL END CAP

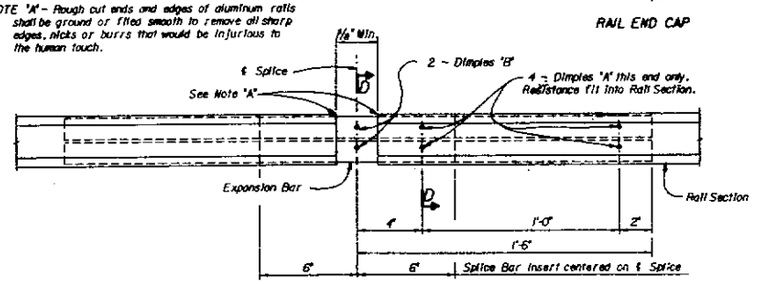


VIEW C-C

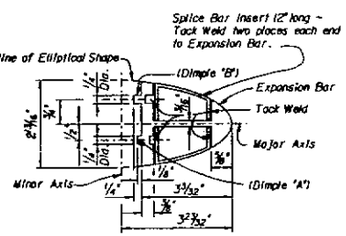


RAIL CLAMP BAR

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 SPLICE



SECTION D-D

RAIL COMPONENTS

SIDEWALK BARRIER TYPE AND BICYCLE BARRIER TYPE

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION
BUREAU OF STRUCTURES

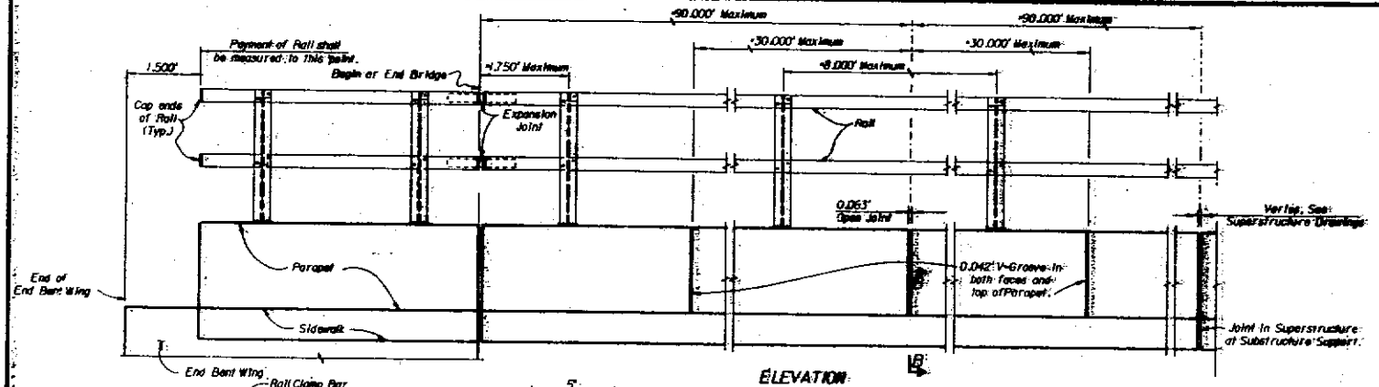
CONCRETE HANDRAIL

REVISIONS					
Date	Description				

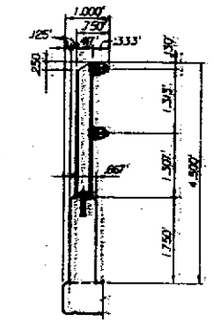
	Name	Date
Drawn by	L.F.C.	12-85
Checked by	R.D.S.	1-86
Quantities by		
Checked by		
Approved by	A.E.M.	

APPROVED BY: Lynn T. Bodon
STATE BUREAU OF STRUCTURES

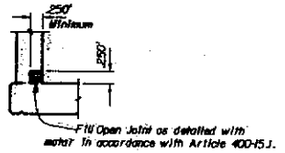
Sheet No.	Index No.
2 of 2	1401 CADD



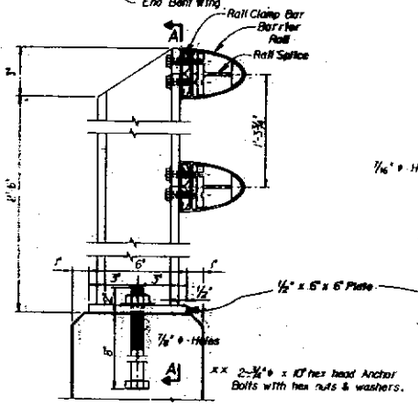
ELEVATION



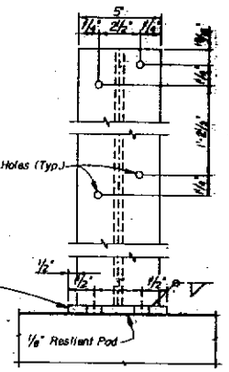
TYPICAL SECTION THRU PARAPET AND RAIL



SECTION B-B



SECTION THRU RAIL



SECTION A-A

* NOTE: At Substructure Supports where Superstructure Slab is continuous, a .063" Open Joint shall be constructed as shown in Section B-B.

xx 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.

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.

DIMENSIONS: Concrete Barrier and Rail Post spacing dimensions are given in decimals of a foot. Rail components dimensions are given in feet and inches.

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.

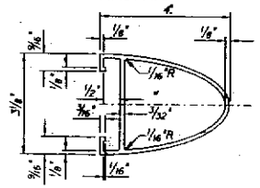
RAIL CLAMP BAR: Aluminum A.S.T.M. B221, alloy 6061-T6 or alloy 6351-T5.

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.

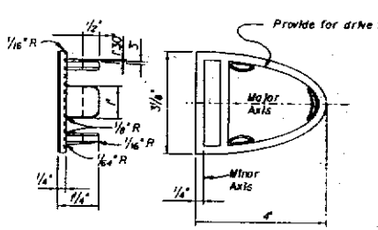
RAIL END CAP: A.S.T.M. B-26 sand cast aluminum alloy, SG-70A-F (Aluminum Association alloy designation A-356-F).

RAIL INSTALLATION: Rail Post shall be normal to Profile Grade. Posts shall be seated on 1/8" thick resilient pads in accordance with Article 932-2.1. 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 1.5 times the bridge joint opening.

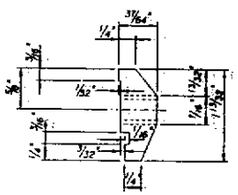
SHOP DRAWINGS: Complete details and description of materials of the proposed bridge rail shall be submitted by the contractor for the Engineers approval prior to fabrication.



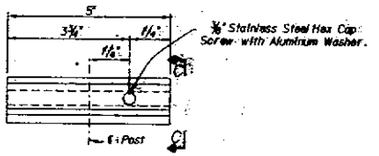
RAIL



RAIL END CAP

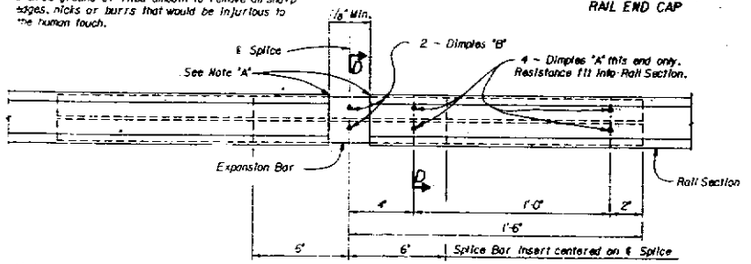


VIEW C-C

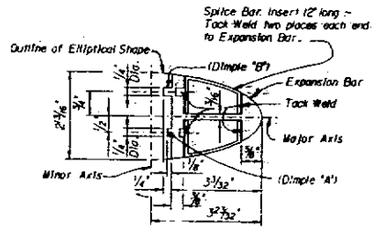


RAIL CLAMP BAR

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 SPLICE



SECTION D-D

RAIL COMPONENTS

PARAPET TYPE - ALUMINUM

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION
BUREAU OF STRUCTURES

CONCRETE HANDRAIL

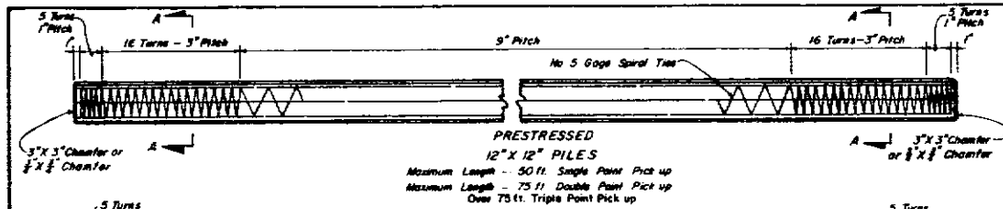
REVISIONS					
Date	Description				

Drawn by	L.F.C.	12-85	
Checked by	R.D.S.	1-86	
Corrected by			
Checked by			
Approved by	A.B.M.		

Director of Structures

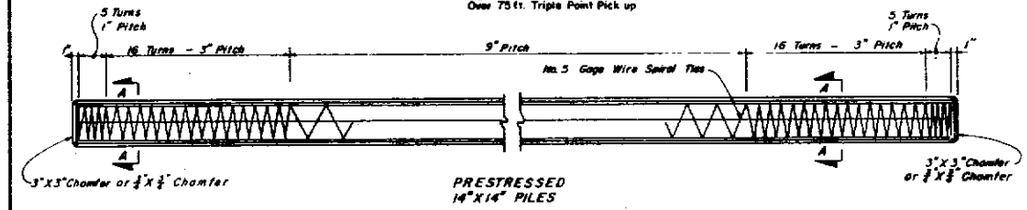
Drawing No. 1 of 1

Index No. 14002 CADD

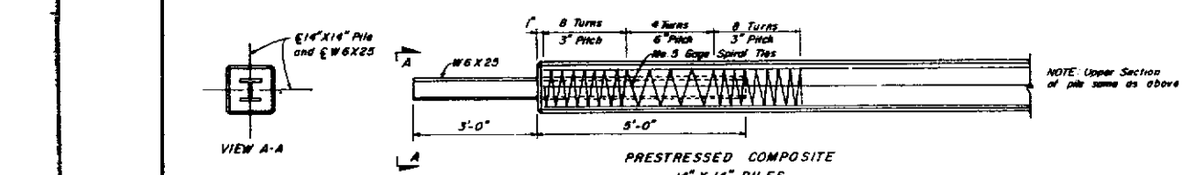


PRESTRESSED
12"X 12" PILES

Maximum Length - 50 ft. Single Point Pick up
Maximum Length - 75 ft. Double Point Pick up
Over 75 ft. Triple Point Pick up

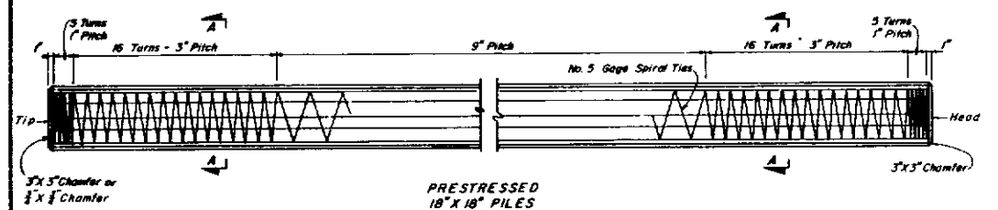


PRESTRESSED
14"X 14" PILES

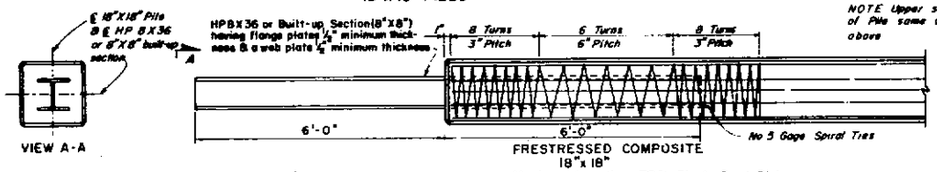


PRESTRESSED COMPOSITE
14" X 14" PILES

Maximum Length - 60 ft. Single Point Pick up
Maximum Length - 85 ft. Double Point Pick up
Over 85 ft. Triple Point Pick up

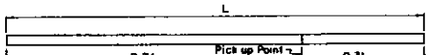


PRESTRESSED
18" X 18" PILES

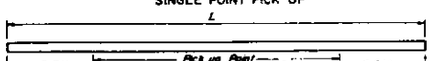


FRESTRESSED COMPOSITE
18"X 18"

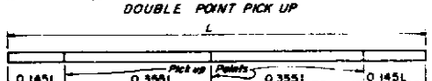
Maximum Length---70 ft Single Point Pick up
Maximum Length---95 ft Double Point Pick up
Over 95 ft Triple Point Pick up



SINGLE POINT PICK UP

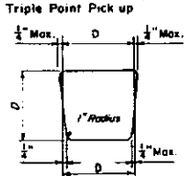


DOUBLE POINT PICK UP

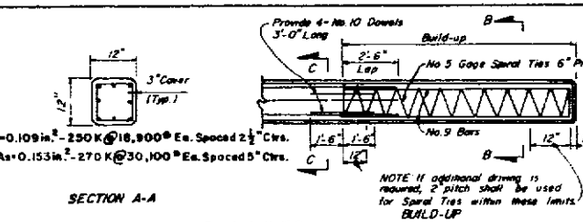


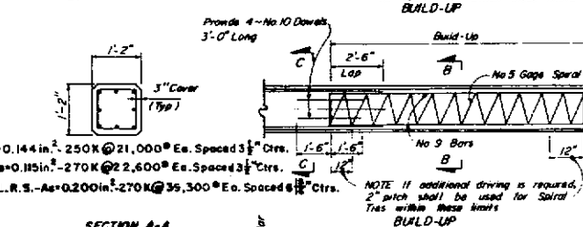
TRIPLE POINT PICK UP

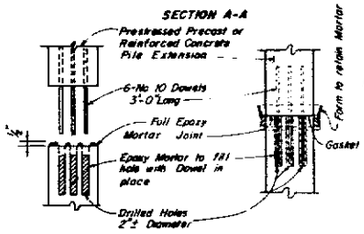
NOTE: Piles shall be marked at pick up points to indicate proper points for attaching handling lines



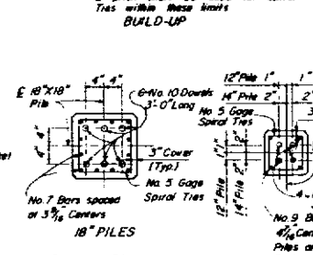
TYPICAL PILE SHAPE
FOR MOLD FORMS





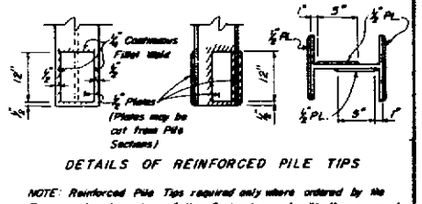


TYPICAL BONDING DETAILS FOR 18" PILE



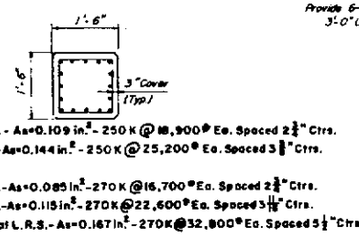
NOTE Spliced Piles may be driven after Splice is two days old.

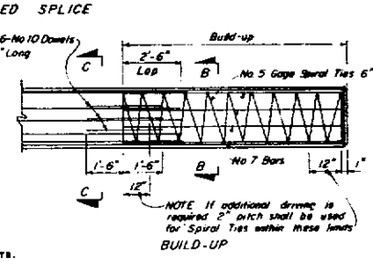
EPOXY BONDED SPLICE

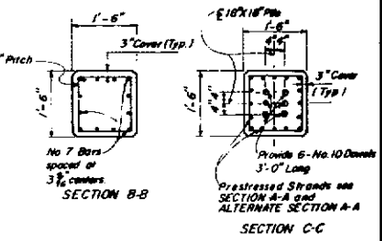


DETAILS OF REINFORCED PILE TIPS

NOTE: Reinforced Pile Tips required only where ordered by the Engineer. At the option of the Contractor and with the approval of the Engineer Commercial Tips may be used in lieu of the Reinforced Pile Tips shown.







GENERAL NOTES

SPIRAL TIES Each wrap of spiral shall be tied to at least two corner strands

MATERIAL FOR SPIRAL TIES: Spirals may be manufactured from stock meeting requirements of any grade of reinforcing steel or hard drawn steel

PILE CUTOFFS In cutting off Concrete Piles an abrasive saw shall be used to score the Concrete at cut off elevation to the approximate depth of Reinforcing Steel

CONCRETE STRENGTH For Class III Concrete the Cylinder Strength shall be 5,000 p.s.i. minimum at 28 days and 4,000 psi minimum at transfer of the Prestressing Force

WEBS Webs of Wide Flange sections shall be in a vertical position when Composite Pile is cast

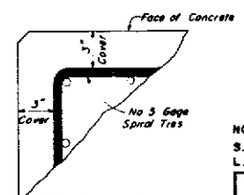
NOTE All Reinforcing Steel shall be Grade 40 or 60

APPROVAL Prior Approval in Writing By the Engineer is Required for Reinforced Concrete Build-Up in Excess of 2'-0" This will not be approved for piles in a coastal environment.

DUNNAGE Place Dunnage under pick up points shown for double pick up Where Pile Length exceeds that requiring double point pick up, place dunnage at pickup points called for in Triple Point Pick up

OCTAGONAL PILES: Prestressed Octagonal Piles of equivalent strength may be substituted for square piles. Details of Pile shall be submitted to the Engineer for approval.

SPIRAL SPLICES: One turn required for spiral splices.



TYPICAL DETAIL
SHOWING COVER DIMENSION

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

FED. ROAD DIV. NO.	STATE	PROJECT NO.		
3	FLA.			

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES

12", 14" AND 18" PRESTRESSED CONCRETE PILES

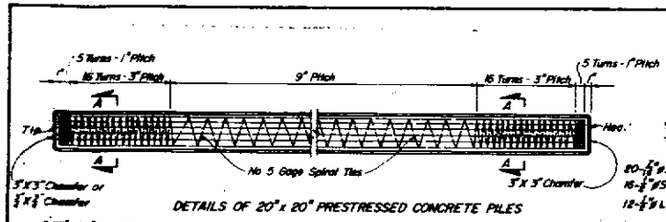
REVISIONS			ROAD NO.	COUNTY	PROJECT NO.
Date	Description				
5-3-75	Removed 3/4" Chamfer				
7-2-75	Change Chamfer				
10-8-75	Change Symbols Used				
10-8-75	ADD TRIPLE POINT PICK UP				
5-21-76	Change Lab. Trans. Shown to Stabilized Strands				
6-21-76	Removed Hood & Tie From 8"X 8" 14" Piles & Added Chamfer				
6-30-80	L-Lab Elevator Added				
5-5-82	Spiral Splices				
7-1-88	Add 8" Strands Omitted				

		Date	APPROVED BY
Designed by	S.A.B.	5-75	
Checked by	L.A.L.	5-75	
Quantities by			
Checked by			
Supervised by			

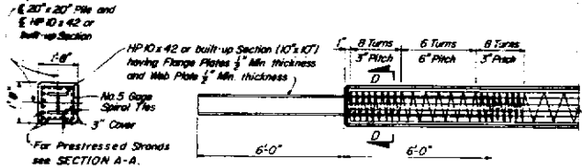
Deputy Design Engineer / Structures

Drawing No.	Index No.
1 of 1	3400

ORIGINAL



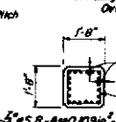
DETAILS OF 20" x 20" PRESTRESSED CONCRETE PILES



PRESTRESSED COMPOSITE 20"x 20" PILES

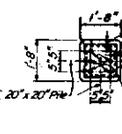
SECTION D-D

Maximum Length - 80 ft - Single Point Pick-up
Maximum Length - 110 ft - Double Point Pick-up
Over 110 ft. Triple Point Pick-up
(20"x 20")

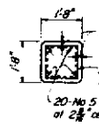


20-⅜"ø S.R.-As=0.109in²-250K @ 18,900# Eq. Spaced 2⅝" Ctrs.
16-½"ø S.R.-As=0.144in²-250K @ 23,700# Eq. Spaced 3½" Ctrs.
12-½"ø L.R.S.-As=0.153in²-270K @ 30,100# Eq. Spaced 4⅛" Ctrs.

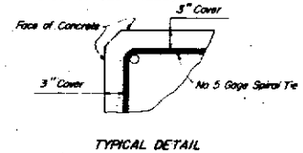
SECTION A-A



SECTION B-B

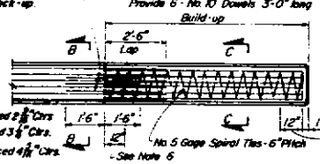


SECTION C-C

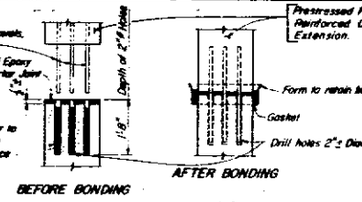


TYPICAL DETAIL SHOWING COVER DIMENSION

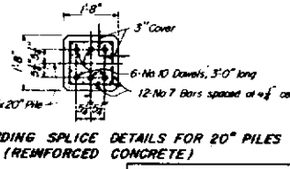
NOTE: Dowel Bars installed in pile top shall be in accordance with the Epoxy Splice Detail Provide 6 - No 10 Dowels 3'-0" long



BUILD UP (20" PILES)



BEFORE BONDING AFTER BONDING

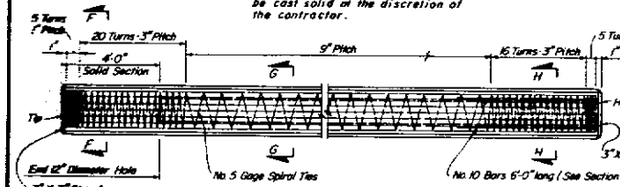


EPOXY BONDING SPLICE DETAILS FOR 20" PILES (REINFORCED CONCRETE)

DETAILS FOR 20"x 20" PILES

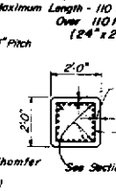
NOMENCLATURE:
S.R. = Stress Relieved Strand
L.R.S. = Low Relaxation Strand

NOTE: 24" sq. voided concrete piles may be cast solid at the discretion of the contractor.

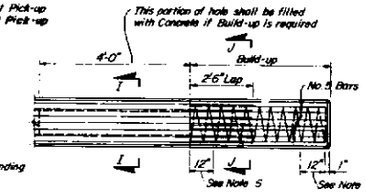


DETAILS OF 24" x 24" PRESTRESSED CONCRETE PILES

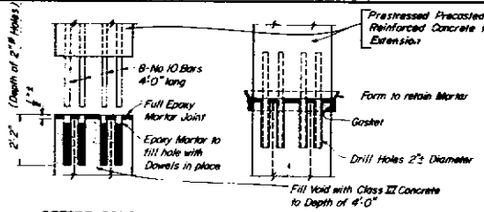
Maximum Length - 80 ft - Single Point Pick-up
Maximum Length - 110 ft - Double Point Pick-up
Over 110 ft. - Triple Point Pick-up
(24"x 24" PILES)



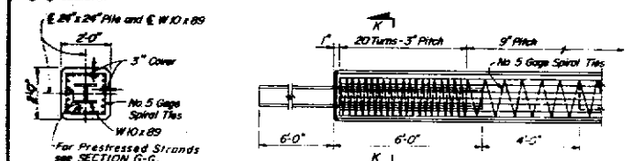
SECTION F-F



BUILD UP (24" PILES)

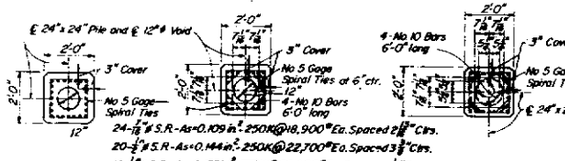


BEFORE BONDING AFTER BONDING



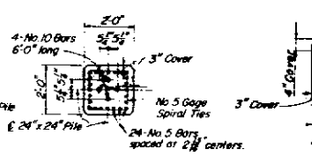
SECTION K-K PRESTRESSED COMPOSITE 24"x 24" PILES

DETAILS FOR 24" x 24" PILES

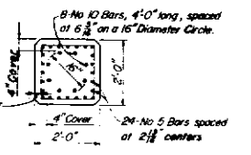


24-⅜"ø S.R.-As=0.109in²-250K@18,900# Eq. Spaced 2⅝" Ctrs.
20-½"ø S.R.-As=0.144in²-250K@22,700# Eq. Spaced 3½" Ctrs.
16-½"ø S.R.-As=0.153in²-270K@28,900# Eq. Spaced 4¼" Ctrs.
16-½"ø L.R.S.-As=0.153in²-270K@30,100# Eq. Spaced 4¼" Ctrs.
12-⅝"ø Special L.R.S.-As=0.200in²-270K@39,300# Eq. Spaced 5⅝" Ctrs.

SECTION G-G SECTION I-I



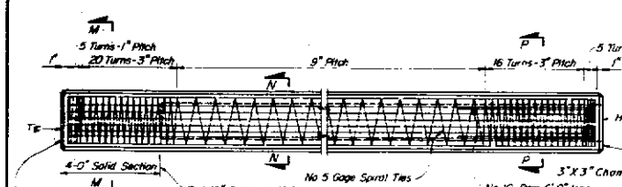
SECTION J-J



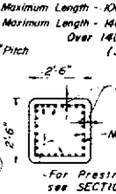
EPOXY BONDING SPLICE DETAILS FOR 24" PILES (REINFORCED CONCRETE)

SECTION H-H

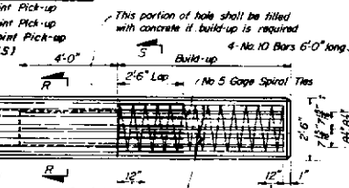
Maximum Length - 100 ft - Single Point Pick-up
Maximum Length - 140 ft - Double Point Pick-up
Over 140 ft. - Triple Point Pick-up
(30"x 30" PILES)



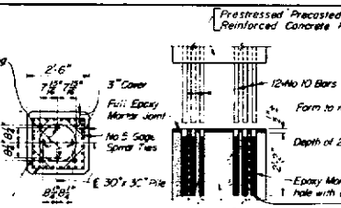
30"x 30" PRESTRESSED CONCRETE PILES



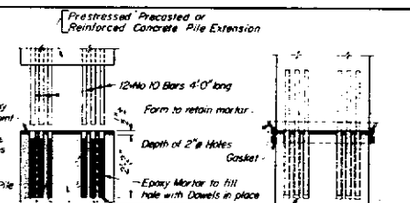
SECTION M-M



BUILD UP (30" PILES)

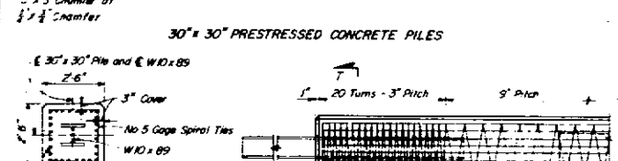


SECTION R-R

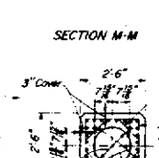


BEFORE BONDING

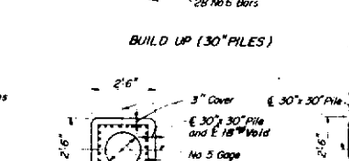
NOTE: Place Dunnage under pick up points shown for double pick up and at pickup points called for in Triple Point Pick up.



SECTION T-T PRESTRESSED COMPOSITE 30"x 30" PILES

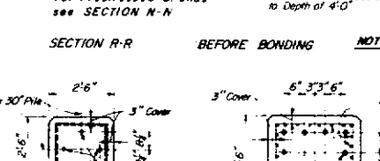


SECTION P-P

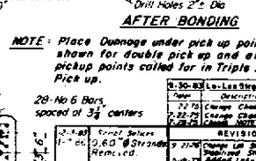


28-⅜"ø S.R.-As=0.144in²-250K@25,200# Eq. Spaced 3½" Ctrs.
24-½"ø Special L.R.S.-As=0.167in²-270K@32,800# Eq. Spaced 3½" Ctrs.
20-⅝"ø L.R.S.-As=0.192in²-270K@37,700# Eq. Spaced 4⅛" Ctrs.

SECTION N-N



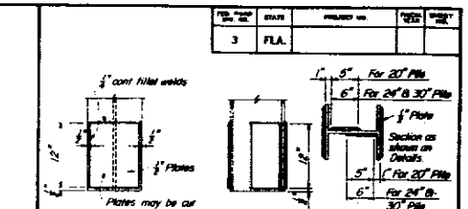
SECTION S-S



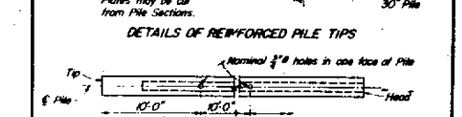
EPOXY BONDING SPLICE DETAILS FOR 30" PILES (REINFORCED CONCRETE)

DETAILS FOR 30"x 30" PILES

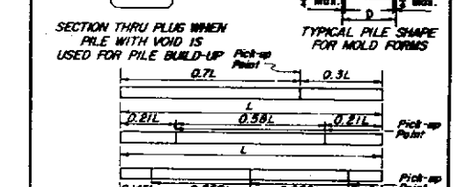
NOTE: Place Dunnage under pick up points shown for double pick up and at pickup points called for in Triple Point Pick up.



DETAILS OF REINFORCED PILE TIPS



DETAILS SHOWING VENT HOLES IN PILES CAST WITH VOIDS



GENERAL NOTES

1. Prior Approval in Writing By the Engineer is Required for Reinforced Concrete Build-Ups in Excess of 2'-0". This will not be approved for piles in a coastal environment.
1A. SPIRAL SPLICES: One turn required for Spiral Splices.
2. SPIRAL TIES: Each wrap of spirals shall be tied to at least two corner strands.
3. MATERIAL FOR SPIRAL TIES: Spirals may be manufactured from stock meeting requirements of any grade of reinforcing steel, or hard drawn steel.
4. PILE CUT OFF: In cutting off concrete piles an abrasive saw shall be used to score the concrete at the cut off elevation to the approximate depth of the reinforcing steel.
5. CONCRETE STRENGTH: For Class III Concrete the Cylinder Strength shall be 5,000 psi minimum at 28 days and 4000 psi minimum at transfer of the Prestressing Force.
6. ADDITIONAL DRIVING: If additional driving is required, 2" Pitch shall be used for spiral ties within these limits.
7. SPLICED PILES: Spliced piles may be driven after splice is two days old.
8. BUILD-UPS: All build-ups shall be made with Class III Concrete.
9. PICK-UP POINTS: Piles shall be marked at Pick-up Points to indicate proper points for attaching handling lines.
10. REINFORCED STEEL PILE TIPS: Reinforced Pile Tips required only where ordered by the Engineer. At the option of the Contractor and with the approval of the Engineer, Commercial Tips may be used in lieu of the Reinforced Pile Tips shown.
11. VOIDS: Form material used to form the hollow cores may be left in place at the option of the Contractor. The form material shall be neutral with respect to the generation of products harmful to the physical and structural properties of the piles. The contractor shall retain responsibility for any detrimental effects resulting from the presence of the form material within the pile.
12. WEBS: Webs of Wide Flange sections shall be in a vertical position when Composite Pile is cast.
13. REINFORCING STEEL: All Reinforcing Steel shall be Grade 40 or 60.

Date	Description
1-30-83	Lo-Lax Strands Added
7-1-78	Change Chamfer
2-22-75	Change Chamfer
2-28-73	Added NOTE No. 1

REVISIONS

5-21-74	Change Lap Stress Strands to Straight and Stress
5-8-73	Added Lo-Lax Strands & Revise Build-up Title
10-8-75	ADDED TRIPLE POINT PICKUP
9-17-70	Cover added to General Notes
10-27-70	Expansion bar, strands and end treatment
12-29-71	Revised Webs of Wide Flange sections
11-17-71	Added Plate No. 13
2-26-74	Revised Title, Notes 1A & 2, Revised Build-Ups & added Note 9
9-6-74	Revised Details
11-7-73	Revised scope of concrete & revised details

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES

20", 24" AND 30" PRESTRESSED CONCRETE PILES

ROAD NO.	COUNTY	PROJECT NO.

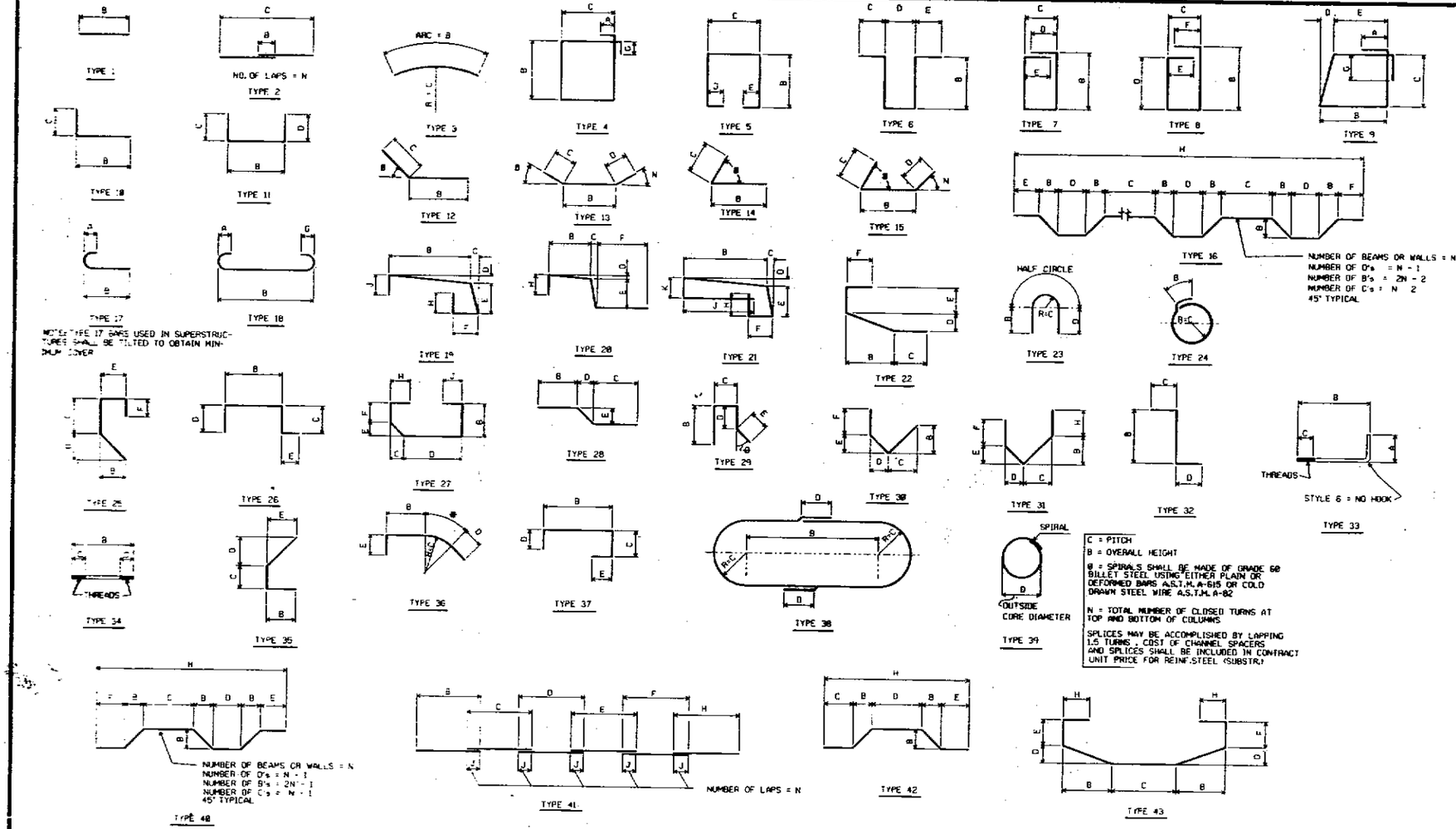
	Name	Date
Designed by	HHJ	12-69
Checked by	PB	12-69
Quantities by		
Checked by		
Supervised by		

APPROVED BY: T. Ault
Director Division of Engineering Services

Drawing No. 1 of 1
Index No. 102089 F

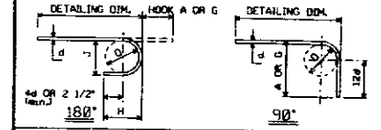
STATE	PROJECT NO.	CONTRACT NO.	SHEET NO.
FLA.			

FEDERAL AID



NOTE: FOR BAR DIMENSIONS SEE REINFORCING BAR LIST SHEET.

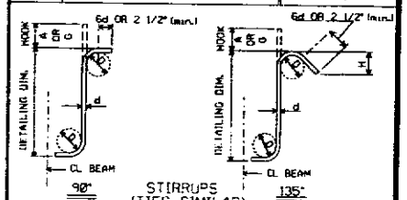
HOOK DETAILS



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	11 3/4	1-7
#10	1-5	1- 1 1/4	1-10
#11	1-7	1- 2 3/4	2-0
#14	2-3	1- 9 3/4	2-7
#18	3-0	2- 4 1/2	3-5
STYLE	1		3



RECOMMENDED STIRRUP & TIE HOOK DIMENSIONS

BAR SIZE	D (IN.)	90° HOOK	135° HOOK	
		HOOK A OR G	HOOK A OR G	APPROX. H
#3	1 1\2	4	4	2 1/2
#4	2	4 1/2	4 1/2	3
#5	2 1\2	6	5 1/2	3 3/4
#6	4 1\2	1-0	7 3/4	4 1/2
#7	5 1\4	1-2	9	5 1/4
#8	6	1-4	10 1/4	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 BAR DIMENSIONS ARE OUT-TO-OUT.

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION
BUREAU OF STRUCTURES

STANDARD BAR BENDING DETAILS

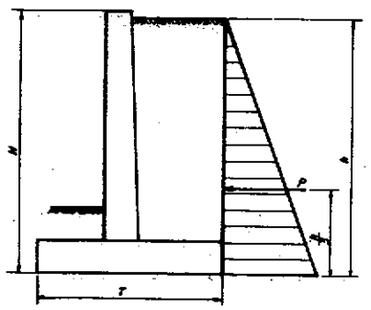
REVISIONS	
4-81	GENERAL REVIEW
6-18-82	REMOVED HAND WELDING
4-19-84	REV. BAR TYPE 38

Drawn by	R.D.H.	1-86
Checked by	R.D.S.	1-86
Computed by		
Checked by		
Approved by	A.G.M.	

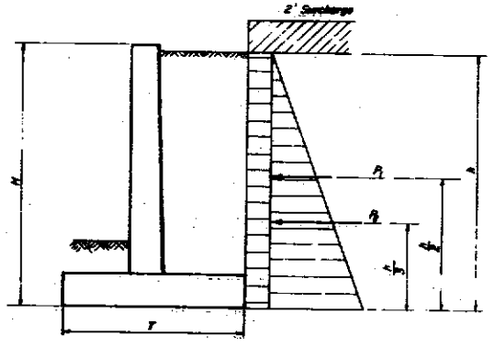
DIRECTOR OF STRUCTURES

1 OF 1

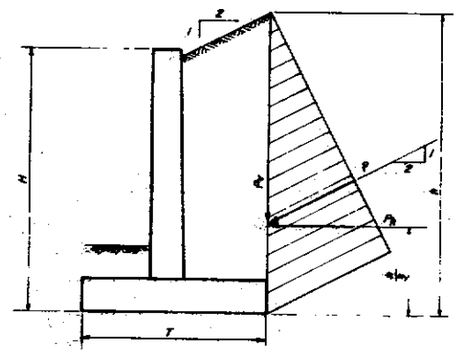
18587 CADD



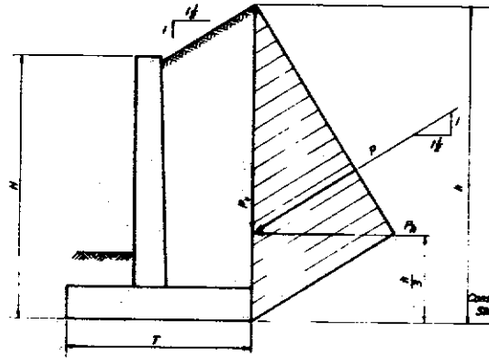
CASE I



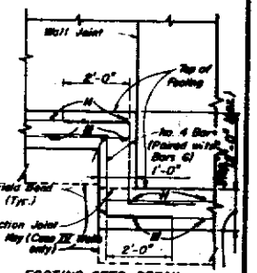
CASE II



CASE III



CASE IV



FOOTING STEP DETAIL

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

Quantities per Step
Concrete = 0.037 VT C.Y.
Steel = (13.36WT+8WH+4.8)Lbs.

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: Class II Concrete fc = 1,350 p.s.i. (f'c = 3,400 p.s.i.) Except as noted.

REINFORCING STEEL: All reinforcing steel shall be Grade 60 (fy = 24,000 p.s.i.)

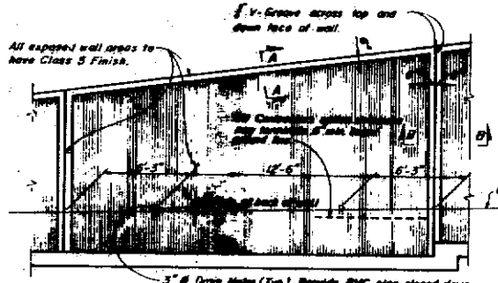
SURFACE FINISH: Class 5 Applied Finish

ENVIRONMENT: These plans shall only apply to structures located in non-corrosive (Non Coastal) environments.

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

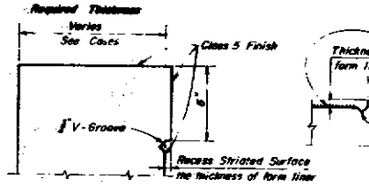
PAYMENT: Retaining Walls shall be Payed for at the Contract Unit Price for Class II Concrete (Cu. Yd.) Item No. 400-2-11 and Reinforcing Steel (Lbs.) Item No. 415-1-3

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

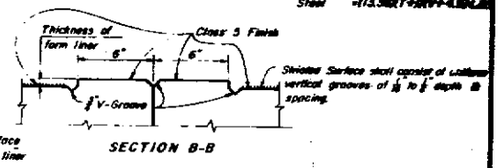


TYPICAL STRIATED UNIT

NOTE: Add 0.002(H'-D+12) c.y. of concrete for each 25'-0" unit to the Quantities shown for striated walls. H' is the wall height at mid-length of a 25'-0" unit.

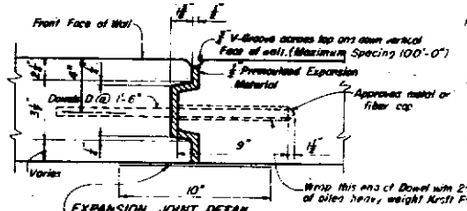


SECTION A-A

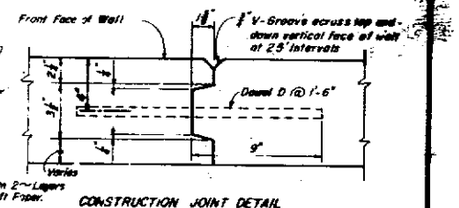


SECTION B-B

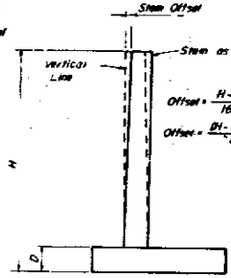
NOTE: Finish on outside face of wall is typical for entire length of wall.



EXPANSION JOINT DETAIL



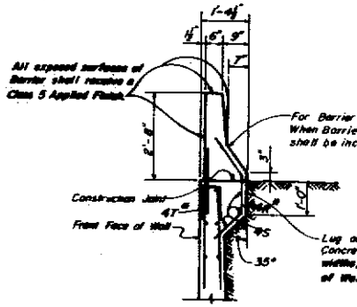
CONSTRUCTION JOINT DETAIL



$\text{Offset} = \frac{H-D}{16}$, for (H-D) ≤ 12.0 ft.

$\text{Offset} = \frac{(H-D)-6}{8}$; 2½" max., for (H-D) > 12.0 ft

STEM OFFSET VALUES

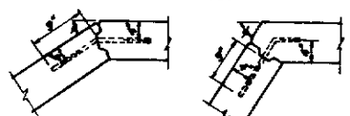


For Barrier Details see Sheet 1 of 1 Index 13857 (Bridge Plans). When Barrier is used, Concrete and Reinforcing Steel for Barrier shall be included in the bid item Quantities for Retaining Wall

Lug at top of Wall requires an additional 0.037 and 0.026 Concrete per Lin. Ft. of Wall for 8" and 10" top of wall widths, respectively, and an additional 2.00 lbs. per Lin. Ft. of Wall for the 3-#5 Bars shown.

BARRIER DETAIL

* NOTE: See Sheet 1 of 1 Index 13857 for Bars 4A and 4T.

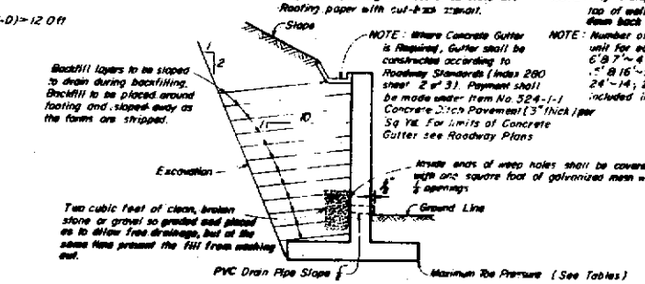


For 0° ≤ Δ ≤ 45°ø

For 45° ≤ Δ ≤ 90°ø

TYPICAL JOINT DETAILS AT CORNERS

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



TYPICAL BACKFILL DETAIL

NOTE: Key to step 6" from top of wall. Joint across top of wall to be a straight line. Extend V-Groove down back of wall to 6" min. below ground.

NOTE: Number of 1'-6" Dowels D (No. 6 Bars) required per unit for each wall height as follows; 6'ø7'-4; 8'-5; 9'ø10'-6; 11'ø12'-7; 13'ø14'-8; 15'ø16'-9; 17'ø18'-10; 19'-11; 20'ø21'-12; 22'ø23'-13; 24'-14; 25'-15. Weight of Dowels for each 25'-0" unit included in Quantities.

NOTE: Where Concrete Gutter is Required, Gutter shall be constructed according to Roadway Standards (Index 280 sheet 2 of 3). Payment 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

Weep ends of weep holes shall be covered with one square foot of galvanized mesh with ½ openings

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

CANTILEVER RETAINING WALLS

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES

RETAINING WALLS DETAILS
6 FT. TO 30 FT. HEIGHT

REVISIONS		ROAD NO.	COUNTY	PROJECT NO.
Dates	Descriptions			

	Name	Date
Designed by	WEH	9-81
Checked by	TDH	1-82
Quantities by	WEH	9-81
Checked by	TDH	1-82
Supervised by	A.G.M.	

APPROVED BY

State Engineer of Structural Design

Drawing No. 1 OF 23

Index No. 14051

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

RETAINING WALL DATA

REINFORCING STEEL SCHEDULE

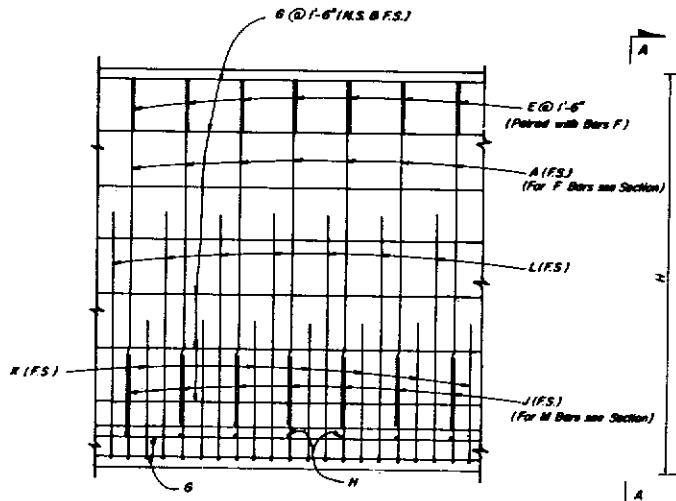
WALL DIMENSIONS				BARS J						BARS F			BARS G			BARS H			
H	B	D	T	SIZE	NO.	SPACING	a	b	LENGTH	SIZE	NO.	LENGTH	SIZE	NO.	LENGTH	SIZE	NO.	SPACING	LENGTH
6'	0.67	0.83	3.05	4	26	1.00	5.58	1.08	6.66	4	18	5.00	4	14	24.50	4	18	1.42	2.55
7'	0.83	0.83	3.50	4	26	1.00	6.58	1.27	7.86	4	18	6.00	4	16	24.50	4	18	1.42	3.00
8'	1.00	0.83	3.96	4	26	1.00	7.58	1.47	8.06	4	18	7.00	4	18	24.50	4	18	1.42	3.46
9'	1.17	0.83	4.50	4	27	0.96	8.58	1.67	10.26	4	18	8.00	4	20	24.50	4	19	1.33	4.00
10'	1.25	0.83	5.12	4	28	0.92	9.58	1.78	11.36	4	18	9.00	4	22	24.50	4	28	0.92	4.62
11'	1.50	0.83	5.86	4	31	0.83	10.58	2.06	12.65	4	18	10.00	4	24	24.50	4	40	0.63	5.36
12'	1.75	0.92	6.75	4	38	0.67	11.58	2.33	13.93	4	18	10.91	4	26	24.50	4	39	0.67	6.25
13'	2.00	0.92	7.61	4	38	0.67	12.58	2.77	15.37	4	18	11.91	4	28	24.50	4	46	0.54	7.11
14'	2.25	0.92	8.64	4	51	0.50	13.58	3.05	16.68	4	18	12.91	4	30	24.50	4	56	0.46	8.14
15'	2.50	0.92	9.57	5	19	1.33	2.83	3.33	6.19	4	18	13.91	4	34	24.50	5	50	0.50	9.07
16'	2.83	0.92	10.63	5	17	1.50	2.83	3.69	6.55	4	18	14.91	4	38	24.50	6	44	0.58	10.13
17'	3.08	1.08	11.86	5	19	1.38	3.00	4.00	7.00	4	18	15.75	4	40	24.50	6	39	0.63	11.36
18'	3.50	1.08	12.71	6	17	1.50	3.42	4.42	7.87	4	18	16.75	4	42	24.50	6	50	0.50	12.21
19'	3.83	1.08	13.95	6	19	1.38	3.42	4.78	8.23	4	18	17.	4	44	24.50	6	55	0.46	13.45
20'	4.17	1.08	14.98	7	17	1.50	4.83	5.15	10.01	4	18	18.	4	46	24.50	7	41	0.83	14.48

	BARS M				BARS A			BARS K						BARS L					
H	SIZE	NO.	c	LENGTH	SIZE	NO.	LENGTH	SIZE	NO.	SPACING	j	t	LENGTH	SIZE	NO.	SPACING	a	b	LENGTH
6'	4	18	1.96	4.04															
7'	4	18	2.25	4.33															
8'	4	18	2.54	4.62															
9'	4	18	2.91	4.99															
10'	4	18	3.45	5.53															
11'	4	18	3.94	6.02															
12'	4	18	4.58	6.66															
13'	4	18	5.19	7.27															
14'	4	18	5.97	8.05															
15'	4	18	6.65	8.73	5	19	13.91	5	18	1.33	10.75	3.33	14.11.						
16'	4	18	7.38	9.46	5	17	14.91	5	16	1.50	4.75	3.69	8.47	5	16	1.50	14.75	3.69	18.47
17'	4	18	8.36	10.44	5	19	15.75	5	18	1.38	4.92	4.00	8.92	5	18	1.38	13.92	4.00	17.92
18'	4	18	8.79	10.87	5	17	16.25	6	16	1.50	5.92	4.42	10.37	6	16	1.50	14.82	4.42	19.37
19'	4	18	9.70	11.78	5	19	17.75	6	18	1.38	6.33	4.78	11.14	6	18	1.38	15.33	4.78	20.11
20'	4	18	10.39	12.47	6	17	18.75	6	16	1.50	6.33	5.15	11.81	6	16	1.50	16.33	5.15	21.48

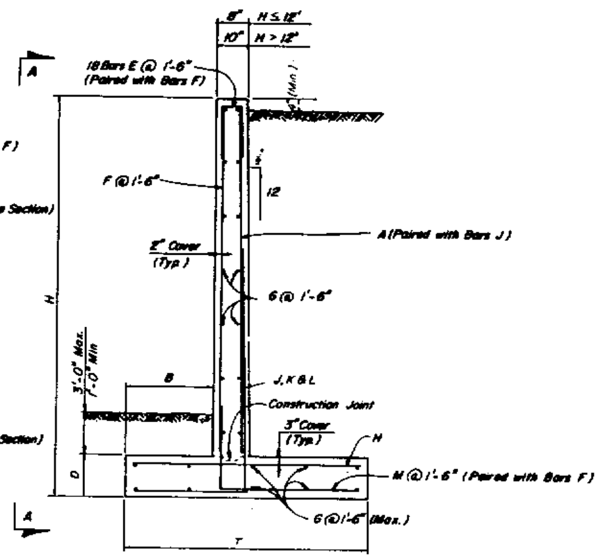
	QUANTITIES					
	CONCRETE PER 25' UNIT	STEEL PER 25' UNIT	CONCRETE PER LIN. FT.	STEEL PER LIN. FT.	ACTUAL MAXIMUM BEARING PRESSURE	H
	C.Y.	LBS.	C.Y.	LBS.	KIPS/SQ.FT.	
6'	5.93	524	0.24	21	1.34	6'
7'	7.06	599	0.28	24	1.52	7'
8'	8.22	673	0.33	27	1.69	8'
9'	9.48	759	0.38	30	1.82	9'
10'	10.70	874	0.43	35	1.95	10'
11'	12.05	1031	0.48	41	1.97	11'
12'	14.35	1198	0.57	48	1.97	12'
13'	17.89	1340	0.72	54	1.99	13'
14'	19.90	1657	0.80	66	1.98	14'
15'	21.85	2007	0.87	80	2.00	15'
16'	23.94	2457	0.96	98	1.97	16'
17'	27.84	2576	1.11	103	1.99	17'
18'	29.94	3182	1.20	127	1.98	18'
19'	32.46	3660	1.30	146	1.97	19'
20'	34.80	4003	1.39	160	1.98	20'

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.

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.

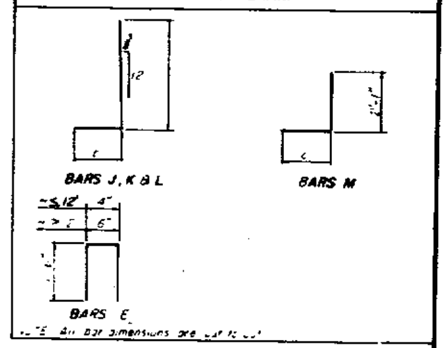


VIEW A-A



TYPICAL SECTION

BENDING DIAGRAM



CANTILEVER RETAINING WALLS

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES

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

REVISIONS	
Dates	Descriptions

	Names	Dates
Designed by		
Checked by	L.N.	1/85
Quantities by		
Checked by	R.N.	6/85
Approved by	[signature]	

Chief, Bureau of Structures Design

Drawing No.	Index No.
2 OF 23	14,051

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

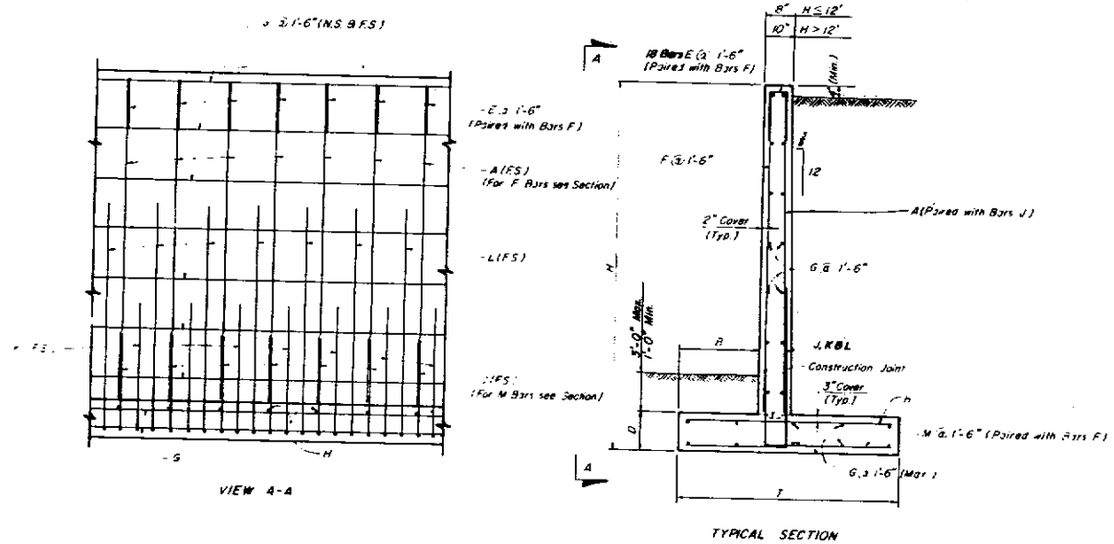
RETAINING WALL DATA

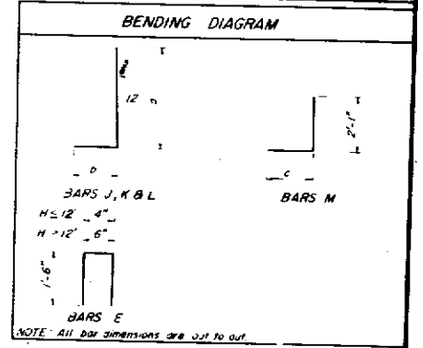
REINFORCING STEEL SCHEDULE

WALL DIMENSIONS				BARS J						BARS F			BARS G			BARS H				BARS M				BARS A			BARS K						BARS L						QUANTITIES				ACTUAL MAXIMUM BEARING PRESSURE	H
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	CONCRETE PER 25' UNIT C.Y.	STEEL PER 25' UNIT LBS.	CONCRETE PER LIN. FT. C.Y.	STEEL PER LIN. FT. LBS.	KIPS/SQ.FT.	
6'	0.67	0.83	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																	5.93	524	0.24	21	1.34	6'
7'	0.83	0.83	3.50	4	26	1.00	8.58	1.28	7.86	4	18	6.00	4	16	24.50	4	18	1.42	3.00	4	18	2.25	4.33																	7.06	599	0.28	24	1.32	7'
8'	1.00	0.83	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																	8.22	673	0.33	27	1.69	8'
9'	1.17	0.83	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																	9.49	763	0.38	31	1.82	9'
10'	1.25	0.83	4.95	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																	10.70	865	0.43	35	2.04	10'
11'	1.33	0.83	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																	12.05	1015	0.48	41	2.20	11'
12'	1.50	0.92	5.93	4	36	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																	13.66	1161	0.55	46	2.39	12'
13'	1.58	0.92	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	6.56																	15.76	1277	0.67	51	2.67	13'
14'	1.75	0.92	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																	18.34	1522	0.73	61	2.80	14'
15'	1.83	0.92	7.36	5	19	1.33	3.25	2.69	5.94	4	18	13.92	4	32	24.50	5	50	0.50	6.66	4	18	5.11	7.19	5	19	13.92	5	18	1.33	9.58	2.69	11.89								19.98	1783	0.80	71	2.96	15'
16'	2.00	0.92	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	7.72	5	16	1.50	14.75	2.97	17.72	21.85	2168	0.87	87	2.93	16'
17'	2.25	1.08	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	24.99	2303	1.00	92	2.96	17'
18'	2.58	1.08	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	26.91	2831	1.08	113	2.96	18'
19'	2.79	1.08	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	29.04	3296	1.16	132	2.99	19'
20'	3.08	1.08	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	31.22	4003	1.25	160	2.85	20'
21'	3.33	1.33	12.34	7	17	1.50	5.17	4.37	9.54	4	18	19.50	4	42	24.50	7	43	0.56	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	16.17	4.37	20.54	36.00	3848	1.44	154	2.98	21'
22'	3.58	1.33	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	17.17	4.65	16.82	38.43	4712	1.54	188	2.99	22'
23'	3.83	1.33	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	9.93	12.01	6	17	21.50	8	16	1.50	8.83	4.93	13.76	8	16	1.50	15.17	4.93	18.10	41.02	5269	1.64	211	3.00	23'
24'	4.17	1.33	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	43.45	6119	1.74	245	3.00	24'
25'	4.42	1.33	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	46.54	7300	1.36	292	2.96	25'
26'	4.92	1.58	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	52.44	7781	2.10	311	2.96	26'
27'	5.25	1.58	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	55.28	8826	2.21	353	2.97	27'
28'	5.58	1.58	18.78	10	19	1.38	10.00	6.82	16.82	4	18	26.25	4	62	24.50	9	50	0.50	18.26	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	58.02	10569	2.32	423	2.98	28'
29'	5.00	1.58	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	60.66	11996	2.43	480	2.99	29'
30'	6.42	1.58	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	63.31	13427	2.63	537	2.99	30'

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

NOTE: To accommodate the variable height of a Wall Unit, vertical maybe 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.





CANTILEVER RETAINING WALLS

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES

CASE I (3.0 KIPS/SQ.FT. MAX. BEARING PRESSURE)
0 FT. TO 30 FT. HEIGHT

REVISIONS		ROAD NO.	COUNTY	PROJECT NO.
Date	Description			
		Designed by	Names	Badge
		Detailed by	R.N. 6/85	
		Quantities by		
		Checked by	R.N. 6/85	
		Supervised by		

APPROVED BY:

Chief, Bureau of Structures Design

Drawing No.	Index No.
3 OF 23	14,051

STATE	PROJECT NO.
FLA.	

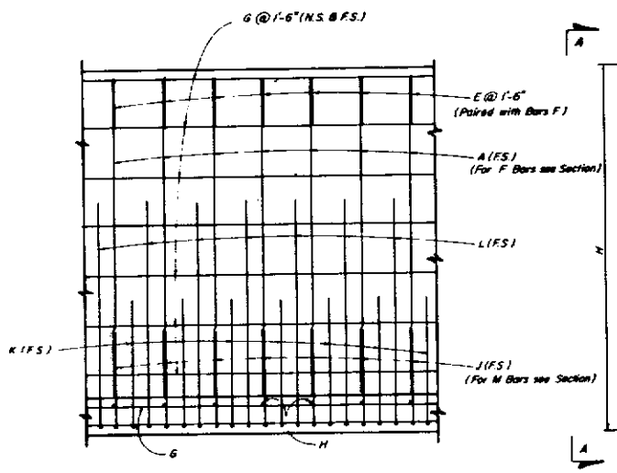
RETAINING WALL DATA

REINFORCING STEEL SCHEDULE

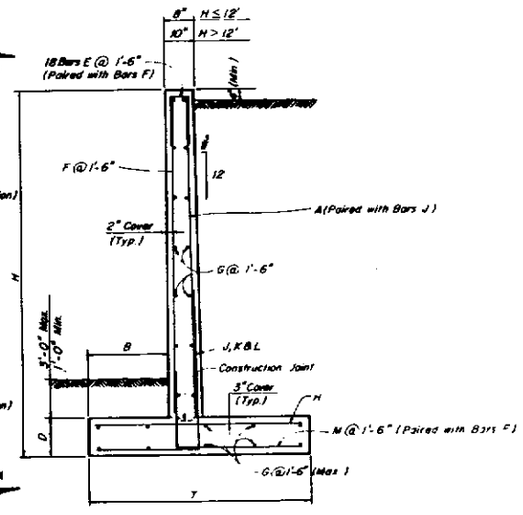
WALL DIMENSIONS				BARS J						BARS F			BARS G			BARS H				BARS M				BARS A			BARS K						BARS L						QUANTITIES				ACTUAL MAXIMUM BEARING PRESSURE	H
H	B	D	T	SIZE	NO.	SPACING	a	b	LENGTH	SIZE	NO.	LENGTH	SIZE	NO.	LENGTH	SIZE	NO.	SPACING	LENGTH	SIZE	NO.	c	LENGTH	SIZE	NO.	LENGTH	SIZE	NO.	SPACING	a	b	LENGTH	SIZE	NO.	SPACING	a	b	LENGTH	CONCRETE PER 25'UNIT C.Y.	STEEL PER 25'UNIT LBS.	CONCRETE PER LIN. FT. C.Y.	STEEL PER LIN. FT. LBS.		
6'	0.67	0.83	3.05	4	25	1.00	5.58	1.08	6.66	4	18	5.00	4	14	24.5	4	18	1.42	2.25	4	18	1.97	4.05															5.93	524	0.24	21	1.34	6'
7'	0.83	0.83	3.90	4	26	1.00	6.58	1.28	7.86	4	18	6.00	4	16	24.5	4	18	1.42	3.00	4	18	2.25	4.33															7.06	589	0.28	24	1.52	7'
8'	1.00	0.83	3.96	4	25	1.00	7.58	1.48	9.06	4	18	7.00	4	18	24.5	4	18	1.42	3.46	4	18	2.54	4.62															8.22	673	0.33	27	1.69	8'
9'	1.17	0.83	4.50	4	27	0.96	8.56	1.68	10.26	4	18	8.00	4	20	24.5	4	18	1.33	4.00	4	18	2.82	5.00															9.48	759	0.38	30	1.82	9'
10'	1.25	0.83	4.93	4	28	0.92	9.58	1.79	11.37	4	18	9.00	4	22	24.5	4	27	0.96	4.43	4	18	3.26	5.35															10.68	865	0.43	35	2.04	10'
11'	1.33	0.83	5.80	4	31	0.85	10.58	1.90	12.46	4	18	10.00	4	24	24.5	4	40	0.63	5.00	4	18	3.75	5.85															12.02	1015	0.48	41	2.20	11'
12'	1.50	0.92	5.93	4	38	0.67	11.58	2.10	13.68	4	18	10.92	4	28	24.5	4	39	0.67	5.43	4	18	4.01	6.10															13.66	1159	0.55	46	2.39	12'
13'	1.58	0.92	6.28	4	38	0.67	12.58	2.38	14.96	4	18	11.92	4	28	24.5	4	46	0.54	5.78	4	18	4.28	6.36															16.78	1277	0.67	51	2.67	13'
14'	1.75	0.92	6.80	4	51	0.50	13.58	2.58	16.16	4	18	12.92	4	28	24.5	4	56	0.46	6.30	4	18	4.64	6.72															18.34	1523	0.73	61	2.80	14'
15'	1.83	0.92	7.36	5	19	1.33	2.83	2.69	5.52	4	18	13.92	4	32	24.5	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							19.98	1815	0.80	73	2.98	15'
16'	2.00	0.92	7.69	5	17	1.50	2.83	2.89	5.72	4	18	14.92	4	34	24.5	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	21.46	2075	0.86	83	3.18	16'
17'	2.00	1.08	8.18	5	19	1.38	3.00	2.91	5.91	4	18	15.75	4	34	24.5	6	39	0.63	7.86	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	24.13	2223	0.97	89	3.45	17'
18'	2.25	1.08	8.79	6	17	1.50	4.33	3.20	7.53	4	18	16.75	4	38	24.5	6	50	0.50	8.29	4	18	6.11	8.20	5	17	16.75	6	16	1.50	5.92	3.20	9.12	6	16	1.50	14.92	3.20	18.12	26.00	2730	1.04	109	3.49	18'
19'	2.33	1.08	9.15	6	19	1.38	3.42	3.31	6.73	4	18	17.75	4	40	24.5	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	3.32	18.64	27.85	3010	1.11	120	3.74	19'
20'	2.90	1.08	9.68	7	17	1.50	3.42	3.51	6.93	4	18	18.75	4	42	24.5	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	29.48	3483	1.18	139	3.87	20'
21'	2.67	1.33	10.32	7	17	1.50	5.17	3.70	8.87	4	18	19.50	4	44	24.5	7	43	0.58	9.82	4	18	7.23	9.31	6	17	19.50	7	16	1.50	7.17	3.70	10.87	7	16	1.50	17.17	3.70	20.87	33.51	3920	1.34	145	3.98	21'
22'	2.92	1.33	11.03	8	17	1.50	4.58	3.98	8.56	4	18	20.50	4	46	24.5	7	50	0.50	10.53	4	18	7.69	9.77	6	17	20.50	8	16	1.50	8.17	3.98	12.15	8	16	1.50	17.17	3.98	21.15	35.74	4356	1.43	174	3.98	22'
23'	3.08	1.33	11.86	8	17	1.50	5.83	4.18	10.01	4	18	21.50	4	50	24.5	8	46	0.54	11.36	4	18	8.36	10.44	6	17	21.50	8	16	1.50	8.83	4.18	13.01	8	16	1.50	17.17	4.18	21.35	38.15	4940	1.53	198	3.99	23'
24'	3.42	1.33	12.55	8	19	1.38	5.83	4.54	10.37	4	18	22.50	4	50	24.5	8	50	0.50	12.05	4	18	8.71	10.79	6	19	22.50	8	18	1.38	9.83	4.54	14.37	8	18	1.38	14.17	4.54	18.71	40.42	5627	1.62	225	3.98	24'
25'	3.58	1.33	13.52	9	17	1.50	6.92	4.74	11.66	4	18	23.50	4	52	24.5	9	46	0.54	13.02	4	18	9.52	11.60	6	17	23.50	9	16	1.50	10.50	4.74	15.24	9	16	1.50	17.50	4.74	22.24	43.06	6645	1.72	267	3.96	25'
26'	4.00	1.58	14.12	9	19	1.38	7.42	5.18	12.60	4	18	24.25	4	54	24.5	9	39	0.63	13.62	4	18	9.70	11.78	6	19	24.25	9	18	1.38	11.34	5.18	16.52	9	18	1.38	18.25	5.18	23.43	48.17	7716	1.93	285	3.98	26'
27'	4.25	1.58	14.99	10	17	1.50	7.92	5.46	13.38	4	18	25.25	4	56	24.5	9	46	0.54	14.49	4	18	10.32	12.40	6	17	25.25	10	16	1.50	11.75	5.46	17.21	10	16	1.50	18.75	5.46	24.21	50.93	8153	2.04	326	3.97	27'
28'	4.58	1.58	15.72	10	19	1.38	8.42	5.83	14.25	4	18	26.25	4	60	24.5	9	50	0.50	15.22	4	18	10.72	12.80	7	19	26.25	10	18	1.38	12.25	5.83	18.08	10	18	1.38	19.75	5.83	25.58	53.52	9958	2.14	398	3.97	28'
29'	4.92	1.58	16.44	11	17	1.50	8.92	6.20	15.12	4	18	27.25	4	62	24.5	9	54	0.46	15.94	4	18	11.10	13.18	8	17	27.25	11	16	1.50	12.75	6.20	18.95	11	16	1.50	20.75	6.20	26.95	56.14	10974	2.25	439	3.98	29'
30'	5.33	1.58	17.13	11	19	1.38	9.42	6.64	16.06	4	18	28.25	4	64	24.5	10	50	0.50	16.63	4	18	11.38	13.46	8	19	28.25	11	18	1.38	13.00	6.64	19.64	11	18	1.38	21.75	6.64	28.39	58.75	12887	2.35	513	3.98	30'

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: To accommodate the Variable Height of a Wall Unit, vertical Bars maybe 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.

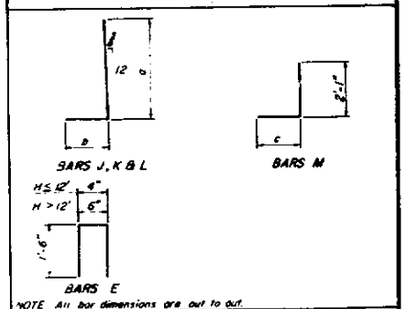


VIEW A-A



TYPICAL SECTION

BENDING DIAGRAM



NOTE All bar dimensions are out to out.

CANTILEVER RETAINING WALLS

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES

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

REVISIONS		ROAD NO.	COUNTY	PROJECT NO.
Dates	Descriptions			

	Signed	Dates
Designed by		
Checked by	F.N.	6/65
Quantities by		
Checked by	R.N.	6/65
Supervised by		

APPROVED BY

CHIEF, Bureau of Engineering Standards

Drawing No.	Sheet No.
4 OF 23	14,051

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

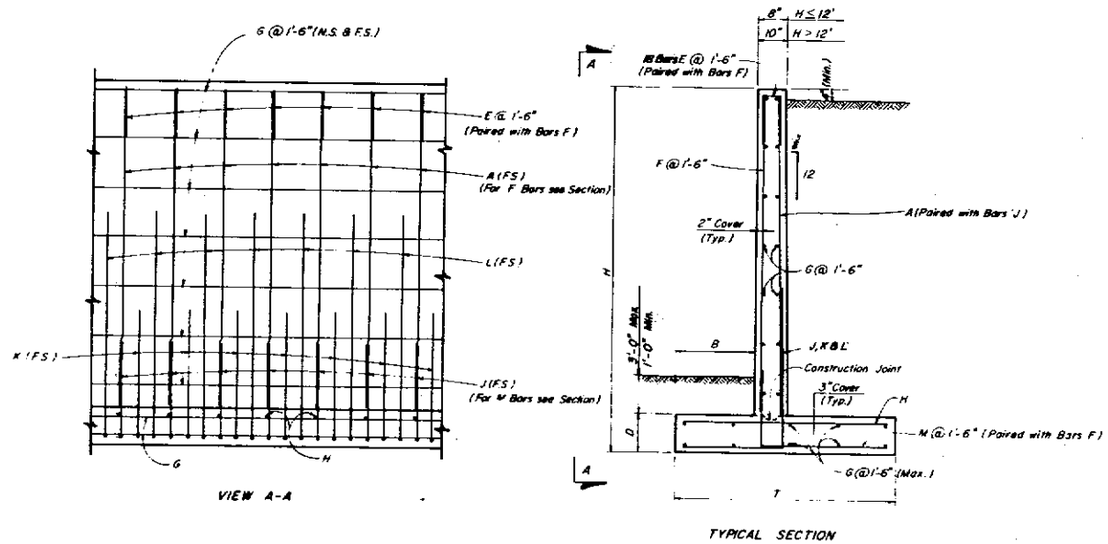
RETAINING WALL DATA

REINFORCING STEEL SCHEDULE

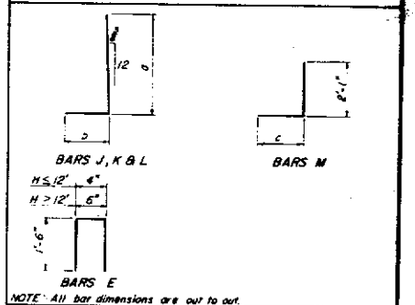
WALL DIMENSIONS				BARS J						BARS F			BARS G			BARS H				BARS M				BARS A			BARS K						BARS L						QUANTITIES				ACTUAL MAXIMUM BEARING PRESSURE	
H	B	D	T	SIZE	NO.	SPACING	a	b	LENGTH	SIZE	NO.	LENGTH	SIZE	NO.	LENGTH	SIZE	NO.	SPACING	LENGTH	SIZE	NO.	c	LENGTH	SIZE	NO.	LENGTH	SIZE	NO.	SPACING	a	b	LENGTH	SIZE	NO.	SPACING	a	b	LENGTH	CONCRETE PER 25'UNIT	STEEL PER 25'UNIT	CONCRETE PER LIN. FT.	STEEL PER LIN. FT.		H
																																						C.Y.	LBS.	C.Y.	LBS.	KIPS/SQ.FT.	
6'	0.67	0.83	3.05	4	28	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.93	524	0.84	21	1.34	6'
7'	0.83	0.83	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7.06	599	0.28	24	1.52	7'
8'	1.00	0.83	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.22	673	0.33	27	1.69	8'
9'	1.17	0.83	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.48	759	0.38	30	1.82	9'
10'	1.25	0.83	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10.68	862	0.43	35	2.04	10'
11'	1.33	0.83	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	12.02	1015	0.48	41	2.20	11'
12'	1.50	0.92	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	13.66	1159	0.55	46	2.39	12'
13'	1.58	0.92	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	16.76	1277	0.67	51	2.67	13'
14'	1.75	0.92	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	18.34	1523	0.73	61	2.80	14'
15'	1.83	0.92	7.36	5	19	1.33	2.83	2.89	5.52	4	18	13.92	4	32	24.50	5	80	0.50	6.86	4	18	5.11	7.19	5	19	13.92	5	18	1.33	10.75	2.89	13.44	—	—	—	—	—	—	—	19.98	1815	0.80	73	2.98	15'
16'	2.00	0.92	7.69	5	17	1.50	2.83	2.89	5.72	4	18	14.92	4	34	24.50	6	39	0.83	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	21.46	2076	0.86	83	3.18	16'
17'	2.00	1.08	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	24.13	2223	0.97	89	3.45	17'
18'	2.25	1.08	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	6	16	1.50	14.92	3.20	18.12	26.00	2730	1.04	109	3.49	18'
19'	2.33	1.08	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	8.33	3.31	9.64	6	18	1.38	15.33	3.31	18.64	27.65	3010	1.11	120	3.74	19'
20'	2.90	1.08	9.68	7	17	1.50	3.42	3.31	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	29.48	3483	1.18	139	3.87	20'
21'	2.58	1.33	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	33.17	3585	1.33	143	4.16	21'
22'	2.83	1.33	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	35.17	4293	1.41	172	4.24	22'
23'	2.83	1.33	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	37.12	4764	1.48	191	4.49	23'
24'	3.08	1.33	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	39.07	5424	1.56	217	4.82	24'
25'	3.08	1.33	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	41.21	6491	1.65	260	4.82	25'
26'	3.42	1.58	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	45.72	6776	1.83	271	4.94	26'
27'	3.67	1.58	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	6	17	25.25	10	16	1.50	11.75	4.88	16.63	10	16	1.50	18.75	4.88	23.63	48.24	7728	1.93	309	4.94	27'
28'	4.00	1.58	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	7	19	26.25	10	18	1.38	12.25	5.24	17.49	10	18	1.38	19.75	5.24	24.99	50.65	9156	2.03	366	4.95	28'
29'	4.25	1.58	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	8	17	27.25	11	16	1.50	12.75	5.52	18.27	11	16	1.50	20.75	5.52	26.27	53.21	10614	2.13	425	4.96	29'
30'	4.57	1.58	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	9.98	12.05	8	19	28.26	11	18	1.38	13.00	5.97	18.97	11	18	1.38	21.75	5.97	27.72	55.67	12156	2.23	486	4.94	30'

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: To accommodate the Variable Height of a Wall Unit, vertical Bars may be field cut to fit and the number of horizontal Bars 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.

CANTILEVER RETAINING WALLS

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES

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

REVISIONS		ROAD NO.	COUNTY	PROJECT NO
Date	Descriptions			

	Initials	Date
Designed by	R.N.	6/85
Checked by		
Quantities by	R.N.	6/85
Checked by		
Supervised by		

APPROVED BY

Chief Bureau of Structures Design

Drawing No.	Index No.
5 OF 23	14,051

POLYTRACT 033

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

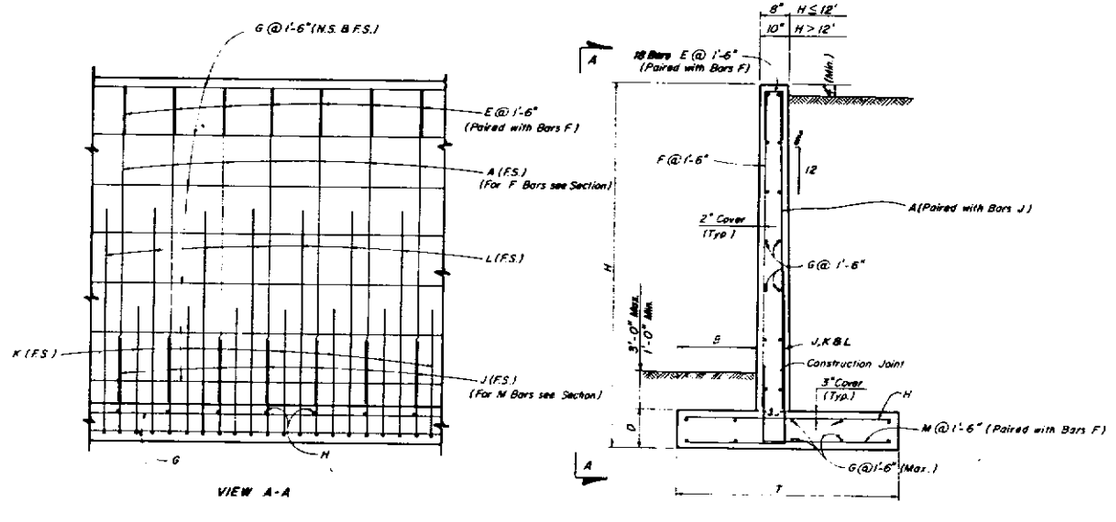
RETAINING WALL DATA

REINFORCING STEEL SCHEDULE

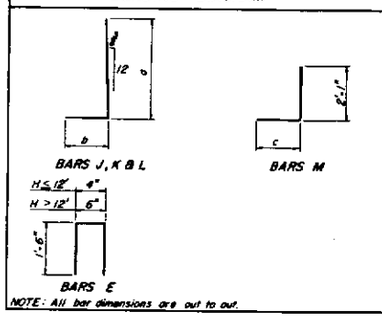
WALL DIMENSIONS				BARS J						BARS F			BARS G			BARS H				BARS M				BARS A			BARS K						BARS L						QUANTITIES				ACTUAL MAXIMUM BEARING PRESSURE	H
H	B	D	T	SIZE	NO.	SPACING	a	b	LENGTH	SIZE	NO.	LENGTH	SIZE	NO.	LENGTH	SIZE	NO.	SPACING	LENGTH	SIZE	NO.	c	LENGTH	SIZE	NO.	LENGTH	SIZE	NO.	SPACING	a	b	LENGTH	SIZE	NO.	SPACING	a	b	LENGTH	CONCRETE PER 25' UNIT	STEEL PER 25' UNIT	CONCRETE PER LIN. FT.	STEEL PER LIN. FT.		
																																						C.Y.	LBS.	C.Y.	LBS.	KIPS/SQ.FT.	
6'	0.67	0.83	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.93	524	0.24	21	1.34	6'
7'	0.83	0.83	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7.06	599	0.28	24	1.52	7'
8'	1.00	0.83	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.22	673	0.33	27	1.69	8'
9'	1.17	0.83	4.80	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.48	799	0.38	30	1.82	9'
10'	1.25	0.83	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10.68	862	0.43	35	2.04	10'
11'	1.33	0.83	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	12.02	1015	0.48	41	2.20	11'
12'	1.50	0.92	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	13.66	1159	0.55	46	2.39	12'
13'	1.58	0.92	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	16.76	1277	0.67	51	2.67	13'
14'	1.75	0.92	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	18.34	1523	0.73	61	2.80	14'
15'	1.83	0.92	7.36	5	19	1.33	2.83	2.69	5.92	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	—	—	—	—	—	—	—	19.98	1823	0.80	73	2.96	15'
16'	2.00	0.92	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	21.46	2075	0.86	83	3.18	16'
17'	2.00	1.08	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	24.13	2223	0.97	89	3.43	17'
18'	2.25	1.08	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	6	16	1.50	14.92	3.20	18.12	26.00	2730	1.04	109	3.49	18'
19'	2.33	1.08	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	27.65	3010	1.11	120	3.74	19'
20'	2.50	1.08	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	29.48	3483	1.18	139	3.87	20'
21'	2.58	1.33	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	17.17	3.62	14.79	33.17	3585	1.33	143	4.16	21'
22'	2.83	1.33	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	35.17	4293	1.41	172	4.24	22'
23'	2.85	1.33	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	37.12	4764	1.48	191	4.49	23'
24'	3.08	1.33	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	39.07	5424	1.56	217	4.62	24'
25'	3.08	1.33	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	41.21	6491	1.65	260	4.82	25'
26'	3.42	1.58	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	45.72	6776	1.83	271	4.94	26'
27'	3.58	1.58	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	47.86	7668	1.91	307	5.11	27'
28'	3.83	1.58	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	50.15	9607	2.01	384	5.19	28'
29'	4.08	1.58	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	52.23	10433	2.09	417	5.36	29'
30'	4.42	1.58	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	54.85	11957	2.19	478	5.31	30'

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: 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.

CANTILEVER RETAINING WALLS

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES

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

REVISIONS	
Date	Description

ROAD NO.	COUNTY	PROJECT NO.

	Name	Date
Designed by	R.N.	6/85
Checked by		
Quantities by	R.N.	6/85
Checked by		
Supervised by		

APPROVED BY

Chief Engineer of Transportation & Design
Drawing No.

6 OF 23

14,051

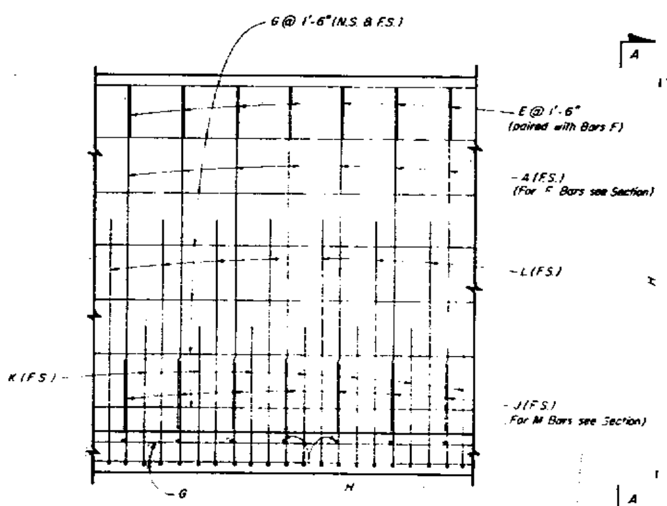
RETAINING WALL DATA

REINFORCING STEEL SCHEDULE

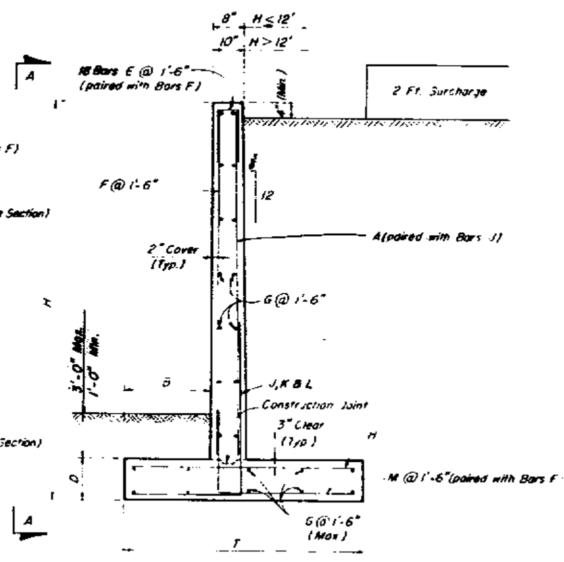
WALL DIMENSIONS H	B	D	T	BARS J SIZE	BARS J NO.	BARS J SPACING	BARS J a	BARS J b	BARS J LENGTH	BARS F SIZE	BARS F NO.	BARS F LENGTH	BARS G SIZE	BARS G NO.	BARS G LENGTH
6'	1.08	0.83	4.25	4	26	1.00	5.58	1.50	7.08	4	18	5.00	4	14	24.50
7'	1.17	0.83	4.83	4	26	1.00	6.58	1.61	8.19	4	18	6.00	4	16	24.50
8'	1.33	0.83	5.23	4	26	1.00	7.58	1.81	9.39	4	18	7.00	4	20	24.50
9'	1.58	0.83	5.79	4	31	0.83	8.58	2.09	10.67	4	18	8.00	4	22	24.50
10'	1.67	0.83	6.32	4	40	0.63	9.58	2.21	11.79	4	18	9.00	4	24	24.50
11'	1.83	0.83	7.19	4	26	1.00	10.58	2.41	12.99	4	18	10.00	4	26	24.50
12'	2.17	0.92	8.12	5	21	1.25	11.58	2.77	14.35	4	18	10.91	4	28	24.50
13'	2.50	0.92	9.03	5	19	1.33	12.58	3.30	15.88	4	18	11.91	4	30	24.50
14'	2.75	0.92	10.09	5	24	1.08	13.58	3.58	17.16	4	18	12.91	4	32	24.50
15'	3.00	0.92	11.23	5	28	0.92	3.25	3.86	7.11	4	18	13.91	4	34	24.50
16'	3.33	0.92	12.27	6	17	1.50	3.25	4.22	7.47	4	18	14.91	4	36	24.50
17'	3.67	1.08	13.65	6	19	1.38	3.42	4.57	7.99	4	18	15.75	4	40	24.50
18'	4.00	1.08	14.58	7	17	1.50	4.33	4.95	9.28	4	18	16.75	4	44	24.50
19'	4.33	1.08	15.80	7	19	1.38	4.33	5.31	9.64	4	18	17.75	4	46	24.50
20'	4.75	1.08	16.91	8	17	1.50	4.33	5.76	10.09	4	18	18.75	4	48	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	BARS K SIZE	BARS K NO.	BARS K SPACING	BARS K a	BARS K b	BARS K 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				4	25	1.00	4.58	2.41	6.99
12'	5	38	0.67	7.62	4	18	5.53	7.61				5	20	1.25	2.75	2.77	5.52
13'	5	47	0.50	8.53	4	18	6.11	8.19				5	18	1.33	5.75	3.30	9.05
14'	6	38	0.67	9.99	4	18	6.92	9.00				5	23	1.08	3.75	3.58	7.33
15'	6	50	0.50	10.73	4	18	7.81	9.89	5	28	13.91	5	27	0.92	4.17	3.86	8.03
16'	6	59	0.42	11.77	4	18	8.52	10.60	6	17	14.91	6	16	1.50	3.17	4.22	7.39
17'	6	54	0.46	13.15	4	18	9.56	11.64	6	19	15.75	6	18	1.38	3.33	4.57	7.90
18'	6	35	0.71	14.05	4	18	10.13	12.21	6	17	16.75	7	16	1.50	3.33	4.95	8.28
19'	8	40	0.63	15.30	4	18	11.05	13.13	6	19	17.75	7	18	1.38	4.92	5.31	10.23
20'	8	50	0.50	16.41	4	18	11.74	13.82	6	17	18.75	8	16	1.50	4.92	5.76	10.68

H	BARS L SIZE	BARS L NO.	BARS L SPACING	BARS L a	BARS L b	BARS L LENGTH	QUANTITIES: CONCRETE PER 25' UNIT C.Y.	STEEL PER 25' UNIT LBS.	CONCRETE PER LIN. FT. C.Y.	STEEL PER LIN. FT. LBS.	ACTUAL MAXIMUM BEARING PRESSURE KIPS/SQ.FT.	H
6'							6.96	595	0.27	22	1.31	6'
7'							8.09	635	0.32	25	1.48	7'
8'							9.20	787	0.37	31	1.68	8'
9'							10.47	908	0.42	36	1.79	9'
10'							11.76	1128	0.47	46	1.96	10'
11'							13.32	1313	0.53	53	1.99	11'
12'							15.51	1452	0.62	58	1.99	12'
13'							19.10	1677	0.76	67	1.99	13'
14'							21.13	1982	0.85	79	1.98	14'
15'							23.27	2531	0.93	101	1.98	15'
16'	6	16	1.50	6.17	4.22	10.39	25.35	2979	1.01	119	1.98	16'
17'	6	18	1.38	6.33	4.57	10.90	29.64	3278	1.19	131	1.97	17'
18'	7	16	1.50	7.33	4.95	12.28	31.79	3946	1.27	158	2.00	18'
19'	7	18	1.38	8.92	5.31	14.23	34.32	4581	1.37	183	1.99	19'
20'	8	16	1.50	9.92	5.76	15.68	36.74	5475	1.47	219	1.99	20'



VIEW A-A

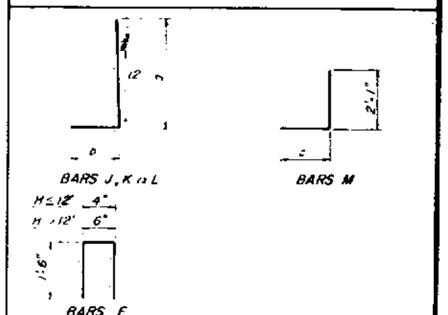


TYPICAL SECTION

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: To accommodate the Variable Height of a Wall, vertical Bars may be field cut to fit, and the number of horizontal Bars G required by the heighest 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.

CANTILEVER RETAINING WALLS

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES

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

REVISIONS		ROAD NO.	COUNTY	PROJECT NO.
Dates	Descriptions			

	Names	Dates	APPROVED BY
Designed by			
Checked by	R.N.	6/65	
Quantities by			
Checked by	R.N.	6/65	Chief Structural Design Engineer

Drawing No. 7 OF 23 — Index No. 14,051

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

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

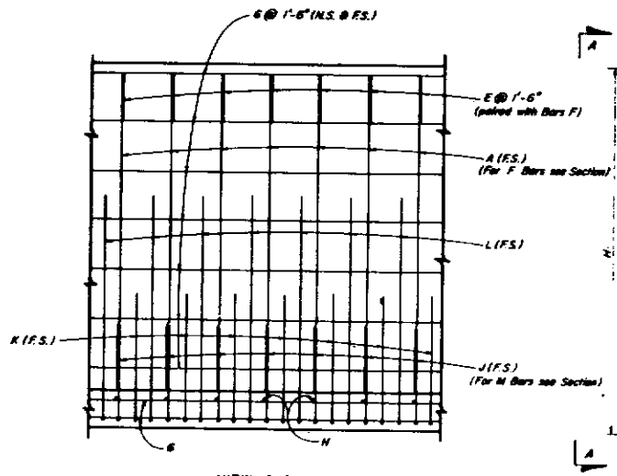
RETAINING WALL DATA

REINFORCING STEEL SCHEDULE

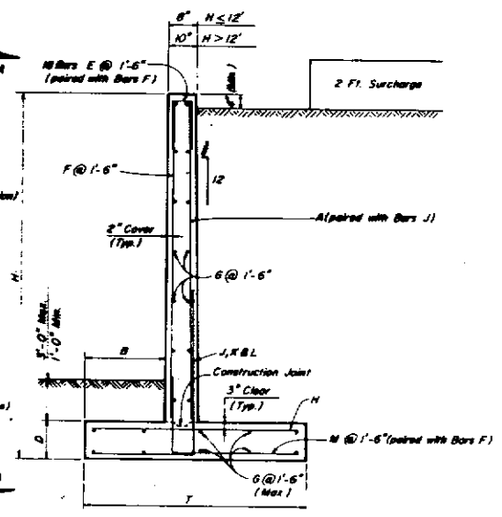
WALL DIMENSIONS				BARS J						BARS F			BARS G			BARS H				BARS M				BARS A			BARS K						BARS L						QUANTITIES				ACTUAL MAXIMUM BEARING PRESSURE	H
H	B	D	T	SIZE	NO.	SPACING	a	b	LENGTH	SIZE	NO.	LENGTH	SIZE	NO.	LENGTH	SIZE	NO.	SPACING	LENGTH	SIZE	NO.	c	LENGTH	SIZE	NO.	LENGTH	SIZE	NO.	SPACING	a	b	LENGTH	SIZE	NO.	SPACING	a	b	LENGTH	CONCRETE PER 25' UNIT	STEEL PER 25' UNIT	CONCRETE PER LIN. FT.	STEEL PER LIN. FT.		
																																						C.Y.	LBS.	C.Y.	LBS.	KIPS/SQ.FT.	
6'	1.08	0.83	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.86	555	0.27	22	1.31	6'
7'	1.17	0.83	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.09	635	0.32	25	1.48	7'
8'	1.33	0.83	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.20	787	0.37	31	1.68	8'
9'	1.58	0.83	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10.47	908	0.42	36	1.79	9'
10'	1.58	0.83	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.69	1121	0.47	45	2.02	10'
11'	1.67	0.83	6.62	4	26	1.00	10.58	2.24	12.82	4	18	10.00	4	26	24.50	5	43	0.58	6.12	4	18	4.53	6.61	—	—	—	4	25	1.00	4.58	2.24	6.82	—	—	—	—	—	—	12.89	1244	0.58	50.	2.26	11'
12'	1.92	0.92	7.11	5	21	1.25	11.38	2.51	14.09	4	18	10.91	4	28	24.50	5	37	0.67	6.61	4	18	4.77	6.85	—	—	—	5	20	1.25	2.75	2.81	5.56	—	—	—	—	—	—	14.66	1355	0.59	54	2.41	12'
13'	2.00	0.92	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	—	—	—	5	18	1.33	3.75	2.79	6.54	—	—	—	—	—	—	17.89	1570	0.72	63	2.80	13'
14'	2.08	0.92	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	—	—	—	5	23	1.08	3.75	2.91	6.66	—	—	—	—	—	—	19.44	1843	0.78	74	2.80	14'
15'	2.25	0.92	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	5	28	13.91	5	27	0.92	4.17	3.11	7.28	—	—	—	—	—	—	20.99	2270	0.84	89	2.97	15'
16'	2.50	0.92	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	6	17	14.92	6	16	1.50	3.17	3.39	6.56	6	16	1.50	6.17	3.39	9.56	22.86	2469	0.91	108.	2.97	16'
17'	2.67	1.08	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	6	19	15.75	6	18	1.38	3.33	3.58	6.91	6	18	1.38	6.33	3.58	9.91	26.22	2882	1.05	116	3.00	17'
18'	3.00	1.08	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	6	17	16.75	7	16	1.50	3.33	3.95	7.28	7	16	1.50	7.33	3.95	11.28	28.29	3617	1.13	137	2.97	18'
19'	3.25	1.08	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	6	19	17.75	7	18	1.38	4.92	4.23	9.15.	7	18	1.38	8.92	4.23	13.15	30.51	4174	1.22	167	2.96	19'
20'	3.50	1.08	12.78	8	17	1.00	4.33	4.51	8.84	4	18	18.75	4	46	24.50	9	54	0.46	12.28	4	18	8.86	10.94	6	17	18.75	8	16	1.50	4.92	4.51	9.43	8	16	1.50	9.92	4.51	14.43	32.60	4789	1.30	192	3.00	20'
21'	3.75	1.33	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	6	17	19.50	8	16	1.50	6.83	4.78	11.61	8	16	1.50	11.83	4.78	16.61	37.96	5030	1.52	201	2.99	21'
22'	4.08	1.33	14.84	9	17	1.50	5.67	5.15	10.82	4	18	20.50	4	48	24.50	9	50	0.50	14.34	4	18	10.34	12.42	7	17	20.50	9	16	1.50	5.58	5.15	10.73	9	16	1.50	10.83	5.15	15.98	40.45	5904	1.62	236	2.98	22'
23'	4.33	1.33	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	7	17	21.50	9	16	1.50	7.50	5.43	12.93	9	16	1.50	13.50	5.43	18.93	43.10	6906	1.72	276	2.99	23'
24'	4.67	1.33	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	7	21	22.50	9	20	1.25	7.58	5.76	13.26	9	20	1.25	13.50	5.76	19.26	45.72	8478	1.83	339	2.98	24'
25'	4.92	1.33	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	7	17	23.50	10	16	1.50	9.42	6.07	15.49	10	16	1.50	15.50	6.07	21.57	48.64	9659	1.95	386	2.97	25'
26'	5.42	1.58	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	7	19	24.25	10	18	1.38	9.42	6.60	16.02	10	18	1.38	17.50	6.60	26.10	55.04	9818	2.20	393	2.98	26'
27'	5.75	1.58	19.70	11	17	1.50	9.50	6.96	16.46	4	18	25.25	4	62	24.50	10	46	0.54	19.20	4	18	13.53	15.61	8	17	25.25	11	16	1.50	10.00	6.96	16.96	11	16	1.50	18.00	6.96	24.96	57.85	11545	2.31	462	2.99	27'
28'	6.17	1.58	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	8	19	26.25	11	18	1.38	10.00	7.41	17.41	11	18	1.38	18.00	7.41	25.41	60.64	13100	2.43	524	2.99	28'
29'	6.58	1.58	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	8	21	27.25	11	19	1.32	11.50	7.86	19.36	11	19	1.32	19.50	7.86	27.36	63.47	14699	2.54	587	2.98	29'
30'	7.08	1.58	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	8	22	28.25	11	21	1.19	11.50	8.39	19.89	11	21	1.19	19.50	8.39	28.39	65.91	16799	2.64	670	2.98	30'

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: To accommodate the Variable Height of a Wall Unit vertical Bars may be field cut to fit and the number of horizontal Bars 6 required by the highest wall dimension within a 25' unit shall be equally spaced at each end of the Unit.

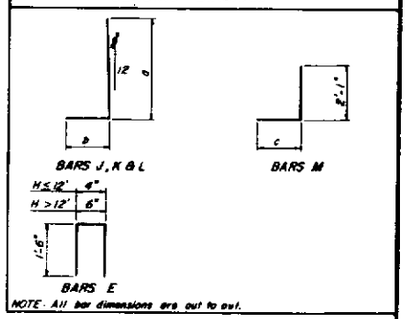


VIEW A-A



TYPICAL SECTION

BENDING DIAGRAM



NOTE: All bar dimensions are out to out.

CANTILEVER RETAINING WALLS

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES

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

REVISIONS		ROAD NO.	COUNTY	PROJECT NO.
Date	Descriptions			

	Name	Date
Designed by	R.N.	
Checked by		
Quantities by		
Checked by		
Supervised by		

APPROVED BY

Chief, Bureau of Structures Design

Drawing No.	Index No.
B OF 23	14,051

3	FLA

RETAINING WALL DATA

REINFORCING STEEL SCHEDULE

WALL DIMENSIONS and BARS J, F, G

H	B	D	T	J SIZE	J NO.	J SPACING	J a	J b	J LENGTH	F SIZE	F NO	F LENGTH	G SIZE	G NO.	G LENGTH
6'	1.08	0.83	4.25	4	26	1.00	3.58	1.50	7.08	4	18	5.00	4	14	24.50
7'	1.17	0.83	4.83	4	26	1.00	6.58	1.81	8.19	4	18	6.00	4	16	24.50
8'	1.33	0.83	5.23	4	26	1.00	7.58	1.81	9.39	4	18	7.00	4	20	24.50
9'	1.58	0.83	5.78	4	31	0.83	8.58	2.09	10.67	4	18	8.00	4	22	24.50
10'	1.58	0.83	6.23	4	40	0.63	9.58	2.12	11.70	4	18	9.00	4	24	24.50
11'	1.67	0.83	6.62	4	26	1.00	10.58	2.24	12.82	4	18	10.00	4	24	24.50
12'	1.92	0.92	7.11	5	21	1.25	11.58	2.51	14.09	4	18	10.92	4	26	24.50
13'	2.00	0.92	7.61	5	19	1.33	12.58	2.79	15.37	4	18	11.92	4	28	24.50
14'	2.08	0.92	8.09	5	24	1.08	13.58	2.91	16.49	4	18	12.92	4	30	24.50
15'	2.25	0.92	8.55	5	28	0.92	3.25	3.10	6.35	4	16	13.92	4	32	24.50
16'	2.42	0.92	9.07	6	17	1.50	3.25	3.31	6.56	4	18	14.92	4	34	24.50
17'	2.42	1.08	9.58	6	19	1.38	3.42	3.33	6.75	4	16	15.75	4	36	24.50
18'	2.67	1.08	9.96	7	17	1.50	4.33	3.61	7.94	4	18	16.75	4	38	24.50
19'	2.73	1.08	10.54	7	19	1.38	4.33	3.73	8.06	4	18	17.75	4	42	24.30
20'	2.92	1.08	11.05	8	17	1.50	4.33	3.93	8.28	4	18	18.75	4	42	24.50
21'	3.08	1.33	11.70	8	17	1.50	5.67	4.12	9.79	4	18	19.50	4	44	24.50
22'	3.33	1.33	12.39	9	17	1.50	5.67	4.40	10.07	4	18	20.50	4	46	24.50
23'	3.50	1.33	13.26	9	17	1.50	6.92	4.59	11.51	4	18	21.50	4	48	24.50
24'	3.83	1.33	13.92	9	21	1.25	6.92	4.96	11.88	4	18	22.50	4	50	24.50
25'	4.00	1.33	14.93	10	17	1.50	8.50	5.16	13.66	4	18	23.50	4	52	24.50
26'	4.42	1.58	15.63	10	19	1.38	9.00	5.60	14.60	4	18	24.25	4	54	24.50
27'	4.75	1.58	16.38	11	17	1.50	9.50	5.96	15.46	4	18	25.25	4	56	24.50
28'	5.08	1.58	17.25	11	19	1.38	10.00	6.33	16.33	4	18	26.25	4	58	24.50
29'	5.42	1.58	17.94	11	20	1.32	10.50	6.69	17.19	4	18	27.25	4	62	24.50
30'	5.92	1.58	18.66	11	22	1.19	11.00	7.22	17.22	4	18	28.25	4	62	24.50

BARS H, M, A

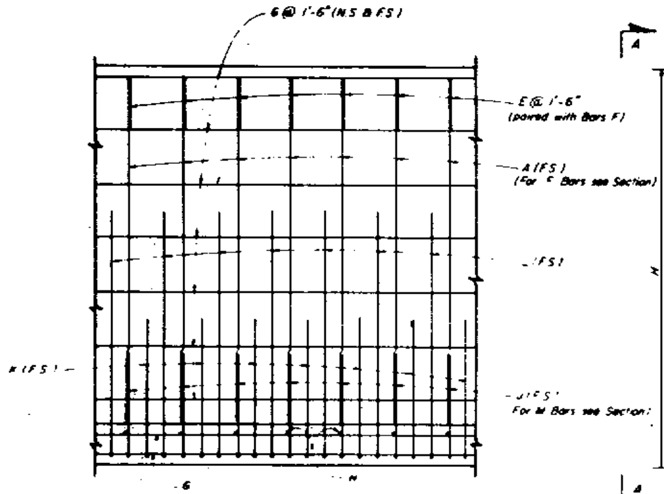
H	H SIZE	H NO	H SPACING	H LENGTH	M SIZE	M NO	M c	M LENGTH	A SIZE	A NO	A LENGTH
6'	4	18	1.42	3.75	4	18	2.75	4.83			
7'	4	19	1.33	4.33	4	18	3.24	5.32			
8'	4	27	0.96	4.73	4	18	3.48	5.56			
9'	4	34	0.75	5.28	4	18	3.78	5.86			
10'	4	50	0.50	5.73	4	18	4.23	6.31			
11'	5	43	0.58	6.12	4	18	4.53	6.61			
12'	5	37	0.67	6.61	4	18	4.77	6.85			
13'	5	46	0.54	7.11	4	18	5.19	7.27			
14'	6	43	0.58	7.59	4	18	5.59	7.67			
15'	6	50	0.50	8.05	4	18	5.88	7.96	5	28	13.92
16'	7	46	0.54	8.57	4	18	6.23	8.31	6	17	14.92
17'	7	43	0.58	9.08	4	18	6.74	8.82	6	19	15.75
18'	7	50	0.50	9.46	4	18	6.87	8.95	6	17	16.75
19'	8	46	0.54	10.04	4	18	7.37	9.45	6	19	17.75
20'	8	54	0.46	10.55	4	18	7.71	9.79	6	17	18.75
21'	8	46	0.54	11.20	4	18	8.20	10.28	6	17	19.50
22'	8	50	0.50	11.89	4	18	8.64	10.72	7	17	20.50
23'	9	50	0.50	12.76	4	18	9.34	11.42	7	17	21.50
24'	9	54	0.46	13.42	4	18	9.67	11.79	7	21	22.50
25'	10	50	0.50	14.43	4	18	10.51	12.50	7	17	23.50
26'	9	54	0.46	15.13	4	18	10.79	12.87	7	19	24.25
27'	10	46	0.54	15.88	4	18	11.21	13.29	8	17	25.25
28'	10	50	0.50	16.75	4	18	11.75	12.83	8	19	26.25
29'	11	46	0.54	17.44	4	18	12.10	14.18	8	20	27.25
30'	11	50	0.50	18.16	4	18	12.32	14.40	8	22	28.25

BARS K, L

H	K SIZE	K NO	K SPACING	K a	K b	K LENGTH	L SIZE	L NO	L SPACING	L a	L b	L LENGTH
6'												
7'												
8'												
9'												
10'												
11'	4	25	1.00	4.58	2.24	6.82						
12'	5	20	1.25	2.75	2.51	5.26						
13'	5	18	1.33	5.75	2.79	8.54						
14'	5	23	1.08	3.75	2.91	6.66						
15'	5	27	0.92	4.17	3.10	7.27						
16'	6	16	1.50	3.17	3.31	6.48	6	16	1.50	6.17	3.31	9.48
17'	6	18	1.38	3.33	3.33	6.66	6	18	1.38	6.33	3.33	9.66
18'	7	16	1.50	3.33	3.61	6.94	7	16	1.50	7.33	3.61	10.94
19'	7	18	1.38	4.92	3.73	8.65	7	18	1.38	8.92	3.73	12.65
20'	8	16	1.50	4.92	3.93	8.85	8	16	1.50	9.92	3.93	13.85
21'	8	16	1.50	6.83	4.12	10.95	8	16	1.50	11.83	4.12	15.95
22'	9	16	1.50	5.58	4.40	9.98	9	16	1.50	10.83	4.40	15.23
23'	9	16	1.50	7.50	4.59	12.09	9	16	1.50	13.50	4.59	18.09
24'	9	20	1.25	7.50	4.78	12.26	9	20	1.25	13.50	4.79	18.29
25'	10	16	1.50	9.42	5.16	14.58	10	16	1.50	15.60	5.16	20.86
26'	10	18	1.38	9.42	5.60	15.02	10	18	1.38	15.50	5.60	21.10
27'	11	16	1.50	10.00	5.96	15.96	11	16	1.50	18.00	5.96	23.96
28'	11	18	1.38	10.00	6.33	16.33	11	18	1.38	18.00	6.33	24.33
29'	11	19	1.32	11.50	6.69	18.19	11	19	1.32	19.50	6.69	26.19
30'	11	21	1.19	11.50	7.22	18.72	11	21	1.19	19.50	7.22	26.72

QUANTITIES and ACTUAL MAXIMUM BEARING PRESSURE

H	CONCRETE PER 25' UNIT (C.Y.)	STEEL PER 25' UNIT (LBS.)	CONCRETE PER LIN FT (C.Y.)	STEEL PER LIN FT (LBS.)	ACTUAL MAXIMUM BEARING PRESSURE (KIPS/SQ FT)	H
6'	6.86	556	0.27	22	1.31	6'
7'	8.09	635	0.32	25	1.48	7'
8'	9.20	767	0.37	31	1.68	8'
9'	10.47	906	0.42	36	1.79	9'
10'	11.69	1121	0.47	45	2.02	10'
11'	12.89	1244	0.52	50	2.26	11'
12'	14.66	1355	0.59	54	2.41	12'
13'	17.89	1537	0.72	61	2.60	13'
14'	19.44	1843	0.78	74	2.80	14'
15'	20.99	2230	0.84	89	2.97	15'
16'	22.62	2616	0.91	105	3.12	16'
17'	25.56	2808	1.02	112	3.35	17'
18'	27.19	3228	1.09	129	3.52	18'
19'	29.04	3893	1.16	156	3.67	19'
20'	30.86	4418	1.23	177	3.82	20'
21'	35.22	4587	1.41	183	3.93	21'
22'	37.42	5423	1.50	217	3.97	22'
23'	39.88	6447	1.60	258	3.98	23'
24'	42.11	7628	1.68	308	4.00	24'
25'	44.80	8673	1.79	347	3.98	25'
26'	50.38	9083	2.02	363	3.99	26'
27'	52.98	10501	2.12	420	3.99	27'
28'	55.77	11934	2.23	477	3.97	28'
29'	58.34	13579	2.33	543	3.99	29'
30'	60.97	15253	2.44	610	3.95	30'



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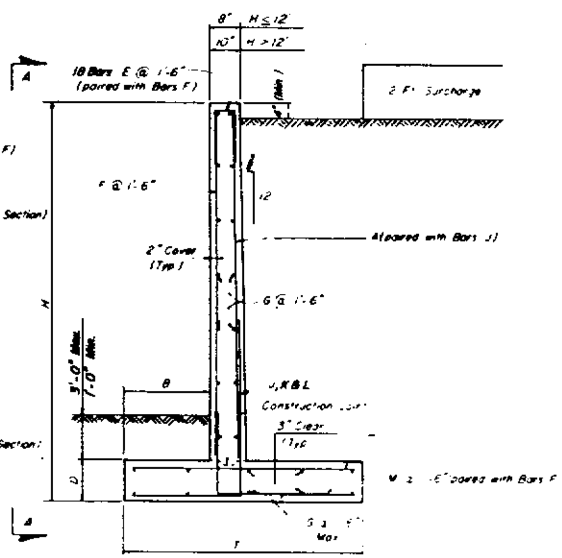
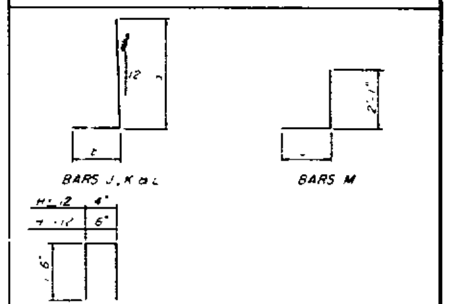


TYPICAL SECTION

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: 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.

CANTILEVER RETAINING WALLS

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES

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

R.N. 6/85
R.N. 6/85

9 OF 23

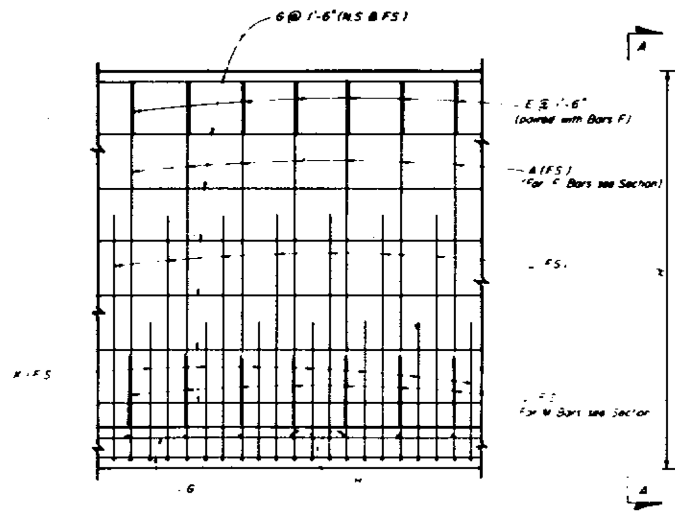
14,051

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

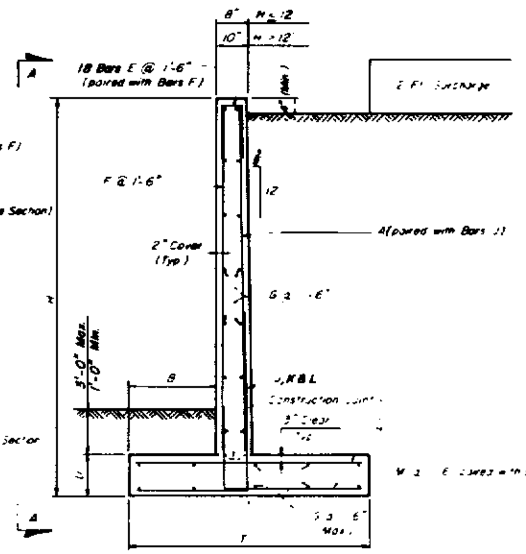
RETAINING WALL DATA

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'	1.08	0.83	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	0.83	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'	1.33	0.83	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
9'	1.58	0.83	5.78	4	31	0.83	8.58	2.09	10.67	4	18	8.0	4	22	24.50	4	34	0.75	5.28	4	18	3.78	5.86
10'	1.58	0.83	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	0.83	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
12'	1.92	0.92	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
13'	2.00	0.92	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
14'	2.08	0.92	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	5.39	7.67
15'	2.25	0.92	8.55	5	28	0.92	3.25	3.10	6.35	4	18	13.91	4	34	24.50	6	50	0.50	8.05	4	18	5.88	7.96
16'	2.42	0.92	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
17'	2.42	1.08	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
18'	2.67	1.08	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
19'	2.75	1.08	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
20'	2.92	1.08	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
21'	3.00	1.33	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
22'	3.17	1.33	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
23'	3.25	1.33	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
24'	3.50	1.33	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
25'	3.50	1.33	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
26'	3.83	1.58	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
27'	4.00	1.58	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
28'	4.42	1.58	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
29'	4.75	1.58	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
30'	5.17	1.58	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

REINFORCING STEEL SCHEDULE															QUANTITIES				ACTUAL MAXIMUM BEARING PRESSURE	
BARS A			BARS K						BARS L						CONCRETE PER 25' UNIT	STEEL PER 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.	
															6.86	555	0.27	22	1.31	6'
															8.09	635	0.32	25	1.48	7'
															9.20	767	0.37	31	1.68	8'
															10.47	908	0.42	36	1.79	9'
															11.69	1121	0.47	45	2.02	10'
			4	25	1.00	4.58	2.24	6.82							12.89	1244	0.52	50	2.26	11'
			5	20	1.25	2.75	2.52	5.27							14.66	1355	0.59	54	2.41	12'
			5	18	1.33	5.75	2.79	8.54							17.89	1537	0.72	61	2.60	13'
			5	23	1.08	3.75	2.90	6.65							19.44	1843	0.78	74	2.80	14'
5	28	13.92	5	27	0.92	4.17	3.10	7.27							20.99	2230	0.84	89	2.97	15'
6	17	14.92	6	16	1.50	3.17	3.30	6.47	6	16	1.50	6.17	3.30	9.47	22.62	2615	0.91	105	3.12	16'
6	19	15.75	6	18	1.38	3.33	3.33	6.66	6	18	1.38	6.33	3.33	9.66	25.56	2808	1.02	112	3.35	17'
6	17	16.75	7	16	1.50	3.33	3.61	6.94	7	16	1.50	7.33	3.61	10.94	27.19	3228	1.09	129	3.52	18'
6	19	17.75	7	18	1.38	4.92	3.73	8.65	7	18	1.38	8.92	3.73	12.65	29.04	3819	1.16	153	3.67	19'
6	17	18.75	8	16	1.50	4.92	3.93	8.85	8	16	1.50	9.92	3.93	13.85	30.86	4417	1.23	177	3.82	20'
6	17	19.50	8	16	1.50	6.83	4.04	10.87	8	16	1.50	11.83	4.04	15.87	34.88	4541	1.40	182	4.09	21'
7	17	20.50	9	16	1.50	5.58	4.23	9.81	9	16	1.50	10.83	4.23	15.06	36.75	5317	1.47	213	4.27	22'
7	17	21.50	9	16	1.50	7.50	4.34	11.84	9	16	1.50	13.50	4.34	17.84	38.85	6255	1.55	250	4.43	23'
7	21	22.50	9	20	1.25	7.50	4.62	12.12	9	20	1.25	13.50	4.62	18.12	40.76	7371	1.63	295	4.57	24'
7	17	23.50	10	16	1.50	9.42	4.66	14.08	10	16	1.50	15.50	4.66	20.16	42.96	8236	1.72	329	4.75	25'
7	19	24.25	10	18	1.38	9.42	5.02	14.44	10	18	1.38	15.50	5.02	20.52	47.67	8610	1.91	344	4.92	26'
8	17	25.25	11	16	1.50	10.00	5.29	15.29	11	16	1.50	18.00	5.29	23.29	50.17	9899	2.01	396	4.94	27'
8	19	26.25	11	18	1.38	10.00	5.66	15.66	11	18	1.38	18.00	5.66	23.66	52.78	11259	2.11	450	4.91	28'
8	20	27.25	11	19	1.32	11.50	6.02	17.52	11	19	1.32	19.50	6.02	25.52	55.41	12835	2.22	513	4.89	29'
8	22	28.25	11	21	1.19	11.50	6.47	17.97	11	21	1.19	19.50	6.47	25.97	58.03	14416	2.32	577	4.84	30'



VIEW A-A

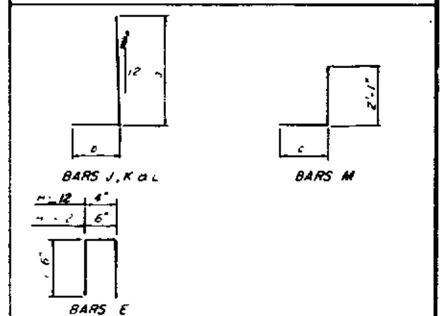


TYPICAL SECTION

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: 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

CANTILEVER RETAINING WALLS

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES

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

REVISIONS	
Dates	Intentions

	Names	Dates	APPROVED BY
Designed by			
Drawn by	F.N.	6/65	Chief, Bureau of Structures Design
Checked by	K.N.	6/65	
Supervised by			Drawing No. 10 OF 23
			Index No. 14,051

3	FLA.				

RETAINING WALL DATA

REINFORCING STEEL SCHEDULE

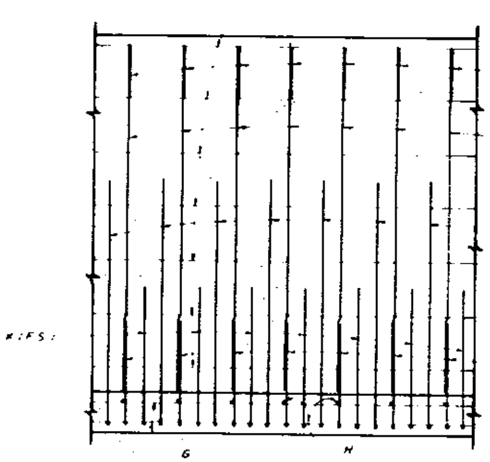
WALL DIMENSIONS H	B	D	T	BARS J SIZE	NO.	SPACING	a	b	LENGTH	BARS F SIZE	NO.	LENGTH	BARS G SIZE	NO.	LENGTH
6'	0.67	0.83	2.66	4	26	1.00	5.58	1.08	6.66	4	18	5.00	4	14	24.50
7'	0.83	0.83	3.50	4	26	1.00	6.58	1.28	7.86	4	18	6.00	4	16	24.50
8'	1.08	0.83	4.23	4	26	1.00	7.58	1.56	9.14	4	18	7.00	4	18	24.50
9'	1.33	0.83	5.01	4	28	0.92	8.58	1.84	10.42	4	18	8.00	4	20	24.50
10'	1.58	0.83	6.04	4	31	0.83	9.58	2.12	11.70	4	18	9.00	4	22	24.50
11'	1.83	0.83	7.19	5	26	1.00	10.58	2.40	12.98	4	18	10.00	4	24	24.50
12'	2.25	0.92	8.20	5	32	0.79	11.58	2.85	14.43	4	18	10.92	4	28	24.50
13'	2.50	0.92	9.21	5	32	0.79	12.58	3.29	15.87	4	18	11.92	4	30	24.50
14'	2.83	0.92	10.36	5	40	0.63	13.58	3.58	17.16	4	18	12.92	4	32	24.50
15'	3.17	0.92	11.59	5	51	0.50	14.58	4.02	18.60	4	18	13.92	4	36	24.50

H	BARS H SIZE	NO.	SPACING	LENGTH	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	1.42	2.36	4	18	1.78	3.86	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
7'	4	18	1.42	3.00	4	18	2.25	4.33	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8'	4	18	1.42	3.73	4	18	2.73	4.81	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
9'	4	18	1.42	4.51	4	18	3.26	5.34	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10'	4	22	1.17	5.54	4	18	4.04	6.12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
11'	4	28	0.92	6.69	4	18	4.94	7.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12'	4	26	1.00	7.70	4	18	5.53	7.62	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
13'	4	28	0.92	8.71	4	18	6.29	8.38	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
14'	4	29	0.88	9.86	4	18	7.11	9.19	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
15'	4	34	0.75	11.09	4	18	8.01	10.09	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

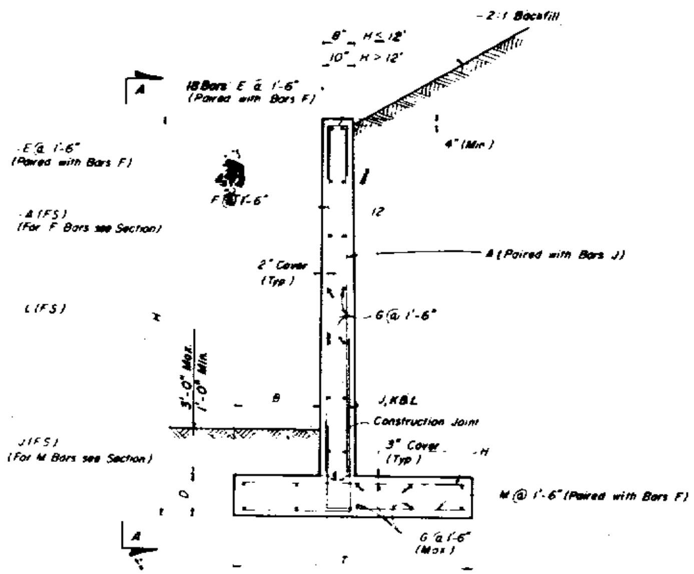
QUANTITIES: CONCRETE PER 25' UNIT (C.Y.)	STEEL PER 25' UNIT (LBS.)	CONCRETE PER LIN. FT. (C.Y.)	STEEL PER LIN. FT. (LBS.)	ACTUAL MAXIMUM BEARING PRESSURE (KIPS/SQ.FT.)	H
5.78	521	0.23	21	1.77	6'
7.06	599	0.28	24	1.91	7'
8.45	680	0.34	27	1.95	8'
9.88	774	0.40	31	1.99	9'
11.54	906	0.40	36	1.98	10'
13.32	1115	0.45	.45	1.97	11'
15.58	1336	0.62	53	1.94	12'
19.25	1470	0.77	59	1.98	13'
21.37	1739	0.85	70	1.99	14'
23.57	2160	0.94	86	2.00	15'

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.

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

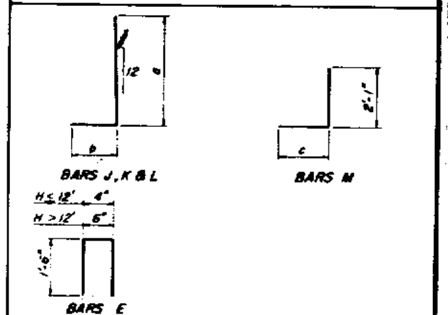


VIEW A-A



TYPICAL SECTION

BENDING DIAGRAM



NOTE: All bar dimensions are out to out.

CANTILEVER RETAINING WALLS

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES

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

REVISIONS Dates	Descriptions

	Name	Date
Designed by	R.N.	6/85
Checked by		
Quantities by	R.N.	6/85
Checked by		
Supervised by		

Approved by

Drawing No. 11 OF 23

Index No. 14,051

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

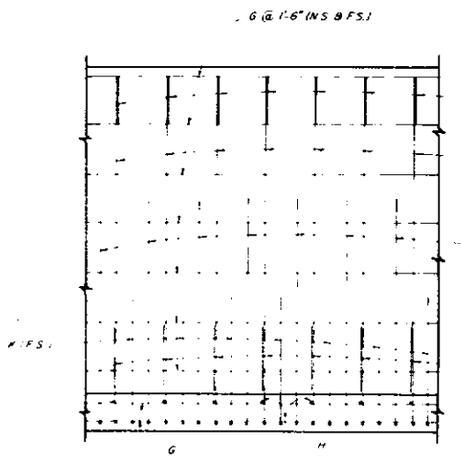
RETAINING WALL DATA

WALL DIMENSIONS				REINFORCING STEEL SCHEDULE																																				QUANTITIES				ACTUAL MAXIMUM BEARING PRESSURE	H
				BARS J						BARS F			BARS G			BARS H				BARS M				BARS A			BARS K							BARS L							CONCRETE PER 25' UNIT	STEEL PER 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								
6'	0.67	0.83	2.86	4	26	1.00	5.58	1.08	6.67	4	18	5.00	4	14	24.50	4	18	1.42	2.36	4	18	1.77	3.85																		C.Y.	LBS.	C.Y.	LBS.	KIPS/SQ.FT.	
7'	0.75	0.83	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																		5.78	520	0.23	21	1.77	6'
8'	0.92	0.83	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																		6.99	596	0.28	24	2.02	7'
9'	1.17	0.83	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	2.75	4.83																		8.16	671	0.33	27	2.26	8'
10'	1.33	0.83	5.21	4	31	0.83	9.58	1.87	11.45	4	18	9.00	4	22	24.50	4	26	1.00	4.71	4	18	3.46	5.54																		9.36	760	0.37	30	2.43	9'
11'	1.58	0.83	6.14	5	26	1.00	10.58	2.15	12.73	4	18	10.00	4	22	24.50	4	32	0.79	5.64	4	18	4.14	6.22																		10.90	894	0.44	36	2.45	10'
12'	1.83	0.92	7.02	5	32	0.79	11.58	2.43	14.01	4	18	10.92	4	26	24.50	4	31	0.83	6.52	4	18	4.77	6.85																		12.32	1061	0.50	42	2.42	11'
13'	2.08	0.92	7.88	5	32	0.79	12.58	2.88	15.46	4	18	11.92	4	28	24.50	4	34	0.75	7.38	4	18	5.38	7.46																		14.59	1285	0.58	51	2.46	12'
14'	2.33	0.92	8.91	5	40	0.63	13.58	3.16	16.74	4	18	12.92	4	30	24.50	4	31	0.83	8.41	4	18	6.17	8.25																		18.12	1417	0.72	57	2.48	13'
15'	2.67	0.92	9.93	5	26	1.00	14.58	3.52	18.10	4	18	13.92	4	32	24.50	5	32	0.79	9.43	4	18	6.84	8.92				5	25	1.00	5.75	3.50	9.25								20.13	1660	0.81	66	2.50	14'
16'	3.00	0.92	10.98	5	21	1.25	2.83	3.89	6.72	4	18	14.92	4	36	24.50	5	36	0.71	10.48	4	18	7.56	9.64	5	21	14.92	5	20	1.25	4.75	3.89	8.64	5	20	1.25	10.75	3.89	14.64	22.16	1887	0.89	75	2.48	15'
17'	3.42	1.08	12.16	6	17	1.50	3.42	4.33	7.75	4	18	15.75	4	38	24.50	5	31	0.83	11.66	4	18	8.32	10.40	6	17	15.75	6	16	1.50	5.33	4.33	9.66	6	16	1.50	8.33	4.33	12.66	24.25	2280	0.97	91	2.48	16'
18'	3.67	1.08	13.63	6	21	1.25	3.42	4.61	8.03	4	18	16.75	4	42	24.50	5	34	0.75	13.13	4	18	9.55	11.63	6	21	16.75	6	20	1.25	5.33	4.61	9.94	6	20	1.25	8.33	4.61	12.94	24.92	2433	1.13	100	2.45	17'
19'	4.17	1.58	14.57	7	17	1.50	4.83	5.13	9.96	4	18	17.25	4	44	24.50	5	31	0.83	14.07	4	18	9.99	12.07	6	17	17.25	7	16	1.50	6.42	5.13	11.55	7	16	1.50	10.42	4.83	15.25	30.67	3005	1.23	120	2.45	18'
20'	4.67	1.58	15.24	7	19	1.38	4.83	5.66	10.49	4	18	18.25	4	48	24.50	5	31	0.83	14.74	4	18	10.16	12.24	6	19	18.25	7	18	1.38	7.42	5.66	13.08	7	18	1.38	11.42	4.83	16.25	39.19	3233	1.57	129	2.48	19'
																																							41.47	3678	1.86	147	2.48	20'

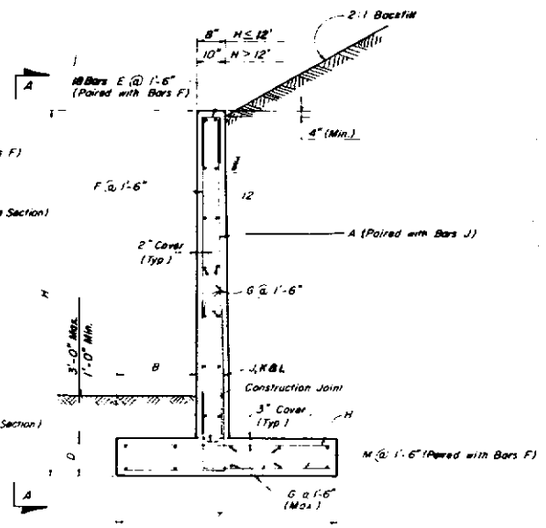
NOTE

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.

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

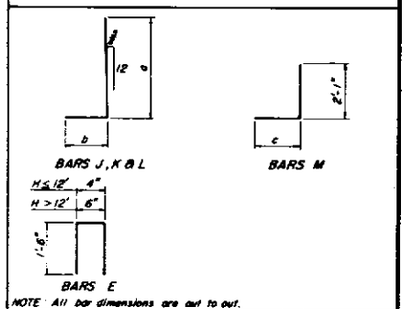


VIEW A-A



TYPICAL SECTION

BENDING DIAGRAM



NOTE : All bar dimensions are out to out.

CANTILEVER RETAINING WALLS

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES

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

REVISIONS		ROAD NO.	COUNTY	PROJECT NO.
Dates	Descriptions			

	Names	Dates
Designed by		
Detailed by		
Quantities by		
Checked by		
Recommended by		

APPROVED BY

Chief Engineer of Structures Design

Drawing No.	Index No.
12 OF 23	14,051

FED. ROAD DIST. NO.	STATE	PROJECT NO.	FINANCIAL PROJECT NO.	SHEET NO.
3	FLA.			

RETAINING WALL DATA

ALL DIMENSIONS

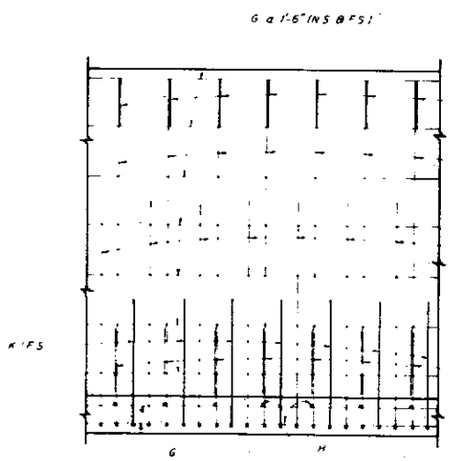
REINFORCING STEEL SCHEDULE

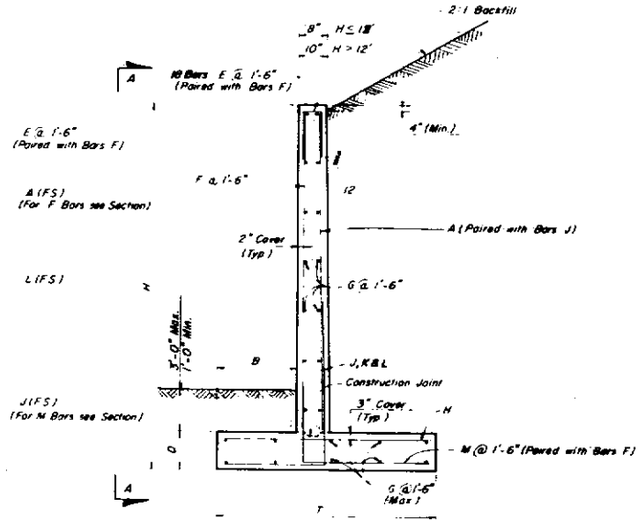
H	S	c	T	BARS J						BARS F			BARS G			BARS H				BARS M				BARS A			BARS K						BARS L						QUANTITIES				ACTUAL MAXIMUM BEARING PRESSURE	H
				SIZE	NO.	SPACING	J	b	LENGTH	SIZE	NO.	LENGTH	SIZE	NO.	LENGTH	SIZE	NO.	SPACING	LENGTH	SIZE	NO.	c	LENGTH	SIZE	NO.	LENGTH	SIZE	NO.	SPACING	a	b	LENGTH	SIZE	NO.	SPACING	a	b	LENGTH	CONCRETE PER 25' UNIT	STEEL PER 25' UNIT	CONCRETE PER LIN. FT.	STEEL PER LIN. FT.		
																																						C.Y.	LBS.	C.Y.	LBS.	KIPS/SQ.FT	
6'	0.67	0.83	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.78	520	0.23	21	1.77	6'
7'	0.75	0.83	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7.24	596	0.29	24	2.02	7'
8	0.92	0.83	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	4.63	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.16	67	0.33	27	2.26	8'
9	1.17	0.83	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.36	759	0.37	30	2.43	9'
10'	1.17	0.83	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10.62	862	0.42	35	2.77	10'
11'	1.33	0.83	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	4	18	3.75	5.83	—	—	—	—	—	—	—	—	—	—	—	—	—	—	12.03	1049	0.48	42	2.89	11'
12'	1.58	0.92	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	4	18	4.20	6.28	—	—	—	—	—	—	—	—	—	—	—	—	—	—	13.89	1253	0.56	50	2.96	12'
13'	1.83	0.92	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	4	18	4.64	6.72	—	—	—	—	—	—	—	—	—	—	—	—	—	—	17.29	1393	0.69	56	2.99	13'
14'	2.08	0.92	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	4	18	5.40	7.48	—	—	—	—	—	—	—	—	—	—	—	—	—	—	19.27	1602	0.77	64	2.94	14'
15'	2.33	0.92	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	4	18	6.07	8.15	—	—	—	5	25	1.00	5.75	3.19	8.94							21.23	1859	0.85	74	2.95	15'
16'	2.92	1.08	10.73	6	17	1.50	3.42	3.83	7.25	4	18	15.75	4	36	24.50	5	38	0.67	10.23	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	26.71	2444	1.07	98	2.98	16'
17'	3.17	1.08	11.93	6	21	1.25	3.42	4.11	7.53	4	18	16.75	4	38	24.50	5	46	0.54	11.43	4	18	8.35	10.43	6	21	16.92	6	20	1.25	5.33	4.11	9.44	6	20	1.25	8.33	4.11	12.44	29.18	2968	1.17	119	2.97	17'
18'	3.67	1.58	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	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	36.61	3055	1.46	122	2.97	18'
20'	4.08	1.58	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	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	38.90	3548	1.56	142	2.99	19'
21'	4.50	1.58	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	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	41.52	4115	1.66	165	2.98	20'
22'	4.92	1.58	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	4	18	9.80	11.88	6	19	20.25	8	18	1.38	9.08	5.97	15.06	8	18	1.38	14.08	5.97	20.05	43.97	4700	1.76	188	3.00	22'
23'	5.50	2.08	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	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	53.71	4898	2.15	196	2.97	23'
24'	5.92	2.08	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	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	56.62	6098	2.26	244	2.99	24'
25'	6.33	2.08	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	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	59.84	6925	2.39	277	2.99	25'

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.

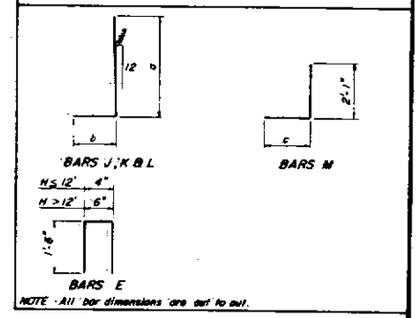
NOTE: Bars M & E Paired with Bars F and Bars A' Paired with Bars J. Bars E, F and Middle 4 bars, Bars J are as shown.





TYPICAL SECTION

BENDING DIAGRAM



NOTE - All bar dimensions are out to out.

CANTILEVER RETAINING WALLS

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES

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

REVISIONS		ROAD NO.	COUNTY	PROJECT NO.
Dates	Descriptions			

	Names	Dates	APPROVED BY
Designed by	R.N.	6/85	
Detailed by	C.W.	6/85	
Quantities by	R.N.	6/85	Chief Bureau of Structures Design
Checked by	C.W.	6/85	Drawing No. 13 OF 23
Supervised by	[illegible]		Index No. 14,051

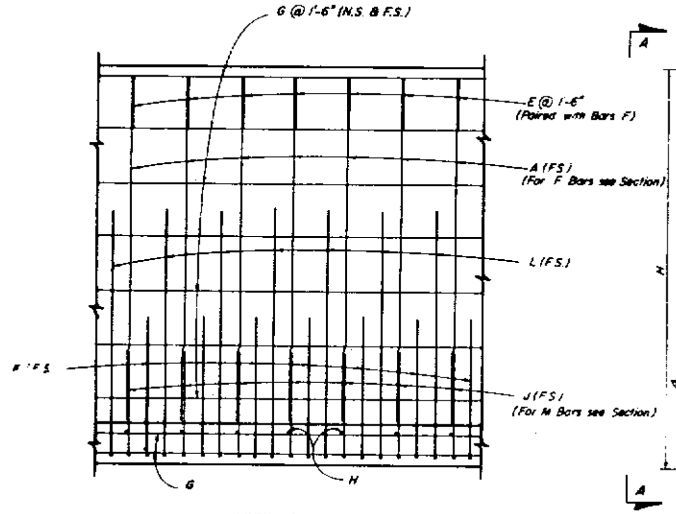
FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA			

RETAINING WALL DATA

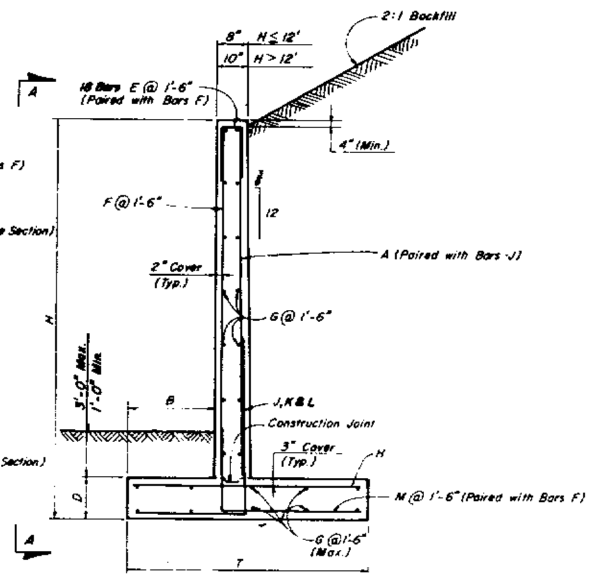
REINFORCING STEEL SCHEDULE

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	0.83	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	0.83	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	0.83	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	0.83	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	0.83	4.85	4	31	0.83	9.58	1.71	11.29	4	18	9.00	4	22	24.50	4	28	0.92	4.35	4	18	3.26	5.34
11'	1.33	0.83	5.30	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	0.92	5.74	5	32	0.79	11.58	2.09	13.67	4	18	10.91	4	26	24.50	4	34	0.75	5.24	4	18	3.82	5.90
13'	1.67	0.92	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	0.92	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	0.92	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	0.92	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	1.58	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	1.58	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	1.58	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	1.58	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	1.58	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	1.58	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	2.08	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	2.08	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	2.08	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	2.08	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	12.78
27'	6.67	2.58	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	2.58	19.15	10	19	1.38	9.17	8.46	17.63	4	18	25.25	4	62	24.50	5	54	0.46	18.65	4	18	11.65	13.73
29'	7.50	2.58	19.99	10	21	1.25	9.67	8.91	18.58	4	18	26.25	4	64	24.50	5	54	0.46	19.49	4	18	12.07	14.15
30'	8.08	3.08	21.22	11	17	1.50	10.17	9.51	19.68	4	18	26.75	4	66	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 PER 25' UNIT C.Y.	QUANTITIES STEEL PER 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'																5.78	520	0.23	21	1.77	6'
7'																6.99	596	0.28	24	2.02	7'
8'																8.16	671	0.33	27	2.26	8'
9'																9.35	759	0.37	30	2.43	9'
10'																10.62	888	0.42	36	2.77	10'
11'																11.87	1107	0.47	44	3.01	11'
12'																13.50	1245	0.54	50	3.28	12'
13'																16.83	1378	0.67	55	3.38	13'
14'																18.58	1669	0.74	67	3.48	14'
15'				5	25	1.00	5.75	2.93	8.68							20.52	1838	0.82	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	22.39	2257	0.90	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	25.63	2442	1.03	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	28.02	2855	1.12	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	34.67	3005	1.39	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	37.07	3449	1.48	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	39.53	4089	1.58	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	42.05	4679	1.68	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	50.95	5175	2.04	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	53.92	5915	2.16	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	56.93	6773	2.28	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	63.76	7499	2.55	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	75.03	7945	3.00	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	7869	9090	3.15	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	82.38	10412	3.30	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	96.00	10755	3.84	430	3.47	30'



VIEW A-A

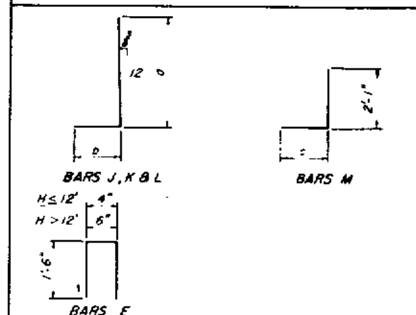


TYPICAL SECTION

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: 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

CANTILEVER RETAINING WALLS

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES

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

REVISIONS	
Dates	Descriptions

ROAD NO.	COUNTY	PROJECT NO.

	Names	Dates
Designed by		
Checked by	K.N.	6/65
Quantities by		6/65
Checked by	K.N.	6/65
Supervised by		

APPROVED BY: Chief, Bureau of Structures Design

Drawing No.	Index No.
14 OF 23	14,051

FED. ROAD DIST. NO.	STATE	PROJECT NO.	FINANCE PROJ. NO.	SHEET NO.
3	FLA.			

RETAINING WALL DATA

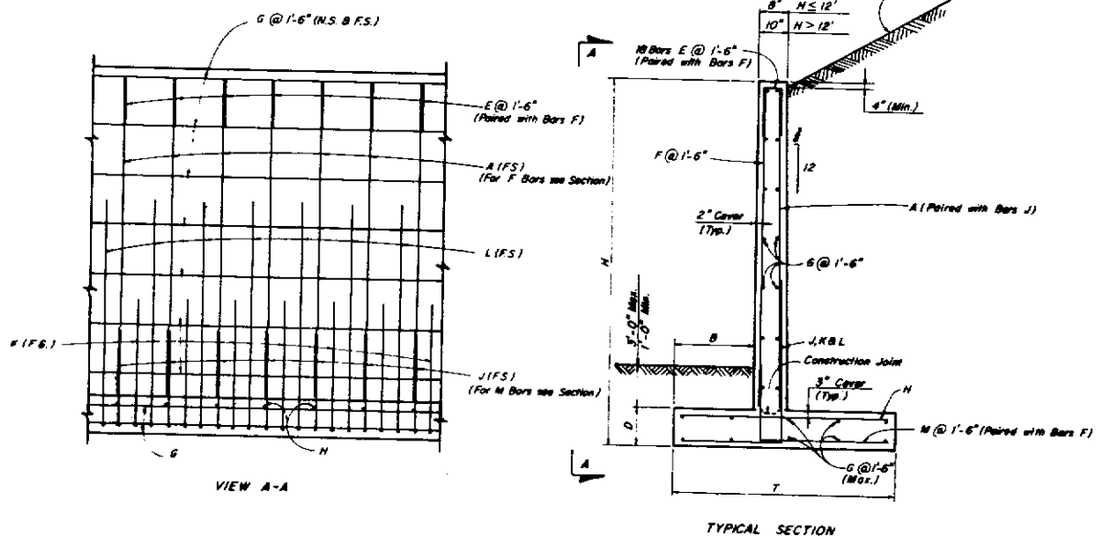
REINFORCING STEEL SCHEDULE

ALL DIMENSIONS

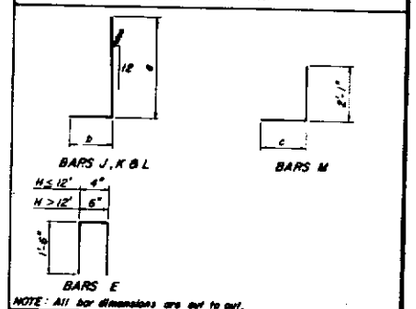
H	B	D	T	BARS J SIZE	BARS J NO.	BARS J SPACING	BARS J a	BARS J b	BARS J LENGTH	BARS F SIZE	BARS F NO.	BARS F LENGTH	BARS G SIZE	BARS G NO.	BARS G LENGTH	BARS H SIZE	BARS H NO.	BARS H SPACING	BARS H LENGTH	BARS M SIZE	BARS M NO.	BARS M c	BARS M LENGTH	BARS A SIZE	BARS A NO.	BARS A LENGTH	BARS K SIZE	BARS 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 PER 25'UNIT C.Y.	QUANTITIES STEEL PER 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'	0.67	0.83	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																5.78	520	0.23	21	1.77	6'
7'	0.75	0.83	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																6.99	596	0.29	24	2.02	7'
8'	0.92	0.83	3.97	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																8.16	671	0.33	27	2.26	8'
9'	1.17	0.83	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																9.35	759	0.37	30	2.43	9'
10'	1.17	0.83	4.85	4	31	0.83	9.58	1.71	11.29	4	18	9.00	4	22	24.50	4	18	1.42	3.83	4	18	2.74	4.82																10.62	882	0.42	35	2.77	10'
11'	1.33	0.83	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																11.87	1068	0.47	43	3.01	11'
12'	1.50	0.92	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																13.50	1245	0.54	50	3.28	12'
13'	1.58	0.92	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	4.26	6.36																16.76	1341	0.67	54	3.50	13'
14'	1.67	0.92	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																18.27	1664	0.73	67	3.82	14'
15'	1.83	0.92	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				5	25	1.00	5.75	2.69	8.44							19.98	1816	0.80	73	3.95	15'
16'	2.08	0.92	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	5.65	7.74	5	21	14.92	5	20	1.25	4.75	2.97	7.72	5	20	1.25	10.75	2.97	13.72	21.86	2203	0.87	88	3.98	16'
17'	2.33	1.08	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	6	17	15.75	6	16	1.50	5.33	3.25	8.58	6	16	1.50	8.33	3.25	11.58	24.82	2411	0.99	96	4.00	17'
18'	2.50	1.08	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	6	21	16.75	6	20	1.25	5.33	3.45	8.78	6	20	1.25	8.33	3.45	11.78	27.09	3166	1.08	127	3.99	18'
19'	2.58	1.58	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	6	17	17.25	7	16	1.50	6.42	3.88	10.30	7	16	1.50	10.42	3.88	14.30	33.39	2985	1.34	119	3.99	19'
20'	3.33	1.58	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	7.99	9.57	6	19	18.25	7	18	1.38	7.42	4.33	11.75	7	18	1.38	11.42	4.33	15.75	35.60	3487	1.42	139	3.98	20'
21'	3.67	1.58	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	6	17	19.25	8	16	1.50	9.08	4.69	13.77	8	16	1.50	13.08	4.69	17.77	38.01	4065	1.52	163	4.00	21'
22'	4.08	1.58	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	6	19	20.25	8	18	1.38	9.08	5.14	14.22	8	18	1.38	14.08	5.14	19.22	40.36	4634	1.61	185	3.99	22'
23'	4.58	2.08	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	6	21	20.75	8	20	1.25	9.58	5.57	15.15	8	20	1.25	14.58	5.57	20.15	48.78	5050	1.95	202	3.98	23'
24'	4.92	2.08	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	6	19	21.75	9	18	1.38	10.25	6.02	16.27	9	18	1.38	16.25	6.02	22.27	51.54	5816	2.06	233	3.98	24'
25'	5.33	2.08	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	6	21	22.75	9	20	1.25	11.25	6.47	17.72	9	20	1.25	17.25	6.47	23.72	54.60	6650	2.18	266	3.94	25'
26'	5.67	2.08	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	7	21	23.75	9	20	1.25	12.25	6.99	19.24	9	20	1.25	18.25	6.99	25.24	61.31	7388	2.45	296	3.85	26'
27'	6.08	2.58	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	7	21	24.25	9	20	1.25	12.75	7.42	20.17	9	20	1.25	18.75	7.42	26.17	71.84	7702	2.87	308	3.99	27'
28'	6.50	2.58	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	8	19	25.25	10	18	1.38	13.75	7.88	21.63	10	18	1.38	19.75	7.88	27.63	75.25	8642	3.01	346	4.00	28'
29'	6.92	2.58	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	8	21	26.25	10	20	1.25	14.75	8.33	23.08	10	20	1.25	20.75	8.33	29.08	78.98	10170	3.16	407	3.99	29'
30'	7.42	3.08	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	8	17	26.75	11	16	1.50	15.25	8.84	24.09	11	16	1.50	21.25	8.84	30.09	91.41	10450	3.66	416	3.99	30'

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: 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.

CANTILEVER RETAINING WALLS

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES

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

REVISIONS		ROAD NO.	COUNTY	PROJECT NO.
Date	Description			

	Name	Date
Designed by	C.W.	6/85
Checked by	R.N.	6/85
Quantities by	C.W.	6/85
Checked by	R.N.	6/85
Supervised by		

APPROVED BY

Federal Bureau of Streets and Highways

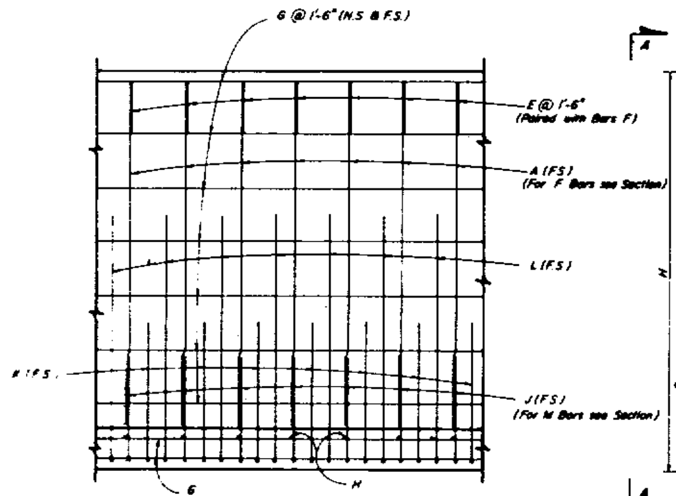
Drawing No.	Sheet No.
15 OF 23	14,051

RETAINING WALL DATA

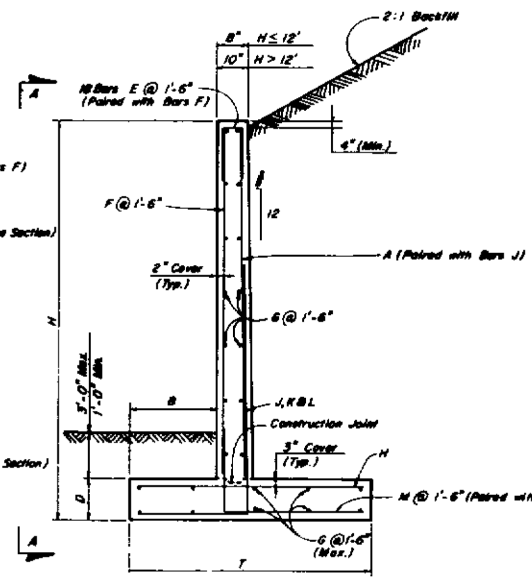
REINFORCING STEEL SCHEDULE

WALL DIMENSIONS				BARS J						BARS F			BARS G			BARS H				BARS M			
H	B	C	T	SIZE	NO.	SPACING	a	b	LENGTH	SIZE	NO.	LENGTH	SIZE	NO.	LENGTH	SIZE	NO.	SPACING	LENGTH	SIZE	NO.	c	LENGTH
6'	0.67	0.83	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	0.83	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	0.83	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	4.81
9'	1.17	0.83	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	4	18	2.74	4.82
10'	1.17	0.83	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	4	18	3.26	5.34
11'	1.33	0.83	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	0.92	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	0.92	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	0.92	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	4.63	6.71
15'	1.83	0.92	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
16'	1.92	0.92	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	4	18	5.27	7.35
17'	2.17	1.08	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	4	18	5.72	7.80
18'	2.33	1.08	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	4	18	6.35	8.43
19'	2.75	1.58	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	4	18	6.74	8.82
20'	3.08	1.58	10.49	7	19	1.38	4.83	4.07	8.90	4	18	18.25	4	42	24.50	5	46	0.54	9.99	4	18	6.99	9.07
21'	3.42	1.58	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	4	18	7.27	9.35
22'	3.75	1.58	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	4	18	7.72	9.80
23'	4.17	2.08	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	4	18	8.15	10.23
24'	4.58	2.08	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	4	18	8.47	10.55
25'	4.92	2.08	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	4	18	8.78	10.86
26'	5.25	2.08	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	4	18	9.28	11.36
27'	5.67	2.58	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	4	18	9.72	11.80
28'	6.08	2.58	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	4	18	10.18	12.26
29'	6.42	2.58	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	4	18	10.63	12.71
30'	6.92	3.08	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	4	18	11.07	13.15

	BARS A			BARS K						BARS L						QUANTITIES				ACTUAL MAXIMUM BEARING PRESSURE	
H	SIZE	NO.	LENGTH	SIZE	NO.	SPACING	a	b	LENGTH	SIZE	NO.	SPACING	a	b	LENGTH	CONCRETE PER 25' UNIT C.Y.	STEEL PER 25' UNIT LBS.	CONCRETE PER LIN. FT. C.Y.	STEEL PER LIN. FT. LBS.	KIPS/SQ.FT.	H
6'	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.78	520	0.23	21	1.77	6'
7'	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.98	596	0.28	24	2.02	7'
8'	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.16	671	0.33	27	2.26	8'
9'	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.35	727	0.37	29	2.43	9'
10'	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10.62	882	0.42	35	2.77	10'
11'	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.87	1068	0.47	43	3.01	11'
12'	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	13.50	1243	0.54	50	3.28	12'
13'	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	16.76	1374	0.67	55	3.50	13'
14'	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	18.27	1631	0.73	65	3.82	14'
15'	—	—	—	5	25	1.00	5.75	2.69	8.44	—	—	—	—	—	—	19.82	1804	0.79	72	4.06	15'
16'	5	21	14.92	5	20	1.25	4.75	2.80	7.55	5	20	1.25	10.75	2.80	13.55	21.39	2157	0.86	86	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	24.29	2445	0.97	98	4.41	17'
18'	6	21	16.75	6	20	1.25	5.33	3.28	8.61	6	20	1.25	8.33	3.28	11.61	26.32	2845	1.05	114	4.47	18'
19'	6	17	17.25	7	16	1.50	6.42	3.71	10.13	7	16	1.50	10.42	3.71	14.13	32.35	2933	1.29	117	4.40	19'
20'	6	19	18.25	7	18	1.38	7.42	4.07	11.49	7	18	1.38	11.42	4.07	15.49	34.50	3396	1.38	136	4.45	20'
21'	6	17	19.25	8	16	1.50	9.08	4.44	13.52	8	16	1.50	13.08	4.44	17.52	36.72	3947	1.47	158	4.49	21'
22'	6	19	20.25	8	18	1.38	9.08	4.80	13.88	8	18	1.38	14.08	4.80	18.88	39.22	4502	1.57	180	4.47	22'
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	47.04	4954	1.88	198	4.46	23'
24'	6	19	21.75	9	18	1.38	10.25	5.69	15.94	9	18	1.38	16.25	5.69	21.94	49.84	5727	1.99	229	4.43	24'
25'	6	21	22.75	9	20	1.25	11.25	6.05	17.30	9	20	1.25	17.25	6.05	23.30	52.52	6522	2.10	261	4.49	25'
26'	7	21	23.75	9	20	1.25	12.25	6.58	18.83	9	20	1.25	18.25	6.58	24.83	59.27	7203	2.37	288	4.45	26'
27'	7	21	24.25	9	20	1.25	12.75	7.01	19.76	9	20	1.25	18.75	7.01	25.76	69.05	7510	2.76	300	4.49	27'
28'	8	19	25.25	10	18	1.38	13.75	7.46	21.21	10	18	1.38	19.75	7.46	27.21	72.79	8777	2.92	351	4.45	28'
29'	8	21	26.25	10	20	1.25	14.75	7.83	22.58	10	20	1.25	20.75	7.83	28.58	76.38	10,026	3.05	401	4.48	29'
30'	8	17	26.75	11	16	1.50	15.25	8.34	23.59	11	16	1.50	21.25	8.34	29.59	87.97	10,213	3.52	409	4.47	30'



VIEW A-A

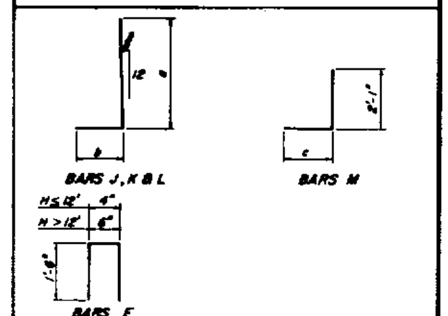


TYPICAL SECTION

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: To accommodate the Variable Height of a Wall Unit vertical Bars may be field cut to fit and the number of horizontal Bars 6 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.

CANTILEVER RETAINING WALLS

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION STRUCTURES

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

Designed by	R.N.	6/65
Checked by	C.W.	
Quantities by	R.N.	6/65
Checked by	C.W.	
Approved by		

16 OF 23

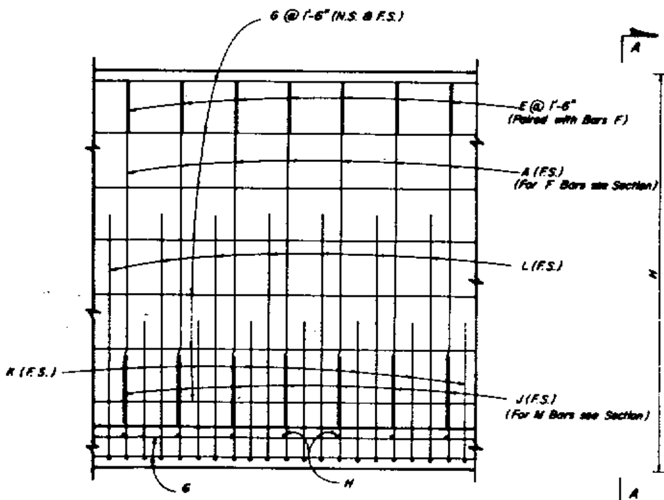
14,051

RETAINING WALL DATA

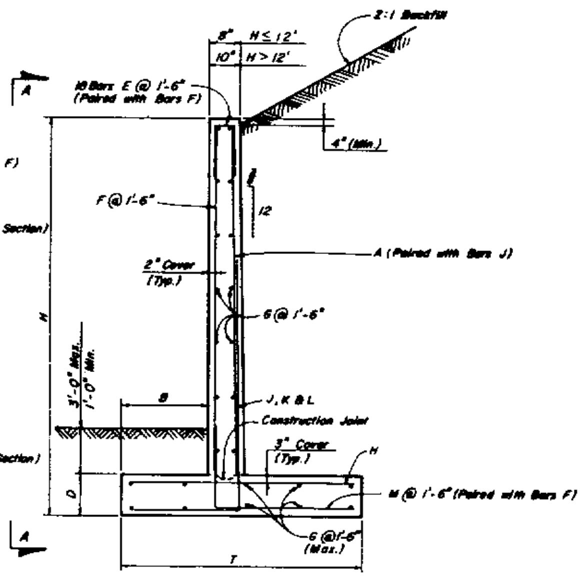
REINFORCING STEEL SCHEDULE

H	B	D	T	J SIZE	J NO.	J SPACING	J a	J b	J LENGTH	F SIZE	F NO.	F LENGTH	G SIZE	G NO.	G LENGTH	H SIZE	H NO.	H SPACING	H LENGTH	M SIZE	M NO.	M c	M LENGTH
WALL DIMENSIONS				BARS J						BARS F			BARS G			BARS H				BARS M			
6'	0.67	0.83	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	0.83	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	0.83	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	0.83	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	0.83	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	0.83	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	0.92	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	0.92	6.29	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'	1.17	0.92	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	0.92	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	0.92	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	1.08	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	1.08	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	1.58	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	1.58	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	1.58	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	1.58	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	2.08	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	9.86
24'	4.25	2.08	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	2.08	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	2.08	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	2.58	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	2.58	15.85	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	2.58	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	3.08	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	A SIZE	A NO.	A LENGTH	K SIZE	K NO.	K SPACING	K a	K b	K LENGTH	L SIZE	L NO.	L SPACING	L a	L b	L LENGTH	CONCRETE PER 25' UNIT C.Y.	STEEL PER 25' UNIT LBS.	CONCRETE PER LIN. FT. C.Y.	STEEL PER LIN. FT. LBS.	ACTUAL MAXIMUM BEARING PRESSURE KIPS/SQ.FT.	H
	BARS A			BARS K						BARS L						QUANTITIES					
6'																5.78	520	0.23	21	1.77	6'
7'																6.99	596	0.28	24	2.02	7'
8'																8.16	671	0.33	27	2.26	8'
9'																9.35	759	0.37	30	2.43	9'
10'																10.62	885	0.42	35	2.77	10'
11'																11.87	1037	0.47	42	3.01	11'
12'																13.50	1245	0.54	50	3.28	12'
13'																16.76	1374	0.67	55	3.50	13'
14'																18.27	1831	0.73	65	3.82	14'
15'				5	25	1.00	5.75	2.69	8.44							19.82	1804	0.79	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	21.39	2164	0.86	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	24.10	2355	0.96	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	25.85	2877	1.04	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	31.46	2921	1.26	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	33.65	3431	1.35	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	35.90	3930	1.44	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	38.20	4510	1.53	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	45.47	4889	1.82	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	48.15	5634	1.93	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	50.86	6414	2.03	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	57.63	7193	2.31	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	67.06	7399	2.68	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	70.33	8639	2.81	346	4.98	28'
29'	8	21	26.25	10	20	1.25	14.75	7.41	22.16	10	20	1.25	20.75	7.41	28.16	73.92	[illegible]	2.96	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	85.10	10088	3.40	401	4.94	30'



VIEW A-A

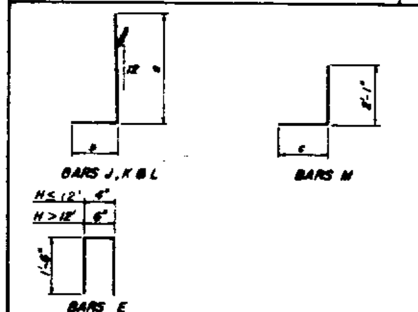


TYPICAL SECTION

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: 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.

CANTILEVER RETAINING WALLS

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES

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

	Name	Date
Designed by	C.L.	6/85
Checked by	R.N.	6/85
Quantities by	R.N.	6/85
Checked by	C.L.	6/85

3	FLA.		

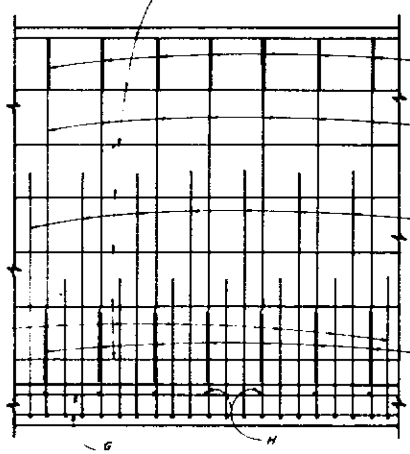
RETAINING WALL DATA

REINFORCING STEEL SCHEDULE

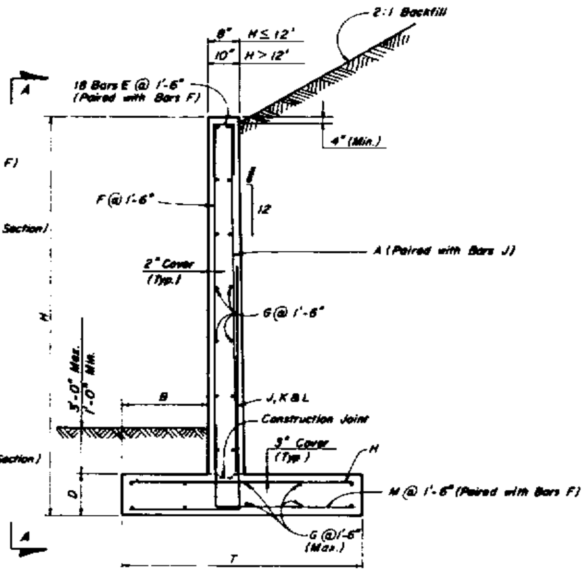
H	B	D	T	BARS J SIZE	BARS J NO.	BARS J SPACING	BARS J a	BARS J b	BARS J LENGTH	BARS F SIZE	BARS F NO.	BARS F LENGTH	BARS G SIZE	BARS G NO.	BARS G LENGTH	BARS H SIZE	BARS H NO.	BARS H SPACING	BARS H LENGTH
6'	0.67	0.83	2.86	4	26	1.00	5.58	1.08	6.66	4	18	5.00	4	14	24.50	4	18	1.42	2.36
7'	0.75	0.83	3.41	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	0.83	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	0.83	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'	1.77	0.83	4.85	4	31	0.83	9.58	1.71	11.29	4	18	9.00	4	22	24.50	4	28	0.96	4.35
11'	1.33	0.83	5.30	5	28	1.00	10.58	1.90	12.48	4	18	10.00	4	24	24.50	4	34	0.71	4.80
12'	1.50	0.92	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
13'	1.58	0.92	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
14'	1.67	0.92	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	0.92	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	0.92	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
17'	2.17	1.08	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
18'	2.17	1.08	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
19'	2.42	1.58	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
20'	2.75	1.58	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
21'	3.00	1.58	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
22'	3.33	1.58	10.58	8	19	1.38	6.08	4.39	10.47	4	18	20.25	4	48	24.50	6	43	0.58	10.08
23'	3.67	2.08	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
24'	4.00	2.08	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
25'	4.33	2.08	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
26'	4.58	2.08	13.38	9	21	1.25	8.17	5.74	13.91	4	18	23.75	4	54	24.50	6	46	0.54	12.86
27'	5.00	2.58	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
28'	5.33	2.58	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
29'	5.67	2.58	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
30'	6.08	3.08	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

(H, B, D, T = WALL DIMENSIONS)

H	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	QUANTITIES: CONCRETE PER 25' UNIT C.Y.	STEEL PER 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	1.78	3.86	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.78	521	0.23	21	1.77	6'
7'	4	18	2.25	4.33	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.99	596	0.28	24	2.02	7'
8'	4	18	2.54	4.82	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.16	671	0.33	27	2.26	8'
9'	4	18	2.74	4.82	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.35	739	0.37	30	2.45	9'
10'	4	18	3.26	5.34				—	—	—	—	—	—	—	—	—	—	—	—	10.62	906	0.42	36	2.77	10'
11'	4	18	3.55	5.63	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.87	1068	0.47	43	3.01	11'
12'	4	18	3.82	5.90	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	13.50	1245	0.54	50	3.28	12'
13'	4	18	4.28	6.36	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	16.76	1341	0.67	54	3.50	13'
14'	4	18	4.64	6.72	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	18.27	1631	0.73	65	3.82	14'
15'	4	18	4.91	6.99	—	—	—	5	25	1.00	5.75	2.69	8.44	—	—	—	—	—	—	19.82	1804	0.79	72	4.06	15'
16'	4	18	5.28	7.36	6	21	14.92	5	20	1.25	4.75	2.81	7.56	5	20	1.25	10.75	2.81	13.56	21.39	2158	0.86	86	4.38	16'
17'	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	24.10	2355	0.94	94	4.53	17'
18'	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	25.95	2866	1.04	115	4.82	18'
19'	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	31.07	3052	1.24	122	5.14	19'
20'	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	33.04	3374	1.32	135	5.24	20'
21'	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	34.97	3880	1.40	156	5.43	21'
22'	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	37.30	4441	1.49	177	5.40	22'
23'	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	44.17	4867	1.77	195	5.46	23'
24'	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	46.87	5606	1.87	224	5.45	24'
25'	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	49.62	6374	1.98	255	5.45	25'
26'	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	56.25	7094	2.25	284	5.45	26'
27'	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	65.07	7275	2.61	291	5.45	27'
28'	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	68.36	8561	2.73	342	5.48	28'
29'	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	71.98	9773	2.88	391	5.46	29
30'	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	82.23	9800	3.29	392	5.50	30'



VIEW A-A

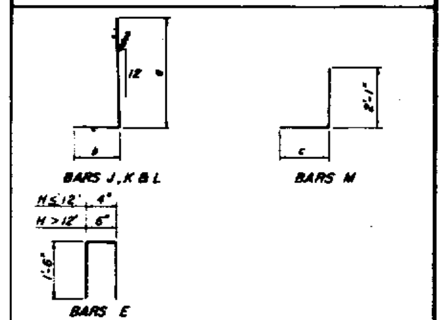


TYPICAL SECTION

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: 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.

CANTILEVER RETAINING WALLS

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION STRUCTURES

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

	Name	Date
Designed by	PN	6/85
Checked by	CW	4/85
Quantities by	RN	6/85
Checked by	CW	6/85
Supervised by	[signature]	

Chief Bureau of Structures Design

18 OF 23

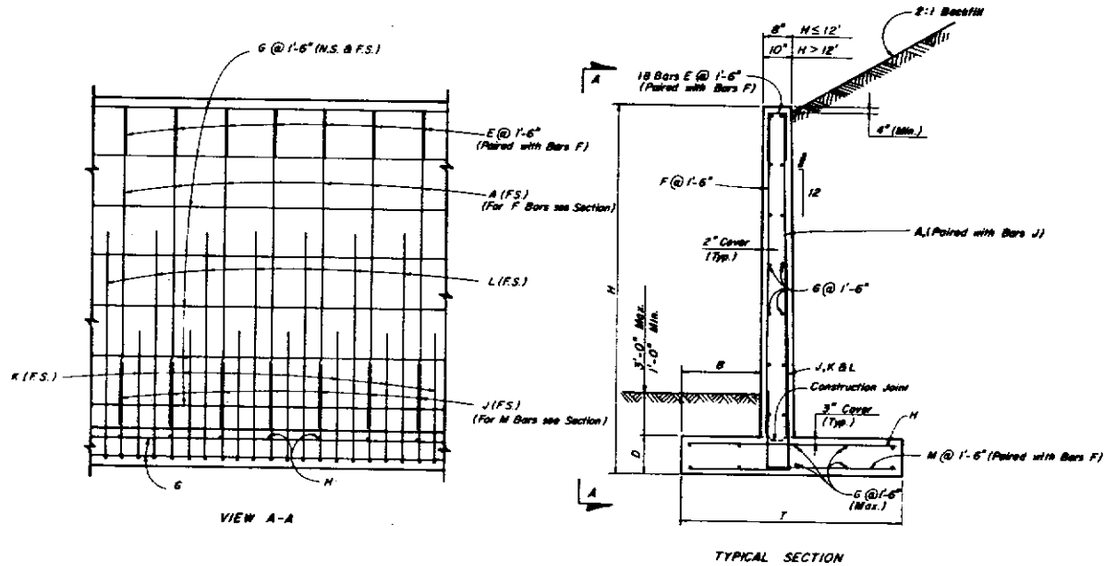
14,051

FED. ROAD NO.	STATE	PROJECT NO.	SHEET NO.
3	FLA.		

RETAINING WALL DATA

REINFORCING STEEL SCHEDULE

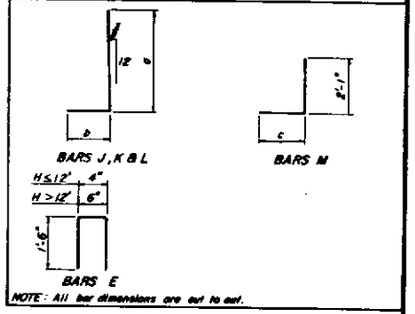
WALL DIMENSIONS				BARS J						BARS F			BARS G			BARS H				BARS M				BARS A			BARS K						BARS L						QUANTITIES				ACTUAL MAXIMUM BEARING PRESSURE	H
H	B	D	T	SIZE	NO.	SPACING	a	b	LENGTH	SIZE	NO.	LENGTH	SIZE	NO.	LENGTH	SIZE	NO.	SPACING	LENGTH	SIZE	NO.	c	LENGTH	SIZE	NO.	LENGTH	SIZE	NO.	SPACING	a	b	LENGTH	SIZE	NO.	SPACING	a	b	LENGTH	CONCRETE PER 25' UNIT	STEEL PER 25' UNIT	CONCRETE PER LIN. FT.	STEEL PER LIN. FT.		
																																						C.Y.	LBS.	C.Y.	LBS.	KIPS/SQ.FT.	
6'	0.67	0.83	2.66	4	26	1.00	5.98	1.08	6.66	4	18	5.00	4	14	24.50	4	18	1.42	2.36	4	18	1.77	3.85															5.78	520	0.23	21	1.77	6'
7'	0.75	0.83	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															6.99	596	0.28	24	2.02	7'
8'	0.92	0.83	3.67	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															8.16	671	0.33	27	2.26	8'
9'	1.17	0.83	4.33	4	28	0.92	8.56	1.68	10.26	4	18	8.00	4	20	24.50	4	18	1.42	3.83	4	18	2.74	4.82															9.35	759	0.37	30	2.43	9'
10'	1.17	0.83	4.83	4	31	0.83	9.56	1.70	11.28	4	18	9.00	4	22	24.50	4	27	0.96	4.35	4	18	3.26	5.34															10.62	865	0.42	35	2.77	10'
11'	1.33	0.83	5.30	5	26	1.00	10.56	1.89	12.47	4	18	10.00	4	22	24.50	4	34	0.75	4.80	4	18	3.55	5.63															11.87	1036	0.47	41	3.01	11'
12'	1.50	0.92	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															13.50	1243	0.54	50	3.28	12'
13'	1.58	0.92	6.22	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															14.76	1373	0.67	55	3.50	13'
14'	1.67	0.92	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															16.27	1639	0.73	66	3.82	14'
15'	1.83	0.92	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															19.82	1810	0.79	72	4.06	15'
16'	1.92	0.92	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	5	21	14.92	5	25	1.00	5.75	2.66	8.41							21.39	2162	0.86	99	4.38	16'
17'	2.17	1.08	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	6	17	15.75	6	16	1.50	5.33	3.06	8.39	6	16	1.50	8.33	3.06	11.39	24.10	2361	0.96	94	4.53	17'
18'	2.17	1.08	8.73	6	21	1.25	3.42	3.09	6.51	4	18	16.75	4	38	24.50	6	47	0.54	8.23	4	18	6.14	8.22	6	21	18.75	6	20	1.25	5.33	3.09	8.42	6	20	1.25	8.33	3.09	11.42	25.95	2874	1.04	115	4.82	18'
19'	2.42	1.58	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	6	17	17.25	7	16	1.50	6.42	3.35	9.77	7	16	1.50	10.42	3.35	13.77	31.07	2890	1.24	116	5.14	19'
20'	2.75	1.58	9.48	7	18	1.38	4.83	3.71	8.54	4	18	18.25	4	44	24.50	6	34	0.75	8.99	4	18	6.82	8.90	6	19	18.25	7	18	1.38	7.42	3.71	11.13	7	18	1.38	11.42	3.71	15.13	33.04	3366	1.32	135	5.24	20'
21'	3.00	1.58	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	6	17	19.25	8	16	1.50	9.08	3.99	13.07	8	16	1.50	13.08	3.99	17.07	34.97	3863	1.40	155	5.43	21'
22'	3.25	1.58	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	8.86	6	19	20.25	8	18	1.38	9.08	4.27	13.35	8	18	1.38	14.08	4.27	18.35	36.96	4441	1.48	178	5.61	22'
23'	3.50	2.08	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	6	21	20.75	8	20	1.25	9.58	4.53	14.11	8	20	1.25	14.58	4.53	19.11	43.20	4762	1.73	190	5.86	23'
24'	3.75	2.08	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	6	19	21.75	9	18	1.38	10.25	4.82	15.07	9	18	1.38	16.25	4.82	21.07	45.87	5499	1.83	220	5.94	24'
25'	4.08	2.08	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	6	21	22.75	9	20	1.25	11.25	5.18	16.43	9	20	1.25	17.25	5.18	22.43	48.37	6244	1.93	250	5.98	25'
26'	4.33	2.08	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	10.06	7	21	23.75	9	20	1.25	12.25	5.45	17.70	9	20	1.25	18.25	5.45	23.70	50.03	6991	2.20	280	5.93	26'
27'	4.75	2.58	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	7	21	24.25	9	20	1.25	12.75	5.89	18.64	9	20	1.25	18.75	5.89	24.64	63.57	7142	2.54	286	5.91	27'
28'	5.08	2.58	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	8	19	25.25	10	18	1.38	13.75	6.25	20.00	10	18	1.38	19.79	6.25	26.00	66.69	8398	2.68	336	5.91	28'
29'	5.42	2.58	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	8	21	26.25	10	20	1.25	14.75	6.62	21.37	10	20	1.25	20.75	6.62	27.37	70.24	9682	2.81	386	5.91	29'
30'	5.79	3.08	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	8	17	26.75	11	16	1.50	15.25	6.97	22.22	11	16	1.50	21.25	6.97	28.22	80.27	9642	3.21	386	5.98	30'



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

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.

CANTILEVER RETAINING WALLS

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES

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

REVISIONS		ROAD NO.	COUNTY	PROJECT NO.
Date	Description			

	Checked	Date
Designed by		
Checked by	K.N.	6/75
Quantities by		
Checked by	K.N.	6/75
Supervised by		

APPROVED for
Chief, Bureau of Standards and Design

Drawing No.	Index No.
19 OF 23	14,051

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

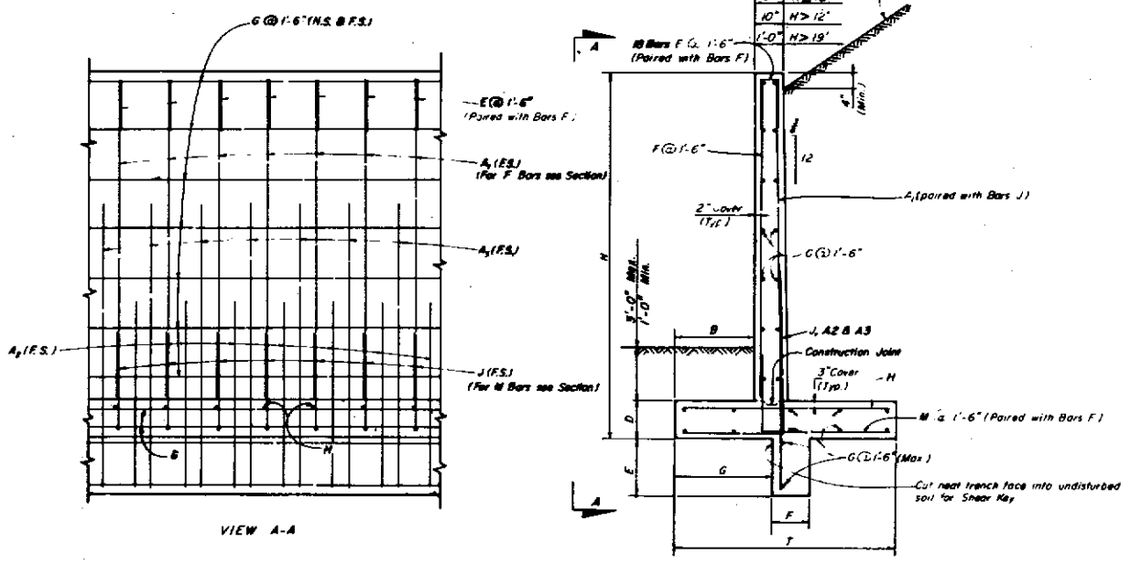
RETAINING WALL DATA

WALL DIMENSIONS				REINFORCING STEEL SCHEDULE																														SHEAR KEY DIMENSIONS			QUANTITIES				ACTUAL MAXIMUM BEARING PRESSURE	
				BARS J						BARS F			BARS G			BARS H				BARS M				BARS A_1			BARS A_2				BARS A_3											
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	LENGTH	SIZE	NO.	SPACING	LENGTH	E	F	G	CONCRETE PER 2' UNIT C.Y.	STEEL PER 2' UNIT LBS	CONCRETE PER LIN. FT. C.Y.	STEEL PER LIN. FT. LBS.	KIPS/SQ.FT.	H
6'	0.83	0.83	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	2.86	4.49														6.62	543	0.26	22	2.86	6'
7'	1.25	0.85	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														7.98	627	0.32	25	2.35	7'
8'	1.25	0.92	5.31	4	27	0.96	7.58	1.75	9.33	4	18	6.92	4	18	24.50	4	24	1.08	4.81	4	18	3.64	5.47														9.49	729	0.38	29	2.91	8'
9'	1.67	0.92	6.25	4	21	1.25	8.58	2.17	10.78	4	18	7.92	4	24	24.50	4	24	1.08	5.75	4	18	4.17	6.00				4	20	1.25	5.67					1.00	1.00	2.17	11.43	919	0.46	37	2.98	9'
10'	2.25	1.08	8.50	4	26	0.92	9.58	2.75	12.33	4	18	8.75	4	28	24.50	4	30	0.83	7.70	4	18	5.53	7.36				4	27	0.92	4.92					1.00	1.00	2.78	15.15	1133	0.61	45	2.83	10'
11'	3.00	1.08	10.08	5	24	1.08	10.58	3.58	14.16	4	18	9.75	4	30	24.50	4	30	0.83	9.96	4	18	7.06	8.89				5	23	1.08	5.92					1.00	1.00	3.56	18.28	1492	0.36	58	2.73	11'
12'	3.50	1.33	11.50	5	28	0.92	11.58	4.08	15.66	4	18	10.90	4	32	24.50	5	28	1.00	11.00	4	18	7.58	9.91				5	27	0.92	6.75					1.00	1.00	4.08	23.00	1755	0.92	70	2.98	12'
13'	4.00	1.33	13.20	5	28	0.92	12.58	4.75	17.33	4	18	11.90	4	36	24.50	5	26	1.00	12.70	4	18	8.78	11.11				5	27	0.92	7.08					1.00	1.00	4.77	28.22	1955	1.13	78	2.93	13'
14'	5.00	1.58	16.22	6	26	1.00	13.57	5.83	19.40	4	18	12.25	4	40	24.50	5	30	0.83	15.72	4	18	10.80	13.13				6	25	1.00	7.50					1.00	1.00	5.80	36.36	2533	1.45	101	2.97	14'
15'	7.00	1.58	22.25	6	21	1.25	3.81	7.83	11.78	4	18	13.25	4	52	24.50	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	1.00	1.00	7.83	46.94	3247	1.84	128	3.00	15'

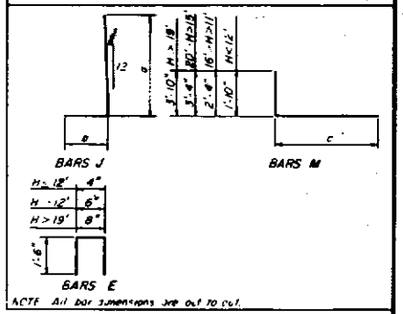
NOTE

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.

NOTE: Bars M & E paired with Bars F and Bars A_1 paired with Bars J. Bars E, F and Mare No. 4 bars, Bars J are as shown.



BENDING DIAGRAM



NOTE: All bar dimensions are out to out.

CANTILEVER RETAINING WALLS

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES

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

REVISIONS		ROAD NO.	COUNTY	PROJECT NO.
Dates	Descriptions			
		Designed by: R.N. 6/15/5		APPROVED BY:
		Checked by: R.N.		
		Quantities by: R.N. 6/15/5		Chief, Bureau of Structural Design
		Detailed by:		Drawing No. 20 OF 23
		Supervised by:		Index No. 14,051

POLYTRACE III

FED. ROAD DIV. NO.	STATE	PROJECT NO.	FINCAP NUMBER	SHEET NO.
3	FLA.			

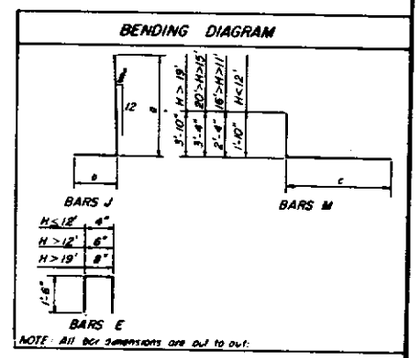
RETAINING WALL DATA

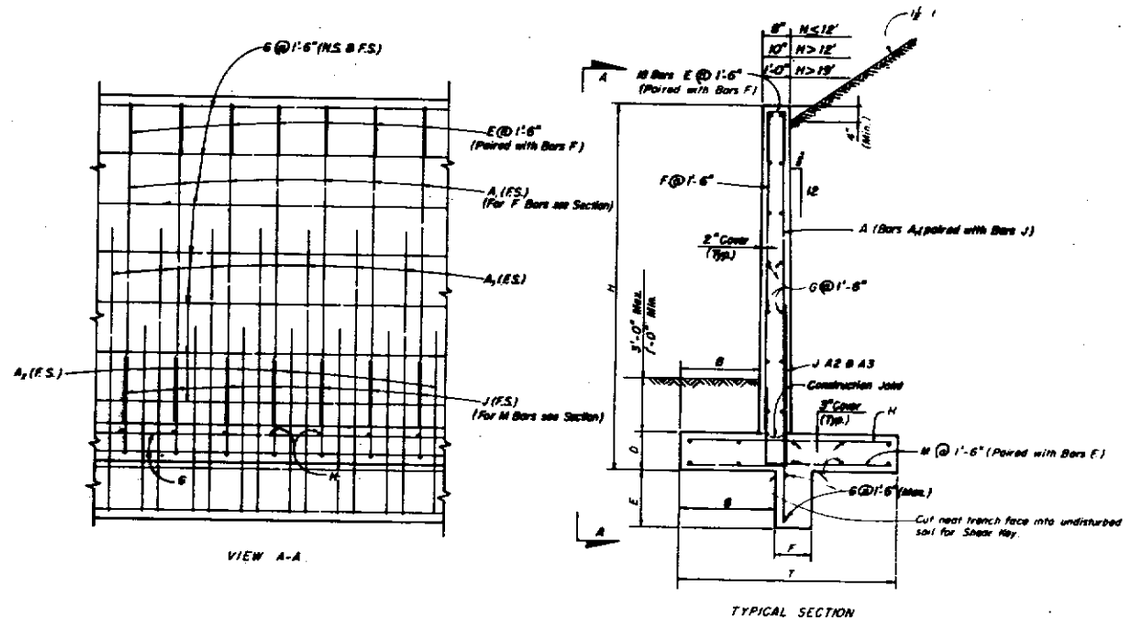
WALL DIMENSIONS				REINFORCING STEEL SCHEDULE																														SHEAR KEY DIMENSIONS			QUANTITIES				ACTUAL MAXIMUM BEARING PRESSURE	H
				BARS J						BARS F			BARS G			BARS H				BARS M				BARS A_1				BARS A_2				BARS A_3											
h	B	D	T	SIZE	NO	SPACING	a	"b"	LENGTH	SIZE	NO.	LENGTH	SIZE	NO	LENGTH	SIZE	NO.	SPACING	LENGTH	SIZE	NO	c	LENGTH	SIZE	NO.	LENGTH	SIZE	NO.	SPACING	LENGTH	SIZE	NO.	SPACING	LENGTH	E	F	G	CONCRETE PER 25' UNIT C.Y.	STEEL PER 25' UNIT LBS	CONCRETE PER LIN. FT. C.Y.	STEEL PER LIN. FT. LBS.	KIPS/SQ.FT.	
6'	0.83	0.83	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	4.50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.60	543	0.26	22	2.26	6'
7'	1.25	0.83	4.69	4	26	1.00	6.58	1.67	8.25	4	18	6.00	4	16	24.50	4	18	1.42	4.15	4	18	3.02	4.85	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7.98	627	0.32	25	2.39	7'
8'	1.28	0.92	5.31	4	27	0.96	7.58	1.75	9.33	4	18	6.92	4	18	24.50	4	24	1.08	4.81	4	18	3.64	5.47	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.49	729	0.38	29	2.91	8'
9'	1.50	0.92	5.84	4	21	1.25	9.58	2.00	10.58	4	18	7.92	4	22	24.50	4	24	1.08	5.34	4	18	3.92	5.75	—	—	—	—	4	20	1.25	5.67	—	—	—	—	1.00	1.00	1.96	11.12	874	0.44	35	3.23	9'
10'	1.83	1.08	6.61	4	28	0.92	9.58	2.17	11.75	4	18	8.75	4	24	24.50	4	28	0.88	6.11	4	18	4.53	6.36	—	—	—	—	4	27	0.92	4.92	—	—	—	—	1.00	1.00	2.15	13.72	1037	0.55	41	3.58	10'
11'	1.83	1.08	7.39	5	24	1.08	10.58	2.42	13.00	4	18	9.75	4	26	24.50	5	25	1.00	6.89	4	18	5.14	6.97	—	—	—	—	5	23	1.08	5.92	—	—	—	—	1.00	1.00	2.34	15.78	1314	0.63	53	3.91	11'
12'	2.25	1.33	9.25	5	28	0.92	11.58	2.83	14.41	4	18	10.50	4	28	24.50	5	25	1.00	8.75	4	18	6.58	8.91	—	—	—	—	5	27	0.92	6.75	—	—	—	—	1.00	1.00	2.78	20.53	1571	0.82	63	3.85	12'
13'	3.00	1.33	10.70	5	28	0.92	12.58	3.79	16.38	4	18	11.50	4	34	24.50	5	25	1.00	10.20	4	18	7.28	9.61	—	—	—	—	5	27	0.92	7.08	—	—	—	—	1.17	1.00	3.73	25.47	1793	1.02	72	3.58	13'
14'	3.50	1.58	11.72	6	26	1.00	13.58	4.30	17.88	4	18	12.25	4	36	24.50	5	32	0.79	11.22	4	18	7.80	10.13	—	—	—	—	6	25	1.00	7.50	—	—	—	—	1.23	1.08	4.24	30.39	2253	1.22	90	3.66	14'
15'	4.00	1.58	13.25	6	21	1.25	3.92	4.83	8.75	4	18	13.25	4	38	24.50	5	32	0.79	12.75	4	18	8.84	11.17	5	21	13.25	6	20	1.25	7.93	6	20	1.25	10.83	1.58	1.25	4.77	34.21	2510	1.37	100	3.73	15'
16'	4.50	2.08	14.77	7	17	1.50	5.33	5.35	10.68	4	18	13.75	4	42	24.50	5	43	0.58	14.27	4	18	9.85	12.18	5	17	13.75	6	18	1.50	8.33	6	18	1.50	12.33	1.33	1.08	5.28	43.54	2793	1.74	112	3.89	16'
17'	5.50	2.58	17.78	7	19	1.38	7.01	6.57	13.58	4	18	14.25	4	46	24.50	5	54	0.46	17.28	4	16	11.87	15.20	5	19	14.25	6	18	1.58	9.83	6	18	1.58	12.83	0.83	1.00	6.29	57.62	3937	2.30	141	3.98	17'
18'	6.00	2.58	20.82	8	17	1.50	8.75	7.40	16.15	4	18	15.25	4	52	24.50	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	1.00	1.00	7.32	66.25	4016	2.65	161	3.97	18'
19'	7.50	2.58	23.85	9	17	1.50	9.17	8.43	16.60	4	18	16.25	4	58	24.50	5	54	0.46	25.35	4	18	15.93	19.26	5	17	16.25	6	16	1.50	12.50	6	16	1.50	19.50	1.08	1.00	8.34	74.92	5383	3.00	215	3.98	19'

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.

NOTE: Bars M & E paired with Bars F and Bars A_1 paired with Bars J. Bars E,F and Mare No. 4 bars, Bars J are as shown.





CANTILEVER RETAINING WALLS

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES

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

REVISIONS		ROAD NO.	COUNTY	PROJECT NO.
Date	Description			

	Name	Date	APPROVED BY
Designed by		4/65	
Checked by	R.N.	6/65	
Quantities by			Chief, Bureau of Structures Design
Checked by	R.N.	6/65	Drawing No. 21 OF 23
Supervised by			Index No. 14,051

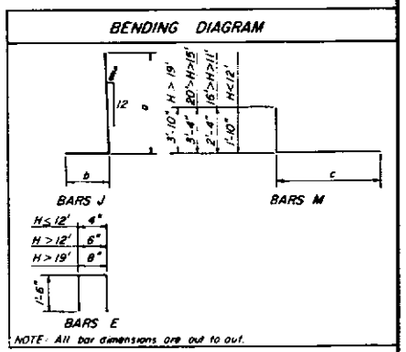
FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.			

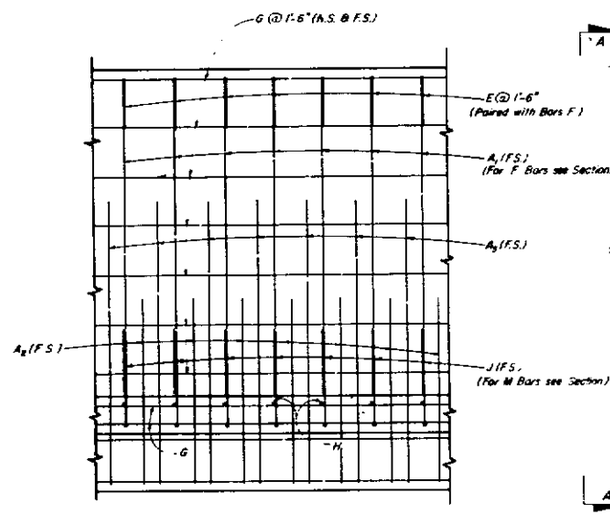
RETAINING WALL DATA

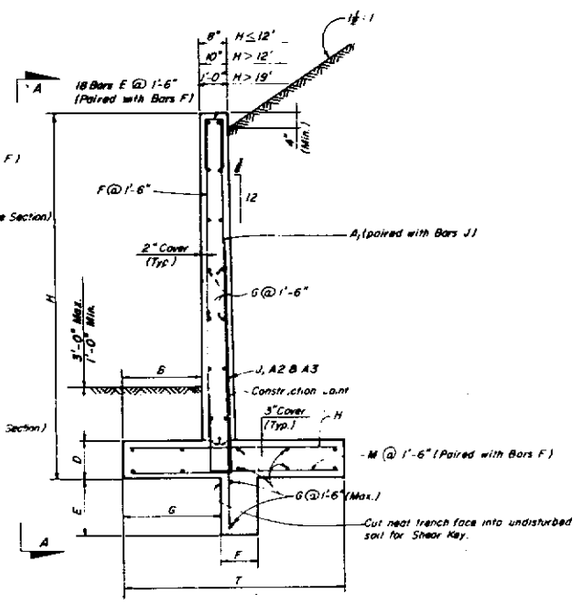
WALL DIMENSIONS				REINFORCING STEEL SCHEDULE																												SHEAR KEY DIMENSIONS			QUANTITIES				ACTUAL MAXIMUM BEARING PRESSURE	H
				BARS J					BARS F			BARS G			BARS H				BARS M				BARS A_1			BARS A_2				BARS A_3							CONCRETE PER 25' UNIT	STEEL PER 25' UNIT	CONCRETE PER LIN. FT.	STEEL 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	LENGTH	SIZE	NO.	SPACING	LENGTH	E	F	G	C.Y.	LBS.	C.Y.	LBS.	KIPS/SQ.FT.	
6'	0.83	0.83	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	—	—	—	—	—	—	—	—	—	—	—	—	—	6.80	543	0.28	22	2.26	6'
7'	1.25	0.83	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	—	—	—	—	—	—	—	—	—	—	—	—	—	7.98	627	0.32	25	2.35	7'
8'	1.25	0.92	5.81	4	27	0.96	7.58	1.72	9.30	4	18	6.92	4	18	24.50	4	24	1.08	4.81	4	18	3.64	5.47	—	—	—	—	—	—	—	—	—	—	—	—	—	9.49	728	0.38	29	2.91	8'
9'	1.50	0.92	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	4	18	3.92	5.75	—	—	—	4	20	1.25	5.67	—	—	—	—	1.00	1.00	2.00	11.12	874	0.44	35	3.23	9'
10'	1.67	1.08	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	4	18	4.53	6.36	—	—	—	4	27	0.92	4.92	—	—	—	—	1.00	1.00	2.20	13.72	1038	0.55	42	3.58	10'
11'	1.83	1.08	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	4	18	4.81	6.64	—	—	—	5	23	1.08	5.92	—	—	—	—	1.00	1.00	2.39	15.46	1300	0.62	52	4.01	11'
12'	2.00	1.33	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	4	18	5.58	7.91	—	—	—	5	27	0.92	6.75	—	—	—	—	1.25	1.17	2.58	19.08	1552	0.76	62	4.32	12'
13'	2.25	1.33	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	4	18	5.78	8.11	—	—	—	5	27	0.92	7.08	—	—	—	—	1.42	1.17	3.03	22.94	1648	0.92	66	4.56	13'
14'	2.50	1.58	9.72	6	28	1.00	13.58	3.30	16.88	4	18	12.25	4	34	24.50	6	22	1.17	9.22	4	18	6.80	9.13	—	—	—	6	25	1.00	7.50	—	—	—	—	1.50	1.25	3.03	27.74	2101	1.11	84	4.72	14'
15'	3.00	1.58	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	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	3.77	30.85	2324	1.23	93	4.69	15'
16'	3.50	2.08	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	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	4.28	38.13	2548	1.53	102	4.76	16'
17'	4.00	2.58	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	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	4.82	47.51	3131	1.90	125	4.81	17'
18'	4.50	2.58	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	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	5.35	52.82	3459	2.11	138	4.83	18'
19'	5.00	2.58	16.35	9	17	1.50	8.17	5.93	14.10	4	18	16.25	4	46	24.50	7	29	0.88	15.85	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	5.83	58.19	4573	2.33	183	4.88	19'
20'	5.50	2.83	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	4	18	12.12	15.98	6	17	17.00	8	16	1.50	12.00	8	16	150	1600	2.00	1.50	6.53	70.28	4929	2.81	197	4.93	20'
21'	6.50	2.83	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	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	7.56	79.97	5759	3.20	230	4.79	21'
22'	7.00	2.83	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	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	8.08	86.03	6623	3.44	265	4.92	22'
23'	8.00	3.08	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	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	9.20	100.81	8498	4.03	340	4.94	23'

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.

NOTE: Bars M & E paired with Bars F and Bars A_1 paired with Bars J. Bars E,F and M are No. 4 bars, Bars J are as shown.







TYPICAL SECTION

CANTILEVER RETAINING WALLS

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES

CASE IX (5.0 KIPS/SQ.FT. MAX. BEARING PRESSURE)
6 FT. TO 23 FT. HEIGHT

REVISIONS		ROAD NO.	COUNTY	PROJECT NO.
Dates	Descriptions			

	Name	Date
Designed by		
Checked by		
Quantities by		
Checked by		
Approved by		

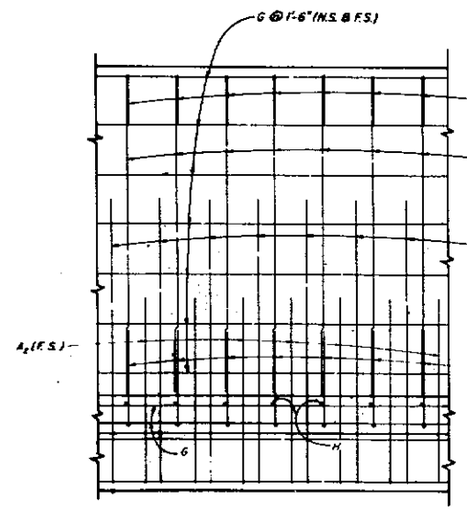
APPROVED BY
Chief, Bureau of Structures Design

Drawing No.	Index No.
22 OF 23	14,051

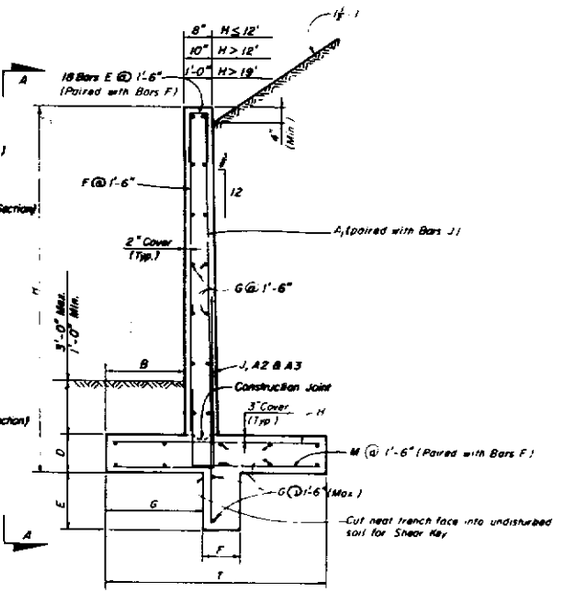
FED. ROAD DIST. NO.	STATE	PROJECT NO.	TOTAL SHEETS	SHEET NO.
3	FLA.			

RETAINING WALL DATA

WALL DIMENSIONS				REINFORCING STEEL SCHEDULE																														SHEAR KEY DIMENSIONS			QUANTITIES				ACTUAL MAXIMUM	
				BARS J					BARS F			BARS G			BARS H				BARS M				BARS A_1				BARS A_2				BARS A_3							CONCRETE PER 25' UNIT	STEEL PER 25' UNIT	CONCRETE PER LIN. FT.	STEEL PER LIN. FT.	BEARING PRESSURE	H
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	LENGTH	SIZE	NO.	SPACING	LENGTH	E	F	G	C.Y.	LBS.	C.Y.	LBS.	KIPS/SQ.FT.	
6'	0.83	0.83	3.91	4	26	1.00	5.58	1.25	6.83	4	18	5.00	4	14	24.5	4	18	1.42	3.41	4	18	2.66	4.49															6.60	543	0.26	22	2.26	5'
7'	1.25	0.83	4.69	4	26	1.00	6.58	1.70	8.28	4	18	6.00	4	16	24.5	4	18	1.42	4.19	4	18	3.02	4.85															7.98	627	0.32	25	2.35	7'
8'	1.25	0.92	5.31	4	27	0.96	7.58	1.72	9.30	4	18	6.92	4	16	24.5	4	24	1.08	4.81	4	18	3.64	5.47															9.49	696	0.38	28	2.91	8'
9'	1.50	0.92	5.84	4	21	1.25	8.58	2.00	10.58	4	18	7.92	4	22	24.5	4	24	1.08	5.34	4	18	3.92	5.75							4	20	1.25	5.67				1.00	0.92	1.96	11.12	874	0.44	35	3.23	9'
10'	1.67	1.08	6.61	4	28	0.92	9.58	2.20	11.78	4	18	8.75	4	24	24.5	4	29	0.88	6.11	4	18	4.52	6.35							4	27	0.92	4.92				1.00	0.92	2.15	13.72	1042	0.55	42	3.58	10'
11'	1.83	1.08	7.06	5	24	1.08	10.58	2.39	12.97	4	18	10.50	4	26	24.5	4	36	0.67	6.56	4	18	4.81	6.64							5	23	1.08	5.92				1.00	1.00	2.34	15.46	1305	0.62	52	4.01	11'
12'	2.00	1.33	8.00	5	28	0.92	11.58	2.58	14.16	4	18	11.50	4	28	24.5	4	36	0.67	7.50	4	18	5.58	7.91							5	27	0.92	6.75				1.08	1.00	2.53	19.08	1526	0.76	61	4.23	12'
13'	2.25	1.33	8.45	5	28	0.92	12.58	3.03	15.61	4	18	12.25	4	30	24.5	4	43	0.58	7.95	4	18	5.78	8.11							6	27	0.92	7.08				1.42	1.00	2.97	22.94	1749	0.92	70	4.56	13'
14'	2.25	1.58	9.47	6	26	1.00	13.58	3.05	16.63	4	18	13.25	4	32	24.5	5	32	0.79	8.97	4	18	6.80	9.13							6	25	1.00	7.50				1.50	1.08	2.99	27.43	2065	1.10	83	5.03	14'
15'	2.50	1.58	9.75	6	21	1.25	3.92	3.33	7.25	4	18	13.75	4	32	24.5	5	38	0.67	9.25	4	18	6.83	9.16	5	21	13.25	6	20	1.25	7.83	6	20	1.25	10.83	2.00	1.25	3.27	29.51	2287	1.18	91	5.42	15'
16'	3.00	2.08	10.77	7	17	1.50	5.33	3.65	9.18	4	18	14.25	4	36	24.5	5	43	0.58	10.27	4	18	7.35	10.68	5	17	13.75	6	16	1.50	8.33	6	16	1.50	12.33	1.75	1.25	3.79	36.34	2851	1.45	98	5.41	16'
17'	3.50	2.58	11.78	7	19	1.38	7.08	4.37	11.45	4	18	15.25	4	38	24.5	5	54	0.46	11.28	4	18	7.86	11.19	5	19	14.25	6	18	1.38	9.83	6	18	1.38	12.83	1.50	1.17	4.31	44.10	2957	1.76	118	5.44	17'
18'	3.50	2.58	12.82	8	17	1.50	8.75	4.40	13.15	4	18	16.25	4	40	24.5	5	54	0.46	12.32	4	18	8.90	12.25	5	17	15.25	6	16	1.50	10.83	6	16	1.50	13.83	2.00	1.25	4.34	48.54	3193	1.93	128	5.88	18'
19'	4.00	2.58	13.35	9	17	1.50	8.17	4.93	13.10	4	18	17.00	4	42	24.5	5	54	0.46	12.85	4	18	8.93	12.26	5	17	16.25	9	16	1.50	12.50	8	16	1.50	19.50	2.33	1.33	4.85	51.38	4219	2.06	169	5.95	19'
20'	4.50	2.83	15.04	9	17	1.50	8.42	5.62	14.04	4	18	18.00	4	44	24.5	6	43	0.58	14.54	4	18	10.11	13.44	6	17	17.00	8	16	1.50	12.00	8	16	1.50	16.00	2.25	1.33	5.54	62.86	4523	2.51	181	5.80	20'
21'	5.00	2.83	16.57	9	19	1.38	8.42	6.15	14.57	4	18	19.00	4	48	24.5	6	43	0.58	16.07	4	18	11.15	14.48	6	19	18.00	8	18	1.38	13.33	8	18	1.38	17.33	2.67	1.50	6.07	68.88	5199	2.78	208	5.79	21'
22'	5.50	2.83	18.10	10	17	1.50	8.42	6.68	15.10	4	18	19.75	4	52	24.5	6	43	0.58	17.60	4	18	12.18	15.51	6	17	19.00	9	16	1.50	14.33	9	16	1.50	19.33	3.00	1.58	6.59	74.94	5877	3.00	235	5.81	22'
23'	6.00	3.08	19.62	10	19	1.38	10.25	7.21	17.46	4	18	20.75	4	54	24.5	6	46	0.54	19.12	4	18	13.20	16.53	7	19	19.75	10	18	1.38	15.67	10	18	1.38	20.67	3.00	1.50	7.10	84.72	7706	3.39	308	5.90	23'
24'	6.50	3.08	21.15	11	17	1.50	11.92	7.74	19.66	4	18	21.75	4	59	24.5	6	46	0.54	20.65	4	18	14.23	17.56	7	17	20.75	10	16	1.50	15.92	10	16	1.50	21.92	3.33	1.58	7.83	91.22	8011	3.65	320	5.97	24'
25'	7.50	3.08	24.19	11	20	1.25	11.92	8.77	20.69	4	18	22.75	4	63	24.5	6	46	0.54	23.69	4	18	16.27	19.60	7	20	21.75	10	19	1.25	17.17	10	19	1.25	24.17	3.50	1.58	8.65	101.81	9689	4.07	388	5.78	25'
26'	8.00	3.33	25.71	11	20	1.25	11.92	9.29	21.21	4	18	23.75	4	65	24.5	6	49	0.50	25.21	4	18	17.29	20.62	7	20	22.75	11	19	1.25	16.92	11	19	1.25	25.42	3.58	1.58	9.18	113.42	10955	4.54	438	5.94	26'



VIEW A-A



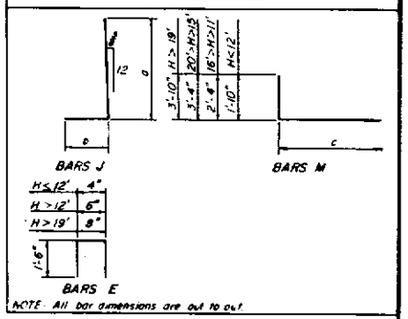
TYPICAL SECTION

NOTE: Bars M & E paired with Bars F and Bars A_1 paired with Bars J. Bars E and M are No. 4 Bars, Bars J are as shown.

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

CANTILEVER RETAINING WALLS

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES

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

REVISIONS		ROAD NO.	COUNTY	PROJECT NO.
Dates	Descriptions			

	Names	Dates	APPROVED BY
Designed by	[illegible]	4/85	
Checked by	R.N.	6/85	
Quantities by	[illegible]	[illegible]	Chief, Bureau of Structures Design
Checked by	R.N.	6/85	Drawing No. 23 OF 23
Supervised by	[illegible]		Index No. 14,051

POLYTRACE 033