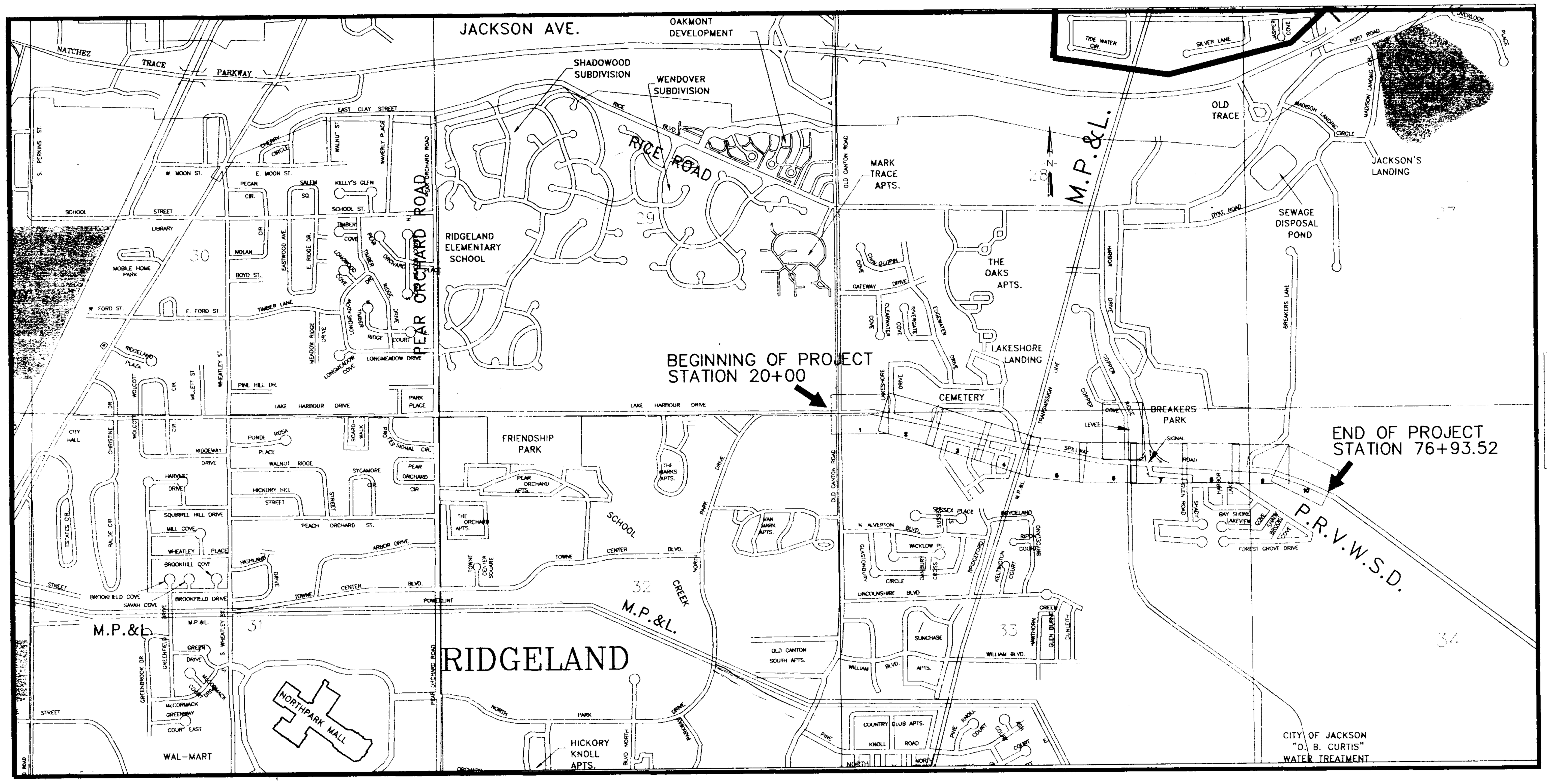
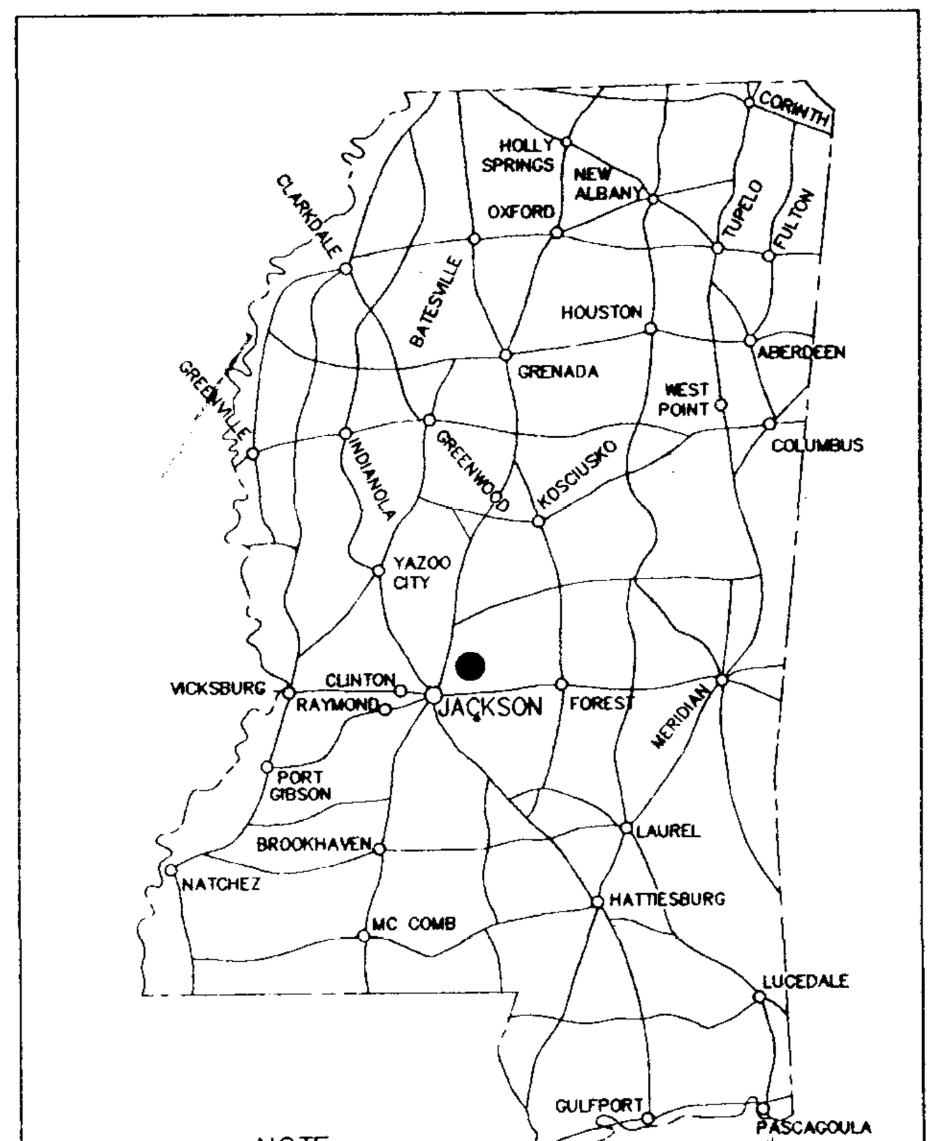
SURFACE TRANSPORTATION PROGRAM
PROJECT NO. – STP-6945(1)
49-6945-00-001-10

LAKE HARBOUR DRIVE/SPILLWAY ROAD IMPROVEMENTS
CITY OF RIDGELAND, MISSISSIPPI

SCALES

COVER 1 IN.= 1000'
PROFILE– HORZ. 1 IN.= 20 FT.
VERT. 1 IN.= 5 FT.





NOTE
● INDICATES APPROXIMATE LOCATION OF PROJECT.

DESIGN SPEED = 45 mph

DHV	D	T	T TOTAL
4300	% OF DHV	% OF DHV	% OF ADT
	55	3	3

PROJECTED
ADT (1996) = 20,000 (MDOT) B.O.P. TO E.O.P.
ADT (2016) = 36,000 (MDOT) B.O.P. TO E.O.P.

INDEX

FOR DETAILED INDEX OF PLANS SEE SHEET NO. 2

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DETAILED INDEX	1
TYPICAL SECTION	4
PLAN & PROFILE	10
BOX CULVERT MODIFICATIONS	9

Mayor:
Gene F. McGee

Mayor Pro Tem:
Gerald Steen

City Attorney:
Jerry Mills

Aldermen:
Joe Barlow
Harvey Carr, Jr.
Linda Davis
Kathi Irons
Larry Roberts
Daryl Smith
Gerald Steen

Public Works Director:
Sam C. Vinson, P.E.

Asst. Public Works Director:
Sid E. Hawthorne

Asst. City Engineer:
David E. Williams, P.E.

City Clerk:
Michael McPhearson

Fire Chief:
Elmer Waits

Police Chief:
Charles Newell

EQUATIONS
NONE

LENGTH DATA

LENGTH OF ROADWAY	5693.52	FT	1.078 MI
LENGTH OF BRIDGES	00.00	FT	0.000 MI
LENGTH OF PROJECT (NET)			1.078 MI
LENGTH OF EXCEPTIONS	0.00	FT	0.000 MI
LENGTH OF PROJECT (GROSS)			1.078 MI

EXCEPTIONS
NONE

MAY – 1997

WEI WAGGONER ENGINEERING, INC.
ENGINEERS, PLANNERS, SCIENTISTS

PWP-01212

PROJECT ENGINEER DATE

MAYOR, CITY OF RIDGELAND 6/18/97 DATE

APPROVED:
EXECUTIVE DIRECTOR 6/20/97 DATE
MISSISSIPPI DEPARTMENT OF TRANSPORTATION

APPROVED:
DIVISION ADMINISTRATOR DATE
FEDERAL HIGHWAY ADMINISTRATION
DEPARTMENT OF TRANSPORTATION

W.E.I. JOB NO 94-150E
P:\94150E\COVER

Fri May 30 21:31:25 1997

STATE	PROJECT NO.
MS.	STP-6945(1)
49-6945-00-01-10	

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5	2B	TYPICAL SECTION
6	2C	TYPICAL SECTION
7		LAYOUT SHEET FOR HARBOR DRIVE
8		SUMMARY OF QUANTITIES SHEET
9		SUMMARY OF DRAINAGE SRUCTURES
		PLAN AND PROFILE SHEETS
10	3	PLAN AND PROFILE PLAN
11	4	PLAN AND PROFILE PLAN
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13	6	PLAN AND PROFILE PLAN
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17	10	PLAN AND PROFILE PLAN
18	11	PLAN AND PROFILE PLAN
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		TRAFFIC CONTROL SHEETS
20	13	TRAFFIC CONTROL PLAN (PHASE I)
21	14	TRAFFIC CONTROL PLAN (PHASE I)
22	15	TRAFFIC CONTROL PLAN (PHASE II)
23	16	TRAFFIC CONTROL PLAN (PHASE II)
		STRIPING AND SIGNAGE SHEETS
24	17	STRIPING AND SIGNAGE PLAN
25	18	STRIPING AND SIGNAGE PLAN
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GENERAL NOTES

1. PUBLIC UTILITIES
   A. WATER AND SEWER--CITY OF RIDGELAND
   B. ELECTRICITY--ENTERGY
   C. GAS--MISSISSIPPI VALLEY GAS AND ENMARK ENERGY
   D. CABLE--CAPITOL CABLEVISION
   E. TELEPHONE--BELL SOUTH
2. THE LOCATION AND SPACING OF SIGNS, SHOWN ON THE TRAFFIC CONTROL PLANS, ARE APPROXIMATE AND MAY BE ADJUSTED AS NECESSARY TO FIT FIELD CONDITIONS.
3. TOE WALLS ARE REQUIRED AT ALL UPSTREAM AND DOWNSTREAM FLARED END SECTION, UNLESS OTHERWISE DIRECTED BY THE EGINEER. TOE WALLS ARE AN ABSORBED ITEM.
4. A GEOTECHNICAL REPORT HAS BEEN PREPARED FOR THIS PROJECT USING SAMPLES TAKEN FROM HOLES AT THE LOCATIONS INDICATED IN THE REPORTS. THIS REPORT IS INCLUDED IN THE PROPOSAL AND CONTRACT DOCUMENT. THE CITY DOES NOT GUARANTEE THAT THE MATERIALS AS SHOWN IN THE REPORTS ARE NECESSARILY TO BE FOUND OUTSIDE THE TEST HOLES.
5. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROTECT EXISTING STRUCTURES SUCH AS PIPES, INLETS, APRONS, BRIDGES, ETC. FROM DAMAGE WHICH MIGHT OCCUR DURING CONSTRUCTION. EXTREME CARE SHOULD BE EXERCISED IN UNDERCUT AREAS AND THE UNDERCUT DEPTH MAY BE ADJUSTED AT CROSS DRAINS, AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL REPLACE OR REPAIR, AS DIRECTED BY THE ENGINEER, ANY STRUCTURES DAMAGED DURING THE LIFE OF THE CONTRACT. NO PAYMENT WILL BE MADE FOR REPLACEMENT OR REPAIR OF DAMAGEED ITEMS.
6. ALL SIZES OF FLAGED ENDS MAY BE FURNISHED WITH EITHER BELL + SPIGOT OR TONGUE AND GROOVE JOINTS.
7. VOIDS CREATED BY THE REMOVAL OF POSTS, CONCRETE ANCHORS, FOOTINGS, ETC. SHALL BE BACKFILLED AND TAMPED IN ACCORDANCE WITH SECTION 283 OF THE MISSISSIPPI STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
8. EXISTING UNDERGROUND UTILITY LINES ARE SHOWN ON THE DRAWINGS BASED UPON THE BEST INFORMATION AVAILABLE TO THE ENGINEER. THE ENGINEER CANNOT AND DOES NOT WARRANT THAT THIS INFORMATION IS COMPLETE OR ACCURATE. THE CONTRACTOR MUST COORDINATE DIRECTLY WITH THE INVOLVED UTILITY OWNERS TO HAVE UNDERGROUND UTILITY LINES FIELD LOCATED IN ADVANCE OF CONSTRUCTION.
9. WORK ON STRUCTURES FOR THIS PROJECT REQUIRES EXCAVATION IN THE IMMEDIATE VICINITY OF TRAFFIC AND ADJACENT PROPERTIES, THEREFORE, THE RISK OF A FAILURE OCCURING DURING THE EXCAVATION REQUIRES THAT EXTREME CAUTION BE EXERCISED. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PLACE WHAT BRACING, SHORING OR GROUND SUPPORT SYSTEM THAT IS DEEMED NECESSARY TO PREVENT A FAILURE AND PROTECT THE PERSONS WORKING NEAR THE EXCAVATION, THE PUBLIC THAT MAY BE ABOVE THE EXCAVATION, OR ANY STRUCTURE ADJACENT TO THE EXCAVATION. ALL COSTS FOR ANY PROTECTIVE MEASURES, INCLUDING THE MATERIALS AND LABOR FOR DESIGNING, DRAFTING AND CONSTRUCTING THE FACILITY, SHALL BE INCLUDED IN THE PRICE BID FOR CONTRACT ITEMS.
10. SOME WORK IS REQUIRED OUTSIDE THE PROJECT LIMITS BEYOND THE B.O.P. AND E.O.P. NO ADDITIONAL COMPENSATION WILL BE MADE FOR SUCK WORK, EXCEPT AS PROVIDED BY SPECIFIC PAY ITEMS SHOWN ON THE PLANS.
11. ALL SIGNS THAT CONFLICT WITH THE CONSTRUCTION OF THIS PROJECT SHALL BE REMOVED AND RESET BY THE CONTRACTOR (NOT A SEPARATE PAY ITEM) (COST TO BE ABSORBED IN OTHER ITEMS BID).
12. BASE AND PAVEMENT FOR STREET INTERSECTIONS AND LOCAL ROAD TURNOUTS TO BE THE SAME AS THAT OF THE MAINLINE.
13. ASPHALT REQUIRED FOR TEMPORARY TIE-INS DURING CONSTRUCTION OF THIS PROJECT SHALL BE PAID FOR UNDER THE APPROPRIATE ITEMS AND BE PLACED AS SPACE DIRECTED BY THE ENGINEER.
14. DRAINAGE STRUCTURES REQUIRED UNDER LOCAL ROAD TURNOUTS, STREET INTERSECTIONS AND RAMPS SHALL BE CONSTRUCTED IN HALF WIDTHS. IN ORDER TO MAINTAIN TRAFFIC AT ALL TIMES. COST OF SHEET PILING REQUIRED TO MAINTAIN BANKMENT FOR THIS CONSTRUCTION TO BE ABSORBED IN THE BID PRICE OF OTHER ITEMS (NOT A SEPARATE PAY ITEM).

SPILLWAY LINE ROAD IMPROVEMENTS
F.A.U.P. PROJECT NO. STP-6945(1)

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CITY OF RIDGELAND, MISSISSIPPI

WAGGONER ENGINEERING, INC.
Consulting Engineers – Jackson, Mississippi

DRAWN BY: B.F.	DATE: 7-10-97	SHEET NUMBER
REVIEWED BY: B.S.	SCALE: 1"=20'	2

C:\P\9415OF\INDEX

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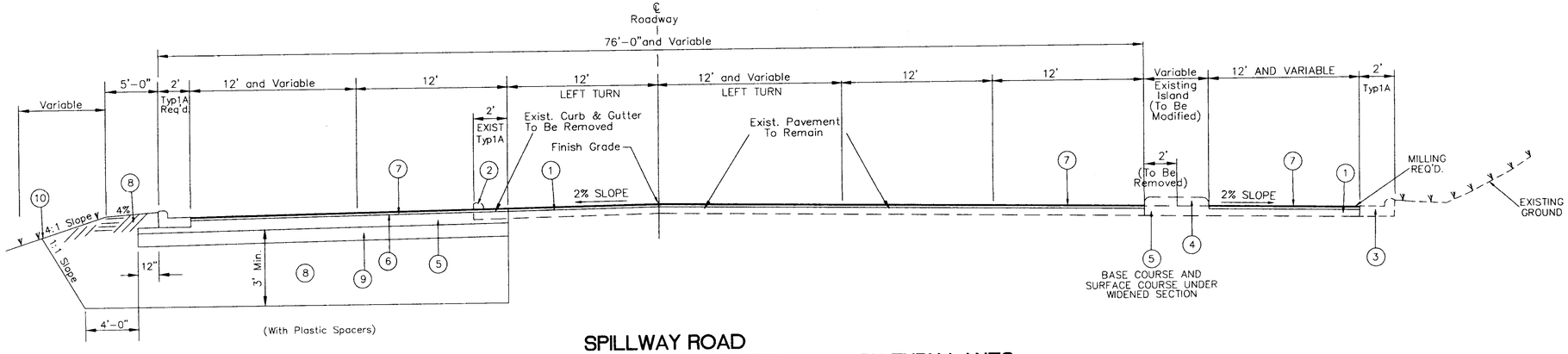
STATE	PROJECT NO.
MS.	STP-6945(1)
49-6945-00-001-10	



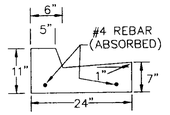
SPILLWAY ROAD
TYPICAL GRADE, DRAIN, BASE, AND PAVE SECTION THRU TURN LANES

STA. B.O.P. – STA. 20+55.00
NOT TO SCALE

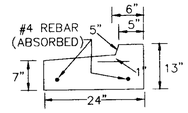
Erosion Control Measures To Be Applied On Indicated Areas ⇓⇓ ⇓⇓
As Per Seasonal Limitations.

Before Final Acceptance, Entire Right Of Way Shall Be Mowed By The Contractor At No Cost To The Project.

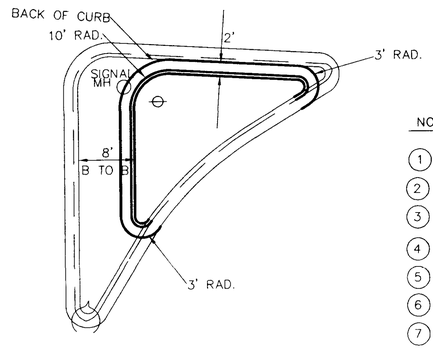
Clearing And Grubbing Of Construction Easements Necessary For Constructing Slopes Along The Roadway Shall Be Considered As Normal Right Of Way And Paid For By Lump Sum.

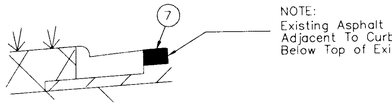


CURB DETAIL
TYPE "1A"



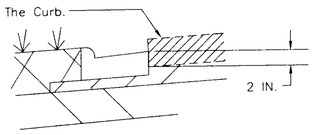
ROLL CURB DETAIL
TYPE "1A"-MODIFIED





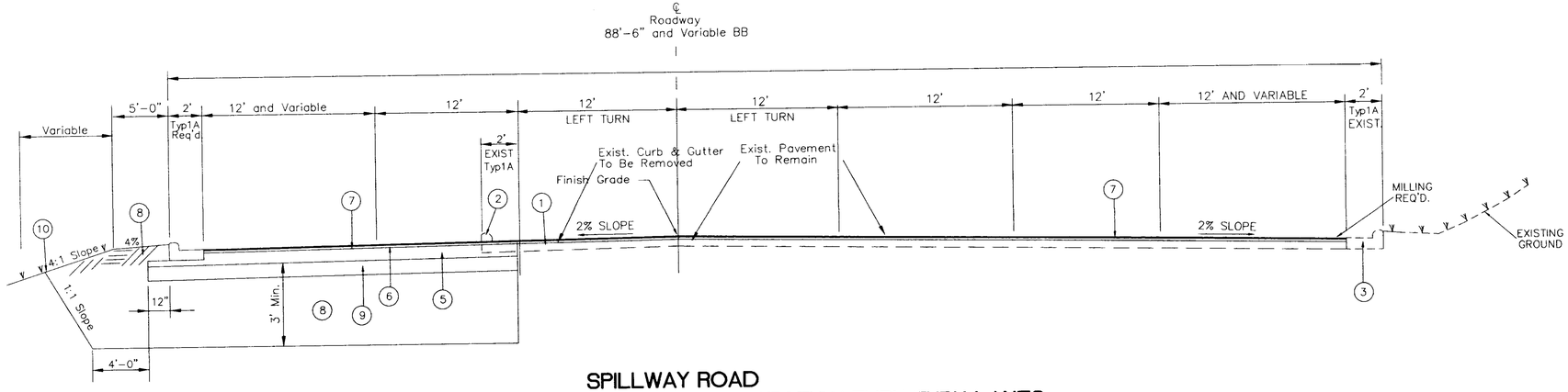
NOTE:
Existing Asphalt To Be Milled
Adjacent To Curb A Minimum of 2 Inches
Below Top of Existing Gutter Line So It Will Finish-Out At The Curb.

NOTE: New Asphalt Overlay Surface Shall Reflect A Smooth Transition To The Existing Gutter Line Per Detail.



NOTES:

1. Existing Asphalt Pavement (To Remain)
2. Existing Combination Curb and Gutter, Type 1A (To Be Removed)
3. Existing Concrete Curb and Gutter, Type 1A (To Remain)
4. Existing Concrete Islands (To Remain)
5. 7 1/2" and Variable Plant Mix Hot Bituminous Base Course Required
6. 2" Hot Bituminous Pavement Binder Course Required
7. 1 1/2" Hot Bituminous Pavement Surface Course (SC-1) Required
8. Undercut\Borrow Excavation, Class B-15
   Undercut/Excess Excavation
9. 6" Lime Treated Subgrade Req'd.
10. ⇓⇓ ⇓⇓ Indicates Area To Be Treated With Erosion Control Measures



SPILLWAY ROAD
TYPICAL GRADE, DRAIN, BASE, AND PAVE SECTION THRU TURN LANES

STA. 20+55.00 – STA. 22+20.00
NOT TO SCALE

SPILLWAY ROAD IMPROVEMENTS
F.A.U.P. PROJECT NO. STP-6945(1)

TYPICAL SECTIONS

CITY OF RIDGELAND, MISSISSIPPI

WAGGONER ENGINEERING, INC.
Consulting Engineers – Jackson, Mississippi

DRAWN BY: E.L.G.	DATE: 4-8-97	WORKING NUMBER 2
REVIEWED BY: B.S.	SCALE: N.T.S.	SHEET NUMBER 3

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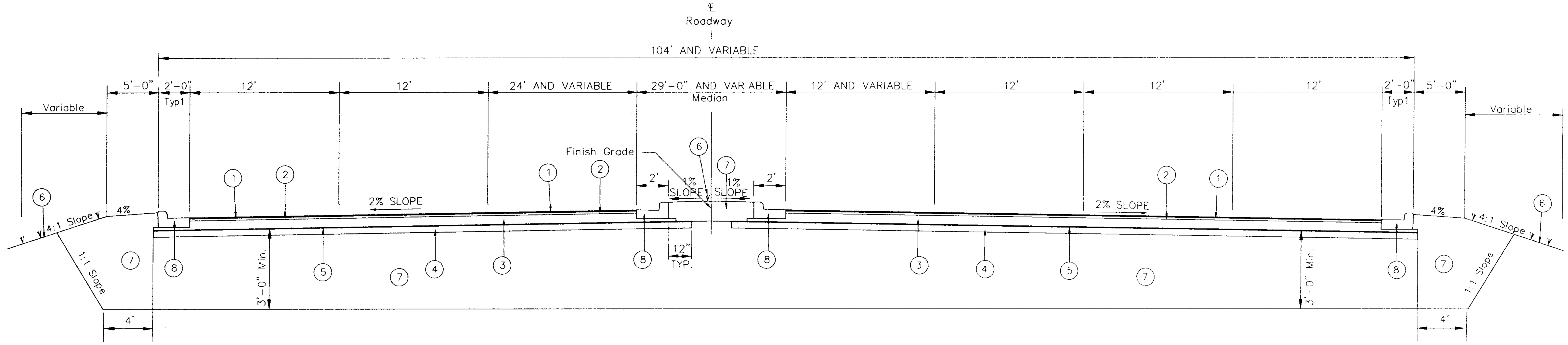
STATE	PROJECT NO.
MS.	STP-6945(1)
	49-6945-00-001-10

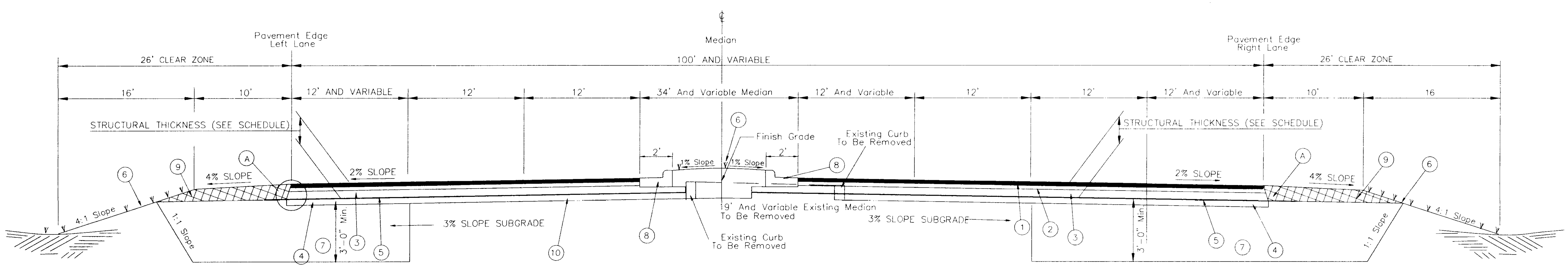


NOTES:

1. 1 1/2" Hot Bituminous Pavement Pavement Surface (SC-1)Req'd.
2. 2" Hot Bituminous Pavement Binder Course Req'd.
3. 7 1/2" Plant Mix Bituminous Base Course Req'd.
4. 6" Lime Treatmed Subgrade Req'd.
5. Bituminous Prime Coat Req'd (May Be Deleted When Permitted By The Engineer)
6. ↓↓ ↓↓ Indicates Area to be Treated with Erosion Control Measures
7. Borrow Excavation, Class B-15/Undercut
8. Combination Curb & Gutter, Type "1A" Required (See Detail Sheet)

SPILLWAY ROAD
TYPICAL GRADE, DRAIN, BASE, AND PAVE SECTION THRU TURN LANES

STA. 22+20.00 - STA. 26+20.00
NOT TO SCALE



NOTES:

1. 1 1/2" Hot Bituminous Pavement Pavement Surface (SC-1)Req'd.
2. 2" Hot Bituminous Pavement Binder Course Req'd.
3. 7 1/2" & Variable Plant Mix Bituminous Base Course Req'd.
4. 6" Lime Treatmed Subgrade Req'd.
5. Bituminous Prime Coat Req'd (May Be Deleted When Permitted By The Engineer)
6. ↓↓ ↓↓ Indicates Area to be Treated with Erosion Control Measures
7. Undercut/Borrow Excavation B-15
8. Combination Curb & Gutter, Type "1A" Required (See Detail Sheet)
9. 11" & Variadle Depth Granular Material (Cl.5, Gp. "C")
10. Existing Asphalt Pavement To Remain

(A) Angle of Repose Permitted 7/12

SPILLWAY ROAD
TYPICAL GRADE, DRAIN, BASE, AND SURFACE SECTION WITH CONCRETE ISLAND

NOT TO SCALE
STA. 57+90.00 - STA. 67+25.00

SPILLWAY ROAD IMPROVEMENTS
F.A.U.P. PROJECT NO. STP-6945(1)

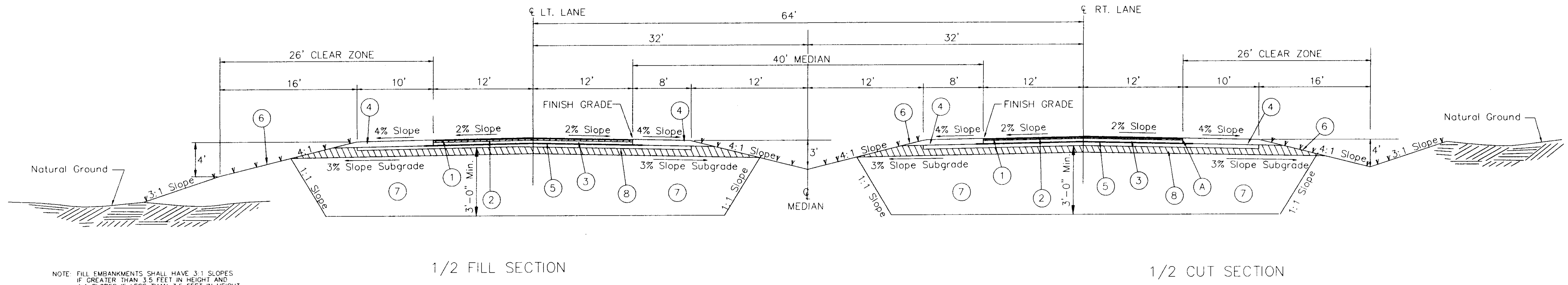
TYPICAL SECTIONS

CITY OF RIDGELAND, MISSISSIPPI

WAGGONER ENGINEERING, INC.
Consulting Engineers – Jackson, Mississippi

DRAWN BY: E.L.G.	DATE: 4-9-97	WORKING NUMBER 2A
REVIEWED BY: B.S.	SCALE: N.T.S.	SHEET NUMBER 4

STATE	PROJECT NO.
MS.	STP-6945(1)
49-6945-00-001-10	



NOTE: FILL EMBANKMENTS SHALL HAVE 3:1 SLOPES IF GREATER THAN 3.5 FEET IN HEIGHT AND 4:1 SLOPES IF LESS THAN 3.5 FEET IN HEIGHT. 4:1 SLOPES REQUIRED WITHIN CLEAR ZONE

SPILLWAY ROAD
TYPICAL GRADE, DRAIN, BASE AND SURFACE (4 LANE)

NOT TO SCALE
STA. 26+20.00 TO STA. 57+90.00

NOTES:

(1) 1 1/2" Hot Bituminous Pavement Pavement Surface (SC-1)Req'd.

(2) 2" Hot Bituminous Pavement Binder Course Req'd.

(3) 7 1/2" Plant Mix Bituminous Base Course Req'd.

(4) 11" & Variable Depth Granular Material (CL 5, GP. "C")

(5) Bituminous Prime Coat Req'd (May Be Deleted When Permitted By The Engineer)

(6) ↓↓ ↓↓ Indicates Area to be Treated with Erosion Control Measures

(7) Undercut\Borrow Excavation, Class B-15

(8) 6" Lime Treated Subgrade Req'd.

(A) Angle of Repose Permitted 12 / 7

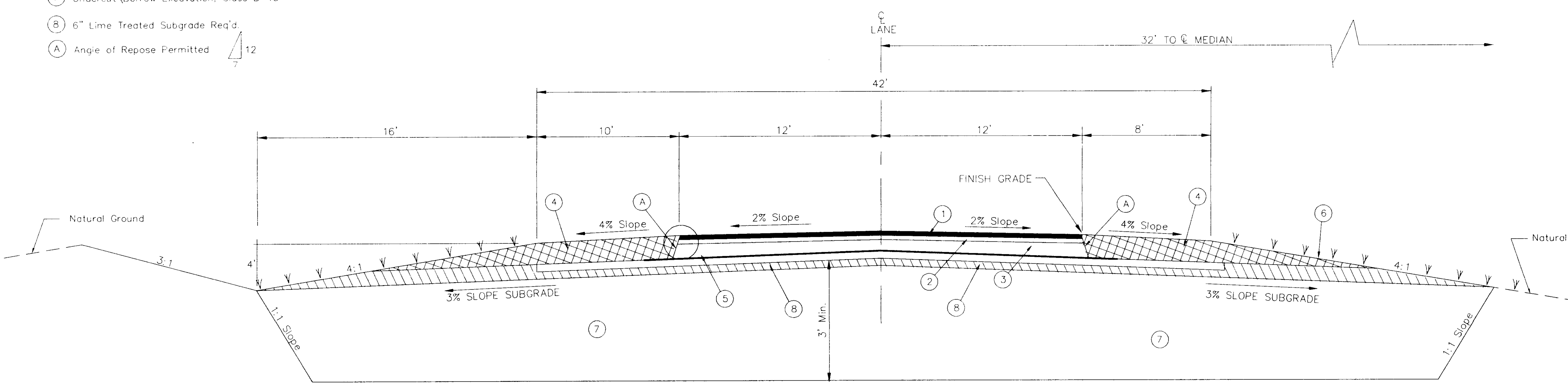
GENERAL NOTES

Erosion Control Measures To Be Applied On Indicated Areas ↓↓ ↓↓ As Per Vegetation Schedule.

Before Final Acceptance, Entire Right Of Way shall be Mowed by The Contractor at no cost to The Project

Clearing And Grubbing Of Construction Easements Necessary For Construction Slopes Along The Roadway Shall Be Considered As Normal Right-Of-Way And Paid For By Lump Sum.

Turn Lanes And Median Cross-over To Be Contructed Consistent With Typical Section And Applicable Notes, Notes (1), (2), (3), (5), (7), And (8). Shoulder Width To Be Consistent With Typical Section.



SPILLWAY ROAD
TYPICAL GRADE, DRAIN, BASE AND SURFACE (4 LANE)

NOT TO SCALE
STA. 26+20.00 TO STA. 57+90.00

SPILLWAY ROAD IMPROVEMENTS F.A.U.P. PROJECT NO. STP-6945(1)		
TYPICAL SECTIONS		
CITY OF RIDGELAND, MISSISSIPPI		
WAGGONER ENGINEERING, INC. Consulting Engineers – Jackson, Mississippi		
DRAWN BY: E.L.G.	DATE: 4-9-97	WORKING NUMBER 2B
REVIEWED BY: B.S.	SCALE: N.T.S.	SHEET NUMBER 5

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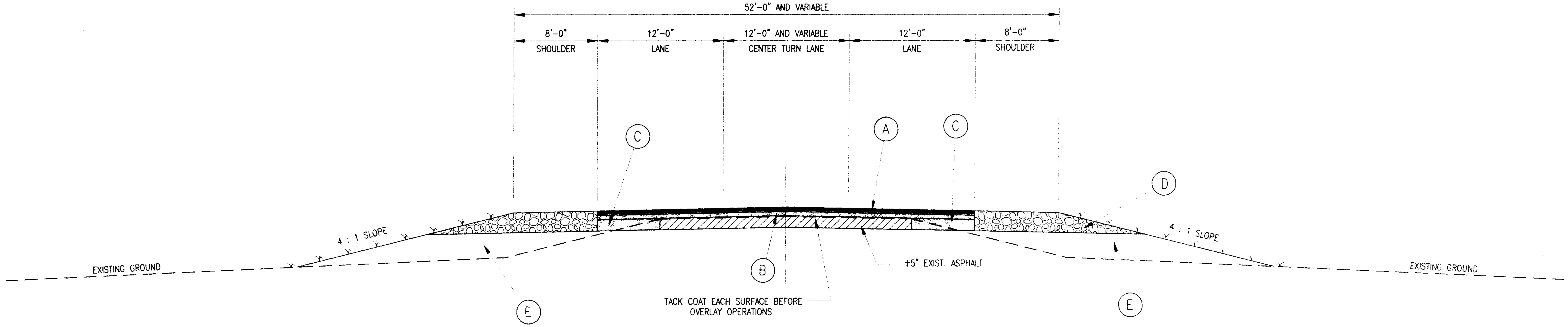
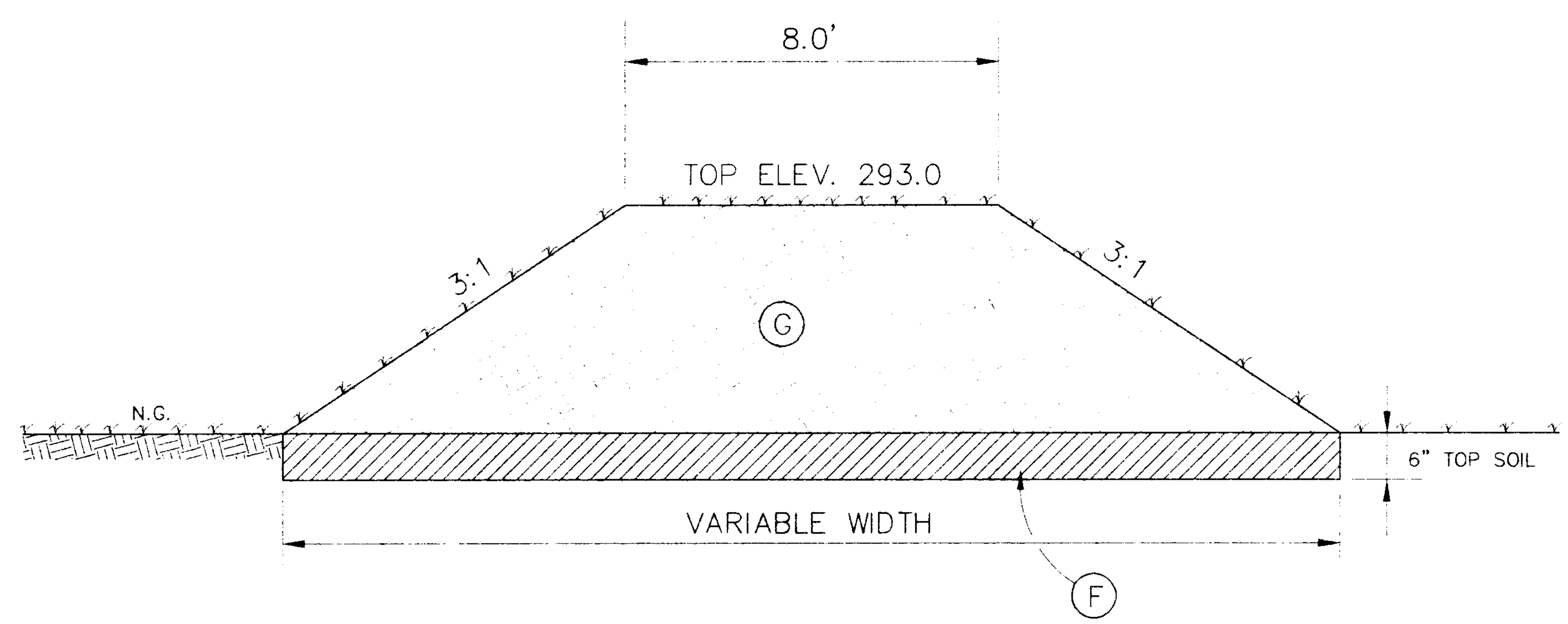
STATE	PROJECT NO.
MISS.	STP-6945(1)/ 49-6945-00-001-10



TYPICAL SECTION
PROPOSED 3-LANE SECTION
STA. 66+85 TO STA. 76+93.52 E.O.P.



TYPICAL LEVEE SECTION
N.T.S.

LEGEND

- (A) 1-1/2" HOT BITUMINOUS PAVEMENT SURFACE COURSE
- (B) 2" AND VARIABLE HOT BITUMINOUS PAVEMENT BINDER COURSE
- (C) 5" HOT BITUMINOUS BASE COURSE
- (D) 9" GRANULAR MATERIAL (CLASS 5, GROUP C)
- (E) BORROW EXCAVATION
- (F) REMOVE TOP 6" OF GROUND (VARIABLE WIDTH) AND REPLACE WITH CHANNEL EXCAVATION
- (G) PROCESSED CHANNEL EXCAVATION MATERIAL
- EROSION CONTROL TREATMENT REQUIRED

WEI
WAGGONER ENGINEERING, INC.
ENGINEERS, PLANNERS, SCIENTISTS

NEEL-SCHAFFER, INC.
ENGINEERS • PLANNERS
Jackson, Mississippi

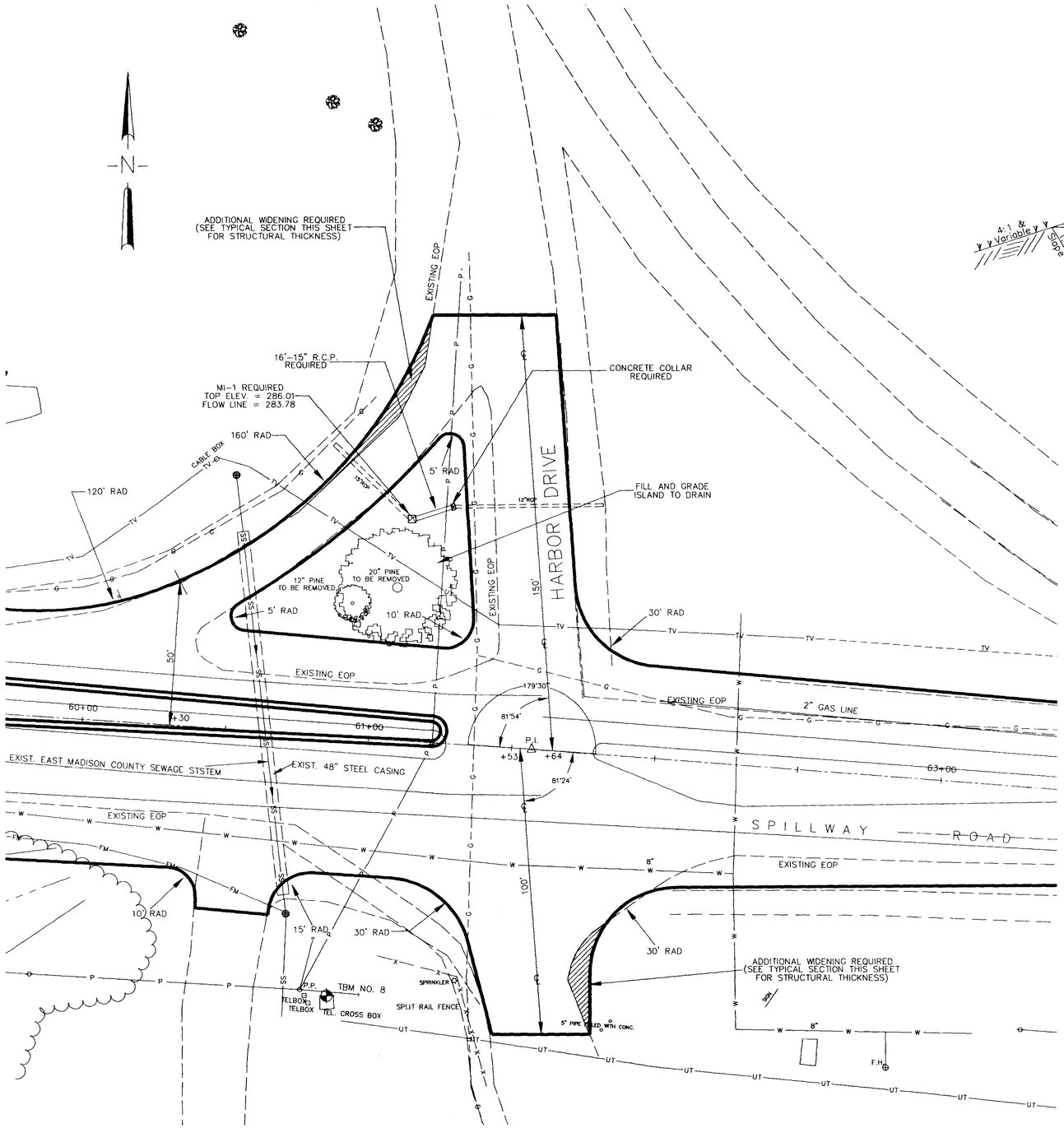
MISSISSIPPI DEPARTMENT OF TRANSPORTATION

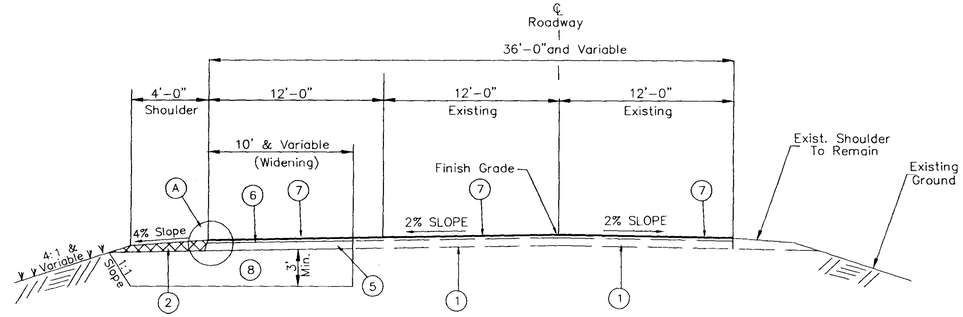
TYPICAL SECTIONS

PROJECT NO. STP-6945(1)/ 49-6945-00-001-10
MADISON COUNTY - RIDGELAND

FILENAME:
DESIGNED R.R.W. CHECKED M.G.B. DATE 5/97

WORKING NUMBER TS-2C
SHEET NUMBER 6





HARBOR DRIVE
TYPICAL OVERLAY PAVED SECTION AND WIDENING

STA 61+64.00 Spillway Rd. (33' to 150' Left)
NOT TO SCALE

NOTES:

(1) Existing Asphalt Pavement (±5" To Remain)
(2) 8 1/2" & Variable Depth Granular Material (Cl. 5, Gp. "C")
(5) 5" and Variable Plant Mix Hot Bituminous Base Course Required
(6) 2" Hot Bituminous Pavement Binder Course Required
(7) 1 1/2" Hot Bituminous Pavement Surface Course (SC-1) Required
(8) Undercut Required / Borrow Excavation, Class B-15
(9) ↓↓↓↓↓ Indicates Area To Be Treated With Erosion Control Measures
(A) Angle of Repose Permitted 12/7

SPILLWAY ROAD IMPROVEMENTS
F.A.U.P. PROJECT NO. STP-6945(1)
LAYOUT SHEET FOR HARBOR DRIVE
CITY OF RIDGELAND, MISSISSIPPI
WAGGONER ENGINEERING, INC.
Consulting Engineers – Jackson, Mississippi

DRAWN BY: B.F.	DATE: 7-10-97	WORKING NUMBER
REVIEWED BY: B.S.	SCALE: 1"=20'	SHEET NUMBER 7

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STATE	PROJECT NO.
MS.	STP-6945(1)
49-6945-00-01-10	

SUMMARY OF QUANTITIES

PAY ITEM NO.	PAY ITEM ROADWAY ITEMS	TOTAL QUANTITIES PLAN	FINAL	UNIT	
201-A	Clearing and Grubbing	1.0		LS	
202-A	Removal of Obstructions	1.0		LS	(1)
202-B	Removal of Existing Striping	1.0		LS	
203-A	Unclassified Excavation (AH)(FM)	11893		CY	
907-203-EX	Borrow Excavation, (AH) (FME)(CLASS B-14)(CONTRACTOR FURNISHED)	94400		CY	
203-F	Channel Excavation (FM)	10300		CY	(2)(3)(4)
203-G	Excess Excavation (FM) (AH)	52209		CY	
206-A	Structure Excavation	6300		CY	
212-B	Standard Ground Preparation	20800		SY	
213-B	Commbination Fertilizer(13-13-13)	5.5		TON	
214-A	Seeding(Unhulled Bermuda)	12		ACRE	
214-A	Seeding (Tall Fescue)	12		ACRE	
214-A	Seeding (Crimson Clover)	12		ACRE	
907-214-C	Seeding (Wild Flower Mix)	35		ACRE	
215-A	Vegatative Materials For Mulch	5.5		TON	
216-A	Solid Sodding	4700		SY	
217-A	Ditch Liner	480		SY	
218-A	Fiberglass Roving	140		LB	
218-B	Bituminous Material for Fiberglass Roving	140		GAL	
221-A	Portland Cement Concrete Paved Ditch	7		CY	
907-230-A	Shrub Planting (Indian Hawthotne)	50		EA	
907-230-A	Shrub Planting (Clyera)	49		EA	
907-230-B	Tree Planting (Slash Pine)	93		EA	
907-230-B	Tree Planting (Red Maple)	51		EA	
907-230-B	Tree Planting (Bradford Pear)	124		EA	
907-230-B	Tree Planting (Crepe Myrtle)	72		EA	
907-230-B	Tree Planting (Little Leaf Linden)	156		EA	
907-230-B	Tree Planting (Blood Leaf Maple)	15		EA	
907-230-C	Ground Cover Planting (Blue Pacific Juniper)	75		EA	
907-230-C	Ground Cover Planting (Asian Jasmine)	8050		EA	
233-C	Straw Mulch (Class II)	9.5		TON	
234-A	Temporary Silt Fence	11150		LF	
235-A	Temporary Erosion Checks	312		PER BALE	
907-301-2	Plant Mix Bituminous Base Course(BB)	17000		TON	
304-C	Granular Material,(AEA),(Class 5 ,Group C)	6600		CY	
907-307-E	6" Soil Lime Water Mixing (Class C)(Slurry Application Only)	38750		SY	
907-307-D	Lime	580		TON	
907-403-B	Hot Bituminous Pavement, Binder Course(BC-1)	4870		TON	
907-403-C	Hot Bituminous Pavement, Surface Course(SC-1)	4200		TON	
406-A	Cold Milling of Bituminous Pavement (All Depths)	250		SY	
601-A	Class B Structural Concrete	675		CY	
601-B	Class B Structural Concrete, Minor Structures	52		CY	
602-A	Reinforcing Steel	111500		LB	
603-C-A	66" Reinforced Concrete Pipe Class III	20		LF	
603-C-A	60" Reinforced Concrete Pipe Class III	298		LF	
603-C-A	54" Reinforced Concrete Pipe Class III	32		LF	
603-C-A	48" Reinforced Concrete Pipe Class III	28		LF	
603-C-A	36" Reinforced Concrete Pipe Class III	360		LF	
603-C-A	30" Reinforced Concrete Pipe Class III	239		LF	
603-C-A	24" Reinforced Concrete Pipe Class III	308		LF	
603-C-A	18" Reinforced Concrete Pipe Class III	1501		LF	
603-C-B	66" Reinforced Concrete End Section	1		EA	
603-C-B	36" Reinforced Concrete End Section	8		EA	
603-C-B	24" Reinforced Concrete End Section	5		EA	
603-C-B	18" Reinforced Concrete End Section	17		EA	
603-C-E	65" x 40" Concrete Arch Pipe, Class A-III	24		LF	
603-C-E	58" x 36" Concrete Arch Pipe, Class A III	144		LF	
603-C-F	65" x 40" Concrete Arch Pipe End Section	1		EA	
604-B	Gratings	5500		LB	
907-604-C-PP	Type A Single Inlets (Per Plans)	6.0		EA	
907-604-D-PP	Type A Double Inlets (Per Plans)	4.0		EA	
907-604-E-PP	Type A Double Inlets (Per Plans)	3.0		EA	
907-609-F-PP	Combination Concrete Curb and Gutter (Type 1-A)(Per Plans)	3880		LF	
907-610-A	Drainage Gate (25" Seating Head)	1		EA	
613-A	Adjustment of Castings, Gratings, and Utility Appurtenances	1		LS	
613-D	Adjustment Of Sewer Manhole	1		LS	
614-B	Concrete Driveway With Reinforcement	480		SY	
616-A	Concrete Median and/or Island Pavement (4")	10		SY	
618-A	Maintenance of Traffic	1		LS	
907-619-A1	Temporary Traffic Stripe (Continuous White)	16500		LF	
907-619-A2	Temporary Traffic Stripe (Continuous Yellow)	16200		LF	
907-619-D1	Standard Roadside Construction Signs (Less than 10 sf)	352		SF	
907-619-D2	Standard Roadside Construction Signs (10 sf or more)	398		SF	
907-619-D3	Remove and Reset Signs (All Sizes)	38		EA	
907-619-G4	Barricades (Type III)	21		EA	
907-619-G5	Free Standing Plastic Drums	240		LF	
620-A	Mobilization	1		LS	
907-626-A	4" Thermoplastic Traffic Stripe (Skip White)(90Mils) or	1.85		MI	
907-628-I	4" High Performance Cold Plastic Traffic Stripe (Skip White)	1.85		MI	
907-626-B	4" Thermoplastic Traffic Stripe (Continuous White)(90 Mils) or	0.08		MI	
907-628-J	4" High Performance Cold Plastic Traffic Stripe (Continuous White)	0.08		MI	
907-626-C	4" Thermoplastic Edge Stripe (Continuous White)(60 Mils) or	1.55		MI	
907-628-K	4" High Performance Cold Plastic Edge Stripe (Continuous White)	1.55		MI	
907-626-E	4" Thermoplastic Traffic Stripe (Continuous Yellow)(90 Mils) or	2.2		MI	
907-628-M	4" High Performance Cold Plastic Traffic Stripe (Continuous Yellow)	2.2		MI	
907-626-G	Thermoplastic Detail Stripe, (4" Equivalent), (White)(90 Mils) or	2915		LF	
907-628-O	High Performance Cold Plastic Detail Stripe (4" Equivalent Length)(White)	2915		LF	
907-626-G	Thermoplastic Detail Stripe, (4" Equivalent), (Yellow)(90 Mils) or	2590		LF	
907-628-O	High Performance Cold Plastic Detail Stripe (4" Equivalent Length)(Yellow)	2590		LF	
907-626-H	Thermoplastic Legend, (White)(170 Mils) or	1594		LF	
907-628-P	High Performance Cold Plastic Legend (White)	1594		LF	
907-627-C	Red-Clear Reflective Rasied Markers	460		EA	
907-627-D	Two-Way Yellow Reflective Raised Markers	195		EA	
630-A	Standard Roadside Signs, (Sheet Aluminum)	240		SF	
630-C	Steel U-Section Posts, (3 to 3.5 LB/LF)	816		LF	
630-G	Type III Object Markers, (OM 3L),(Black & Yellow),(0.080"),(Psot Mounted)	4		EA	
630-G	Type III Object Markers, (OM 3R),(Black & Yellow),(0.080"),(Post Mounted)	6		EA	

SUMMARY OF QUANTITIES

PAY ITEM NO.	PAY ITEM ROADWAY ITEMS	TOTAL QUANTITIES PLAN	FINAL	UNIT
908-635-A	Vehicle Loop Assemblies	5048		LF
908-636-A	Shielded Cable	1230		LF
908-638-A	Loop Detector Amplifier, Card Rack Mounted (4 Channel)	4		EA
908-639-A	Traffic Signal Equipment Pole (Single Mast Arm)(30' Shaft)(32' Arm)	1		EA
908-639-A	Traffic Signal Equipment Pole (Single Mast Arm)(30' Shaft)(44' Arm)	2		EA
908-639-A	Traffic Signal Equipment Pole (Signal Mast Arm)(30' Shaft)(45' Arm)	1		EA
908-639-A	Traffic Signal Equipment Pole (Signal Mast Arm)(30' Shaft)(48' Arm)	2		EA
908-640-A	Traffic Signal Heads (Type 1)	11		EA
908-640-A	Traffic Signal Heads (Type 6)	4		EA
908-640-A	Traffic Signal Heads (Type 7)	3		EA
908-642-A	Solid State Traffic Actuated Controller (Type 8-A)	1		EA
908-644-A	Optical Detector	4		EA
908-644-B	Optical Detector Cable	815		LF
908-644-C	Phase Selector, (4 Channel)	2		EA
908-647-A	Pullboxes (Type I)	2		EA
908-647-A	Pullboxes (Type II)	3		EA
908-647-A	Pullboxes (Type III)	3		EA
907-653-B	Street Name Sign (Encapsulated Lens)	55		SF
908-666-B	Electric Cable (Underground in Conduit),(Power), (AWG # 6), (2 Conductor)	40		LF
908-666-B	Electric Cable (Underground in Conduit),(Luminare), (AWG # 10), (2 Conductor)	630		LF
908-666-B	Electric Cable (Underground in Conduit)(Signal Cable), (AWG # 14), (5 Conductor)	1980		LF
908-666-B	Electric Cable (Underground in Conduit),(Signal Cable), (AWG # 14), (7 Conductor)	880		LF
908-668-A	Traffic Signal Conduit, (Underground),(Type 1),(3")	50		LF
908-668-A	Traffic Signal Conduit, (Underground),(Type IV),(2")	740		LF
908-668-A	Traffic Signal Conduit, (Underground),(Type IV),(3")	40		LF
908-668-B	Traffic Signal Conduit, (Jacked), (Type IV)(2")	180		LF
908-668-B	Traffic Signal Conduit, (Jacked), (Type IV),(3")	310		LF
908-679-A	Lighting Assembly (Low Mast), (250 Watt High Pressure Sodium Lamp)	6		EA
907-699-1-A	Roadway Construction Stakes	1		LS
815-A	Loose Riprap (150#)	22		TON
815-A	Loose Riprap (200#)	224		TON
815-A	Loose Riprap (300#)	130		TON
815-A	Loose Riprap (400#)	4000		TON
815-E	Geotextile Fabric Under Riprap (Type III), (EOS 20 - 100)	4000		SY
	BOX BRIDGE ITEMS			
602-A	Reinforcing Steel	154500		LB
804-B	Box Bridge Concrete, (Class B)	1450		CY
	Non-Participating Water & Sewer Relocations			
1000	12" Ductile Iron Water Main	225		LF
1001	8" Ductile Iron Water Main	425		LF
1002	12"x12" Tapping Sleeve and Valve with Box	2		EA
1003	8"x8" Tapping Sleeve and Valve with Box	2		EA
1004	Ductile Iron Fittings	530		LBS

GENERAL NOTES:

1. INCLUDES REMOVAL OF CURB AND GUTTER
2. INCLUDES STRUCTURE EXCAVATION OF BOX BRIDGE
3. QUANTITY FOR LEVEE - 5834 C.Y. (ABSORBED HAUL)(ESFE)
4. REMAINING CHANNEL EXCAVATION IS EXCESS

SPILLWAY LINE ROAD IMPROVEMENTS
F.A.U.P. PROJECT NO. STP-6945(1)

SUMMARY OF QUANTITIES

CITY OF RIDGELAND, MISSISSIPPI

WAGGONER ENGINEERING, INC.
Consulting Engineers - Jackson, Mississippi

DRAWN BY: B.F.	DATE: 7-10-97	SHEET NUMBER
REVIEWED BY: B.S.	SCALE: 1"=20'	8

D:\94150E\Quantity Thu Jul 10 17:48:08 1997

C:\PW\94150E\QUANTITY

DRAINAGE STRUCTURES REQUIRED

STATE	PROJECT NO.
MS.	STP-6945(1)
49-6945-00-001-10	

SHEET NO.	STATION TO STATION		CURB INLET NO.	JUNCTION BOX NO.	DROP INLET NO.	REINFORCED CONCRETE PIPE (CLASS III) FROM	TO	58"x36"	18"	24"	30"	36"	48"	54"	60"	66"	65"x40"	FLARED END SECTIONS 18"	24"	36"	66"	65"x40"	SIZE OF INLET OR JUNCTION BOX L	W	H	NO. & SIZE OF PIPE OPENINGS IN J. BOX OR INLET	DRAWING NUMBER	CLASS "B" STRUCT CONC. (MINOR)	REINF. STEEL	GRATINGS	CASTING	STRUC. EXCAVATION CU. YDS. EXCAV.	EST. DEPTH	REMARKS
10	20+34 LT	20+66 LT		1		Junction Box	Curb Inlet							32									40.5	89	83	1-58x36 1-15" 1-54"		2.658	144.56			24.24	84"	DBLE TYPE C W/JUNCTION MANHOLE (PER PLANS)
10	20+66 LT		1																							1-54" 1-60"								DBLE TYPE C W/JUNCTION MANHOLE (PER PLANS)
10	20+66 LT	21+35 LT				Curb Inlet	Curb Inlet								66											2-60" 1-18"								
10	21+38 LT				1	Curb Inlet	Drop Inlet		24														36	44	36	2-18"		.723	53	250		6.96	40"	SINGLE TYPE A (PER PLANS)
10	21+38 LT	21+64 LT	1			Drop Inlet	Curb Inlet		24																	1-18"								DBLE TYPE A (PER PLANS)
10	21+98 RT	23+13 RT	1			Curb Inlet	Curb Inlet		112																	1-18"								DBLE TYPE C W/JUNCTION MANHOLE (PER PLANS)
10	21+38 LT	22+69 LT	1			Curb Inlet	Curb Inlet								128											2-60" 1-21"								SINGLE TYPE A (PER PLANS)
10	22+08 LT	22+58 LT	1			Curb Inlet	Drop Inlet		48																	1-18"								
10	22+58 LT	22+93 LT			1	Drop Inlet	Curb Inlet		32														36	44	85"	2-18" 2-21"		1.288	96	250		14.297	86"	SINGLE TYPE A (PER PLANS)
10	21+64 LT		1																							1-18"								SINGLE TYPE A (PER PLANS)
10	22+93 LT		1																							1-18"								
10	22+98 RT	23+13 RT			1	Drop Inlet	Junction Box		24														36	44	30	1-18"		.670	68	250		4.97	36"	
10	23+13 RT			1		Junction Box	Curb Inlet		4														44	51	48	1-24" 2-18"		1.375	91			14.06	72"	DBLE TYPE A (PER PLANS)
10	23+13 RT		1																							1-18"								
10	22+69 LT	23+87 LT	1			Curb Inlet	Collar								104													1.31	404			10.37	84"	
10	23+73 LT	23+95 LT			1	Drop Inlet	Box Culvert		32														36	44	64	1-18"		1.208	73	250		10.54	64"	SINGLE TYPE A (PER PLANS)
10	23+81 RT	23+79 LT	1			Curb Inlet	Junction Box		30																	1-18"						31.0		
10	23+79 LT	23+92 LT		1		Junction Box	Box Culvert						28										79	79	76	1-18" 1-48"		3.858	216.42			33.58	97"	
10	23+13 RT	24+51 RT		1		Junction Box	Junction Box			136													58	44	55	2-18" 1-24" 1-30"		1.595	104.76			12.54	60"	
10	24+51 RT				1	Drop Inlet	Junction Box		20														36	44	30	1-18"		.670	48	250		5.96	36"	
10	24+51 RT		1			Junction Box	Curb Inlet		4																	1-18"								DBLE TYPE A (PER PLANS)
10	24+51 RT	25+54 RT		1		Junction Box	Junction Box				96												44	58	55	2-18" 1-30" 1-36"		1.812	117.89			13.38	60"	
10	25+54 RT			1		Drop Inlet	Junction Box		16														36	44	30	1-18"		.670	48	250		5.96	36"	
10	25+54 RT		1			Junction Box	Curb Inlet		12																	1-18"								SINGLE TYPE A (PER PLANS)
10	25+58 LT	25+63 LT	1			Curb Inlet	Box Culvert		32																	1-18"						33.2		DBLE TYPE A (PER PLANS)
10&11	25+54 RT	26+46 RT				Junction Box	FES					92							1									.123						
11	26+23 LT					Box Culvert	FES					8							1									.123						
11	26+90 LT					Collar Req'd																						1.31						
11	26+92 LT	26+96 LT				Box Culvert	FES									20				1								.177						
11	27+68 LT					Box Culvert	FES			20								1										.083						
11	27+89 RT	28+53 RT				FES	FES					64							2									.246						
11	28+16 LT				1																							.202	30	250			12"	MI-3 ON TOP OF BOX CULVERT
11	28+16 LT				1																							.202	30	250			12"	MI-3 ON TOP OF BOX CULVERT
11	25+90 LT	28+97 LT				Box Culvert	FES										24				1							.156						
11	29+57 C/L				1																							.202	30	250			12"	MI-3 ON TOP OF BOX CULVERT
11	29+57 C/L				1																							.202	30	250			12"	MI-3 ON TOP OF BOX CULVERT
11	29+36 LT	29+33 LT			1	Box Culvert	Drop Inlet					12											36	60	61	2-36"		1.733	182	250		15.33	61"	
11	29+33 LT	30+37 LT		1		Drop Inlet	Junction Box					104											65	65	62	1-24" 2-36"		2.017	125.96			17.23	72"	
11	30+38 LT					Junction Box	FES			8									1									.083						
11	30+38 LT	30+89 LT			1	Junction Box	Drop Inlet					48											36	60	70	1-36" 1-30"		1.879	199.5	250		12	70"	
11	30+89 LT	31+29 LT			1	Drop Inlet	Drop Inlet				40												36	53	70	2-30"		1.691	189.25	250		5.893	70"	
11	31+29 LT	31+79 LT			1	Drop Inlet	Drop Inlet				48												36	53	63	2-30"		1.565	174.25	250		5.893	62"	
11&12	31+79 LT	32+34 LT		1		Drop Inlet	Junction Box				55												51	58	49	1-30" 1-24"		1.713	76			11.3	86"	
12	32+34 LT					Junction Box	FES			8									1									.083						
12	32+67 LT	32+79 LT				Existing Pipe	FES			12									1									.083						
12	3+05 LT	33+31 RT			1	FES	Drop Inlet		76									1					36	44	35	1-18"		.824	52.9	250		5.83	35"	
12	37+66 LT	37+96 LT							30									2										.126						
13	38+49 LT	38+75 RT			1	FES	Drop Inlet		68									1					36	44	32	1-18"		.775	50	250		5.31	32"	
13	42+84 LT	42+97 LT		1		FES	Junction Box		8									1					44	44	41	3-18"		1.121	79			10.35	57"	
13	42+84 LT	42+67 LT			1	Drop Inlet	Junction Box		60														36	44	30	1-18"		.670	48	250		4.97	30"	
13	42+97 LT	43+74 LT				Junction Box	FES		80									1										.063				51.8		
14	46+36 RT	48+22 RT		1		FES	Junction Box		184									1					51	44	48	1-18"		1.438	94.84			14.83	78"	
14	47+35 C/L	47+51 LT			1	Drop Inlet	FES		88									1					36	44	72	1-24" 2-18"		1.464	83	250		11.93	72"	
14	48+22 RT					Junction Box	FES		8									1										.063						
14	48+22 RT	48+75 RT				Junction Box	Collar			48																								
14&15	49+56 LT	50+92 RT				FES	Junction Box		136									1					44	73	53	2-44x27 1-18"		2.519	126.58			13.17	55"	
15	50+98 RT				1			144															44	36	45			.943	113.4	250		137.82		MI-3 ON TOP OF ARCH PIPE
15	51+47 LT	51+88 LT				FES	FES		44									2										.126						
15	55+34 RT	55+78 RT				FES	FES		44									2										.126						
15&16	55+84 LT	56+92 LT			1	Drop Inlet	Drop Inlet		108														36	44	66	1-18"		1.299	77.8	250		11.89	66"	
16	56+92 LT	57+07 RT			1	Drop Inlet	FES		62									1					36	44	30"	2-18"		.680	48	250		4.97	30"	
16	56+99 LT	57+73 LT				FES	Drop Inlet		74									1					36	44	32"	2-18"		.722	50	250		5.31	32"	
16	57+73 LT	59+94 LT				Drop Inlet	FES		22									1										.063						
18	69+00 LT					Conc Collar	FES					12"								1									.723						
18	69+00 RT					Conc Collar	FES					4"								1									.723						
42																			1	2														

SPILLWAY ROAD IMPROVEMENTS
F.A.U.P. PROJECT NO. STP-6945(1)

SUMMARY OF DRAINAGE STRUCTURES

CITY OF RIDGELAND, MISSISSIPPI

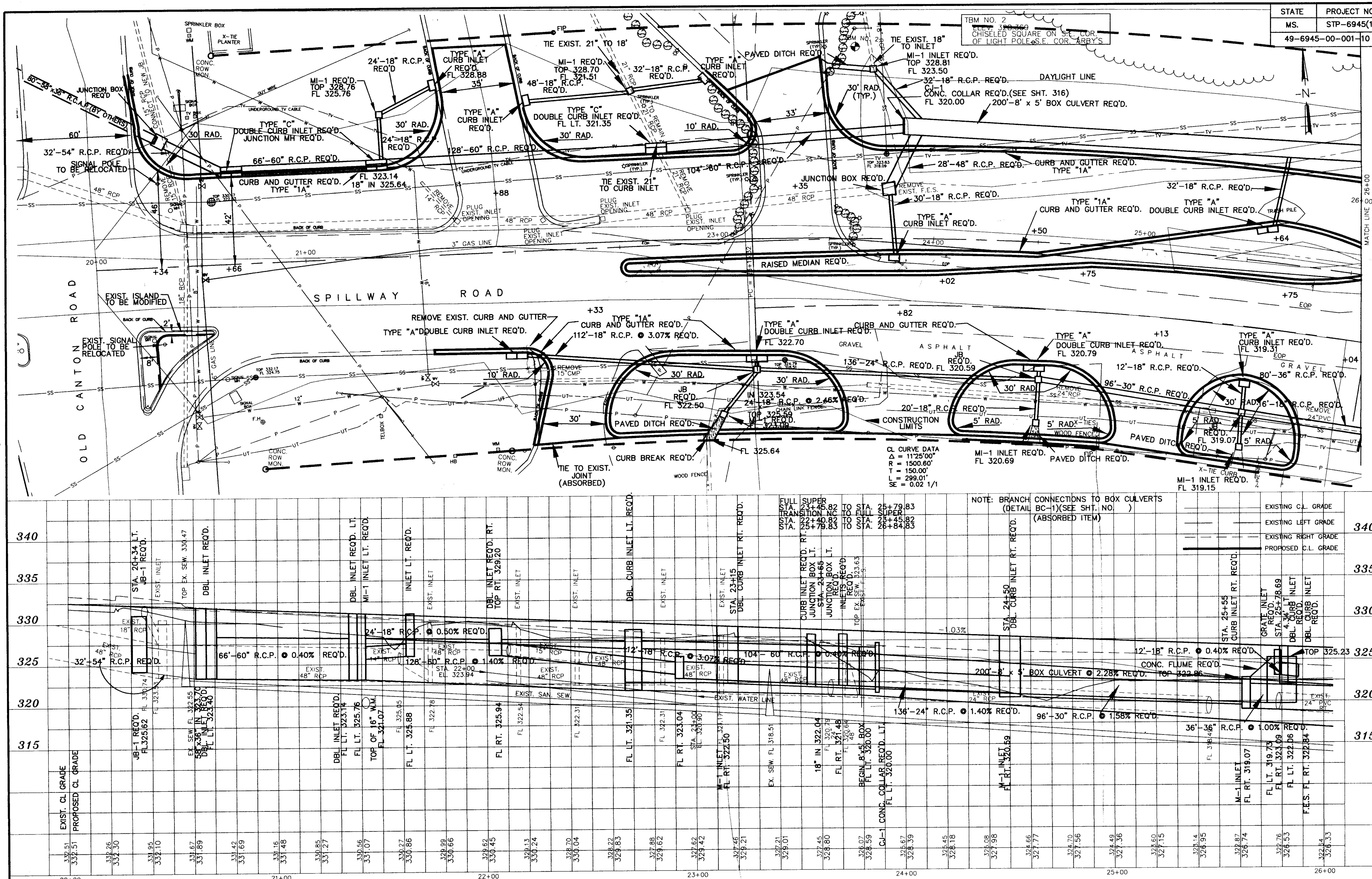
WAGGONER ENGINEERING, INC.
Consulting Engineers – Jackson, Mississippi

DRAWN BY: E.L.G.	DATE: 7-7-97	WORKING NUMBER OF
REVIEWED BY: J.H.	SCALE: N.T.S.	SHEET NUMBER 9

C:\P\9415OE\DRAINAGE

D:\9415OE\dr3in3 Mon Jul 07 14:42:44 1997

STATE	PROJECT NO.
MS.	STP-6945(1)
	49-6945-00-001-10



TBM NO. 2
ELEV. 328.369
CHISELED SQUARE ON S.E. COR. OF LIGHT POLE S.E. COR. ARBY'S
-N-
SPILLWAY ROAD
OLD CANTON ROAD
DAYLIGHT LINE
RAISED MEDIAN REQ'D.
TIE EXIST. 21" TO 18'
TIE EXIST. 18" TO INLET
MI-1 INLET REQ'D. TOP 328.81 FL 323.50
32'-18" R.C.P. REQ'D.
CJ-1 CONC. COLLAR REQ'D.(SEE SHT. 316) FL 320.00
200'-8' x 5' BOX CULVERT REQ'D.
TYPE "A" CURB INLET REQ'D. FL 328.88
24'-18" R.C.P. REQ'D
MI-1 REQ'D. TOP 328.76 FL 325.76
MI-1 REQ'D. TOP 328.70 FL 321.51
32'-18" R.C.P. REQ'D.
48'-18" R.C.P. REQ'D
TYPE "C" DOUBLE CURB INLET REQ'D. FL LT. 321.35
TYPE "C" DOUBLE CURB INLET REQ'D. JUNCTION MH REQ'D.
JUNCTION BOX REQ'D
80'-55"x36" R.C.A.P. (BY OTHERS)
32'-54" R.C.P. REQ'D
SIGNAL POLE TO BE RELOCATED
66'-60" R.C.P. REQ'D.
128'-60" R.C.P. REQ'D.
104'-60" R.C.P. REQ'D.
CURB AND GUTTER REQ'D. TYPE "1A"
FL 323.14 18" IN 325.64
TIE EXIST. 21" TO CURB INLET
PLUG EXIST. INLET OPENING
3" GAS LINE
JUNCTION BOX REQ'D.
REMOVE EXIST. F.E.S.
30'-18" R.C.P. REQ'D.
28'-48" R.C.P. REQ'D.
TYPE "A" CURB INLET REQ'D.
TYPE "1A" CURB AND GUTTER REQ'D.
TYPE "A" DOUBLE CURB INLET REQ'D.
32'-18" R.C.P. REQ'D.
EXIST. ISLAND TO BE MODIFIED
EXIST. SIGNAL POLE TO BE RELOCATED
REMOVE EXIST. CURB AND GUTTER
TYPE "A" DOUBLE CURB INLET REQ'D.
TYPE "1A" CURB AND GUTTER REQ'D.
112'-18" R.C.P. @ 3.07% REQ'D.
TYPE "A" DOUBLE CURB INLET REQ'D. FL 322.70
JB REQ'D. FL 322.50
IN 323.54
24'-18" R.C.P. @ 2.46% REQ'D.
PAVED DITCH REQ'D.
CURB BREAK REQ'D.
TIE TO EXIST. JOINT (ABSORBED)
FL 325.64
136'-24" R.C.P. REQ'D.
JB REQ'D. FL 320.59
20'-18" R.C.P. REQ'D.
CONSTRUCTION LIMITS
CL CURVE DATA
Δ = 11°25'00"
R = 1500.60'
T = 150.00'
L = 299.01'
SE = 0.02 1/1
TYPE "A" DOUBLE CURB INLET REQ'D. FL 320.79
MI-1 INLET REQ'D. FL 320.69
PAVED DITCH REQ'D.
12'-18" R.C.P. REQ'D.
96'-30" R.C.P. REQ'D.
TYPE "A" CURB INLET REQ'D. FL 319.31
80'-36" R.C.P. REQ'D.
JB REQ'D. FL 319.07
MI-1 INLET REQ'D. FL 319.15
NOTE: BRANCH CONNECTIONS TO BOX CULVERTS (DETAIL BC-1)(SEE SHT. NO.) (ABSORBED ITEM)
FULL SUPER STA. 23+45.82 TO STA. 25+79.83
TRANSITION NC TO FULL SUPER STA. 22+40.82 TO STA. 23+45.82
STA. 25+79.83 TO STA. 26+84.83
EXISTING C.L. GRADE
EXISTING LEFT GRADE
EXISTING RIGHT GRADE
PROPOSED C.L. GRADE
340
335
330
325
320
315
32'-54" R.C.P. REQ'D.
66'-60" R.C.P. @ 0.40% REQ'D.
24'-18" R.C.P. @ 0.50% REQ'D.
128'-60" R.C.P. @ 1.40% REQ'D.
112'-18" R.C.P. @ 3.07% REQ'D.
104'-60" R.C.P. @ 0.40% REQ'D.
200'-8' x 5' BOX CULVERT @ 2.28% REQ'D.
136'-24" R.C.P. @ 1.40% REQ'D.
96'-30" R.C.P. @ 1.58% REQ'D.
36'-36" R.C.P. @ 1.00% REQ'D.
12'-18" R.C.P. @ 0.40% REQ'D.
CONC. FLUME REQ'D.
TOP 325.23
EXIST. SAN. SEW.
EXIST. WATER LINE
-1.03%
EXIST. CL GRADE
PROPOSED CL GRADE
20+00
21+00
22+00
23+00
24+00
25+00
26+00

DESIGNED	DATE
DRAWN	SCALE 1"=20' HORIZ. 1"=5' VERT.

NO. DATE REVISIONS BY

WEI WAGGONER ENGINEERING, INC. ENGINEERS, PLANNERS, SCIENTISTS

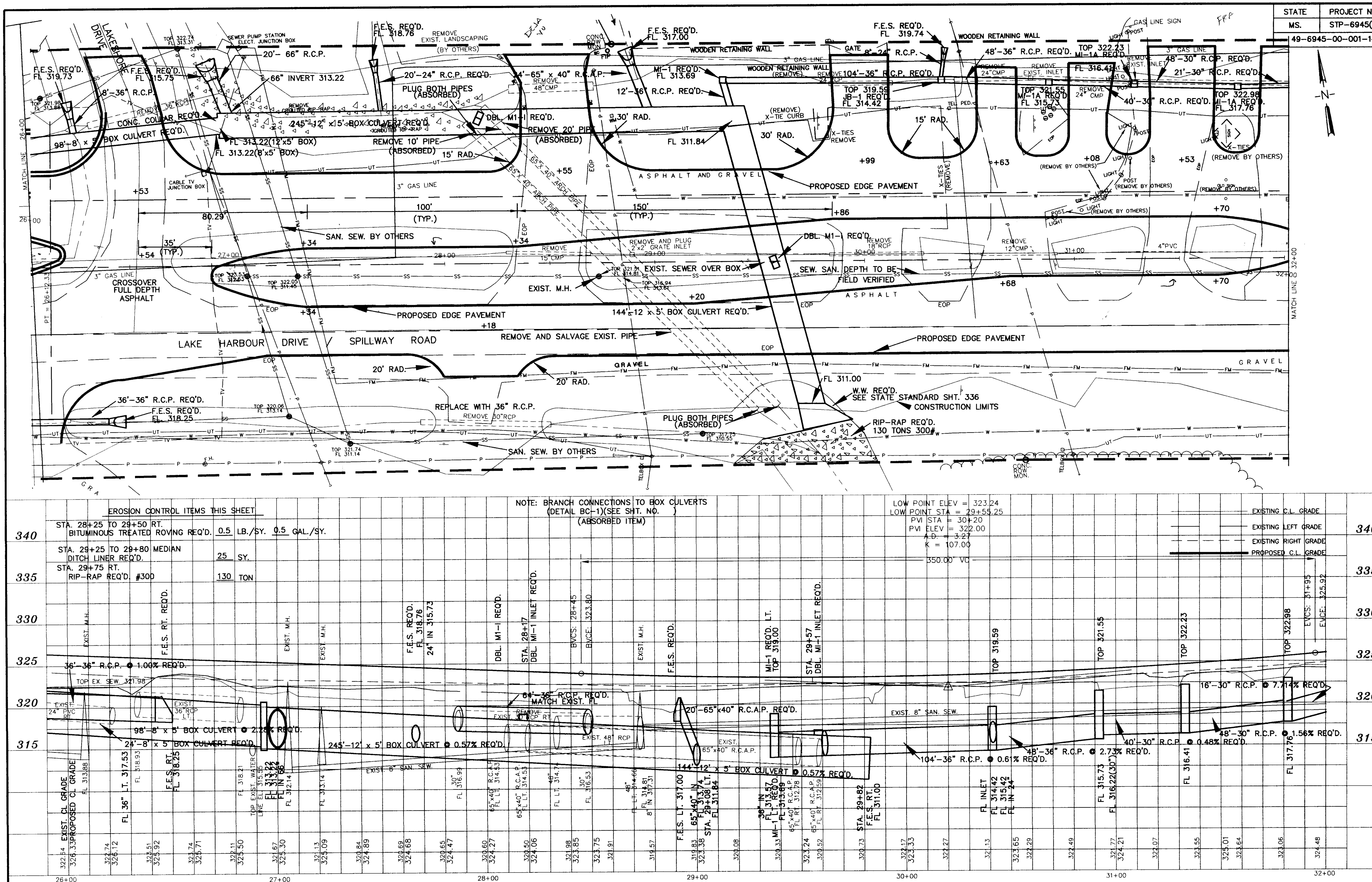
PROJECT NO. STP-6945(1)/49-6945-00-001-10
CITY OF RIDGELAND, MADISON COUNTY, MISSISSIPPI

ACAD PATH ROUTE C:\P\94150E\PROFILE
W.E.I. JOB NO. 94-150E

WORKING NUMBER 3
SHEET NUMBER 10

C:\dsgprog\94150e\PROFILE Tue Jul 08 13:21:08 1997

STATE	PROJECT NO.
MS.	STP-6945(1)
	49-6945-00-001-10


LAKE HARBOUR DRIVE / SPILLWAY ROAD
LAKESHORE DRIVE
MATCH LINE 26+00
MATCH LINE 32+00
F.E.S. REQ'D. FL 319.73
8'-36" R.C.P.
CONC. COLLAR REQ'D.
98'-8' x 5' BOX CULVERT REQ'D.
FL 313.22(12'x5' BOX)
FL 313.22(8'x5' BOX)
SEWER PUMP STATION ELECT. JUNCTION BOX
20'- 66" R.C.P.
66" INVERT 313.22
245'-12' x 15' BOX CULVERT REQ'D.
F.E.S. REQ'D. FL 318.76
REMOVE EXIST. LANDSCAPING (BY OTHERS)
20'-24" R.C.P. REQ'D.
PLUG BOTH PIPES (ABSORBED)
REMOVE 10' PIPE (ABSORBED)
15' RAD.
DBL. MI-1 REQ'D.
REMOVE 20' PIPE (ABSORBED)
4'-65" x 40" R.C.A.P.
65" x 40" ARCH PIPE
F.E.S. REQ'D. FL 317.00
WOODEN RETAINING WALL
MI-1 REQ'D. FL 313.69
12'-36" R.C.P. REQ'D.
30' RAD.
FL 311.84
ASPHALT AND GRAVEL
PROPOSED EDGE PAVEMENT
F.E.S. REQ'D. FL 319.74
104'-36" R.C.P. REQ'D.
TOP 319.59 JB-1 REQ'D. FL 314.42
(REMOVE) X-TIE CURB
48'-36" R.C.P. REQ'D.
TOP 321.55 MI-1A REQ'D. FL 315.73
TOP 322.23 MI-1A REQ'D. FL 316.41
48'-30" R.C.P. REQ'D.
21'-30" R.C.P. REQ'D.
40'-30" R.C.P. REQ'D.
TOP 322.98 MI-1A REQ'D. FL 317.76
GAS LINE SIGN
(REMOVE BY OTHERS)
3" GAS LINE
CABLE TV JUNCTION BOX
100' (TYP.)
150' (TYP.)
80.29'
35' (TYP.)
SAN. SEW. BY OTHERS
CROSSOVER FULL DEPTH ASPHALT
PROPOSED EDGE PAVEMENT
DBL. MI-1 REQ'D.
REMOVE AND PLUG 2'x2' GRATE INLET
EXIST. SEWER OVER BOX
EXIST. M.H.
SEW. SAN. DEPTH TO BE FIELD VERIFIED
144'-12 x 5' BOX CULVERT REQ'D.
REMOVE AND SALVAGE EXIST. PIPE
20' RAD.
FL 311.00
W.W. REQ'D. SEE STATE STANDARD SHT. 336
CONSTRUCTION LIMITS
36'-36" R.C.P. REQ'D.
F.E.S. REQ'D. FL 318.25
REPLACE WITH 36" R.C.P.
REMOVE 30"RCP
PLUG BOTH PIPES (ABSORBED)
RIP-RAP REQ'D. 130 TONS 300#
GRAVEL
NOTE: BRANCH CONNECTIONS TO BOX CULVERTS (DETAIL BC-1)(SEE SHT. NO.) (ABSORBED ITEM)
LOW POINT ELEV = 323.24
LOW POINT STA = 29+55.25
PVI STA = 30+20
PVI ELEV = 322.00
A.D. = 3.27
K = 107.00
350.00' VC
EXISTING C.L. GRADE
EXISTING LEFT GRADE
EXISTING RIGHT GRADE
PROPOSED C.L. GRADE
36'-36" R.C.P. @ 1.00% REQ'D.
98'-8' x 5' BOX CULVERT @ 2.28% REQ'D.
24'-8' x 5' BOX CULVERT REQ'D.
245'-12' x 5' BOX CULVERT @ 0.57% REQ'D.
84'-36" R.C.P. REQ'D. MATCH EXIST. FL
20'-65"x40" R.C.A.P. REQ'D.
144'-12' x 5' BOX CULVERT @ 0.57% REQ'D.
104'-36" R.C.P. @ 0.61% REQ'D.
48'-36" R.C.P. @ 2.73% REQ'D.
40'-30" R.C.P. @ 0.48% REQ'D.
48'-30" R.C.P. @ 1.56% REQ'D.
16'-30" R.C.P. @ 7.74% REQ'D.
EXIST. 8" SAN. SEW.
EVCS: 31+95
EVCE: 325.92
BVCS: 28+45
BVCE: 323.80
340
335
330
325
320
315
26+00
27+00
28+00
29+00
30+00
31+00
32+00

EROSION CONTROL ITEMS THIS SHEET

STA. 28+25 TO 29+50 RT. BITUMINOUS TREATED ROVING REQ'D.	0.5 LB./SY.	0.5 GAL./SY.
STA. 29+25 TO 29+80 MEDIAN DITCH LINER REQ'D.	25	SY.
STA. 29+75 RT. RIP-RAP REQ'D. #300	130	TON

NO.	DATE	REVISIONS	BY

DESIGNED | DATE
DRAWN | SCALE 1"=20' HORZ. 1"= 5' VERT.

WEI WAGGONER ENGINEERING, INC. ENGINEERS, PLANNERS, SCIENTISTS

PROJECT NO. STP-6945(1)/49-6945-00-001-10
CITY OF RIDGELAND, MADISON COUNTY, MISSISSIPPI

ACAD PATH ROUTE C:\P\94150E\PROFILE
W.E.I. JOB NO. 94-150E
WORKING NUMBER 4
SHEET NUMBER 11

C:\P\94150e\PROFILE Tue Jul 08 13:22:37 1997

STATE	PROJECT NO.
MS.	STP-6945(1)
	49-6945-00-001-10

NO.	DATE	REVISIONS	BY	DESIGNED	DATE
				DRAWN	SCALE 1"=20' HORZ. 1"=5' VERT.

WEI WAGGONER ENGINEERING, INC. ENGINEERS, PLANNERS, SCIENTISTS

PROJECT NO. STP-6945(1)/49-6945-00-001-10
CITY OF RIDGELAND, MADISON COUNTY, MISSISSIPPI

ACAD PATH ROUTE C:\P\94150E\PROFILE
W.E.I. JOB NO.

WORKING NUMBER 5
SHEET NUMBER 12

C:\dsk\pro\94150e\PROFILE Tue Jul 08 13:23:24 1997

STATE	PROJECT NO.
MS.	STP-6945(1)
49-6945-00-001-10	

CONC. ROW MON.
FIP
3" GAS LINE
CONSTRUCTION LIMITS
TEL BOX
30' R
F.E.S. REQ'D. FL 335.80
STA. 38+61 LT. 68'-18" R.C.P. REQ'D. SKWD 20 DEG RT FWD
PROPOSED EDGE PAVEMENT
MATCH LINE 38+00
5' R (TYP)
5' R (TYP)
TOP 338.80 M1-1 INLET REQ'D. FL 336.10
REMOVE 18" RCP
LAKE HARBOUR DRIVE / SPILLWAY ROAD
GRAVEL
EOP
150' (TYP.)
100' (TYP.)
80.29' (TYP.)
35'
35' (TYP.)
CAUTION!! FORCE MAIN
FL 337.66 REQ'D.
FL 338.70 REQ'D.
32'-18" R.C.P. REQ'D.
CONSTRUCTION LIMITS
TEL SIGN
75'-18" R.C.P. REQ'D.
TRM NO. 4
TOP 341.50 JB-1 REQ'D FL 336.75
8'-18" R.C.P. REQ'D.
F.E.S. REQ'D. FL 339.00
48.0'
30' RAD.
F.E.S. REQ'D. FL 335.75
90' RAD.
18" RCP REMOVE
SPRINKLER LINE IN PIPE (TO BE REMOVED BY OTHERS)
PP (TO BE REMOVED BY OTHERS)
TO BE REMOVED BY OTHERS
CABLE BOX
SIGN
80'-18" R.C.P. REQ'D.
150' TAPER
TOP 339.60 M1-1 REQ'D. FL 337.10
MATCH LINE 44+00
38+00
39+00
40+00
41+00
42+00
43+00
44+00
+11
+60
+61
+85
+63
+35
+80

HIGH POINT ELEV = 343.09
HIGH POINT STA = 40+87.26
PVI STA = 42+25
PVI ELEV = 349.00
780.00' VC
A.D. = 6.93
K = 112.58

EXISTING C.L. GRADE
EXISTING LEFT GRADE
EXISTING RIGHT GRADE
PROPOSED C.L. GRADE

BVCS: 38+35
BVCE: 340.26
STA. 38+75 TOP 338.80 M1-1 INLET REQ'D.
68'-18" R.C.P. REQ'D.
F.E.S. REQ'D. FL 335.80
FL 336.10
FL 337.66
15" RCP REMOVE
FL 338.70
STA. 42+50 M1-1 REQ'D.
STA. 42+97 JB REQ'D.
TOP INLET 339.60
8'-18" R.C.P. REQ'D.
80'-18" R.C.P. @ 0.44% REQ'D.
64'-18" R.C.P. REQ'D.
FL 337.10
FES REQ'D. FL 339.00
FL 336.75
FES REQ'D. FL 335.75

EXIST. C.L. GRADE
PROPOSED C.L. GRADE
BY OTHERS TOP 338.00 FL 328.37

345 / 340 / 335 / 330 / 325

38+00	39+00	40+00	41+00	42+00	43+00	44+00
336.46	336.32	336.03	340.59	336.20	336.67	337.18
339.48	339.93					341.53
						337.72
						338.37
						342.25
						339.34
						339.73
						340.01
						342.75
						339.98
						339.85
						343.03
						340.25
						340.73
						341.20
						343.08
						341.57
						341.92
						342.91
						342.26
						342.38
						342.47
						342.52
						342.30
						341.94
						341.91
						341.56
						341.19
						340.90
						341.08
						340.54
						340.57
						340.02
						339.99
						339.05
						338.06
						338.74

EROSION CONTROL ITEMS THIS SHEET

STA. 38+00 TO 38+60 LT.
BITUMINOUS TREATED ROVING REQ'D. 0.5 LB./SY. 0.5 GAL./SY.

STA. 38+60 TO 39+55 LT.
DITCH LINER REQ'D. 42 SY.

NO.	DATE	REVISIONS	BY

DESIGNED | DATE
DRAWN | SCALE 1"=20' HORT. 1"= 5' VERT.

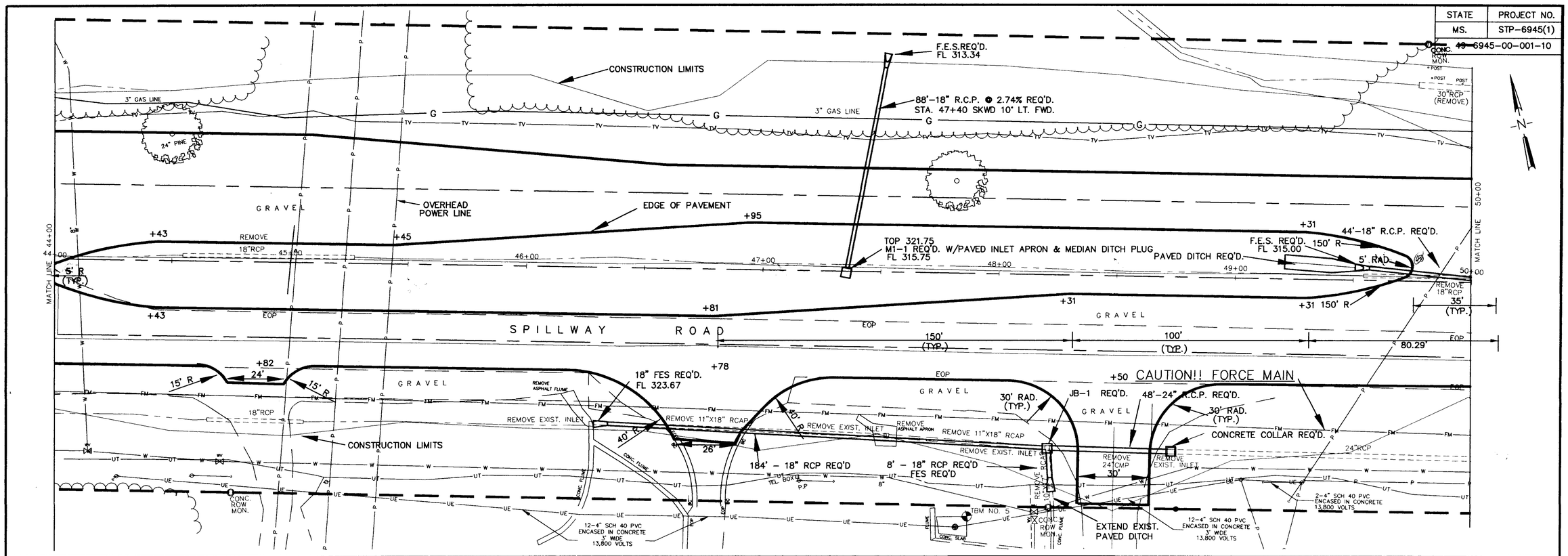
WAGGONER ENGINEERING, INC.
ENGINEERS, PLANNERS, SCIENTISTS

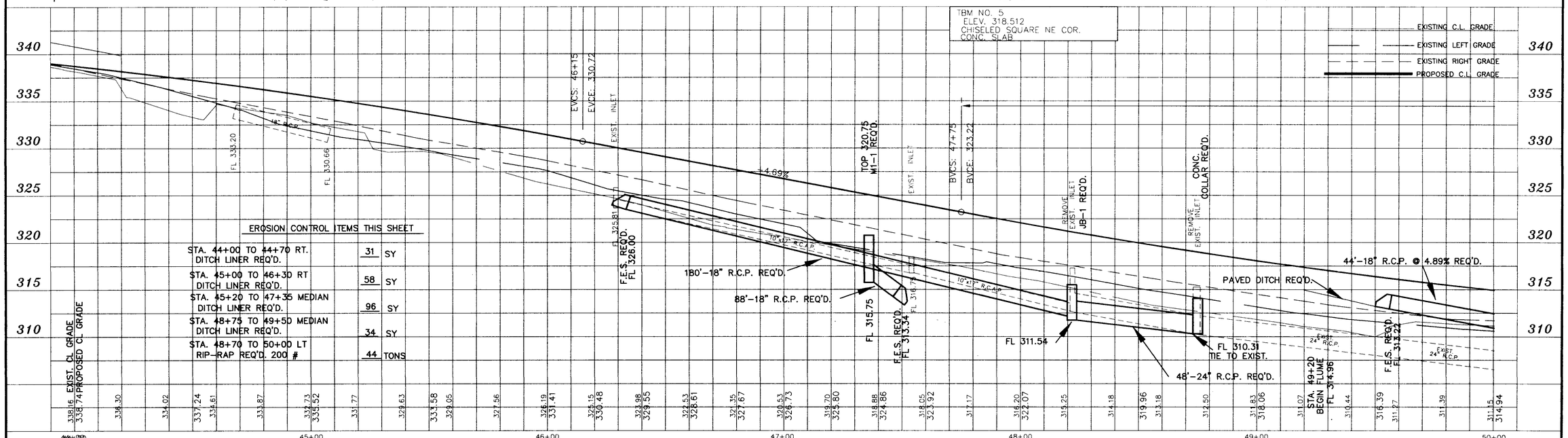
PROJECT NO. STP-6945(1)/49-6945-00-001-10
CITY OF RIDGELAND, MADISON COUNTY, MISSISSIPPI

ACAD PATH ROUTE C:\P\94150E\PROFILE
W.E.I. JOB NO. 94-150E
WORKING NUMBER 6
SHEET NUMBER 13

C:\ssksprd\94150e\PROFILE Tue Jul 08 13:24:27 1997

STATE	PROJECT NO.
MS.	STP-6945(1)
~~49~~ 6945-00-001-10	





NO.	DATE	REVISIONS	BY

DESIGNED | DATE
DRAWN | SCALE 1"=20' HORT. 1"= 5' VERT.

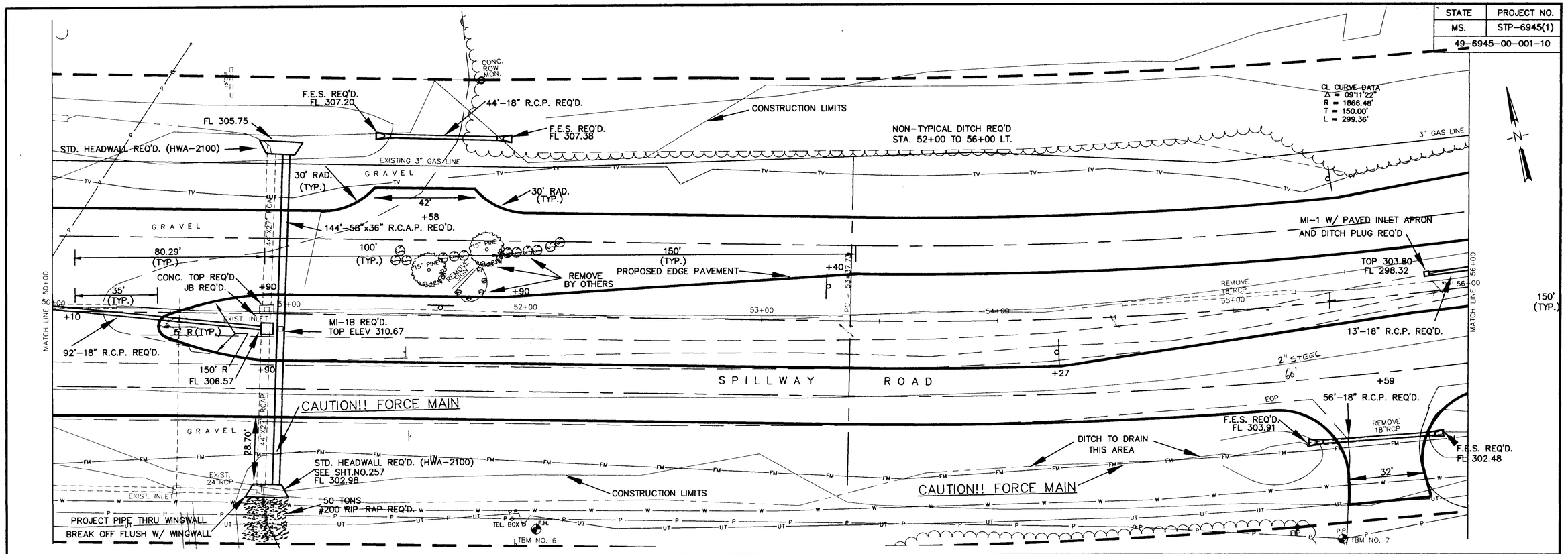
WAGGONER ENGINEERING, INC.
ENGINEERS, PLANNERS, SCIENTISTS

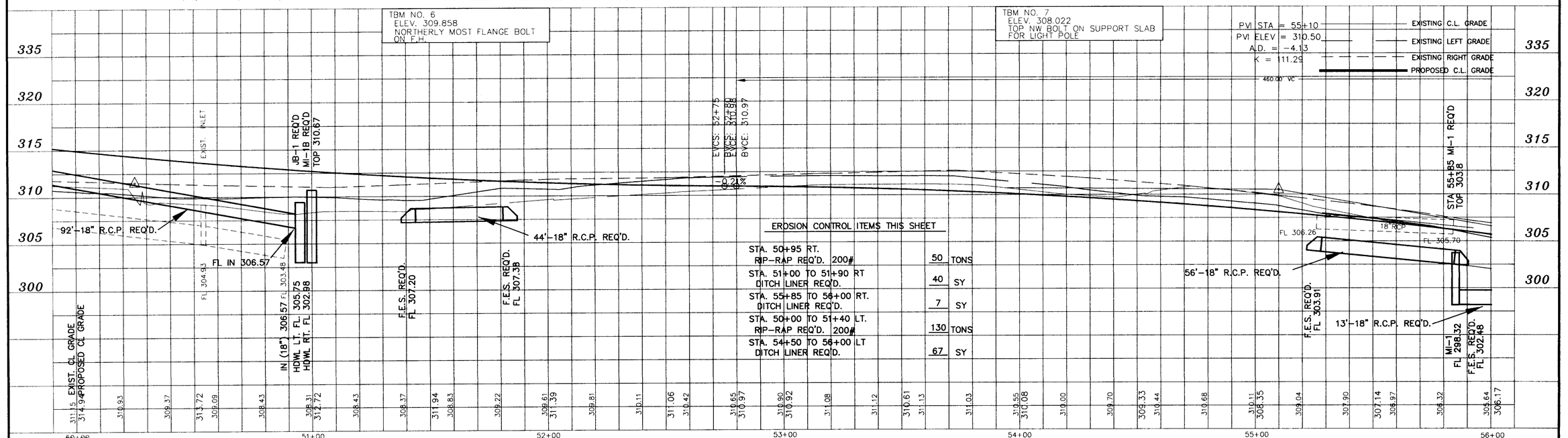
PROJECT NO. STP-6945(1)/49-6945-00-001-10
CITY OF RIDGELAND, MADISON COUNTY, MISSISSIPPI

ACAD PATH ROUTE C:\P\94150E\PROFILE | WORKING NUMBER 7
W.E.I. JOB NO. 94-150E | SHEET NUMBER 14

C:\pskopro\94150e\PROFILE Tue Jul 08 14:01:03 1997

STATE	PROJECT NO.
MS.	STP-6945(1)
	49-6945-00-001-10





EROSION CONTROL ITEMS THIS SHEET

STA. 50+95 RT. RIP-RAP REQ'D. 200#	50	TONS
STA. 51+00 TO 51+90 RT DITCH LINER REQ'D.	40	SY
STA. 55+85 TO 56+00 RT. DITCH LINER REQ'D.	7	SY
STA. 50+00 TO 51+40 LT. RIP-RAP REQ'D. 200#	130	TONS
STA. 54+50 TO 56+00 LT DITCH LINER REQ'D.	67	SY

NO.	DATE	REVISIONS	BY

DESIGNED | DRAWN | DATE | SCALE 1"=20' HORT. 1"= 5' VERT.

WAGGONER ENGINEERING, INC.
ENGINEERS, PLANNERS, SCIENTISTS

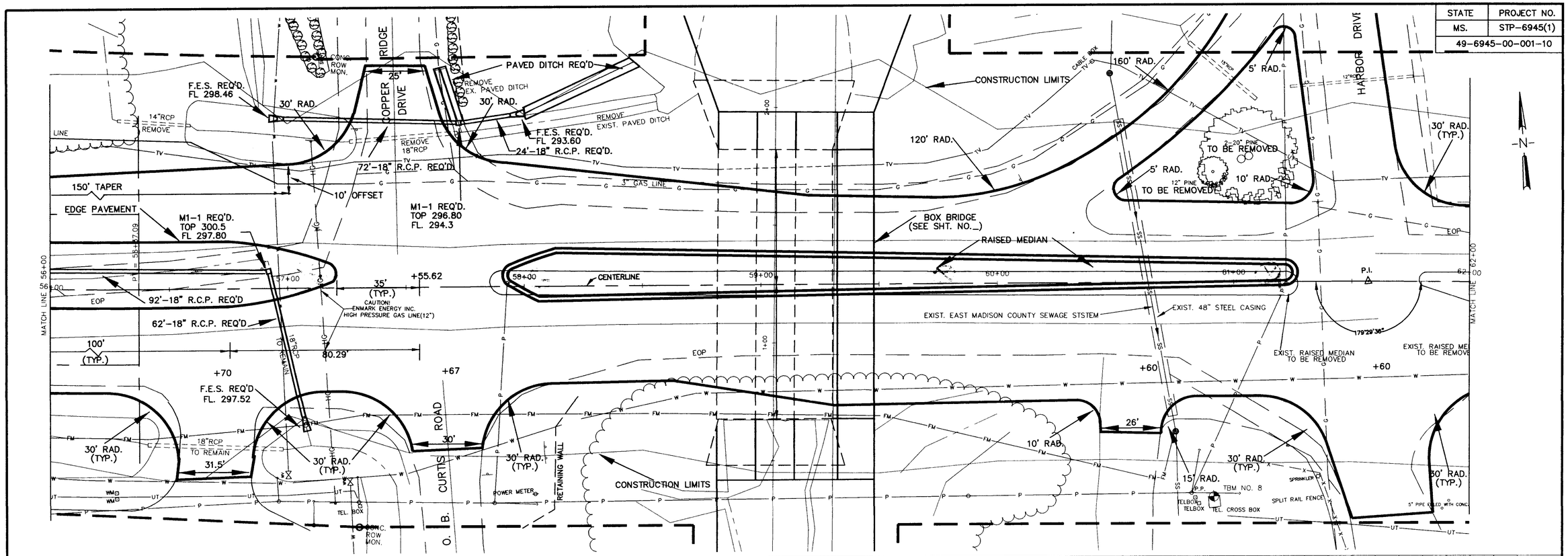
PROJECT NO. STP-6945(1)/49-6945-00-001-10
CITY OF RIDGELAND, MADISON COUNTY, MISSISSIPPI

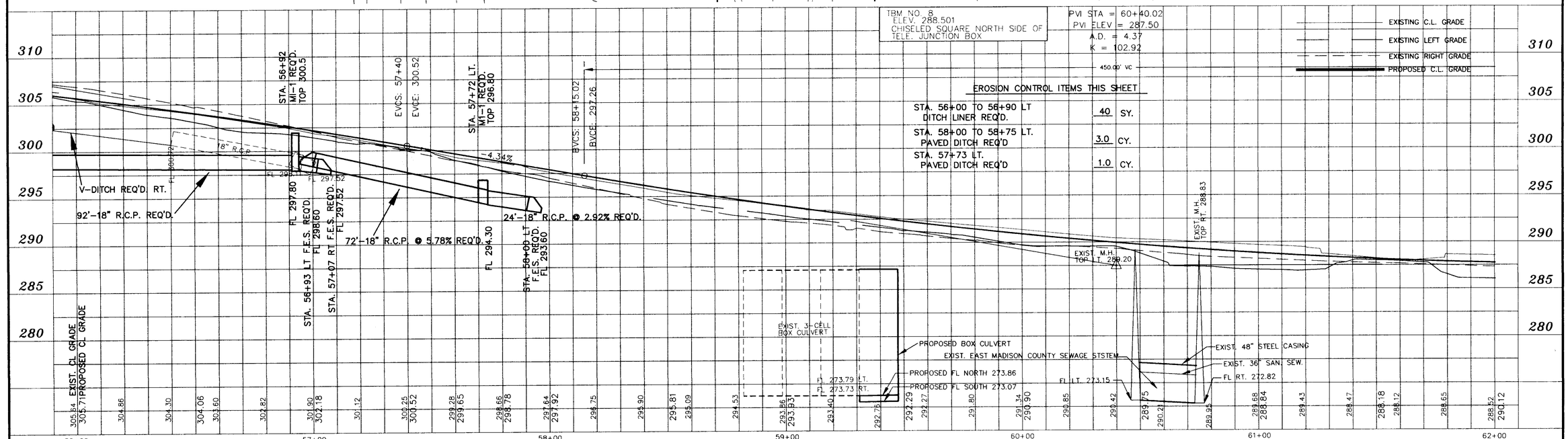
ACAD PATH ROUTE C:\P\94150E\PROFILE
W.E.I. JOB NO. 94-150E-

WORKING NUMBER 8
SHEET NUMBER 15

C:\acadproj\94150e\PROFILE Tue Jul 08 14:02:27 1997

STATE	PROJECT NO.
MS.	STP-6945(1)
	49-6945-00-001-10





NO.	DATE	REVISIONS	BY

DESIGNED	DATE
DRAWN	SCALE 1"=20' HORT. 1"= 5' VERT.

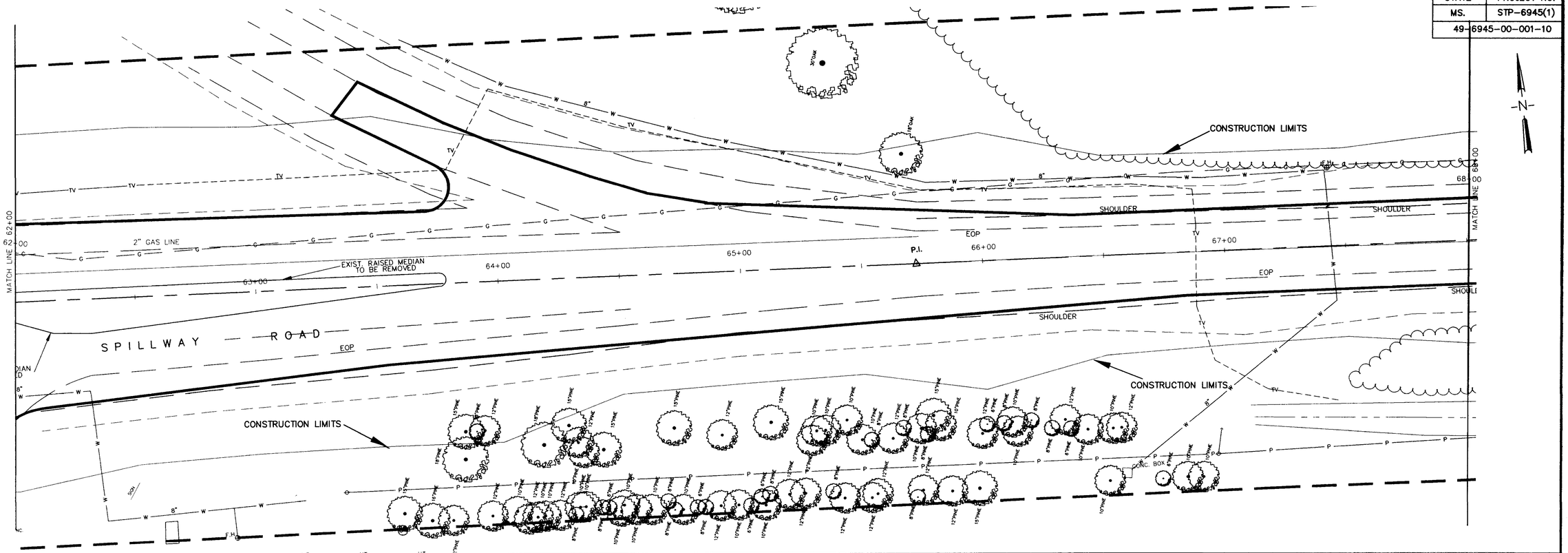
WAGGONER ENGINEERING, INC.
ENGINEERS, PLANNERS, SCIENTISTS

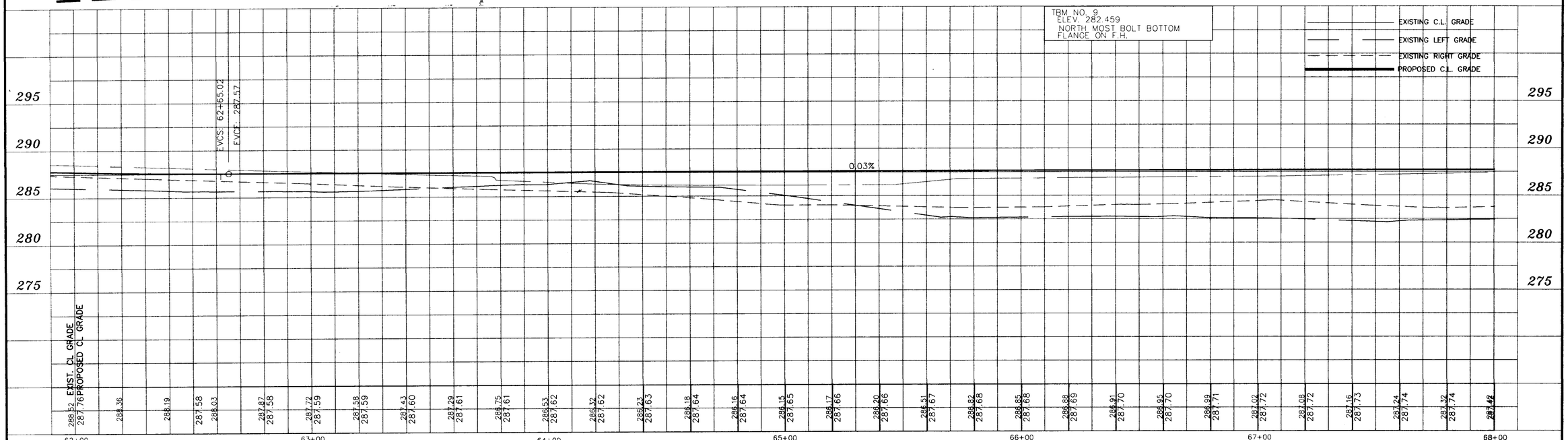
PROJECT NO. STP-6945(1)/49-6945-00-001-10
CITY OF RIDGELAND, MADISON COUNTY, MISSISSIPPI

ACAD PATH ROUTE	WORKING NUMBER
C:\P\94150E\PROFILE	9
W.E.I. JOB NO.	SHEET NUMBER
94-150E	16

C:\sdskpro\94150e\PROFILE Tue Jul 08 14:03:12 1997

STATE	PROJECT NO.
MS.	STP-6945(1)
49-6945-00-001-10	





NO.	DATE	REVISIONS	BY

DESIGNED	DATE
DRAWN	SCALE 1"=20' HORT. 1"= 5' VERT.

WAGGONER ENGINEERING, INC.
ENGINEERS, PLANNERS, SCIENTISTS

PROJECT NO. STP-6945(1)/49-6945-00-001-10
CITY OF RIDGELAND, MADISON COUNTY, MISSISSIPPI

ACAD PATH ROUTE	WORKING NUMBER
C:\P\94150E\PROFILE	10
W.E.I. JOB NO. 94-150E	SHEET NUMBER 17

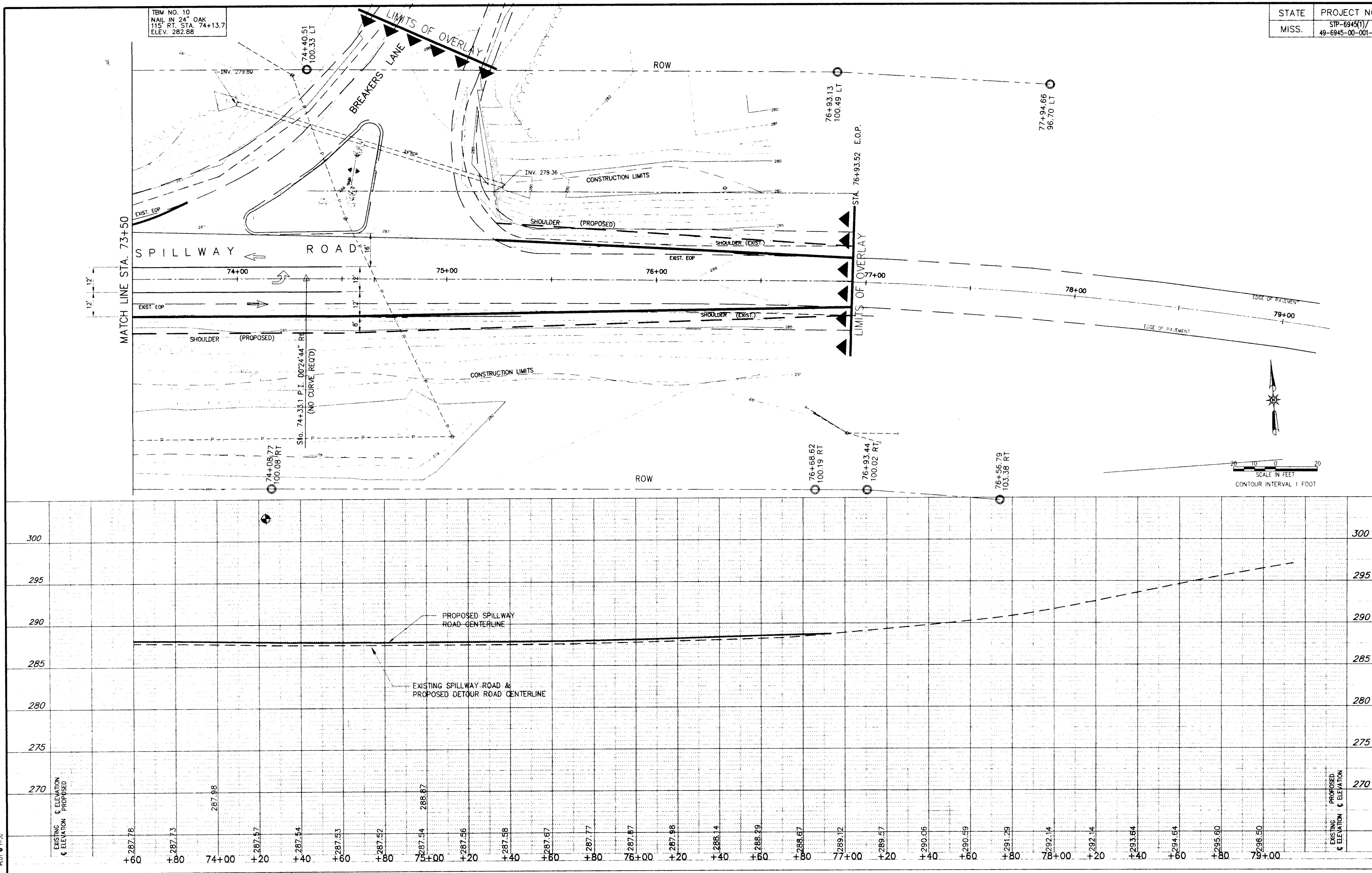
C:\6954proj\94150e\PROFILE Tue Jul 08 14:03:59 1997

STATE	PROJECT NO.
MISS.	STP-6945(1)/ 49-6945-00-001-10


ROW
CONSTRUCTION LIMITS
CONSTRUCTION LIMITS
Inv. 280.15 Existing
Conc. Collar Req'd
SHOULDER (PROPOSED)
SHOULDER (EXIST.)
SHOULDER
EOP(EXIST.)
MATCH LINE STA. 68+00
MATCH LINE STA. 73+50
68+00
69+00
70+00
71+00
72+00
73+00
SPILLWAY ROAD
EOP(EXIST.)
EOP (EXIST.)
SHOULDER
SHOULDER (PROPOSED)
8'
12'
12'
12'
8'
Inv. 278.79 Existing
Conc. Collar Req'd
CONSTRUCTION LIMITS
CONSTRUCTION LIMITS
DITCH
ROW
STA. 69+00 EXISTING 36" RCP
EXTEND 4' RT. W/FES AND
CONCRETE COLLAR REQ'D
EXTEND 12' LT. W/FES AND
CONCRETE COLLAR REQ'D
SET TO EXISTING GRADE
300
295
290
285
280
275
270
PROPOSED SPILLWAY
ROAD CENTERLINE
EXISTING SPILLWAY ROAD
CENTERLINE
EXISTING ℄ ELEVATION
PROPOSED ℄ ELEVATION
287.53
287.63
287.73
287.81
287.79
288.12
287.78
287.76
287.75
287.76
287.77
288.10
287.79
287.80
287.83
287.86
287.89
288.22
287.92
287.95
287.96
287.96
287.95
288.29
287.96
287.93
287.89
287.86
287.86
287.85
287.82
288.13
68+00
+20
+40
+60
+80
69+00
+20
+40
+60
+80
70+00
+20
+40
+60
+80
71+00
+20
+40
+60
+80
72+00
+20
+40
+60
+80
73+00
+20
+40
+50

NO.	DATE	REVISIONS	BY	DESIGNED R.R.W	DATE 5/91	WAGGONER ENGINEERING, INC.	NEEL-SCHAFFER, INC.	SPILLWAY ROAD IMPROVEMENTS	PLAN PROFILE SHEET	ACAD PATH ROUTE
				DRAWN B.G.B.	SCALE 1"=20' HORT. 1"=5' VERT.	ENGINEERS, PLANNERS, SCIENTISTS	ENGINEERS • PLANNERS Jackson, Mississippi	RIDGELAND, MADISON CO, MS.	STA. 68+00 – STA. 73+50	W.E.I. JOB NO. / SHEET NO. 18 OF __

CAD REF. PP-SHT1 PLOT @ 1-20


STATE | PROJECT NO.
MISS. | STP-6945(1)/ 49-6945-00-001-10
TBM NO. 10
NAIL IN 24" OAK
115' RT. STA. 74+13.7
ELEV. 282.88
LIMITS OF OVERLAY
BREAKERS LANE
74+40.51
100.33 LT
INV. 279.80
ROW
76+93.13
100.49 LT
77+94.66
96.70 LT
STA. 76+93.52 E.O.P.
INV. 279.36
CONSTRUCTION LIMITS
EXIST. EOP
SHOULDER (PROPOSED)
SHOULDER (EXIST.)
MATCH LINE STA. 73+50
SPILLWAY ROAD
74+00
75+00
76+00
77+00
78+00
79+00
EDGE OF PAVEMENT
Sta. 74+33.1 P.I. 00°24'44" Rt
(NO CURVE REQ'D)
74+08.77
100.08 RT
76+68.62
100.19 RT
76+93.44
100.02 RT
76+56.79
103.38 RT
SCALE IN FEET
CONTOUR INTERVAL 1 FOOT
PROPOSED SPILLWAY ROAD CENTERLINE
EXISTING SPILLWAY ROAD & PROPOSED DETOUR ROAD CENTERLINE
300
295
290
285
280
275
270
EXISTING ℄ ELEVATION
℄ ELEVATION PROPOSED
287.98
288.87
287.78
287.73
287.57
287.54
287.53
287.52
287.54
287.56
287.58
287.67
287.77
287.87
287.98
288.14
288.29
288.67
289.12
289.57
290.06
290.59
291.29
292.14
292.14
293.64
294.64
295.60
296.50
+60
+80
74+00
+20
+40
+60
+80
75+00
+20
+40
+60
+80
76+00
+20
+40
+60
+80
77+00
+20
+40
+60
+80
78+00
+20
+40
+60
+80
79+00

NO.	DATE	REVISIONS	BY

DESIGNED R.R.W. DATE 5/97
DRAWN B.G.D. SCALE 1"=20' HORZ. 1"=5' VERT.

WAGGONER ENGINEERING, INC. ENGINEERS, PLANNERS, SCIENTISTS

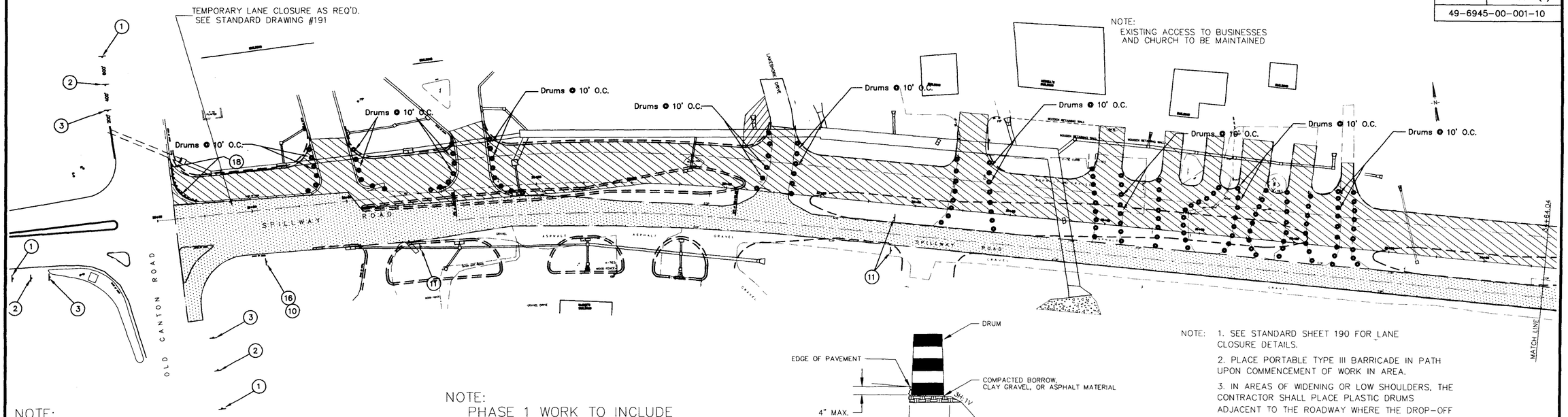
NEEL-SCHAFFER, INC. ENGINEERS • PLANNERS Jackson, Mississippi

SPILLWAY ROAD IMPROVEMENTS
RIDGELAND, MADISON CO, MS.

PLAN PROFILE SHEET
STA. 73+50 – E.O.P.

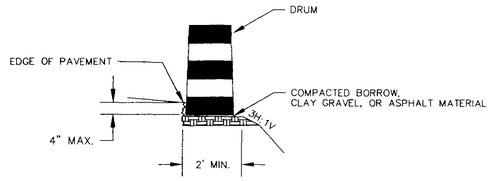
ACAD PATH ROUTE
W.E.I. JOB NO.
SHEET NO. 19

STATE	PROJECT NO.
MS	STP-6945(1)
49-6945-00-001-10	



NOTE:
SIGNAL CONTROLLER SHALL RUN FIXED-TIME OPERATION DURING CONSTRUCTION PHASE. TIMING TO BE DETERMINED BY ENGINEER.

NOTE:
PHASE 1 WORK TO INCLUDE BUILDING SHOULDERS.



TRAFFIC DRUM PLACEMENT @ WIDENING OR LOW SHOULDER

N.T.S.
SEE "NOTE 3" THIS SHEET

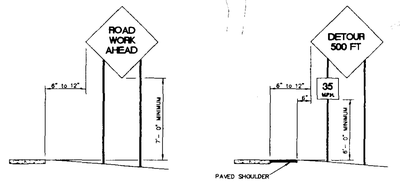
NOTE:
1. SEE STANDARD SHEET 190 FOR LANE CLOSURE DETAILS.
2. PLACE PORTABLE TYPE III BARRICADE IN PATH UPON COMMENCEMENT OF WORK IN AREA.
3. IN AREAS OF WIDENING OR LOW SHOULDERS, THE CONTRACTOR SHALL PLACE PLASTIC DRUMS ADJACENT TO THE ROADWAY WHERE THE DROP-OFF EXCEEDS TWO INCHES AND WHEN WORK IS SUSPENDED OR FOR NIGHT OPERATION.
DRUMS ARE ALSO REQUIRED WHERE THE WORK ZONE INCLUDES UNDERCUTTING THE SHOULDER. (ITEM TO BE COST ABSORBED.)

CONSTRUCTION SIGN SCHEDULE		
SIGN NUMBER	MUTCD NUMBER	DESCRIPTION
1	W20-1	ROAD WORK 1000 FEET
2	W20-1	ROAD WORK 500 FEET
3	W20-1	ROAD WORK 200 FEET
4	W20-1	ROAD WORK 1500 FEET
5	W3-2A	YIELD AHEAD
6	R1-2	YIELD
7	W20-7a W/SUPL.PLT.	FLAGMAN AHEAD 500 FEET
8	W1-3R	REVERSE TURN RIGHT
9	W1-3L	REVERSE TURN LEFT
10	R2-1	30 M.P.H.

CONSTRUCTION SIGN SCHEDULE		
SIGN NUMBER	MUTCD NUMBER	DESCRIPTION
11	W6-3	TWO WAY TRAFFIC
15	W13-1	20 M.P.H.
16	G20-1	ROAD WORK NEXT 1.2 MILE
17	G20-2A	END ROAD WORK
18	———	TYPE III BARRICADE W/ TYPE "A"
19	———	PROJECT SIGN
20	W1-4aL	REVERSE CURVE SIGN (LEFT)
21	M4-10L	DETOUR LEFT
22	W20-2	DETOUR 1000 FEET
23	W20-2	DETOUR 500 FEET

LEGEND

PHASE 1
TRAFFIC FLOW
TEMPORARY CONSTRUCTION
TEMPORARY PAVEMENT WIDENING
TRAFFIC DRUMS
TYPE III BARRICADES



TYPICAL ROAD WORK SIGNAGE
N.T.S.

NOTE:
REMOVE AND SALVAGE EXISTING REGULATORY SPEED LIMIT SIGNS WITHIN WORK AREA, CITY TO PICK UP.

PHASE 1

SPILLWAY ROAD IMPROVEMENTS
F.A.U.P. PROJECT NO.STP-6945(1)

TRAFFIC CONTROL PLAN

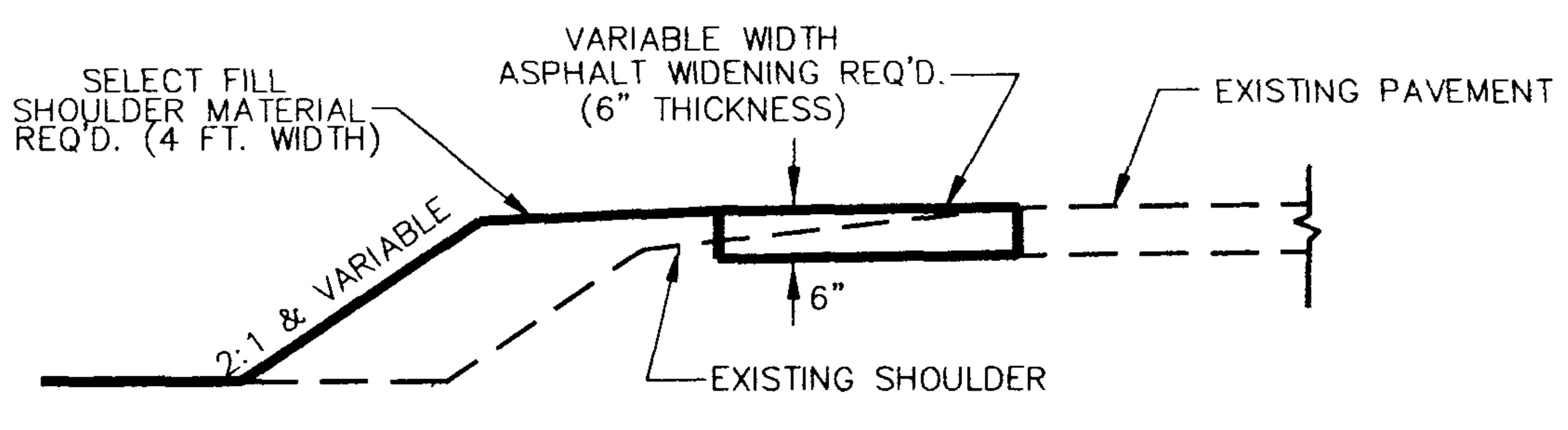
CITY OF RIDGELAND, MISSISSIPPI

WAGGONER ENGINEERING, INC.
Consulting Engineers – Jackson, Mississippi

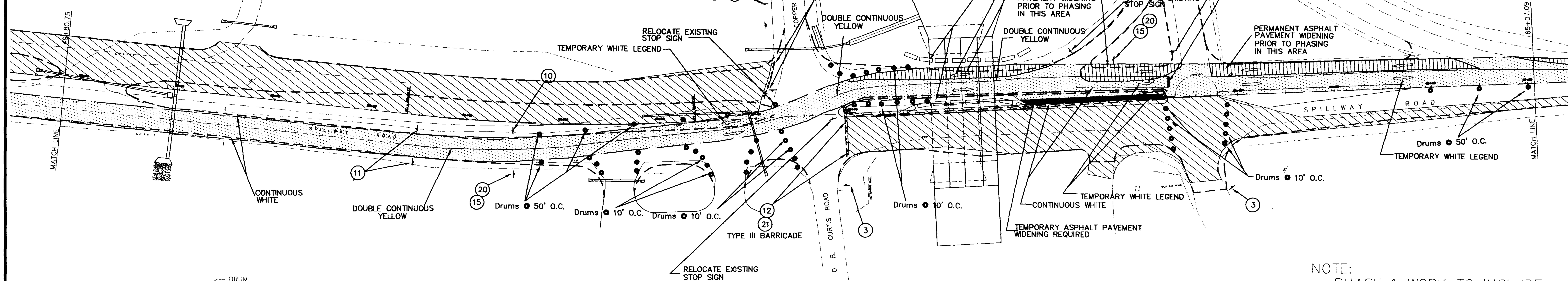
DRAWN BY: E.L.G.	DATE: 7-8-97	SHEET NUMBER
REVIEWED BY: M.P.	SCALE: NONE	20

D:\94056\traffic1 Tue Jul 08 15:29:35 1997

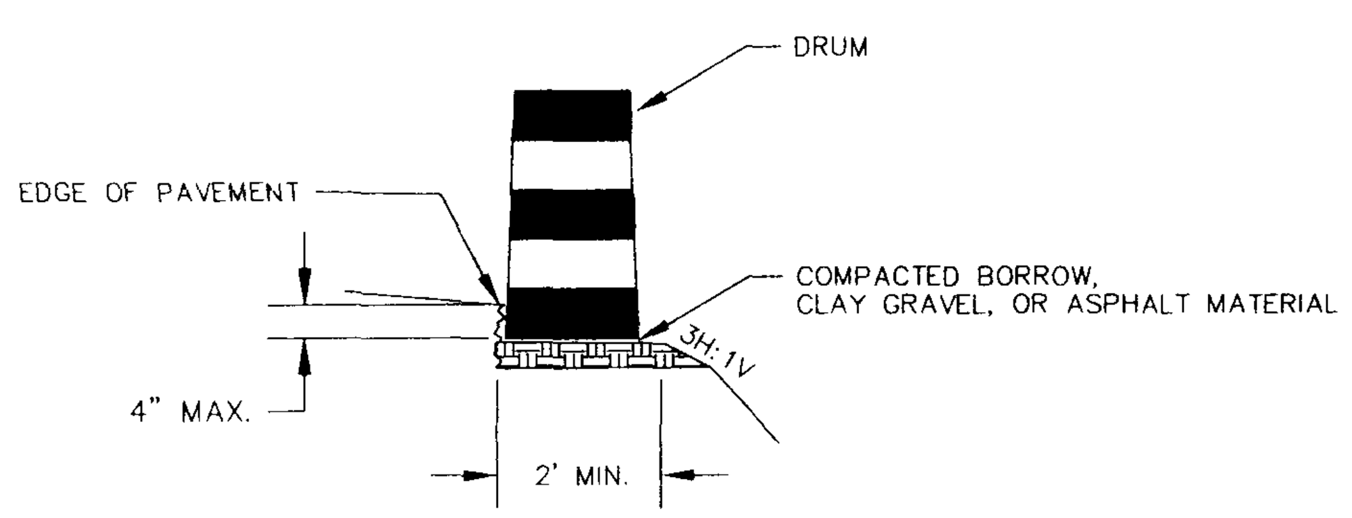
STATE	PROJECT NO.
MS	STP-6945(1)
49-6945-00-001-10	



PERMANENT WIDENING DETAIL

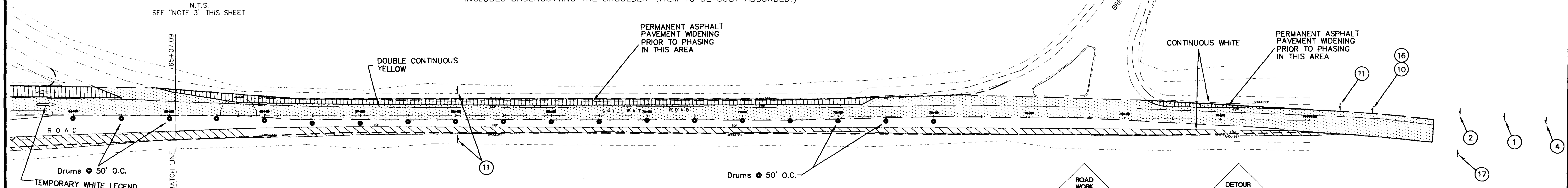


NOTE:
PHASE 1 WORK TO INCLUDE BUILDING SHOULDERS.



TRAFFIC DRUM PLACEMENT @ WIDENING OR LOW SHOULDER
N.T.S.
SEE "NOTE 3" THIS SHEET

NOTE:
1. SEE STANDARD SHEET 190 FOR LANE CLOSURE DETAILS.
2. PLACE PORTABLE TYPE III BARRICADE IN PATH UPON COMMENCEMENT OF WORK IN AREA.
3. IN AREAS OF WIDENING OR LOW SHOULDERS, THE CONTRACTOR SHALL PLACE PLASTIC DRUMS ADJACENT TO THE ROADWAY WHERE THE DROP-OFF EXCEEDS TWO INCHES AND WHEN WORK IS SUSPENDED OR FOR NIGHT OPERATION. DRUMS ARE ALSO REQUIRED WHERE THE WORK ZONE INCLUDES UNDERCUTTING THE SHOULDER. (ITEM TO BE COST ABSORBED.)



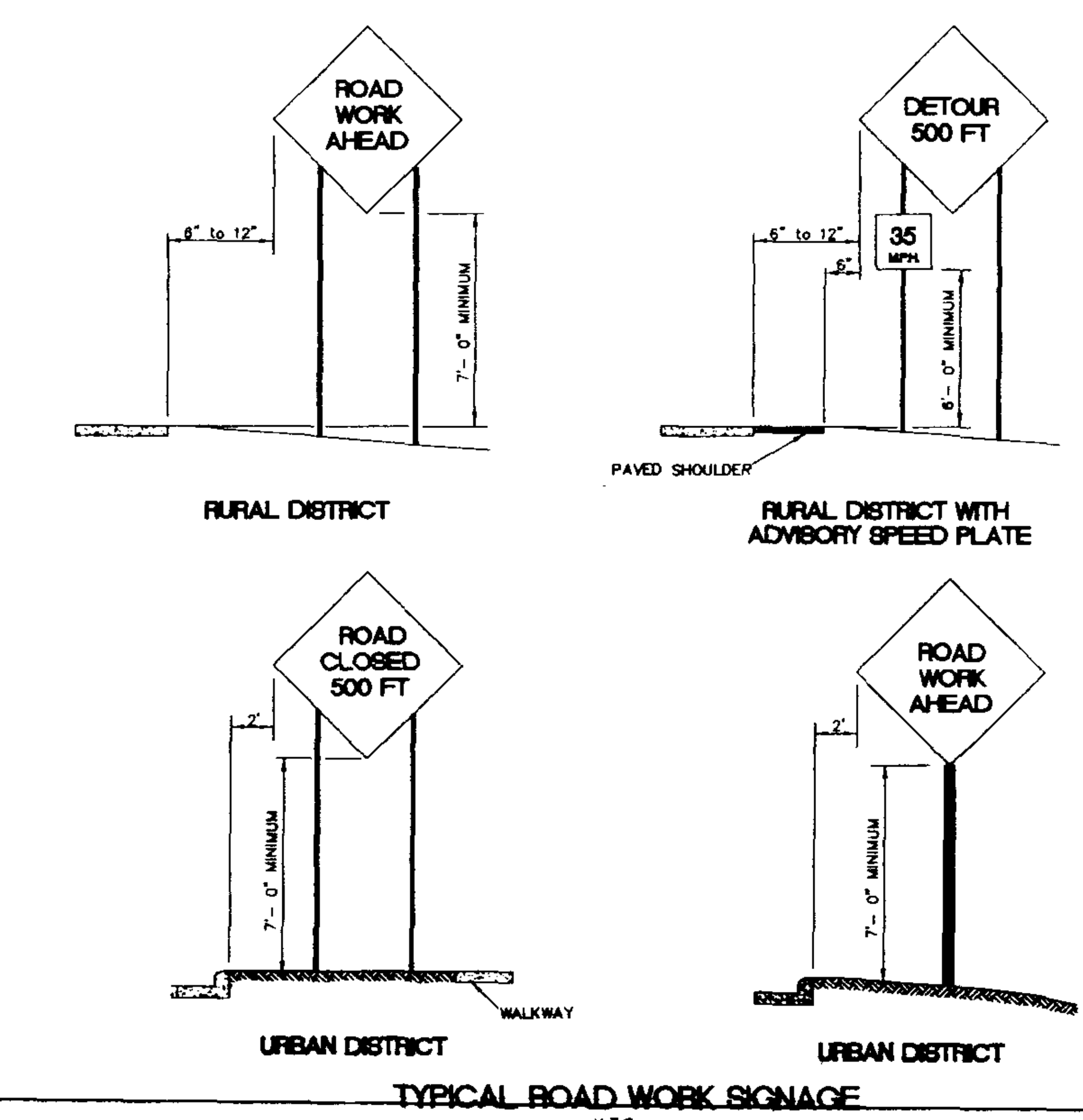
NOTE:
REMOVE AND SALVAGE EXISTING REGULATORY SPEED LIMIT SIGNS WITHIN WORK AREA, CITY TO PICK UP.

CONSTRUCTION SIGN SCHEDULE		
SIGN NUMBER	MUTCD NUMBER	DESCRIPTION
1	W20-1	ROAD WORK 1000 FEET
2	W20-1	ROAD WORK 500 FEET
3	W20-1	ROAD WORK 200 FEET
4	W20-1	ROAD WORK 1500 FEET
7	W20-7a W/SUPL.PLT.	FLAGMAN AHEAD 500 FEET
8	W1-3R	REVERSE TURN RIGHT
9	W1-3L	REVERSE TURN LEFT
10	R2-1	30 M.P.H.
11	W6-3	TWO WAY TRAFFIC

CONSTRUCTION SIGN SCHEDULE		
SIGN NUMBER	MUTCD NUMBER	DESCRIPTION
12	R11-2	ROAD CLOSED
15	W13-1	20 M.P.H.
16	G20-1	ROAD WORK NEXT 1.2 MILE
17	G20-2A	END ROAD WORK
18	——	TYPE III BARRICADE W/ TYPE "A"
19	——	PROJECT SIGN
20	W1-4aL	REVERSE CURVE SIGN (LEFT)
21	M4-10L	DETOUR LEFT
22	W20-2	DETOUR 1000 FEET
23	W20-2	DETOUR 500 FEET
24	R1-1	STOP SIGN

LEGEND

- PHASE 1
- TRAFFIC FLOW
- PERMANENT PAVEMENT WIDENING
- TRAFFIC DRUMS
- TYPE III BARRICADES



TYPICAL ROAD WORK SIGNAGE
N.T.S.

PHASE 1

SPILLWAY ROAD IMPROVEMENTS
F.A.U.P. PROJECT NO.STP-6945(1)

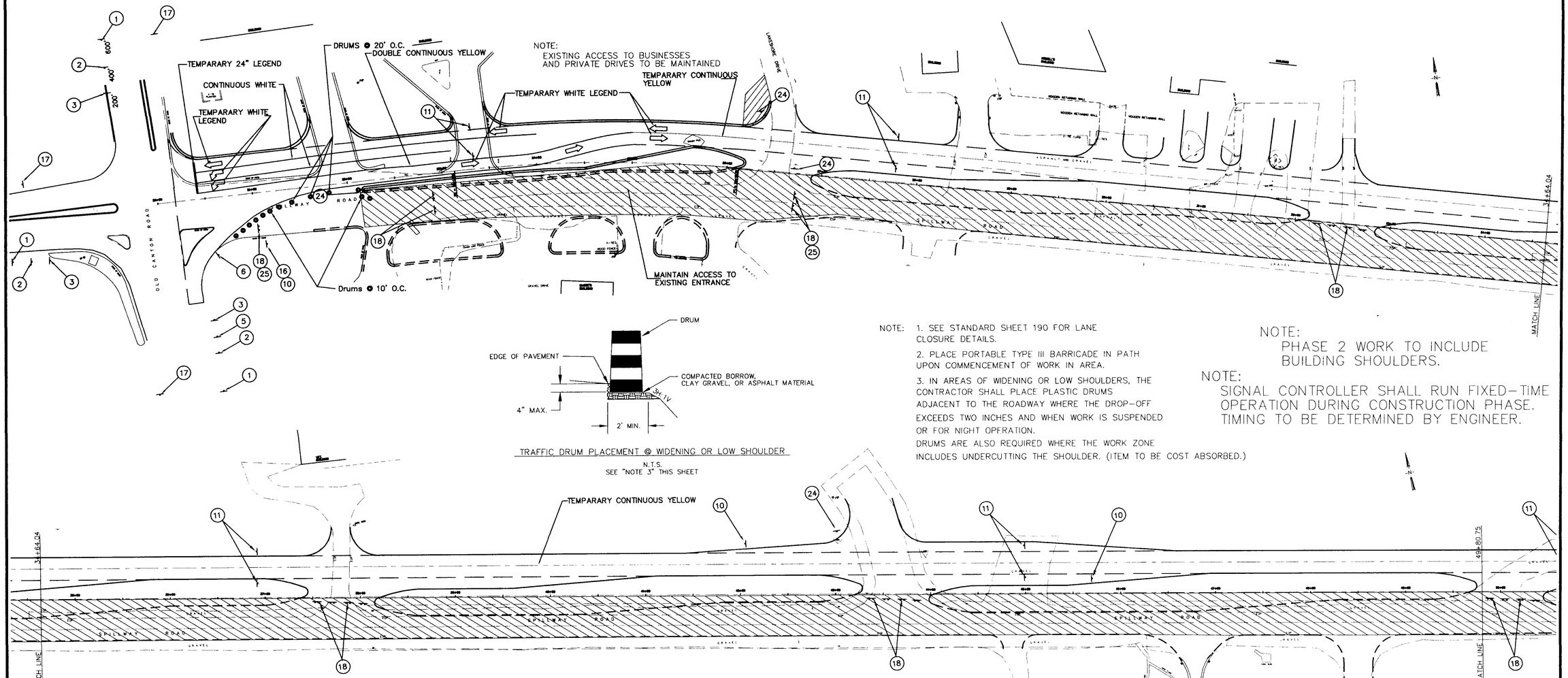
TRAFFIC CONTROL PLAN

CITY OF RIDGELAND, MISSISSIPPI

WAGGONER ENGINEERING, INC.
Consulting Engineers - Jackson, Mississippi

DRAWN BY: E.L.G.	DATE: 7-10-97	SHEET NUMBER
REVIEWED BY: M.F.	SCALE: NONE	21

STATE	PROJECT NO.
MS	STP-6945(1)
49-6945-00-001-10	



TRAFFIC DRUM PLACEMENT @ WIDENING OR LOW SHOULDER

N.T.S.
SEE "NOTE 3" THIS SHEET

NOTE: 1. SEE STANDARD SHEET 190 FOR LANE CLOSURE DETAILS.

2. PLACE PORTABLE TYPE III BARRICADE IN PATH UPON COMMENCEMENT OF WORK IN AREA.

3. IN AREAS OF WIDENING OR LOW SHOULDERS, THE CONTRACTOR SHALL PLACE PLASTIC DRUMS ADJACENT TO THE ROADWAY WHERE THE DROP-OFF EXCEEDS TWO INCHES AND WHEN WORK IS SUSPENDED OR FOR NIGHT OPERATION.
DRUMS ARE ALSO REQUIRED WHERE THE WORK ZONE INCLUDES UNDERCUTTING THE SHOULDER. (ITEM TO BE COST ABSORBED.)

NOTE:
PHASE 2 WORK TO INCLUDE BUILDING SHOULDERS.

NOTE:
SIGNAL CONTROLLER SHALL RUN FIXED-TIME OPERATION DURING CONSTRUCTION PHASE. TIMING TO BE DETERMINED BY ENGINEER.

CONSTRUCTION SIGN SCHEDULE		
SIGN NUMBER	MUTCD NUMBER	DESCRIPTION
1	W20-1	ROAD WORK 1000 FEET
2	W20-1	ROAD WORK 500 FEET
3	W20-1	ROAD WORK 200 FEET
4	W20-1	ROAD WORK 1500 FEET
5	W3-2A	YIELD AHEAD
6	R1-2	YEILD
7	W20-7a W/SUPL.PLT.	FLAGMAN AHEAD 500 FEET
8	W1-3R	REVERSE TURN RIGHT
9	W1-3L	REVERSE TURN LEFT
10	R2-1	30 M.P.H.
11	W6-3	TWO WAY TRAFFIC

CONSTRUCTION SIGN SCHEDULE		
SIGN NUMBER	MUTCD NUMBER	DESCRIPTION
15	W13-1	20 M.P.H.
16	G20-1	ROAD WORK NEXT 1.2 MILE
17	G20-2A	END ROAD WORK
18	———	TYPE III BARRICADE W/ TYPE "A"
19	———	PROJECT SIGN
20	W1-4aL	REVERSE CURVE SIGN (LEFT)
21	M4-10L	DETOUR LEFT
22	W20-2	DETOUR 1000 FEET
23	W20-2	DETOUR 500 FEET
24	R1-1	STOP SIGN
25	W1-6L	CONSTRUCTION ARROW

LEGEND

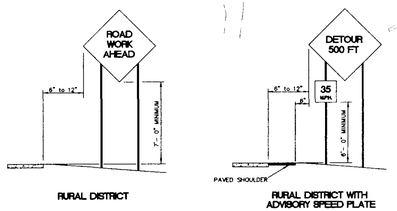
PHASE 2

TRAFFIC FLOW

TEMPORARY CONSTRUCTION

TRAFFIC DRUMS

TYPE III BARRICADES



TYPICAL ROAD WORK SIGNAGE
N.T.S.

NOTE:
REMOVE AND SALVAGE EXISTING REGULATORY SPEED LIMIT SIGNS WITHIN WORK AREA, CITY TO PICK UP.

PHASE 2

SPILLWAY ROAD IMPROVEMENTS
F.A.U.P. PROJECT NO.STP-6945(1)

TRAFFIC CONTROL PLAN

CITY OF RIDGELAND, MISSISSIPPI

WAGGONER ENGINEERING, INC.
Consulting Engineers – Jackson, Mississippi

DRAWN BY: E.L.G.	DATE: 7-8-97	SHEET NUMBER
REVIEWED BY: M.F.	SCALE: NONE	22

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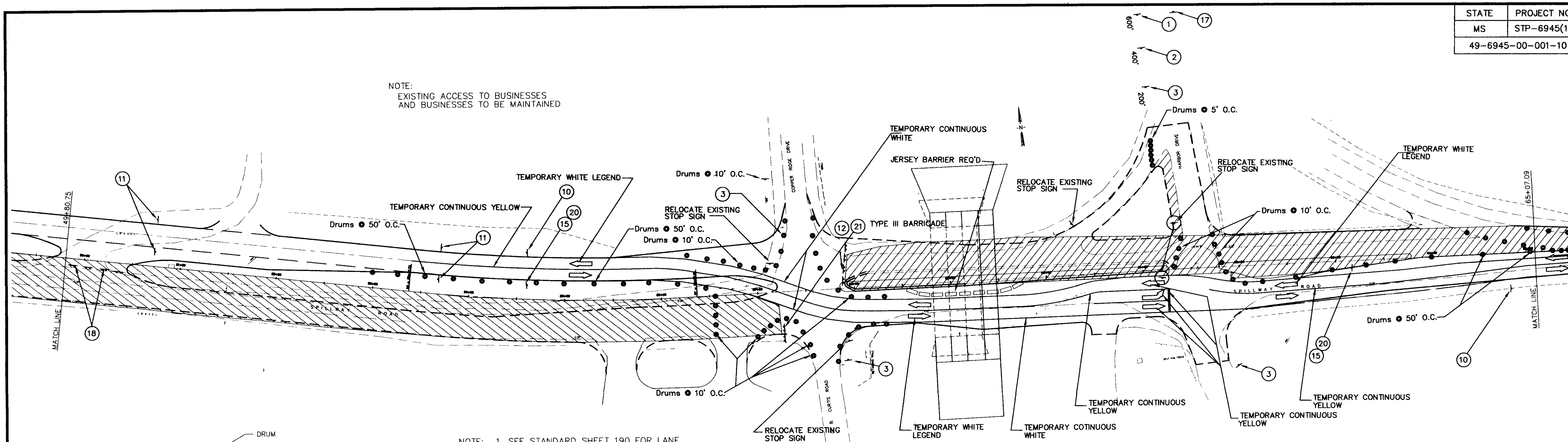
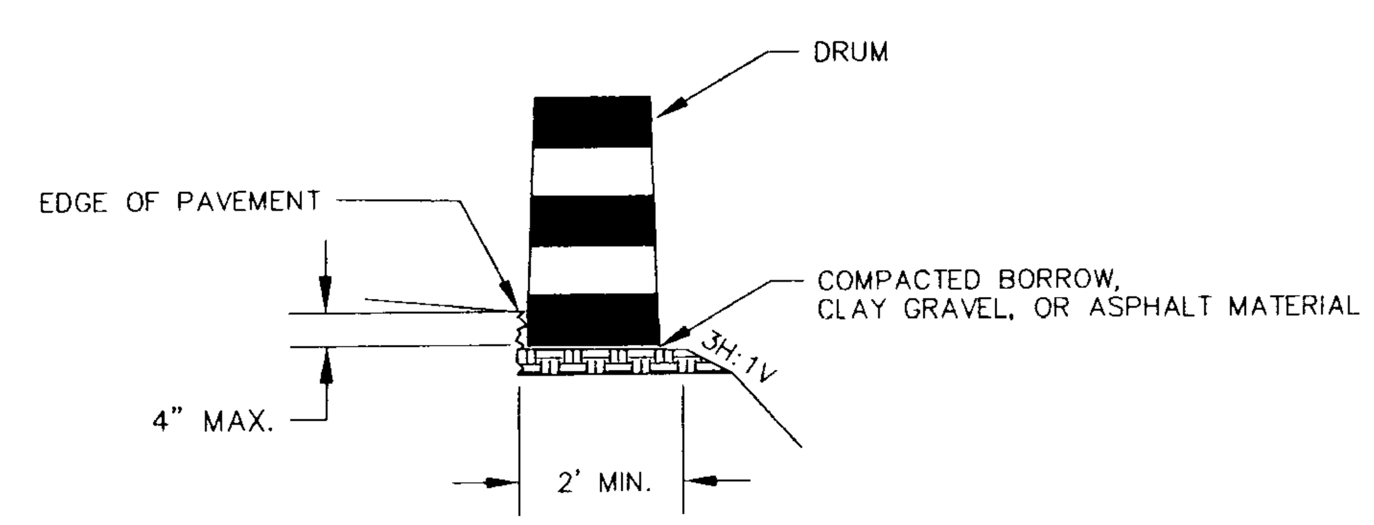
STATE	PROJECT NO.
MS	STP-6945(1)
	49-6945-00-001-10

NOTE:
EXISTING ACCESS TO BUSINESSES AND BUSINESSES TO BE MAINTAINED

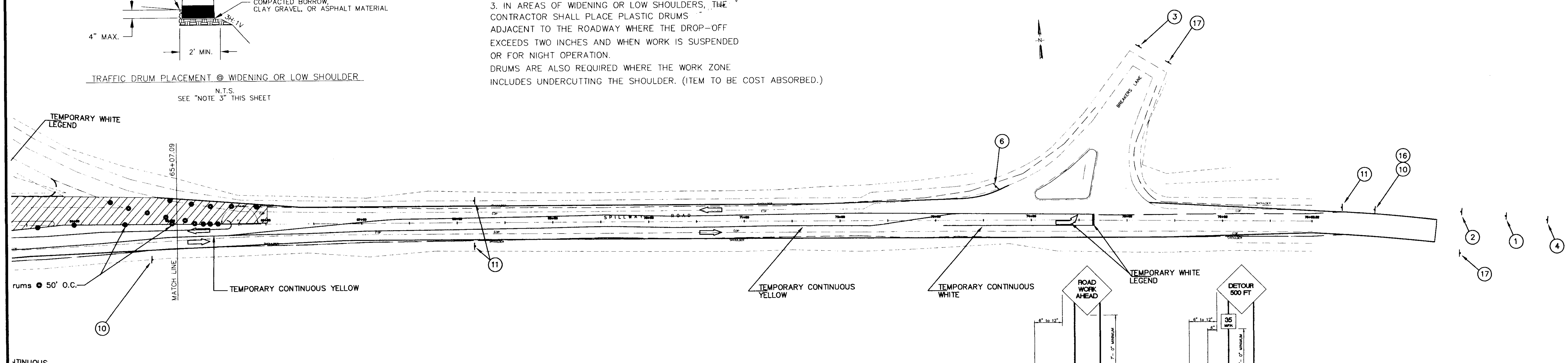




TRAFFIC DRUM PLACEMENT @ WIDENING OR LOW SHOULDER
N.T.S.
SEE "NOTE 3" THIS SHEET

NOTE:
1. SEE STANDARD SHEET 190 FOR LANE CLOSURE DETAILS.
2. PLACE PORTABLE TYPE III BARRICADE IN PATH UPON COMMENCEMENT OF WORK IN AREA.
3. IN AREAS OF WIDENING OR LOW SHOULDERS, THE CONTRACTOR SHALL PLACE PLASTIC DRUMS ADJACENT TO THE ROADWAY WHERE THE DROP-OFF EXCEEDS TWO INCHES AND WHEN WORK IS SUSPENDED OR FOR NIGHT OPERATION.
DRUMS ARE ALSO REQUIRED WHERE THE WORK ZONE INCLUDES UNDERCUTTING THE SHOULDER. (ITEM TO BE COST ABSORBED.)

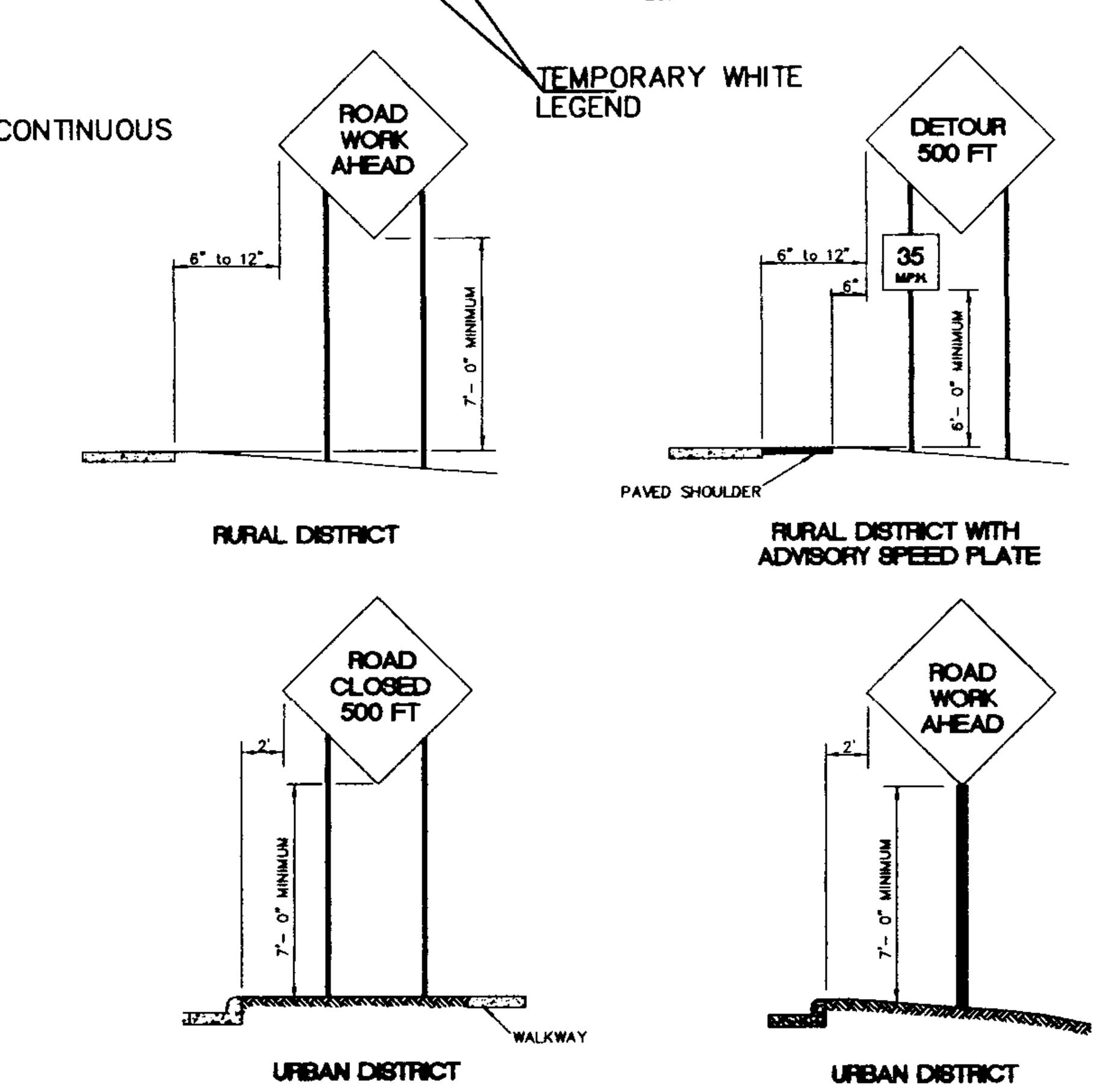
NOTE:
PHASE 1 WORK TO INCLUDE BUILDING SHOULDERS.



LEGEND

- PHASE 2
- TRAFFIC FLOW
- TRAFFIC DRUMS
- TYPE III BARRICADES

NOTE:
REMOVE AND SALVAGE EXISTING REGULATORY SPEED LIMIT SIGNS WITHIN WORK AREA, CITY TO PICK UP.



TYPICAL ROAD WORK SIGNAGE
N.T.S.

CONSTRUCTION SIGN SCHEDULE

SIGN NUMBER	MUTCD NUMBER	DESCRIPTION
1	W20-1	ROAD WORK 1000 FEET
2	W20-1	ROAD WORK 500 FEET
3	W20-1	ROAD WORK 200 FEET
4	W20-1	ROAD WORK 1500 FEET
5	W3-2A	YIELD AHEAD
6	R1-2	YIELD
7	W20-7a W/SUPL.PLT.	FLAGMAN AHEAD 500 FEET
8	W1-3R	REVERSE TURN RIGHT
9	W1-3L	REVERSE TURN LEFT
10	R2-1	30 M.P.H.
11	W6-3	TWO WAY TRAFFIC

CONSTRUCTION SIGN SCHEDULE

SIGN NUMBER	MUTCD NUMBER	DESCRIPTION
12	R11-2	ROAD CLOSED
15	W13-1	20 M.P.H.
16	G20-1	ROAD WORK NEXT 1.2 MILE
17	G20-2	END ROAD WORK
18	———	TYPE III BARRICADE W/ TYPE "A"
19	———	PROJECT SIGN
20	W1-4aR	REVERSE CURVE SIGN (RIGHT)
21	M4-10L	DETOUR LEFT
22	W20-2	DETOUR 1000 FEET
23	W20-2	DETOUR 500 FEET
24	R1-1	STOP SIGN

PHASE 2

SPILLWAY ROAD IMPROVEMENTS
F.A.U.P. PROJECT NO.STP-6945(1)

TRAFFIC CONTROL PLAN

CITY OF RIDGELAND, MISSISSIPPI

WAGGONER ENGINEERING, INC.
Consulting Engineers – Jackson, Mississippi

DRAWN BY: E.L.G.	DATE: 7-9-97	SHEET NUMBER
REVIEWED BY: M.F.	SCALE: NONE	23

STATE	PROJECT NO.
MS.	STP-6945(1)
49-6945-00-001-10	

12" LEGEND
8" DETAIL WHITE CHEVRON @ 20' O.C.
DOUBLE 4" CONTINUOUS YELLOW
4" DETAIL YELLOW
4" SKIP WHITE
4" CONTINUOUS WHITE
24" LEGEND
4" DETAIL WHITE
WHITE LEGEND
4" DOUBLE CONTINUOUS YELLOW
4" SKIP WHITE
4" CONTINUOUS WHITE
4" CONTINUOUS YELLOW
4" DETAIL WHITE
16" LEGEND
LAKESHORE DRIVE
R1-1
R6-1R
SPILLWAY ROAD
STA. 17+20
4" DETAIL WHITE
4" CONTINUOUS WHITE
WHITE LEGEND
4" DOTTED WHITE
4" DETAIL WHITE
8" DETAIL WHITE
DOUBLE 4" CONTINUOUS YELLOW
12" LEGEND
8" DETAIL WHITE
4" DETAIL WHITE
8" DETAIL WHITE @ 10' O.C.
R3-4
R4-7
R6-2R
R2-1(40)
8" DETAIL YELLOW (45' @ 20' O.C.)
4" CONT. YELLOW
4" SKIP WHITE
4" CONTINUOUS WHITE
WHITE LEGEND
4" DETAIL WHITE
R6-1L
MATCH LINE STA. 26+50
DOUBLE 4" DETAIL YELLOW
16" LEGEND
4" DETAIL WHITE
WHITE LEGEND
R2-5A
4" CONTINUOUS YELLOW
4" SKIP WHITE
4" CONTINUOUS YELLOW
4" DETAIL WHITE
4" DOUBLE CONTINUOUS YELLOW
12" WHITE LEGEND
WHITE LEGEND
4" DETAIL WHITE
4" CONTINUOUS WHITE
MATCH LINE STA. 36+00
R5-1A
R6-1R
R6-1L
R2-1(40)
4" DETAIL YELLOW
4" CONTINUOUS YELLOW
4" SKIP WHITE
4" DETAIL WHITE
WHITE LEGEND
4" DETAIL YELLOW
4" CONTINUOUS WHITE
4" SKIP WHITE
4" CONTINUOUS YELLOW

SPILLWAY ROAD IMPROVEMENTS
F.A.U.P. PROJECT NO. STP-6945(1)

STRIPPING/SIGNAGE PLAN

CITY OF RIDGELAND, MISSISSIPPI

WAGGONER ENGINEERING, INC.
Consulting Engineers – Jackson, Mississippi

DRAWN BY: E.L.G.	DATE: 7-10-97	WORKING NUMBER 17
REVIEWED BY: B.S.	SCALE: N.T.S.	SHEET NUMBER 24

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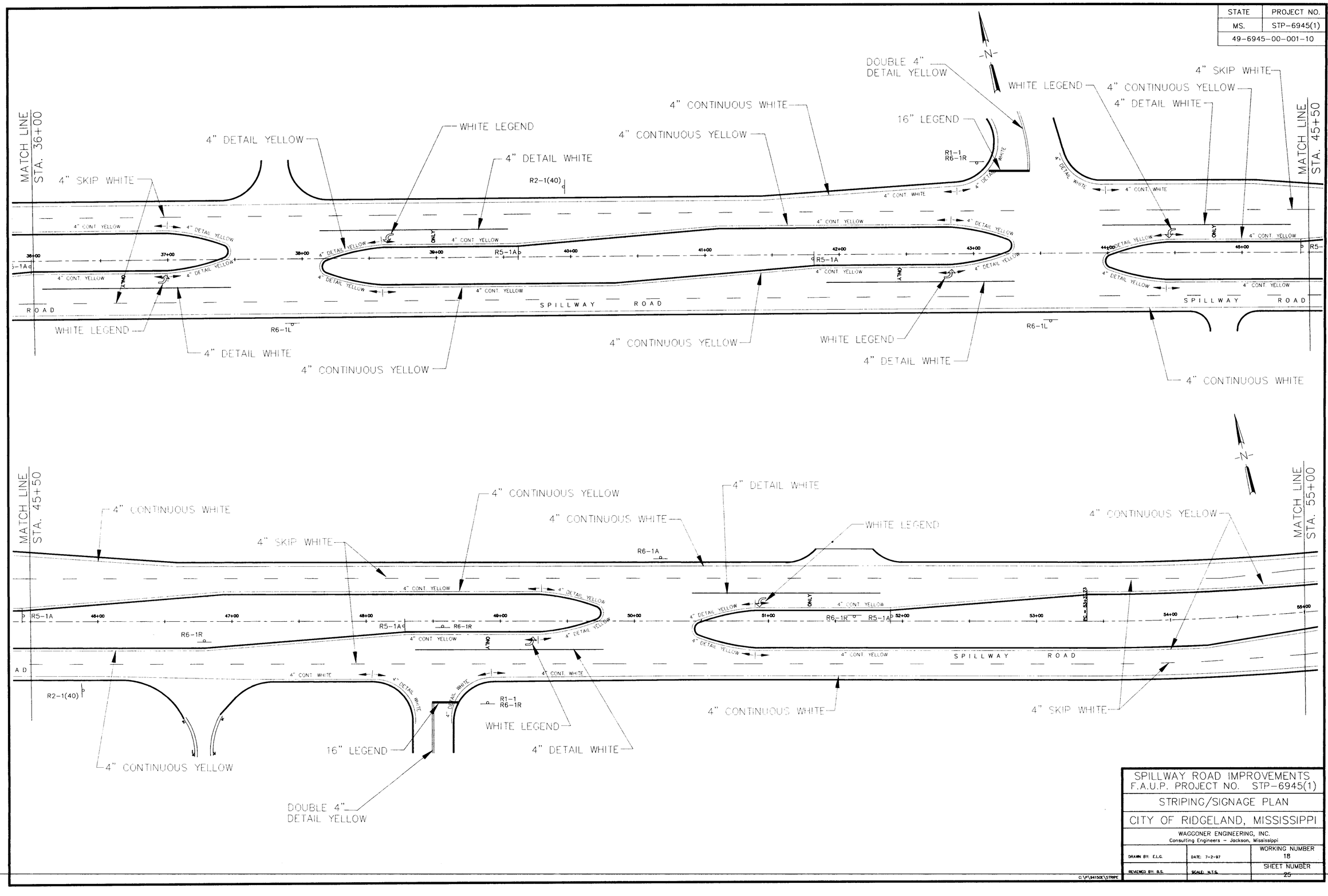
STATE	PROJECT NO.
MS.	STP-6945(1)
49-6945-00-001-10	



SPILLWAY ROAD IMPROVEMENTS
F.A.U.P. PROJECT NO. STP-6945(1)

STRIPING/SIGNAGE PLAN

CITY OF RIDGELAND, MISSISSIPPI

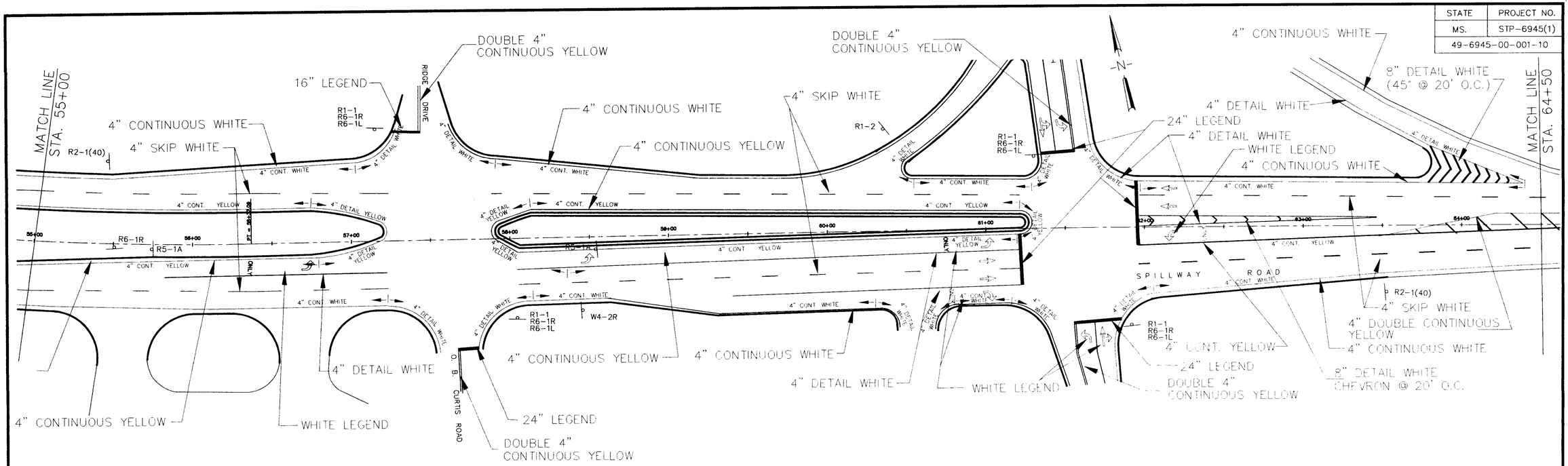
WAGGONER ENGINEERING, INC.
Consulting Engineers – Jackson, Mississippi

DRAWN BY: E.L.G.	DATE: 7-2-97	WORKING NUMBER 18
REVIEWED BY: B.S.	SCALE: N.T.S.	SHEET NUMBER 25

D:\P\94150E\STRIPE

D:\sf\2d12 Wed Jul 02 10:41:48 1997

STATE	PROJECT NO.
MS.	STP-6945(1)
49-6945-00-001-10	



D:\stripe12 Wed Jul 02 13:46:16 1997

SPILLWAY ROAD IMPROVEMENTS F.A.U.P. PROJECT NO. STP-6945(1)		
STRIPING/SIGNAGE PLAN		
CITY OF RIDGELAND, MISSISSIPPI		
WAGGONER ENGINEERING, INC. Consulting Engineers - Jackson, Mississippi		
DRAWN BY: E.L.G.B.F.	DATE: 7-2-97	WORKING NUMBER 19
REVIEWED BY: B.S.	SCALE: N.T.S.	SHEET NUMBER 26

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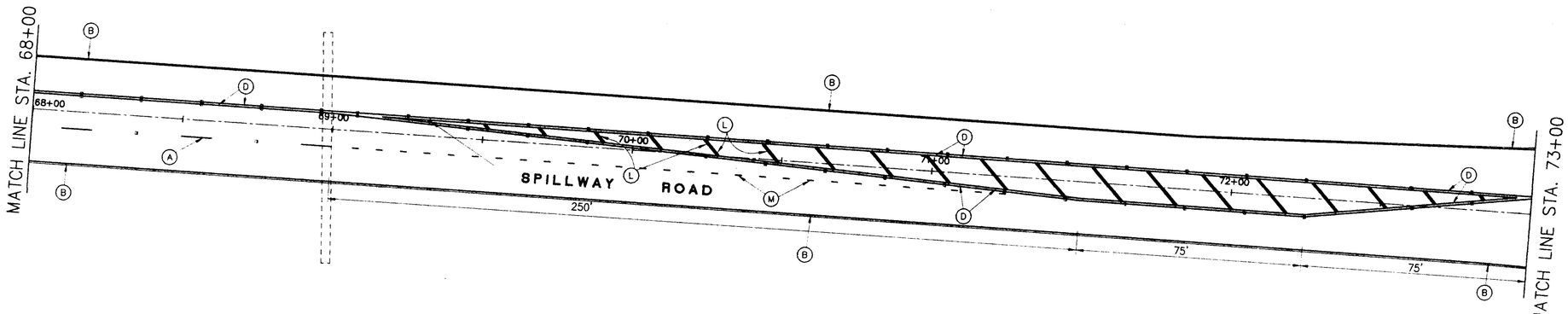
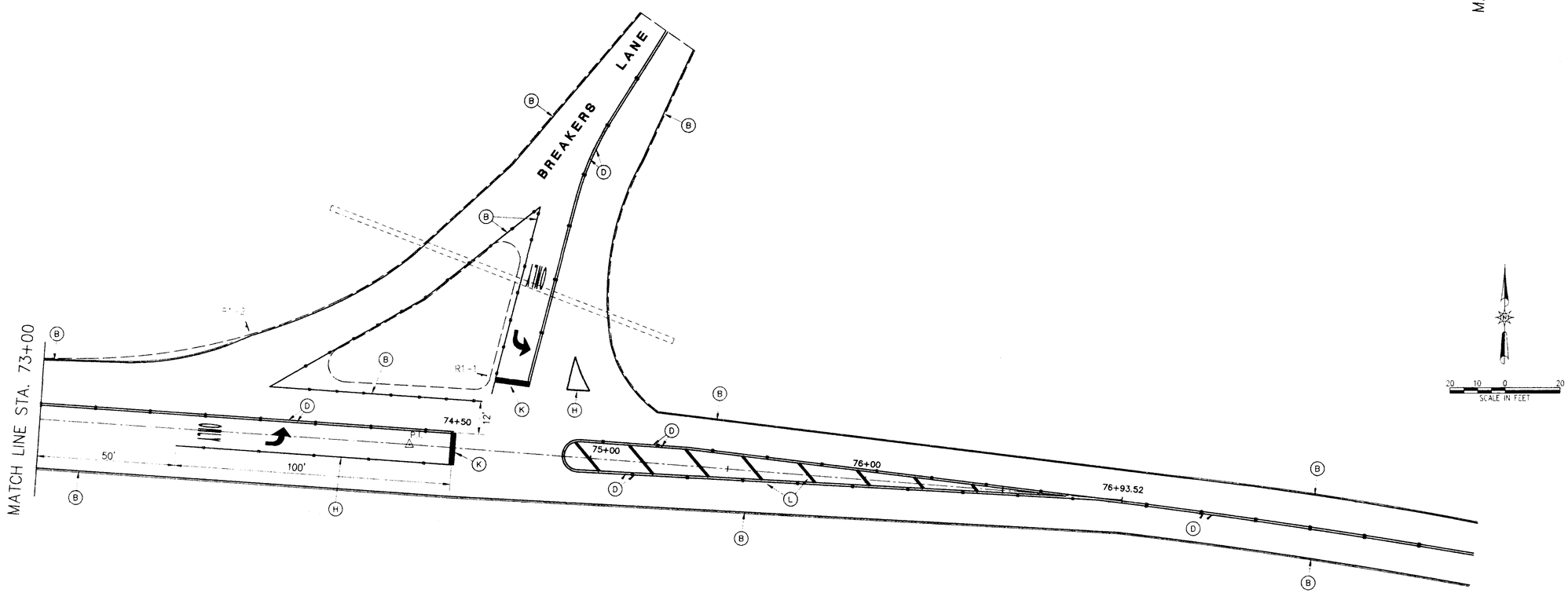
STATE	PROJECT NO.
MISS.	STP-6945(1)/ 49-6945-00-001-10





PAVEMENT MARKING LEGEND

- (A) 4" SKIP WHITE
- (B) 4" CONTINUOUS WHITE EDGELINE
- (C) 4" SKIP YELLOW
- (D) 4" CONTINUOUS YELLOW
- (E) 4" WHITE – DOTTED LANE EXTENSION STRIPE
- (F) 4" WHITE – PARKING STRIPE
- (G) 8" WHITE – CROSSWALK
- (H) 8" WHITE – DETAIL STRIPE
- (I) 12" WHITE – DETAIL STRIPE
- (J) 24" WHITE – DETAIL STRIPE
- (K) 24" WHITE – STOPLINE
- (L) 8" YELLOW – DETAIL STRIPE
- (M) 4" SKIP WHITE (2' STRIP, 6' GAP)

ONLY ONLY LEGEND

RIGHT ARROW

LEFT ARROW

STRAIGHT ARROW

COMBINATION ARROW

RED CLEAR REFLECTIVE RAISED MARKER

TWO-WAY YELLOW REFLECTIVE RAISED MARKER

WAGGONER ENGINEERING, INC.
ENGINEERS, PLANNERS, SCIENTISTS

NEEL-SCHAFFER, INC.
ENGINEERS • PLANNERS
Jackson, Mississippi

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKING DETAILS STA. 68+00 TO E.O.P.

PROJECT NO. STP-6945(1)/ 49-6945-00-001-10

MADISON COUNTY - RIDGELAND

WORKING NUMBER 20

SHEET NUMBER 27

REVISION | BY | DATE

FILENAME:

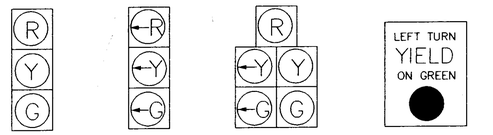
DESIGNED RRW. CHECKED MGB. DATE 5-97

CAD REF 2763-PM2 PLOT @ 1:20

T:\TRAFFIC\2763\02\2763-PM2 Tue Jul 1 11:14:35 1997 Billy B

STATE	PROJECT NO.
MS	STP-6945(1)
49-6945-00-001-10	

SIGNAL HEADS & SIGNS



3 SECT. HEAD W/ BACKPLATES TYPE 1 12" ①

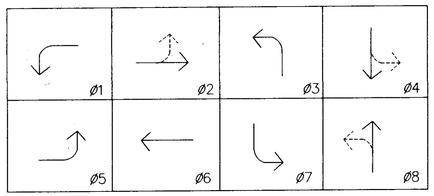
3 SECT. HEAD W/ BACKPLATES TYPE 2 12" ②

5 SECT. HEAD W/ BACKPLATES TYPE 7 12" ⑦

R10-12 (30" X 36") Ⓑ

PHASE 0 PEDS

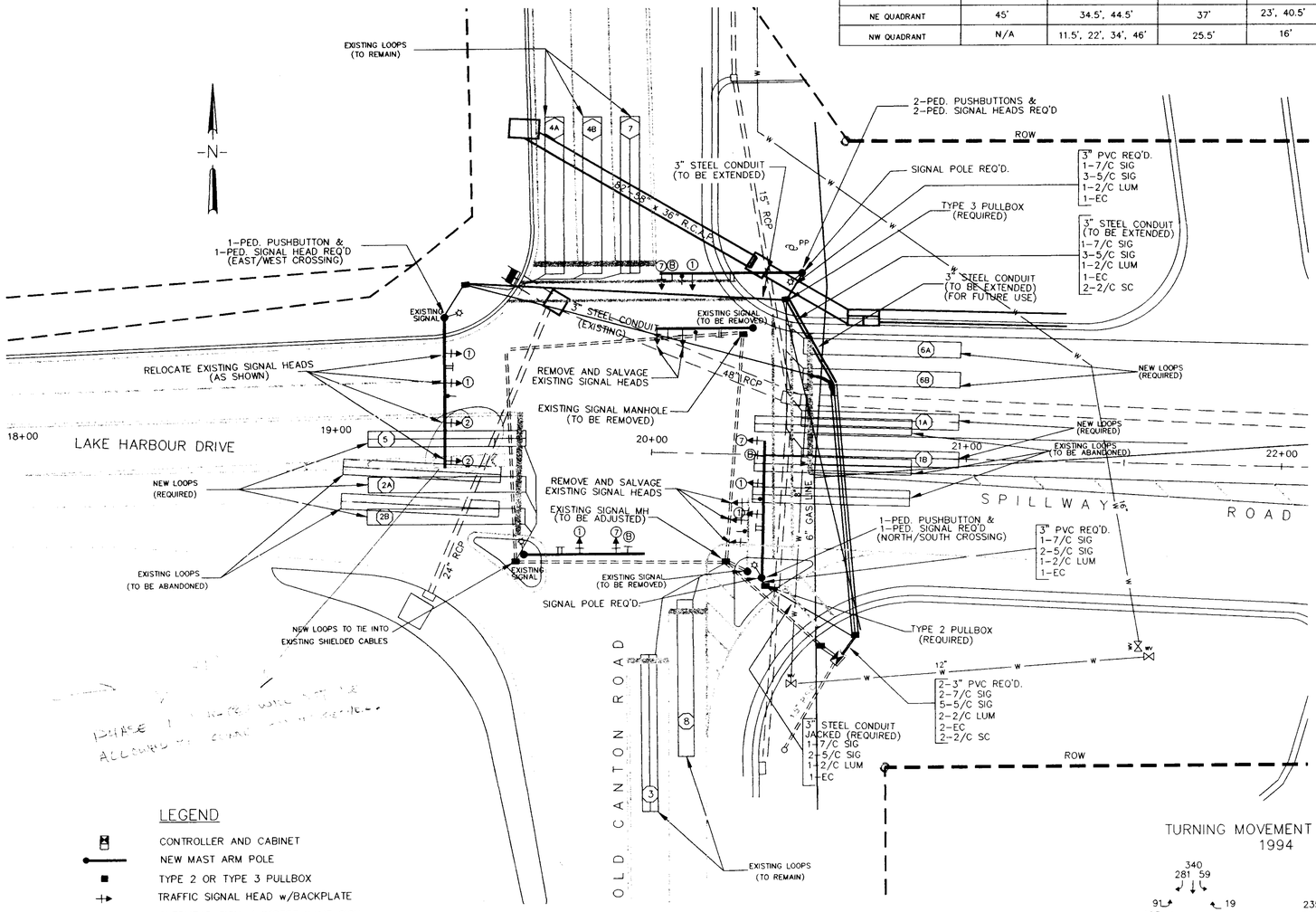
SIGNAL PHASING



EMERGENCY PRE-EMPT
CHANNEL 1 – Ø2, Ø5
CHANNEL 2 – Ø1, Ø6
CHANNEL 3 – Ø3, Ø8

FLASHING OPERATION
YELLOW – Ø1, Ø2, Ø5, Ø6
RED – Ø3, Ø4, Ø7, Ø8

SIGNAL POLE CHART		LOCATION (FROM POLE – FT)		
LOCATION	MAST ARM LENGTH	SIGNAL HEADS	EMERGENCY VEHICLE DETECTOR	SIGNS
SE QUADRANT	44'	19.5', 29.5', 42.5'	25'	16', 38.5'
NE QUADRANT	45'	34.5', 44.5'	37'	23', 40.5'
NW QUADRANT	N/A	11.5', 22', 34', 46'	25.5'	16'



TRAFFIC SIGNAL INSTALLATION GENERAL NOTES

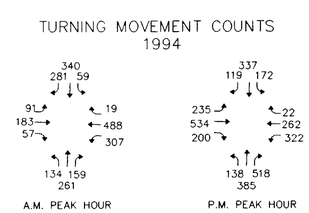
1. THE PLAN LOCATIONS OF UNDERGROUND UTILITIES ARE APPROXIMATE. THE CONTRACTOR SHALL NOTIFY ALL THE UTILITY COMPANIES PRIOR TO ANY EXCAVATION ON THE PROJECT, IN ORDER TO ESTABLISH EXACT LOCATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING INDEPENDENT INVESTIGATIONS, AS NECESSARY, TO VERIFY ALL UTILITY LOCATIONS AT NO COST TO THE OWNER.
2. ALL SIGNS, SIGNALS, PAVEMENT MARKINGS AND TEMPORARY TRAFFIC CONTROL DEVICES ARE TO CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (1988) EDITION AND ALL SUBSEQUENT REVISIONS.
3. ALL RAISED OBJECTS ARE TO BE PLACED A MINIMUM OF 2' BEHIND THE FACE OF CURB. NEW TRAFFIC SIGNAL POLES ARE TO BE PLACED A MINIMUM OF 5' BEHIND THE FACE OF CURB OR EDGE OF PAVEMENT, EXCEPT WHERE CONFLICTS WITH UTILITIES AND / OR RIGHTS-OF-WAY EXISTS.
4. ALL POLES, PULLBOXES, CONTROLLERS AND PAVEMENT MARKINGS SHALL BE FIELD LOCATED BY THE ENGINEER AND THE CONTRACTOR AT THE NEAREST PRACTICAL LOCATION INDICATED ON THE PLAN SHEETS.
5. THE SIGNAL CONTROLLER TIMINGS SHALL BE PROVIDED BY THE ENGINEER.
6. THE CONTRACTOR IS RESPONSIBLE FOR THE MAINTENANCE OF EXISTING TRAFFIC SIGNALS AND / OR SIGNS. ANY MODIFICATIONS REQUIRED TO THESE DEVICES SHALL BE PERFORMED BY THE CONTRACTOR.
7. THE CONTRACTOR IS RESPONSIBLE FOR THE MAINTENANCE OF EXISTING TRAFFIC SIGNALS AND/OR SIGNS. COST TO BE INCLUDED IN OTHER ITEMS BID. CONTRACTOR IS RESPONSIBLE FOR MAINT. OF ALL TRAFFIC IN THE PROJECT, ONCE WORK HAS BEGUN.
8. RELOCATE SIGNS AND EMERGENCY VEHICLE DETECTORS FROM THE EXISTING SIGNALS IN THE NE AND SE QUADRANT TO THE NEW SIGNALS AS INDICATED.
9. CONTRACTOR SHALL UTILIZE EXISTING EQUIPMENT IN CONTROLLER CABINET FOR IN CONTROLLER CABINET FOR THE INSTALLATION OF ALL NEW MATERIALS.
10. SALVAGE ALL POLES AND SIGNS, AND REMOVED SIGNAL HEADS TO CITY.
11. TRAFFIC SIGNAL WILL RUN FIXED-TIME OPERATION DURING CONSTRUCTION PHASE.

LEGEND

Ⓒ	CONTROLLER AND CABINET
●———	NEW MAST ARM POLE
■	TYPE 2 OR TYPE 3 PULLBOX
⊣►	TRAFFIC SIGNAL HEAD w/BACKPLATE
⊣ OR ⇉	OVERHEAD SIGN / STREET NAME SIGN
▭	VEHICLE LOOP DETECTOR
5/c	5 CONDUCTOR SIGNAL CABLE – AWG #14
7/c	7 CONDUCTOR SIGNAL CABLE – AWG #14
S.C.	SHIELDED CABLE (2 CONDUCTOR – AWG #14)
LUM	STREET LIGHT CABLE AWG (1 CONDUCTOR – AWG #10)
———	CONDUIT RUN
●—	EMERGENCY VEHICLE DETECTOR
E.C.	EMERGENCY VEHICLE CABLE (3 CONDUCTOR AWG #20)

DETECTOR ASSIGNMENT SUMMARY					
DETECTOR NUMBER	LOOP SIZE	NUMBER OF TURNS	PHASE CALLED	PRESENCE MODE	PULSE MODE
1A	6'x 50'	2-4-2	1	X	
1B	6'x 50'	2-4-2	1	X	
2A	6'x 50'	2	2	X	
2B	6'x 50'	2	2	X	
5	6'x 50'	2-4-2	5	X	
6A	6'x 50'	2	6	X	
6B	6'x 50'	2	6	X	

TURNING MOVEMENT COUNTS 1994



A.M. PEAK HOUR

P.M. PEAK HOUR

SPILLWAY LINE ROAD IMPROVEMENTS
F.A.U.P. PROJECT NO. STP-6945(1)
TRAFFIC SIGNAL PLAN @ SPILLWAY ROAD AND OLD CANTON ROAD
CITY OF RIDGELAND, MISSISSIPPI

WAGGONER ENGINEERING, INC.
Consulting Engineers – Jackson, Mississippi

DRAWN BY: B.F.	DATE: 7-7-97	SHEET NUMBER
REVIEWED BY: B.S.	SCALE: 1"=20'	28

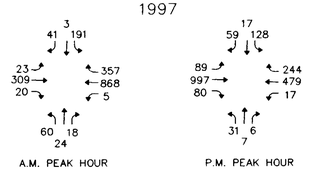
C:\94150E\SIGNAL12

C:\sdskpro\94150E\SIGNAL12 Mon Jul 07 07:51:24 1997

STATE	PROJECT NO.
MS	STP-6945(1)
49-6945-00-001-10	

SIGNAL POLE CHART		LOCATION (FROM POLE - FT)		
LOCATION	MAST ARM LENGTH	SIGNAL HEADS	EMERGENCY VEHICLE DETECTOR	SIGNS
SW QUADRANT	44'	32.5', 43.5'	36'	27'
NW QUADRANT	48'	21', 32', 47.5'	27'	16.5'
SE QUADRANT	48'	35', 47.5'	39'	28', 43.5'
NE QUADRANT	32'	20', 31'	26'	13'

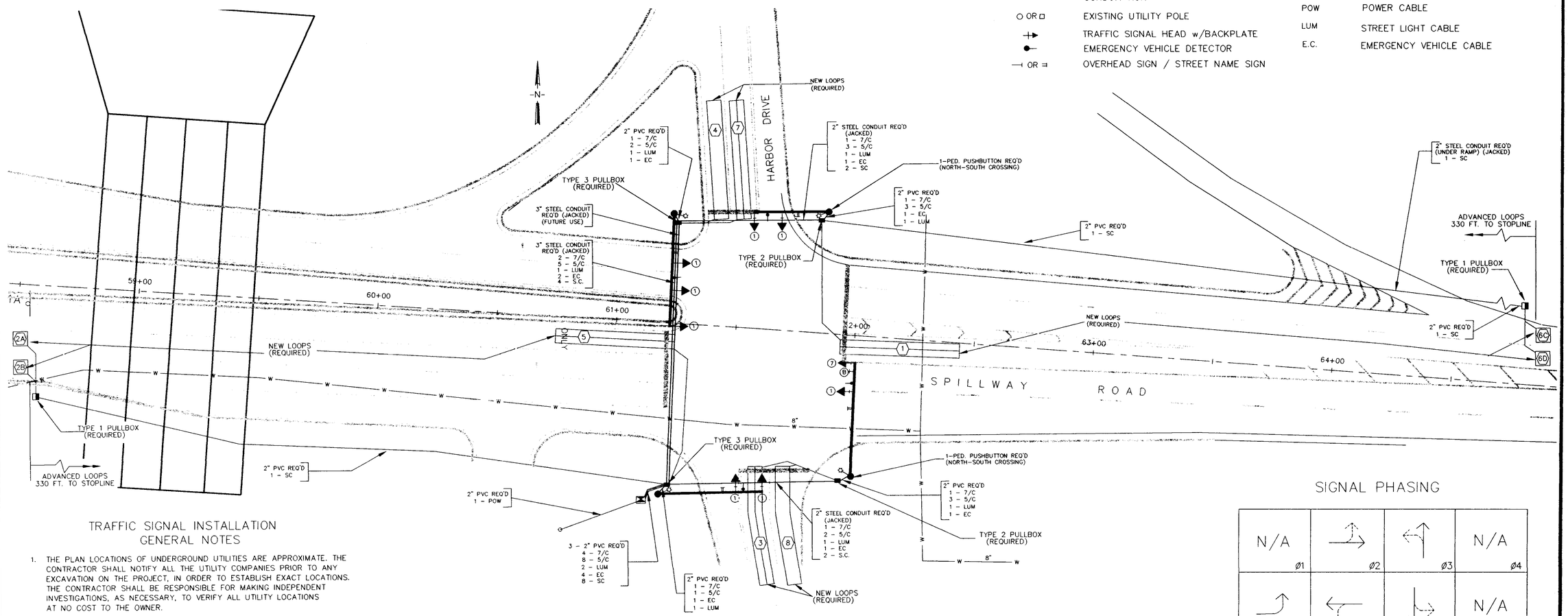
TURNING MOVEMENT COUNTS
1997



A.M. PEAK HOUR P.M. PEAK HOUR

LEGEND

	CONTROLLER AND CABINET	▭ OR □	VEHICLE LOOP DETECTOR
◨	TYPE 1 PULLBOX	5/c	5 CONDUCTOR SIGNAL CABLE
■	TYPE 2 OR TYPE 3 PULLBOX	7/c	7 CONDUCTOR SIGNAL CABLE
●———	NEW MAST ARM POLE	S.C.	SHIELDED CABLE (2 CONDUCTOR)
———	CONDUIT RUN	POW	POWER CABLE
○ OR □	EXISTING UTILITY POLE	LUM	STREET LIGHT CABLE
→+	TRAFFIC SIGNAL HEAD w/BACKPLATE	E.C.	EMERGENCY VEHICLE CABLE
●—	EMERGENCY VEHICLE DETECTOR		
—⊣ OR ⊐	OVERHEAD SIGN / STREET NAME SIGN		

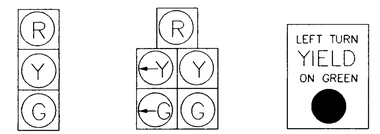


TRAFFIC SIGNAL INSTALLATION GENERAL NOTES

1. THE PLAN LOCATIONS OF UNDERGROUND UTILITIES ARE APPROXIMATE. THE CONTRACTOR SHALL NOTIFY ALL THE UTILITY COMPANIES PRIOR TO ANY EXCAVATION ON THE PROJECT, IN ORDER TO ESTABLISH EXACT LOCATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING INDEPENDENT INVESTIGATIONS, AS NECESSARY, TO VERIFY ALL UTILITY LOCATIONS AT NO COST TO THE OWNER.
2. ALL SIGNS, SIGNALS, PAVEMENT MARKINGS AND TEMPORARY TRAFFIC CONTROL DEVICES ARE TO CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (1988) EDITION AND ALL SUBSEQUENT REVISIONS.
3. ALL RAISED OBJECTS ARE TO BE PLACED A MINIMUM OF 2' BEHIND THE FACE OF CURB. NEW TRAFFIC SIGNAL POLES ARE TO BE PLACED A MINIMUM OF 10' BEHIND THE EDGE OF PAVEMENT, EXCEPT WHERE CONFLICTS WITH UTILITIES AND / OR RIGHTS-OF-WAY EXISTS.
4. ALL POLES, PULLBOXES, CONTROLLERS AND PAVEMENT MARKINGS SHALL BE FIELD LOCATED BY THE ENGINEER AND THE CONTRACTOR AT THE NEAREST PRACTICAL LOCATION INDICATED ON THE PLAN SHEETS.
5. THE SIGNAL CONTROLLER TIMINGS SHALL BE PROVIDED BY THE ENGINEER.
6. THE CONTRACTOR SHALL MAKE APPLICATION FOR POWER SERVICE, COORDINATING WITH CITY OFFICIALS AND UTILITY COMPANY INVOLVED, IN ADVANCE OF REQUIRING THE ELECTRICAL SERVICE.
7. THE CONTRACTOR IS RESPONSIBLE FOR THE MAINTENANCE OF EXISTING TRAFFIC SIGNS. ANY MODIFICATIONS REQUIRED TO THESE DEVICES SHALL BE PERFORMED BY THE CONTRACTOR.
8. CONTRACTOR IS RESPONSIBLE FOR MAINTENANCE OF ALL TRAFFIC IN THE PROJECT, ONCE WORK HAS BEGUN.

DETECTOR ASSIGNMENT SUMMARY					
DETECTOR NUMBER	LOOP SIZE	NUMBER OF TURNS	PHASE CALLED	PRESENCE MODE	PULSE MODE
1	6'x 50'	2-4-2	6	X	
2A,2B	6'x 6'	3	2		X
3	6'x 50'	2-4-2	3	X	
4	6'x 50'	2	7	X	
5	6'x 50'	2-4-2	5	X	
6A,6B	6'x 6'	3	6		X
7	6'x 50'	2-4-2	7	X	
8	6'x 50'	2	3	X	

SIGNAL HEADS & SIGNS

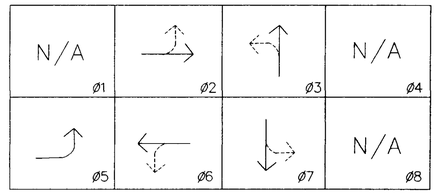


3 SECT. HEAD W/ BACKPLATES TYPE 1 12" ①

5 SECT. HEAD W/ BACKPLATES TYPE 7 12" ⑦

R10-12 (30" X 36") Ⓡ

SIGNAL PHASING



FLASHING OPERATION
YELLOW - Ø2,Ø5,Ø6
RED - Ø3,Ø7

EMERGENCY PRE-EMPT
CHANNEL 1 - Ø2,Ø5
CHANNEL 2 - Ø3
CHANNEL 3 - Ø6
CHANNEL 4 - Ø7

SPILLWAY LINE ROAD IMPROVEMENTS
F.A.U.P. PROJECT NO. STP-6945(1)

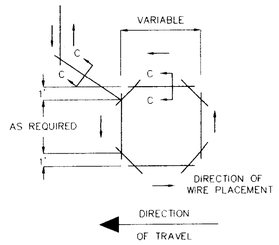
TRAFFIC SIGNAL PLAN @ SPILLWAY ROAD AND HARBOR DRIVE

CITY OF RIDGELAND, MISSISSIPPI

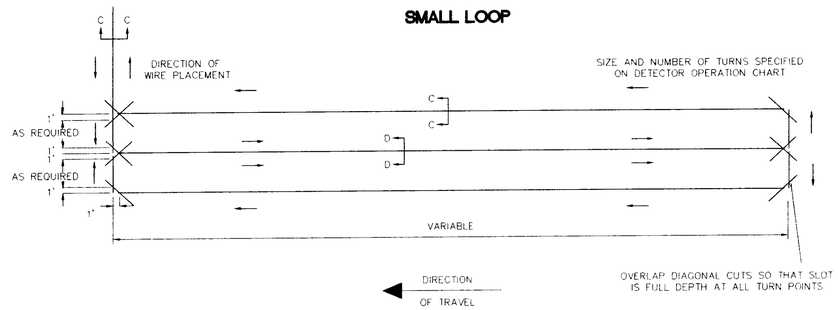
WAGGONER ENGINEERING, INC.
Consulting Engineers - Jackson, Mississippi

DRAWN BY: B.F.	DATE: 7-7-97	SHEET NUMBER
REVIEWED BY: B.S.	SCALE: 1"=20'	29

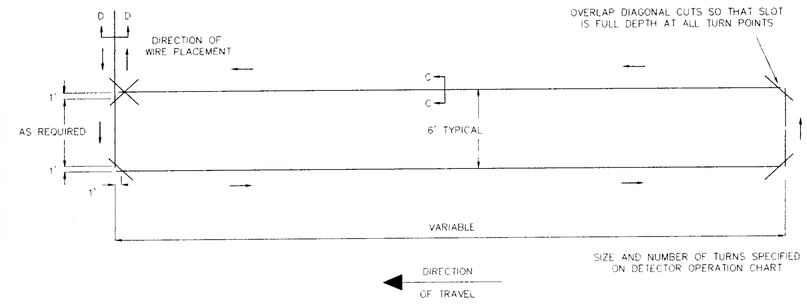
C:\SBSKPRO\194156\SIGNAL2 Mon Jul 07 08:23:05 1997



SMALL LOOP



QUADRAPOLE LOOP

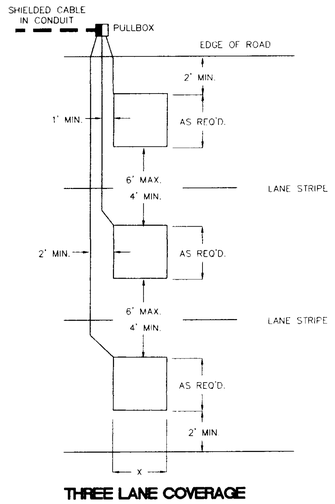


RECTANGULAR LOOP

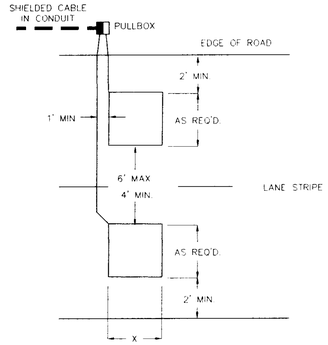
SAW CUT DIAGRAM

SAW SLOT AND LOOP WIRE INSTALLATION PROCEDURES

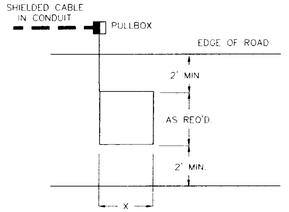
1. CONCRETE PAVEMENT JOINTS SHALL NOT BE USED FOR EITHER LOOP OR FEEDER WIRE. NO LOOPS ARE TO BE INSTALLED THROUGH, OVER, OR UNDER TRANSVERSE CONCRETE JOINTS IN CONCRETE PAVEMENT. NO MANHOLES, INLETS, VALVES, ETC. MAY BE LOCATED WITHIN A LOOP. IF JOINTS OR MANHOLES ARE ENCOUNTERED, THE LOCATION OF THE LOOP MAY BE VARIED SLIGHTLY AS DIRECTED BY THE ENGINEER. IF THE JOINTS OR MANHOLES ARE UNAVOIDABLE, SMALLER LOOPS, THE SIZE TO BE DETERMINED BY THE ENGINEER, MAY BE USED INSTEAD OF ONE LARGER LOOP AND SHALL PROVIDE THE SAME AREA OF COVERAGE AS THE LARGE LOOP. THE SMALLER LOOPS USED TO REPLACE THE ONE LARGE LOOP MAY BE CONNECTED TO ONE DETECTOR AMPLIFIER.
2. WHEN A BEND OR CORNER IS REQUIRED THE SLOTS PRODUCING THE "WOULD-BE" RIGHT ANGLE SHALL NOT OVERLAP.
3. WHEN A BEND OR CORNER IS REQUIRED THE SLOTS PRODUCING THE ANGLES APPROXIMATELY 45° SHALL OVERLAP THE SLOTS IT CONNECTS. THIS IS TO INSURE FULL DEPTH OF SLOTS AT BENDS OR CORNERS.
4. ALL CORNERS OF THE LOOP SHALL BE CUT AT A 45° ANGLE AND HAVE A MINIMUM DIAGONAL LENGTH OF 16".
5. SAW CUTS IN THE PAVEMENT SHALL BE FLUSHED WITH CLEAN WATER UNDER SUFFICIENT PRESSURE TO REMOVE MUD AND SMALL DEBRIS. SAW CUTS SHALL THEN BE DRIED AND CLEANED OF ALL DEBRIS BEFORE INSTALLING THE LOOP WIRE.
6. ONE CONTINUOUS, UNBROKEN LENGTH OF WIRE SHALL BE USED TO FORM A LOOP OF THE NUMBER OF TURNS AS SPECIFIED IN THE PLANS. THE CONTINUOUS RUN SHALL BE FROM THE PULLBOX/CONDULET INCLUDING THE LOOP AND RETURN.
7. ALL WIRE SHALL BE PUSHED INTO THE SAW CUT WITH WOOD STICKS TO INSURE THE INSULATION IS NOT DAMAGED. THE USE OF METAL TOOLS IS NOT PERMITTED.
8. SPLICE BETWEEN LEAD-IN AND SHIELDED CABLE REQUIRED IN PULLBOX OR CONDULET. ALL SPLICES IN THE LEAD-IN WIRE SHALL BE MADE ONLY IN THE PULLBOX OR CONDULET. ALL SPLICES MUST BE CAREFULLY MADE TO INSURE CONSTANT LOW RESISTANCE AND MUST BE INSULATED IN SUCH A MANNER THAT UNDER THE LOCAL PREVAILING CONDITIONS THE INSTALLATION MAINTAINS A RESISTANCE TO GROUND OF NOT LESS THAN 5 MEGOHMS. TO INSURE CONSISTENT LOW RESISTANCE CONNECTIONS, THE SPLICES SHALL BE SOLDERED WITH RESIN FILLED SOLDER AND WATERPROOFED BY SHRINK WRAP OR BY OTHER METHOD APPROVED BY THE ENGINEER. OPEN FLAME SOLDER SHALL NOT BE PERMITTED.
9. WHERE THE WIRES LEAVE THE LOOP, EACH PAIR OF LEAD-IN WIRES MUST BE TWISTED TOGETHER WITH A MINIMUM OF THREE TWISTS PER FOOT.
10. IF THE LEAD-IN IS TAKEN OVERHEAD THE WIRE MUST BE PROTECTED BY CONDUIT (TYPE 1) FROM UNDERGROUND TO SPAN.
11. WHEN A PULLBOX IS NOT USED IN THE LEAD-IN (THE WIRE WHICH CONNECTS THE SENSING LOOP TO THE DETECTOR AMPLIFIER), THE LOOP WIRE SHALL BE TWISTED A MINIMUM OF THREE TURNS PER FOOT FROM THE LOOP TO THE DETECTOR AMPLIFIER.



THREE LANE COVERAGE

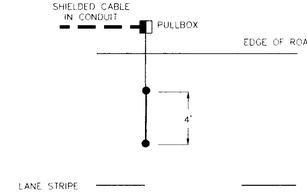


TWO LANE COVERAGE



ONE LANE COVERAGE

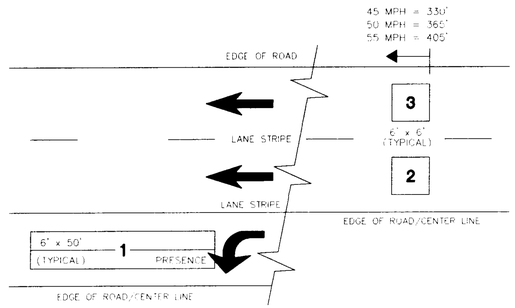
"X" DIMENSION SPECIFIED ON PLANS



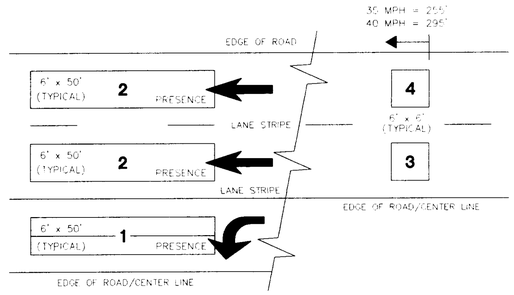
PROBE DETECTOR

TYPICAL LOOP DETECTOR LANE COVERAGE DIAGRAM

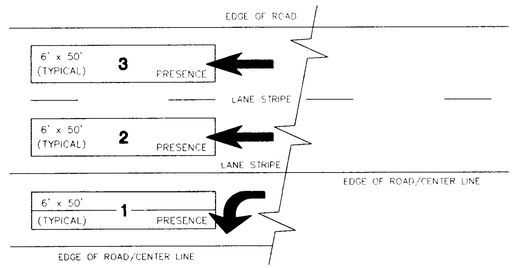
45 MPH or GREATER



35 - 40 MPH



30 MPH or LESS

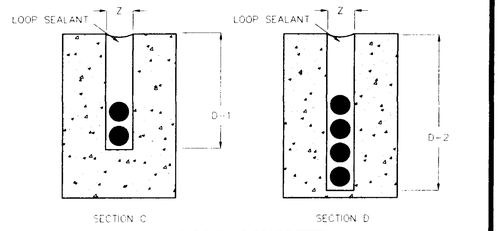


TYPICAL LOOP DETECTOR PLACEMENT DIAGRAM

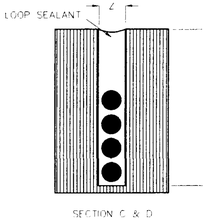
3 = CHANNEL NUMBER

AMP 1-Ø2, AMP 2-Ø4, AMP 3-Ø6, AMP 4-Ø8

MPH IS BASED ON SPEED LIMIT
ALL DISTANCES FROM STOPLINE



LOOP IN CONCRETE



LOOP IN ASPHALT

DEPTH	NUMBER OF WIRES				
	1	2	3	4	6
D-1	1.5"	2.0"	2.0"	2.5"	3.0"
D-2	-	2.0"	2.0"	2.5"	3.0"
D-3	2.0"	2.0"	2.5"	3.0"	3.0"

"Z" DIMENSION SHALL BE WIDE ENOUGH TO ACCOMMODATE LOOP WIRE WITHOUT CHAFING THE INSULATION (5/16" NOMINAL).

SAW SLOT DETAIL

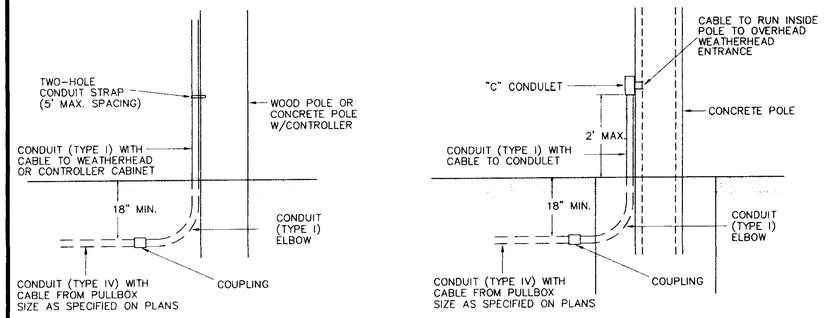
CITY OF RIDGELAND

STANDARD SIGNAL DETAILS

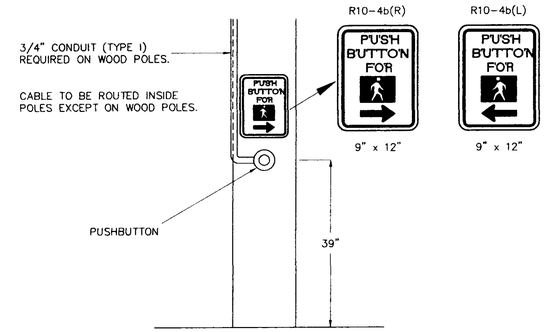
VEHICLE LOOP
DETECTOR ASSEMBLY

WAGGONER ENGINEERING, INC.
Consulting Engineers – Jackson, Mississippi

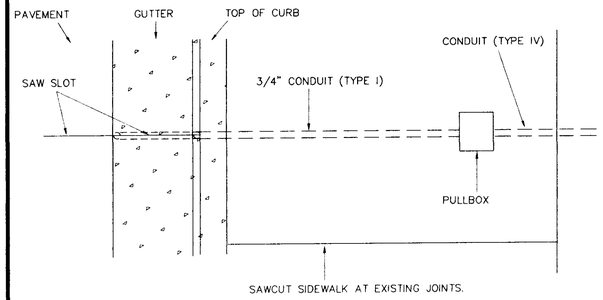
DRAWN BY: B.F.	DATE: 4-24-97	SHEET NUMBER
REVIEWED BY: J.H.	SCALE: 1"=20'	30

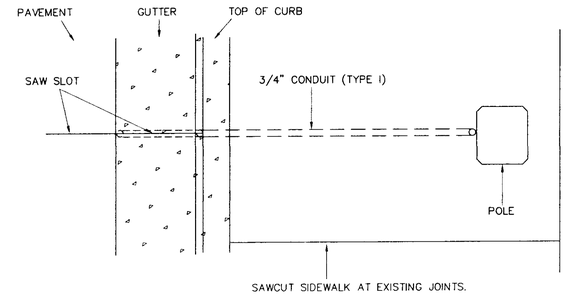


CONDUIT DETAIL AT POLES

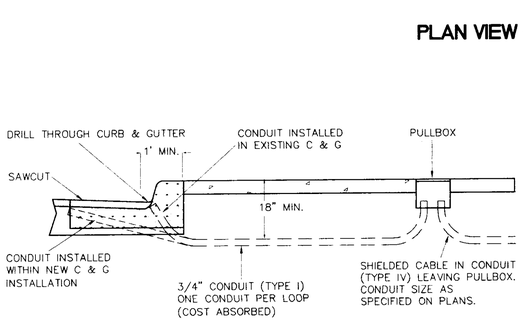


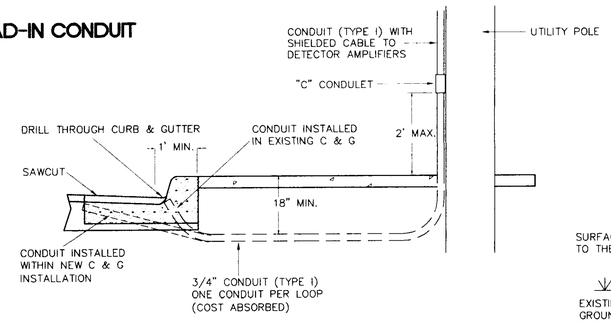
PEDESTRIAN PUSH BUTTON AND SIGN INSTALLATION DETAIL



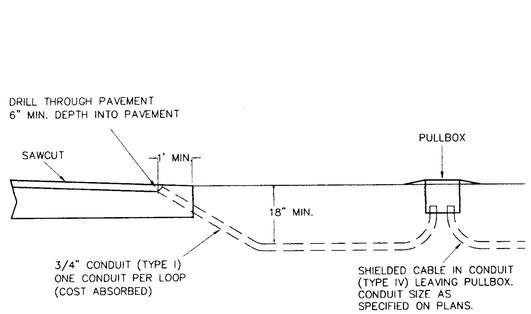


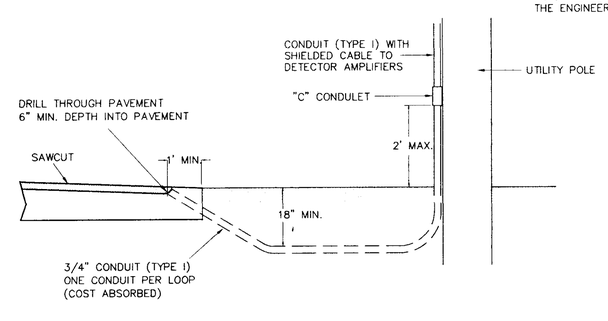
PLAN VIEW - LOOP LEAD-IN CONDUIT



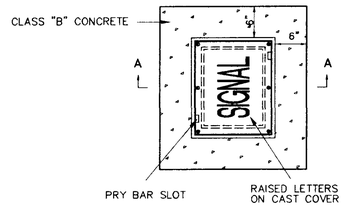


TYPICAL SECTION IN GUTTER AND SIDEWALK





TYPICAL SECTION IN EARTH

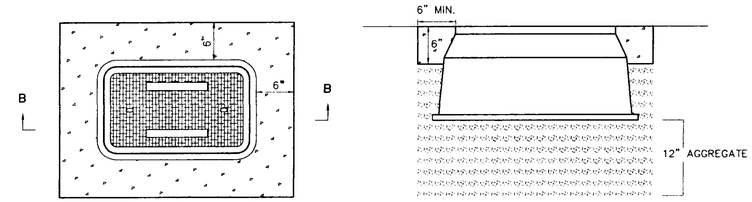


PLAN

SECTION A-A

TWO-PIECE PULLBOX (TYPE 1)

CAST IRON, CAST ALUMINUM, WELDED ALUMINUM, OR APPROVED EQUAL

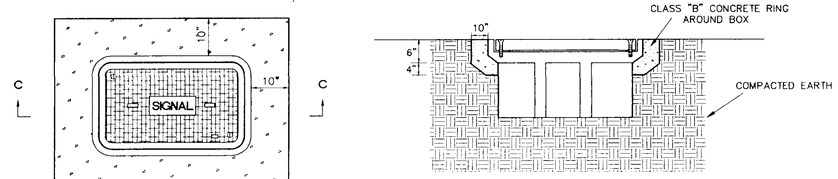


PLAN

SECTION B-B

TWO-PIECE PULLBOX (TYPE 2)

PRECAST CLASS "B" CONCRETE, HIGH DENSITY POLYETHYLENE, COMPOSOLITE, OR APPROVED EQUAL

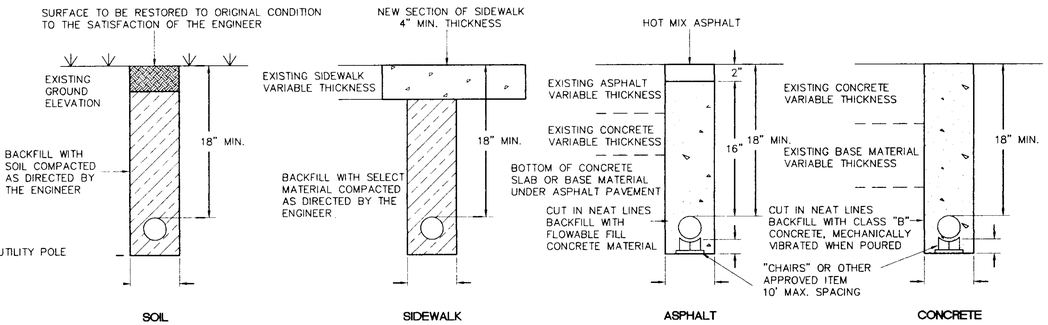


PLAN

SECTION C-C

TWO-PIECE PULLBOX (TYPE 3)

COMPOSOLITE OR APPROVED EQUAL



SOIL | SIDEWALK | ASPHALT | CONCRETE

CONDUIT TRENCHING DETAIL

NOTES :

1. CONDUIT TO BE SEALED WITH DUCT SEALER ONCE CABLE IS INSTALLED.
2. SAWCUT SIDEWALK AT EXISTING JOINTS AND REPLACE ENTIRE SECTION TO MATCH EXISTING MATERIAL. WHEN NEW SIDEWALK IS BEING CONSTRUCTED, CONDUIT, PULLBOX, AND POLE ARE TO BE INSTALLED BEFORE SIDEWALK IS POURED.
3. TYPE I CONDUIT IS RIGID STEEL; TYPE IV CONDUIT IS PVC.
4. CONDUIT MAY BE TRENCHED OR JACKED. ELECTRICAL SUBCONTRACTOR SHALL COORDINATE CONDUIT INSTALLATION WORK UNDER ROADWAY WITH ROADWAY CONSTRUCTION PHASING IN ORDER TO MINIMIZE JACKING.

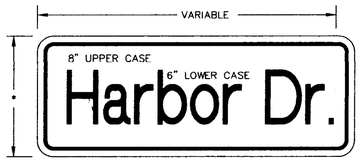
CITY OF RIDGELAND

STANDARD SIGNAL DETAILS

CONDUIT, PULLBOX AND PEDESTRIAN PUSHBUTTON

WAGGONER ENGINEERING, INC.
Consulting Engineers -- Jackson, Mississippi

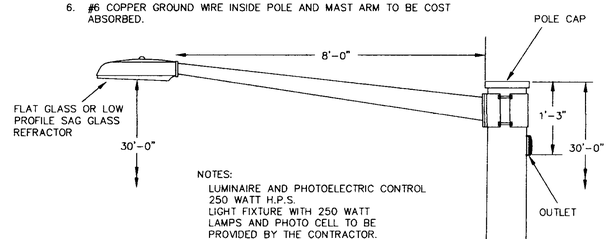
DRAWN BY: BLF.	DATE: 4-24-97	SHEET NUMBER
REVIEWED BY: J.H.	SCALE: 1"=20'	31



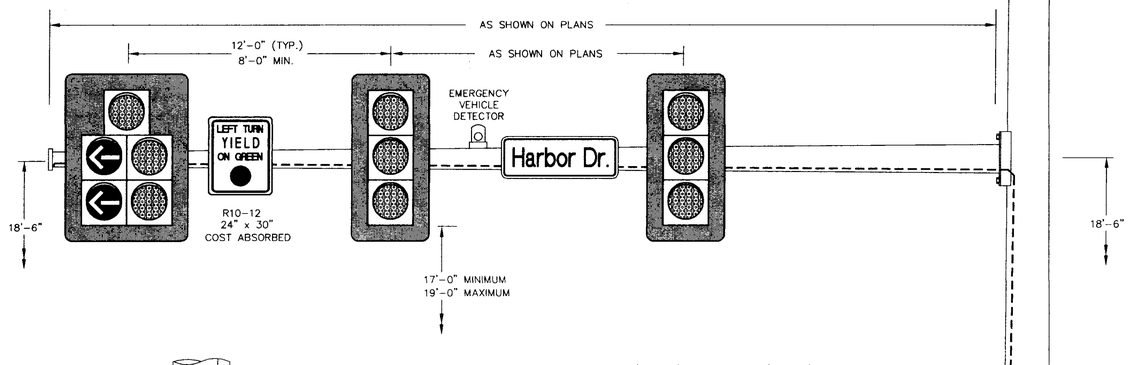
STREET NAME SIGNS (TYPICAL)

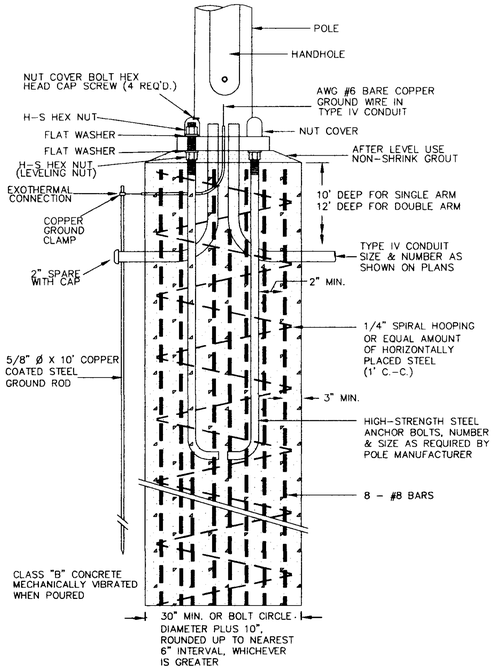
THICKNESS = 0.1"
WHITE ON GREEN SHEETING
8" UPPER CASE, 6" LOWER CASE LETTERS; SERIES "C"
STREET NAME SIGNS REQUIRE A MINIMUM OF 2 MOUNTING BRACKETS (30" MAXIMUM SPACING BETWEEN BRACKETS)

NOTES:
1. WIRE ENTRANCE TO MAST ARM WILL BE FIELD DRILLED TO CORRESPOND TO THE LOCATION OF THE SIGNAL HEADS WHEN ALIGNED IN THE FIELD.
2. ALL SIGNAL HEADS TO BE YELLOW IN COLOR.
3. RED SECTION INDICATIONS TO BE APPROXIMATELY SAME HEIGHT.
4. EXACT DIMENSIONS AND LOCATIONS OF ANCHOR BOLTS TO BE SUPPLIED BY THE POLE MANUFACTURER.
5. DESIGN WIND LOAD FOR POLES AND MAST ARMS IS 70 MPH.
6. #6 COPPER GROUND WIRE INSIDE POLE AND MAST ARM TO BE COST ABSORBED.

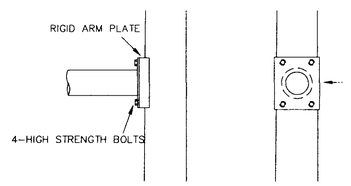


NOTES:
LUMINAIRE AND PHOTOELECTRIC CONTROL 250 WATT H.P.S. LIGHT FIXTURE WITH 250 WATT LAMPS AND PHOTO CELL TO BE PROVIDED BY THE CONTRACTOR. (COST ABSORBED)

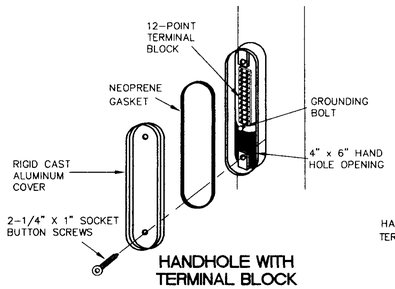




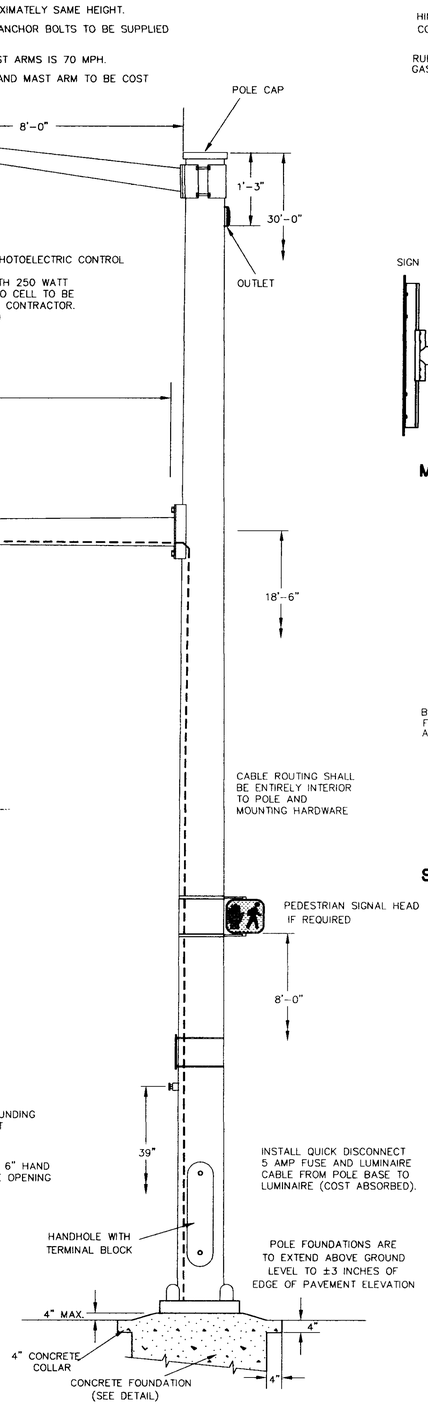
STEEL MAST ARM POLE FOUNDATION DETAIL



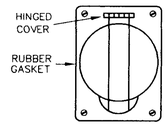
MAST ARM ATTACHMENT



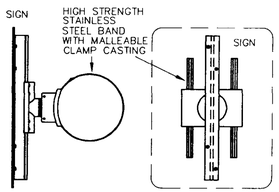
HANDHOLE WITH TERMINAL BLOCK



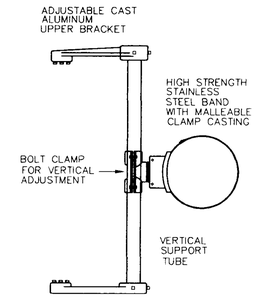
STEEL MAST ARM POLE DETAIL



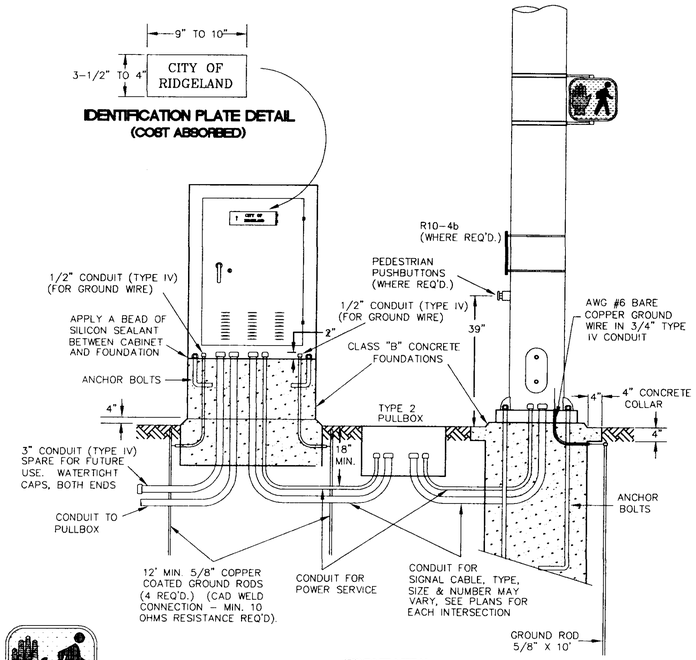
OUTLET



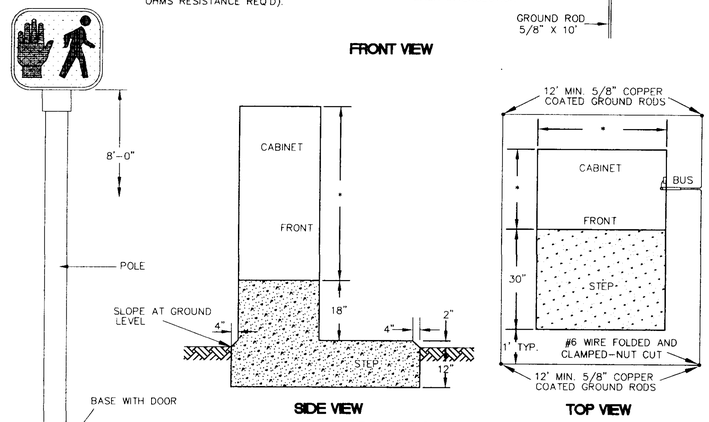
MAST ARM SIGN BRACKET (TYPICAL)



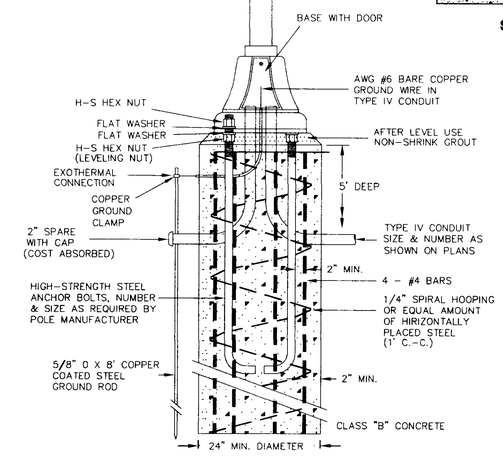
SIGNAL MOUNTING BRACKET (TYPICAL)



FRONT VIEW



SIDE VIEW **TOP VIEW**



PEDESTAL POLE DETAIL

CONTROLLER BASE DETAIL

* CABINET DIMENSIONS TO MEET SIGNAL CABINET MANUFACTURER'S SPECIFICATIONS.
NOMINAL DIMENSIONS: 8-PHASE - D=26", W=44", H=55"
4-PHASE - D=17", W=30", H=52"

GENERAL FOUNDATION NOTES

1. EXACT DIMENSIONS AND LOCATIONS OF ANCHOR BOLTS TO BE SUPPLIED BY THE MANUFACTURER. ANY FOUNDATION FAILING TO MEET THESE DIMENSIONS WILL BE REJECTED.
2. TYPE IV CONDUIT TO BE RUN INTERNALLY FOR CONCRETE AND STEEL POLES; TYPE I CONDUIT RISERS REQUIRED FOR WOOD POLES.
3. DESIGN WIND LOAD FOR POLES SHALL BE 70 MPH.
4. FOUNDATIONS TO BE CLASS "B" CONCRETE, MECHANICALLY VIBRATED WHEN POURING.
5. MINIMUM STEEL POLE FOUNDATION SHALL BE 30" DIA. X 10' DEEP.
6. #6 COPPER GROUND WIRE AND 5/8" DIA. COPPER GROUND ROD REQ'D. FOR ALL POLE FOUNDATIONS. (COST ABSORBED).

CITY OF RIDGELAND
STANDARD SIGNAL DETAILS
SIGNAL POLES AND CONTROLLER CABINET
WAGGONER ENGINEERING, INC.
Consulting Engineers - Jackson, Mississippi

DRAWN BY: B.F.	DATE: 6-26-97	SHEET NUMBER
REVIEWED BY: J.H.	SCALE: N.T.S.	32

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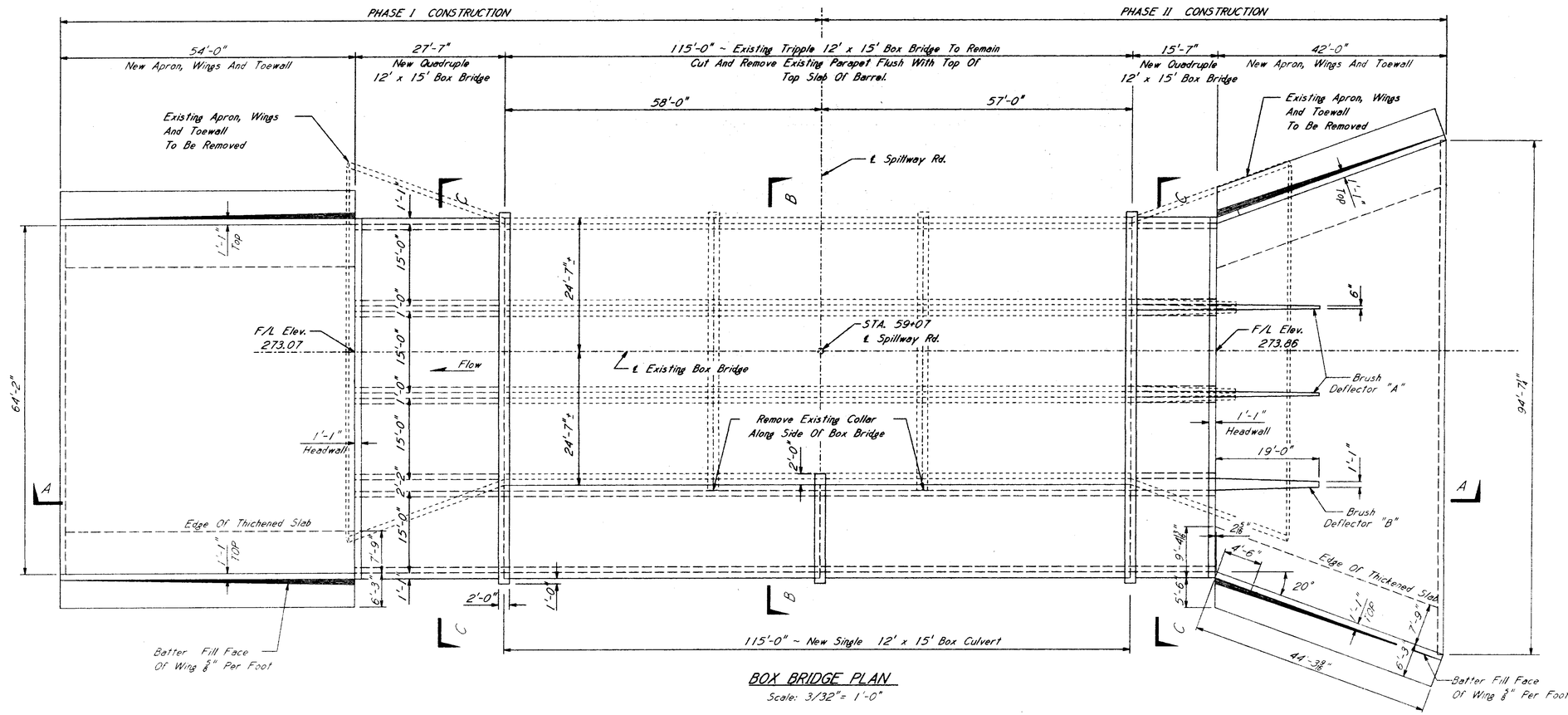
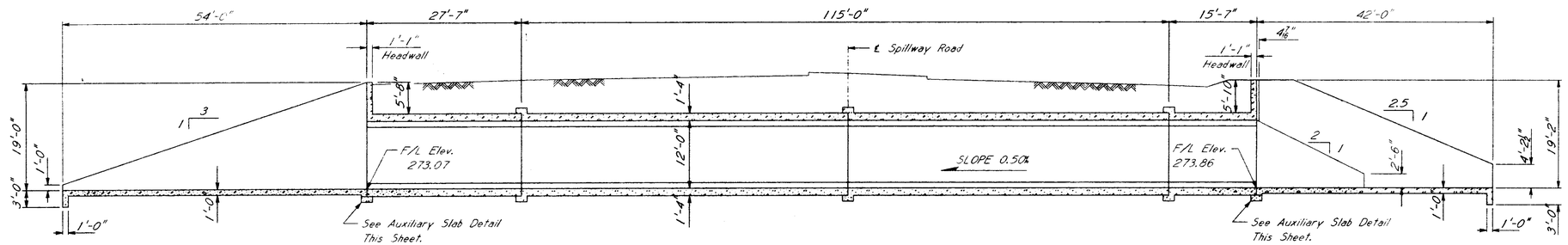
STATE	PROJECT NO.
MISS.	STP-6945(1)



BOX BRIDGE PLAN

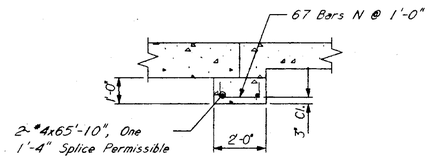
Scale: 3/32"= 1'-0"



SECTION A-A

Scale: 3/32" = 1'-0"

ESTIMATED QUANTITIES			
Class "B" Box Bridge Concrete C.Y.	Reinforcement Lb.	Loose Riprap Tons	Geotextile S.Y.
1400	150,000	2,600	4,000



AUXILIARY SLAB DETAIL

Scale: ⅜"=1'-0"

GENERAL NOTES:

Specifications: Mississippi Standard Specifications For Road And Bridge Construction, 1990.
No Change Of Plans Will Be Permitted Except By Written Approval Of The Bridge Engineer. Minor Changes In Detail Of Design Or Construction Procedure May Be Authorized By The Bridge Engineer Provided Such Changes Are Not Justifiable Reasons For Contract Price Adjustments.
Bridge Concrete Shall Be Box Bridge Concrete Class "B".
Expansion Joint Material Shall Be Bituminous Fiber Type Unless Otherwise Noted.
Bar Bending Details Shall Be In Accordance With "Manual Of Standard Practice For Detailing Reinforced Concrete Structures" (ACI 315-80).
Concrete Surfaces Shall Receive A Class 2 Rubbed Or Sprayed Finish In Accordance With The Specifications.
Reinforcing Steel Shall Be ASTM A615 Grade 60, Unless Otherwise Noted.
Work For Which No Pay Items Are Provided In The Proposal Will Not Be Paid For Directly And Compensation Therefore Will Be Considered Included In The Prices And Payments For Bid Items.
All Dimensions And Elevations Shown On Plans Shall Be Verified By The Contractor. If Discrepancies Exist, Adjustments Shall Be Proposed By The Contractor And Concurred In By The Engineer Prior To The Construction Of The Affected Element.
The Contractor Should Be Aware That Additional Minor Items Of Repair Work Not Specifically Listed May Be Necessary To Complete This Project And That Compension Therefor Will Be Included In The Prices And Payments For Bid Items.
Horizontal Construction Joints May Be Placed Only At The Locations Shown And Concrete Shall Be Allowed To Set A Minimum Of Two Hours Before Continuing Pour.

NOTE: See Sheet No. A9 For Bar Bending Details.

DESIGN DATA:

Specifications . . . . . A.A.S.H.T.O. 1992 & Int. Thru 1995
Loading HS20-44
Concrete . . . . . Class "B" (3000 PSI)

WAGGONER ENGINEERING, INC.
ENGINEERS. PLANNERS. SCIENTISTS

NEEL-SCHAFFER, INC.
Engineers Planners
Jackson, Mississippi

BY	REVISIONS	DATE

MISSISSIPPI DEPARTMENT OF TRANSPORTATION
MODIFICATIONS TO BOX BRIDGE AT STA. 59+07.00
SPILLWAY ROAD OVER BRASHEAR CREEK
PROJECT STP-6945(1)
49-6945-00-001-10
MADISON COUNTY-RIDGELAND

DESIGNED RJB DETAILED RJB TRACED CAD
CHECKED ISSUED DATE

WORKING NUMBER A1 Of 9
SHEET NUMBER 33

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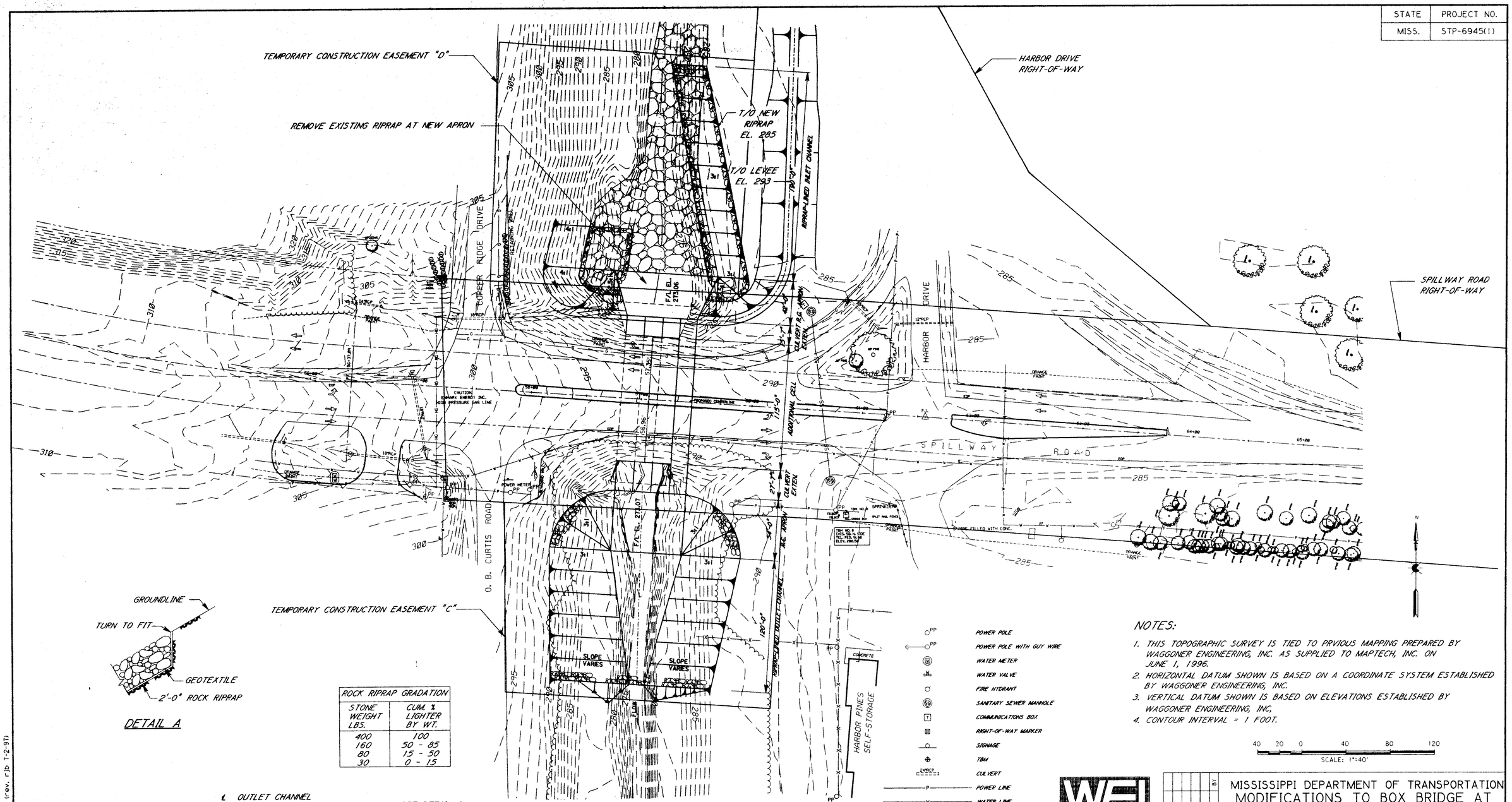
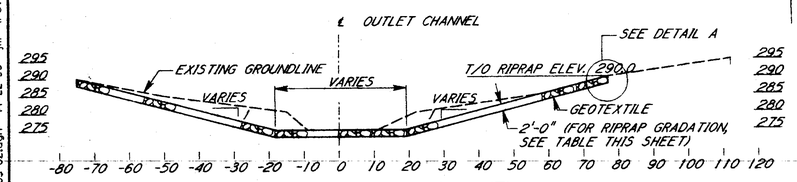
STATE	PROJECT NO.
MISS.	STP-6945(1)



DETAIL A

ROCK RIPRAP GRADATION	
STONE WEIGHT LBS.	CUM. % LIGHTER BY WT.
400	100
160	50 - 85
80	15 - 50
30	0 - 15



TYPICAL SECTION-OUTLET CHANNEL (LOOKING D/S)

PP POWER POLE
PP POWER POLE WITH GUY WIRE
WM WATER METER
WV WATER VALVE
FH FIRE HYDRANT
SS SANITARY SEWER MANHOLE
COMMUNICATIONS BOX
RIGHT-OF-WAY MARKER
SIGNAGE
TBM
24"RCP CULVERT
P POWER LINE
W WATER LINE
SS SANITARY SEWER LINE
G GAS LINE
HG HIGH PRESSURE GAS LINE
X X X FENCE LINE
RIPRAP

NOTES:

1. THIS TOPOGRAPHIC SURVEY IS TIED TO PRVIOUS MAPPING PREPARED BY WAGGONER ENGINEERING, INC. AS SUPPLIED TO MAPTECH, INC. ON JUNE 1, 1996.
2. HORIZONTAL DATUM SHOWN IS BASED ON A COORDINATE SYSTEM ESTABLISHED BY WAGGONER ENGINEERING, INC.
3. VERTICAL DATUM SHOWN IS BASED ON ELEVATIONS ESTABLISHED BY WAGGONER ENGINEERING, INC,
4. CONTOUR INTERVAL = 1 FOOT.

40 20 0 40 80 120
SCALE: 1"=40'

WAGGONER ENGINEERING, INC.
ENGINEERS. PLANNERS. SCIENTISTS

NEEL-SCHAFFER, INC.
Engineers Planners
Jackson, Mississippi

REVISIONS	BY	DATE

MISSISSIPPI DEPARTMENT OF TRANSPORTATION
MODIFICATIONS TO BOX BRIDGE AT STA. 59+07.00

SITE PLAN

PROJECT STP-6945(1)
49-6945-00-001-10

MADISON COUNTY-RIDGELAND

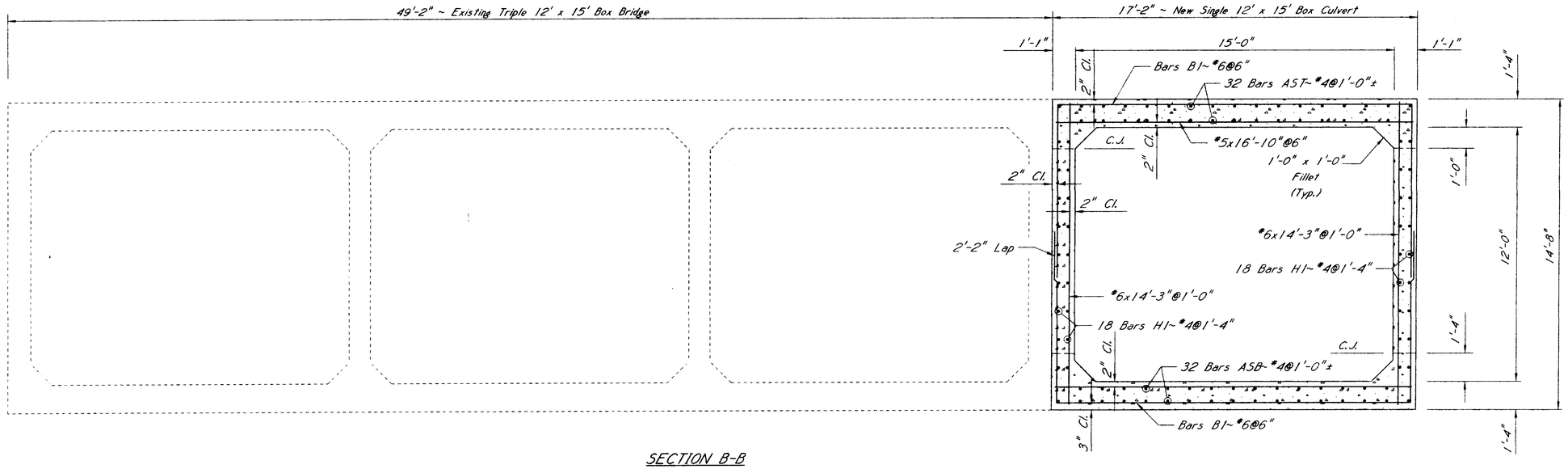
WORKING NUMBER A2 Of 9

SHEET NUMBER 34

DESIGNED WKM DETAILED JDM TRACED CAD
CHECKED ISSUED DATE

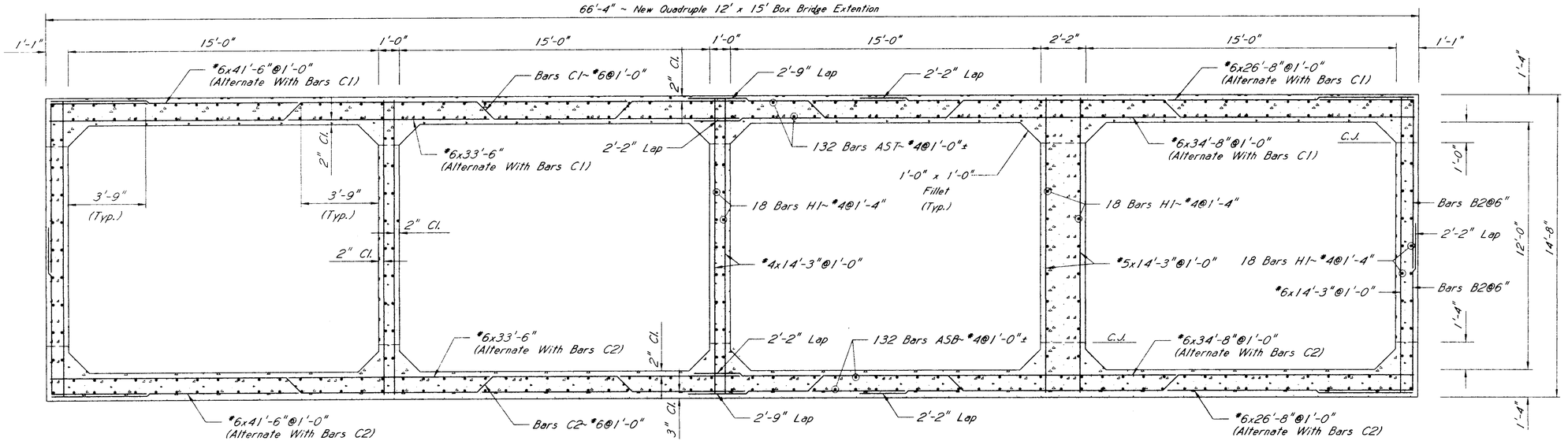
CN2763\2763-02.dgn 11-22-96 jm (rev. rjb 7-2-97)

STATE	PROJECT NO.
MISS.	STP-6945(1)



SECTION B-B

Scale: 3/8" = 1'-0"



SECTION C-C

SCALE: 3/8" = 1'-0"

NOTES: See Sheet No. A1 For Location Of Section B-B And C-C.
See Sheet No. A9 For Bar Bending Details.

WAGGONER ENGINEERING, INC.
ENGINEERS. PLANNERS. SCIENTISTS

NEEL-SCHAFFER, INC.
Engineers Planners
Jackson, Mississippi

REVISIONS | BY | DATE

MISSISSIPPI DEPARTMENT OF TRANSPORTATION
MODIFICTATIONS TO BOX BRIDGE
AT STA. 59+07.00

TYPICAL BOX SECTIONS

PROJECT STP-6945(1)
49-6945-00-001-10

MADISON COUNTY-RIDGELAND

WORKING NUMBER A3 Of 9

SHEET NUMBER 35

DESIGNED RJB DETAILED RJB TRACED CAD
CHECKED ISSUED DATE

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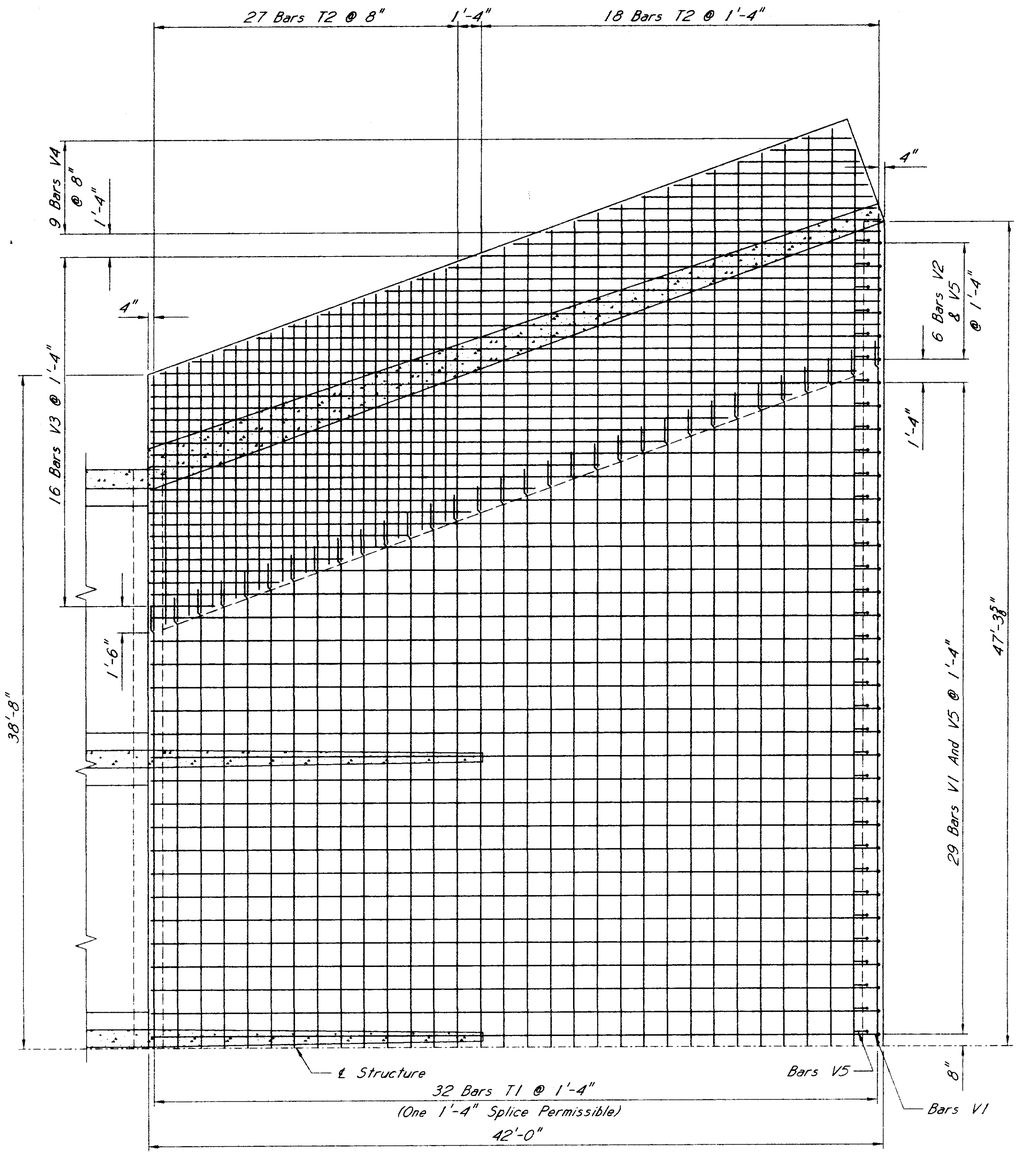
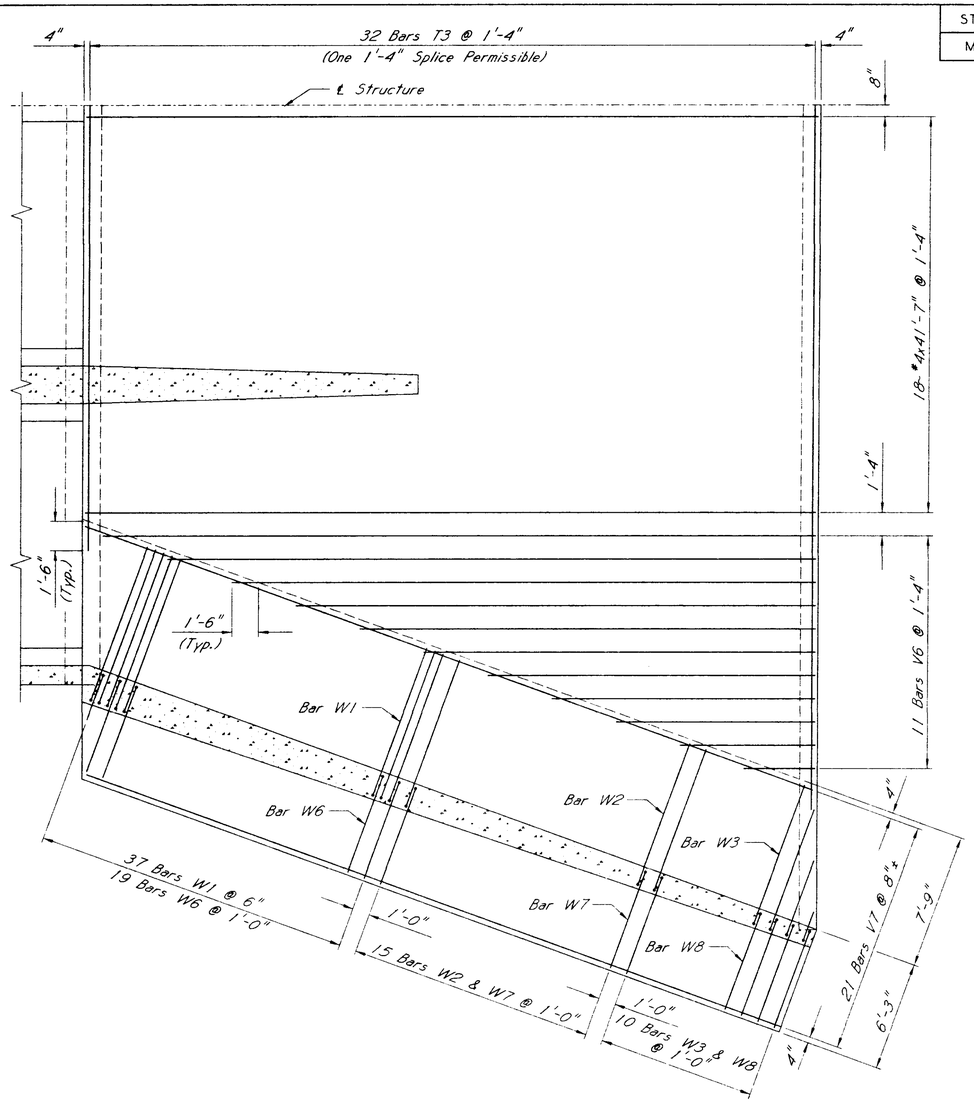
STATE	PROJECT NO.
MISS.	STP-6945(1)



HALF PLAN INLET BOTTOM SLAB
Showing Reinforcement In Top Of Slab.
Scale: 1/4"=1'-0"



HALF PLAN INLET BOTTOM SLAB
Showing Reinforcement In Bottom Of Slab.
Scale: 1/4"=1'-0"

NOTES: See Sheet No. A6 For Bar Bending Details.
Reinforcement And Structure Dimensions
Are Symmetric About ℄ Structure.

WAGGONER ENGINEERING, INC.
ENGINEERS. PLANNERS. SCIENTISTS

NEEL-SCHAFFER, INC.
Engineers Planners
Jackson, Mississippi

BY | REVISIONS | DATE

MISSISSIPPI DEPARTMENT OF TRANSPORTATION
BOX BRIDGE MODIFICATIONS AT
STA. 59+07.00
PLAN OF INLET
BOTTOM SLAB

PROJECT STP-6945(1)
49-6945-00-001-10

MADISON COUNTY-RIDGELAND

WORKING NUMBER A4 Of 9

DESIGNED RJB DETAILED RJB TRACED CAD
CHECKED ISSUED DATE

SHEET NUMBER 36

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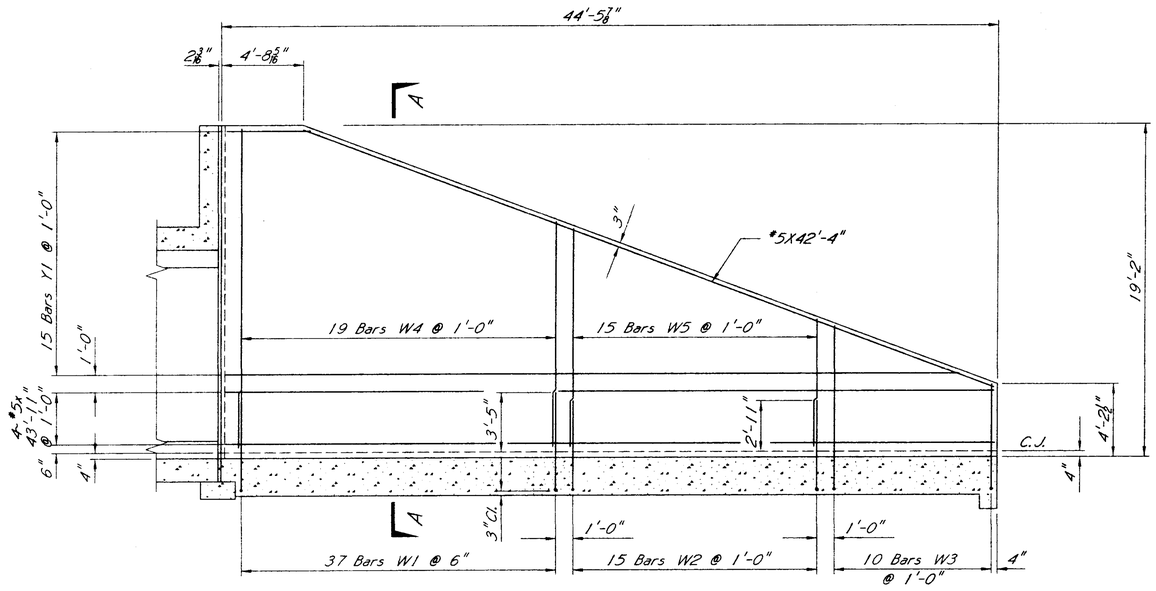
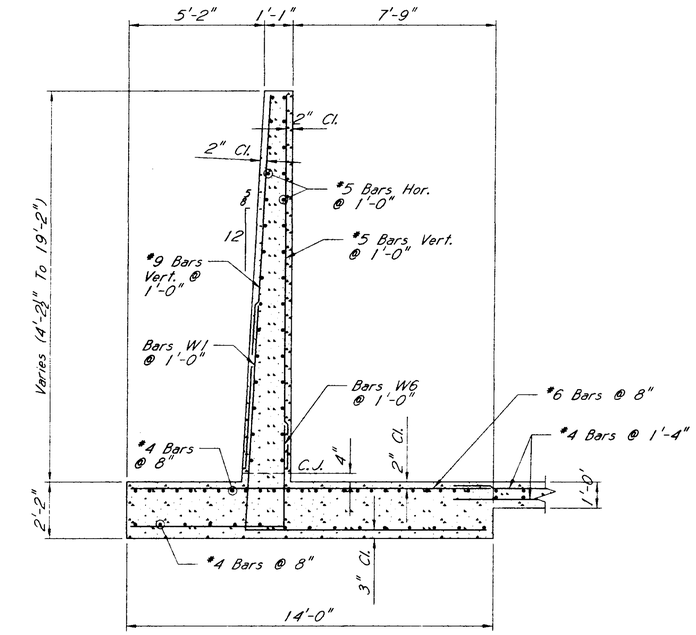
STATE	PROJECT NO.
MISS.	STP-6945(1)



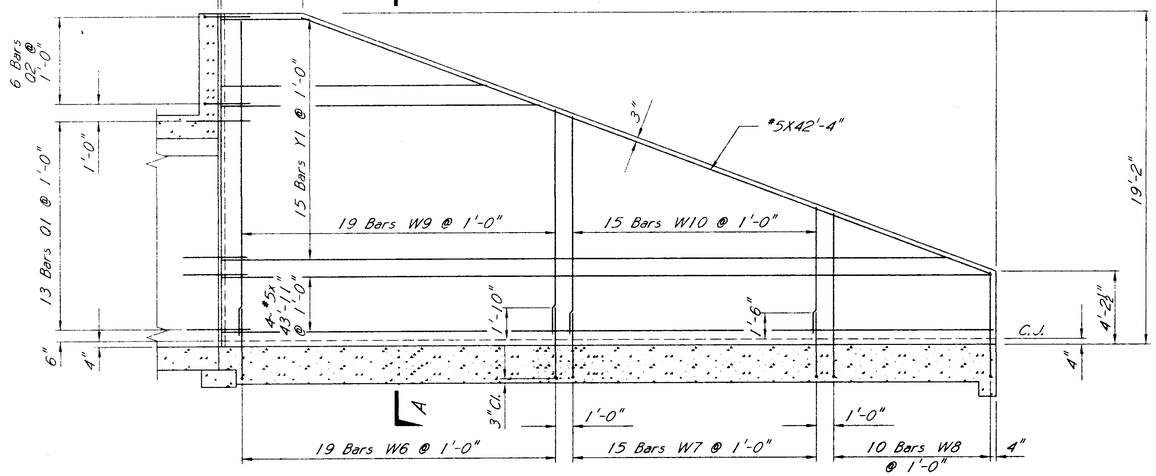
ELEVATION OF INLET WINGWALL

Showing Reforcement In Fill Face.
Scale: 1/4"=1'-0"



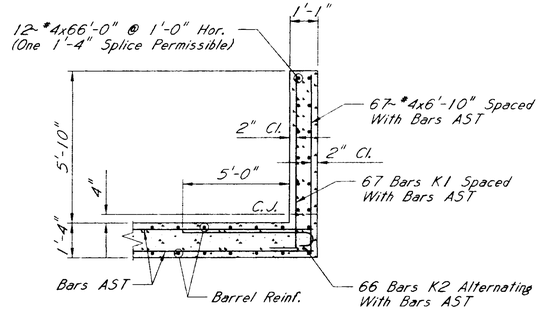
SECTION A-A

Scale: 3/8"=1'-0"



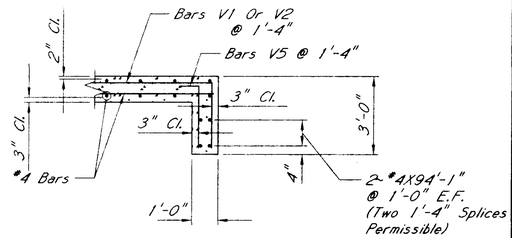
ELEVATION OF INLET WINGWALL

Showing Reforcement In Stream Face.
Scale: 1/4"=1'-0"



TYPICAL SECTION OF HEADWALL

Scale: 3/8"=1'-0"



TYPICAL SECTION OF TOEWALL

Scale: 3/8"=1'-0"

NOTES: See Sheet No. A6 For Bar Bending Details.

WAGGONER ENGINEERING, INC.
ENGINEERS, PLANNERS, SCIENTISTS

NEEL-SCHAFFER, INC.
Engineers Planners
Jackson, Mississippi

BY	REVISIONS	DATE

MISSISSIPPI DEPARTMENT OF TRANSPORTATION
BOX BRIDGE MODIFICATIONS AT STA. 59+07.00
INLET ELEVATION, SECTIONS AND DETAILS

PROJECT STP-6945(1)
49-6945-00-001-10

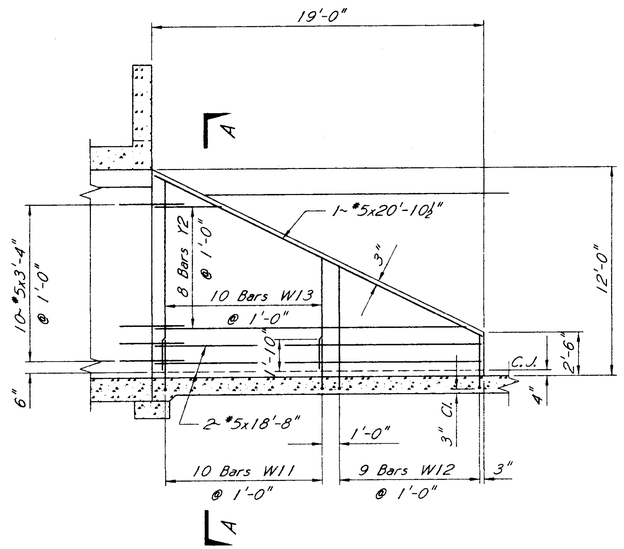
MADISON COUNTY-RIDGELAND

DESIGNED RJB DETAILED RJB TRACED CAD
CHECKED ISSUED DATE

WORKING NUMBER A5 Of 9
SHEET NUMBER 37

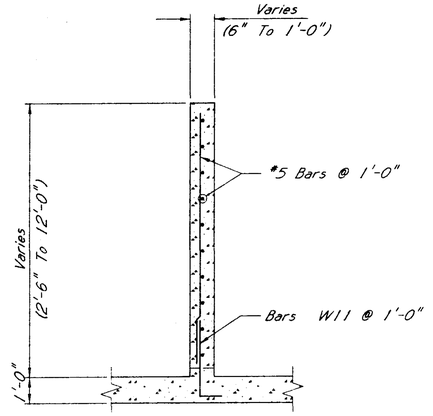
c:\2763\2163-05.dgn rev. rjb 5-14-97

STATE	PROJECT NO.
MISS.	STP-6945(1)



ELEVATION OF BRUSH DEFLECTOR "A"

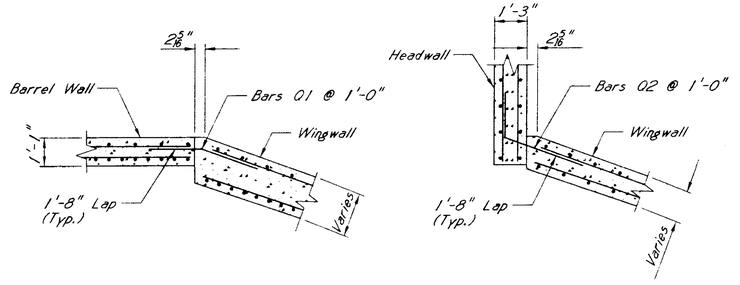
Scale: 1/4"=1'-0"



SECTION A-A

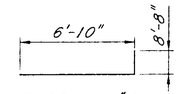
Showing Reinforcement In Brush Deflector "A"

Scale: 3/8"=1'-0"

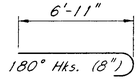


TYPICAL WINGWALL CONSTRUCTION JOINT DETAIL

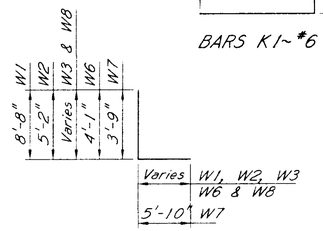
Scale: 3/8"=1'-0"



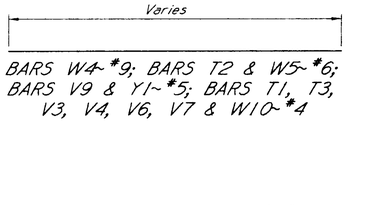
BARS K1~#6

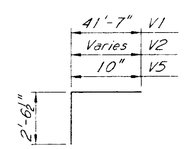


BARS K2 #6

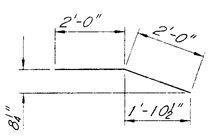


BARS W1~#9; BARS W2 & W3~#6; BARS W6~#5; BARS W7 & W8~#4

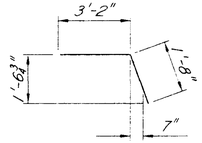




BARS V1, V2 & V5~#4



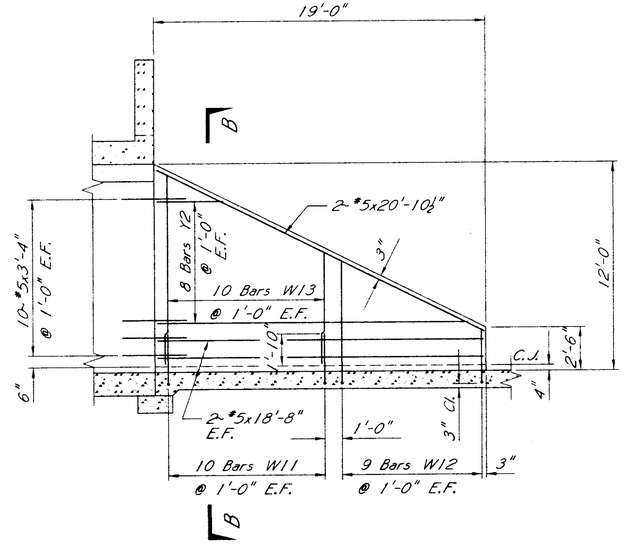
BARS 01~#5



BARS 02 #5

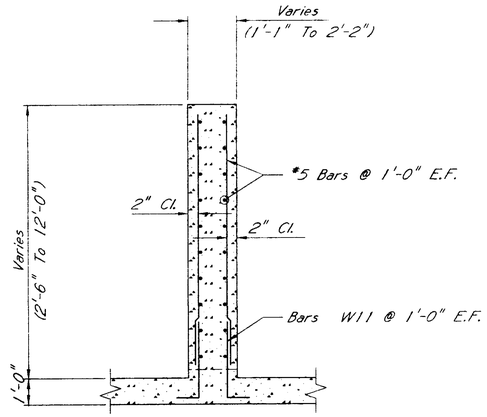
BAR BENDING DETAILS

Dimensions Are Out To Out



ELEVATION OF BRUSH DEFLECTOR "B"

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



SECTION B-B

Showing Reinforcement In Brush Deflector "B"

Scale: 3/8"=1'-0"

WAGGONER ENGINEERING, INC.
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NEEL-SCHAFFER, INC.
Engineers Planners
Jackson, Mississippi

REVISIONS	BY	DATE

MISSISSIPPI DEPARTMENT OF TRANSPORTATION
BOX BRIDGE MODIFICATIONS AT STA. 59+07.00
BRUSH DEFLECTOR SECTIONS AND DETAILS

PROJECT STP-6945(1)
49-6945-00-001-10

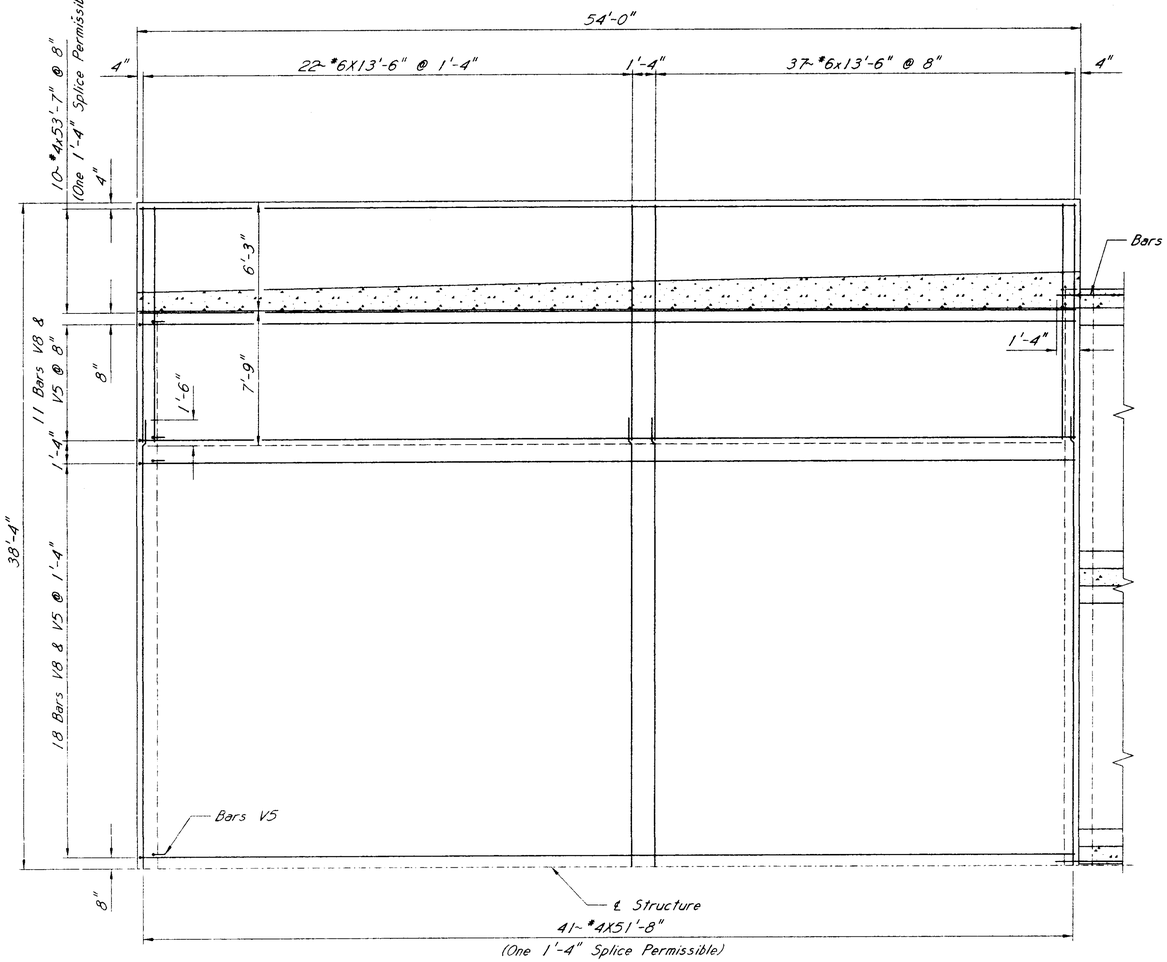
MADISON COUNTY-RIDGELAND

DESIGNED RJB DETAILED RJB TRACED CAD
CHECKED ISSUED DATE

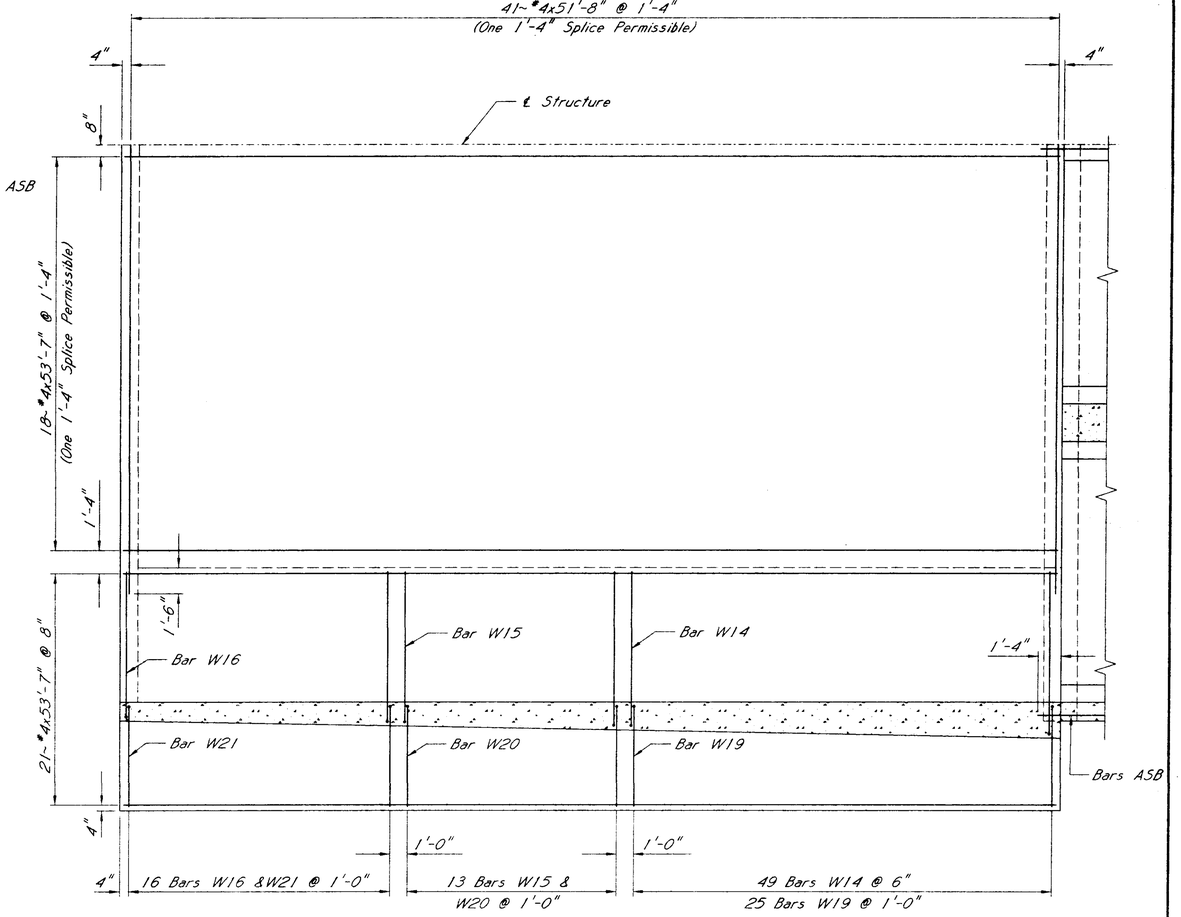
WORKING NUMBER A6 Of 9
SHEET NUMBER 38

on2763\2763-05.dgn rev. rlb 5-13-97

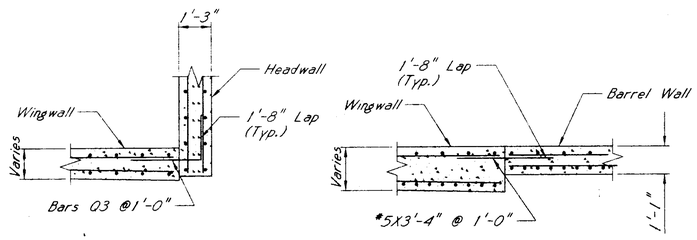
STATE	PROJECT NO.
MISS.	STP-6945(1)



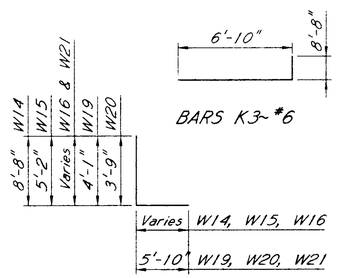
HALF PLAN OUTLET BOTTOM SLAB
Showing Reinforcement In Top Of Slab.
Scale: 1/4"=1'-0"



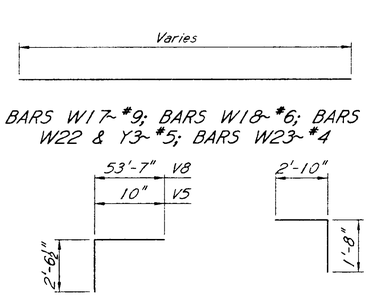
HALF PLAN OUTLET BOTTOM SLAB
Showing Reinforcement In Bottom Of Slab.
Scale: 1/4"=1'-0"



TYPICAL WINGWALL CONSTRUCTION JOINT DETAIL
Scale: 3/8"=1'-0"



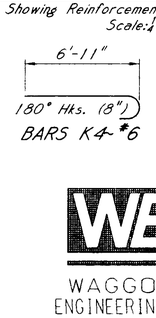
BARS W14-#9; BARS W15 & W16-#6;
BARS W19-#5; BARS W20 & W21-#4



BARS W17-#9; BARS W18-#6; BARS W22 & Y3-#5; BARS W23-#4

BARS V5 & V8-#4

BARS Q3-#5



BARS K4-#6

BAR BENDING DETAILS
Dimensions Are Out To Out

NOTE: Reinforcement And Structure Dimensions Are Symmetric About ℄ Structure.

WAGGONER ENGINEERING, INC.
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Jackson, Mississippi

MISSISSIPPI DEPARTMENT OF TRANSPORTATION
BOX BRIDGE MODIFICATIONS AT
STA. 59+07.00
PLAN OF OUTLET
BOTTOM SLAB

PROJECT STP-6945(1)
49-6945-00-001-10

MADISON COUNTY-RIDGELAND

WORKING NUMBER A7 of 9

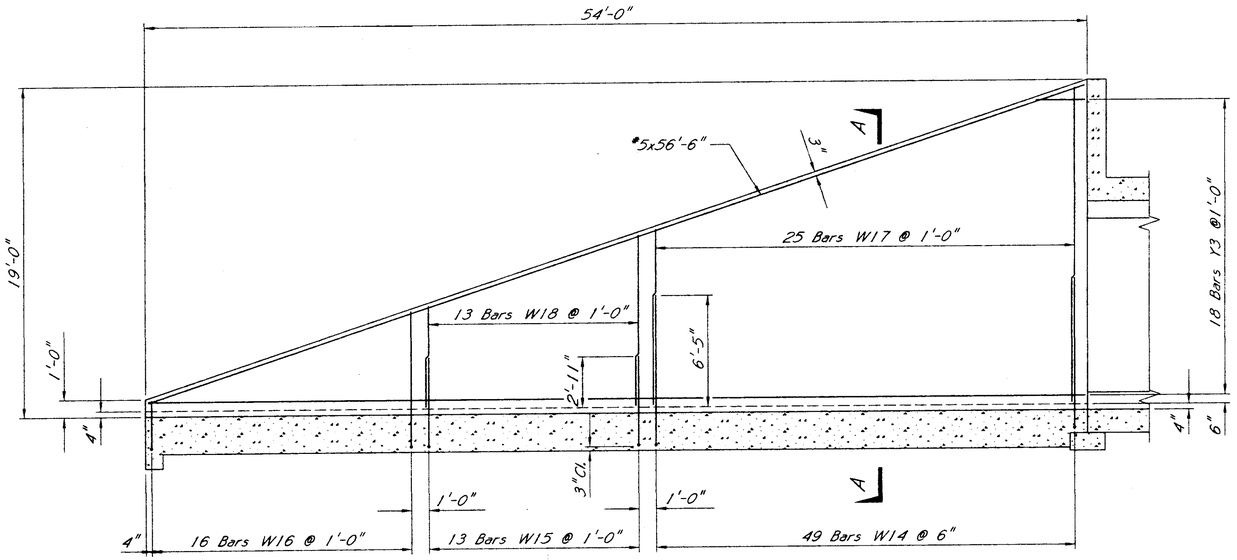
SHEET NUMBER 39

DESIGNED RJB DETAILED RJB TRACED CAD
CHECKED ISSUED DATE

REVISIONS BY DATE

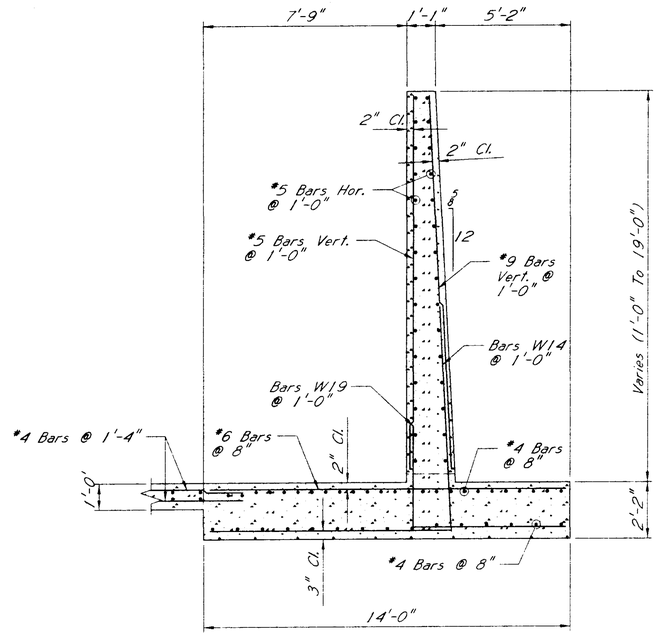
on2763\2763-07.dgn rev. rjb 5-13-97

STATE	PROJECT NO.
MISS.	STP-6945(1)



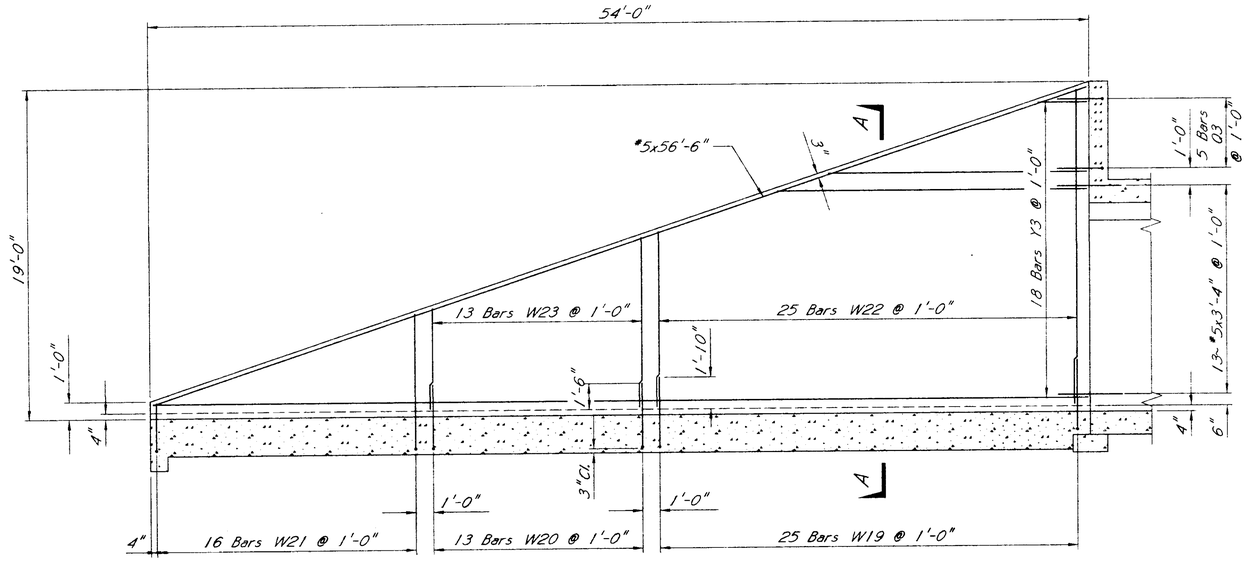
ELEVATION OF OUTLET WINGWALL

Showing Reforcement In Fill Face.
Scale: 1" = 1'-0"



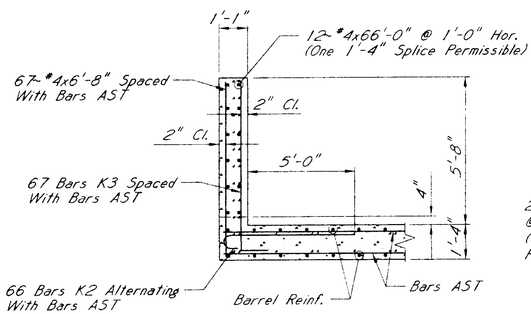
SECTION A-A

Scale: 3/8" = 1'-0"



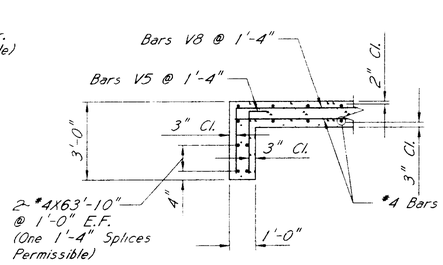
ELEVATION OF OUTLET WINGWALL

Showing Reforcement In Stream Face.
Scale: 1" = 1'-0"



TYPICAL SECTION OF HEADWALL

Scale: 3/8" = 1'-0"



TYPICAL SECTION OF TOEWALL

Scale: 3/8" = 1'-0"

NOTE: See Sheet No. A7 For Bar Bending Details.

WAGGONER ENGINEERING, INC.
ENGINEERS, PLANNERS, SCIENTISTS

NEEL-SCHAFFER, INC.
Engineers Planners
Jackson, Mississippi

REVISIONS	BY	DATE

MISSISSIPPI DEPARTMENT OF TRANSPORTATION
BOX BRIDGE MODIFICATIONS AT
STA. 59+07.00
OUTLET ELEVATIONS, SECTIONS AND DETAILS

PROJECT STP-6945(1)
49-6945-00-001-10

MADISON COUNTY-RIDGELAND

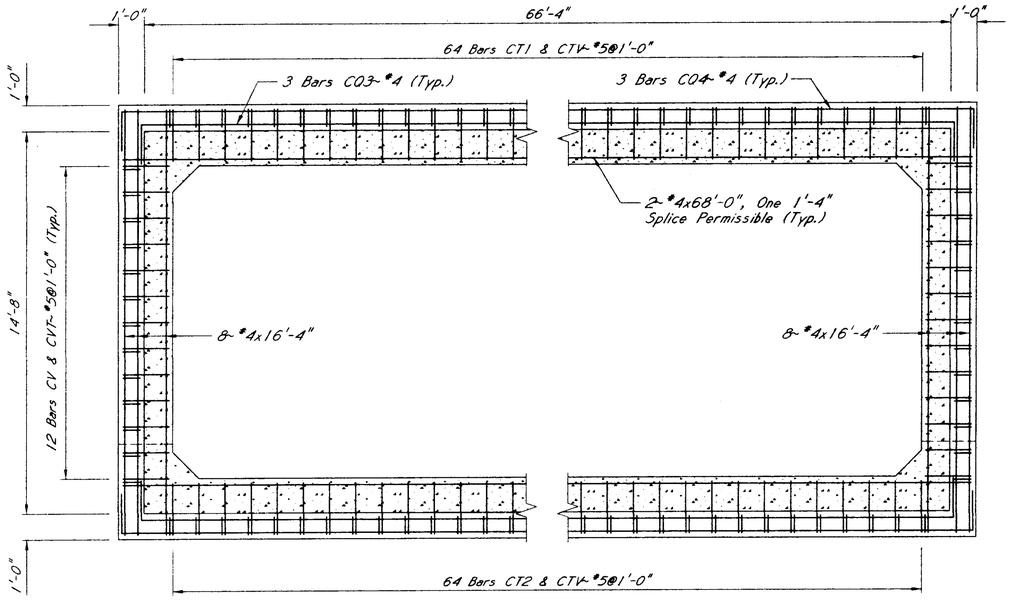
WORKING NUMBER A8 of 9

SHEET NUMBER 40

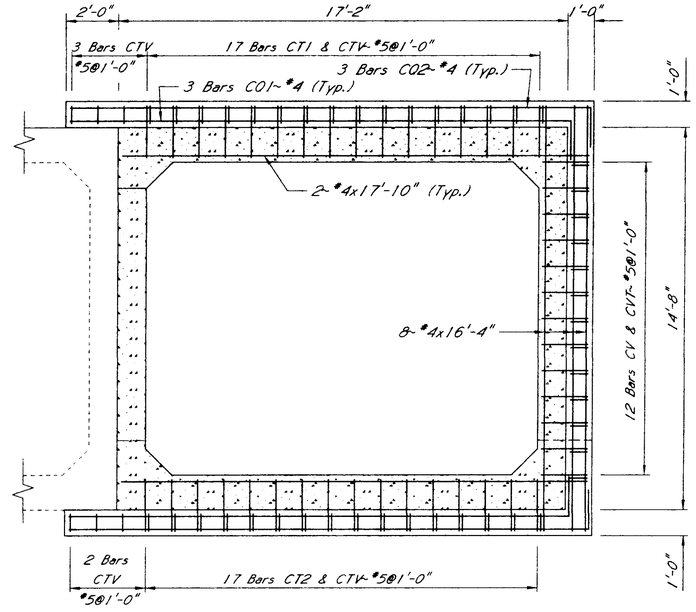
DESIGNED RJB DETAILED RJB TRACED CAD
CHECKED ISSUED DATE

gn\2763\2763-08.dgn rev. rjb 5-13-97

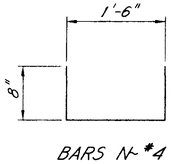
STATE	PROJECT NO.
MISS.	STP-6945(1)



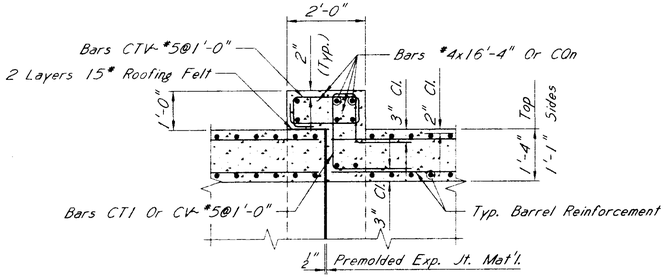
SECTION NEAR COLLAR 1
Scale: 3/8" = 1'-0"



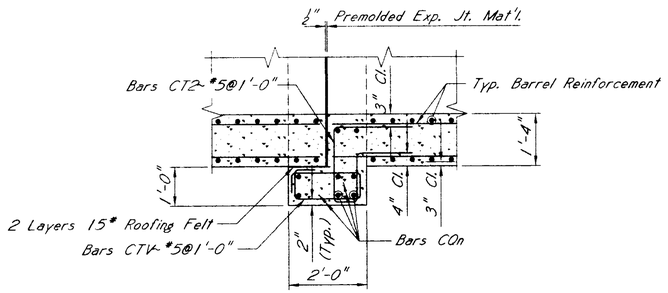
SECTION NEAR COLLAR 2
Scale: 3/8" = 1'-0"



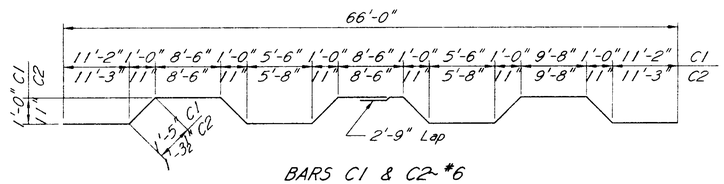
BARS N-#4



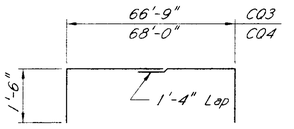
TYPICAL SECTION OF COLLAR ALONG TOP & SIDES
Scale: 3/4" = 1'-0"



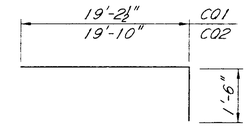
TYPICAL SECTION OF COLLAR ALONG BOTTOM
Scale: 3/4" = 1'-0"



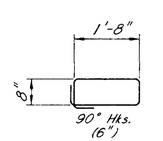
BARS C1 & C2-#6



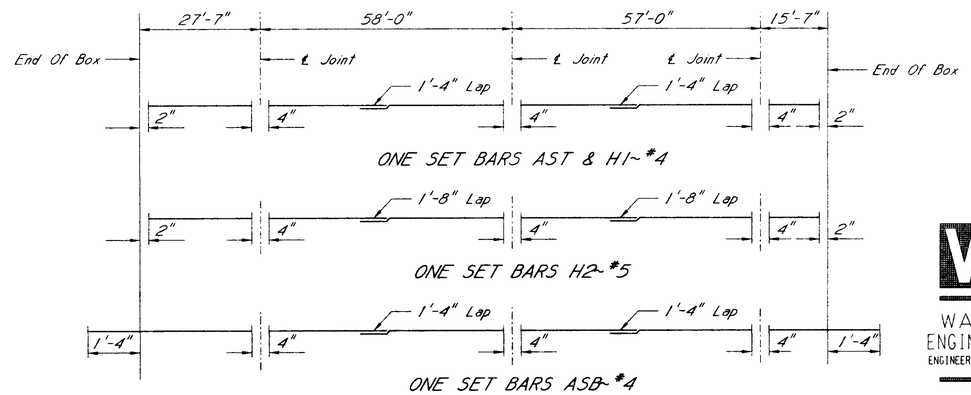
BARS CO3 & CO4-#4



BARS CO1 & CO2-#4

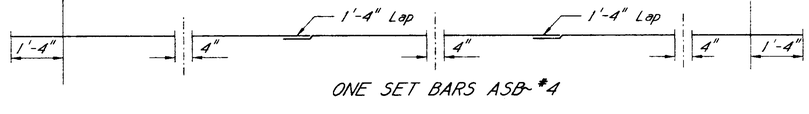


BARS CTV-#5



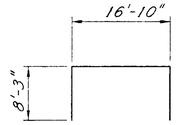
ONE SET BARS AST & H1-#4

ONE SET BARS H2-#5

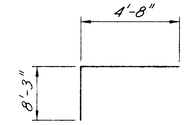


ONE SET BARS AS2-#4

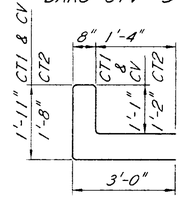
BAR BENDING DETAILS
Dimensions Are Out To Out



BARS B1-#6



BARS B2-#6



BARS CTn & CV-#5

WAGGONER ENGINEERING, INC.
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Jackson, Mississippi

REVISIONS	BY

MISSISSIPPI DEPARTMENT OF TRANSPORTATION
MODIFICTATIONS TO BOX BRIDGE
AT STA. 59+07.00
COLLAR DETAILS

PROJECT STP-6945(1)
49-6945-00-001-10

MADISON COUNTY-RIDGELAND

WORKING NUMBER A9 Of 9

SHEET NUMBER 41

DATE
DESIGNED RJB DETAILED RJB TRACED CAD
CHECKED ISSUED DATE

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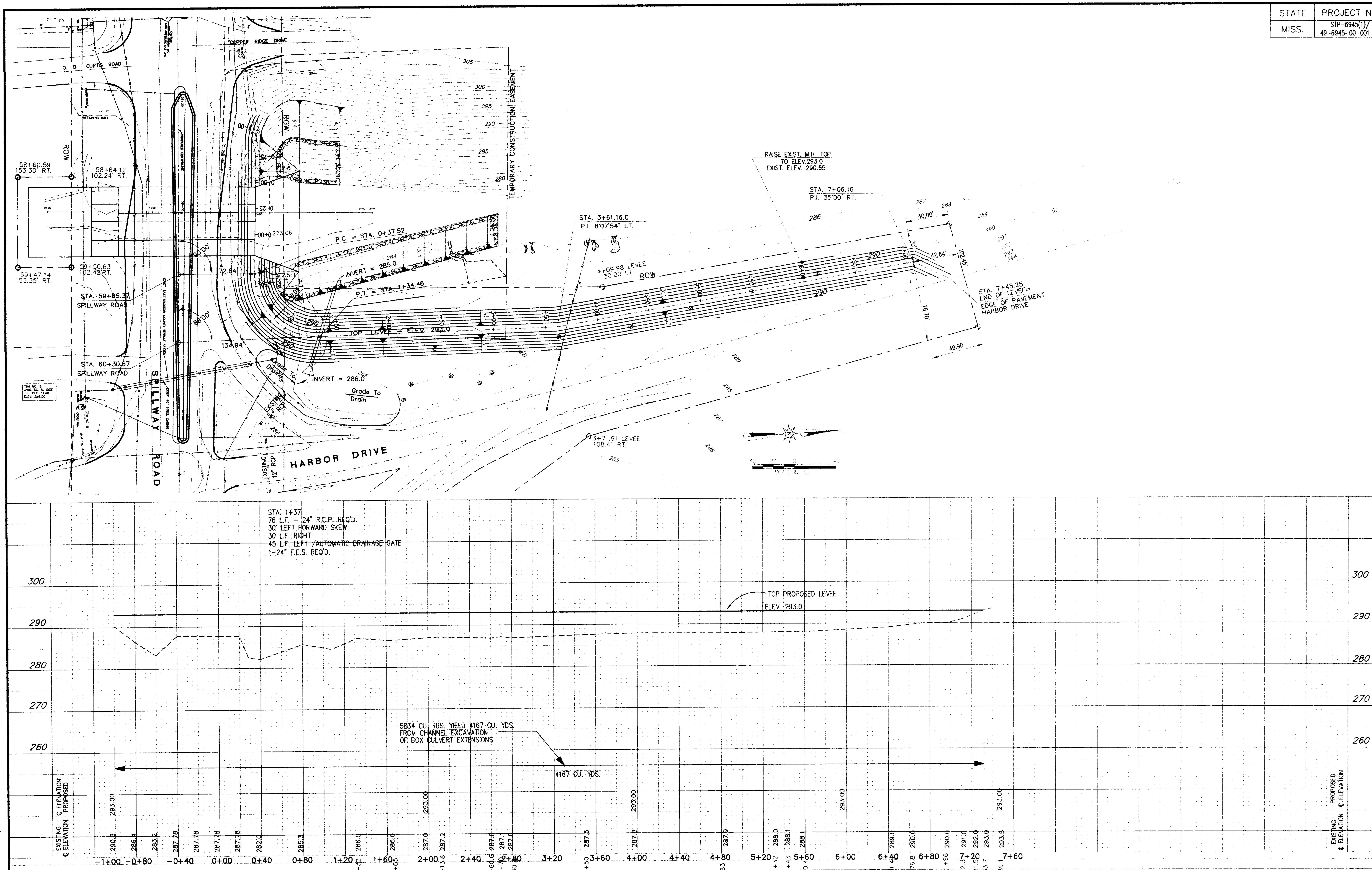
STATE	PROJECT NO.
MISS.	STP-6945(1)/ 49-6945-00-001-10



DESIGNED	DATE
RRW.	4/97
DRAWN	SCALE
BGB.	1"=40' HORT. 1"= 10' VERT

NO. | DATE | REVISIONS | BY

WEI WAGGONER ENGINEERING, INC. ENGINEERS, PLANNERS, SCIENTISTS

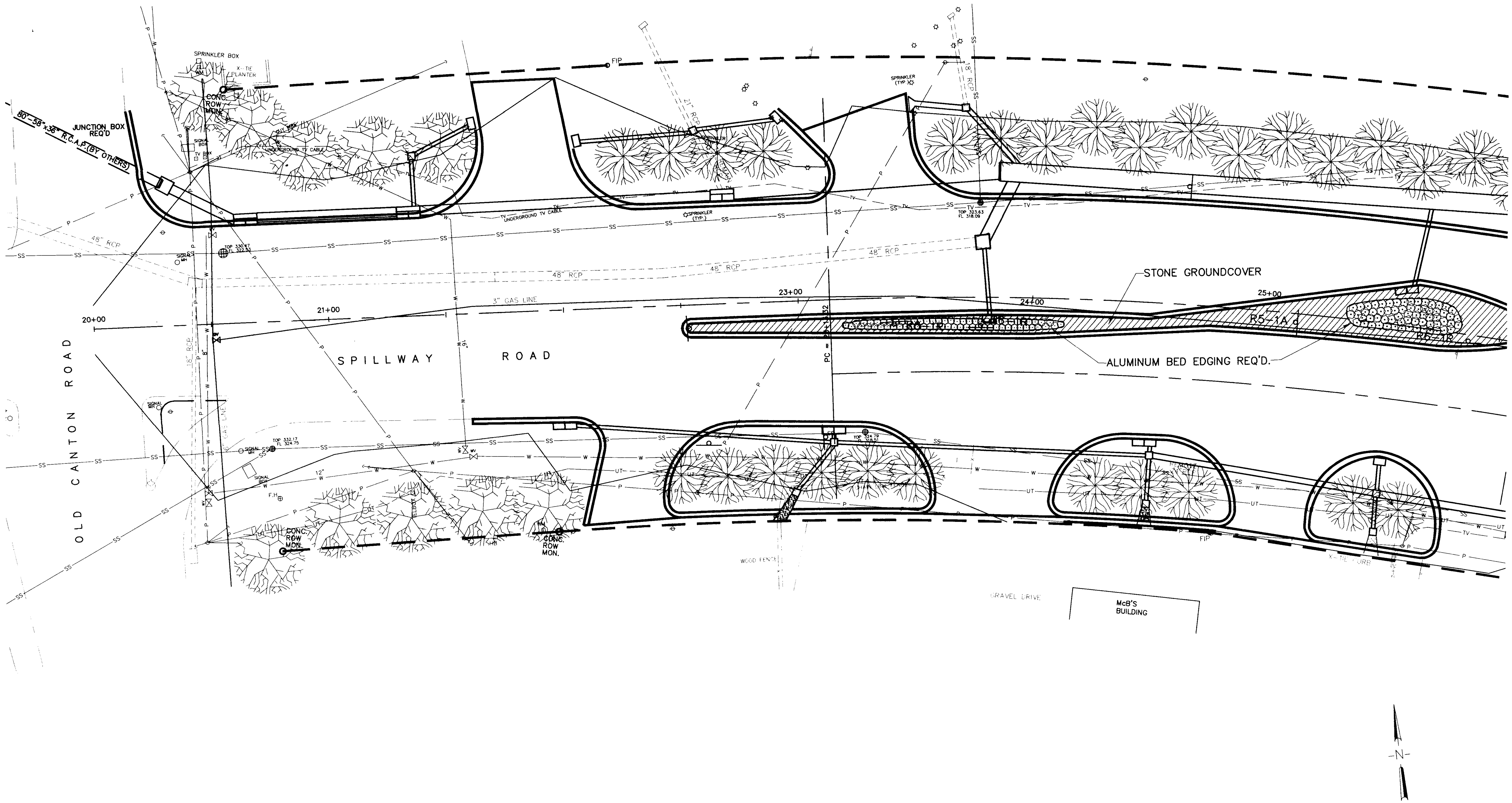
NEEL-SCHAFFER, INC. ENGINEERS • PLANNERS Jackson, Mississippi

SPILLWAY ROAD IMPROVEMENTS
RIDGELAND, MADISON CO, MS.

PLAN PROFILE SHEET
LEVEE ALONG HARBOR DR.

SHEET NO. 42

MADISON COUNTY - RIDGELAND



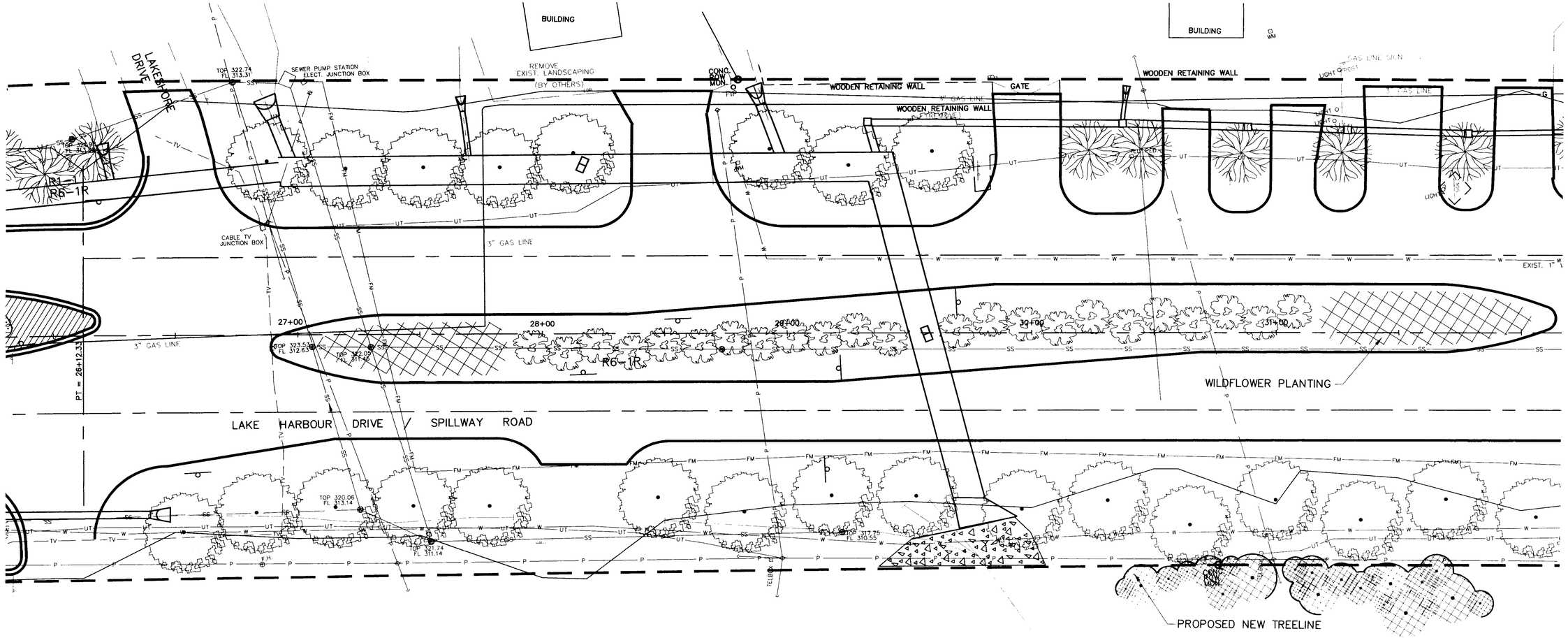
SPILLWAY ROAD IMPROVEMENTS
F.A.U.P. PROJECT NO. STP-6945(1)

LANDSCAPE PLAN

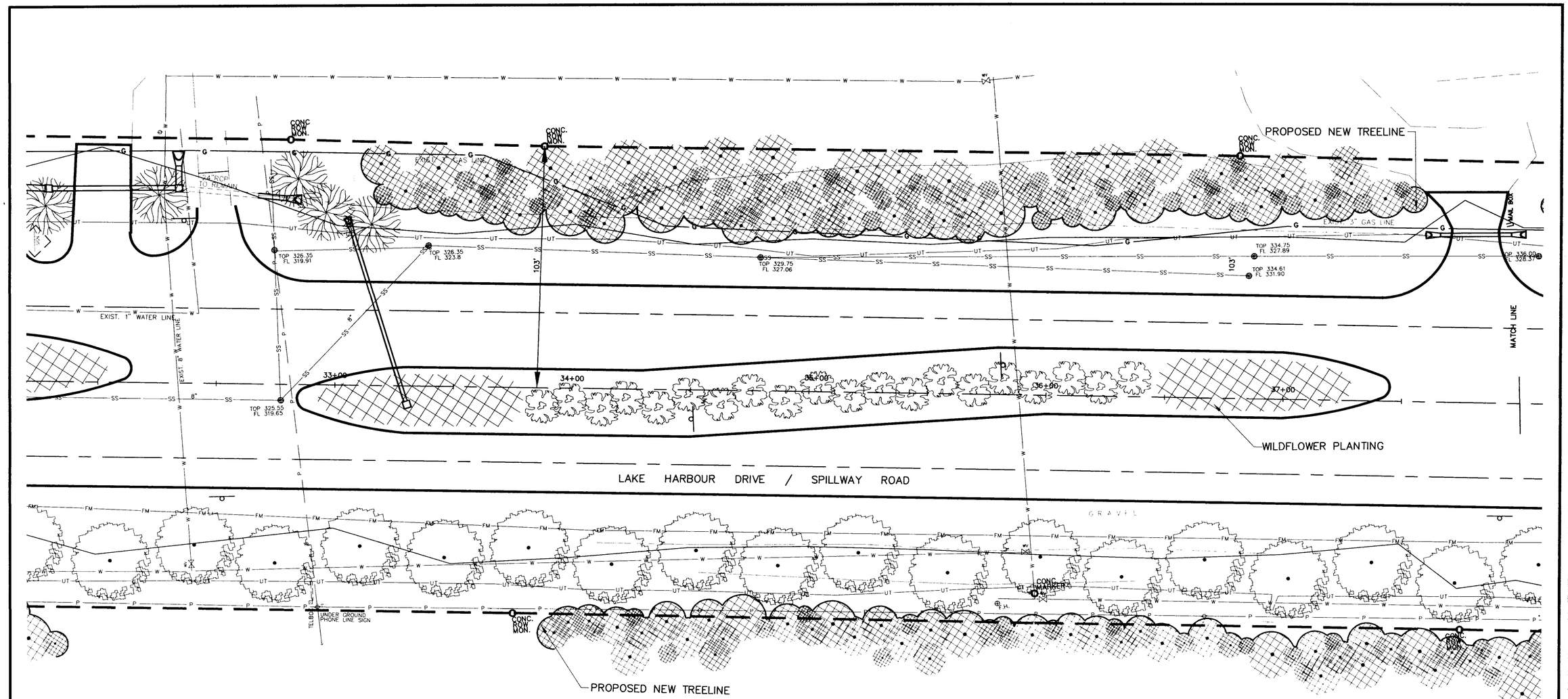
CITY OF RIDGELAND, MISSISSIPPI

WAGGONER ENGINEERING, INC.
Consulting Engineers – Jackson, Mississippi

DRAWN BY: T.J.	DATE: 7-9-97	WORKING NUMBER OF
REVIEWED BY: J.H.	SCALE: 1"=20'	SHEET NUMBER 43



SPILLWAY ROAD IMPROVEMENTS F.A.U.P. PROJECT NO. STP-6945(1)		
LANDSCAPE PLAN		
CITY OF RIDGELAND, MISSISSIPPI		
WAGGONER ENGINEERING, INC. Consulting Engineers – Jackson, Mississippi		
DRAWN BY: T.J.	DATE: 7-9-97	WORKING NUMBER OF
REVIEWED BY: J.M.	SCALE: 1"=20'	SHEET NUMBER 44



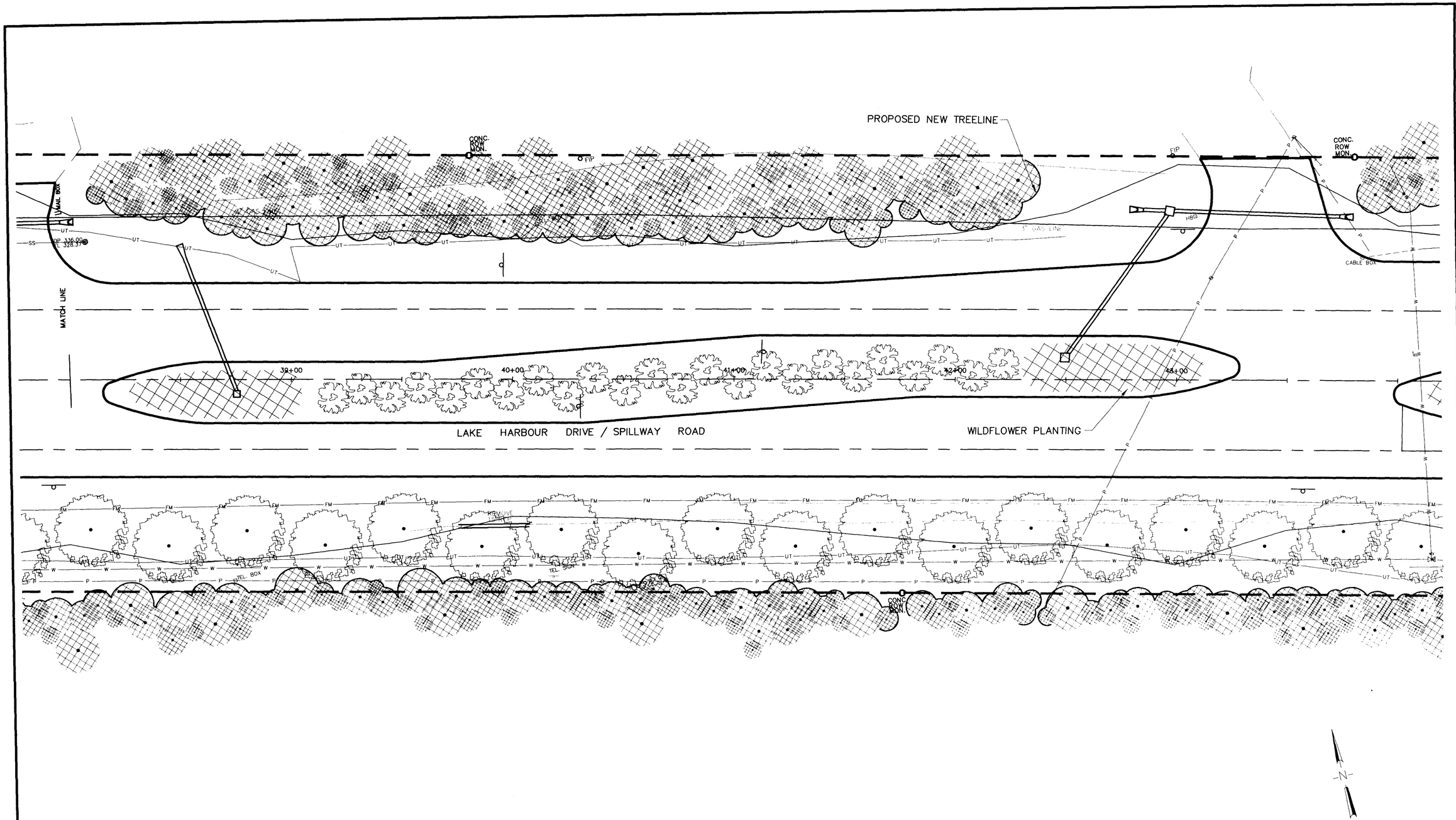
SPILLWAY ROAD IMPROVEMENTS
F.A.U.P. PROJECT NO. STP-6945(1)

LANDSCAPE PLAN

CITY OF RIDGELAND, MISSISSIPPI

WAGGONER ENGINEERING, INC.
Consulting Engineers – Jackson, Mississippi

DRAWN BY: T.J.	DATE: 7-9-97	WORKING NUMBER OF
REVIEWED BY: J.H.	SCALE: 1"=20'	SHEET NUMBER 45



SPILLWAY ROAD IMPROVEMENTS F.A.U.P. PROJECT NO. STP-6945(1)	
LANDSCAPE PLAN	
CITY OF RIDGELAND, MISSISSIPPI	
WAGGONER ENGINEERING, INC. Consulting Engineers — Jackson, Mississippi	
DRAWN BY: T.J.	DATE: 7-9-97
REVIEWED BY: J.H.	SCALE: 1"=20'
	WORKING NUMBER OF SHEET NUMBER 46

PROPOSED NEW TREELINE

3" GAS LINE

3" GAS LINE

CABLE BOX

45+00

46+00

47+00

48+00

49+00

SPILLWAY ROAD

WILDFLOWER PLANTING

18"RCP

CONC. ROW MON.

12-4" SCH 40 PVC ENCASED IN CONCRETE 3' WIDE 13,800 VOLTS

CONC. ROW MON.

12-4" SCH 40 PVC ENCASED IN CONCRETE 3' WIDE 13,800 VOLTS

2-4" SCH 40 PVC ENCASED IN CONCRETE 13,800 VOLTS

R1-1
R6-1R

SUB-STATION

-N-

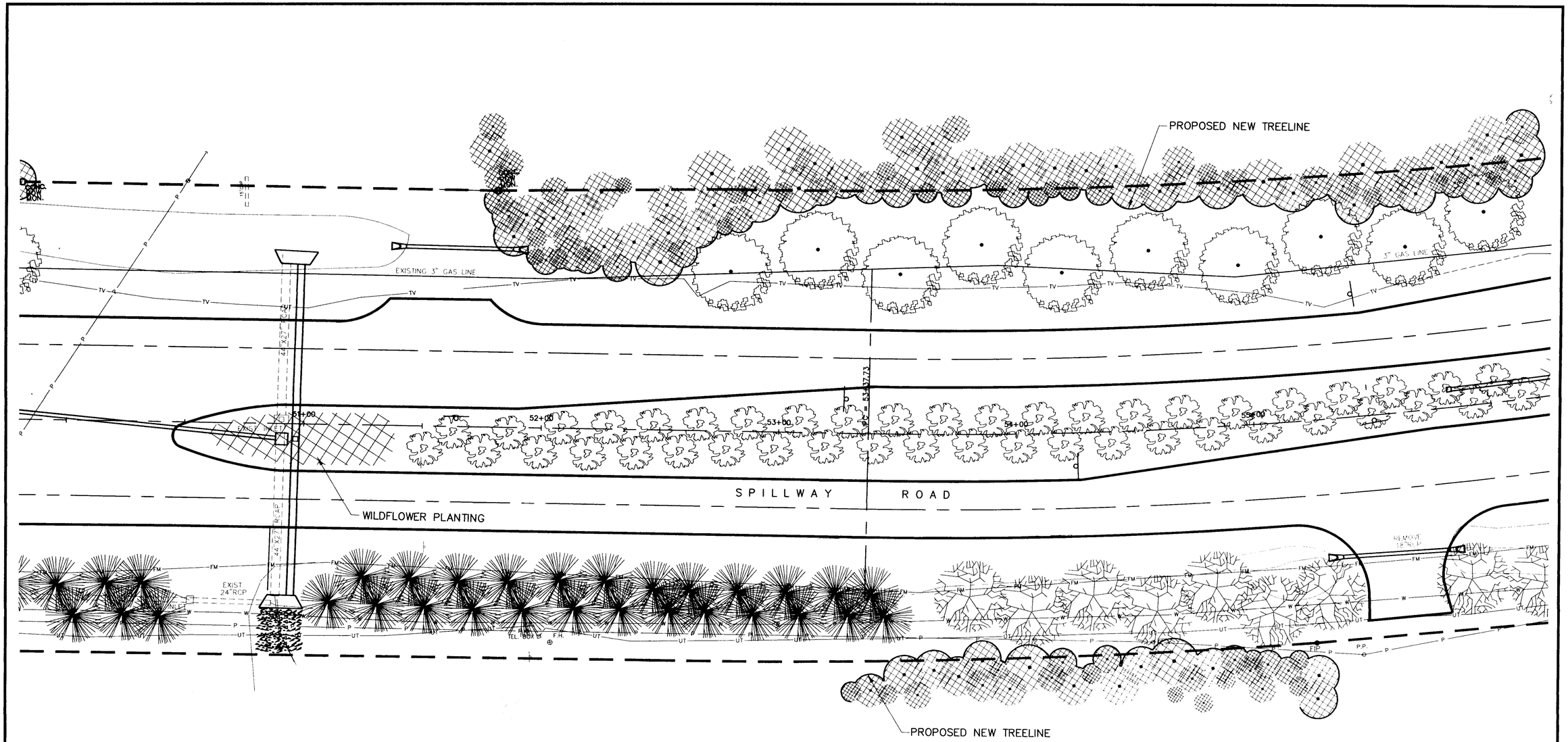
SPILLWAY ROAD IMPROVEMENTS
F.A.U.P. PROJECT NO. STP-6945(1)

LANDSCAPE PLAN

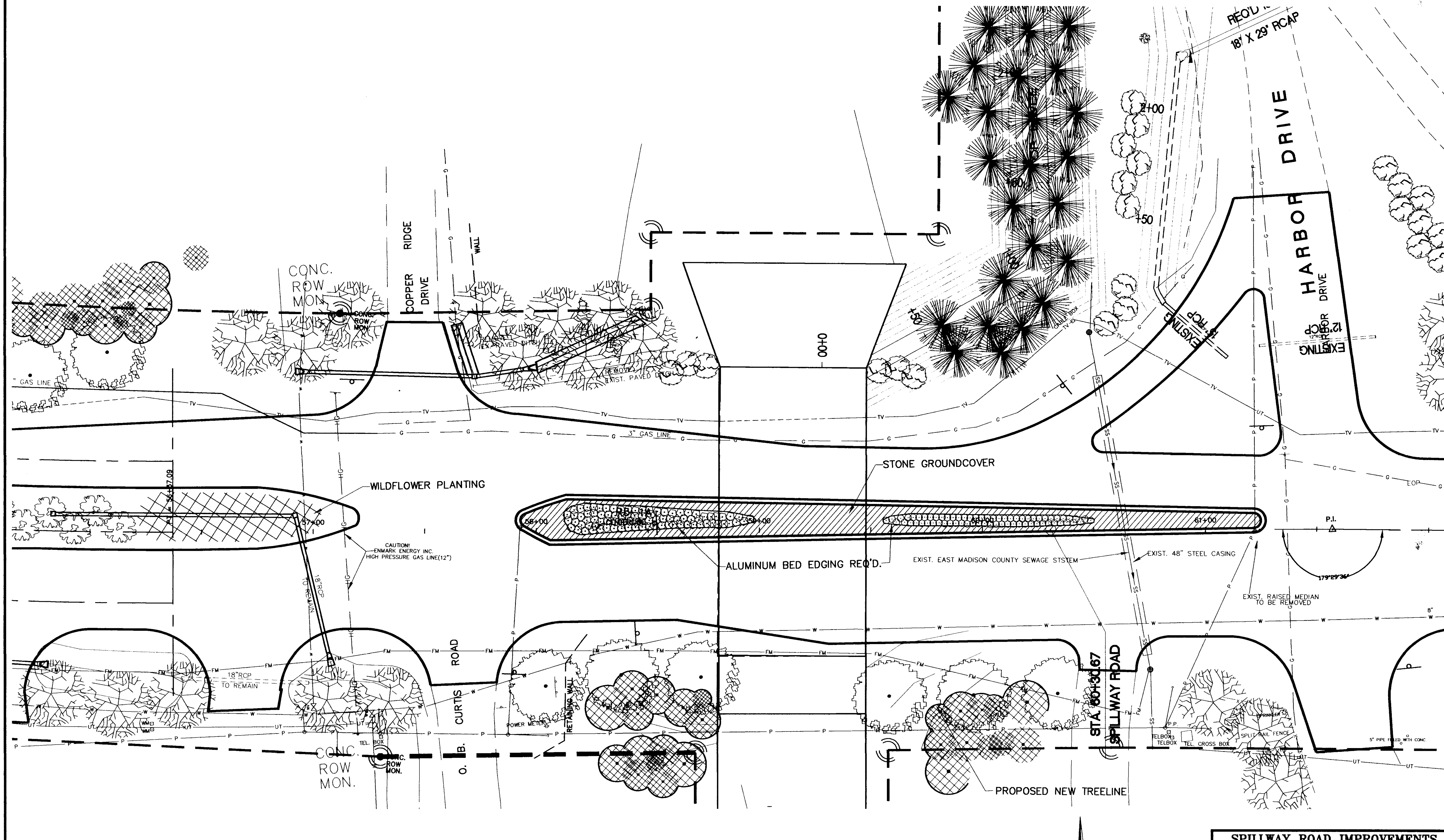
CITY OF RIDGELAND, MISSISSIPPI

WAGGONER ENGINEERING, INC.
Consulting Engineers – Jackson, Mississippi

DRAWN BY: T.J.	DATE: 7-9-97	WORKING NUMBER OF
REVIEWED BY: J.H.	SCALE: 1"=20'	SHEET NUMBER 47



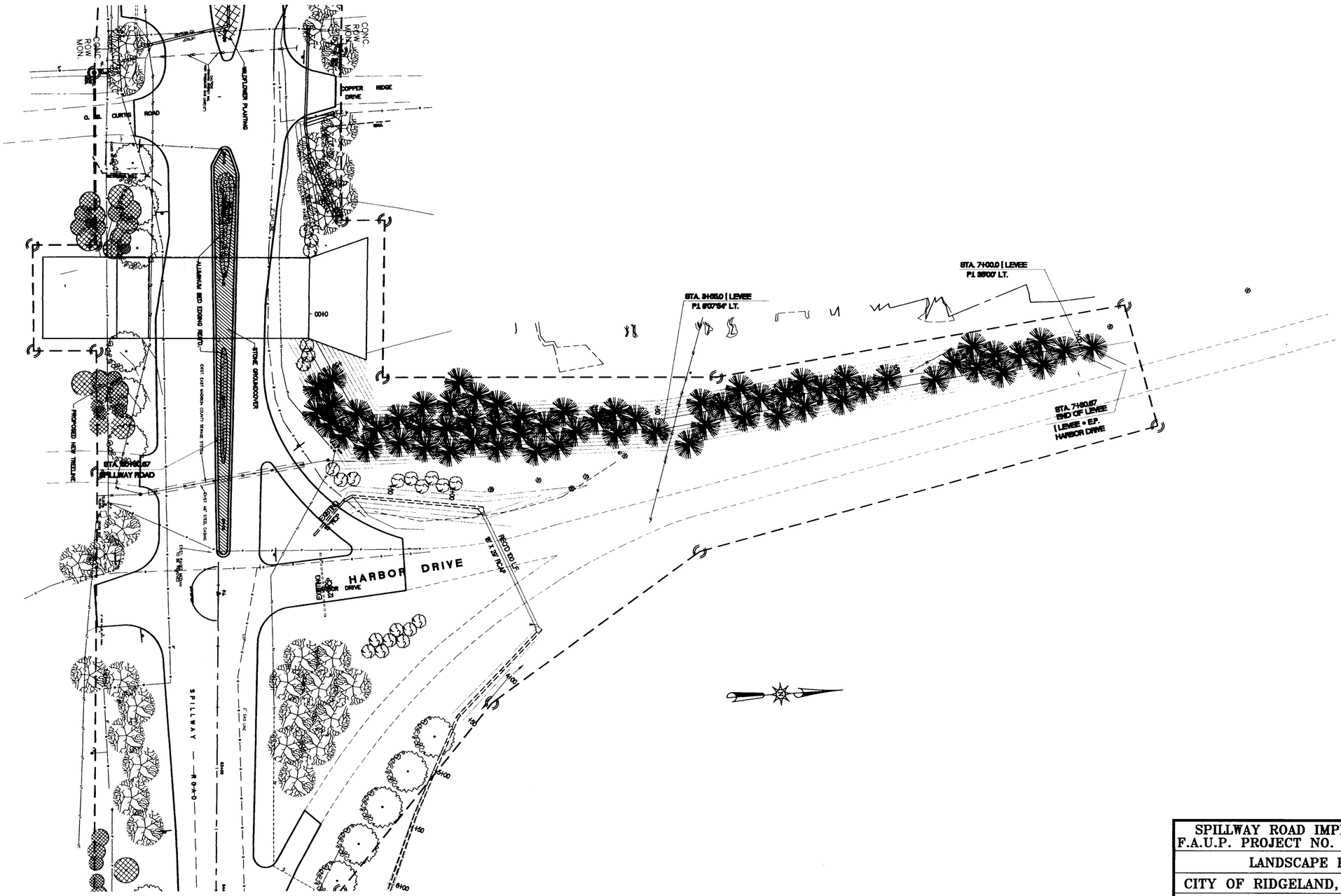
SPILLWAY ROAD IMPROVEMENTS F.A.U.P. PROJECT NO. STP-6945(1)		
LANDSCAPE PLAN		
CITY OF RIDGELAND, MISSISSIPPI		
WAGGONER ENGINEERING, INC. Consulting Engineers – Jackson, Mississippi		
DRAWN BY: T.J.	DATE: 7-9-97	WORKING NUMBER OF
REVIEWED BY: J.H.	SCALE: 1"=20'	SHEET NUMBER 48



COPPER RIDGE DRIVE
CONC. ROW MON.
WALL
GAS LINE
3" GAS LINE
WILDFLOWER PLANTING
CAUTION!
ENMARK ENERGY INC.
HIGH PRESSURE GAS LINE(12")
18"RCP TO REMAIN
STONE GROUNDCOVER
ALUMINUM BED EDGING REQ'D.
EXIST. EAST MADISON COUNTY SEWAGE SYSTEM
EXIST. 48" STEEL CASING
EXIST. RAISED MEDIAN TO BE REMOVED
HARBOR DRIVE
EXISTING 12"RCP
18' X 29' RCAP
P.I.
O. B. CURTIS ROAD
POWER METER
RETAINING WALL
TEL. BOX
STA. 60+30.67 SPILLWAY ROAD
TELBOX
TEL. CROSS BOX
SPLIT RAIL FENCE
PROPOSED NEW TREELINE
N

SPILLWAY ROAD IMPROVEMENTS F.A.U.P. PROJECT NO. STP-6945(1)
LANDSCAPE PLAN
CITY OF RIDGELAND, MISSISSIPPI
WAGGONER ENGINEERING, INC. Consulting Engineers - Jackson, Mississippi

DRAWN BY: T.J.	DATE: 7-9-97	WORKING NUMBER OF
REVIEWED BY: J.H.	SCALE: 1"=20'	SHEET NUMBER 49



SPILLWAY ROAD IMPROVEMENTS
F.A.U.P. PROJECT NO. STP-6945(1)

LANDSCAPE PLAN

CITY OF RIDGELAND, MISSISSIPPI

WAGGONER ENGINEERING, INC.
Consulting Engineers – Jackson, Mississippi

DRAWN BY: T.J.	DATE: 7-9-97	WORKING NUMBER OF
REVIEWED BY: J.H.	SCALE: 1"=40'	SHEET NUMBER 49A

PROPOSED NEW TREELINE

5+00

+50

6+00

+50

+50

+50

2" GAS LINE

EOP

63+00

64+00

65+00

P.I.

66+00

67+00

SPILLWAY ROAD

PROPOSED NEW TREELINE

PIPE FILLED WITH CONC.

CONC. BOX

N

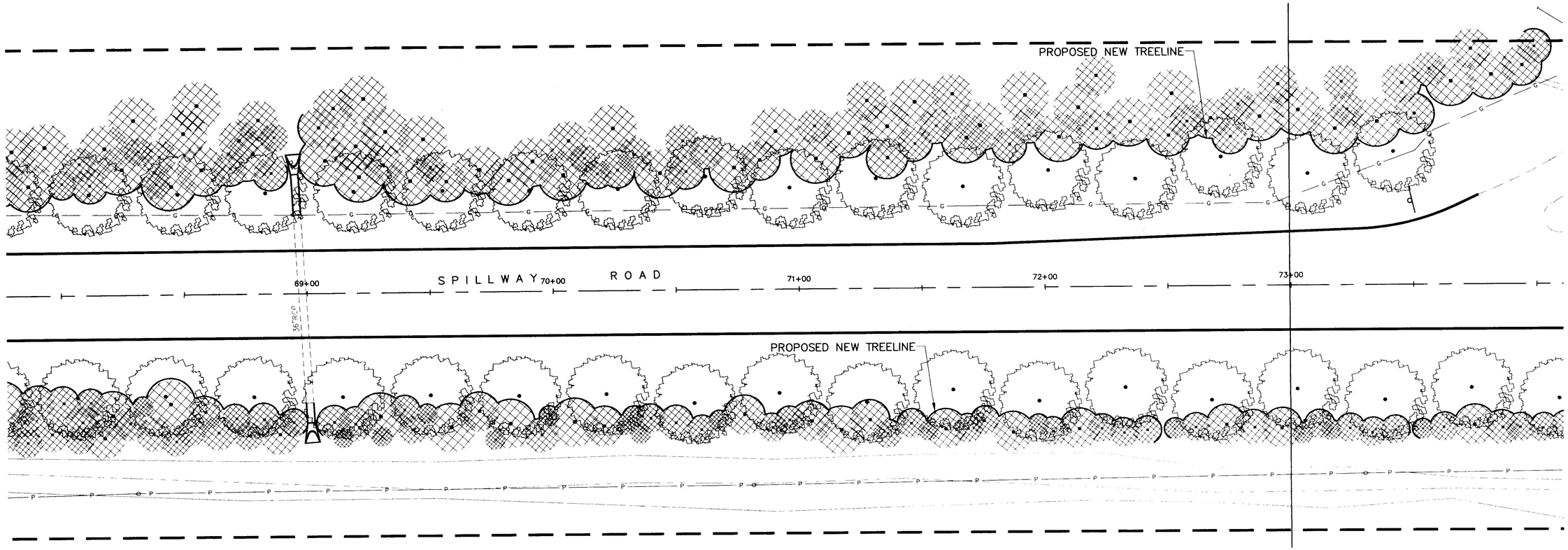
SPILLWAY ROAD IMPROVEMENTS
F.A.U.P. PROJECT NO. STP-6945(1)

LANDSCAPE PLAN

CITY OF RIDGELAND, MISSISSIPPI

WAGGONER ENGINEERING, INC.
Consulting Engineers – Jackson, Mississippi

DRAWN BY: T.J.	DATE: 7-9-97	WORKING NUMBER OF
REVIEWED BY: J.H.	SCALE: 1"=20'	SHEET NUMBER 50



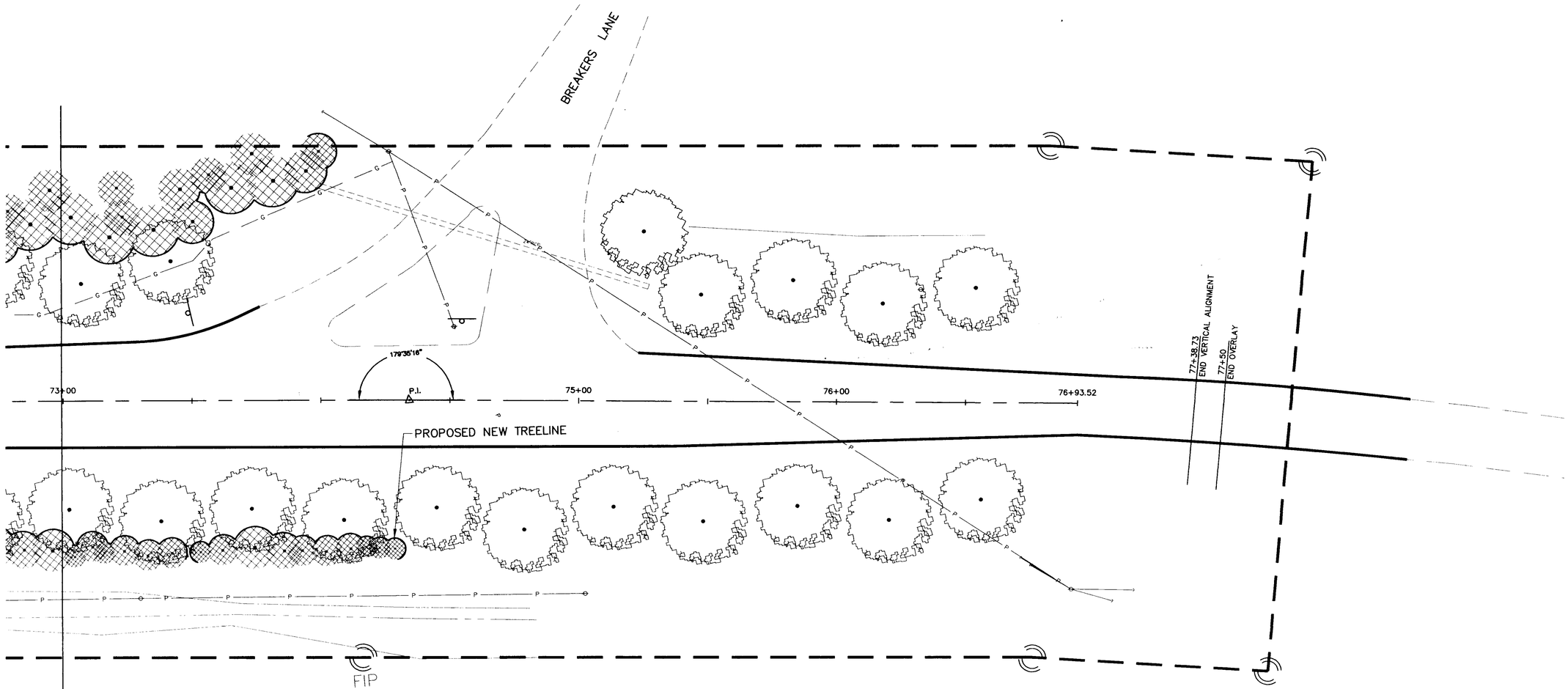
SPILLWAY ROAD IMPROVEMENTS
F.A.U.P. PROJECT NO. STP-6945(1)

LANDSCAPE PLAN

CITY OF RIDGELAND, MISSISSIPPI

WAGGONER ENGINEERING, INC.
Consulting Engineers – Jackson, Mississippi

DRAWN BY: T.J	DATE: 7-9-97	WORKING NUMBER OF
REVIEWED BY: J.H.	SCALE: 1"=20'	SHEET NUMBER 51



SPILLWAY ROAD IMPROVEMENTS
F.A.U.P. PROJECT NO. STP-6945(1)

LANDSCAPE PLAN

CITY OF RIDGELAND, MISSISSIPPI

WAGGONER ENGINEERING, INC.
Consulting Engineers – Jackson, Mississippi

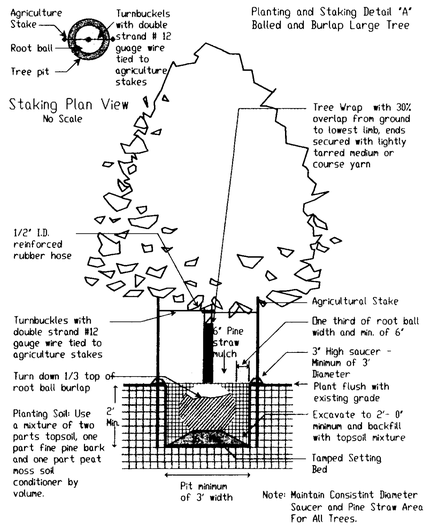
DRAWN BY: T.J.	DATE: 7-9-97	WORKING NUMBER OF
REVIEWED BY: J.H.	SCALE: 1"=20'	SHEET NUMBER 52

STATE	PROJECT NO.
MISS.	STP-6945(1)

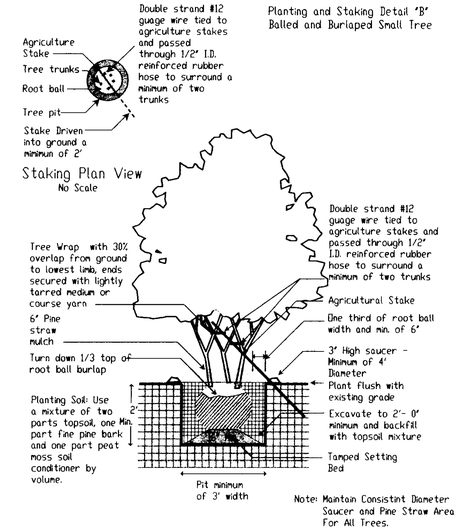
PLANT MATERIALS LIST

	#	SYMBOL	COMMON NAME	SCIENTIFIC NAME	PLANTING METHODS	SIZE / HABIT	COMMENTS
TREES	N/A		EXISTING TREES	N/A	N/A	N/A	Protect from distrubrance outside of Daylight Line
	116		SLASH PINE	PINUS CARIBAEA	B	6-8' Height	
	51		RED MAPLE	ACER RUBRUM	A	10-12' Height 1 1/2 - 2" Caliper	
	38		BRADFORD PEAR	PYRUS CALLERYANA "BRADFORD"	A	10-12' Height 2 1/2-3" Caliper	
	139		CREPEMYRTLE	LAGERSTROEMIA INDICA	B	8-10'	Multi-Trunk, Tree Form, Watermelon Red
	157		LITTLE LEAF LINDEN	TILIA CORDATA	A	10-12' Height 2 1/2-3" Caliper	
	20		BLOODLEAF MAPLE	ACER PALMATUM 'ATROPURPURERUM'	B	15 Gal. 5-6' Height x 5' Spread	Multi-Trunk, 3 to 5 Unpruned Branches
SHRUBS	134		DWARF ABELIA	Abelia grandiflora 'Edward Goucher'	C	24" Ht.x24"Sp.	
	152		INDIAN HAWTHORNE	RAPHIOLEPIS INDICA	C	30" Ht.x30"Sp.	
GROUND COVERS	0.35 ACRE		WILD FLOWERS	Utilize wildflower mix as indicated in specifications (Submittal Required)		Establish in Grassed Areas Identified on Plans.	
	5,610 SF		Decorative Stone		E	3/4" Dia. Old Barn Red	4" Thick W/Black Plastic Underneath (Absorbed Item) (Submittal Required)

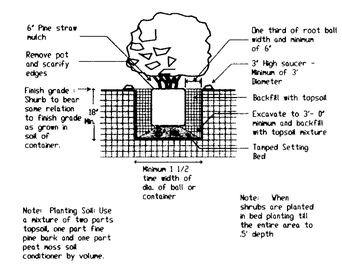
NOTE: 1. All Beds Will Be Mulched With Pine Straw 6" Thick. Unless Otherwise Noted on Plant Materials List Trees Will Be Mulched With Pine Bark 6" Thick At A 2' Radius From Trunks in Areas Where They Are Surrounded By Grass.



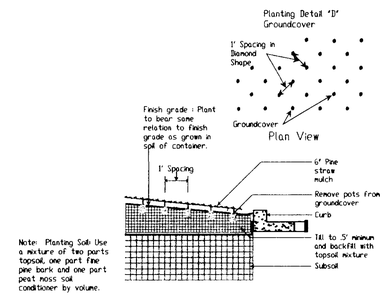
ELEVATION VIEW - PLANTING METHOD "A"
NOT TO SCALE



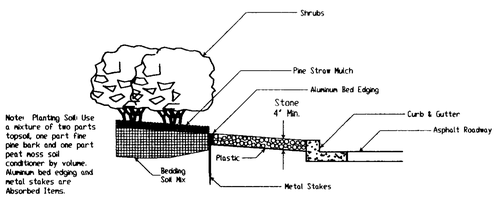
ELEVATION VIEW - PLANTING METHOD "B"
NOT TO SCALE



ELEVATION VIEW - PLANTING METHOD "C"
NOT TO SCALE



SECTION VIEW - PLANTING METHOD "D"
NOT TO SCALE



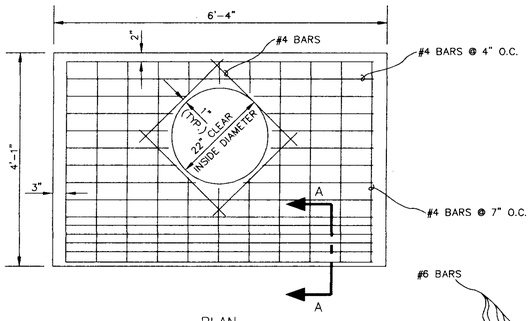
SECTION VIEW - STONE GROUNDCOVER "E"
NOT TO SCALE

SPILLWAY ROAD IMPROVEMENTS
F.A.U.P. PROJECT NO. STP-6945(1)
LANDSCAPE DETAILS
CITY OF RIDGELAND, MISSISSIPPI

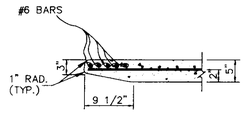
WAGGONER ENGINEERING, INC.
Consulting Engineers - Jackson, Mississippi

DRAWN BY: T.J.	DATE: 7-9-97	WORKING NUMBER 11 OF 11
REVIEWED BY: B.S.	SCALE: AS SHOWN	SHEET NUMBER 53

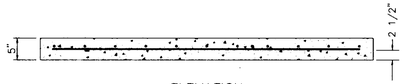
tj/c:\p\spillway\detailsh.dwg



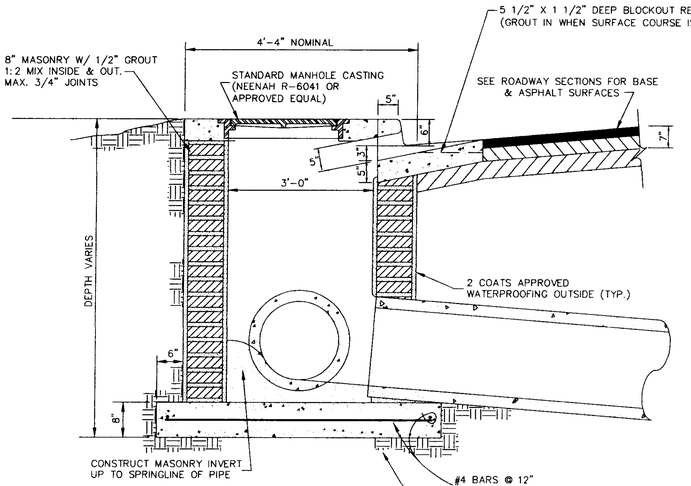
PLAN



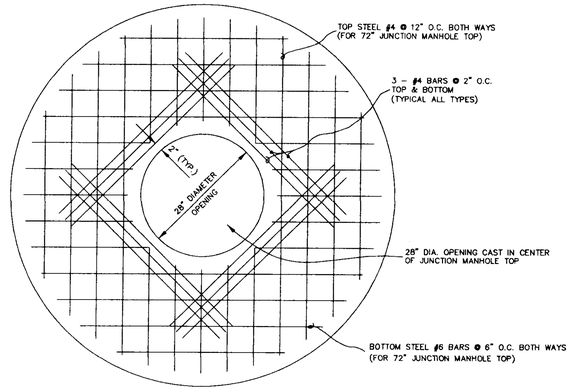
SECTION A-A



ELEVATION
INLET TOP

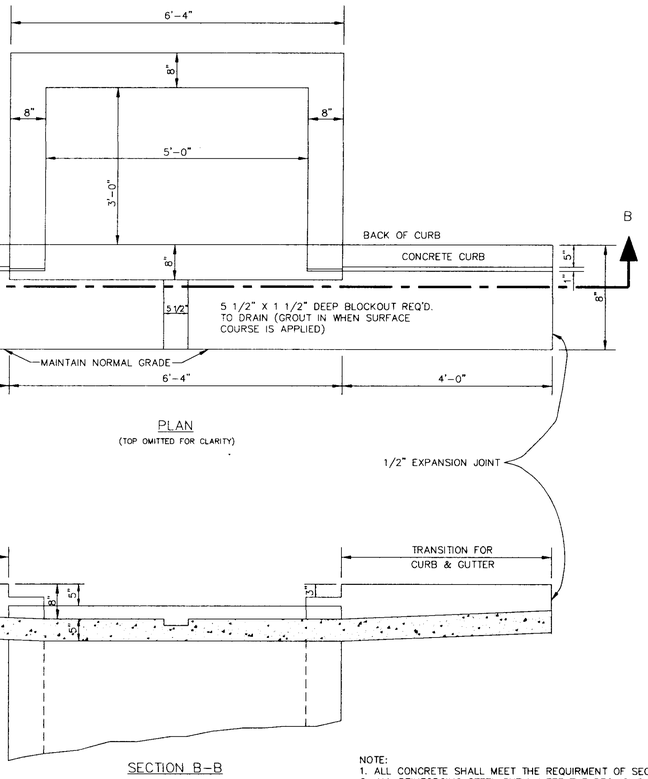


TYPE "A" INLET



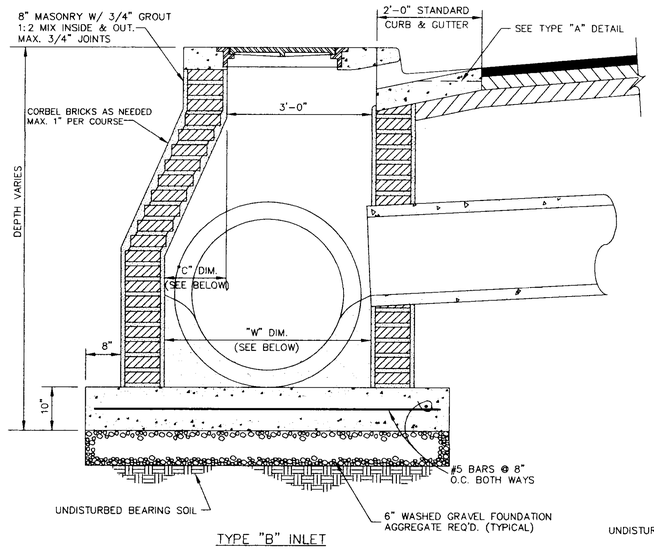
TYPICAL
JUNCTION MANHOLE
TOP
(REINFORCING FOR 72" JUNCTION MANHOLE TOP SHOWN)

REINF. FOR TOP (ALL REINF. BOTH WAYS)			
JUNC. M.H. I.D.	TOP THICKNESS	TOP STEEL	BOTTOM STEEL
72"	8"	#4 @ 12" O.C.	#6 @ 6" O.C.
84"	9"	#4 @ 10" O.C.	#6 @ 5" O.C.
96"	10"	#5 @ 8" O.C.	#6 @ 4" O.C.
120"	12"	#6 @ 8" O.C.	#8 @ 4" O.C.

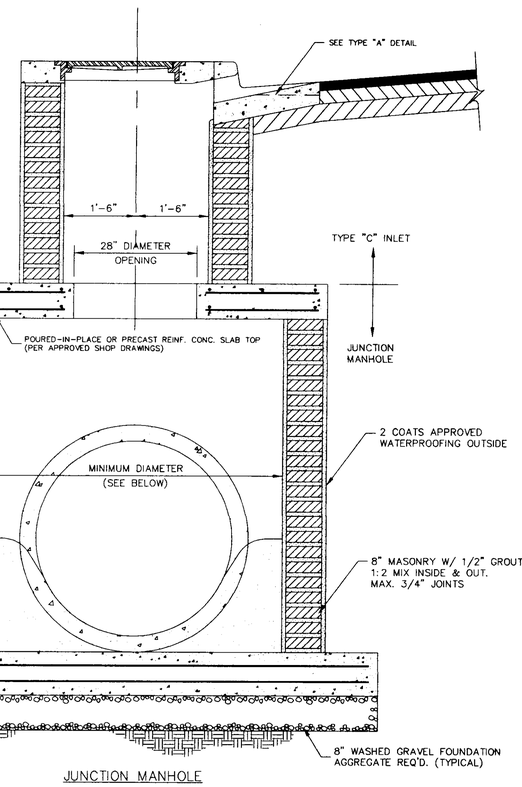


PLAN
(TOP OMITTED FOR CLARITY)

SECTION B-B
CURB INLET



TYPE "B" INLET



JUNCTION MANHOLE

NOTE:
1. ALL CONCRETE SHALL MEET THE REQUIRMENT OF SECTION 601.
2. ALL REINFORCING STEEL SHELL MEET THE REQUIRMENTS OF SECTION 602.
3. ALL BRICK MASONRY SHALL MEET THE REQUIRMENTS OF SECTION 611.
4. ALL CASTINGS SHALL MEET THE REQUIRMENTS OF SECTION 604.
5. ALL ITEM SHOWN ON THIS SHEET RELATING TO TYPE "A" SINGLE INLETS ARE TO BE INCLUDED IN BID ITEM #58, PAY ITEM #907-604-C-PP.
6. ALL ITEM SHOWN ON THIS SHEET RELATING TO TYPE "A" DOUBLE INLETS ARE TO BE INCLUDED IN BID ITEM #59, PAY ITEM #907-604-D-PP.
7. ALL ITEM SHOWN ON THIS SHEET RELATING TO TYPE "C" DOUBLE INLETS ARE TO BE INCLUDED IN BID ITEM #60, PAY ITEM #907-604-E-PP.

DIMENSIONS FOR TYPE "B" INLET				
PIPE I.D.	PIPE O.D.	DIM. "W"	DIM. "C"	MIN. COURSES CORBELLED
24"	33"	37"	4"	4
27"	36"	40"	4"	4
30"	39 1/2"	44"	8"	8
36"	45 1/2"	50"	14"	14

DIMENSIONS FOR JUNCTION MANHOLES					
PIPE I.D.	PIPE O.D.	MIN. M.H. DIA. I.D.	MIN. T1	MIN. T2	REINF. FOR FOUNDATION
42"	52 1/2"	72"	8"	10"	#6 @ 10" O.C.
48"	59 1/2"	72"	8"	10"	#6 @ 10" O.C.
54"	66 1/2"	84"	9"	12"	#6 @ 8" O.C.
60"	76"	84"	9"	12"	#6 @ 8" O.C.
65"x40"	76"	84"	9"	12"	#6 @ 8" O.C.
73"x45"	85"	96"	10"	12"	#6 @ 6" O.C.
88"x54"	102"	120"	12"	16"	#8 @ 6" O.C.

NOTE: ALL REINFORCING BOTH WAYS EACH FACE

C:\P\9415DW\INLET

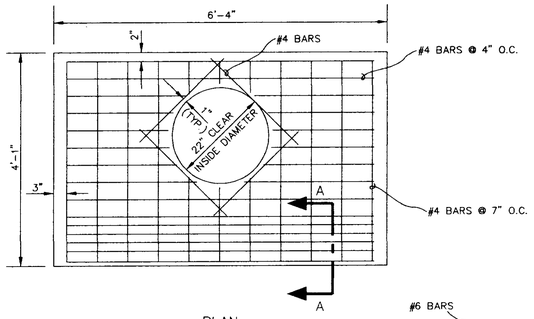
SPILLWAY ROAD IMPROVEMENTS
F.A.U.P. PROJECT NO. STP-6945(1)

INLET DETAILS - STANDARD STORM SEWER

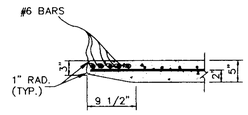
CITY OF RIDGELAND, MISSISSIPPI

WAGGONER ENGINEERING, INC.
Consulting Engineers - Jackson, Mississippi

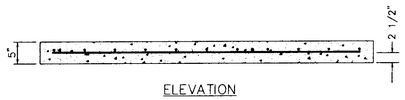
DRAWN BY:	DATE: 5-30-97	WORKING NUMBER
REVIEWED BY: J.H.	SCALE: N.T.S.	SHEET NUMBER 54



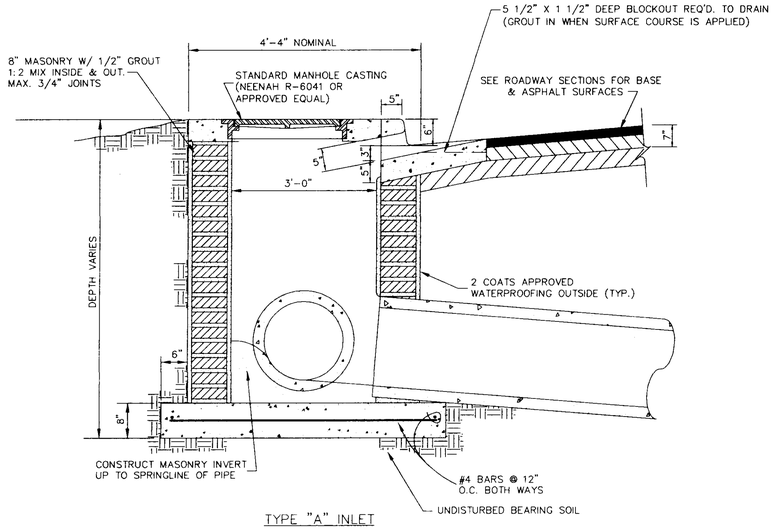
PLAN



SECTION A-A

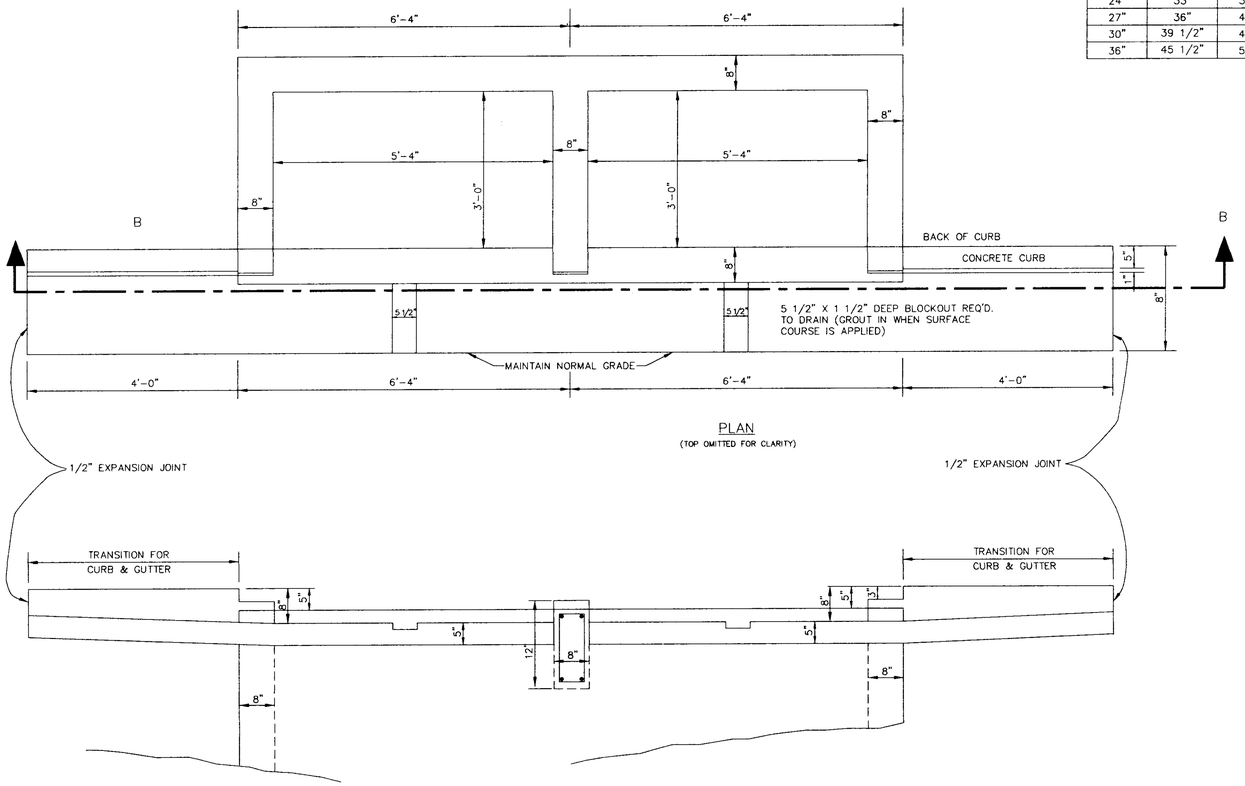


ELEVATION
INLET TOP



TYPE "A" INLET

DIMENSIONS FOR TYPE "B" INLET				
PIPE I.D.	PIPE O.D.	DIM. "W"	DIM. "C"	MIN. COURSES CORBELLED
24"	33"	37"	4"	4
27"	36"	40"	4"	4
30"	39 1/2"	44"	8"	8
36"	45 1/2"	50"	14"	14



PLAN
(TOP OMITTED FOR CLARITY)

SECTION B-B
CURB INLET

TYPE "B" INLET

NOTE:
1. ALL CONCRETE SHALL MEET THE REQUIRMENT OF SECTION 601.
2. ALL REINFORCING STEEL SHELL MEET THE REQUIRMENTS OF SECTION 602.
3. ALL BRICK MASONRY SHALL MEET THE REQUIRMENTS OF SECTION 611.
4. ALL CASTINGS SHALL MEET THE REQUIRMENTS OF SECTION 604.
5. ALL ITEM SHOWN ON THIS SHEET RELATING TO TYPE "A" SINGLE INLETS ARE TO BE INCLUDED IN BID ITEM #58, PAY ITEM #907-604-C-PP.
6. ALL ITEM SHOWN ON THIS SHEET RELATING TO TYPE "A" DOUBLE INLETS ARE TO BE INCLUDED IN BID ITEM #59, PAY ITEM #907-604-D-PP.
7. ALL ITEM SHOWN ON THIS SHEET RELATING TO TYPE "C" DOUBLE INLETS ARE TO BE INCLUDED IN BID ITEM #60, PAY ITEM #907-604-E-PP.

SPILLWAY ROAD IMPROVEMENTS
F.A.U.P. PROJECT NO. STP-6945(1)

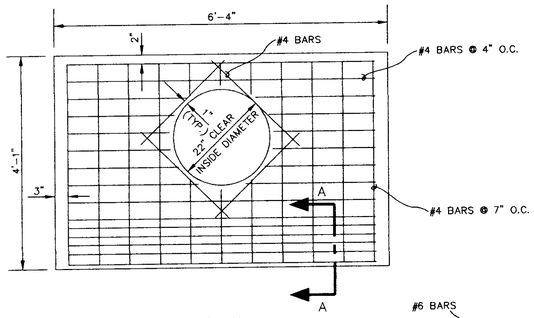
DOUBLE INLET DETAILS - STANDARD STORM SEWER

CITY OF RIDGELAND, MISSISSIPPI

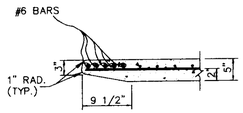
WAGGONER ENGINEERING, INC.
Consulting Engineers - Jackson, Mississippi

DRAWN BY:	DATE: 5-30-97	WORKING NUMBER
REVIEWED BY: J.H.	SCALE: N.T.S.	SHEET NUMBER 55

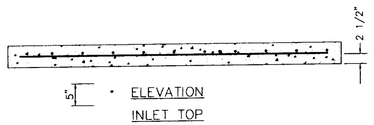
C:\P\94150W\INLET



PLAN



SECTION A–A

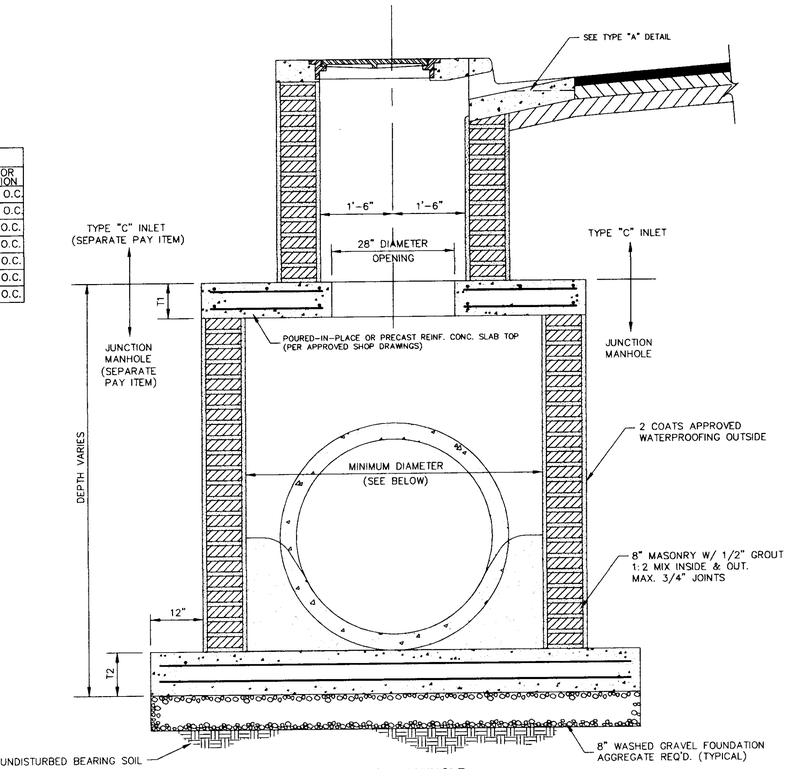


ELEVATION
INLET TOP

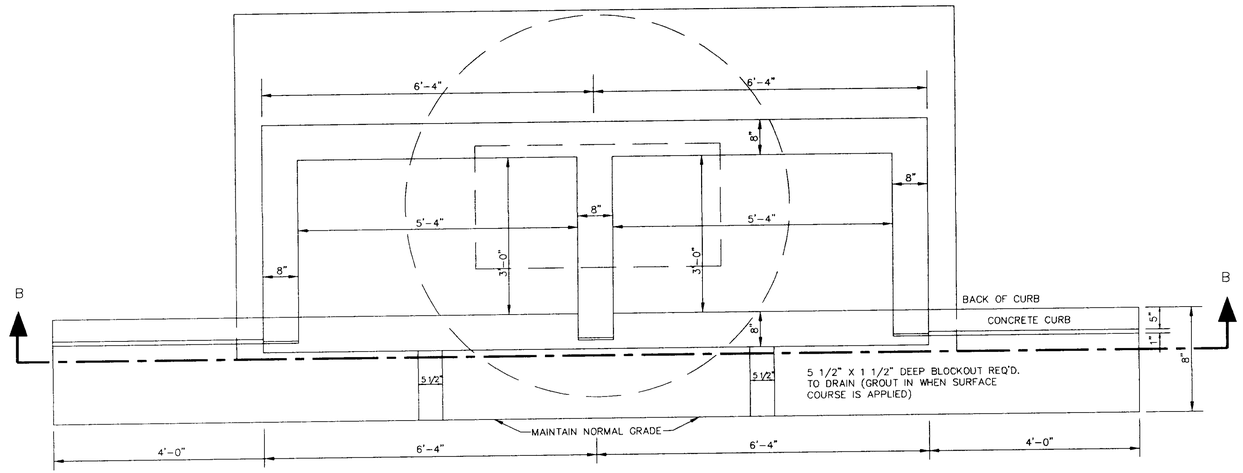
REINF. FOR TOP (ALL REINF. BOTH WAYS)			
JUNC. M.H. I.D.	TOP THICKNESS	TOP STEEL	BOTTOM STEEL
72"	8"	#4 @ 12" O.C.	#6 @ 6" O.C.
84"	9"	#4 @ 10" O.C.	#6 @ 5" O.C.
96"	10"	#5 @ 8" O.C.	#6 @ 4" O.C.
120"	12"	#6 @ 8" O.C.	#8 @ 4" O.C.

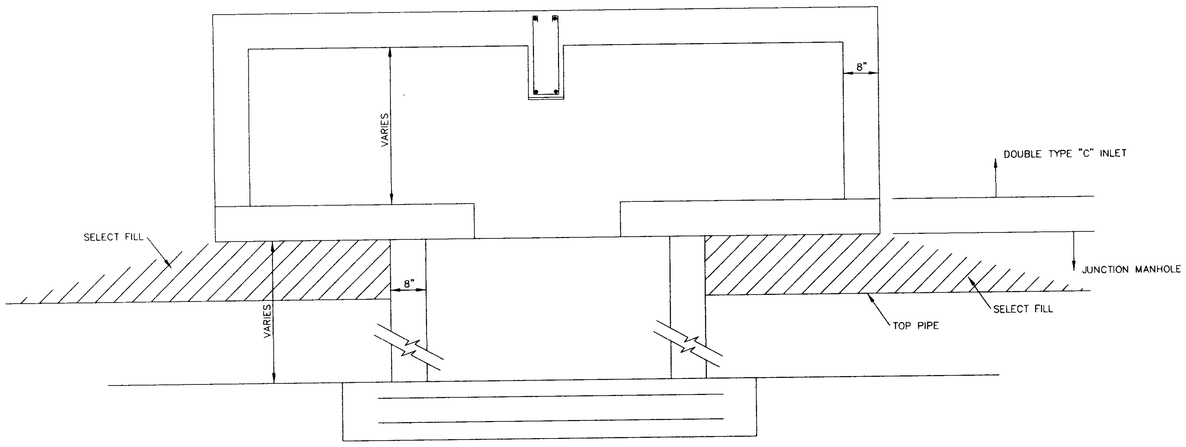
DIMENSIONS FOR JUNCTION MANHOLES					
PIPE I.D.	PIPE O.D.	MIN. M.H. DIA. I.D.	MIN. T1	MIN. T2	REINF. FOR FOUNDATION
42"	52 1/2"	72"	8"	10"	#6 @ 10" O.C.
48"	59 1/2"	72"	8"	10"	#6 @ 10" O.C.
54"	66 1/2"	84"	9"	12"	#6 @ 8" O.C.
60"	76"	84"	9"	12"	#6 @ 8" O.C.
65"x40"	76"	84"	9"	12"	#6 @ 8" O.C.
73"x45"	85"	96"	10"	12"	#6 @ 6" O.C.
88"x54"	102"	120"	12"	16"	#8 @ 6" O.C.

NOTE: ALL REINFORCING BOTH WAYS EACH FACE

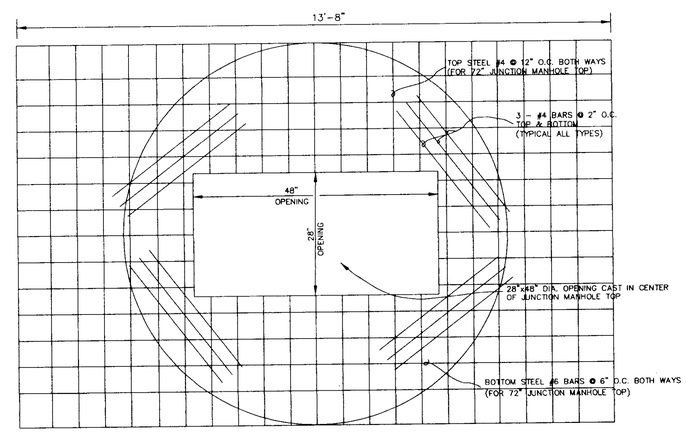


JUNCTION MANHOLE





SECTION B–B
CURB INLET



JUNCTION MANHOLE TOP USED W/ DOUBLE TYPE "C" INLET

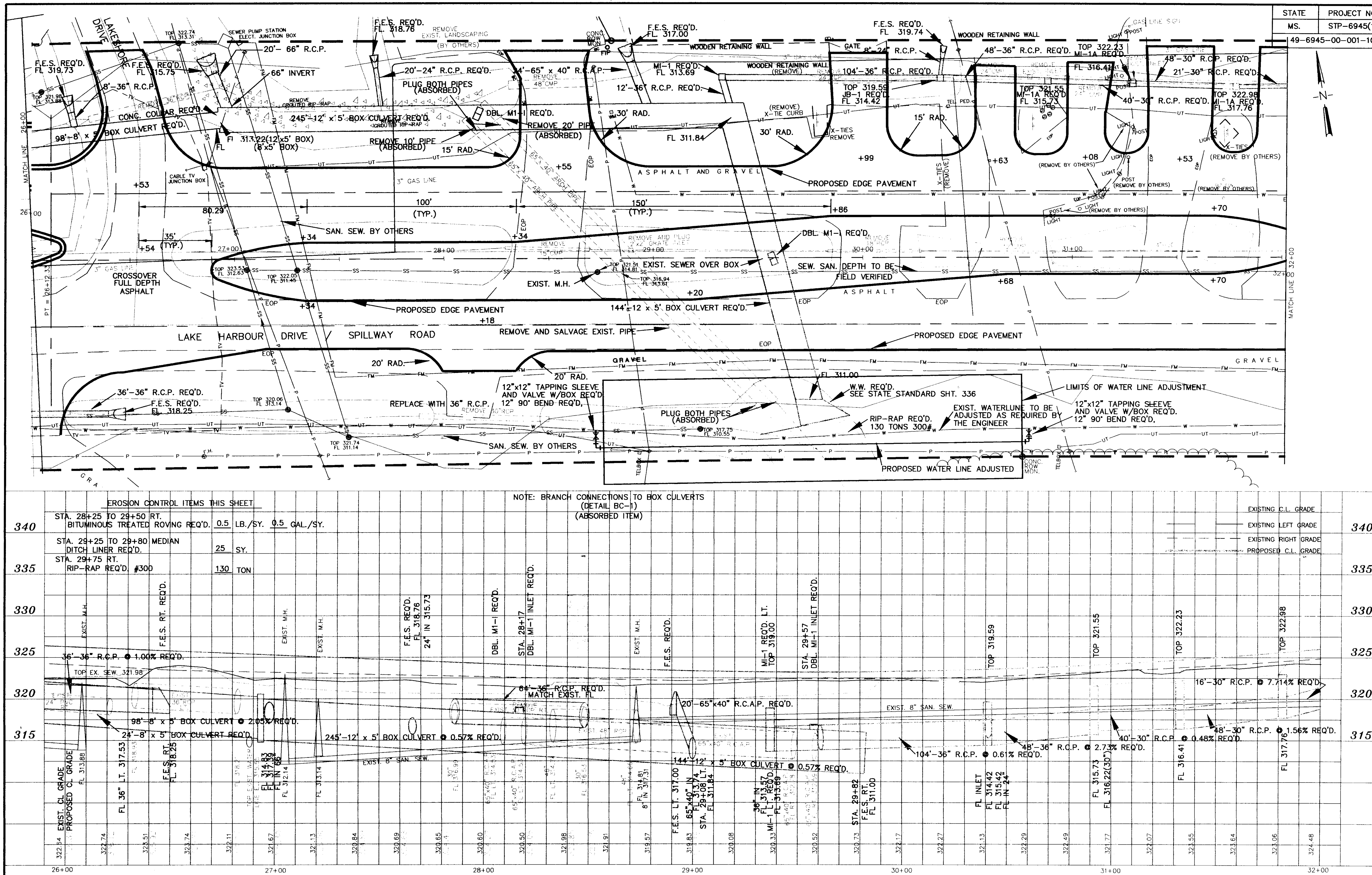
2. ALL REINFORCING STEEL SHELL MEET THE REQUIRMENTS OF SECTION 602.

NOTE:
1. ALL CONCRETE SHALL MEET THE REQUIRMENT OF SECTION 601.
3. ALL BRICK MASONRY SHALL MEET THE REQUIRMENTS OF SECTION 611.
4. ALL CASTINGS SHALL MEET THE REQUIRMENTS OF SECTION 604.
5. ALL ITEM SHOWN ON THIS SHEET RELATING TO TYPE "A" SINGLE INLETS ARE TO BE INCLUDED IN BID ITEM #58, PAY ITEM #907-604-C-PP.
6. ALL ITEM SHOWN ON THIS SHEET RELATING TO TYPE "A" DOUBLE INLETS ARE TO BE INCLUDED IN BID ITEM #59, PAY ITEM #907-604-D-PP.
7. ALL ITEM SHOWN ON THIS SHEET RELATING TO TYPE "C" DOUBLE INLETS ARE TO BE INCLUDED IN BID ITEM #60, PAY ITEM #907-604-E-PP.

C:\P\94150R\INLET

SPILLWAY ROAD IMPROVEMENTS
F.A.U.P. PROJECT NO. STP-6945(1)
INLET DETAILS – STANDARD STORM SEWER
CITY OF RIDGELAND, MISSISSIPPI
WAGGONER ENGINEERING, INC.
Consulting Engineers – Jackson, Mississippi

DRAWN BY:	DATE: 5-30-97	WORKING NUMBER
REVIEWED BY: J.H.	SCALE: N.T.S.	SHEET NUMBER 56


STATE
PROJECT NO.
MS.
STP-6945(1)
49-6945-00-001-10
LAKESHORE DRIVE
F.E.S. REQ'D. FL 319.73
F.E.S. REQ'D. FL 315.75
8'-36" R.C.P.
SEWER PUMP STATION ELECT. JUNCTION BOX
20'- 66" R.C.P.
66" INVERT
CONC. COLLAR REQ'D.
98'-8' x 5' BOX CULVERT REQ'D.
245'-12' x 5' BOX CULVERT REQ'D.
FL 313.22(12'x5' BOX) (8'x5' BOX)
F.E.S. REQ'D. FL. 318.76
REMOVE EXIST. LANDSCAPING (BY OTHERS)
20'-24" R.C.P. REQ'D.
PLUG BOTH PIPES (ABSORBED)
REMOVE 10' PIPE (ABSORBED)
15' RAD.
DBL. MI-1 REQ'D.
REMOVE 20' PIPE (ABSORBED)
24'-65" x 40" R.C.A.P.
F.E.S. REQ'D. FL. 317.00
WOODEN RETAINING WALL
MI-1 REQ'D. FL 313.69
12'-36" R.C.P. REQ'D.
30' RAD.
FL 311.84
(REMOVE) X-TIE CURB
X-TIES REMOVE
F.E.S. REQ'D. FL 319.74
104'-36" R.C.P. REQ'D.
TOP 319.59 JB-1 REQ'D. FL 314.42
15' RAD.
48'-36" R.C.P. REQ'D.
TOP 322.23 MI-1A REQ'D.
FL 316.41
TOP 321.55 MI-1A REQ'D. FL 315.73
48'-30" R.C.P. REQ'D.
21'-30" R.C.P. REQ'D.
40'-30" R.C.P. REQ'D.
TOP 322.98 MI-1A REQ'D. FL 317.76
(REMOVE BY OTHERS)
ASPHALT AND GRAVEL
PROPOSED EDGE PAVEMENT
CABLE TV JUNCTION BOX
3" GAS LINE
100' (TYP.)
150' (TYP.)
35' (TYP.)
SAN. SEW. BY OTHERS
DBL. MI-1 REQ'D.
EXIST. SEWER OVER BOX
SEW. SAN. DEPTH TO BE FIELD VERIFIED
EXIST. M.H.
CROSSOVER FULL DEPTH ASPHALT
144'-12' x 5' BOX CULVERT REQ'D.
LAKE HARBOUR DRIVE / SPILLWAY ROAD
REMOVE AND SALVAGE EXIST. PIPE
PROPOSED EDGE PAVEMENT
GRAVEL
20' RAD.
36'-36" R.C.P. REQ'D.
F.E.S. REQ'D. FL. 318.25
REPLACE WITH 36" R.C.P.
12"x12" TAPPING SLEEVE AND VALVE W/BOX REQ'D. 12" 90° BEND REQ'D.
FL 311.00
W.W. REQ'D. SEE STATE STANDARD SHT. 336
LIMITS OF WATER LINE ADJUSTMENT
PLUG BOTH PIPES (ABSORBED)
RIP-RAP REQ'D. 130 TONS 300#
EXIST. WATERLINE TO BE ADJUSTED AS REQUIRED BY THE ENGINEER
SAN. SEW. BY OTHERS
PROPOSED WATER LINE ADJUSTED
MATCH LINE 26+00
MATCH LINE 32+00
EROSION CONTROL ITEMS THIS SHEET
STA. 28+25 TO 29+50 RT. BITUMINOUS TREATED ROVING REQ'D. 0.5 LB./SY. 0.5 GAL./SY.
STA. 29+25 TO 29+80 MEDIAN DITCH LINER REQ'D. 25 SY.
STA. 29+75 RT. RIP-RAP REQ'D. #300 130 TON
NOTE: BRANCH CONNECTIONS TO BOX CULVERTS (DETAIL BC-1) (ABSORBED ITEM)
EXISTING C.L. GRADE
EXISTING LEFT GRADE
EXISTING RIGHT GRADE
PROPOSED C.L. GRADE
340
335
330
325
320
315
36'-36" R.C.P. @ 1.00% REQ'D.
TOP EX. SEW. 321.98
98'-8' x 5' BOX CULVERT @ 2.05% REQ'D.
24'-8' x 5' BOX CULVERT REQ'D.
245'-12' x 5' BOX CULVERT @ 0.57% REQ'D.
64'-36" R.C.P. REQ'D. MATCH EXIST. FL
20'-65"x40" R.C.A.P. REQ'D.
144'-12' x 5' BOX CULVERT @ 0.57% REQ'D.
EXIST. 8" SAN. SEW.
104'-36" R.C.P. @ 0.61% REQ'D.
48'-36" R.C.P. @ 2.73% REQ'D.
40'-30" R.C.P. @ 0.48% REQ'D.
48'-30" R.C.P. @ 1.56% REQ'D.
16'-30" R.C.P. @ 7.714% REQ'D.
322.54
322.74
323.51
323.74
322.11
321.67
322.13
320.84
320.69
320.65
320.60
320.50
321.98
321.91
319.57
319.83
320.08
320.33
320.52
320.73
322.17
322.27
322.13
322.29
322.49
321.77
322.07
322.55
323.64
323.06
324.48
26+00
27+00
28+00
29+00
30+00
31+00
32+00

NO.	DATE	REVISIONS	BY

DESIGNED | DATE
DRAWN | SCALE 1"=20' HORIZ. 1"=5' VERT.

WEI

WATER LINE RELOCATION

PROJECT NO. STP-6945(1)/49-6945-00-001-10
CITY OF RIDGELAND, MADISON COUNTY, MISSISSIPPI

ACAD PATH ROUTE C:\P\94150E\WATERSHT
W.E.I. JOB NO. 94-150E

WORKING NUMBER
SHEET NUMBER 57

C:\DSKDPRO\94150E\WATERSHT Thu JUL 10 14:10:05 1997

STATE	PROJECT NO.
MS.	STP-6945(1)
	49-6945-00-001-10

PAVED DITCH REQ'D
CONSTRUCTION LIMITS
F.E.S. REQ'D. FL 298.46
30' RAD.
COPPER DRIVE
25'
REMOVE EX. PAVED DITCH
F.E.S. REQ'D. FL 293.60
24'-18" R.C.P. REQ'D.
72'-18" R.C.P. REQ'D
150' TAPER
10' OFFSET
EDGE PAVEMENT
M1-1 REQ'D. TOP 300.5 FL 297.80
M1-1 REQ'D. TOP 296.80 FL. 294.3
120' RAD.
160' RAD.
5' RAD.
TO BE REMOVED
12" PINE TO BE REMOVED
10' RAD.
HARBOR DR
30' RAD. (TYP.)
BOX BRIDGE (SEE SHT. NO._)
RAISED MEDIAN
MATCH LINE 56+00
92'-18" R.C.P. REQ'D
62'-18" R.C.P. REQ'D
35' (TYP.)
+55.62
CAUTION! ENMARK ENERGY INC. HIGH PRESSURE GAS LINE(12")
CENTERLINE
EXIST. EAST MADISON COUNTY SEWAGE STSTEM
EXIST. 48" STEEL CASING
EXIST. RAISED MEDIAN TO BE REMOVED
P.I.
100' (TYP.)
80.29'
+70
+67
+60
F.E.S. REQ'D. FL. 297.52
8" TAPPING SLEEVE AND VALVE W/BOX REQ'D.
DEPTH TO BE FIELD VERIFIED
45° BEND REQ'D.
CURTIS ROAD
O. B.
RETAINING WALL
CONSTRUCTION LIMITS
RELOCATED 8" WATER LINE
10' RAD.
26'
15' RAD.
31.5'
30'
34'
TBM NO. 8
SPLIT RAIL FENCE
TEL. CROSS BOX
DEPTH TO BE FIELD VERIFIED
8" TAPPING SLEEVE AND VALVE W/BOX REQ'D.
TBM NO. 8 ELEV. 288.501 CHISELED SQUARE NORTH SIDE OF TELE. JUNCTION BOX
EXISTING C.L. GRADE
EXISTING LEFT GRADE
EXISTING RIGHT GRADE
PROPOSED C.L. GRADE
STA. 56+92 MI-1 REQ'D. TOP 300.5
STA. 57+72 LT. MI-1 REQ'D. TOP 296.80
V-DITCH REQ'D. RT.
92'-18" R.C.P. REQ'D.
FL 297.80
STA. 56+93 LT F.E.S. REQ'D FL 298.60
STA. 57+07 RT F.E.S. REQ'D. FL 297.52
72'-18" R.C.P. @ 5.78% REQ'D.
FL 294.30
24'-18" R.C.P. @ 2.92% REQ'D.
STA. 58+00 LT F.E.S. REQ'D. FL 293.60
22.5° BEND REQ'D.
8" WATER LINE DEPTH TO BE FIELD VERIFIED
EXIST. M.H. TOP LT. 289.20
EXIST. M.H. TOP RT. 288.83
EXIST. CL GRADE PROPOSED CL GRADE
PROPOSED BOX CULVERT
EXIST. EAST MADISON COUNTY SEWAGE STSTEM
PROPOSED FL NORTH 273.86
PROPOSED FL SOUTH 273.07
FL LT. 273.15
EXIST. 48" STEEL CASING
EXIST. 36" SAN. SEW.
FL RT. 272.82
310
305
300
295
290
285
280
305.64
304.86
304.30
303.60
302.82
301.90
301.12
300.25
299.28
298.66
297.64
296.75
295.90
295.09
294.53
293.86
293.40
292.75
292.27
291.80
291.34
290.85
290.42
290.21
289.95
289.68
289.43
288.47
288.12
288.65
288.52
56+00
57+00
58+00
59+00
60+00
61+00
62+00

EROSION CONTROL ITEMS THIS SHEET

Item	Quantity	Unit
STA. 56+00 TO 56+90 LT DITCH LINER REQ'D.	40	SY.
STA. 58+00 TO 58+75 LT. PAVED DITCH REQ'D	3.0	CY.
STA. 57+73 LT. PAVED DITCH REQ'D	1.0	CY.

NO. | DATE | REVISIONS | BY

DESIGNED | DATE
DRAWN | SCALE 1"=20' HORT. 1"=5' VERT.

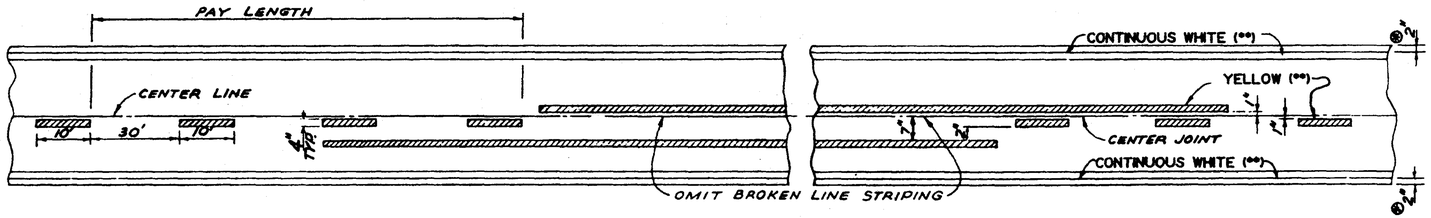
WEI

WATER LINE RELOCATION

PROJECT NO. STP-6945(1)/49-6945-00-001-10
CITY OF RIDGELAND, MADISON COUNTY, MISSISSIPPI

ACAD PATH ROUTE C:\P\94150E\WATERSHT
W.E.I. JOB NO. 94-150E
WORKING NUMBER
SHEET NUMBER 58

C:\sdsk\proj\94150e\WATERSHT Thu Jul 10 14:10:47 1997

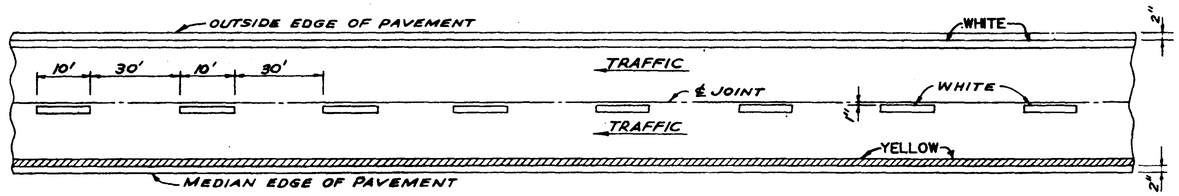


DETAIL OF TWO-WAY TRAFFIC PAVEMENT MARKING

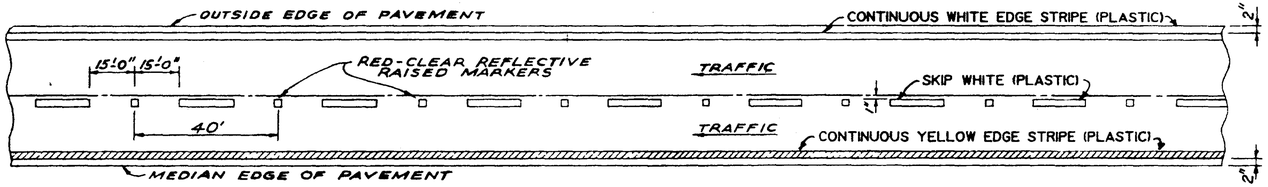
(ASPHALT OR CONCRETE PAVEMENT)

⚠ ⚠

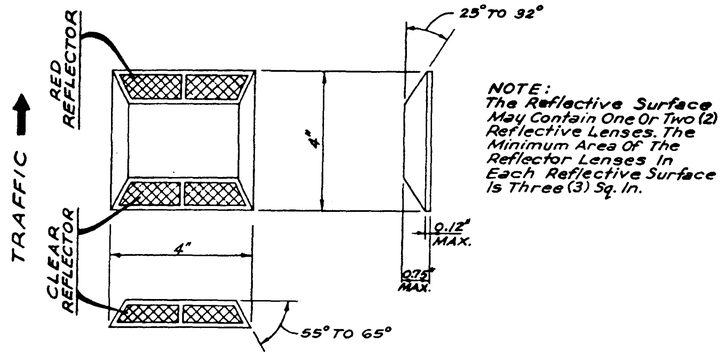
* 2" UNLESS SHOWN ELSEWHERE ON THE PLANS.
** EDGE STRIPE SHALL BE SAME MATERIAL AS CENTERLINE STRIPE (PAINT OR PLASTIC, AS INDICATED IN PAY ITEMS).



DETAIL OF PAVEMENT MARKING ON FOUR-LANE WITH ONE-WAY TRAFFIC (PAINT)

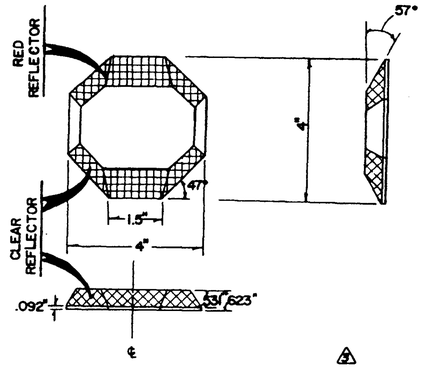


⚠ DETAIL OF PAVEMENT MARKING ON FOUR-LANE WITH ONE-WAY TRAFFIC (PLASTIC)



NOTE: The Reflective Surface May Contain One Or Two (2) Reflective Lenses. The Minimum Area Of The Reflector Lenses In Each Reflective Surface Is Three (3) Sq. In.

DETAIL OF REFLECTIVE MARKERS (OPTION 1)



⚠ DETAIL OF REFLECTIVE MARKERS (OPTION 2)

SPACINGS OF RAISED REFLECTIVE MARKERS

	URBAN AREA	RURAL AREA
TANGENT SECTIONS	40FT.	80FT.
HORIZONTAL CURVES	40FT.	40FT.
INTERCHANGE LIMITS	40FT.	*40FT.

*ON THE MAIN FACILITY, CLEAR-RED MARKERS ON 40FT. SPACING WILL BE REQUIRED ON LANE-LINE (S) THROUGH ALL INTERCHANGE AREAS BEGINNING 1000 FT. IN ADVANCE (IN DIRECTION OF TRAFFIC) OF THE EXIT RAMP TAPER AND CONTINUING THROUGH THE INTERCHANGE TO THE END OF THE ENTRANCE RAMP TAPER.

REVISIONS	BY	DATE
⚠ PLASTIC EDGE STRIPE	JJS	7-1-82
	AWK	11-15-84
	AWK	5-8-85
⚠ ⚠	AWK	5-7-86

MISSISSIPPI STATE HIGHWAY DEPARTMENT

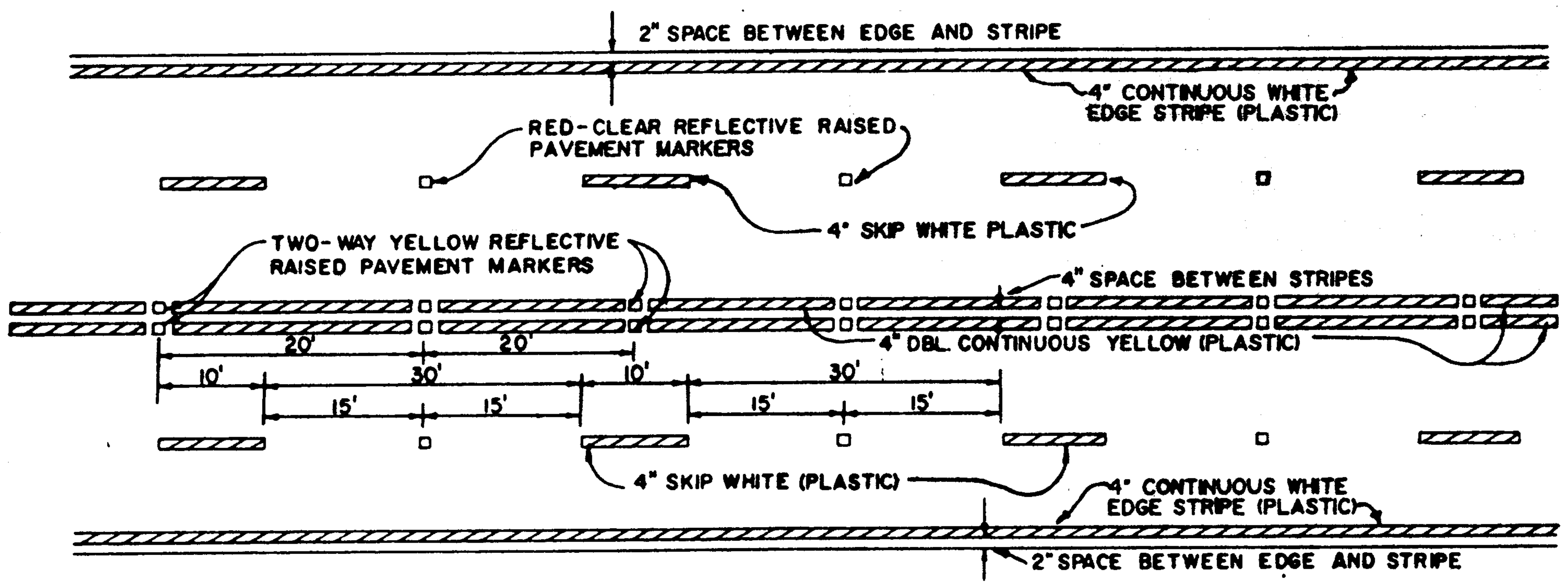
PAVEMENT MARKING DETAILS FOR 2 AND 4 LANE DIVIDED ROADWAYS

WORKING NUMBER PM-1

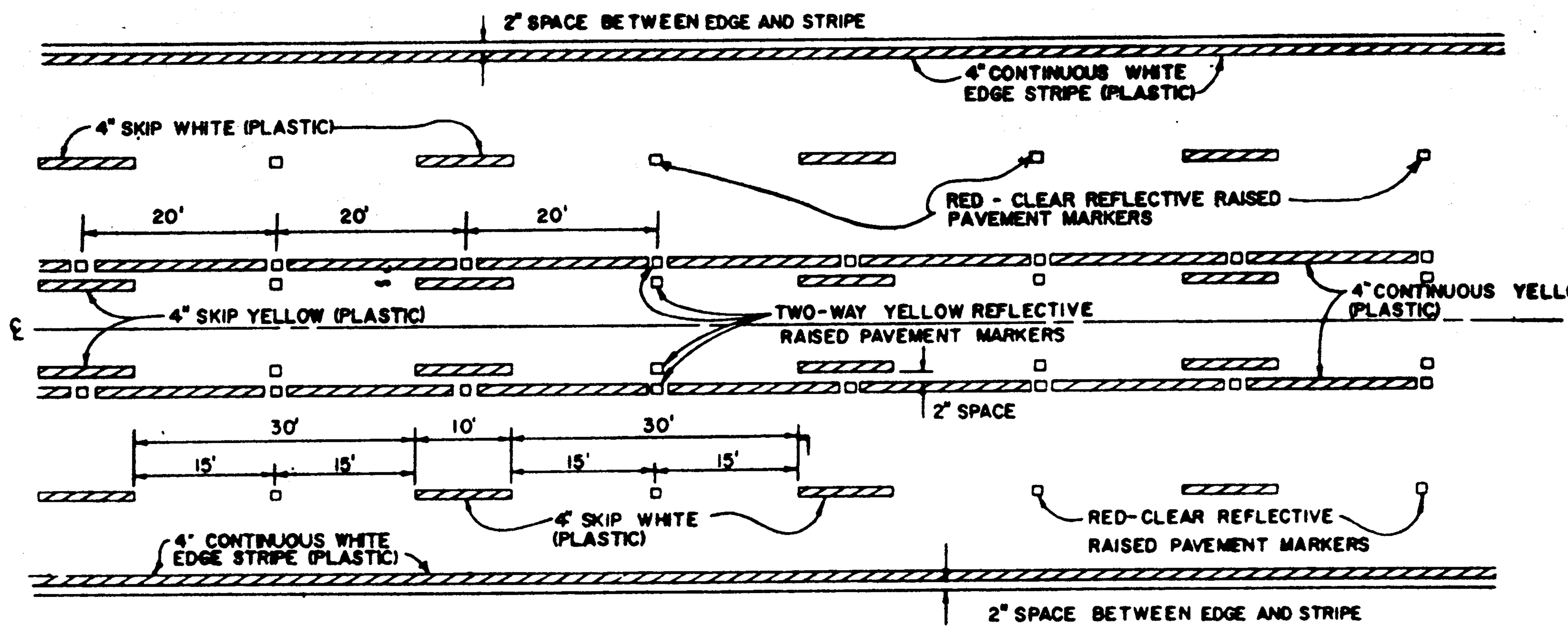
SHEET NUMBER 112

DESIGNED ____ DETAILED ____ TRACED ____

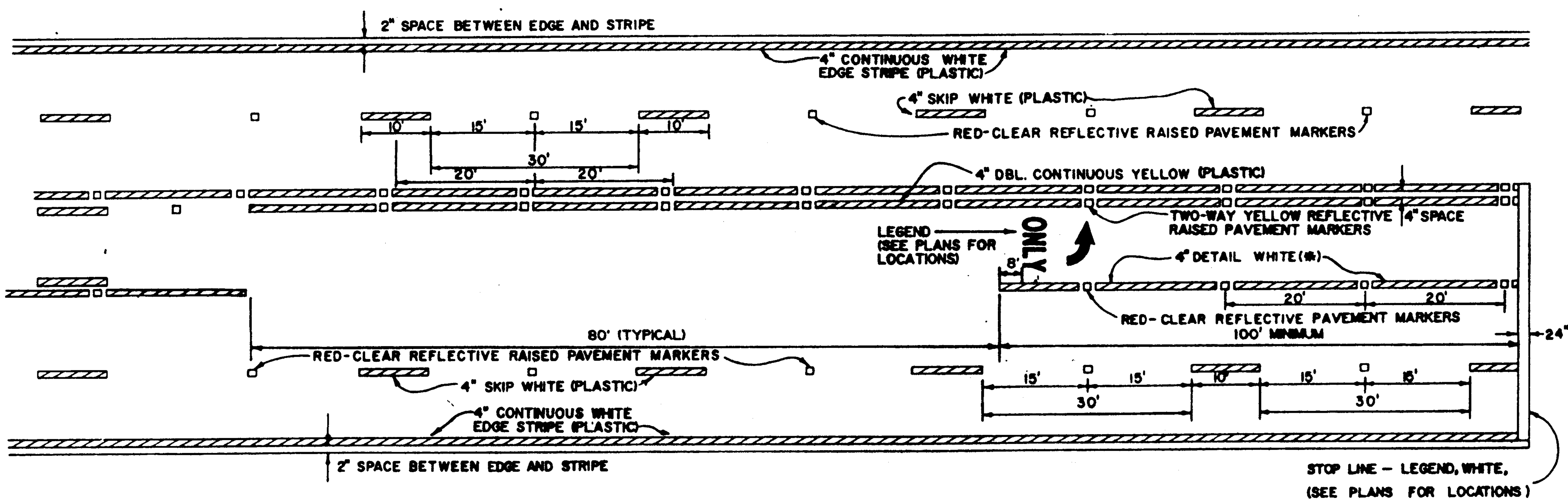
CHECKED ____ ISSUED D.B.J. DATE 11-1-79



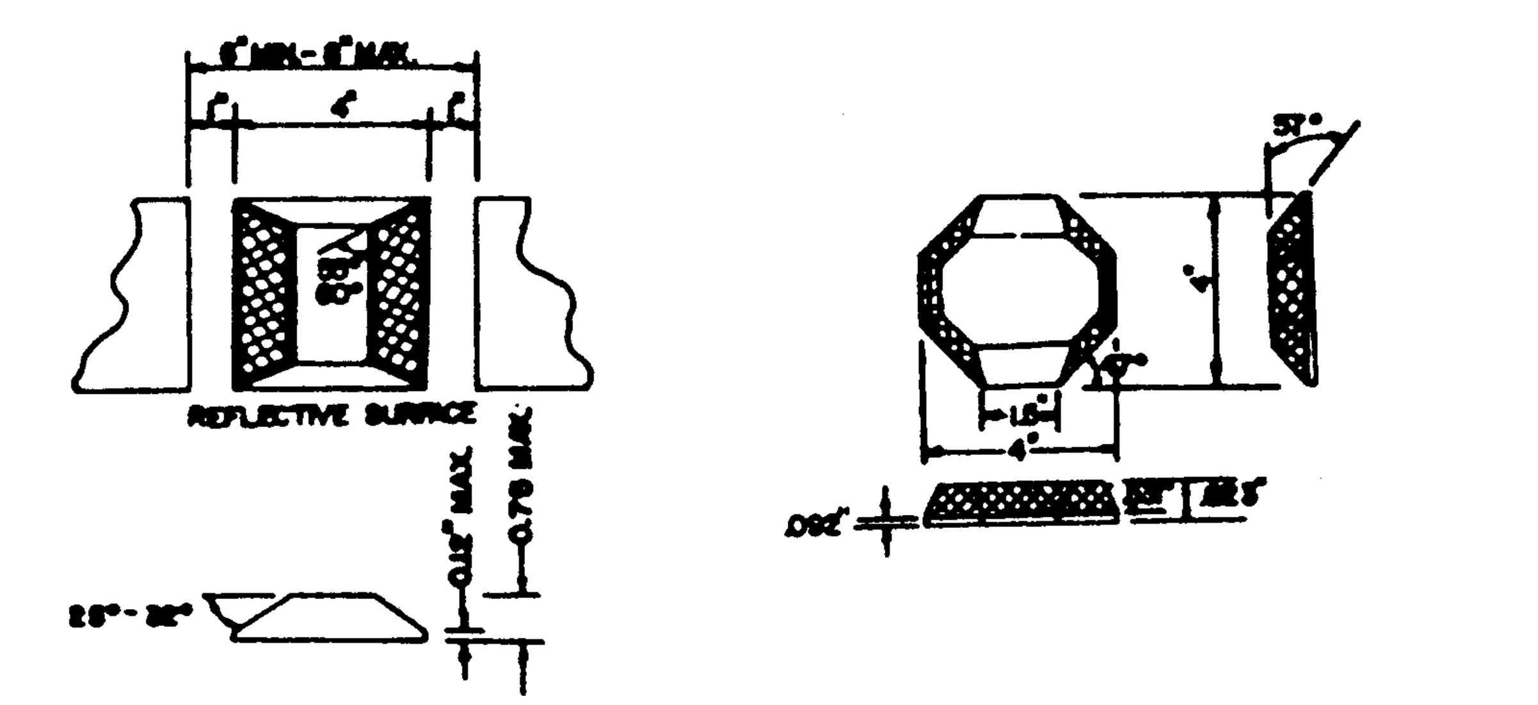
TYPICAL DETAIL FOR STRIPING AND RAISED PAVEMENT MARKERS - 4 LANE SECTION
△3



TYPICAL DETAIL FOR STRIPING AND RAISED PAVEMENT MARKERS - 5 LANE SECTION
△3



TYPICAL DETAIL FOR STRIPING AND RAISED PAVEMENT MARKERS AT LEFT TURN LANES
△3



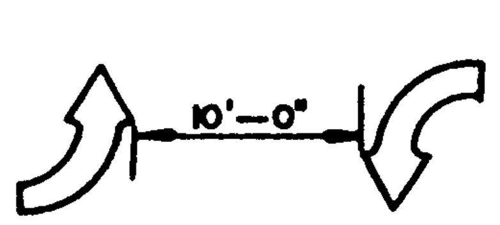
OPTION 1

OPTION 2
△1

DETAIL OF REFLECTIVE MARKERS

NOTE: THE REFLECTIVE SURFACE MAY CONTAIN ONE (1) OR TWO (2) REFLECTOR LENSES. THE MIN. AREA IN EACH REFLECTIVE SURFACE IS THREE SQ. IN.

* DETAIL IF ≤ 150'
CONTINUOUS IF > 150'



△3 TYPICAL TWO-WAY TURN ARROW INSTALLATION

NOTES:

1. CONSIDER EACH SEGMENT OF CONTINUOUS TWO-WAY LEFT TURN LANE SEPARATELY.
2. IF SEGMENT IS LESS THAN 350', PLACE ONE SET OF ARROWS IN CENTER OF SEGMENT.
3. IF SEGMENT IS GREATER THAN 350', PLACE FIRST SET OF ARROWS 50'-100' FROM BEGINNING AND/OR END OF SEGMENT AND SPACE ADDITIONAL SETS OF ARROWS @ 250' O.C.

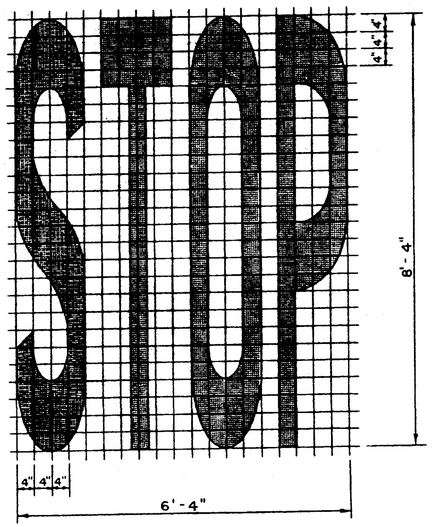
REVISIONS		
DATE	BY	
7-1-80	JAR	△
11-15-82	AWK	△
3-8-85	AWK	△

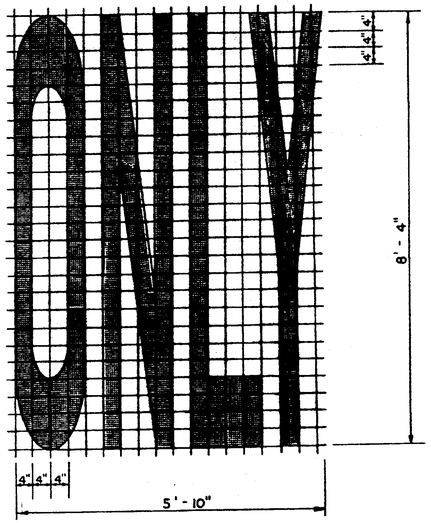
MISSISSIPPI STATE HIGHWAY DEPARTMENT

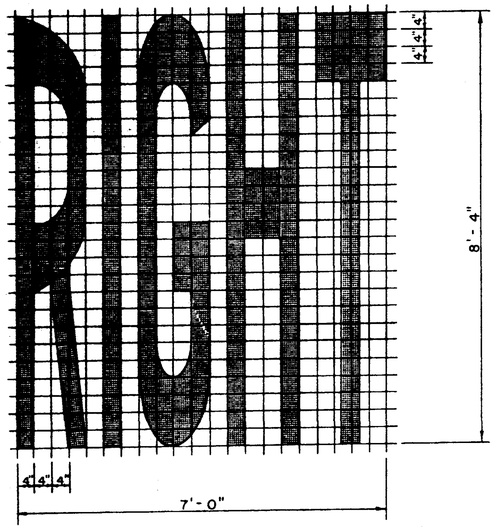
PAVEMENT MARKING DETAILS FOR 4 AND 5 LANE UNDIVIDED ROADWAYS

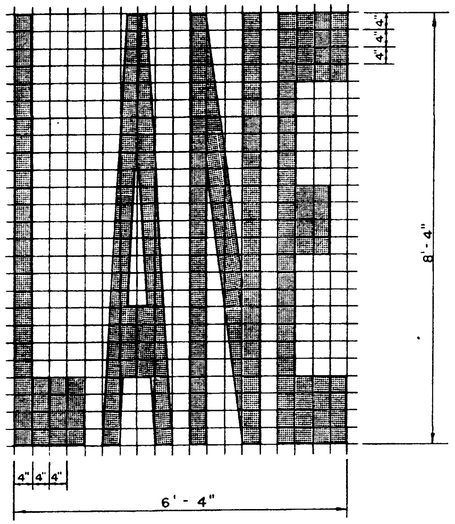
DESIGNED ____ DETAILED ____ TRACED ____
CHECKED ____ ISSUED D.B.J. DATE 11-1-79

WORKING NUMBER PM-2
SHEET NUMBER 113

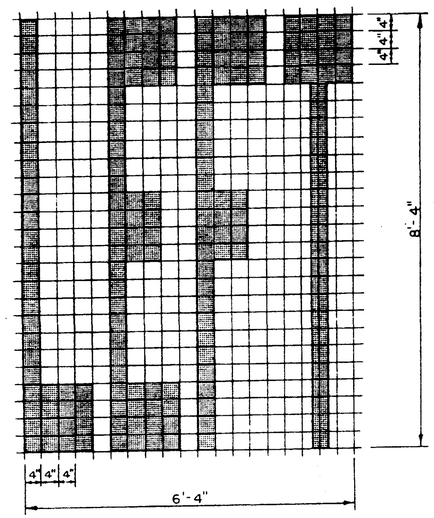


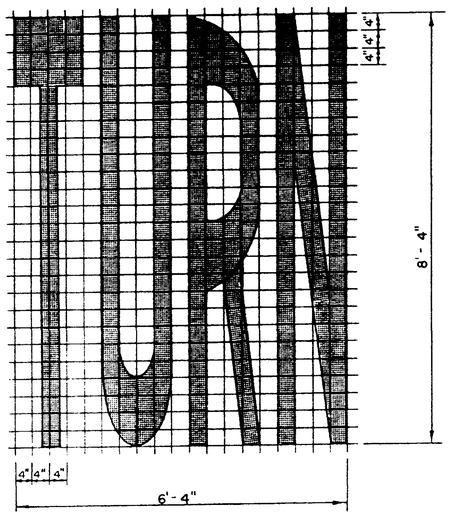


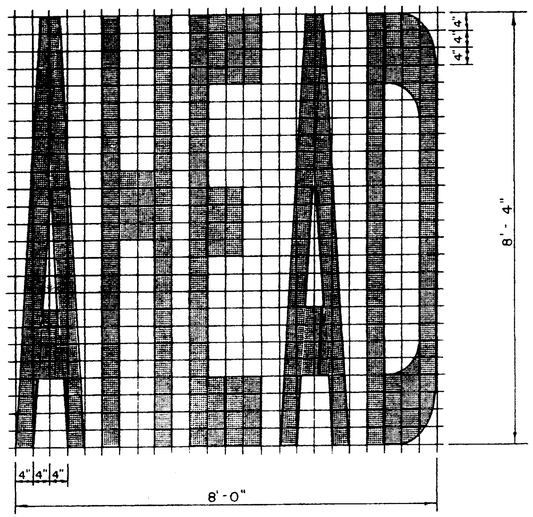


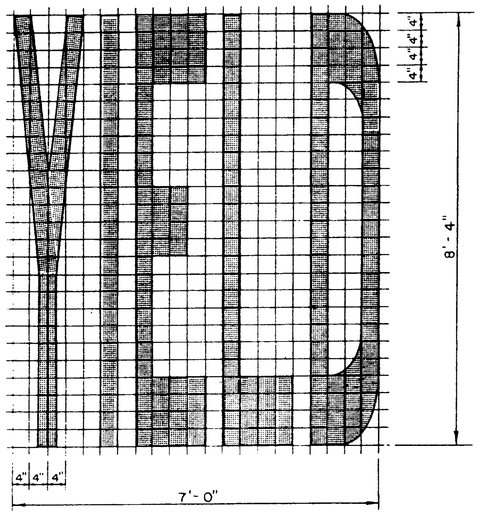


PAY QUANTITIES	
LEGEND	AREA (SQ. FT.)
STOP	24.6
ONLY	22.0
RIGHT	28.6
LANE	22.7
LEFT	19.5
TURN	27.3
AHEAD	32.3
YIELD	26.8









GENERAL NOTES

ALL LEGEND SHALL BE HIGH PERFORMANCE MATERIALS. UNLESS OTHERWISE SHOWN ON THE PLANS.

TWO HORIZONTAL GAPS (CAUSED BY TEMPLATE CONNECTORS) OF 1½" OR LESS, EXTENDING FULL WIDTH, MAY BE LEFT IN EACH LETTER.

FOR OTHER DETAILS, SEE THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES

MISSISSIPPI STATE HIGHWAY DEPARTMENT

PAVEMENT MARKING LEGEND DETAILS

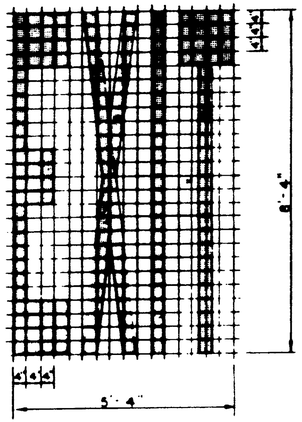
REVISIONS | BY | DATE

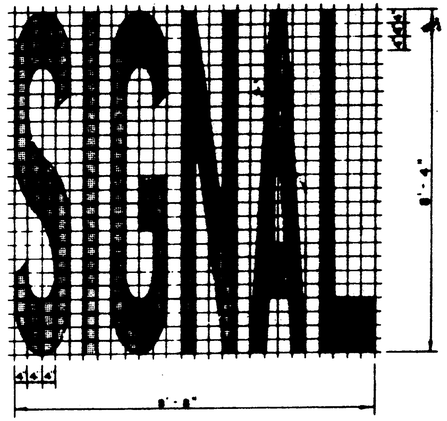
WORKING NUMBER PM-5

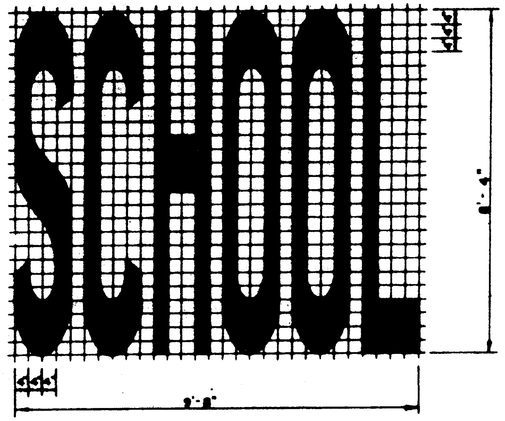
DESIGNED _____ DETAILED _____ TRACED _____

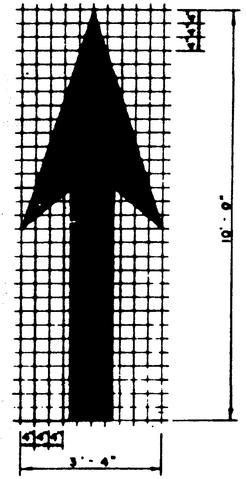
CHECKED _____ ISSUED D. B. J. DATE 11-1-79

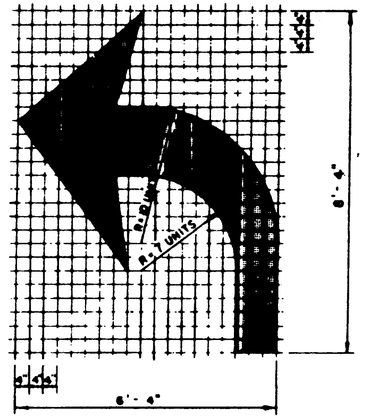
SHEET NUMBER 116











PAY QUANTITIES	
LEGEND/SYMBOL	AREA (SQ. FT)
EXIT	18.5
SIGNAL	32.5
SCHOOL	38.5
THRU ARROW	12.3
TURN ARROW	16.4
COMB. TURN & THRU	27.5

GENERAL NOTES

ALL LEGEND INCLUDING TURN ARROWS SHALL BE HIGH PERFORMANCE MAT'LS UNLESS OTHERWISE SHOWN ON THE PLANS.

TWO HORIZONTAL GAPS (CAUSED BY TEMPLATE CONNECTORS) OF 1½" OR LESS, EXTENDING FULL WIDTH, MAY BE LEFT IN EACH LETTER.

FOR OTHER DETAILS, SEE THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

MISSISSIPPI STATE HIGHWAY DEPARTMENT

PAVEMENT MARKING LEGEND DETAILS

WORKING NUMBER PM-6
SHEET NUMBER 117

NOTE:

WIRE SHALL BE A MINIMUM OF 32 INCHES IN WIDTH AND SHALL HAVE A MINIMUM OF 6 LINE WIRES WITH 12" STAY SPACING.

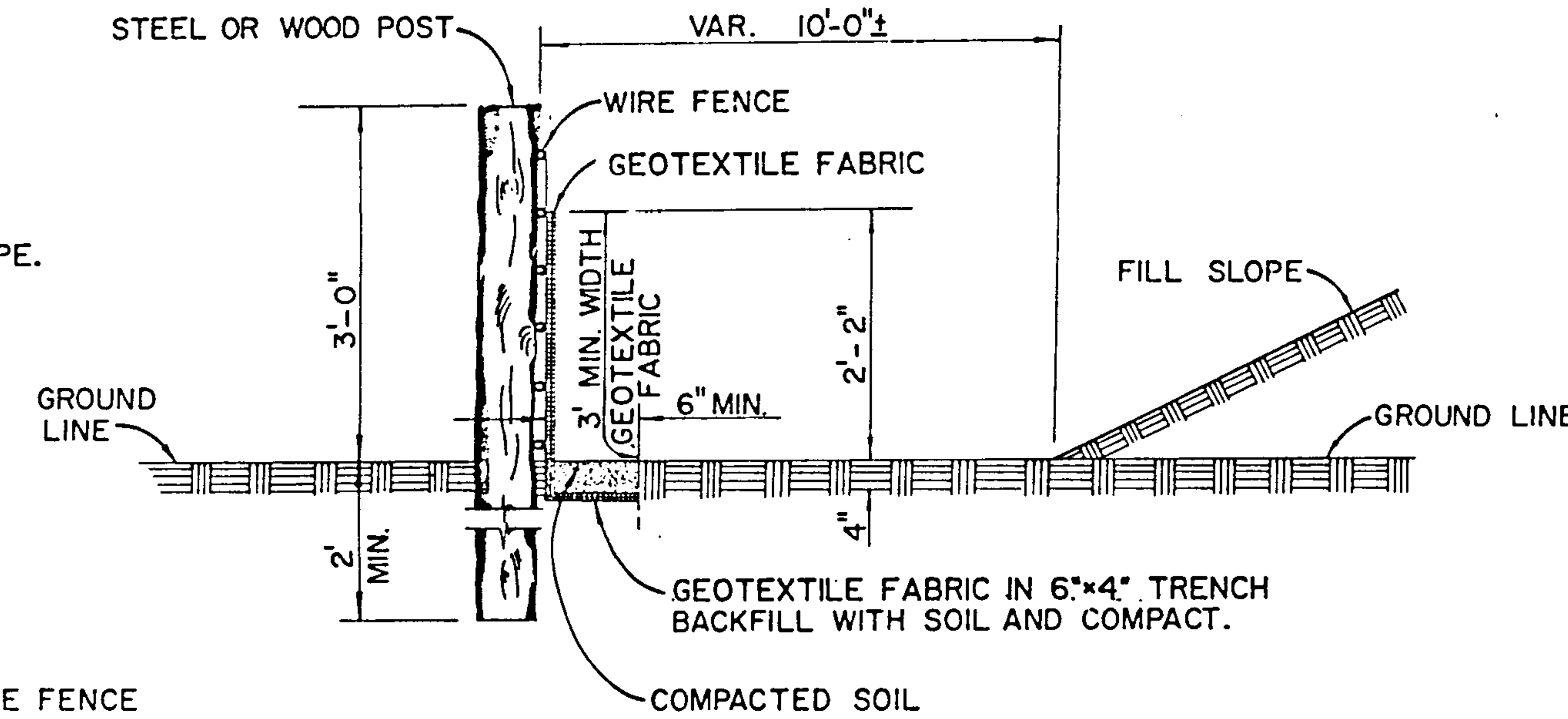
GEOTEXTILE FABRIC SHALL BE A MINIMUM OF 36" IN WIDTH AND SHALL BE FASTENED ADEQUATELY TO THE WIRE AS DIRECTED BY THE ENGINEER.

STEEL POST SHALL BE 5'-0" IN HEIGHT AND OF THE SELF-FASTENER ANGLE STEEL TYPE.

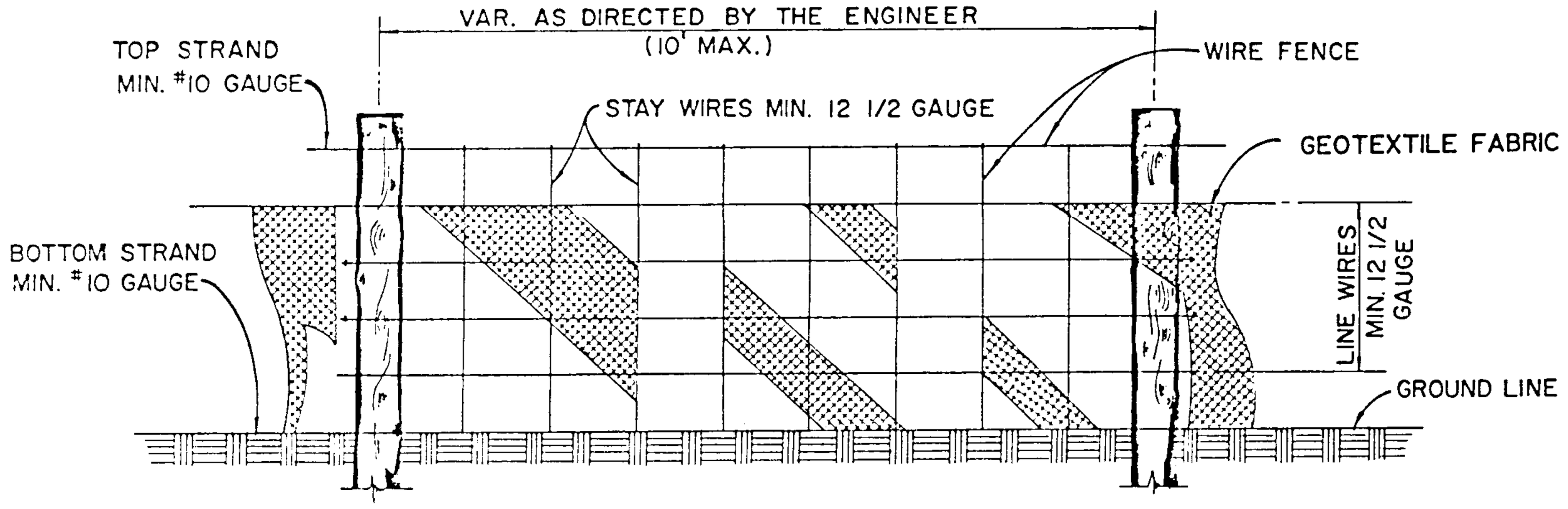
WOOD POST SHALL BE A MINIMUM OF 5' IN HEIGHT AND 3" OR MORE IN DIAMETER.

WIRE FENCE SHALL BE FASTENED TO WOODEN POST WITH NOT LESS THAN #9 WIRE STAPLES 1 1/2 INCHES LONG.

GEOTEXTILE FABRIC MEETING THE TYPE II MATERIAL REQUIREMENTS AND INSTALLED ACCORDING TO SPECIFICATIONS MAY BE USED WITHOUT WIRE FENCE.



SIDE ELEVATION



FRONT ELEVATION

TEMPORARY SILT FENCE

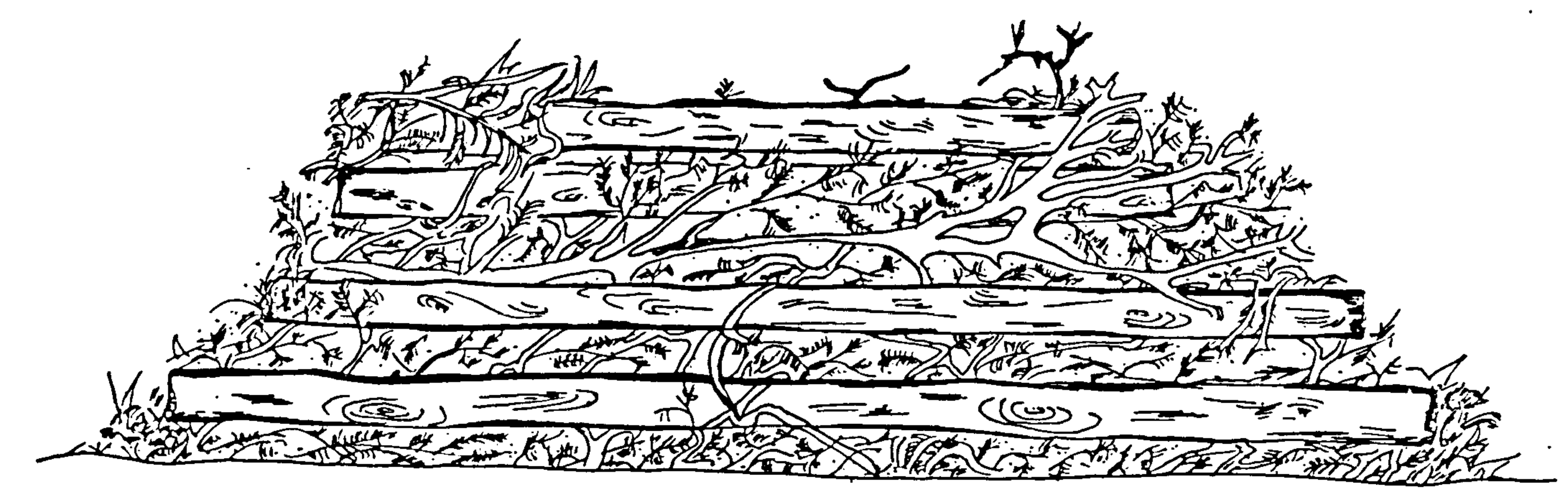
STATE	PROJECT NO.
MISS.	

NOTE:

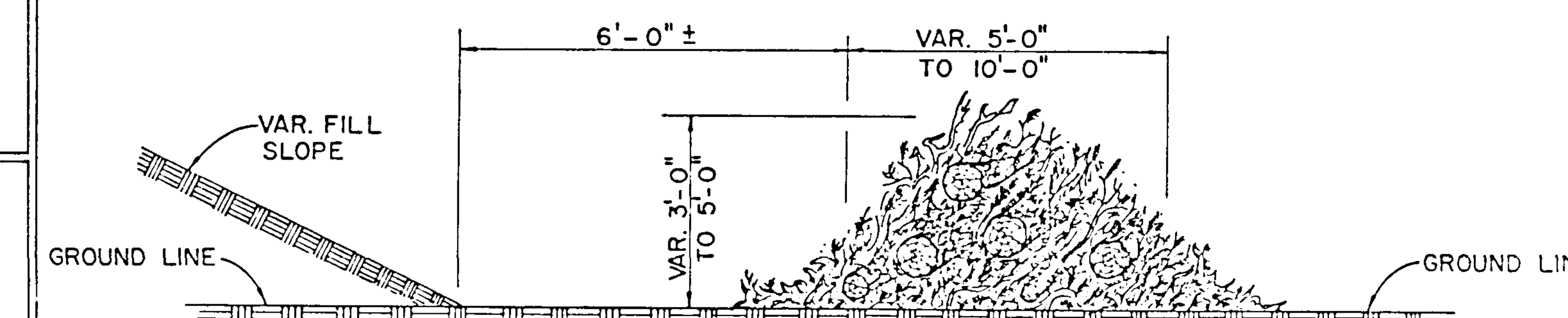
BRUSH BARRIER TO BE USED WHEN NATURAL GROUND IS LEVEL OR SLOPING AWAY FROM PROJECT.

PLACE BRUSH, LOG AND TREE LAPS APPROXIMATELY PARALLEL TO TOE OF FILL SLOPE WITH SOME OF THE HEAVIER MATERIALS BEING PLACED ON TOP TO PROPERLY SECURE THE BARRIER AS DETAILED AT LOCATIONS SHOWN ON PLANS OR AS DIRECTED BY THE ENGINEER.

TO ALLOW WATER TO FLOW THROUGH BRUSH BARRIER, INTERMINGLE THE BRUSH, LOG AND TREE LAPS SO AS NOT TO FORM A SOLID DAM.

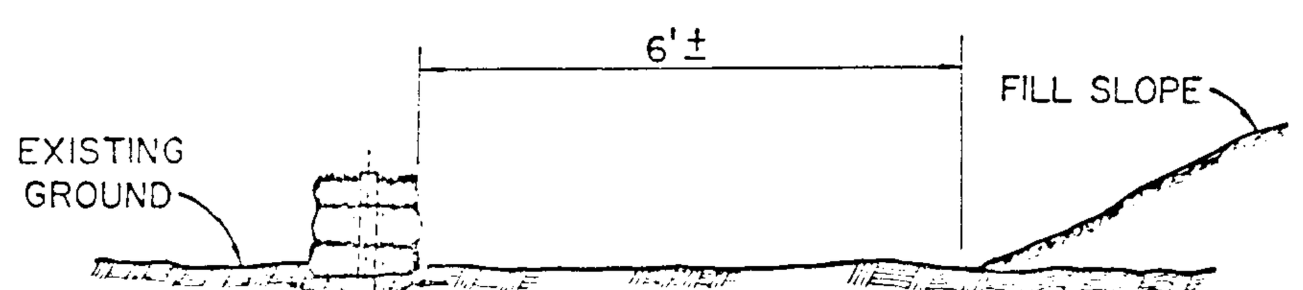


FRONT ELEVATION

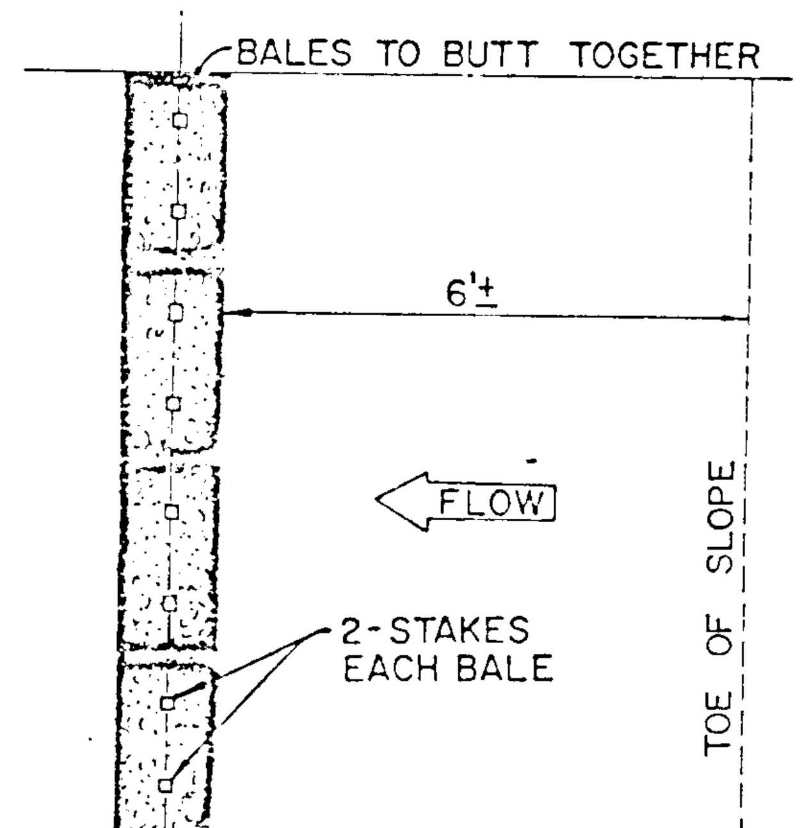


SIDE ELEVATION

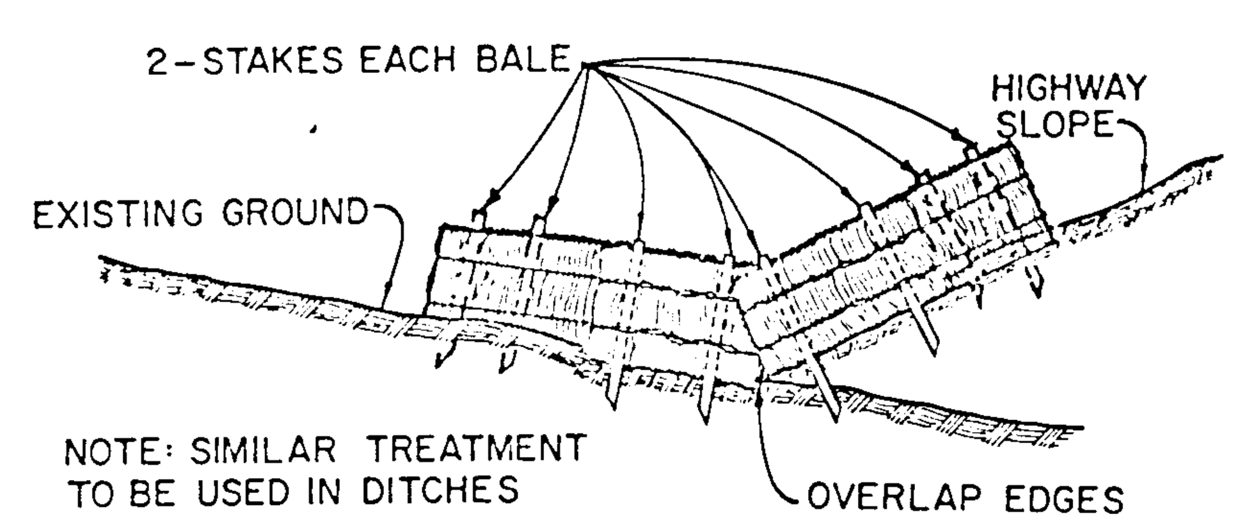
TEMPORARY BRUSH BARRIER



ELEVATION

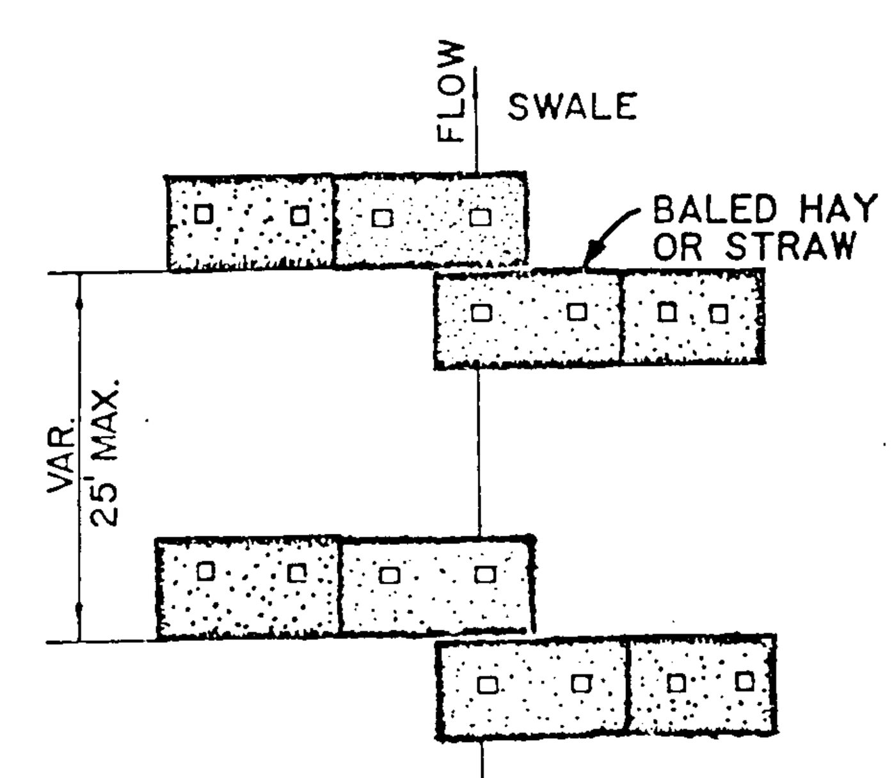


PLAN

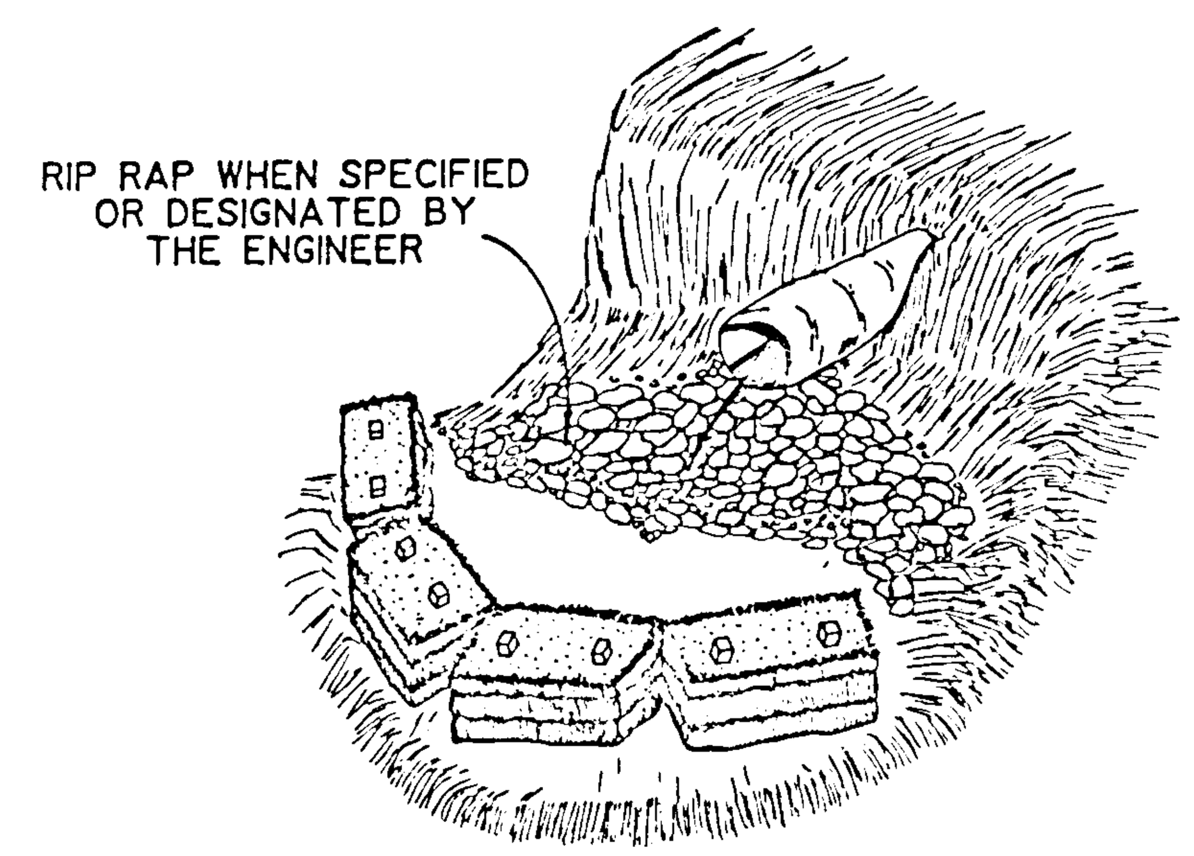


NOTE: SIMILAR TREATMENT TO BE USED IN DITCHES

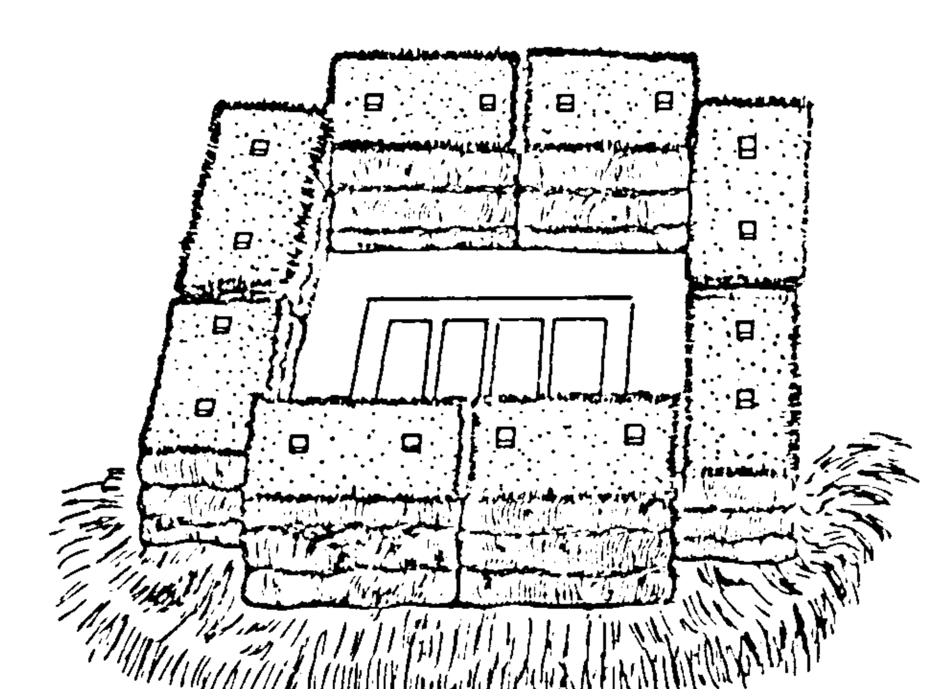
ELEVATION



PLAN



CULVERT



DROP INLET

TEMPORARY EROSION CHECKS

HAY OR STRAW BALES

NOTE: EMBED ALL BALES 3" MINIMUM INTO GROUND AND STAKE (2"x2"x3') SECURELY.

1. THE CONTRACTOR SHALL BE REQUIRED TO FURNISH ALL MATERIALS, PERFORM ALL WORK FOR THE PROPER INSTALLATION, MAINTENANCE AND REMOVAL OF TEMPORARY EROSION CONTROL MEASURES NECESSARY TO CONTROL SILTATION.
2. TEMPORARY BRUSH BARRIERS SHALL BE USED AS REQUIRED BUT WILL NOT BE MEASURED FOR SEPARATE PAYMENT.
3. THE USE OF THE OTHER TEMPORARY EROSION CONTROL MEASURES SHOWN ON THIS SHEET WILL ONLY BE REQUIRED AND MEASURED FOR SEPARATE PAYMENT WHEN APPROPRIATE PAY ITEM (S) IS INCLUDED IN THE BID SCHEDULE OF THE PROPOSAL.

MISSISSIPPI STATE HIGHWAY DEPARTMENT

TYPICAL TEMPORARY EROSION CONTROL MEASURES

(SILT FENCE, HAY BALES, & BRUSH BARRIER)

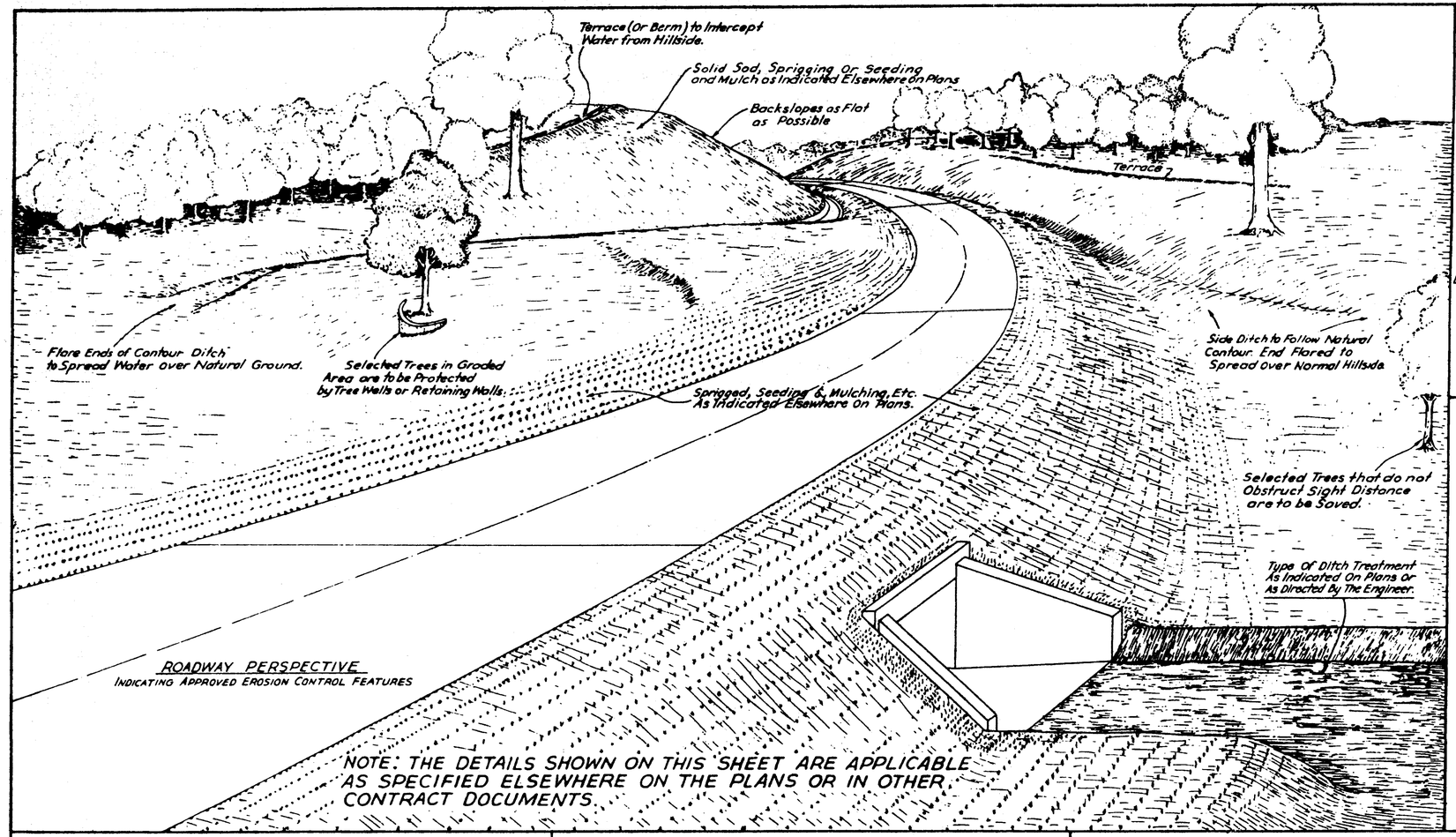
DATE | REVISIONS | BY

DESIGNED ____ DETAILED ____ TRACED ____

CHECKED ____ ISSUED ____ DATE ____

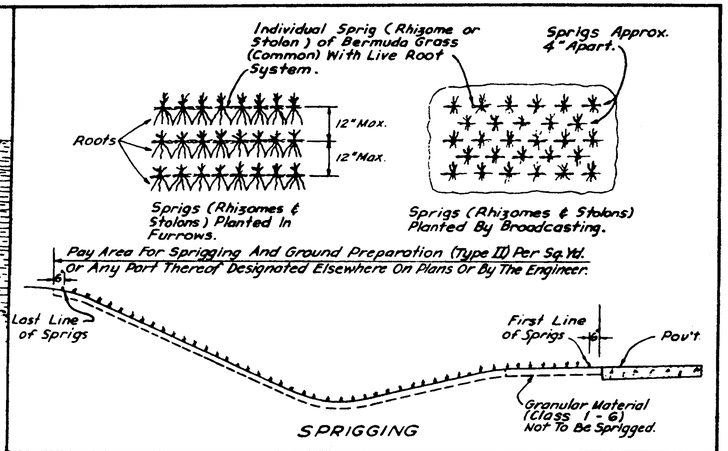
WORKING NUMBER TEC-1

SHEET NUMBER 124

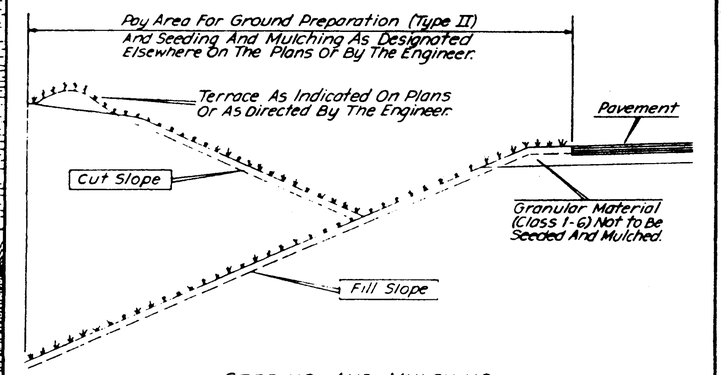


ROADWAY PERSPECTIVE
INDICATING APPROVED EROSION CONTROL FEATURES

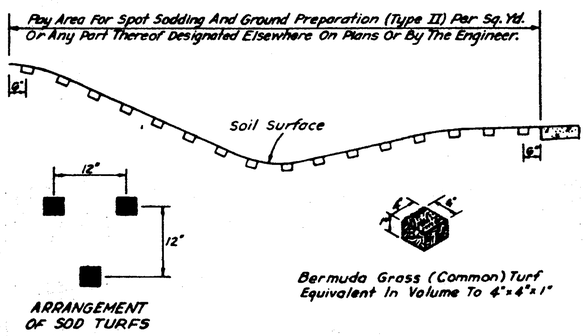
NOTE: THE DETAILS SHOWN ON THIS SHEET ARE APPLICABLE AS SPECIFIED ELSEWHERE ON THE PLANS OR IN OTHER CONTRACT DOCUMENTS.



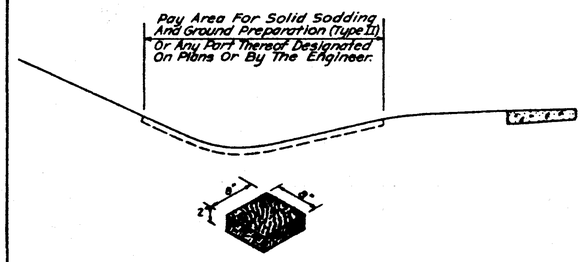
SPRIGGING



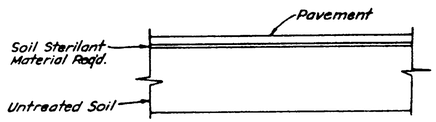
SEEDING AND MULCHING



SPOT SODDING



SOLID SODDING



SOIL STERILIZATION UNDER PAVED AREAS
(ISLANDS, MEDIANS OR SLOPE PAVEMENT)

GENERAL NOTES

LONGITUDINAL AND TRANSVERSE MEASUREMENTS FOR THE PAY AREA SHALL BE TAKEN ALONG THE SLOPES.

MISSISSIPPI STATE HIGHWAY DEPARTMENT

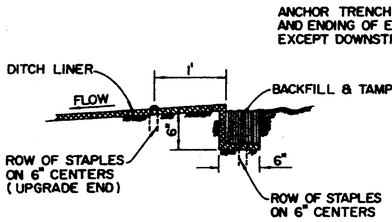
EROSION CONTROL

REVISIONS	DATE

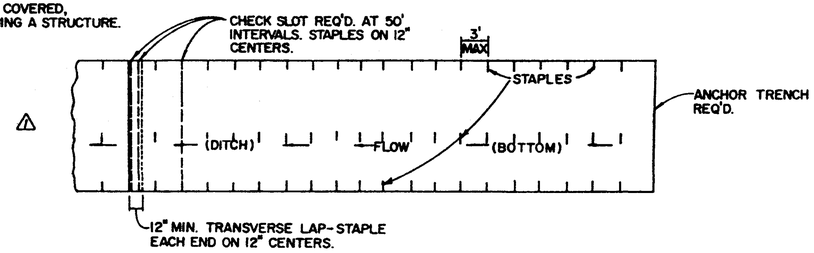
DESIGNED ____ DETAILED ____ TRACED ____
CHECKED ____ ISSUED D.B.J. DATE 11-1-79

WORKING NUMBER EC-1
SHEET NUMBER 125

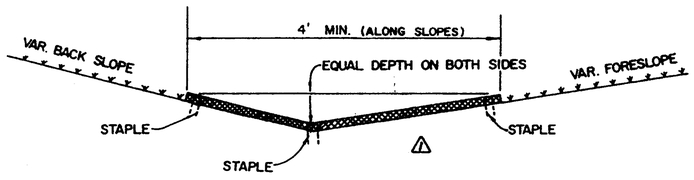
STATE	PROJECT NO.
MISS.	



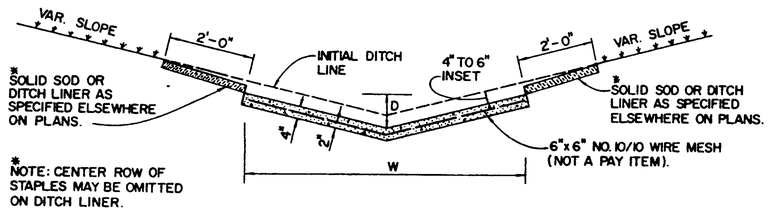
ANCHOR TRENCH DETAIL



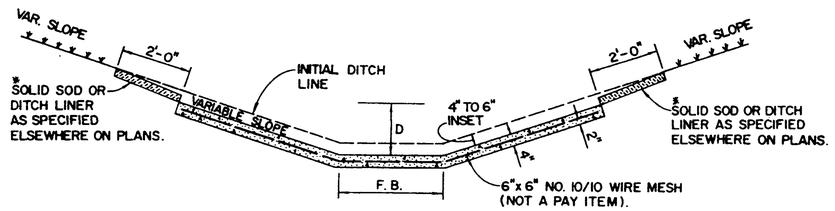
PLAN OF DITCH LINER (EXCELSIOR BLANKET, JUTE MESH OR EROSION CONTROL FABRIC)



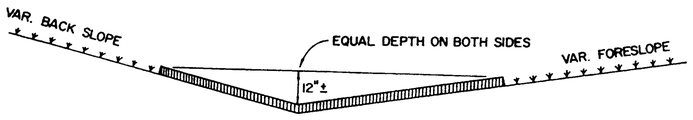
TYPICAL DITCH LINER DITCH TREATMENT



TYPICAL "V" TYPE CONCRETE PAVED DITCH

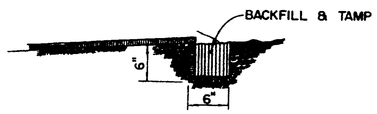


TYPICAL FLAT BOTTOM CONCRETE PAVED DITCH



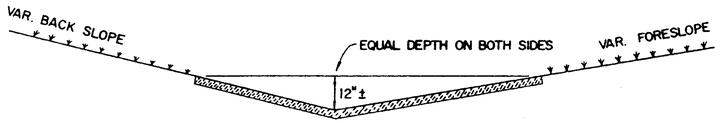
ALL DITCHES TO BE TREATED WITH DITCH LINER OR BITUMINOUS TREATED ROVING WILL BE VEGETATED PRIOR TO DITCH TREATMENT, UNLESS OTHERWISE INDICATED.

UPGRADE AND DOWNGRADE ENDS OF THE BITUMINOUS TREATED ROVING SHALL BE BURIED IN A 6 (SIX) INCH MINUMUM VERTICAL SLOT AND THE SOIL TAMPED FIRMLY AGAINST IT.

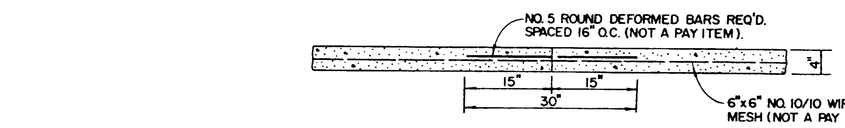


SLOT DETAIL

⚠2 TYPICAL BITUMINOUS TREATED ROVING TREATMENT



TYPICAL SOLID SOD DITCH TREATMENT

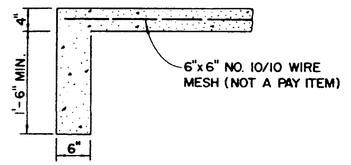


DETAIL OF CONSTRUCTION JOINT FOR PAVED DITCHES

NOTE:
CONCRETE PAVED DITCHES SHALL BE GROOVED AT 20'-0" INTERVALS. THE GROOVES SHALL BE CUT TO A DEPTH OF NOT LESS THAN ONE INCH.
D(MINIMUM) = 6"
D(NOMINAL) = 9"
W(MINIMUM) = 2'-0"
CHAIR SUPPORTS FOR THE WIRE MESH WILL NOT BE REQUIRED. HOWEVER, THE CONTRACTOR SHALL PLACE THE WIRE MESH IN A SATISFACTORY AND WORKMANLIKE MANNER TO INSURE THAT THE FINAL POSITION IS REASONABLY NEAR THE POSITION INDICATED.

GENERAL NOTES:
FOR LOCATION OF APPROPRIATE DITCH TREATMENTS SEE SHEETS AS DENOTED BY THE FOLLOWING LEGEND OR AS DIRECTED BY THE ENGINEER:

- DITCH LINER
- BITUMINOUS TREATED ROVING ⚠2
- SOLID SOD
- CONCRETE PAVED DITCH



DETAIL OF TOE WALL REQ'D. UPSTREAM AND DOWNSTREAM FOR PAVED DITCHES

DATE	SHEET REDRAWN & REVISED REVISIONS	BY
11-8-91	Rev. Ditch Treatment	J.L.S.
11-19-86	⚠	A.W.K.
3-25-83		A.W.K.

MISSISSIPPI STATE HIGHWAY DEPARTMENT

DETAILS OF DITCH TREATMENTS

DESIGNED ____ DETAILED ____ TRACED ____
CHECKED ____ ISSUED ____ DATE 3-25-83

WORKING NUMBER DT-1

SHEET NUMBER 127

BRUNING 44-141 39969

SIGN NUMBER	R1-1	R1-101	R1-2	R1-102	R2-1	R2-101	R2-102	R2-104	R3-1	R3-2	R3-3	R3-4	R3-5	R4-103
ALUMINUM (6061-T6) SIGN BLANK THICKNESS	0.080"	0.125"	0.125"	0.125"	0.080"	0.125"	0.125"	0.125"	0.080"	0.080"	0.080"	0.080"	0.080"	0.125"
LEGEND			 R=2" R=4"		 R=1½"	R=3"	 R=3"	 R=3"	 R=17/8"	 R=17/8"	 R=1½"	 R=17/8"	 R=1⅞"	 R=3"
LETTER & NUMERAL SERIES	10" Series "C"	16" Series "C"	3" Series "C"	5" Series "C"	4" Series "E" 4" Series "E" 10" Series "E"	8" Series "E" 8" Series "E" 16" Series "E"	8" Series "D" 16" Series "E"	8" Series "C" 8" Series "C" 4" Series "C" 12" Series "D"			6" Series "D" 5" Series "D"		6" Series "D"	8" Series "D"
WIDTH OF BORDER INSIDE / OUTSIDE	¾" WHITE	1¼" WHITE	5" RED ¾" WHITE	8" RED 1½" WHITE	⅝" BLACK ⅜" WHITE	1¼" BLACK ¾" WHITE	1¼" BLACK ¾" WHITE	⅞" BLACK ¾" WHITE	¾" BLACK ½" WHITE	¾" BLACK ½" WHITE	⅜" BLACK ⅜" WHITE	¾" BLACK ½" WHITE	¾" BLACK ⅛" WHITE	1¼" BLACK ¾" WHITE
SIZE (WIDTH X HEIGHT)	30" OCTAGON	48" OCTAGON	36" EQUILATERAL TRIANGLE	60" EQUILATERAL TRIANGLE	24" x 30"	48" x 60"	48" x 48"	48" x 48"	30" x 30"	30" x 30"	24" x 24"	30" x 30"	30" x 36"	48" x 60"
COLORS COPY / BACKGROUND	WHITE / RED	WHITE / RED	RED / WHITE	RED / WHITE	BLACK / WHITE	BLACK / WHITE	BLACK / WHITE	BLACK / WHITE	BLACK & RED / WHITE	BLACK & RED / WHITE	BLACK / WHITE	BLACK & RED / WHITE	BLACK / WHITE	BLACK / WHITE
REFLECTORIZATION	ALL	ALL	ALL	ALL	B'GROUND	B'GROUND	BACKGROUND	BACKGROUND	BACKGROUND, CIRCLE, & DIAGONAL	BACKGROUND, CIRCLE, & DIAGONAL	BACKGROUND	BACKGROUND, CIRCLE, & DIAGONAL	BACKGROUND	BACKGROUND
NUMBER OF POSTS FOR MOUNTING	1	1	1	1	1	1	–	–	1	1	1	1	1	1
NUMBER OF HOLES TO BE PUNCHED (⅜"Ø)	2	4	2	4	2	6	4	4	2	2	2	2	2	6
PUNCHING DISTANCE FROM EACH VERTICAL EDGE	15" (VERTICAL CENTER)	10"	18" (VERTICAL CENTER)	20"	12" (VERTICAL CENTER)	10"	10"	10"	15" (VERTICAL CENTER)	15" (VERTICAL CENTER)	12" (VERTICAL CENTER)	15" (VERTICAL CENTER)	15" (VERTICAL CENTER)	10"
PUNCHING DISTANCE FROM TOP EDGE	3";27"	10";38"	2";26"	3";27"	3";27"	4";30";56"	4";44"	4";44"	3";27"	3";27"	3";21"	3";27"	3";33"	4";30";56"

SIGN NUMBER	R4-7	R4-107	R4-8	R5-1	R5-101	⚠ R5-1a	R6-1L, R6-1R	R6-2L, R6-2R	R8-104	R11-101	
ALUMINUM (6061-T6) SIGN BLANK THICKNESS	0.080"	0.125"	0.080"	0.080"	0.125"	0.125"	0.125"	0.080"	0.125"	0.125"	
LEGEND	 R=1½" R=2¼"		 R=1½"	 R=1⅞" R=3"		 R=2¼"	 R=1½"	 R=1½"	 R=2¼"	 R=3"	
LETTER & NUMERAL SERIES				4" Series "D"	6" Series "D"	8" Series "D"	4" Series "D"	5" Series "D"	6" Series "D"	10" Series "C"	
WIDTH OF BORDER INSIDE / OUTSIDE	⅝" BLACK ⅜" WHITE	⅞" BLACK ⅝" WHITE	⅝" BLACK ⅜" WHITE	WHITE OUTSIDE BORDER	WHITE OUTSIDE BORDER	1" WHITE	½" WHITE	⅝" BLACK ⅜" WHITE	⅞" BLACK ⅝" WHITE	1¼" BLACK ¾" WHITE	
SIZE (WIDTH X HEIGHT)	24" x 30"	36" x 48"	24" x 30"	30" x 30"	42" x 42"	42" x 36"	36" x 12"	18" x 24"	48" x 36"	48" x 60"	
COLORS COPY / BACKGROUND	BLACK / WHITE	BLACK / WHITE	BLACK / WHITE	WHITE / RED	WHITE / RED	WHITE / RED	BLACK (WHITE ARROW) / BLACK	BLACK / WHITE	BLACK / WHITE	BLACK / WHITE	
REFLECTORIZATION	BACKGROUND	BACKGROUND	BACKGROUND	ALL	ALL	ALL	ARROW & BORDER	BACKGROUND	BACKGROUND	BACKGROUND	
NUMBER OF POSTS FOR MOUNTING	1	1	1	1	1	1	1	1	2	1	
NUMBER OF HOLES TO BE PUNCHED (⅜"Ø)	2	4	2	2	4	4	2	2	4	6	
PUNCHING DISTANCE FROM EACH VERTICAL EDGE	12" (VERTICAL CENTER)	5"	12" (VERTICAL CENTER)	15" (VERTICAL CENTER)	8"	8"	18" (VERTICAL CENTER)	9" (VERTICAL CENTER)	10"	10"	
PUNCHING DISTANCE FROM TOP EDGE	3";27"	4";44"	3";27"	3";27"	4";38"	3";33"	1½";10½"	3";21"	6";30"	4";30";56"	

NOTES

The quantities listed on the SUMMARY OF QUANTITIES sheet for the signs shown on this sheet will be used as the basis for final payment, except where signs are modified from that shown.

The speed limits required on signs R2-1 and R2-101 will be shown on individual plan sheets.

REVISIONS	BY	DATE
⚠	AWK	8-9-80

MISSISSIPPI STATE HIGHWAY DEPARTMENT

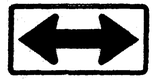
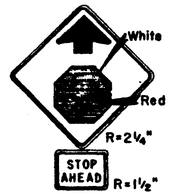
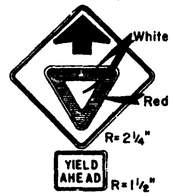
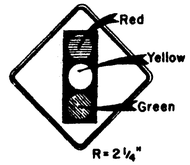
STD. ROADSIDE SIGNS

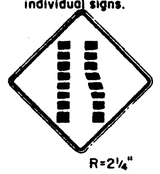
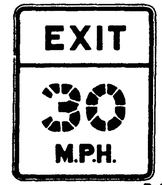
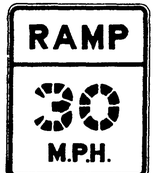
WORKING NUMBER SN-3A

SHEET NUMBER 182.1

DESIGNED ____ DETAILED ____ TRACED ____

CHECKED ____ ISSUED D.B.J. DATE 11-1-79

SIGN NUMBER	W1-1L W1-1R	W1-2L W1-2R	W1-3L W1-3R	W1-4L W1-4R	W1-6L W1-6R	W1-7	W3-1a	W3-1P	W3-2a	W3-2P	W3-3	W4-1L W4-1R	W4-101L W4-101R
ALUMINUM (6061-T6) SIGN BLANK THICKNESS	0.125"	0.125"	0.125"	0.125"	0.125"	0.125"	0.125"	0.080"	0.125"	0.080"	0.125"	0.125"	0.125"
LEGEND													
LETTER & NUMERAL SERIES								4" Series "D"		4" Series "D"			
WIDTH OF BORDER INSIDE OUTSIDE	3/4" BLACK 1/2" YELLOW	3/4" BLACK 1/2" YELLOW	3/4" BLACK 1/2" YELLOW	3/4" BLACK 1/2" YELLOW	3/4" BLACK 1/2" YELLOW	3/4" BLACK 1/2" YELLOW	7/8" BLACK 5/8" YELLOW	5/8" BLACK 3/8" YELLOW	7/8" BLACK 5/8" YELLOW	5/8" BLACK 3/8" YELLOW	7/8" BLACK 5/8" YELLOW	3/4" BLACK 1/2" YELLOW	1 1/4" BLACK 3/4" YELLOW
SIZE (WIDTH X HEIGHT)	30" x 30"	30" x 30"	30" x 30"	30" x 30"	48" x 24"	48" x 24"	36" x 36"	24" x 18"	36" x 36"	24" x 18"	36" x 36"	30" x 30"	48" x 48"
COLORS COPY BACKGROUND	BLACK YELLOW	BLACK YELLOW	BLACK YELLOW	BLACK YELLOW	BLACK YELLOW	BLACK YELLOW	BLACK YELLOW	BLACK YELLOW	BLACK YELLOW	BLACK YELLOW	BLACK YELLOW	BLACK YELLOW	BLACK YELLOW
REFLECTORIZATION	BACKGROUND	BACKGROUND	BACKGROUND	BACKGROUND	BACKGROUND	BACKGROUND	BACKGROUND & SYMBOL	BACKGROUND	BACKGROUND & SYMBOL	BACKGROUND	BACKGROUND & "LIGHTS"	BACKGROUND	BACKGROUND
NUMBER OF POSTS FOR MOUNTING	1	1	1	1	2	2	1	—	1	—	1	1	1
NUMBER OF HOLES TO BE PUNCHED (3/8" Ø)	2	2	2	2	4	4	2	2	2	2	2	2	4
PUNCHING DISTANCE FROM EACH VERTICAL EDGE	VERTICAL CENTER	VERTICAL CENTER	VERTICAL CENTER	VERTICAL CENTER	6"	6"	VERTICAL CENTER	VERTICAL CENTER	VERTICAL CENTER	VERTICAL CENTER	VERTICAL CENTER	VERTICAL CENTER	14 1/2" FROM VERT. CENTER
PUNCHING DISTANCE FROM TOP EDGE	15" FROM HORIZONTAL CENTER	15" FROM HORIZONTAL CENTER	15" FROM HORIZONTAL CENTER	15" FROM HORIZONTAL CENTER	3";21"	3";21"	18" FROM HORIZ. CENTER	3";15"	18" FROM HORIZ. CENTER	3";15"	18" FROM HORIZONTAL CENTER	15" FROM HORIZ. CENTER	14 1/2" FROM HORIZ. CENTER

SIGN NUMBER	W4-2	W5-1	W6-1	W6-2	W6-3	W13-1	W13-2	W13-3	W10-1	W10-101	
ALUMINUM (6061-T6) SIGN BLANK THICKNESS	0.125"	0.125"	0.125"	0.125"	0.125"	0.080"	0.125"	0.125"	0.125"	0.125"	
LEGEND	NOTE: See plan sheets for ideogram required on individual signs. 										
LETTER & NUMERAL SERIES		6" Series "D"				8" Series "E" 3" Series "E"	8" Series "E" 16" Series "E" 6" Series "E" (See note)	8" Series "E" 16" Series "E" 6" Series "E" (See note)	8" Series "E"	10" Series "E"	
WIDTH OF BORDER INSIDE OUTSIDE	7/8" BLACK 5/8" YELLOW	7/8" BLACK 5/8" YELLOW	7/8" BLACK 5/8" YELLOW	7/8" BLACK 5/8" YELLOW	3/4" BLACK 1/2" YELLOW	5/8" BLACK 3/8" YELLOW	1 1/4" BLACK 3/4" YELLOW	1 1/4" BLACK 3/4" YELLOW	3/4" BLACK 1/2" YELLOW	1 1/4" BLACK 3/4" YELLOW	
SIZE (WIDTH X HEIGHT)	36" x 36"	36" x 36"	36" x 36"	36" x 36"	30" x 30"	18" x 18"	48" x 60"	48" x 60"	36" DIAMETER	48" DIAMETER	
COLORS COPY BACKGROUND	BLACK YELLOW	BLACK YELLOW	BLACK YELLOW	BLACK YELLOW	BLACK YELLOW	BLACK YELLOW	BLACK YELLOW	BLACK YELLOW	BLACK YELLOW	BLACK YELLOW	
REFLECTORIZATION	BACKGROUND	BACKGROUND	BACKGROUND	BACKGROUND	BACKGROUND	BACKGROUND	BACKGROUND	BACKGROUND	BACKGROUND	BACKGROUND	
NUMBER OF POSTS FOR MOUNTING	1	1	1	1	11	1	1	1	1	1	
NUMBER OF HOLES TO BE PUNCHED (3/8" Ø)	2	2	2	2	2	2	6	6	2	4	
PUNCHING DISTANCE FROM EACH VERTICAL EDGE	VERTICAL CENTER	VERTICAL CENTER	VERTICAL CENTER	VERTICAL CENTER	VERTICAL CENTER	9" (VERTICAL CENTER)	10"	10"	15"	15" (VERTICAL CENTER)	
PUNCHING DISTANCE FROM TOP EDGE	18" FROM HORIZONTAL CENTER	18" FROM HORIZONTAL CENTER	18" FROM HORIZONTAL CENTER	18" FROM HORIZONTAL CENTER	15" FROM HORIZONTAL CENTER	3";15"	4";30";56"	4";30";56"	3";33"	5";43"	

NOTES

The quantities listed on the SUMMARY OF QUANTITIES sheet for the signs shown on this sheet will be used as the basis for final payment, except where signs are modified from that shown.

Signs W13-2 and W13-3— The stroke width of the letters and numerals shall be widened to one-fifth(1/5) of the letter or numeral height.

The speeds required on signs W13-1, W13-2 and W13-3 will be shown on individual plan sheets.

BY
REVISIONS
DATE

MISSISSIPPI STATE HIGHWAY DEPARTMENT

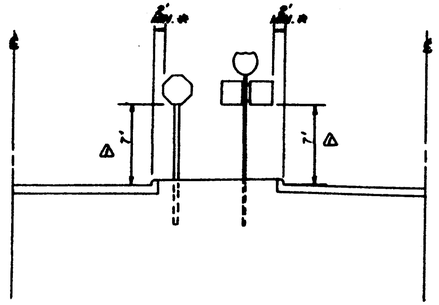
STD. ROADSIDE SIGNS

WORKING NUMBER
SN-38

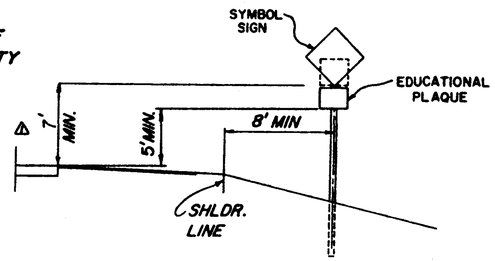
SHEET NUMBER
182.2

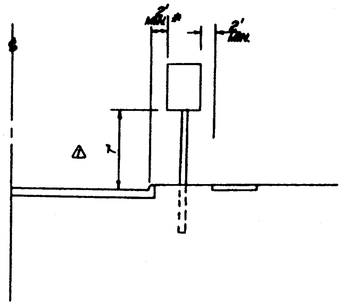
DESIGNED _____ DETAILED _____ TRACED _____

CHECKED _____ ISSUED _____ DATE _____



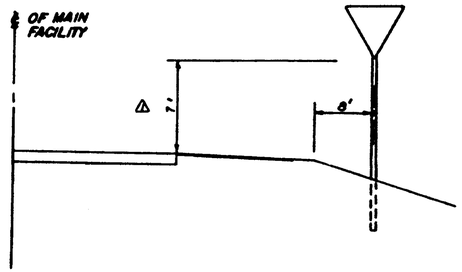
TYPICAL INSTALLATION IN ISLANDS OFF OF (OR ADJACENT TO) INTERSTATE MAIN FACILITY

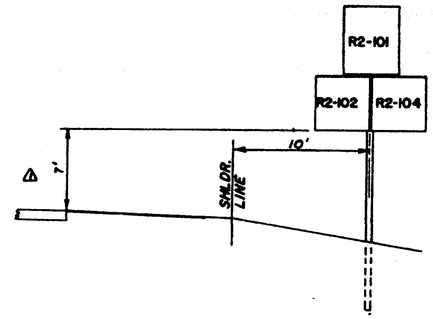


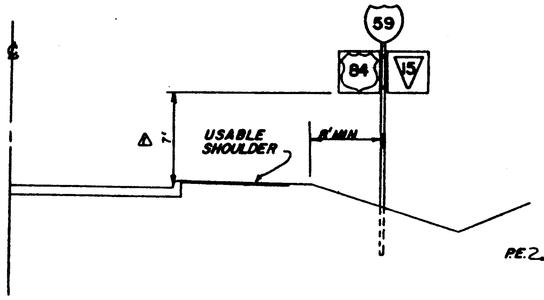


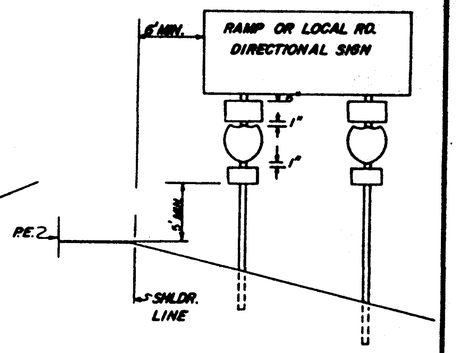
TYPICAL INSTALLATION ALONG FRONTAGE ROAD, RAMP, OR STREET WHERE THERE IS NOT A USABLE SHOULDER

✱ THE 2' MINIMUM OFFSET APPLIES ONLY TO STANDARD SIGNS MOUNTED ON U-SECTION POSTS. ALL STANDARD SIGNS MOUNTED ON PIPE WILL BE OFFSET A MINIMUM OF 4'. RAMP DESTINATION SIGNS WILL BE OFFSET 4' FROM SHOULDERS.









TYPICAL INSTALLATION ALONG THE INTERSTATE MAIN FACILITY AND ALONG RAMPS, FRONTAGE ROADS, AND HIGHWAYS

MISSISSIPPI STATE HIGHWAY DEPARTMENT

STD. ROADSIDE SIGN ASSEMBLY AND INSTALLATION

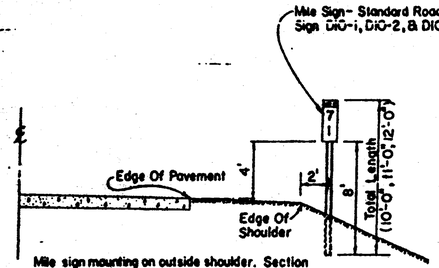
BY	REVISIONS	DATE
AWK		

WORKING NUMBER: SN-4

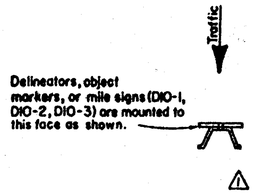
SHEET NUMBER: 183

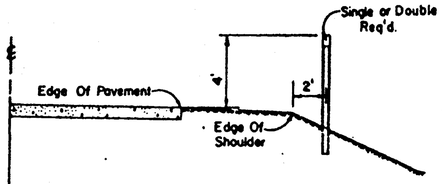
DESIGNED ____ DETAILED ____ TRACED ____

CHECKED ____ ISSUED ____ DATE ____

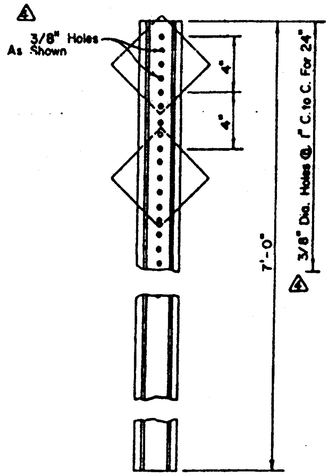


Mile sign mounting on outside shoulder. Section along main facility. Sign mounting on left lane shoulder shall be 90° opposite the right lane station.
If conditions are such that mile sign cannot be located within 50' of its true location, it shall be omitted entirely.

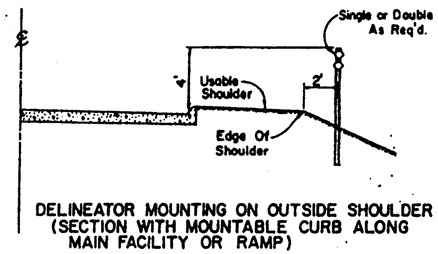




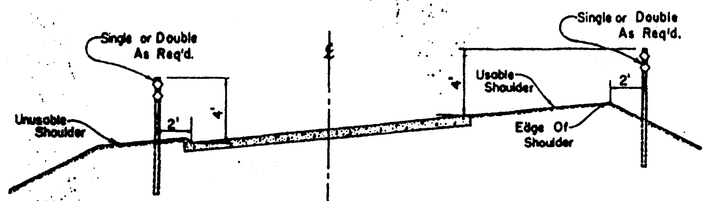
DELINEATOR MOUNTING ON OUTSIDE SHOULDER (SECTION ALONG MAIN FACILITY OR RAMP)



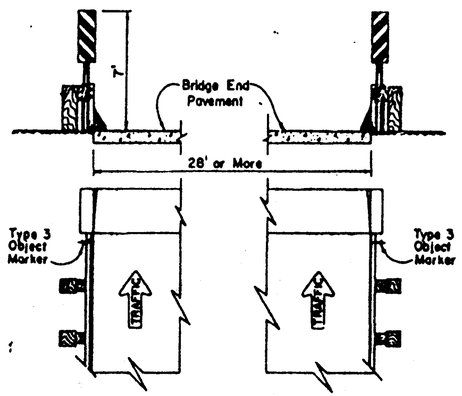
REAR VIEW OF DELINEATOR ASSEMBLY



DELINEATOR MOUNTING ON OUTSIDE SHOULDER (SECTION WITH MOUNTABLE CURB ALONG MAIN FACILITY OR RAMP)

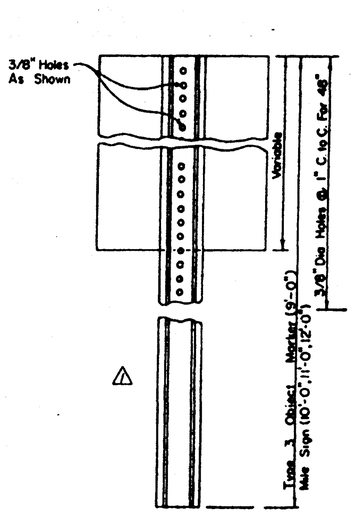


DELINEATOR MOUNTING ON INTERCHANGE LOOPS WITH UNMOUNTABLE CURB ON INSIDE



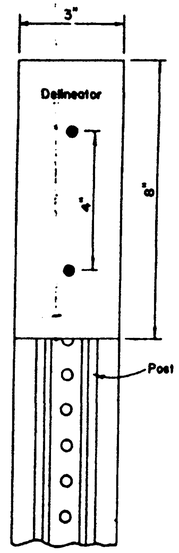
DETAIL OF TYPE 3 OBJECT MARKER INSTALLATION

Type 3 object markers and mile signs are to be fastened to u-section posts with 5/16" huck fasteners or cherry rivets of the collar type or other approved equal.

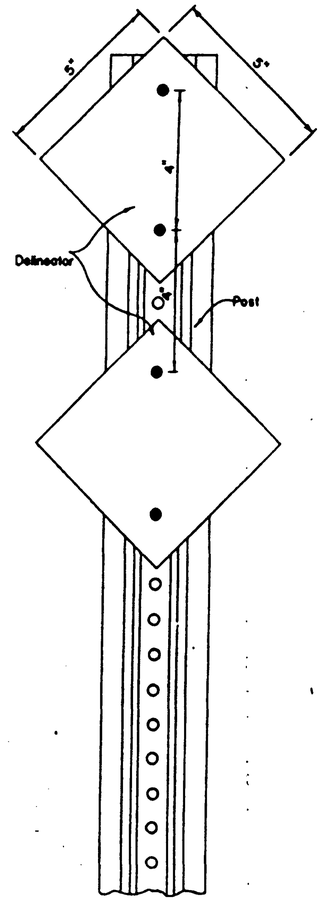


REAR VIEW OF TYPE 3 OBJECT MARKER OR MILE SIGN ASSEMBLY

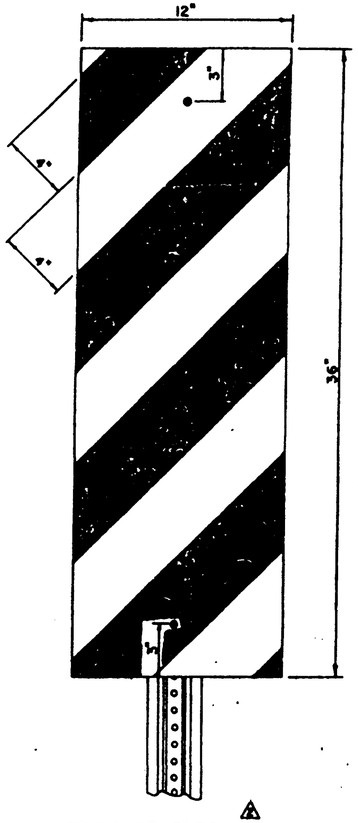
Delineators are to be fastened to u-section posts with 1/4" huck fasteners or cherry rivets of the collar type or other approved equal.



DETAIL OF A SINGLE WHITE OR YELLOW DELINEATOR



DETAIL OF DOUBLE WHITE OR YELLOW DELINEATOR



DETAIL OF TYPE 3 OBJECT MARKER
Colors- Black and Yellow

NOTE: Striping shown above for right side only. Stripes slant downward to the right for left side of bridge end.

NOTES:

Delineators and Type 3 object marker shall be reflective sheeting on .080" aluminum sheet or 14 gage sheet steel which is galvanized.

Delineator, Type 3 object marker, and mile sign posts shall be galvanized steel. The post are to be fabricated before the metal is galvanized.

Weight without ground plates, delineator post 7' lengths- 2.0 to 2.5 lbs. per lin. ft., Type 3 object marker post 9' lengths- 2.5 to 3.0 lbs. per lin. ft., mile sign post shall be in three lengths (10'-0", 11'-0", & 12'-0")- 3.0 to 3.5 lbs. per lin. ft.

Unit price of delineators and Type 3 object markers shall include cost of post. Mile sign post will be paid for as lin. ft.

Radius in bends of post cross section not to exceed 13/32" for hot rolled section.

GROUND PLATE NOT REQUIRED ON U-SECTION POST.

REVISIONS	BY	DATE
TYPE 3 OBJECT MARKER		

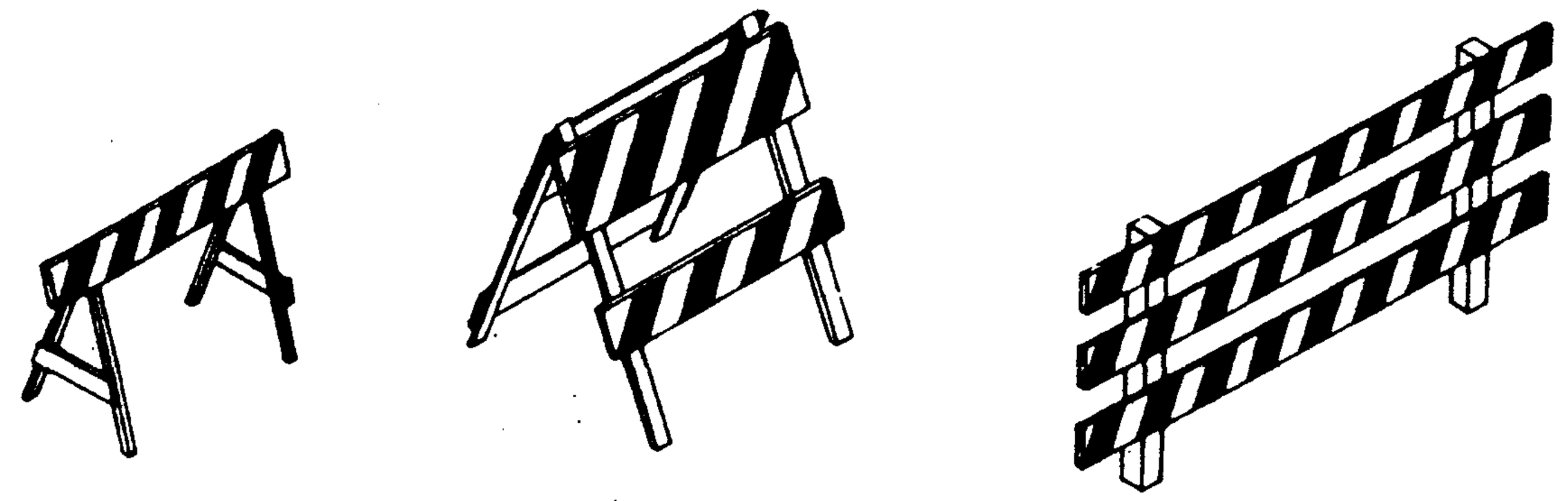
MISSISSIPPI STATE HIGHWAY DEPARTMENT

TYP. INSTALLATION AND DETAILS OF DELINEATORS AND MILEPOSTS

DESIGNED	DETAILED	TRACED
CHECKED	ISSUED	DATE

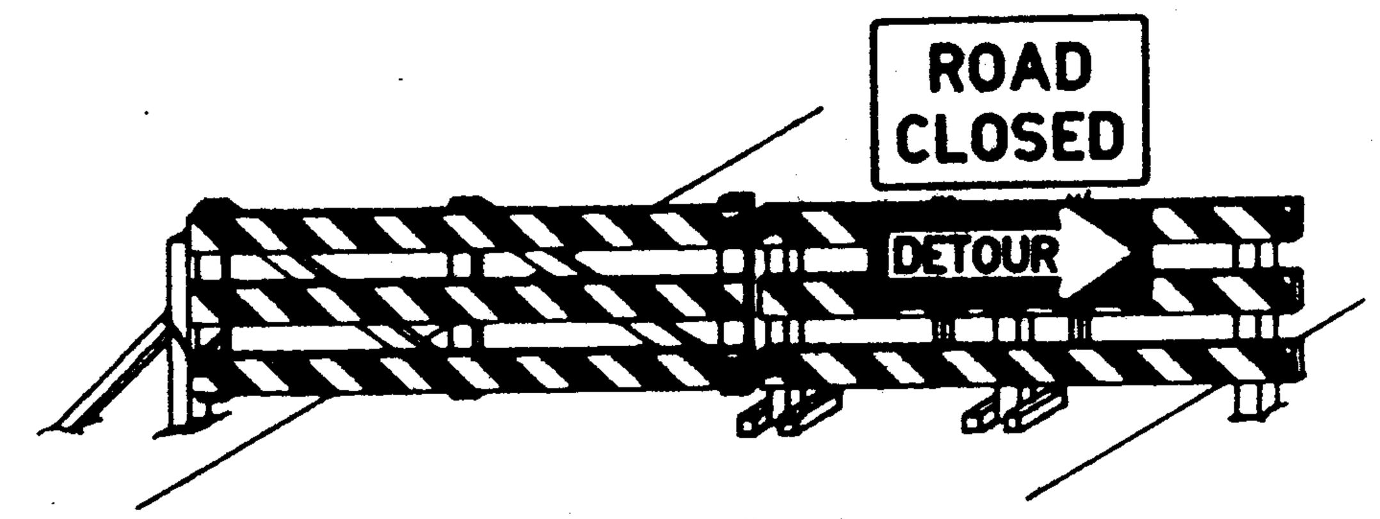
WORKING NUMBER SN-9

SHEET NUMBER 198

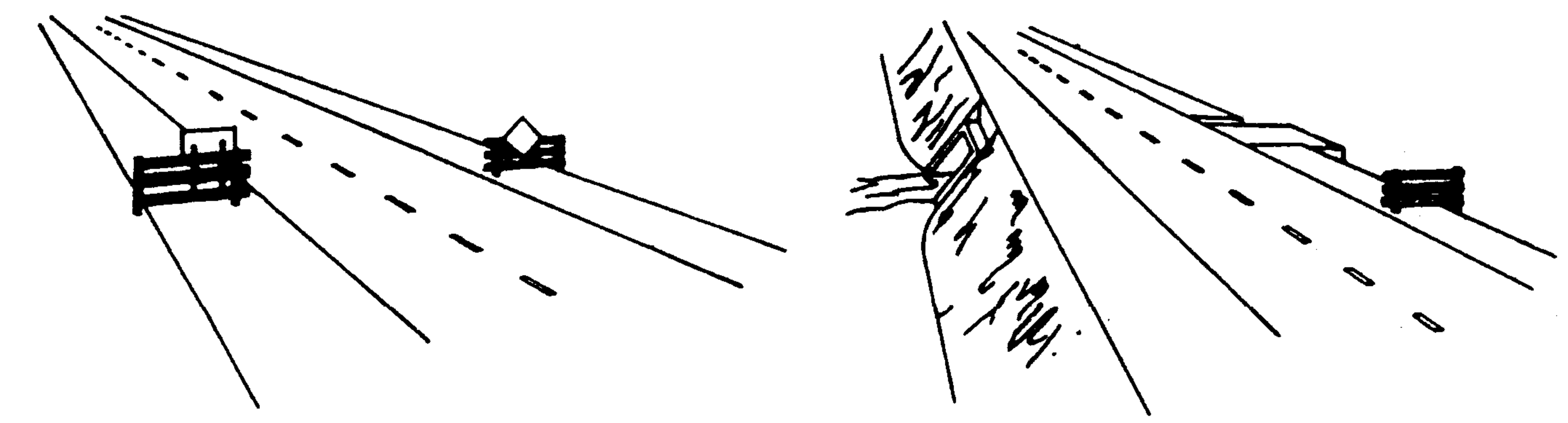


Type I Type II Type III

Standard Barricades



Barricade Closing A Road



A Type I Barricade consists of one (1) horizontal rail supported by a demountable frame or a light "A" frame.

A Type II Barricade consists of two (2) horizontal rails on a light "A" frame.

A Type III Barricade consists of three (3) horizontal rails supported by fixed posts, a rigid skid, a heavy demountable frame or a heavy, hinged, "A" frame.

Type I and Type II Barricade are intended for use where the hazard is relatively small as, for example, on city streets, or for the more or less continuous delimiting of a restricted roadway, or for temporary daytime use.

NOTE: Do not place sandbags or other weighting devices on the bottom rail that will block view of rail face.

Type III Barricades are intended for use on construction and maintenance projects as wing barricades and at road closures, where they must remain in place for extended periods.

The marking for barricade rails shall be orange and white (sloping downward at an angle of 45 degrees in the direction traffic is to pass).

△4

FOR ADDITIONAL INFORMATION OR DETAILS SEE MUTCD SECTION 6-C.

Barricade Characteristics

	I	II	III
Width of rail ***	8" min. - 12" max.	8" min. - 12" max.	8" min - 12" max.
Length of rail ***	2' min	2' min. △2	4' min
Width of stripe	6" **	6" **	6"
Height	3' min	3' min	5' min
Number of reflectorized rail faces	2 (one each direction)	4 (two each direction) △	3 if facing traffic in one direction 6 if facing traffic in two directions
Type of frame	light	light "A" frame	post or skid

** For rails less than 3 feet long, 4 inch wide stripes shall be used.

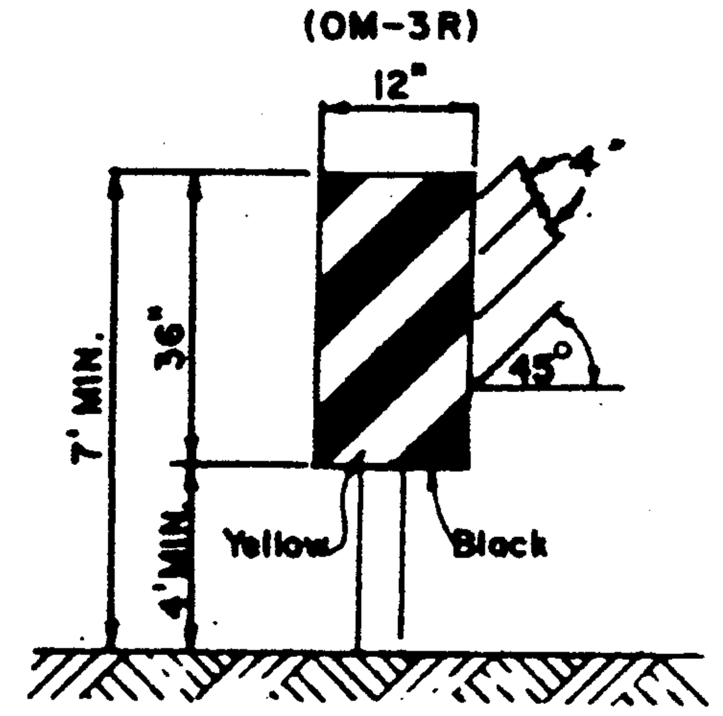
△*** Barricades intended for use on expressway, freeways and other high speed roadways, shall have a minimum of 270 square inches of reflective area facing traffic.

Wing Barricades △5

△3 1. Wing barricades are Type III barricades erected on the shoulder on one or both sides of the pavement to give the sensation of a narrowing or restricted roadway. Wing barricades may be used as a mounting for the advance warning signs or flashers.

2. Wing barricades should be used:
   a. In advance of a construction project even when no part of the roadway is actually closed.
   b. In advance of all bridge or culvert widening operations.

TYPE 3 OBJECT MARKER (OM-3R)

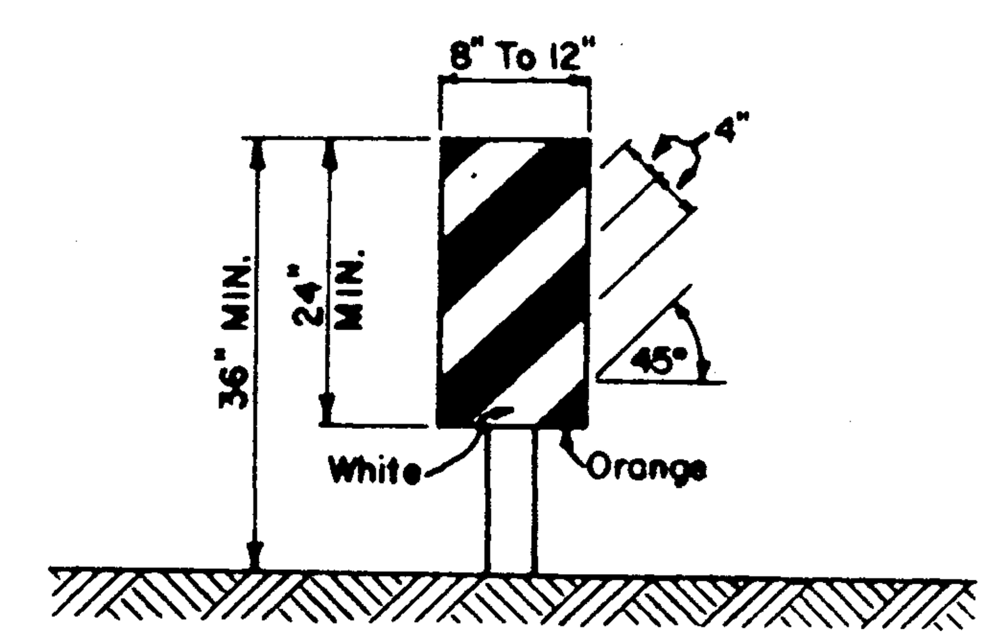


△4

Type 3 Object Markers shall be used at all exposed bridge abutments and at other locations as deemed necessary by the engineer.

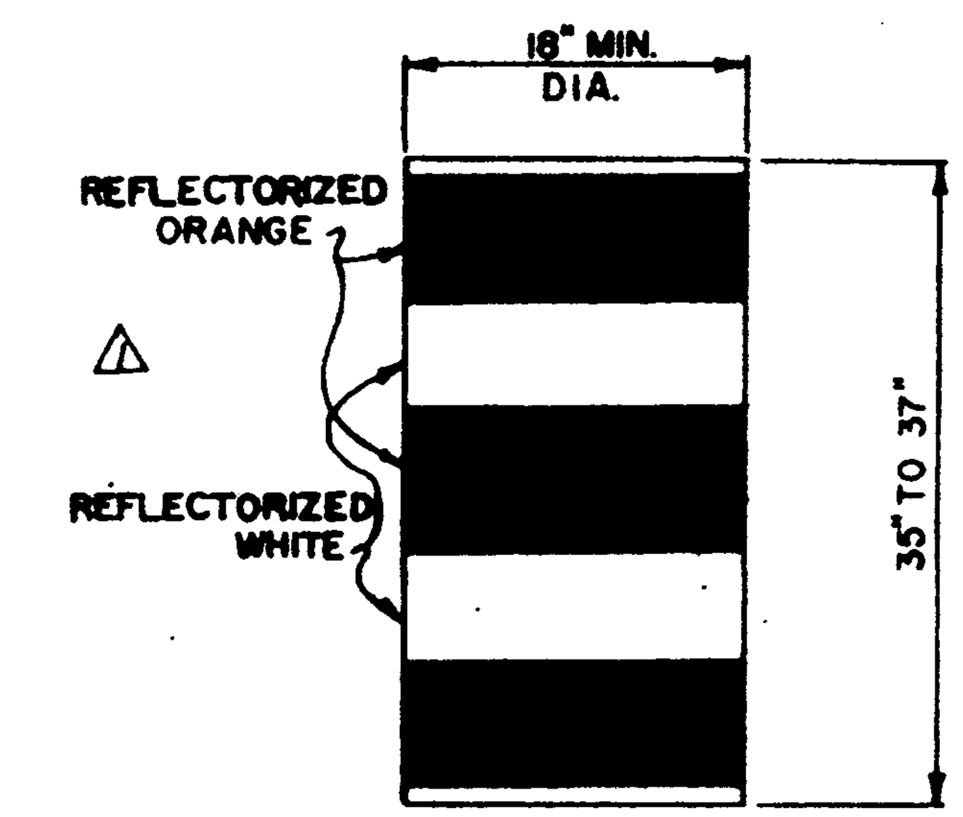
The OM-3R is shown. The OM-3L is similar except the stripes slope downward from the upper left side to the lower right side and shall be placed on the left side of the object.

The inside edge of the marker shall be in line with the inner edge of the obstruction.



VERTICAL PANEL

Vertical panels consist of at least one panel 8" to 12" in width and a minimum of 24" in height. The diagonal stripes shall slope downward in the direction that traffic is to pass the panel. The panels shall be mounted with the top a minimum of 36" above the roadway on a single lightweight post.



△

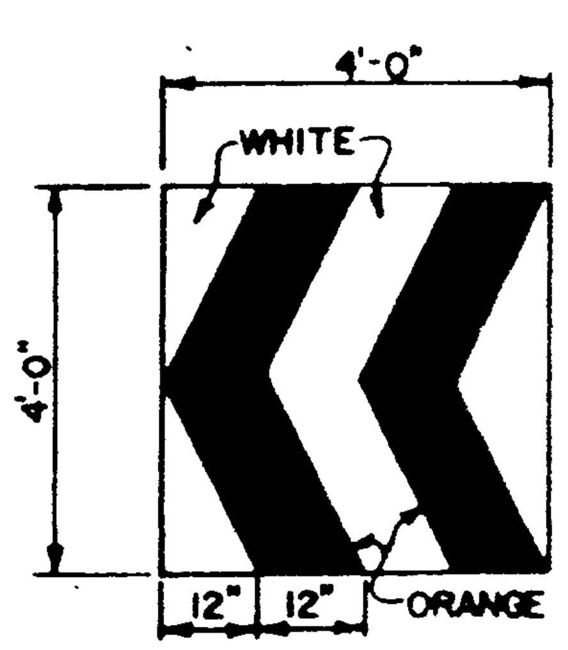
PLASTIC DRUM STRIPING DETAIL

△1 Plastic drums shall be on end and used as an expedient method for traffic channelization. The color and marking of drums shall be consistent with marking standards for barricade. The predominant color on drums shall be orange with four (4) reflectorized, horizontal, circumferential stripes (2 orange & 2 white) 6" wide.

△5 Drums should never be placed in the roadway without warning signs.

Where practical plastic drums shall be placed no closer than three (3) feet from the edge of traveled lane.

CHEVRON PANEL DETAIL



△

A Chevron Panel consists of chevron type markings of alternate orange and white and shall point in the direction of traffic flow.

The complete Chevron Panel shall be mounted on fixed post or rigid skid.

Chevron Panels may be used to supplement other standard devices when closing one or more lanes for construction or maintenance. They shall be placed approximately 2 feet behind lane transition stripe.

NOTE: △5

Markings on all devices shown on this sheet shall be high intensity reflective sheeting.

The Traffic Control Plan will list the various Traffic Control Devices required for each project.

JJS	AWK	AWK	AWK	AWK	BY
△	△	△	△	△	REVISIONS
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	DATE

MISSISSIPPI STATE HIGHWAY DEPARTMENT

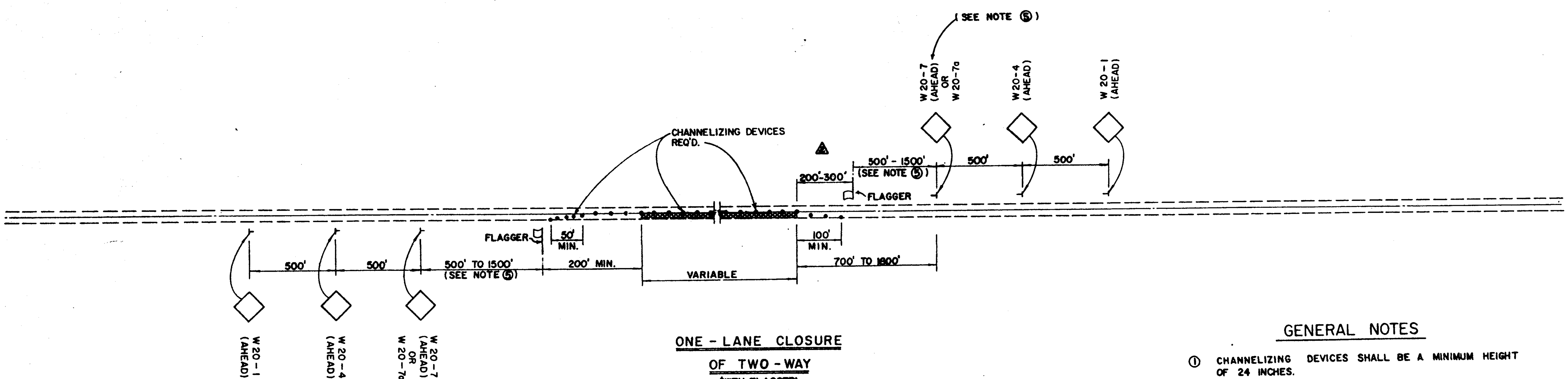
HIGHWAY SIGN AND BARRICADE DETAILS FOR CONSTRUCTION PROJECT

DESIGNED ______ DETAILED ______ TRACED ______
CHECKED ______ ISSUED P.R.J. DATE 9-9-80

WORKING NUMBER SN-10

SHEET NUMBER 189

STATE	PROJECT NO.
MISS.	



ONE - LANE CLOSURE OF TWO - WAY
(WITH FLAGGER)

GENERAL NOTES

① CHANNELIZING DEVICES SHALL BE A MINIMUM HEIGHT OF 24 INCHES.

△3 ② DIAMOND SHAPED TRAFFIC CONTROL SIGNS SHALL BE A MINIMUM OF 48" × 48".

③ SPACING OF CHANNELIZING DEVICES ALONG LANE LINE AND WORK ZONE TO BE EQUAL TO THE POSTED SPEED (M.P.H.) IN FEET.

④ WHEN THERE IS NO EXISTING HAZARD OR AT THE END OF THE WORK DAY, ALL SIGNS SHALL BE COVERED OR REMOVED AND ALL CHANNELIZING DEVICES SHALL BE MOVED TO THE SHOULDER EDGE.

⑤ WHEN THE WORK ZONE IS STATIONARY, THE W20-7 OR W20-7a SIGN SHOULD BE PLACED 500' IN ADVANCE OF THE FLAGGER AND SHOULD INDICATE (500') AS THE DISTANCE.

△ ⑥ ALL TRAFFIC CONTROL ITEMS SHOWN ON THIS SHEET WILL NOT BE MEASURED FOR SEPARATE PAYMENT. THIS WORK IS TO BE INCLUDED IN THE PRICE BID FOR MAINTENANCE OF TRAFFIC.

REVISIONS	DATE	BY
△	7-1-91	JJS
△	3-18-87	AWK
△	8-5-86	AWK

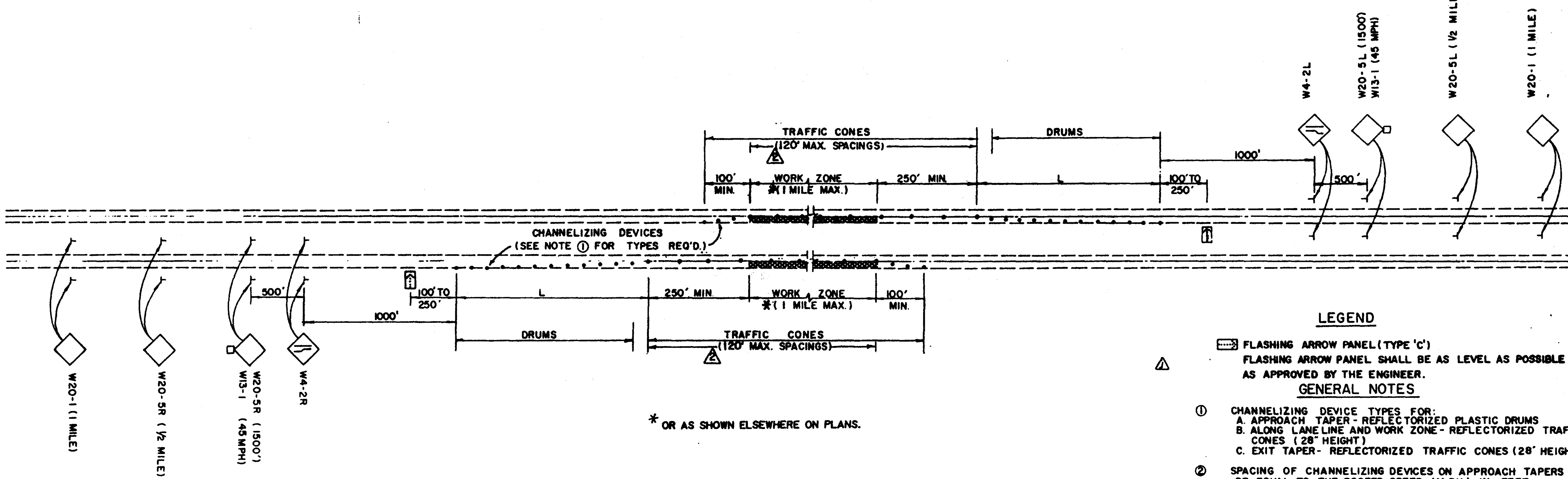
MISSISSIPPI STATE HIGHWAY DEPARTMENT

TRAFFIC CONTROL PLAN
(ONE-LANE CLOSURE OF TWO-WAY TRAFFIC)

DESIGNED ______ DETAILED ______ TRACED ______
CHECKED ______ ISSUED ______ DATE 6-18-86

WORKING NUMBER TCP-1
SHEET NUMBER 190

STATE	PROJECT NO.
MISS.	



* OR AS SHOWN ELSEWHERE ON PLANS.

LEGEND

FLASHING ARROW PANEL (TYPE 'C')
FLASHING ARROW PANEL SHALL BE AS LEVEL AS POSSIBLE AS APPROVED BY THE ENGINEER.

GENERAL NOTES

① CHANNELIZING DEVICE TYPES FOR:
A. APPROACH TAPER - REFLECTORIZED PLASTIC DRUMS
B. ALONG LANE LINE AND WORK ZONE - REFLECTORIZED TRAFFIC CONES (28" HEIGHT)
C. EXIT TAPER - REFLECTORIZED TRAFFIC CONES (28" HEIGHT)

② SPACING OF CHANNELIZING DEVICES ON APPROACH TAPERS TO BE EQUAL TO THE POSTED SPEED (M.P.H.) IN FEET.

③ WHEN THERE IS NO EXISTING HAZARD, THE LANE CLOSURE (W20-5), LANE TRANSITION (W4-2), AND NO PASSING (R4-1) SIGNS ARE TO BE COVERED OR REMOVED AND THE DRUMS SHALL BE MOVED TO THE SHOULDER EDGE AT THE END OF THE WORK DAY.

④ $L = W \times S$ FOR SPEEDS OF 45 M.P.H. OR GREATER
$L = \frac{W \times S^2}{60}$ FOR SPEEDS OF 40 M.P.H. OR LESS

WHERE: L = MIN. LENGTH OF TAPER
W = WIDTH OF OFFSET (NORMALLY LANE WIDTH)
S = NUMERICAL VALUE OF POSTED SPEED LIMIT PRIOR TO WORK OR 85th PERCENTILE SPEED.

⑤ FOR MOVING OPERATIONS (PAVING), THE CONTRACTOR SHALL HAVE TWO (2) SETS OF ADVANCE WARNING SIGNS, PLASTIC DRUMS, AND ARROW BOARDS. WHEN THE CONSTRUCTION ZONE IS MOVED AHEAD, ALL SIGNS, PLASTIC DRUMS, AND ARROW BOARD SHALL BE IN PLACE ON THE SECOND ZONE BEFORE REMOVING ANY SIGNS, PLASTIC DRUMS, AND ARROW BOARD ON THE FIRST ZONE.

⑥ ALL TRAFFIC CONTROL ITEMS SHOWN ON THIS SHEET WILL NOT BE MEASURED FOR SEPARATE PAYMENT. THIS WORK IS TO BE INCLUDED IN THE PRICE BID FOR MAINTENANCE OF TRAFFIC.

⑦ DIAMOND SHAPED TRAFFIC CONTROL SIGNS SHALL BE A MINIMUM OF 48"×48". SPEED PLATES SHALL BE 24"×24".

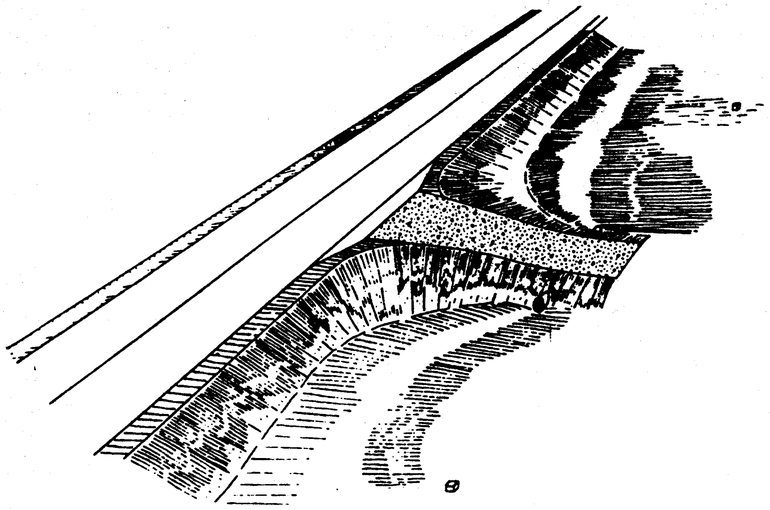
MISSISSIPPI STATE HIGHWAY DEPARTMENT

TRAFFIC CONTROL PLAN

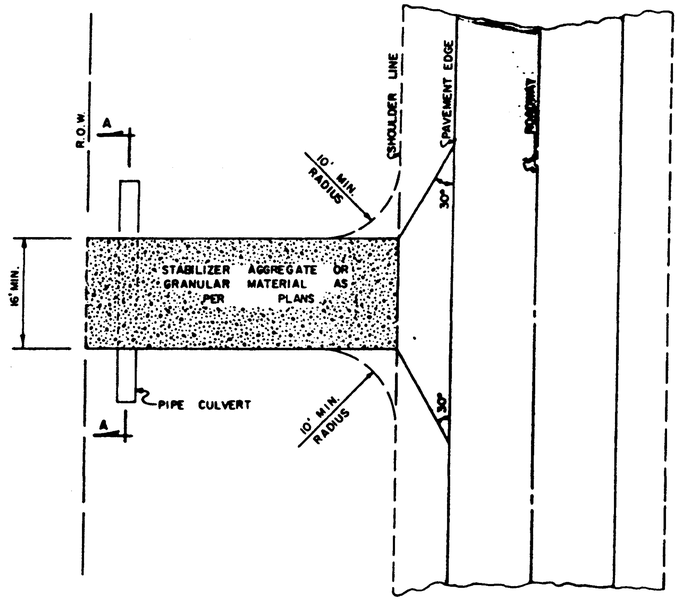
(4-LANE: MEDIAN LANE OR OUTSIDE LANE CLOSURE) (WORK DAY ONLY)

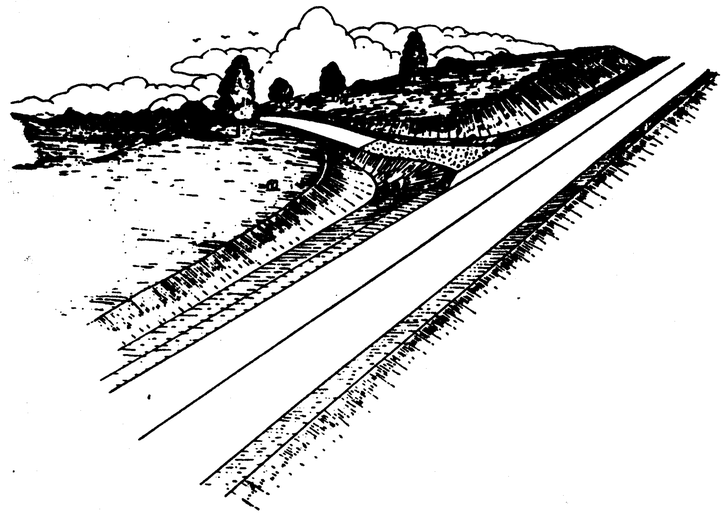
DESIGNED ___ DETAILED ___ TRACED ___	WORKING NUMBER TCP-2
CHECKED ___ ISSUED ___ DATE 6-15-84	SHEET NUMBER 191

REVISIONS — DATE: 7-1-90, 12-3-86

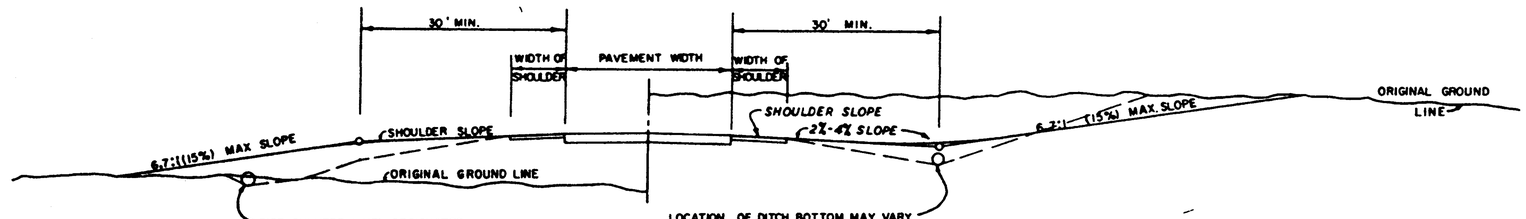


RAMP IN FILL SECTION

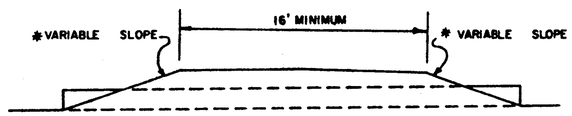




RAMP IN CUT SECTION



TYPICAL SECTION AT RAMP



SECTION A-A

* SLOPES TO BE CONSTRUCTED ON THE SAME RATE AS MAIN FACILITY.

MISSISSIPPI STATE HIGHWAY DEPARTMENT

RURAL DRIVEWAYS

BY	REVISIONS	DATE

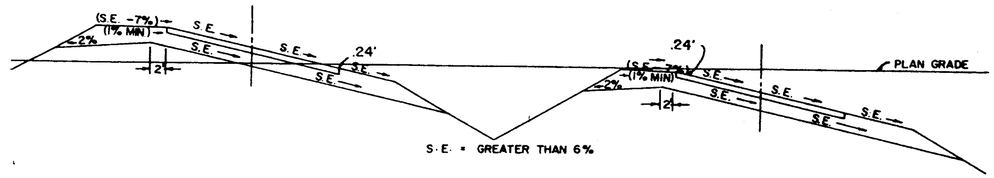
WORKING NUMBER: RD-1

SHEET NUMBER: 202

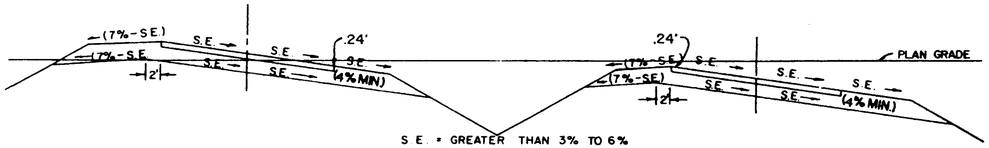
DESIGNED ____ DETAILED ____ TRACED ____

CHECKED ____ ISSUED: D.B.J. DATE: 11-1-79

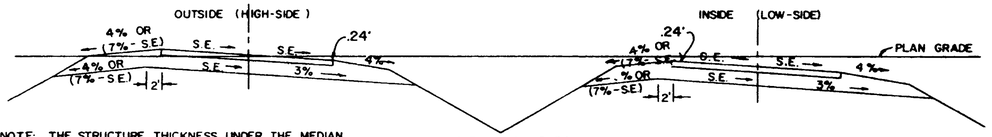
STATE	PROJECT NO
MISS.	



S.E. = GREATER THAN 6%

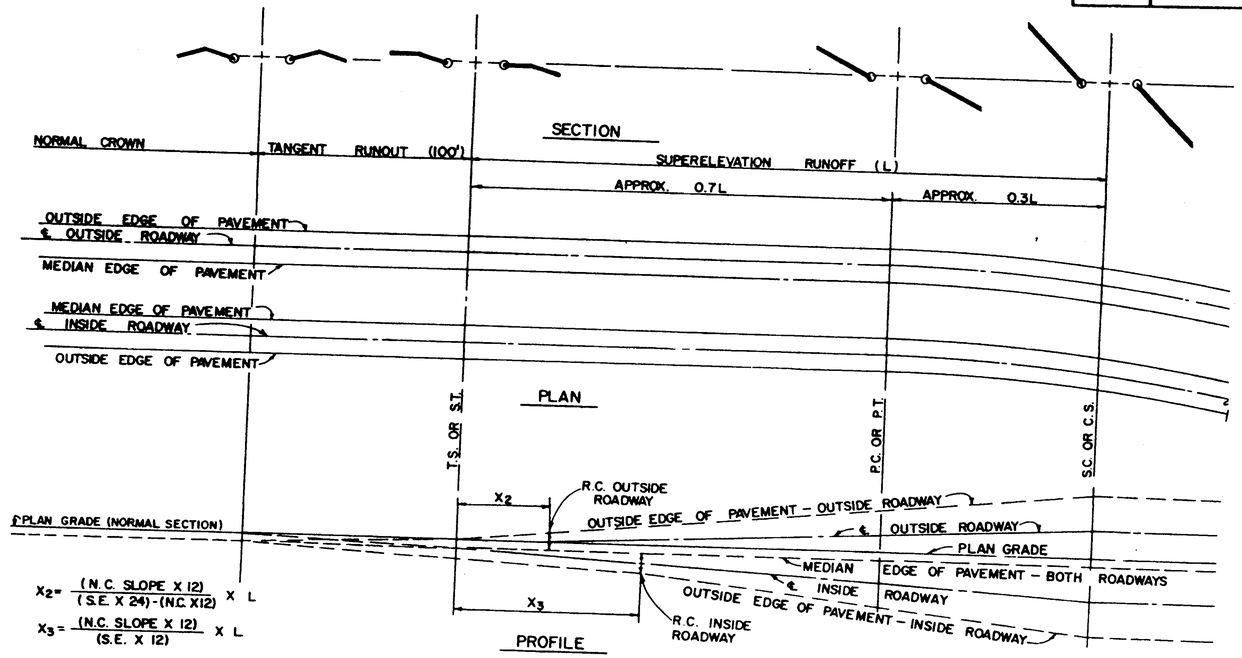


S.E. = GREATER THAN 3% TO 6%



S.E. = R.C. TO 3%

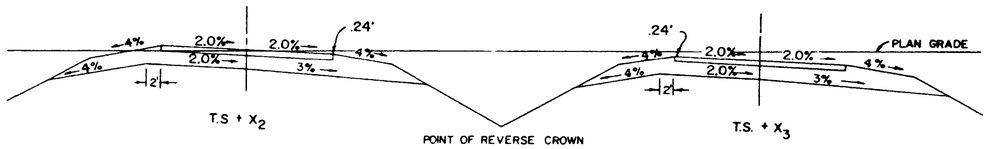
NOTE: THE STRUCTURE THICKNESS UNDER THE MEDIAN EDGE WILL TRANSITION FROM ITS DEPTH IN THE NORMAL SECTION TO THE AMOUNT SHOWN AT THE CENTERLINE IN THE NORMAL SECTION THIS TRANSITION WILL ONLY OCCUR WHEN THE S.E. EQUALS OR EXCEEDS 3%.

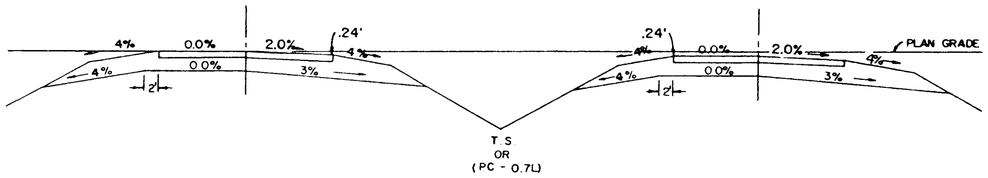


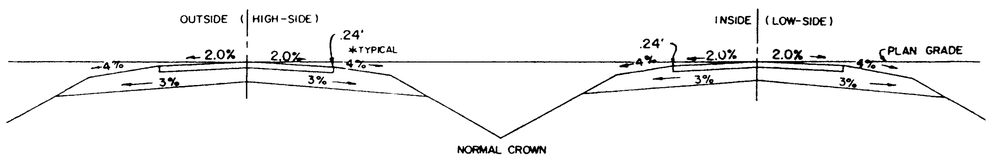
$X_2 = \frac{(N.C.\ SLOPE \times 12)}{(S.E. \times 24) - (N.C. \times 12)} \times L$

$X_3 = \frac{(N.C.\ SLOPE \times 12)}{(S.E. \times 12)} \times L$

DIAGRAMMATIC PLAN & PROFILE







* OR AS SHOWN ELSEWHERE ON THE PLANS

D	V = 40 mph e	V = 40 mph L (ft)	V = 50 mph e	V = 50 mph L (ft)	V = 60 mph e	V = 60 mph L (ft)	V = 65 mph e	V = 65 mph L (ft)	V = 70 mph e	V = 70 mph L (ft)
0° 15'	NC	0	NC	0	NC	0	NC	0	NC	0
0° 30'	NC	0	NC	0	RC	175	RC	190	RC	200
0° 45'	NC	0	NC	0	.023	175	.025	190	.028	200
1° 00'	NC	0	RC	150	.030	175	.033	190	.037	200
1° 30'	RC	125	.031	150	.043	190	.048	220	.054	260
2° 00'	.028	125	.040	150	.055	230	.062	290	.070	330
2° 30'	.034	125	.049	180	.067	280	.075	330	.085	390
3° 00'	.040	125	.057	210	.077	320	.087	380	.096	420
3° 30'	.046	140	.065	240	.086	350	.095	400	.100	450
4° 00'	.051	160	.072	260	.093	380	.099	420	DMAX = 3° 30'	
5° 00'	.061	190	.083	300	.098	400	DMAX = 4° 15'			
6° 00'	.070	220	.092	330	DMAX = 5° 15'					
7° 00'	.078	240	.098	350						
8° 00'	.084	260	.100	360						
9° 00'	.089	280	DMAX = 8° 15'							
10° 00'	.094	290								
11° 00'	.097	310								
12° 00'	.099	310								
13° 00'	.100	320								

DMAX = 13° 15'

D = DEGREE OF CURVE
V = ASSUMED DESIGN SPEED
e = RATE OF SUPERELEVATION
L = MINIMUM LENGTH OF RUNOFF
NC = NORMAL CROWN SECTION
RC = REMOVE ADVERSE CROWN, SUPERELEVATE AT NORMAL CROWN SLOPE

NOTES

1. SPIRAL TRANSITION CURVES SHOULD BE USED FOR THE LENGTH OF SUPERELEVATION RUNOFF FOR ALL CURVES LISTED IN THE TABLE BELOW THE HEAVY LINE (e>0.50).
2. A VERTICAL CURVE WITH A LENGTH EQUAL TO THE DESIGN SPEED SHOULD BE PLACED AT EXCESSIVE ANGULAR BREAKS.

REVISIONS	BY	DATE
GENERAL REV.	S.L.R. AWK	15-34 12-3-86

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SUPERELEVATION TRANSITION CASE II (3% NORMAL SUBGRADE)

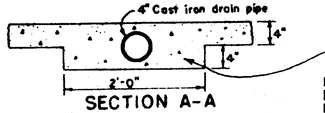
WORKING NUMBER SE-2D

SHEET NUMBER 207.4

DESIGNED AWK DETAILED M.S.JR TRACED

CHECKED ISSUED E.L.S. DATE 11-15-85

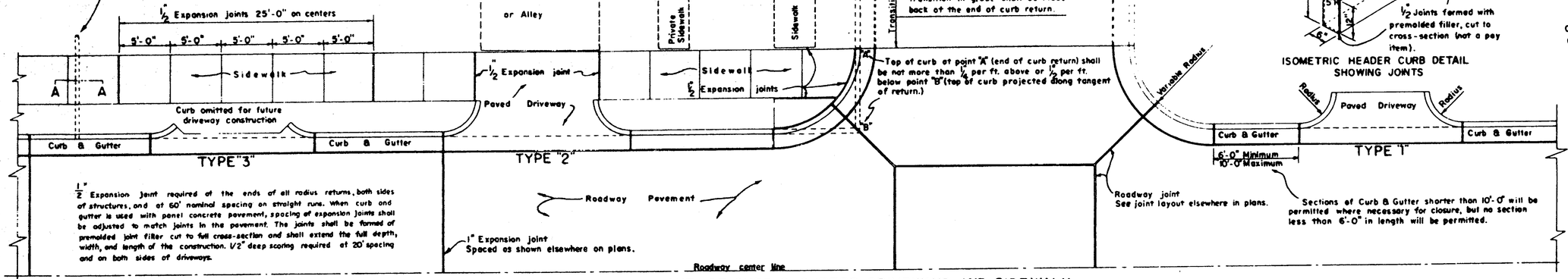
4" Cast iron drain pipe placed where designated elsewhere on plans or by the engineer. Payment for the pipe shall be made on a separate basis.



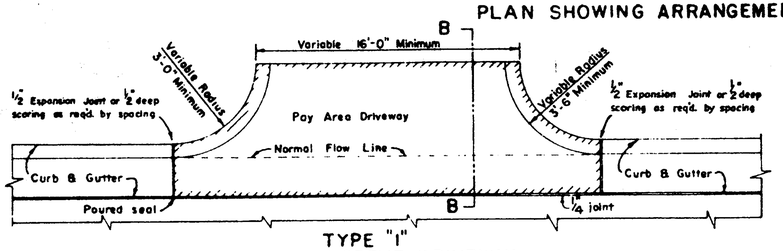
SECTION A-A

4" Extra depth shall be placed full width of sidewalk, where drain pipe passes through sidewalk. Payment shall be included in compensation for pipe.

NOTE- DRIVEWAY REINFORCEMENT SHALL BE 6"x6" NO. 10/10 WIRE MESH WHEN REQ'D. ⚠



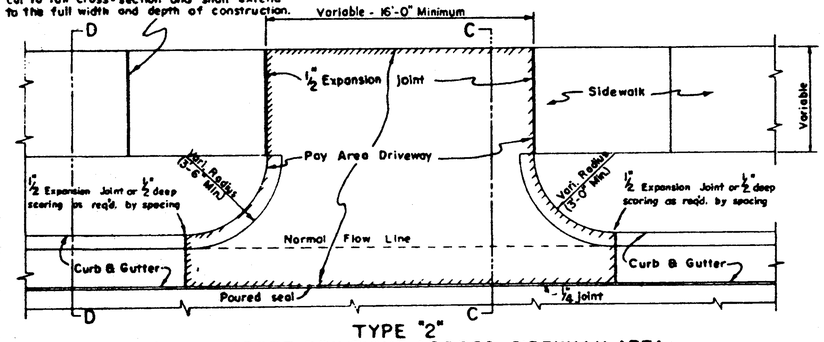
PLAN SHOWING ARRANGEMENT OF CURB & GUTTER, DRIVEWAYS, AND SIDEWALK



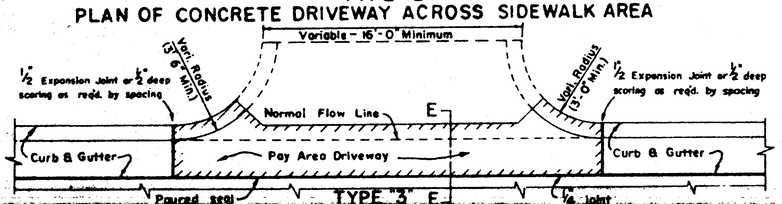
TYPE "1"
PLAN OF CONCRETE DRIVEWAY

11'-0" Length of curb returns
Driveway Area
11.058 Sq. Yds. for driveway 16'-0" in width
0.574 Sq. Yds. for each added or subtracted foot of width
Note: Above area is computed on basis of 3'-0" radius. Payment for curb return shall be included in compensation for driveway.

½" Expansion joint. The expansion joints shall be formed of premolded joint filler cut to full cross-section and shall extend to the full width and depth of construction.

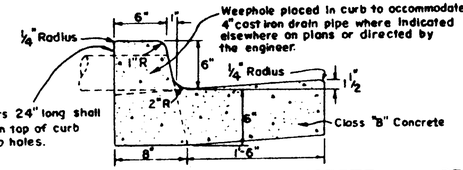


TYPE "2"
PLAN OF CONCRETE DRIVEWAY ACROSS SIDEWALK AREA

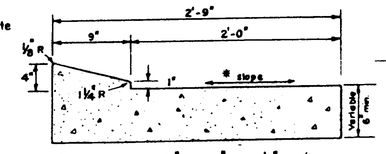


TYPE "3" E
PLAN – CURB OMITTED FOR FUTURE DRIVEWAY CONSTRUCTION

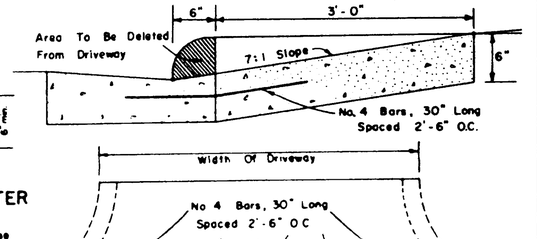
Note: This type construction shall be used where designated elsewhere on plans or by the engineer.

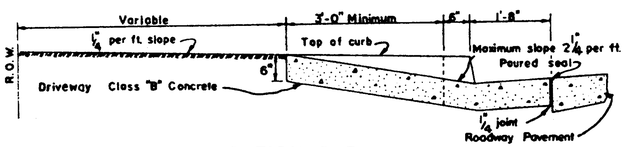


DETAIL OF COMBINATION CONCRETE CURB & GUTTER (TYPE "1")

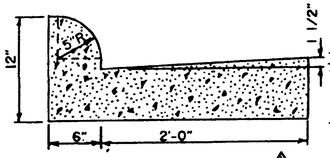


DETAIL OF COMBINATION CURB AND GUTTER (TYPE "2")

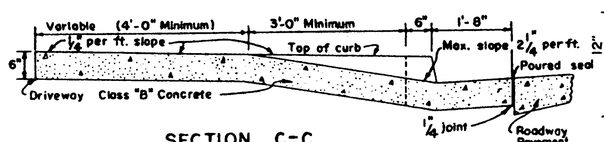




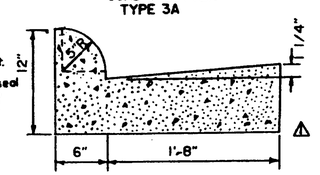
SECTION B-B



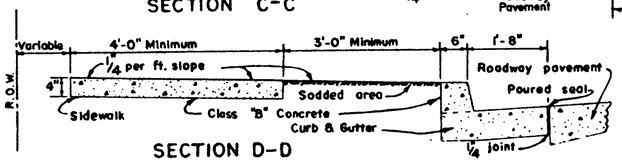
DETAIL OF COMBINATION CURB & GUTTER TYPE 3A ⚠



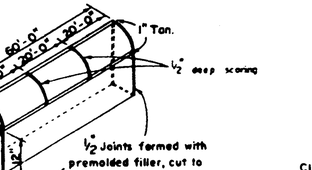
SECTION C-C



DETAIL OF COMBINATION CURB & GUTTER TYPE 3B ⚠



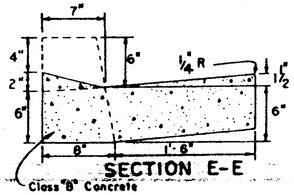
SECTION D-D



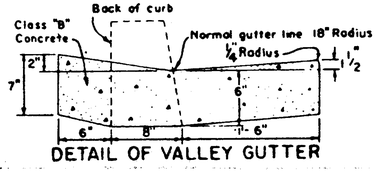
PLAN

SECTIONAL ELEVATION

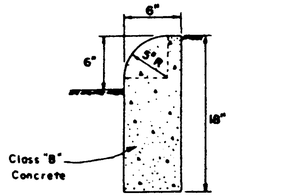
PERMISSIBLE DRIVEWAY CONSTRUCTION METHOD FOR SLIP-FORM PLACEMENT OF CURB & GUTTER



SECTION E-E



DETAIL OF VALLEY GUTTER



DETAIL OF HEADER CURB

Contraction joints required at 20' o.c.
Expansion joints required at 60' o.c.
Unless otherwise directed by engineer

ISOMETRIC HEADER CURB DETAIL SHOWING JOINTS

General Note: The standard specifications adopted by the Mississippi State Highway Department shall, unless otherwise specified herein, apply to all items included on this drawing.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION ⚠

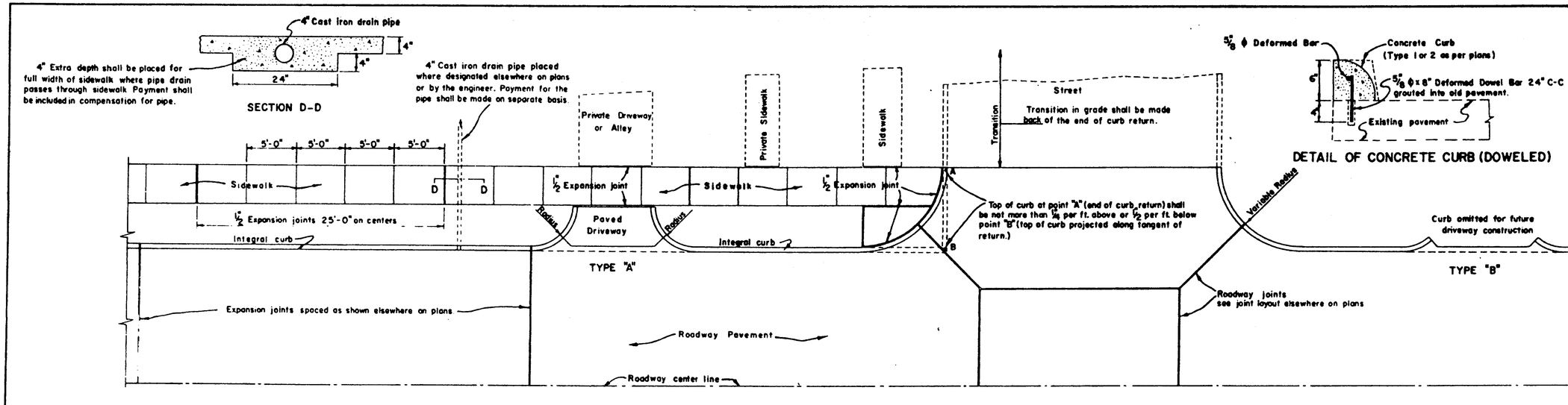
DRIVEWAYS, CURB & GUTTER, & SIDEWALK

REVISIONS ⚠

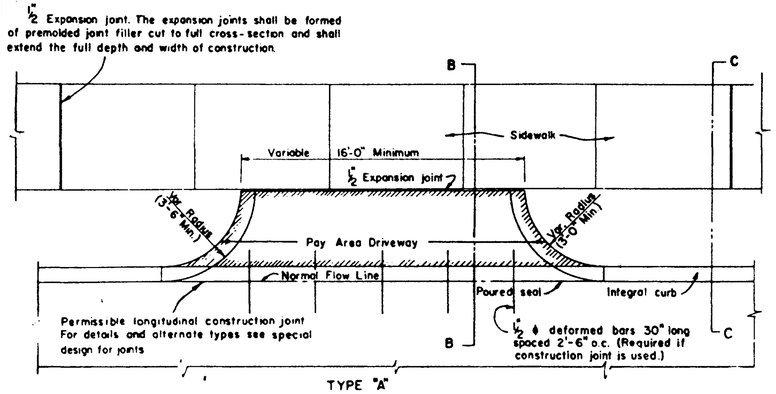
DESIGNED ____ DETAILED ____ TRACED ____
CHECKED ____ ISSUED C.B.J. DATE 11-1-79

WORKING NUMBER SD-1

SHEET NUMBER 213

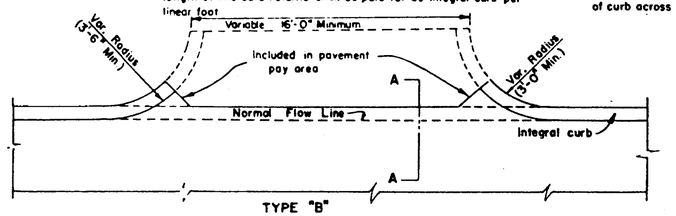


PLAN SHOWING ARRANGEMENT OF INTEGRAL CURB, DRIVEWAYS AND SIDEWALK



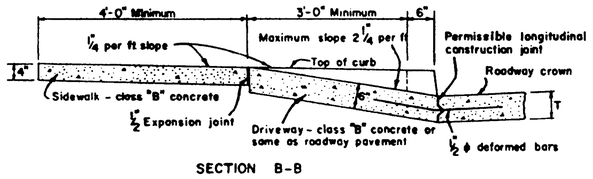
PLAN OF CONCRETE DRIVEWAY

11.0' Length of curb returns
Driveway Area
5.761 Sq yds for driveway 16'-0" in width
0.333 Sq yds for each added or subtracted foot of width
Note: Above area is computed on the basis of 3'-0" radius. The full length of the curb returns shall be paid for as integral curb per linear foot

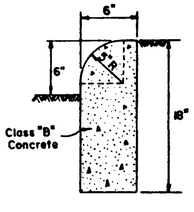


PLAN— CURB OMITTED FOR FUTURE DRIVEWAY CONSTRUCTION

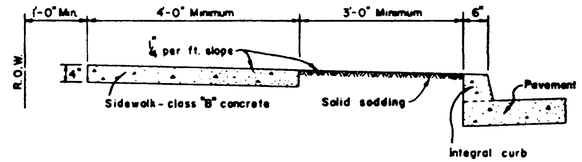
Note: This type construction shall be used only where specifically designated elsewhere on the plans or by the engineer.



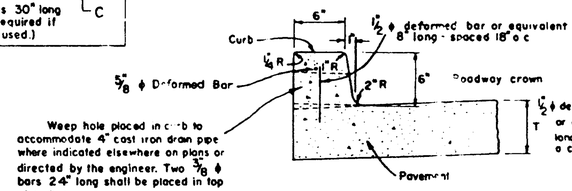
SECTION B-B



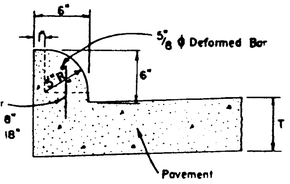
DETAIL OF HEADER CURB
Contraction joints required at 20'o.c.
Expansion joints required at 60'o.c.
Unless otherwise directed by engineer.



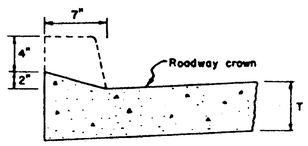
SECTION C-C



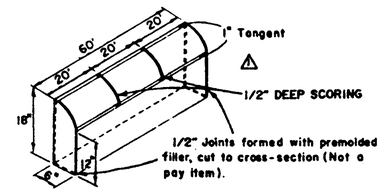
DETAIL OF INTEGRAL CURB
TYPE "1"



DETAIL OF INTEGRAL CURB
TYPE "2"



SECTION A-A



ISOMETRIC HEADER CURB DETAIL SHOWING JOINTS

General Notes:

⚠ The standard specifications adopted by the Mississippi Department Of Transportation unless otherwise specified herein shall apply to all items included on this standard.

Integral Curb. The integral curb shall be constructed of cement concrete conforming to the requirements set out in the standard specifications.

Driveways. The driveways shall be constructed of class "B" concrete or of the same concrete used in pavement. The driveway surface shall be finished with a wooden float so as to produce a sandy texture. The construction joint, if used, shall conform to the requirements of the special design for joints and of the standard specifications.

Sidewalks. The sidewalk shall be constructed of class "B" concrete conforming to the requirements of the standard specifications.

⚠ Driveway Reinforcement. Use 6"x6" No 10/10 wire mesh when required.

BY	REVISIONS	DATE
S.M.P.	⚠	1-5-94

MISSISSIPPI DEPARTMENT OF TRANSPORTATION ⚠

DRIVEWAYS, INTEGRAL CURB, & SIDEWALK

WORKING NUMBER SD-2

SHEET NUMBER 214

DESIGNED _____ DETAILED _____ TRACED _____

CHECKED _____ ISSUED D.B.L. DATE 11-1-79

CORRUGATED STEEL AND ALUMINUM PIPE (ROUND)

H-20 LOADING

PIPE[1] DIAMETERS (INCHES)	MINIMUM COVER TOP OF PIPE TO TOP OF SUBGRADE (INCHES)	MAXIMUM FILL HEIGHT ABOVE TOP OF PIPE (FEET)				
		METAL THICKNESS IN INCHES AND EQUIVALENT PIPE GAGE				
		0.064 STEEL 0.060 ALUM. 16 GAGE	0.079 STEEL 0.075 ALUM. 14 GAGE	0.109 STEEL 0.105 ALUM. 12 GAGE	0.138 STEEL 0.135 ALUM. 10 GAGE	0.168 STEEL 0.164 ALUM. 8 GAGE
		2-2/3 INCH BY 1/2 INCH CORRUGATED STEEL RIVETED, WELDED, OR HELICAL / 3"x1" OR 5"x1"⚠ CORRUGATED STEEL RIVETED, WELDED, HELICAL, OR BOLTED			/ 2-2/3-INCH BY 1/2 INCH CORRUGATED ALUMINUM RIVETED OR HELICAL	
12	12	84 / - / 45	91 / - / 45	- / - / 78	- / - / 81	- / - / 84
15	12	67 / - / -	73 / - / -	- / - / -	- / - / -	- / - / -
18	12	56 / - / 30	61 / - / 30	- / - / 52	- / - / 54	- / - / 56
24	12	42 / - / 22	46 / - / 22	59 / - / 39	- / - / 41	- / - / 42
30	12	34 / - / 18	36 / - / 18	47 / - / 31	- / - / 32	- / - / 34
36	12	28 / 48 / 15	30 / 60 / 15	39 / 78 / 26	41 / 89 / 27	- / 101 / 28
42	12	31 / 41 / -	43 / 51 / 26	46 / 64 / 43	48 / 71 / 43	50 / 79 / 44
48	12	27 / 36 / -	37 / 45 / -	45 / 57 / 40	46 / 61 / 41	47 / 66 / 43
54	12	- / 32 / -	33 / 40 / -	43 / 52 / 35	44 / 55 / 37	45 / 59 / 38
60	12	- / 29 / -	- / 36 / -	43 / 49 / -	43 / 51 / 33	44 / 54 / 34
66	12	- / 26 / -	- / 33 / -	42 / 47 / -	43 / 49 / 30	43 / 51 / 31
72	12	- / 24 / -	- / 30 / -	- / 44 / -	41 / 47 / -	43 / 49 / 29
78	12	- / 22 / -	- / 28 / -	- / 41 / -	- / 46 / -	39 / 47 / -
84	12	- / 21 / -	- / 26 / -	- / 38 / -	- / 45 / -	35 / 46 / -
90	12	- / 19 / -	- / 24 / -	- / 35 / -	- / 43 / -	- / 45 / -
96	12	- / 18 / -	- / 22 / -	- / 33 / -	- / 40 / -	- / 44 / -
102	24	- / 17 / -	- / 21 / -	- / 31 / -	- / 38 / -	- / 42 / -
108	24	- / - / -	- / 20 / -	- / 30 / -	- / 35 / -	- / 39 / -
114	24	- / - / -	- / 19 / -	- / 28 / -	- / 34 / -	- / 37 / -
120	24	- / - / -	- / - / -	- / 27 / -	- / 32 / -	- / 35 / -

1. THE AVERAGE INSIDE DIAMETER SHALL NOT VARY MORE THAN ONE (1) PERCENT OR ONE-HALF INCH, WHICHEVER IS GREATER, FROM THE NOMINAL DIAMETER WHEN MEASURED ON THE INSIDE CREST OF THE CORRUGATIONS. AASHTO M36 & M196.

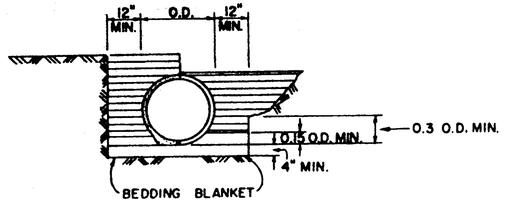
CORRUGATED METAL PIPE ARCHES H-20 LOADING

EQUIV. DIAMETER (INCHES)	PIPE DIMENSION (SPAN X RISE) (INCHES)	MINIMUM CORNER RADIUS (INCHES)	MINIMUM COVER (TOP OF PIPE TO TOP OF SUBGRADE FOR TWO (2) TONS PER SQ. FT.) (INCHES)	STEEL			ALUMINUM		
				MINIMUM THICKNESS REQUIRED	MAXIMUM FILL HEIGHTS ABOVE TOP OF PIPE (IN FT.) FOR THE FOLLOWING CORNER BEARING PRESSURE IN TONS PER SQ. FT. 2 TONS	3 TONS[2]	MINIMUM THICKNESS REQUIRED	MAX. FILL HEIGHTS ABOVE TOP OF PIPE (IN FT.) FOR THE FOLLOWING CORNER BEARING PRESSURE IN TONS PER SQ. FT. 2 TONS	3 TONS[2]
			2-2/3-INCH BY 1/2 INCH CORRUGATION RIVETED, WELDED, OR HELICAL				2-2/3-INCH BY 1/2 INCH CORRUGATION RIVETED OR HELICAL		
15	17 x 13	3	18	0.064	13	15+	0.060	15	-
18	21 x 15	3	18	0.064	12	15+	0.060	14	-
24	28 x 20	3	18	0.064	10	15	0.060	10	15+
30	35 x 24	3	18	0.079	9	14	0.060	9	14
36	42 x 29	3.5	18	0.079	9	13	0.075	9	13
42	49 x 33	5	18	0.079	8	12	0.105	8	12
48	57 x 38	5	18	0.109	8	12	0.135	8	12
54	64 x 43	6	18	0.109	8	12	0.135	8	12
60	71 x 47	7	18	0.138	8	12	0.164	8	12
66	77 x 52	8	18	0.168	8	12			
72	83 x 57	9	18	0.168	9	13			
			5 INCH BY 1 INCH OR 3-INCH BY 1 INCH CORRUGATION RIVETED, WELDED, OR HELICAL⚠						
36	40 x 31	5	18	0.079	12	15+			
42	46 x 36	6	18	0.079	12	15+			
48	53 x 41	7	18	0.079	12	15+			
54	60 x 46	8	18	0.079	12	15+			
60	66 x 51	9	18	0.079	12	15+			
66	73 x 55	12	18	0.079	15+	-			
72	81 x 59	14	18	0.079	15	-			
78	87 x 63	14	18	0.079	14	15+			
84	95 x 67	16	18	0.105	13	15+			
90	103 x 71	16	24	0.109	12	15+			
96	112 x 75	18	24	0.109	11	15+			
102	117 x 79	18	24	0.109	10	15			
108	128 x 83	18	24	0.138	9	14			

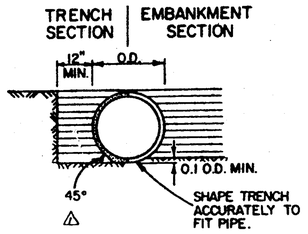
1. A tolerance of plus or minus one inch or two (2) per cent of equivalent diameter, whichever is greater, is permissible in span and rise. AASHTO M36 and M 196.

2. Bearing pressures exceeding two (2) tons per square foot required for given fill height shall have foundation material investigated to determine bearing capacity.

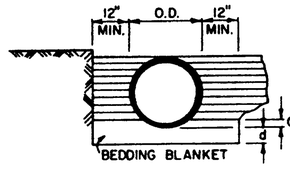
TRENCH SECTION | EMBANKMENT SECTION



CLASS B

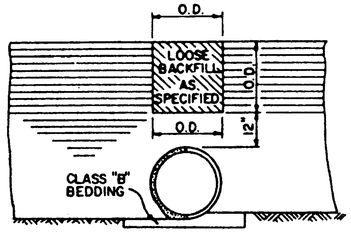


CLASS C

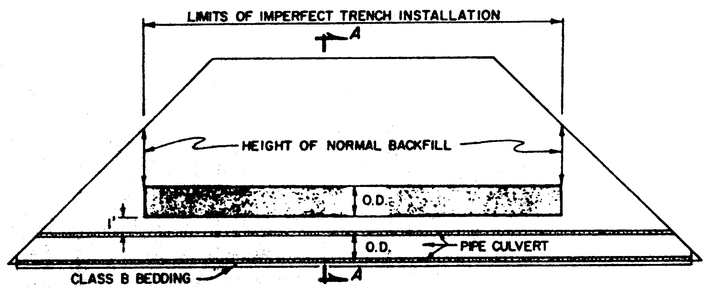


d = 1" For 1/2" Deep Corrugation
d = 2" For 1" Deep Corrugation
d = 3" For 2" Or 2 1/2" Deep Corrugation

CLASS C MODIFIED



SECTION A-A
IMPERFECT TRENCH INSTALLATION



IMPERFECT TRENCH INSTALLATION

MAXIMUM HEIGHT OF FILL OVER REINFORCED CONCRETE PIPE

CLASS OF PIPE	TYPE OF BACKFILL	MAXIMUM COVER (FEET) CLASS "C" BEDDING	MAXIMUM COVER (FEET) CLASS "B" BEDDING
III	NORMAL	16	
IV	NORMAL	23	28
V	NORMAL	30	36
IV	IMPERFECT		90
V	IMPERFECT		115

CLASS OF PIPE AND BEDDING TO BE CONSISTENT THROUGHOUT THE PIPE LENGTH.

MAXIMUM HEIGHT OF FILL OVER VITRIFIED CLAY PIPE (EXTRA STRENGTH ONLY)

PIPE SIZE (In.)	MAXIMUM COVER (FEET) CLASS "C" BEDDING	MAXIMUM COVER (FEET) CLASS "B" BEDDING
15	11	13
18	11	13
24	13	14
30	13	14

MAXIMUM HEIGHT OF FILL OVER CLASS 2 NONREINFORCED CONCRETE PIPE, PERFORATED AND/OR PLAIN, FOR UNDERDRAINS

PIPE SIZE (In.)	MAXIMUM COVER (Feet) - BEDDING CLASS "C" / CLASS "B"			
		TRENCH		PROJECTING
	B_d (Ft)	SAND & GRAVEL	DAMP CLAY	POSITIVE p=0.7; r_{sd}=0.7
4	2.00	*	*	34 / 42
6	2.00	*	*	25 / 30
8	2.25	*	16 . *	19 / 24
10	2.50	*	12 / 20	16 / 19
12	2.75	*	12 / 18	14 / 17

*Indicates no limit of fill height (w = 130 lbs./ft.^{3}).
Trench width (B_d) no greater than 16 inches plus O.D. of pipe.
Factor of safety is 1.25 on minimum ultimate strength.
Minimum cover for highway loads is 18 inches.
Perforated pipe shall be Type 1.

GENERAL NOTES

1. MINIMUM SPACING BETWEEN MULTIPLE LINES OF PARALLEL PIPE SHALL BE THE DISTANCE REQUIRED FOR INSTALLING THE ADJACENT FLARED END SECTIONS OR AS SHOWN ON THE HEADWALL DRAWINGS FOR CONDUITS REQUIRING HEADWALLS.

2. MINIMUM PIPE COVER--UNLESS OTHERWISE INDICATED, THE TOP OF THE PIPE SHALL BE BELOW THE TOP OF THE SUBGRADE, AND A MINIMUM OF 12 INCHES OF COVER OVER THE TOP OF THE PIPE SHALL BE MAINTAINED BETWEEN THE SHOULDER LINES.

⚠ 3. WHEN PRE-BED PIPE IS INSTALLED, FLARED END SECTIONS FROM OTHER MANUFACTURERS MAY BE JOINED TO PRE-BED PIPE PROVIDED A CONCRETE COLLAR IS PLACED AT THE CONTRACTOR'S EXPENSE, AND A DEFORMATION TO THE PIPE'S FLOWLINE IS NOT EVIDENT ON FINAL PLACEMENT.

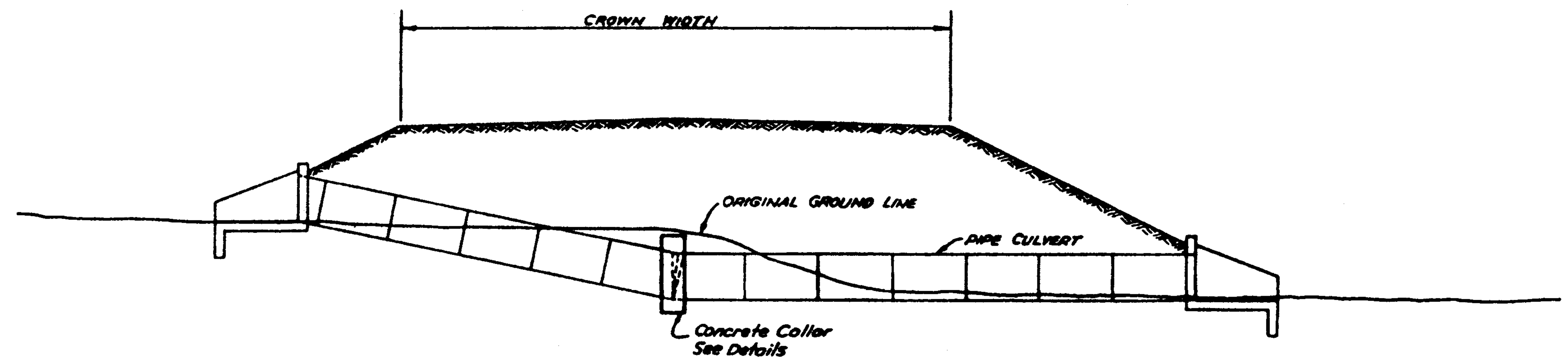
MISSISSIPPI STATE HIGHWAY DEPARTMENT

PIPE CULVERT INSTALLATION

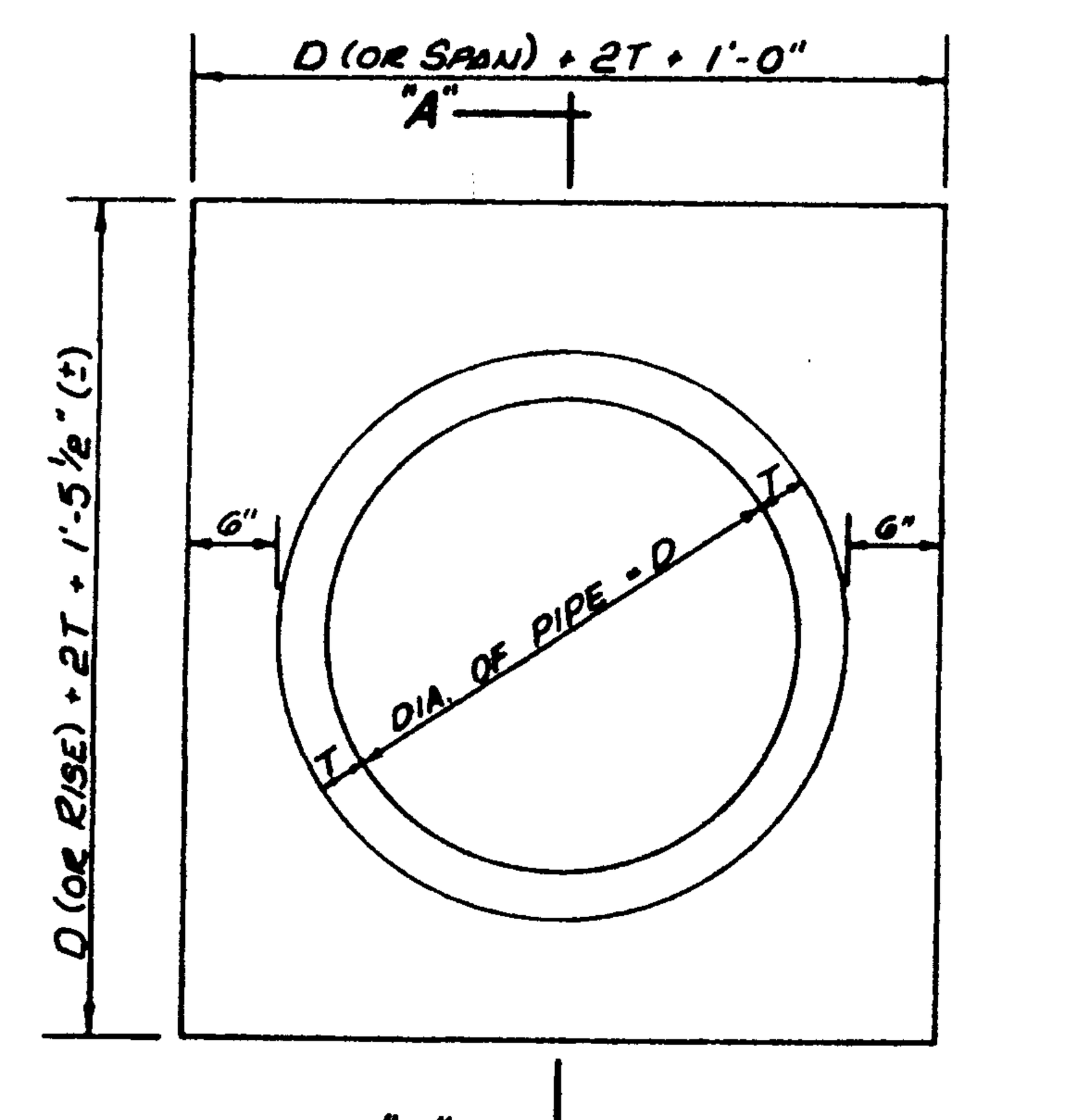
REVISIONS	BY	DATE
	A.W.K.	12-29-78

DESIGNED ____ DETAILED ____ TRACED ____
CHECKED ____ ISSUED D.B.J. DATE 11-1-79

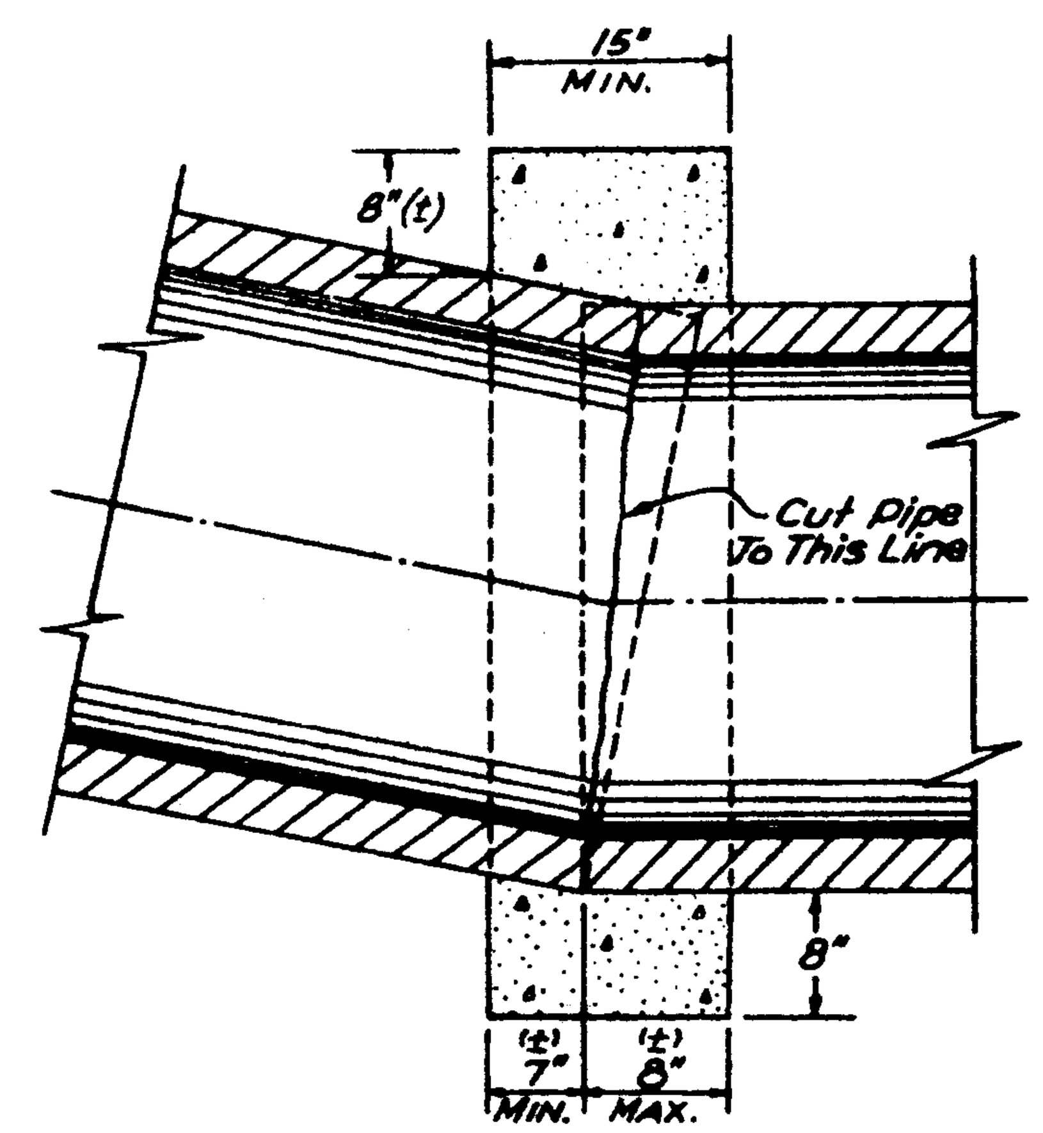
WORKING NUMBER P1-1
SHEET NUMBER 225



TYPICAL INSTALLATION FOR PIPE CULVERT WITH BROKEN FLOW LINE



ELEVATION OF CONCRETE COLLAR
(CIRCULAR PIPE SHOWN, ARCH PIPE SIMILAR)



SECTION "A"-"A"

QUANTITIES FOR CONCRETE COLLAR FOR PIPE CULVERTS

CIRCULAR PIPE		ARCH PIPE	
DIA. OF PIPE	CLASS "B" CONCRETE CU. YDS.	SIZE OF PIPE	CLASS "B" CONCRETE CU. YDS.
12"	0.240	—	—
15"	0.280	18 x 11	0.280
18"	0.320	22 x 13	0.310
24"	0.410	29 x 18	0.410
30"	0.510	36 x 22	0.450
36"	0.620	44 x 27	0.600
42"	0.730	51 x 31	0.690
48"	0.850	58 x 36	0.820
54"	0.980	65 x 40	0.920
60"	1.110	73 x 45	1.070
66"	1.248	88 x 54	1.366
72"	1.393		

GENERAL NOTES

QUANTITIES SHOWN SHALL BE THE BASIS FOR PAYMENT UNLESS AUTHORIZED MODIFICATIONS ARE MADE.

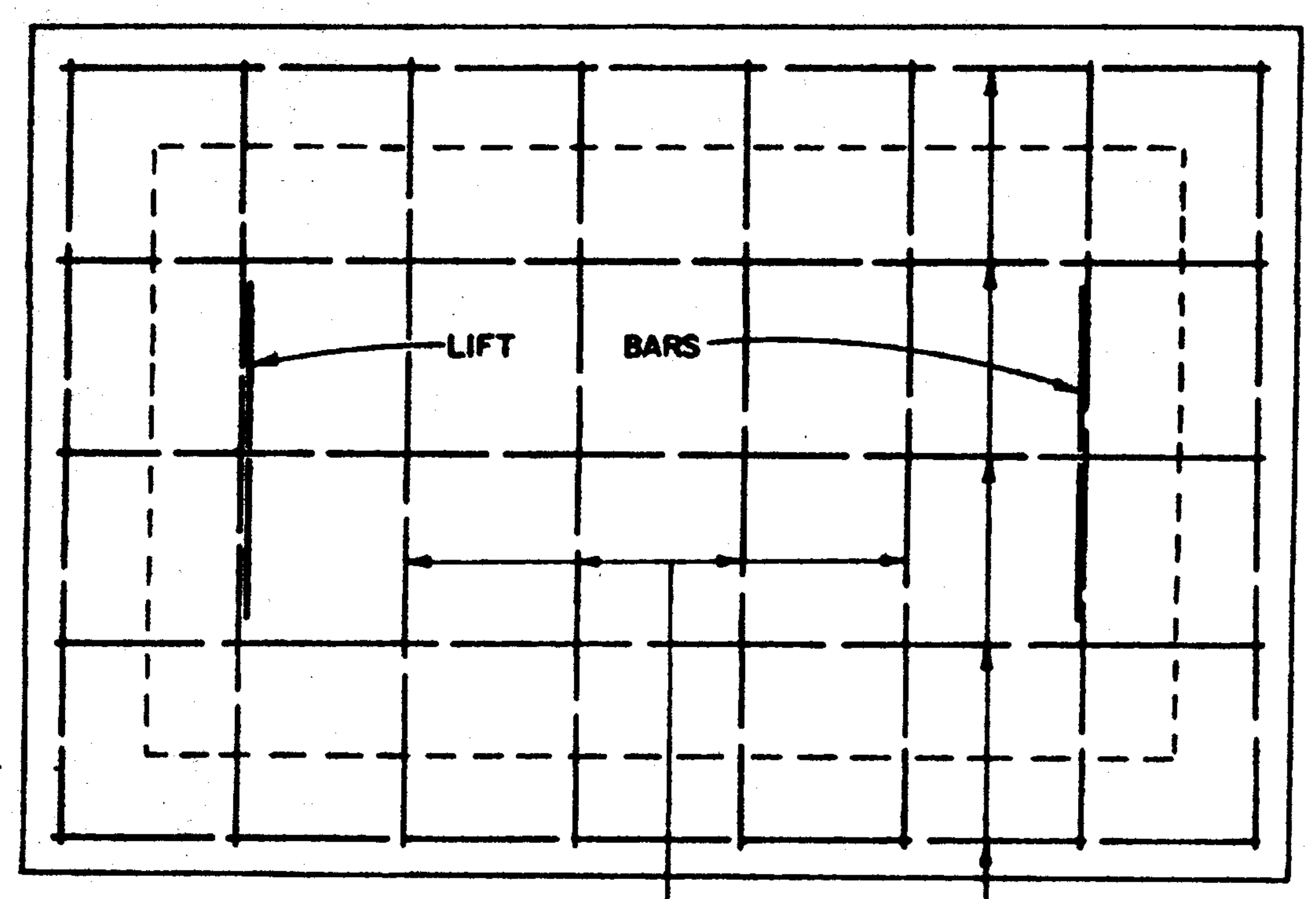
MISSISSIPPI DEPARTMENT OF TRANSPORTATION

PIPE COLLAR, CONCRETE

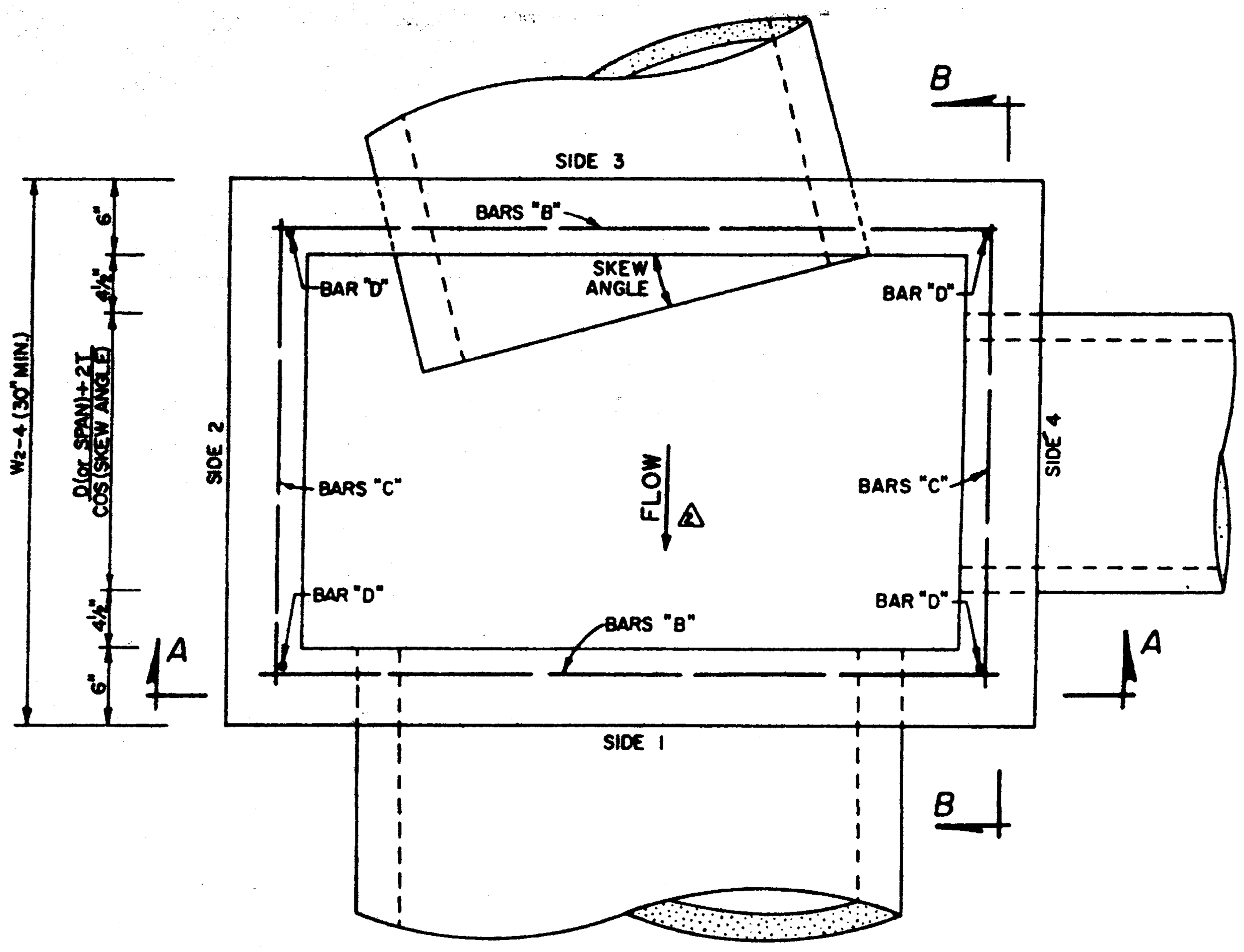
DATE	BY	REVISIONS
1-5-96	S.W.R.	2
7-1-90	J.J.S.	1

DESIGNED ____ DETAILED ____ TRACED ____
CHECKED ____ ISSUED D.B.J. DATE 11-1-78

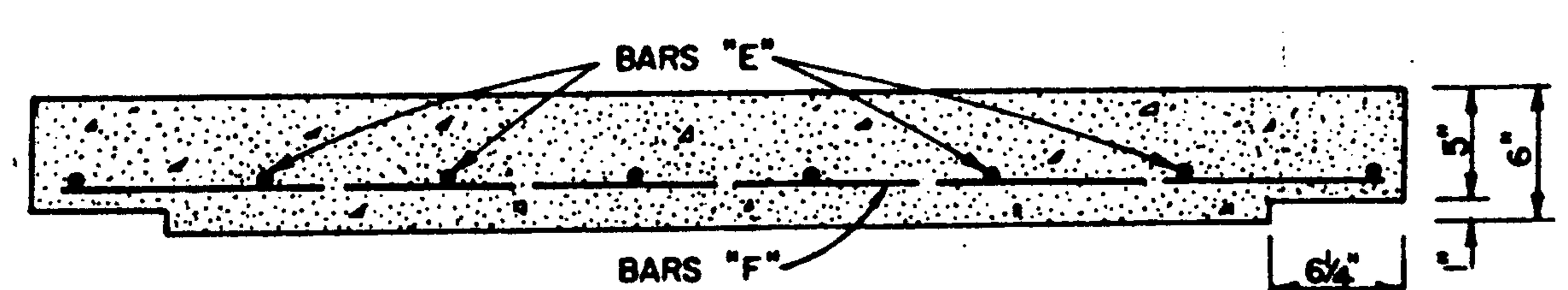
DRAWING NUMBER PC-1
SHEET NUMBER 226



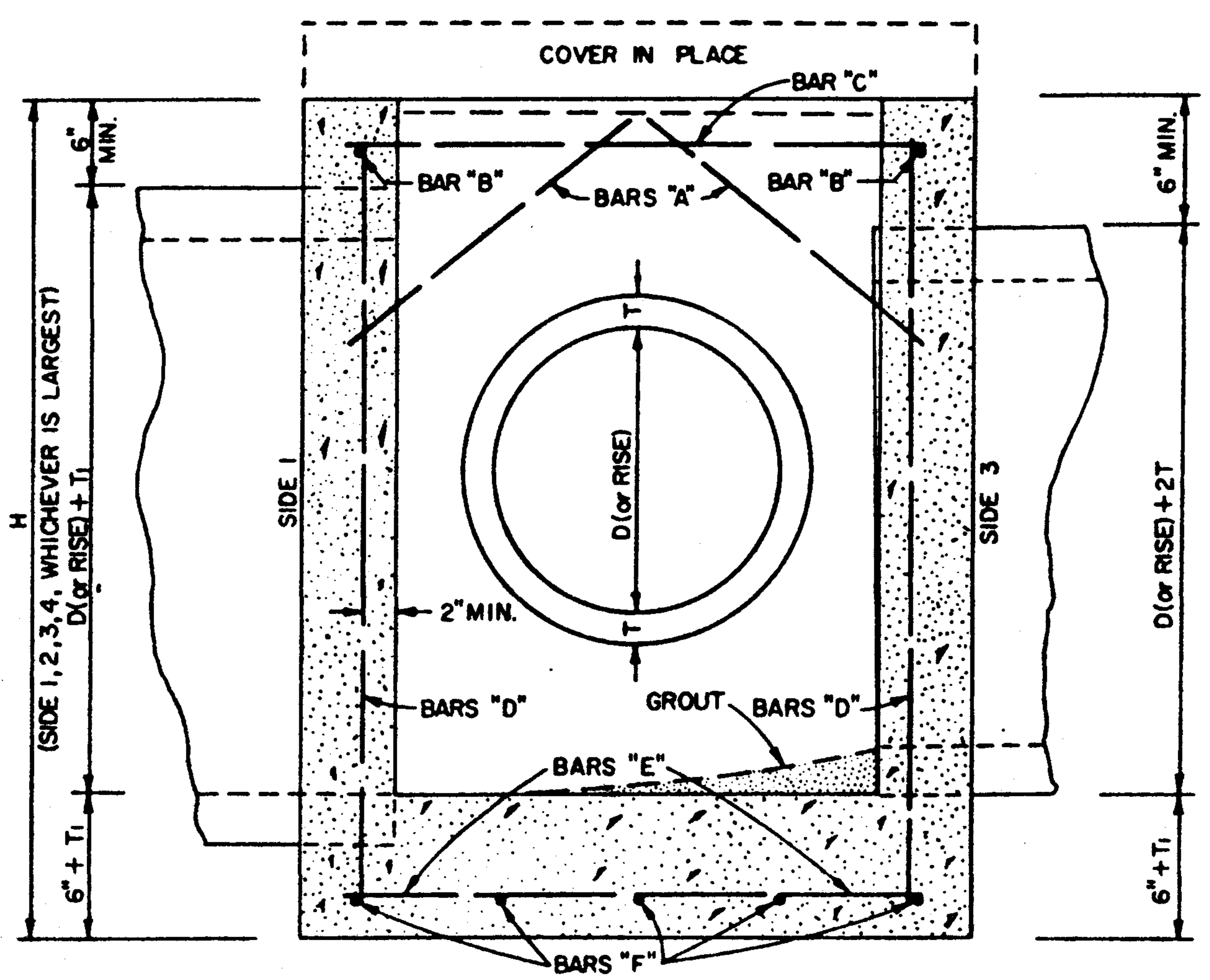
PLAN OF COVER



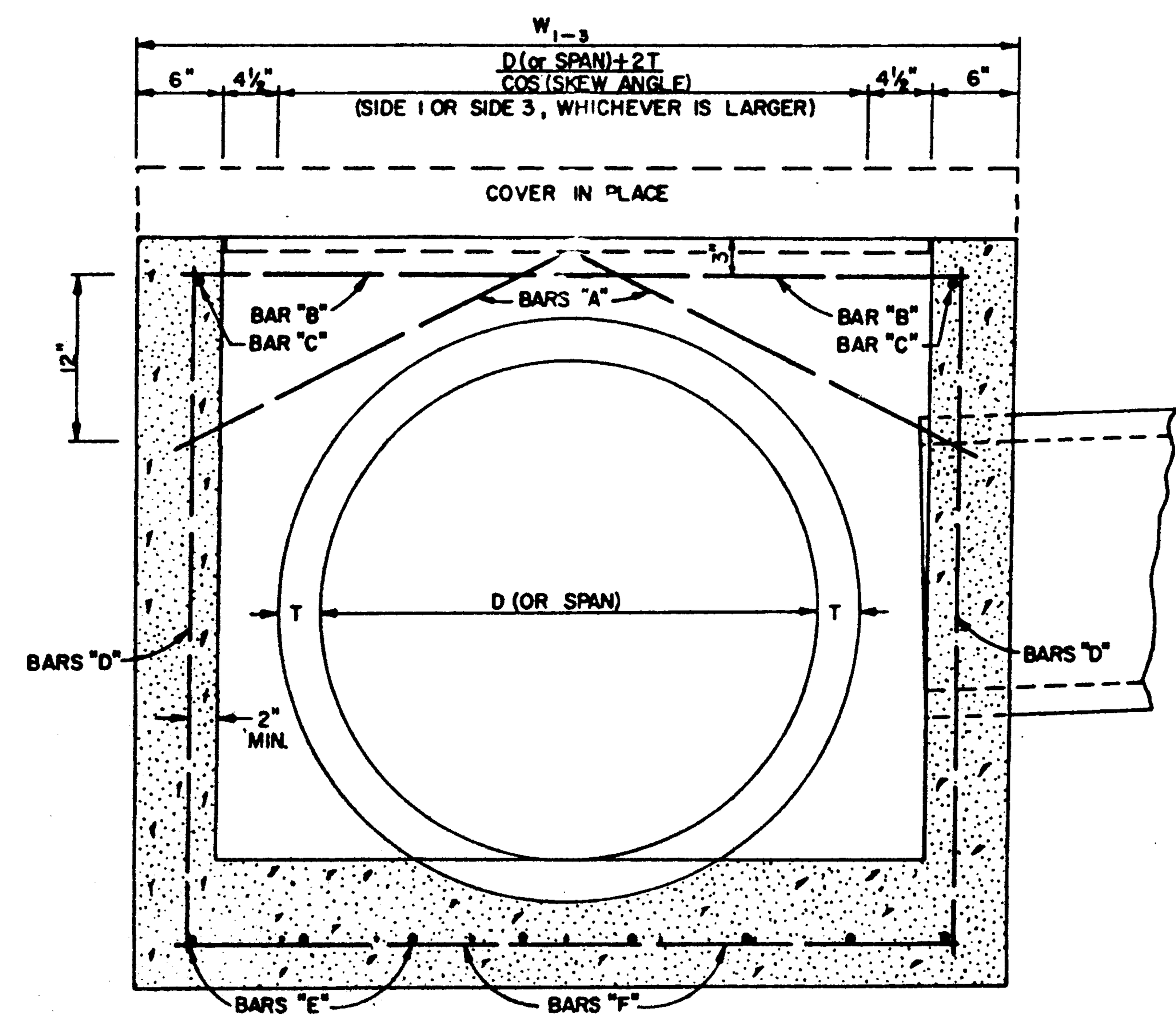
PLAN



ELEVATION OF COVER



SECTION B-B



SECTION A-A

BAR LIST		
BAR	NUMBER REQUIRED	LENGTH (INCHES)
A	2 PER PIPE OPENING	$\sqrt{196+\left(\frac{W*}{2}+2\right)^2}$
B	2	$W_{1-3}-6$
C	2	$W_{2-4}-6$
D	4	H−6
E	$2\left[\left(\frac{W_{1-3}}{9}\right)^{**}+1\right]$	$W_{2-4}-4$
F	$2\left[\left(\frac{W_{2-4}}{9}\right)^{**}+1\right]$	$W_{1-3}-4$

WHERE: D (or SPAN) = PIPE DIAMETER (or SPAN) (INCHES)
W_{1-3} = WIDTH OF SIDE 1 & SIDE 3 (INCHES)
W_{2-4} = WIDTH OF SIDE 2 & SIDE 4 (INCHES)
$W*$ = W_{1-3} OR W_{2-4} (SIDE OF ENTERING PIPE)
** ROUND TO NEAREST WHOLE NUMBER

$$\text{CL. "B" CONC. (CY)} = \frac{[5W_{1-3}W_{2-4}]+[(W_{1-3}-12.5)(W_{2-4}-12.5)]+[(T_1+6)W_{1-3}W_{2-4}]+12\,[H-(T_1+6)]\,[(W_{1-3}-12)+W_{2-4}]}{46{,}656}$$

(MINUS) DEDUCTIONS FOR PIPE OPENINGS (C.Y.)

REINFORCING STEEL QUANTITIES TO BE COMPUTED FROM BAR LIST AND SHOWN ELSEWHERE ON THE PLANS.

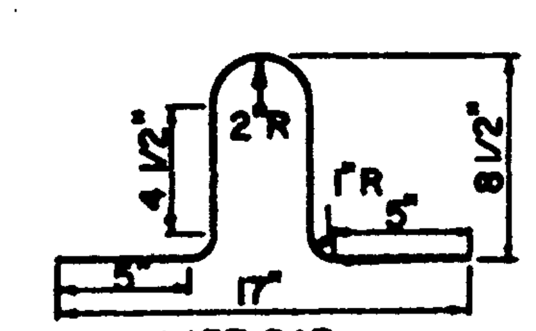
REINFORCING STEEL FOR 2 LIFT BARS = 4 LBS.

COMMON PIPE SIZE

CIRCULAR PIPE			ARCH PIPE		
PIPE SIZE	"T" THICKNESS INCHES	PIPE OPENING DEDUCTION (C.Y.)	PIPE SIZE	"T" THICKNESS INCHES	PIPE OPENING DEDUCTION (C.Y.)
18"	2 1/2	0.053	22"x13"	2½	0.053
24"	3	0.091	29"x18"	3	0.087
30"	3 1/2	0.138	36"x23"	3½	0.129
36"	4	0.196	44"x27"	4	0.185
42"	4 1/2	0.263	51"x31"	4½	0.245
48"	5	0.340	58"x36"	5	0.318
54"	5½	0.427	65"x40"	5½	0.394
60"	6	0.524	73"x45"	6	0.489
66"	6½	0.630			
72"	7	0.747			

GENERAL NOTES

1. QUANTITIES FOR JUNCTION BOXES SHOWN ON THE PLANS WILL BE THE BASIS FOR PAYMENT UNLESS AUTHORIZED MODIFICATIONS ARE MADE.
2. CONCRETE SHALL BE CLASS "B" AND REINFORCING STEEL SHALL BE DEFORMED BARS, SIZE #4.
3. SIDE 1 OF THE JUNCTION BOX WILL ALWAYS BE THE OUTFLOW SIDE.
4. IF PIPES ARE SKEWED MORE THAN 15° OR IF SKEWED PIPES PRODUCE CONFLICTS WITH ANOTHER OPENING, THE PIPE SHALL BE BROKEN BACK TO THE WALL OF THE JUNCTION BOX.



LIFT BAR
OVERALL LENGTH = 30"
2 REQ'D

DATE	BY	REVISIONS
4-8-80	AWK	GENERAL
2-83	A.W.K.	
11-6-91	J.J.S.	GEN. REV.
1-E-94	S.W.R.	

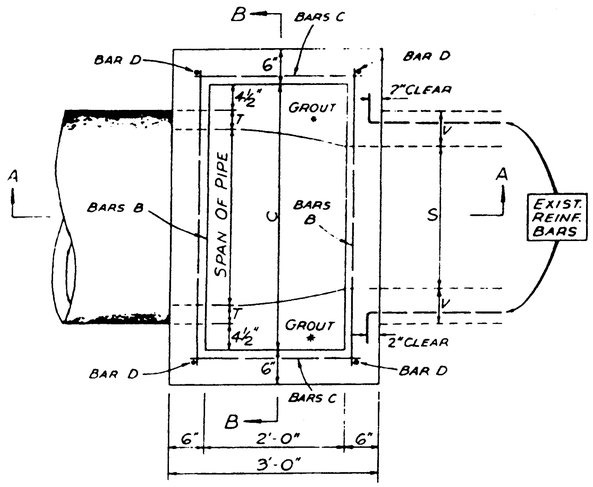
MISSISSIPPI DEPARTMENT OF TRANSPORTATION

JUNCTION BOX FOR PIPE CULVERTS

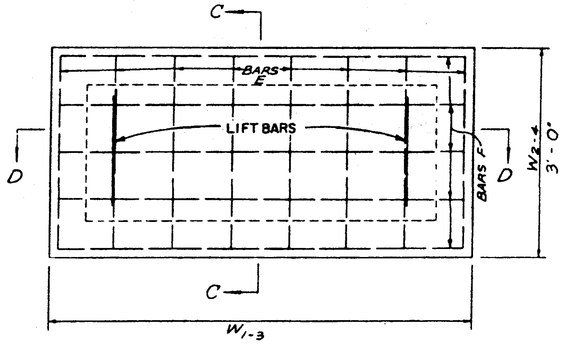
DESIGNED ______ DETAILED ______ TRACED ______
CHECKED ______ ISSUED D.B.J. DATE 11-1-79

WORKING NUMBER JB-1

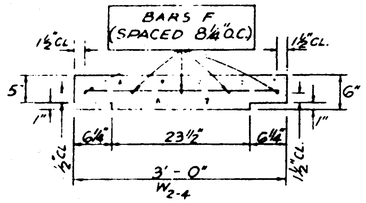
SHEET NUMBER 227



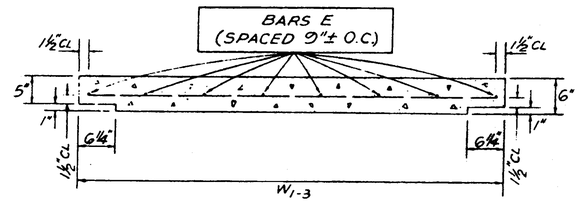
PLAN



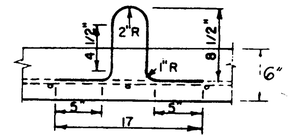
PLAN OF PRECAST COVER



SECTION 'C-C'

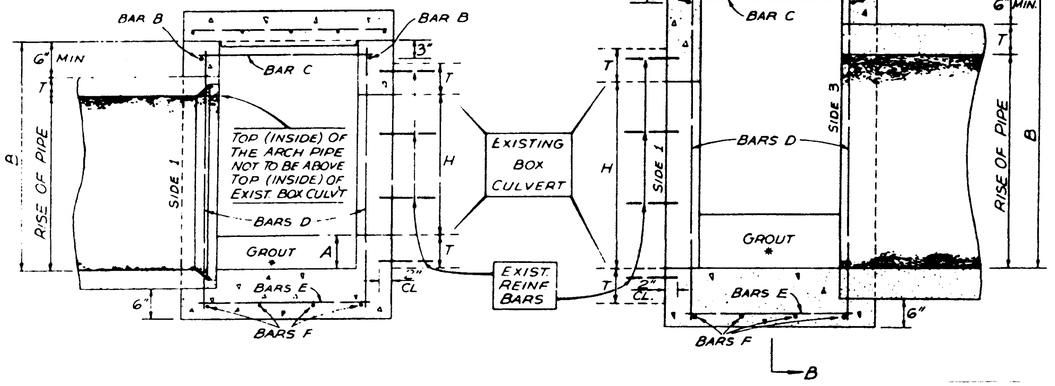


SECTION 'D-D'

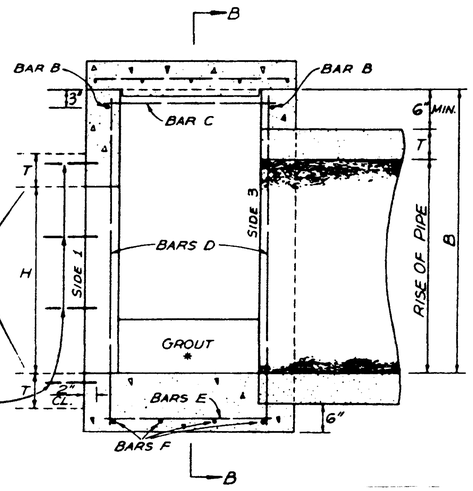


DETAIL OF LIFT BAR

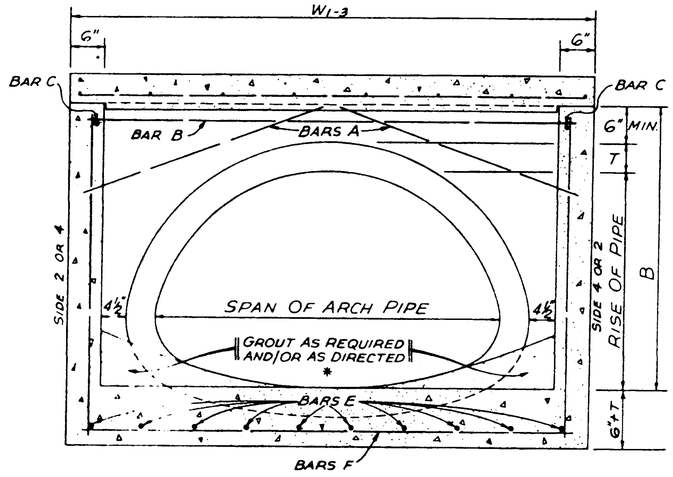
OVERALL LENGTH = 30"
2 REQ'D.



SECTIONAL ELEVATION AT 'A'-'A'
• DOWNSTREAM •

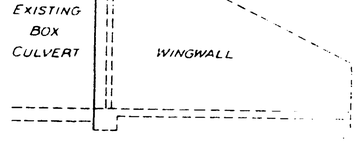


SECTIONAL ELEVATION AT 'A'-'A'
• UPSTREAM •



SECTIONAL ELEVATION AT 'B'-'B'

REMOVE HEADWALLS OF EXISTING BOX CULVERT TO A NEAT LINE IMMEDIATELY BEHIND PARAPET LEAVING EXPOSED REINFORCING BARS TO BE BENT AND LOCATED IN INLET AS INDICATED IN DETAILS ELSEWHERE ON THIS DRAWING OR AS DIRECTED.



HEADWALL REMOVAL DETAILS

DIMENSIONS OF EXISTING BOX CULVERT				DIMENSIONS OF JUNCTION BOX REQUIRED			DIMENSIONS OF PRECAST COVER		DIMENSIONS OF PIPE REQUIRED				CLASS "B" STRUCTURAL CONCRETE CU. YDS.	REINFORCEMENT POUNDS	BAR LIST					
S	H	T	V	A	B	C	W_{1-3}	W_{2-4}	S	R	L	T			A	B	C	D	E	F
2'	2'	6"	6"	0"	32½"	52"	5'-4"	3'	36¼"	22½"	6'	3½"	1.532	78	2@3'-1"	2@4'-10"	2@2'-6"	4@3'-3"	16@2'-6"	9@4'-10"
3'	2'	6½"	6"	3"	37"	61"	6'-1"	3'	44"	27"	8'	4"	1.764	89	2@3'-5"	2@5'-7"	2@2'-6"	4@3'-8"	18@2'-6"	9@5'-7"
4'	2'	7"	6"	7"	41½"	69"	6'-9"	3'	51⅛"	31⅜"	8'	4½"	1.996	99	2@3'-9"	2@6'-3"	2@2'-6"	4@4'-1"	20@2'-6"	9@6'-3"
5'	2'	7½"	6"	12"	47"	77"	7'-5"	3'	58½"	36"	8'	5"	2.258	105	2@4'-1"	2@6'-11"	2@2'-6"	4@4'-7"	20@2'-6"	9@6'-11"
3'	3'	6½"	6"	0"	45½"	69"	6'-9"	3'	51⅛"	31⅜"	8'	4½"	1.995	99	2@3'-9"	2@6'-3"	2@2'-6"	4@4'-5"	20@2'-6"	9@6'-3"
4'	3'	7"	6"	0"	47"	77"	7'-5"	3'	58½"	36"	8'	5"	2.238	105	2@4'-1"	2@6'-11"	2@2'-6"	4@4'-7"	20@2'-6"	9@6'-11"
5'	3'	7½"	6½"	4"	51½"	85"	8'-1"	3'	65"	40"	8'	5½"	2.469	115	2@4'-4"	2@7'-7"	2@2'-6"	4@5'-0"	22@2'-6"	9@7'-7"
6'	3'	8"	6½"	9"	57"	94"	8'-10"	3'	73½"	45"	8'	6"	2.767	126	2@4'-9"	2@8'-4"	2@2'-6"	4@5'-6"	24@2'-6"	9@8'-4"

GENERAL NOTES

THE STANDARD SPECIFICATIONS ADOPTED BY THE MISSISSIPPI STATE HIGHWAY DEPARTMENT SHALL APPLY TO ITEMS UNLESS OTHERWISE SPECIFIED

ESTIMATE 4 POUNDS OF REINFORCING STEEL FOR 2 LIFT BARS

THE QUANTITIES SHOWN WILL BE USED AS THE BASIS FOR PAYMENT UNLESS THIS DRAWING IS MODIFIED.

SIDE 1 IS ALWAYS OUT-FLOW.

REINFORCING STEEL SHALL BE SIZE NO. 4 DEFORMED BARS.

BY	REVISIONS	DATE
AWK	GENERAL	10-80

MISSISSIPPI STATE HIGHWAY DEPARTMENT

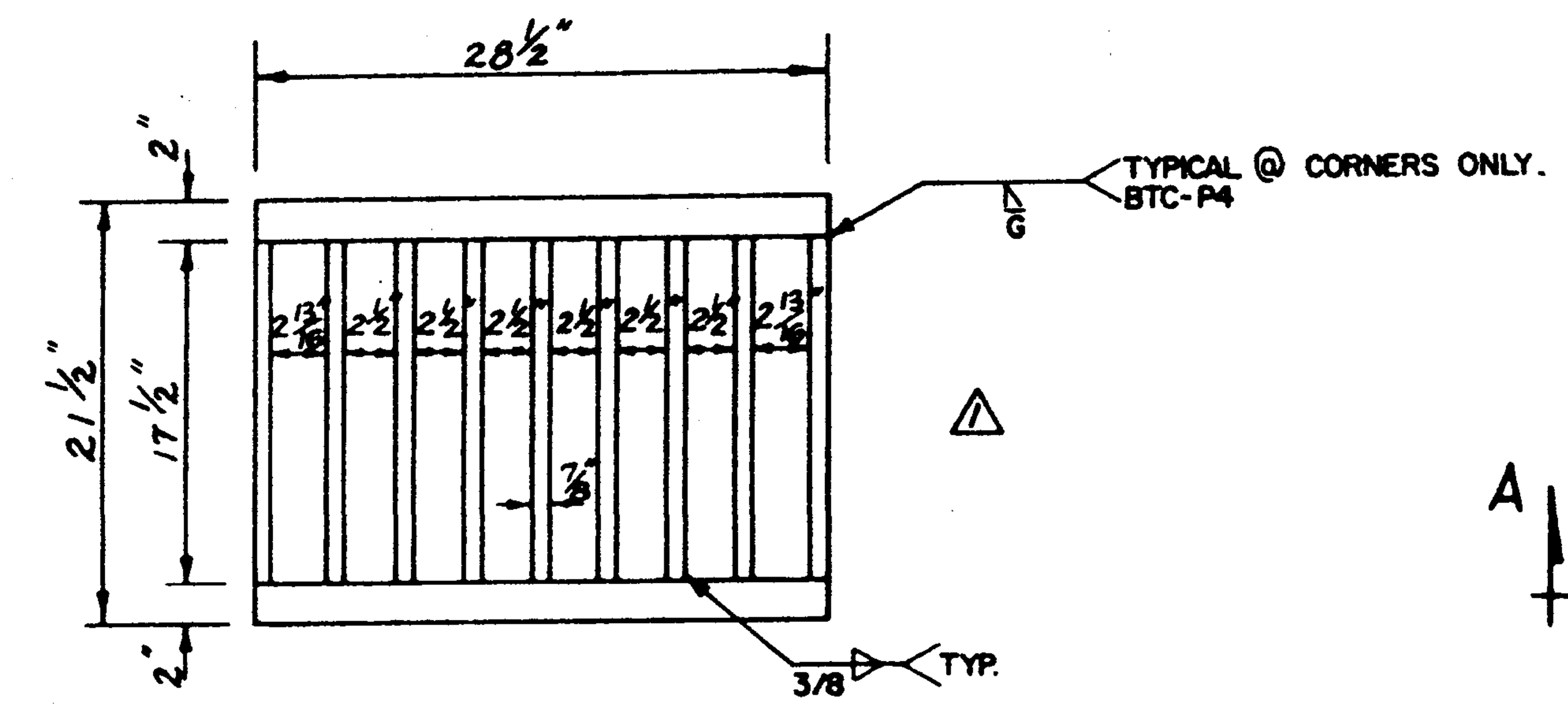
JUNCTION BOX FOR BOX CULVERT TO CONCRETE ARCH PIPE

DESIGNED _____ DETAILED _____ TRACED _____

CHECKED _____ ISSUED D.B.J. DATE 11-1-79

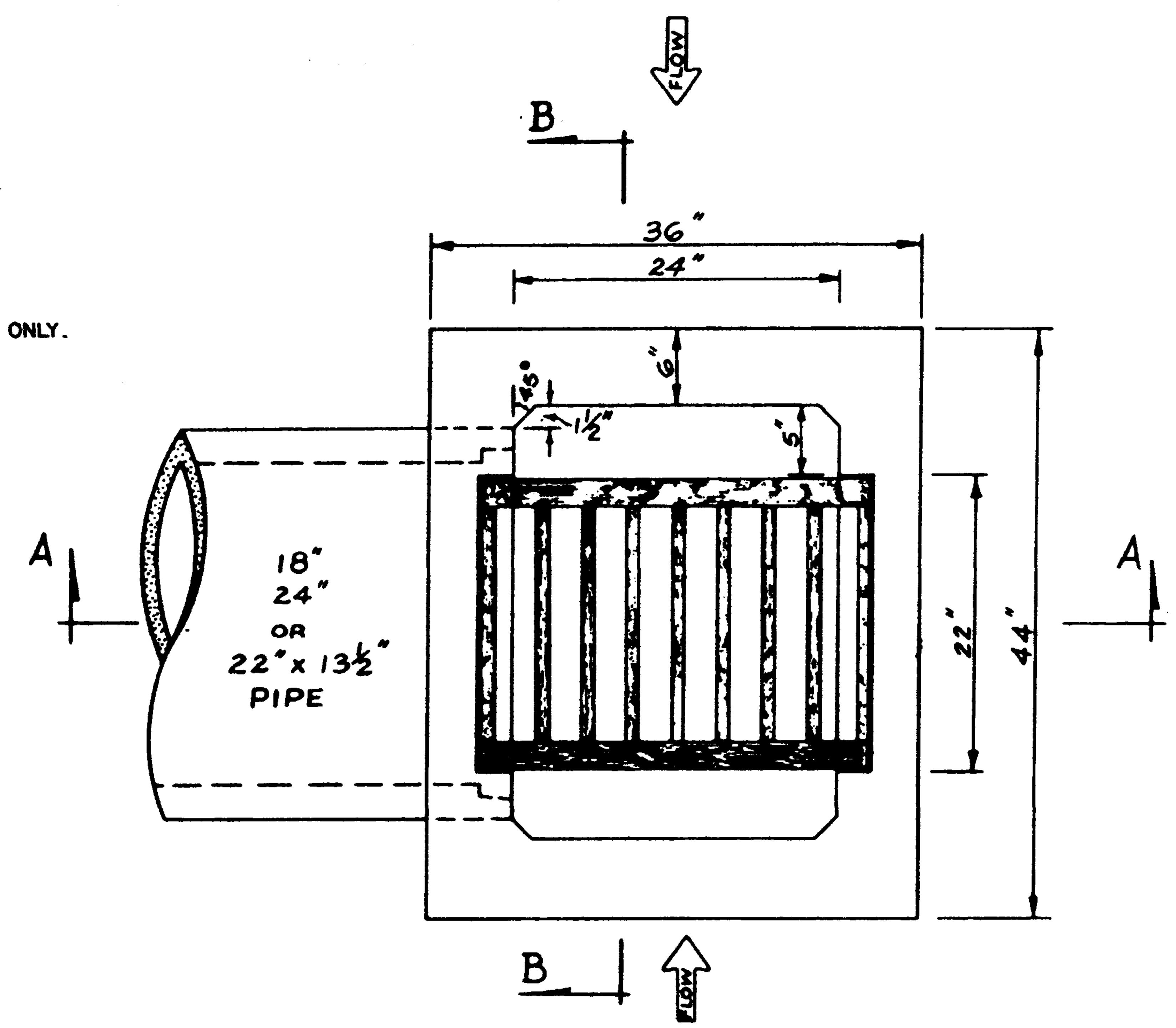
WORKING NUMBER JB-1A

SHEET NUMBER 227.1



PLAN OF GRATE

NO. 1



PLAN

PIPE SIZE	MIN. DEPTH TO INLET F.L. (FEET)	QUANTITIES				THICKNESS OF PIPE	DEDUCT FOR ADDITIONAL PIPE OPENING
		MIN. DEPTH INLET		EACH ADDED FOOT			
		CONC.	REINF.	CONC.	REINF.		
18"	2.500	0.670	48	0.211	10	2½"	0.053
24"	3.042	0.747	54	0.211	10	3	0.091
22"x 13½"	2.125	0.591	46	0.211	10	2½"	0.053

NOTE: ONE (1) PIPE OPENING DEDUCTED FROM INLET.

BAR LIST FOR MINIMUM DEPTH INLET				
PIPE SIZE	"A"	"B"	"C"	"D"
18"	2@ 1'-6"	6@ 3'-2"	10@ 2'-5"	10@ 2'-6"
24"	2@ 1'-6"	7@ 3'-2"	10@ 2'-5"	10@ 3'-1"
22"x 13½"	2@ 1'-6"	6@ 3'-2"	10@ 2'-5"	10@ 2'-4"

GENERAL NOTES

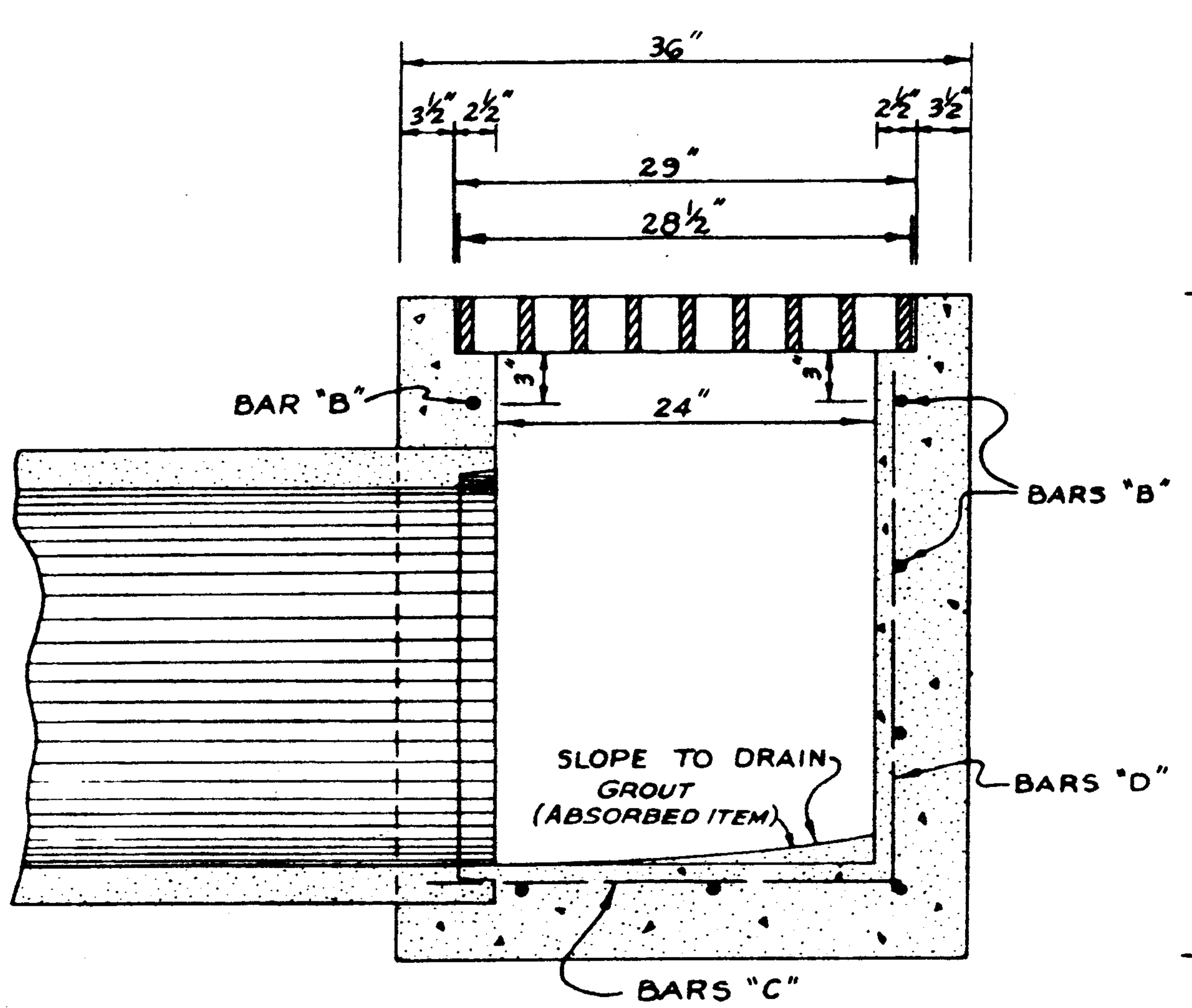
QUANTITIES SHOWN WILL BE THE BASIS OF PAYMENT UNLESS AUTHORIZED MODIFICATIONS ARE MADE.

INLET:

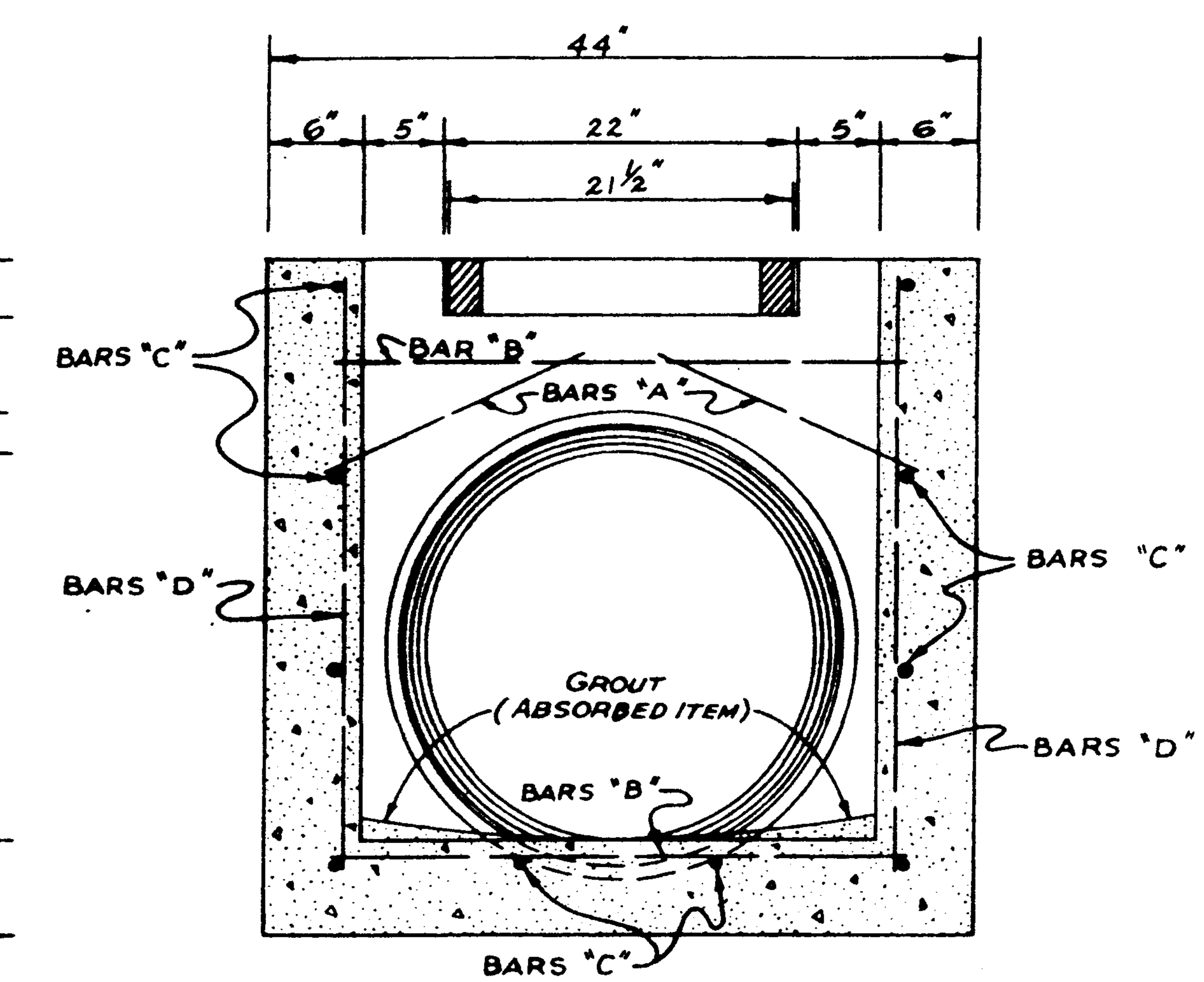
1. THE INLET ON THIS DRAWING IS SHOWN AS THE ENTRANCE TO A PIPE CULVERT BUT MAY ALSO BE USED ON A CROSSDRAIN.
2. THE CONCRETE SHALL BE CLASS "B".
3. THE REINFORCEMENT SHALL BE NO. 4 BARS SPACED A MAXIMUM OF 12" O.C. BOTH WAYS WITH A MINIMUM CLEARANCE OF 1" TO THE INSIDE OF THE INLET WALLS.

GRATE:

THE CONTRACTOR HAS THE OPTION TO PROVIDE GRATE NO. 1 OR GRATE NO. 2 AS SHOWN ON SHEET NO. 233.



SECTION A-A



SECTION B-B

BY	REVISIONS	DATE
JJS		7-1-90
AWK	GENERAL NOTES	12-9-86
A.H.K.		4-22-83
JSS		10-25-81
AWK	REINF. QUANTITIES	4-11-80

MISSISSIPPI STATE HIGHWAY DEPARTMENT

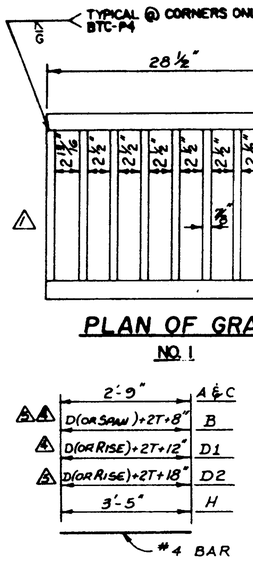
TYPE I MEDIAN INLET
(24" PIPE AND UNDER)

DESIGNED ____ DETAILED ____ TRACED ____

CHECKED ____ ISSUED D.B.J. DATE 11-1-79

WORKING NUMBER MI-1

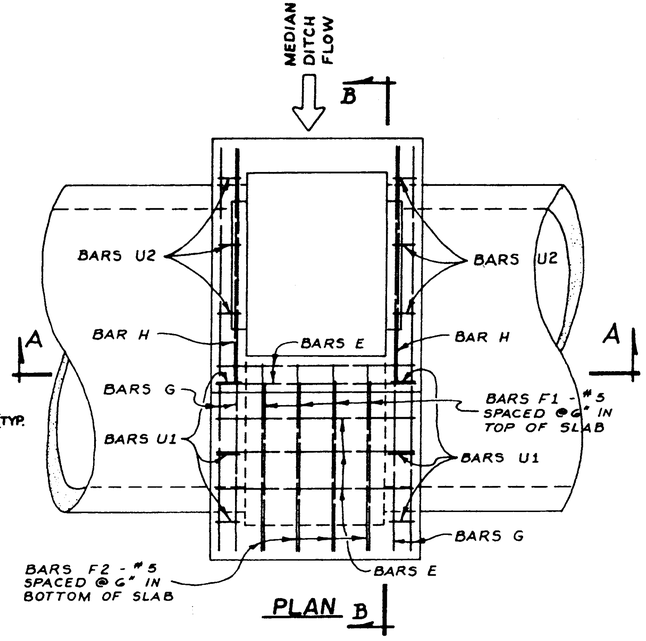
SHEET NUMBER 229



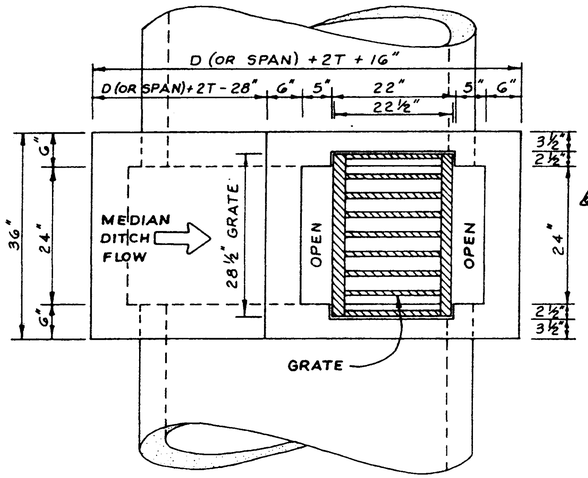
#5 BARS FOR ALL CIRCULAR PIPE. USE #5 BARS FOR ARCHES UP TO 8 INCLUDING SPAN 44".
FOR ARCHES OF SPAN LARGER THAN 44" USE #6 BARS.

BAR BENDING DETAILS

PLAN OF GRATE NO. 1



PLAN B



PLAN

SHOWING CONCRETE DIMENSIONS

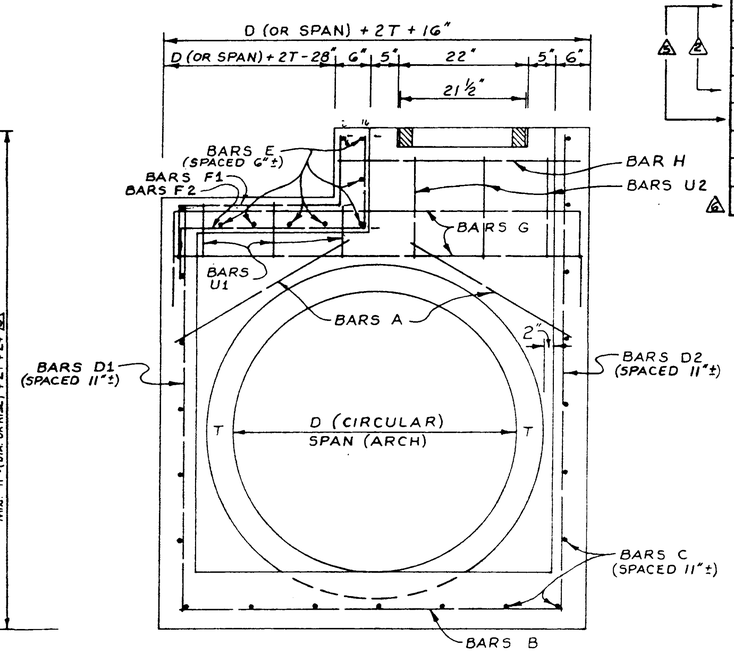
BAR LIST												
PIPE SIZES	BARS/SIZES											
	A #4	B #4	C #4	D1 #4	D2 #4	E #5	F1 #5	F2 #5	G * #5	H #4	U1 #4	U2 #4
	LENGTHS											
	2'-9"	L_B	2'-9"	L_{D1}	L_{D2}	2'-9"	L_{F1}	L_{F2}	L_G	3'-5"	1'-10"	L_{U2}
	NUMBER OF BARS											
30"	4	4	15	4	4	4	4	4	8	2	2	6
36"	4	4	17	4	4	6	4	4	8	2	2	6
42"	4	4	18	4	4	7	4	4	8	2	4	6
48"	4	4	20	4	4	8	4	4	8	2	4	6
29"×18"	4	4	12	4	4	4	4	4	8	2	2	6
36"×23"	4	4	13	4	4	6	4	4	8	2	2	6
44"×27"	4	4	16	4	4	7	4	4	8	2	4	6
51"×31"	4	4	17	4	4	8	4	4	8	2	6	6

* #6 BARS FOR 51"×31" PIPE SIZE

(1) BAR SPACINGS FOR ADDITIONAL INLET HEIGHTS:
BARS E @ 6"±
BARS H @ 11"±
BARS C @ 11"±

INLET QUANTITIES							
PIPE SIZE	MIN DEPTH TO F.L. (FT.)	MIN. DEPTH INLET		EACH ADDED FT.		PIPE TH. (IN.)	AMT. FOR EACH PIPE OPENING (C.Y.)
		CL. "B" CONC. (C.Y.)	REINF. STEEL (LBS)	CL. "B" CONC. (C.Y.)	REINF. STEEL (LBS)		
30"	4.29	1.370	151	0.210	25	3½	0.138
36"	4.84	1.673	175	0.210	25	4	0.196
42"	5.38	2.014	195	0.210	25	4½	0.263
48"	5.92	2.383	216	0.210	25	5	0.340
29"×18" (4)	3.25	1.133	139	0.210	25	3	0.087
36"×23"	3.71	1.392	162	0.210	25	3½	0.129
44"×27"	4.08	1.713	188	0.210	25	4	0.185
51"×31"	4.46	2.052	210	0.210	25	4½	0.245

NOTE: TWO PIPE OPENINGS HAVE BEEN DEDUCTED.



SECTION A-A

SECTION B-B

GENERAL NOTES

QUANTITIES SHOWN WILL BE THE BASIS OF PAYMENT UNLESS AUTHORIZED MODIFICATIONS ARE MADE.

INLET:

1. THE CONCRETE SHALL BE CLASS "B".
2. THE REINFORCEMENT SHALL BE SPACED A MAXIMUM OF 12" O.C. BOTH WAYS WITH A MINIMUM CLEARENCE OF 1", TO THE INSIDE OF THE INLET WALLS. SEE CHART FOR BAR SIZES.

GRATE:

THE CONTRACTOR HAS THE OPTION TO PROVIDE GRATE NO. 1 OR GRATE NO. 2 AS SHOWN ON SHEET NO. 233.

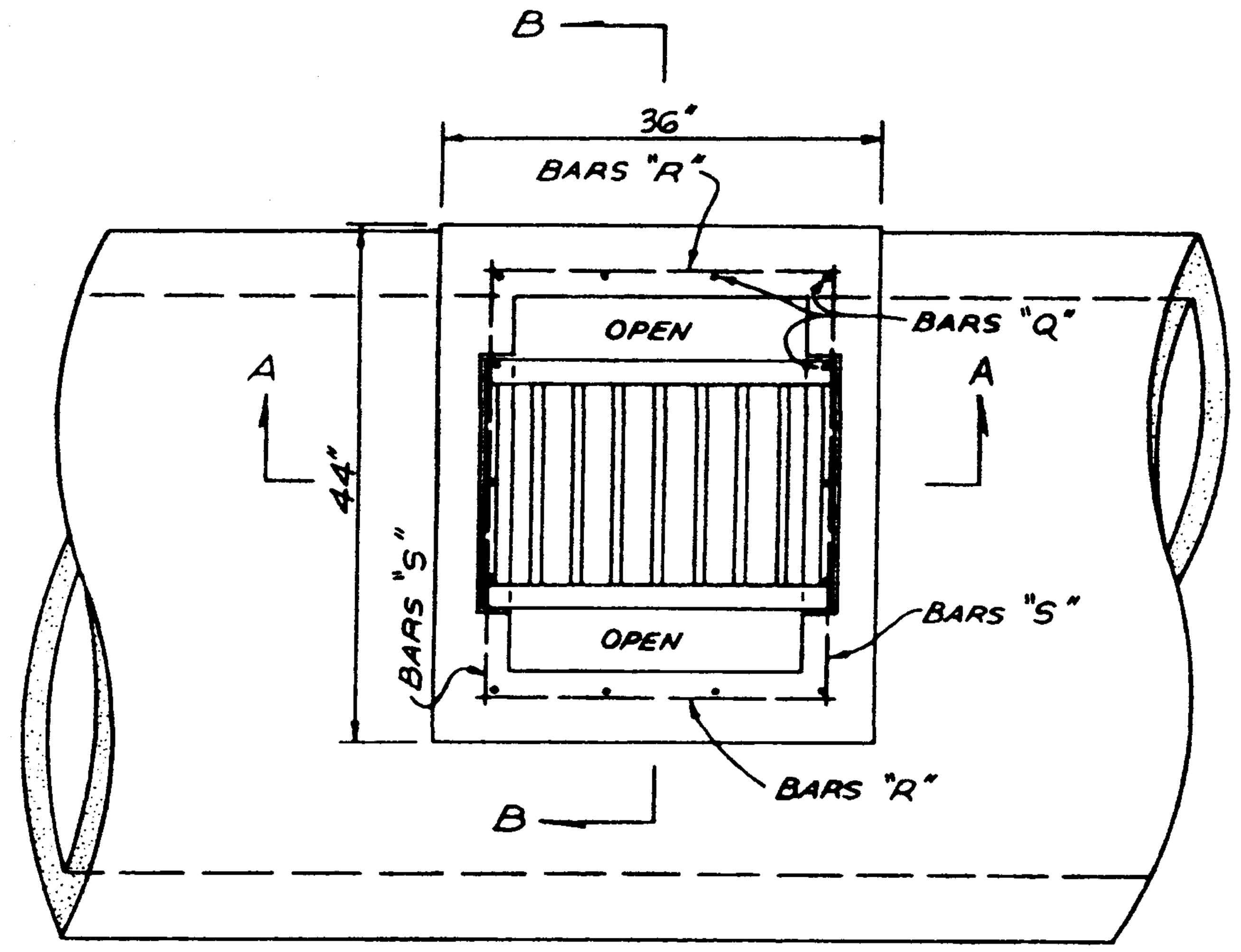
DATE	GENERAL REVISIONS	BY
1/15/96	GEN. REV.	S.W.E.
11-8-91		J.J.S.
7-1-90		A.W.K.
12-3-86		A.W.K.
9-22-83		J.S.
8-25-81		A.W.K.
4-11-80		

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

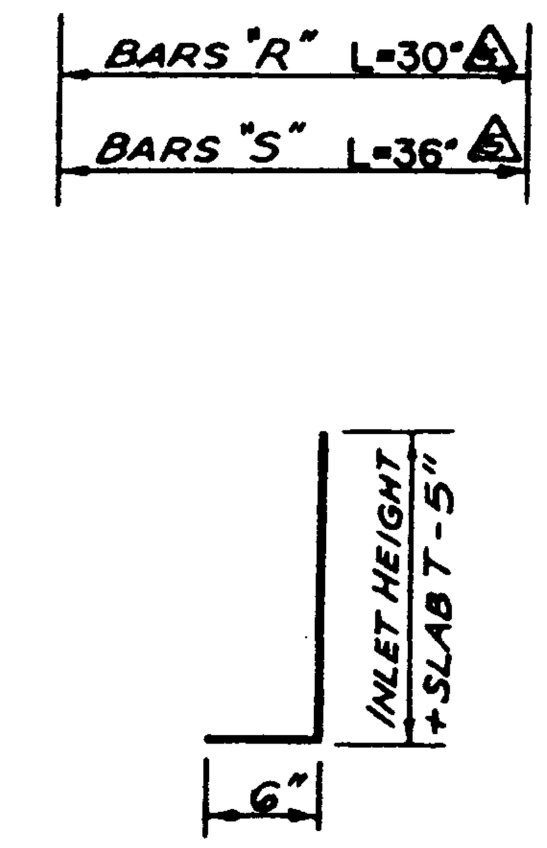
TYPE I MEDIAN INLET
(29" - 51" PIPE)

WORKING NUMBER	MI-1A
SHEET NUMBER	229.1

DESIGNED _____ DETAILED _____ TRACED _____
CHECKED _____ ISSUED D.B.J. DATE 11-1-79



PLAN

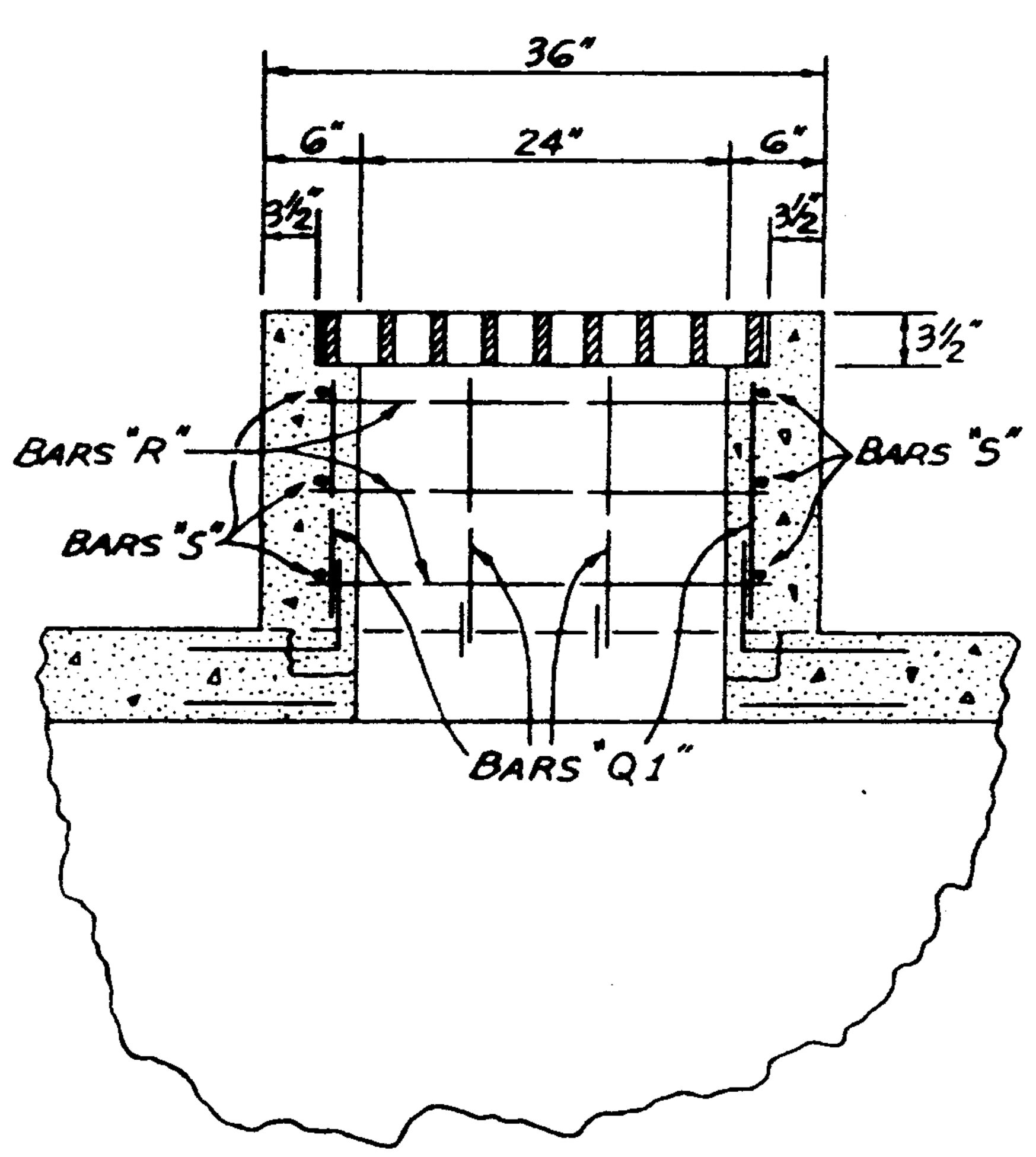


BAR "Q"
14 REQ'D.

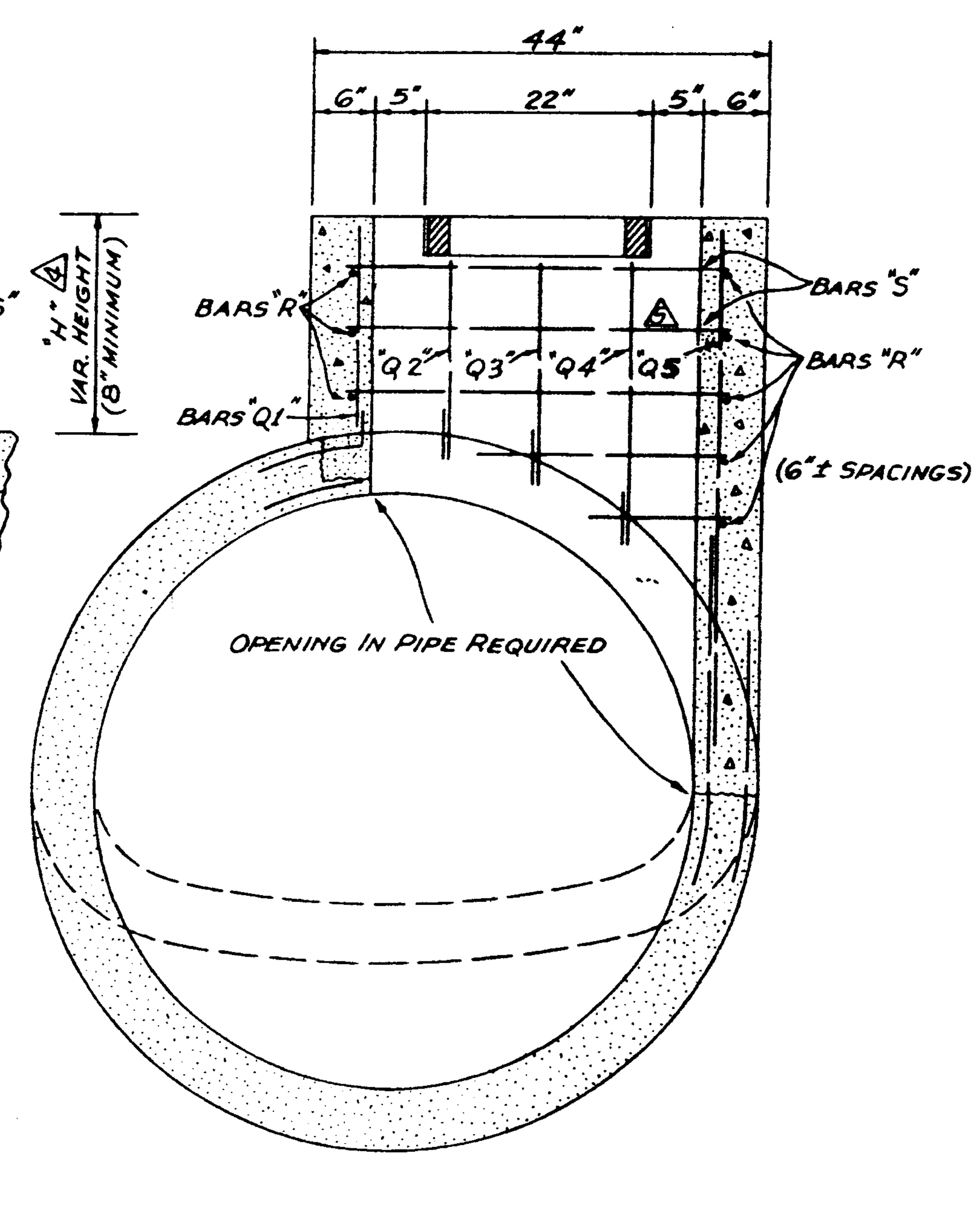
	* MIN. HEIGHT TYPE I INLET QUANTITIES									
PIPE SIZE	CL. "B" CONC. (C.Y.)	REINF. STEEL (LBS.)	BAR LIST							
			Q1	Q2	Q3	Q4	Q5	R	S
54"	0.317	45	4@1'-1"	2@1'-1"	2@1'-3"	2@1'-7"	4@3'-9"	9@2'-6"	6@3'-0"
60"	0.337	48	4@1'-1"	2@1'-1"	2@1'-3"	2@1'-8"	4@4'-1"	10@2'-6"	6@3'-0"
66"	0.360	49	4@1'-1"	2@1'-2"	2@1'-4"	2@1'-10"	4@4'-4"	10@2'-6"	6@3'-0"
72"	0.384	52	4@1'-1"	2@1'-2"	2@1'-5"	2@1'-11"	4@4'-8"	11@2'-6"	6@3'-0"
58" x 36"	0.292	44	4@1'-1"	2@1'-1"	2@1'-3"	2@1'-7"	4@3'-4"	9@2'-6"	6@3'-0"
65" x 40"	0.313	45	4@1'-1"	2@1'-2"	2@1'-4"	2@1'-9"	4@3'-7"	9@2'-6"	6@3'-0"
73" x 45"	0.335	48	4@1'-1"	2@1'-2"	2@1'-5"	2'@1'-11"	4@3'-10"	10@2'-6"	6@3'-0"
88" x 54"	0.394	52	4@1'-2"	2@1'-4"	2@1-8"	2'@2'-2"	4'@4'-5"	11@2'-6"	6@3'-0"
									①
EACH ADD. FT. HEIGHT	0.210	24							

* 8" MINIMUM HEIGHT INLET

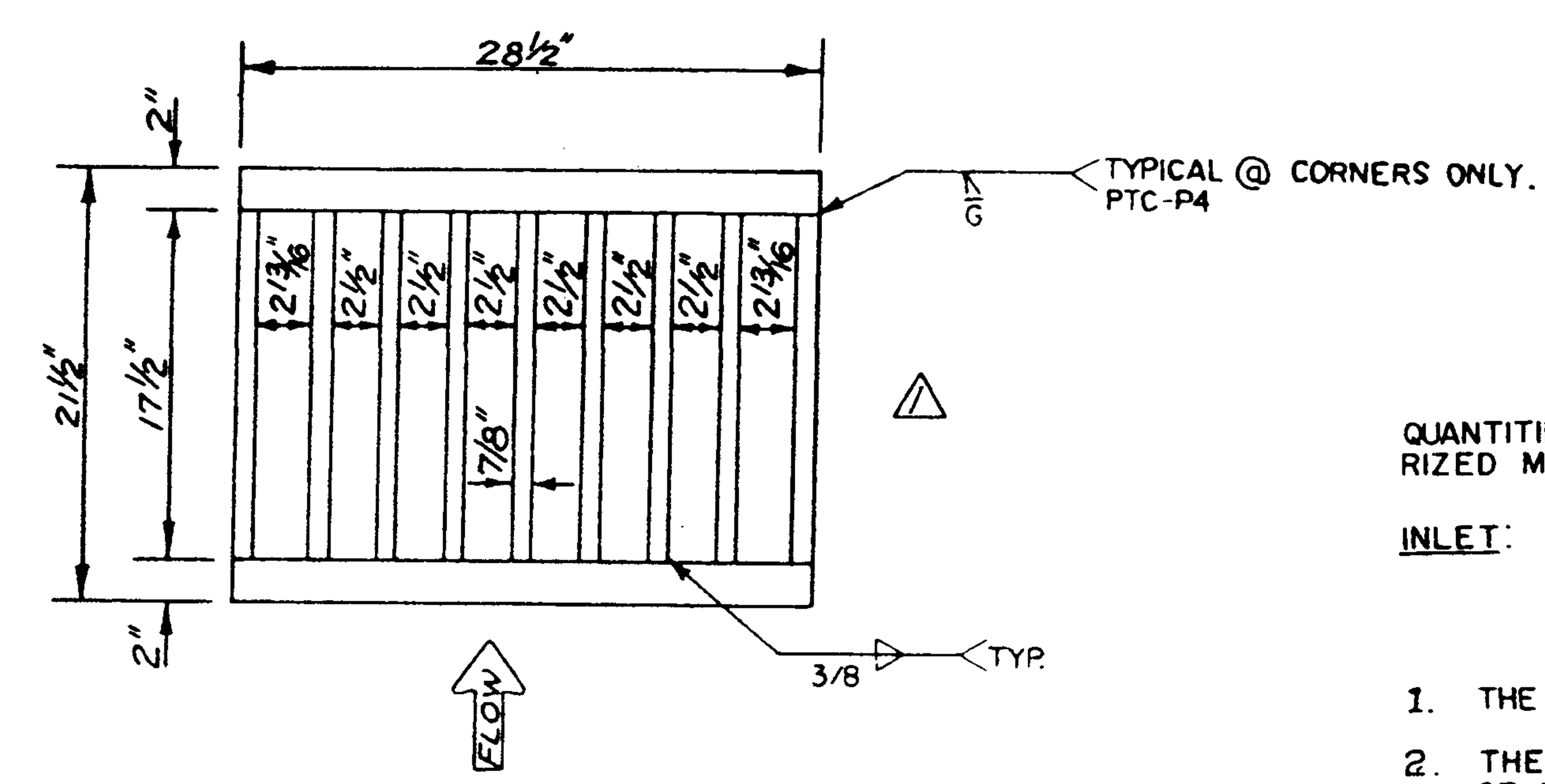
① 2 BARS MAY BE FIELD CUT TO PROVIDE VARIABLE LENGTH "S" BARS AS SHOWN.



SECTION A-A



SECTION B-B



PLAN OF GRATE

NO. 1

GENERAL NOTES

QUANTITIES SHOWN WILL BE THE BASIS OF PAYMENT UNLESS AUTHORIZED MODIFICATIONS ARE MADE.

INLET:

1. THE CONCRETE SHALL BE CLASS "B".
2. THE REINFORCEMENT SHALL BE NO. 4 BARS SPACED A MAXIMUM OF 12" O.C. BOTH WAYS. WITH A MINIMUM CLEARANCE OF "1" TO THE INSIDE OF THE INLET WALLS.

GRATE:

THE CONTRACTOR HAS THE OPTION TO PROVIDE GRATE NO. 1 OR GRATE NO. 2 AS SHOWN ON SHEET NO. 233.

DATE	BY	REVISIONS
1-5-94	S.W.R.	
11-8-91	J.J.S.	
8-3-82	AWK	
8-24-81	JSB	
4-11-80	AWK	MINIMUM HEIGHT

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

TYPE I MEDIAN INLET (OVER 51" PIPE)

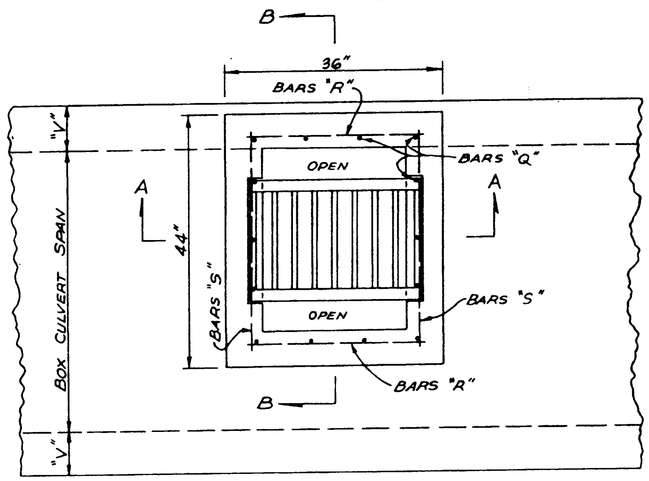
DESIGNED ______ DETAILED ______ TRACED ______

CHECKED ______ ISSUED D.B.J. DATE 11-1-79

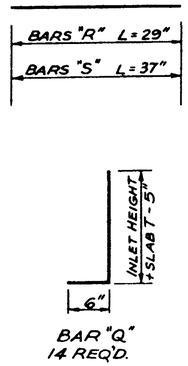
WORKING NUMBER MI-1B

SHEET NUMBER 229.2

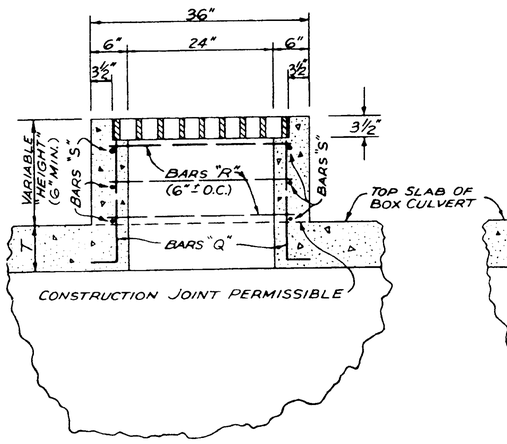
TYPE I



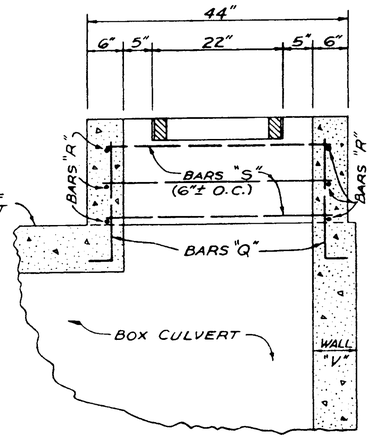
PLAN



BAR "Q"
14 REQ'D.

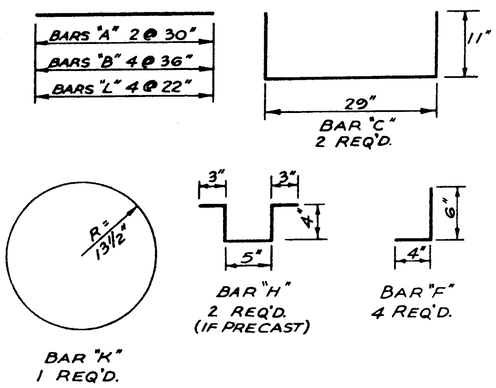


SECTION A-A

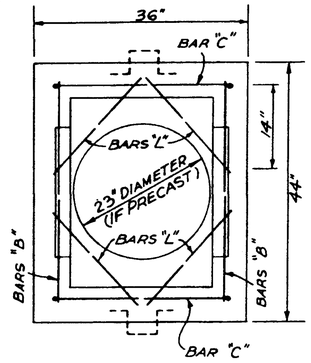


SECTION B-B

TYPE II



BAR DETAILS

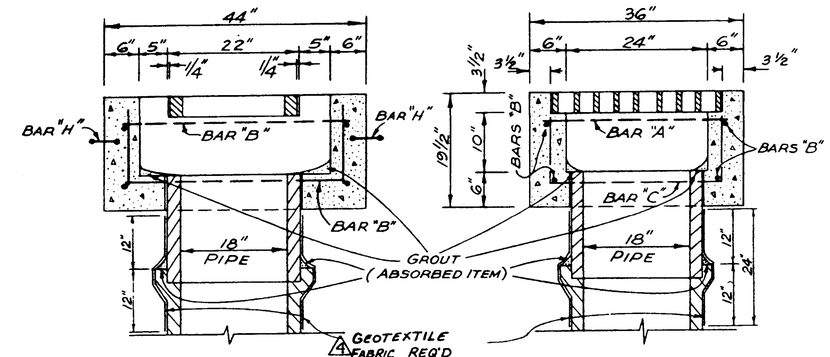


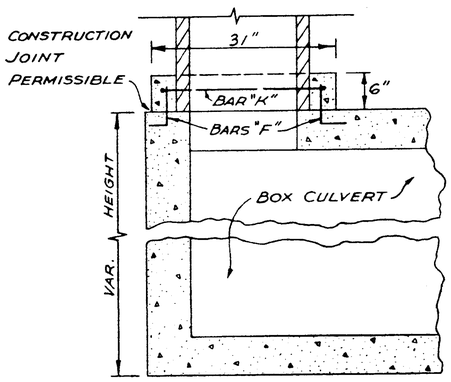
PLAN OF INLET

INLET QUANTITIES				
INLET TYPE	CLASS "B" CONCRETE (C.Y.)	*REINF. STEEL (LBS.)	EACH ADDED FOOT	
			CLASS "B" CONCRETE (C.Y.)	REINF. STEEL (LBS.)
I	*0.097	18	0.210	24
II	0.448	30		

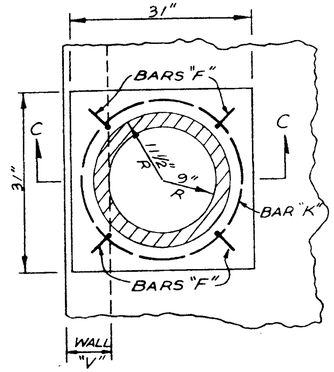
* 6" MINIMUM HEIGHT INLET WITH AN ASSUMED BOX CULVERT "T" OF 6".

⚠ NOTE-ALL REINFORCE BARS ARE NO. 4 ϕ DEF.

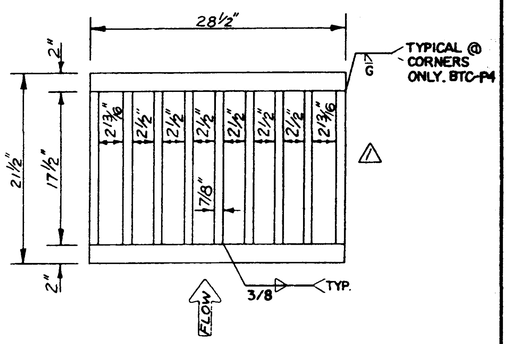




SECTION C-C



PLAN OF CONCRETE COLLAR TO ACCOMMODATE STACK PIPE



PLAN OF GRATE NO.1

⚠ GENERAL NOTES

1. QUANTITIES SHOWN WILL BE THE BASIS OF PAYMENT UNLESS AUTHORIZED MODIFICATIONS ARE MADE.
2. ANY STACK PIPE WHICH MUST BE CUT OFF WILL BE PAID FOR AS LINEAR FEET OF PIPE AS THOUGH INSTALLED.
4. 3. EACH STACKED PIPE JOINT SHALL BE WRAPPED WITH GEOTEXTILE FABRIC (AASHTO DESIGNATION: M288. E.O.S. = 100+) (24" WIDE). THE FABRIC SHALL OVERLAP A MINIMUM OF 12" AT THE WRAP AND SHALL BE SECURED WITH STRING OR WIRE FOR BACKFILLING. THE COST FOR THE MATERIALS AND LABOR SHALL BE ABSORBED.
4. GRATE: THE CONTRACTOR HAS THE OPTION TO PROVIDE GRATE NO.1 OR GRATE NO.2 AS SHOWN ON SHEET NO. 233.

DATE	REVISIONS	BY
1-5-24	QUANTITY ⚠	S.W.R
7-1-90	⚠	JJS
12-3-86		AWK
8-25-82		JJS
4-11-80		AWK

MISSISSIPPI DEPARTMENT OF TRANSPORTATION ⚠

MEDIAN INLETS FOR BOX CULVERTS (TYPE I AND II)

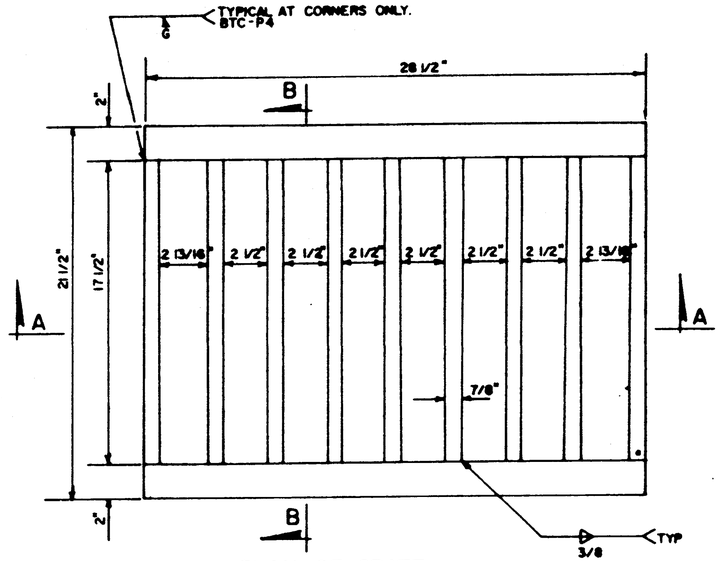
WORKING NUMBER M1-3

SHEET NUMBER 231

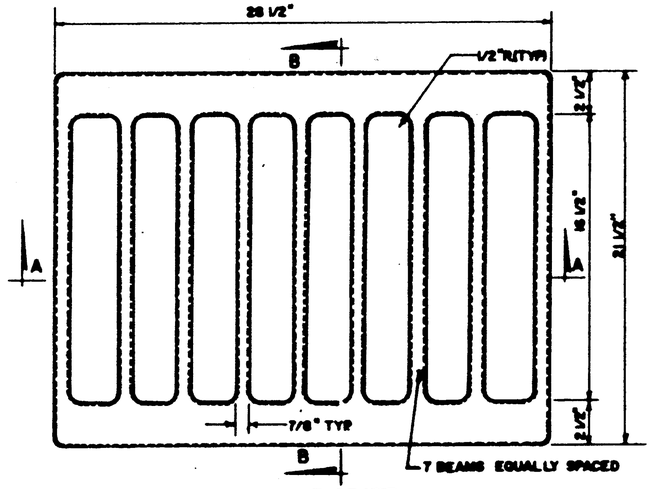
DESIGNED ____ DETAILED ____ TRACED ____

CHECKED ____ ISSUED D.B.J. DATE 11-1-79

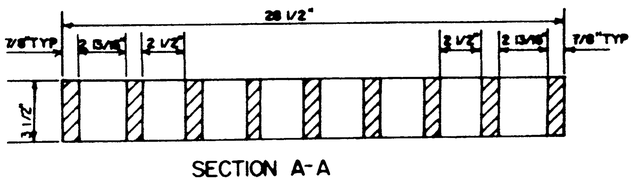
STATE	PROJECT NO.
MISS.	



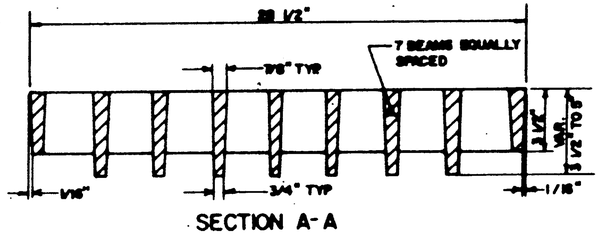
PLAN OF GRATE



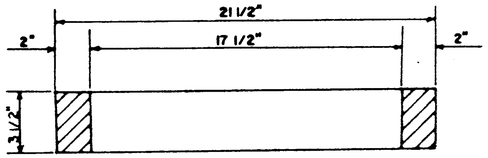
PLAN OF GRATE



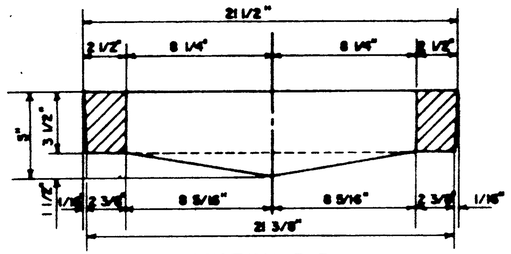
SECTION A-A



SECTION A-A



SECTION B-B



SECTION B-B

DETAILS OF GRATE NO. 1

DETAILS OF GRATE NO. 2

GENERAL NOTES

BASIS OF PAYMENT WILL BE 250 POUNDS OF GRATING FOR EITHER GRATE.

GRATE NO. 1

THE GRATE MAY BE WELDED STEEL (ASTM DESIGNATION A588)
OR
STEEL CASTING (AASHTO DESIGNATION M192, CLASS 90),
STEEL CASTING SHALL BE GALVANIZED (AASHTO DESIGNATION M111).

GRATE NO. 2

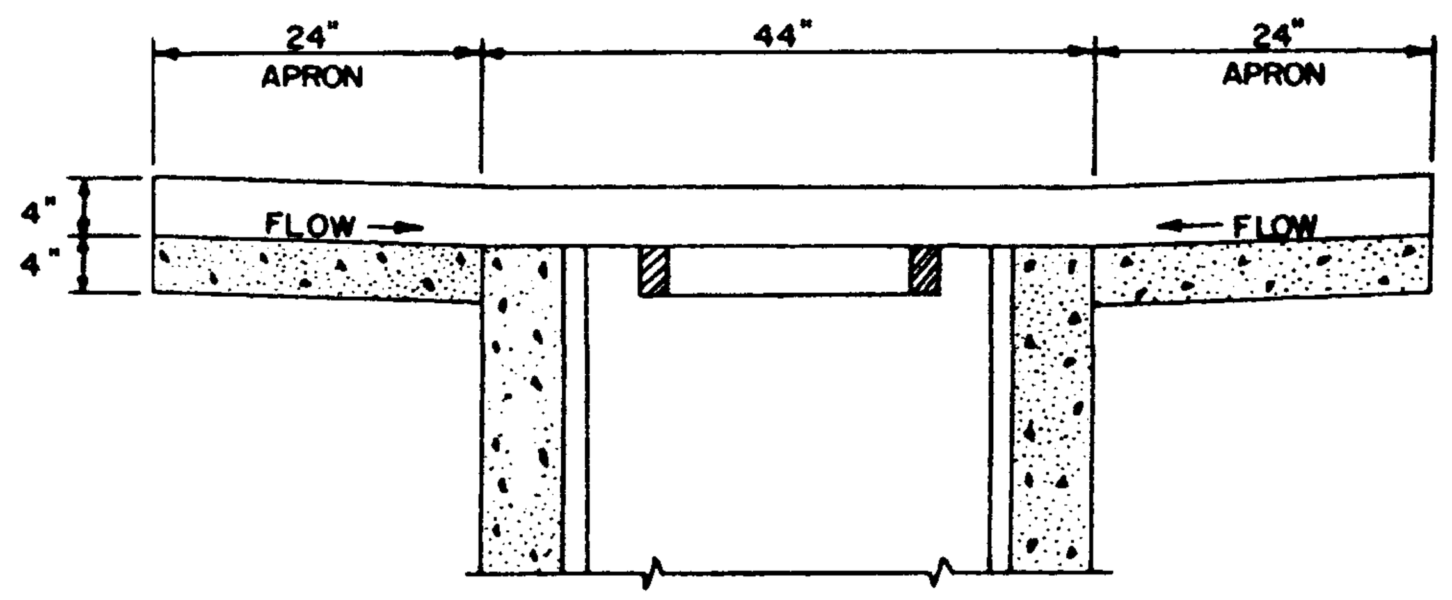
THE GRATE SHALL BE DUCTILE IRON (ASTM DESIGNATION A-536, GRADE 80-55-06).

MISSISSIPPI STATE HIGHWAY DEPARTMENT

DETAILS OF GRATES FOR MEDIAN INLETS

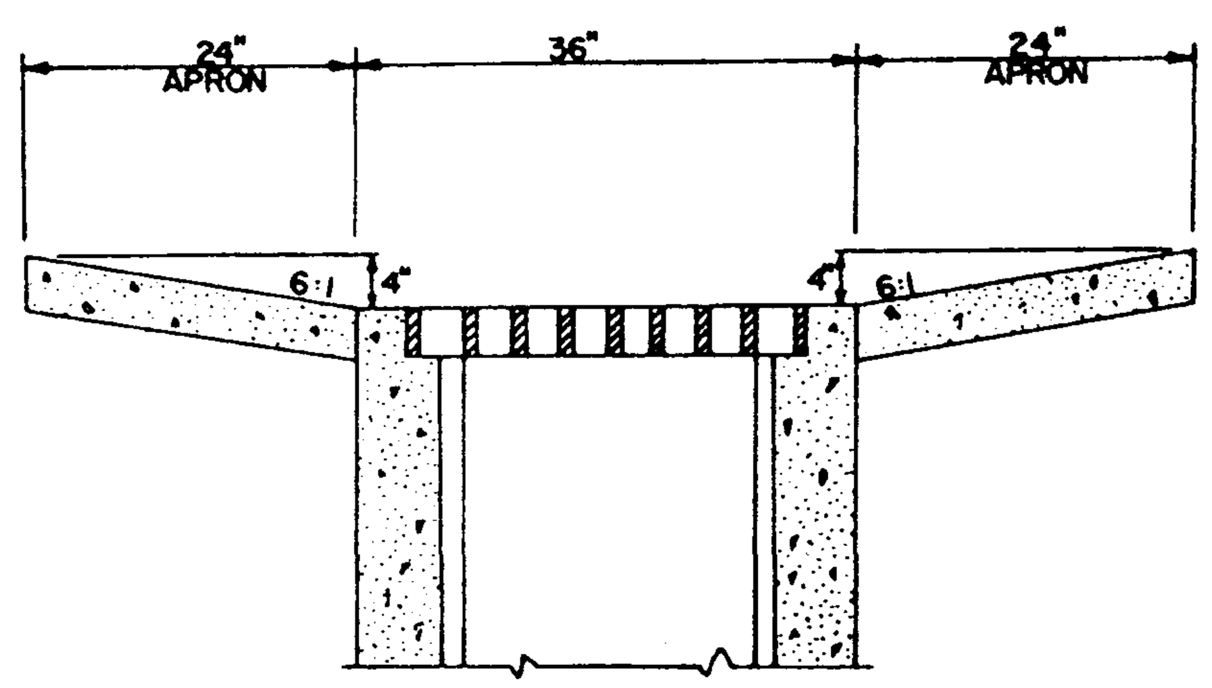
STANDARD NUMBER	IG-1
SHEET NUMBER	233

DESIGNED _____ DETAILED _____ TRACED _____
CHECKED _____ ISSUED K.L.S. DATE 12-9-86



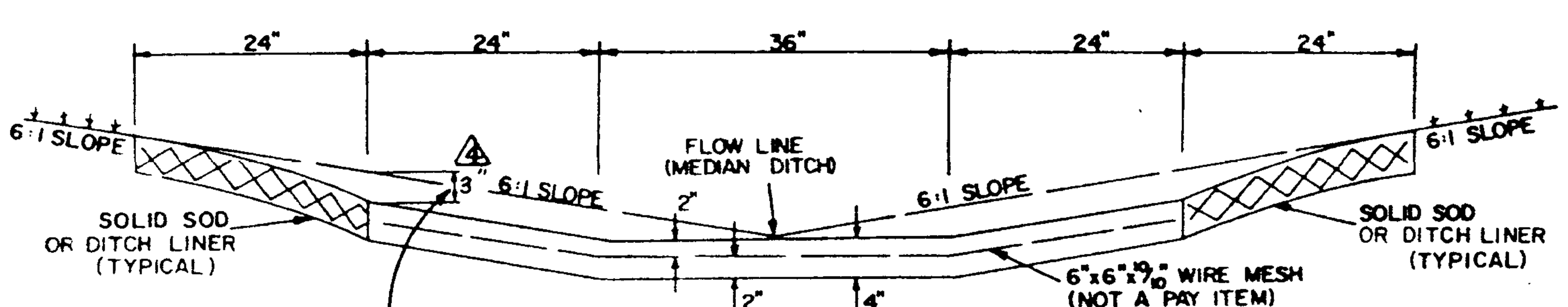
SECTION A-A

APRON REINFORCEMENT & SOLID SOD NOT SHOWN
(SEE SECTION C-C)



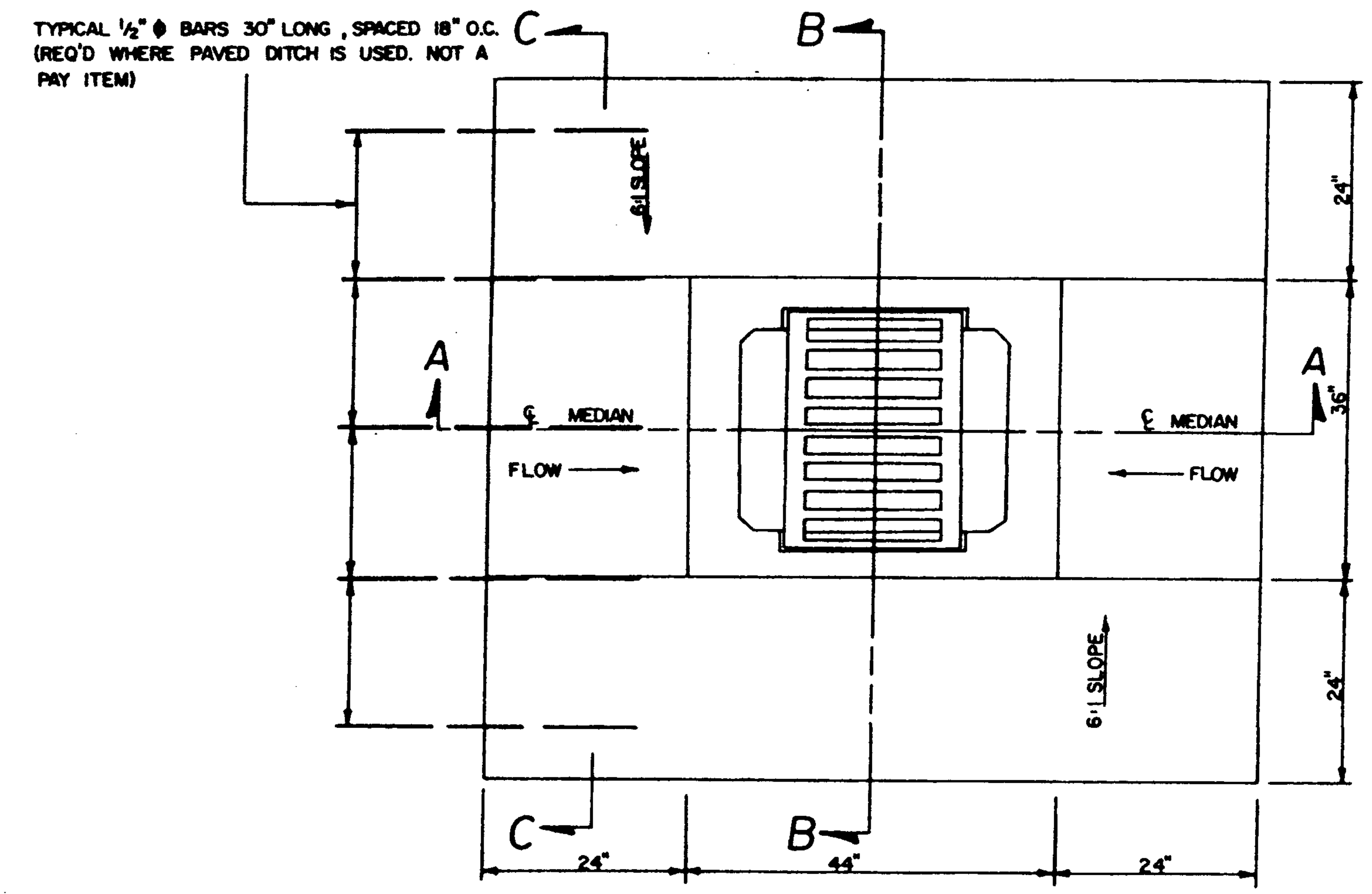
SECTION B-B

APRON REINFORCEMENT & SOLID SOD NOT SHOWN
(SEE SECTION C-C)

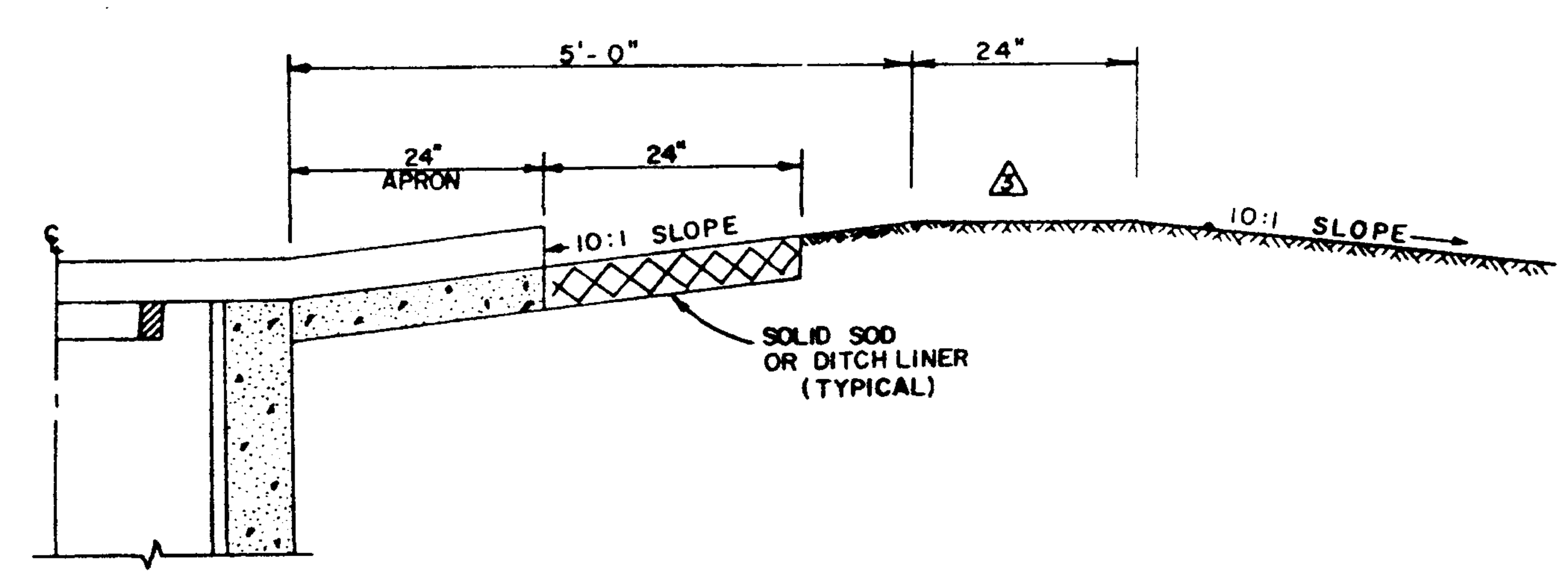


SECTION C-C

FINISH GRADE OF PAVED DITCH SHALL BE 3" BELOW FINISH GRADE OF SLOPE AS SHOWN.



PLAN OF INLET & PAVED APRON



HALF SECTION A-A SHOWING DITCH PLUG

GENERAL NOTES

1. CONSTRUCTION JOINTS TO BE TIED WITH FIVE 1/2" ϕ BARS 30" LONG SPACED 18" O.C. EXPANSION JOINT WILL NOT BE USED. CHAIR SUPPORTS FOR THE WIRE MESH WILL NOT BE REQUIRED. HOWEVER, THE CONTRACTOR SHALL PLACE THE WIRE MESH IN A SATISFACTORY AND WORKMANLIKE MANNER TO INSURE THAT THE FINAL POSITION IS REASONABLY NEAR THE POSITION INDICATED.
2. PAVED APRON TO BE CONSTRUCTED AND PAID FOR IN ACCORDANCE WITH THE REQUIREMENTS FOR PAVED DITCHES
3. 0.532 CU. YDS. CLASS "C" CONCRETE REQUIRED.
4. QUANTITY SHOWN WILL BE USED AS THE BASIS FOR FINAL PAYMENT UNLESS AUTHORIZED MODIFICATIONS ARE MADE.

DATE	REVISIONS	BY
4-11-80	ADDED QUANTITY	AWK
11-15-85		AWK
6-16-86		AWK
1-5-98		G.W.R.

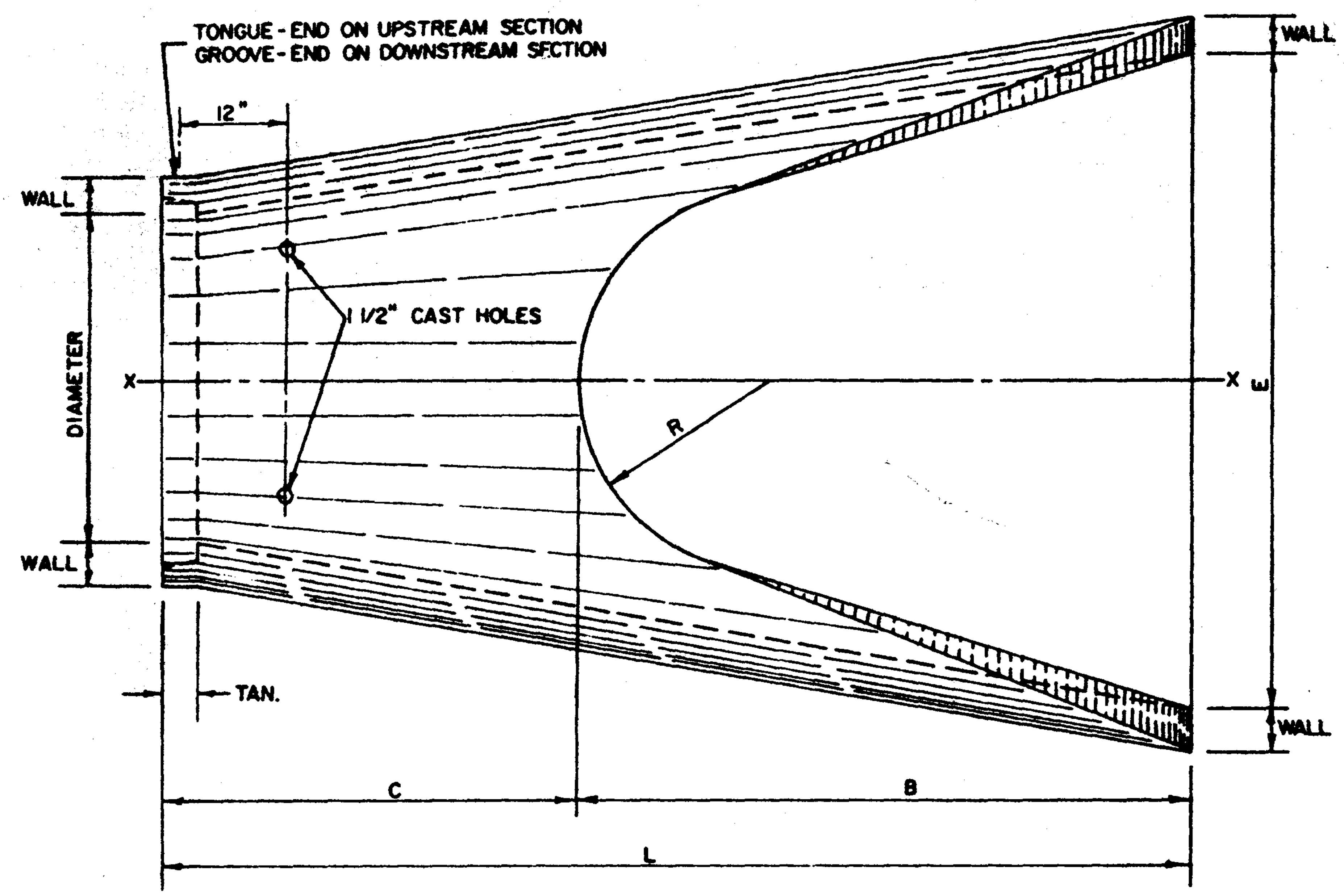
MISSISSIPPI DEPARTMENT OF TRANSPORTATION

PAVED INLET APRON AND MEDIAN DITCH PLUG

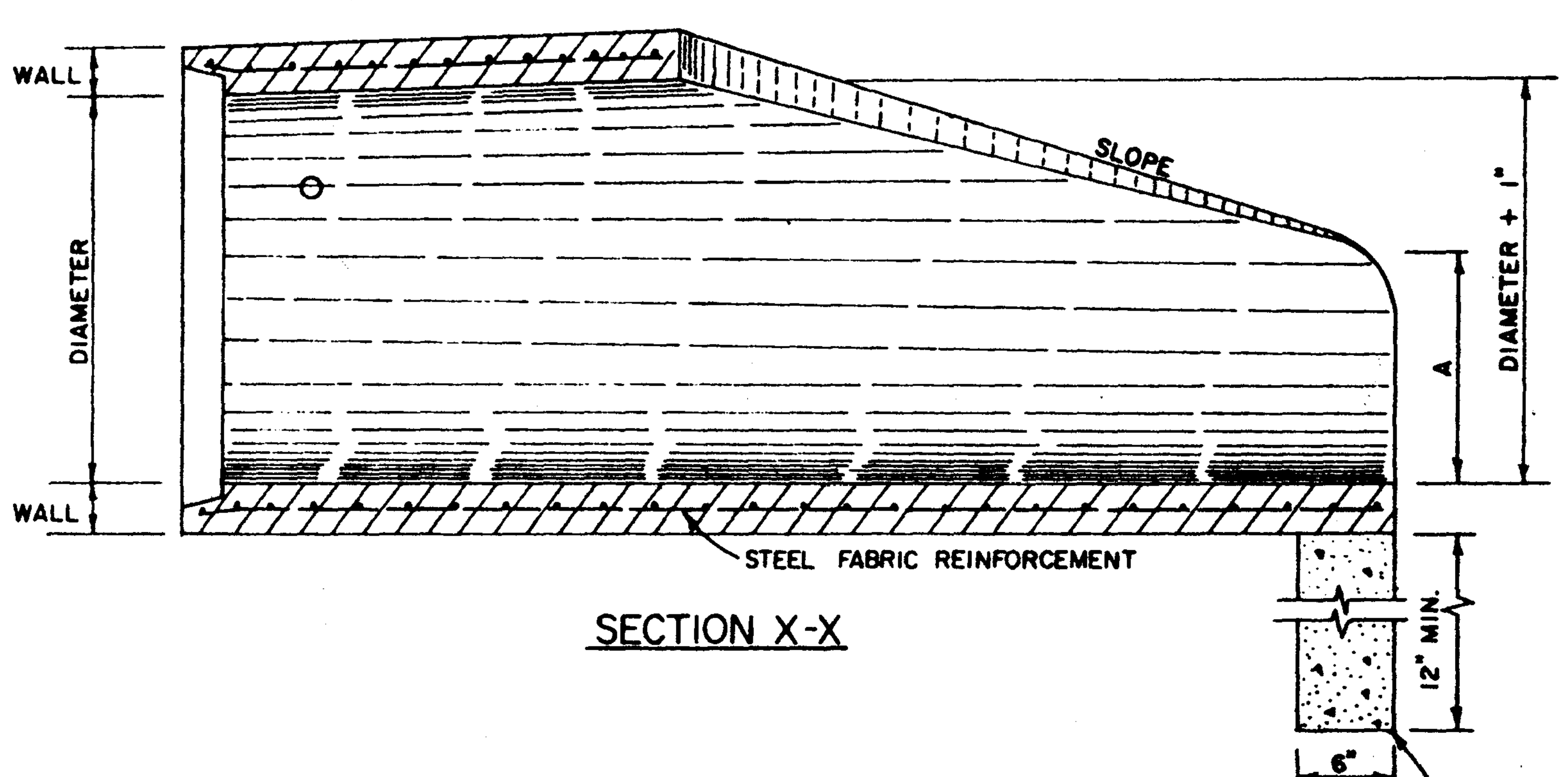
DESIGNED ______ DETAILED ______ TRACED ______
CHECKED ______ ISSUED D.B.J. DATE 11-1-79

WORKING NUMBER PA-1

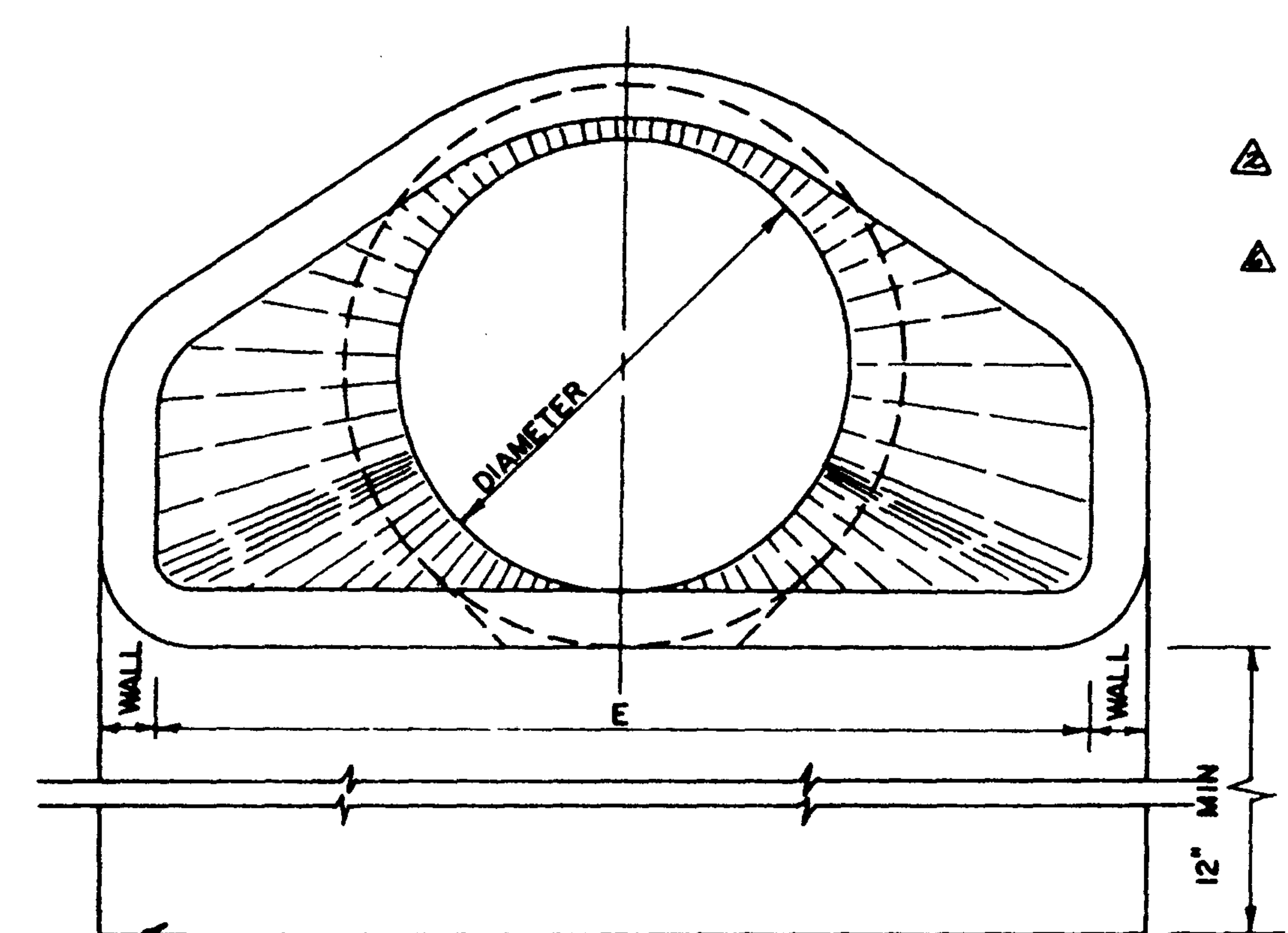
SHEET NUMBER 235



PLAN
(DRAWN FOR DOWNSTREAM SECTION)



SECTION X-X



END ELEVATION

TABLE OF DIMENSIONS							
DIA.	WALL	SLOPE	A	B	C	E	L
15"	2 1/4"	3:1	6"	2'-3"	4'-1"	2'-8"	6'-1"
18"	2 1/2"	3:1	9"	2'-3"	3'-10"	3'-0"	6'-1"
24"	3"	3:1	10"	3'-8"	2'-6"	4'-0"	6'-2"
30"	△ 3 1/2"	3:1	1'-0"	4'-6"	1'-8"	5'-0"	6'-2"
36"	4"	3:1	1'-3"	5'-3"	2'-11"	6'-0"	8'-2"
42"	4 1/2"	3:1	1'-9"	5'-3"	2'-11"	6'-6"	8'-2"
48"	5"	3:1	2'-0"	6'-0"	2'-2"	7'-0"	8'-2"
54"	5 1/2"	3:1	2'-4"	6'-6"	1'-10"	7'-6"	8'-4"
(2) 60"	6"	3:1	2'-10"	6'-6"	1'-10"	8'-0"	8'-4"
(2) 66"	6 1/2"	3:1	3'-4"	6'-6"	1'-10"	8'-6"	8'-4"
(2) 72"	7"	3:1	3'-10"	6'-6"	1'-10	9'-0"	8'-4"

△

TOE WALL QUANTITY CL. "B" CONC. (C.Y.)
0.056
0.063
0.083
0.102
0.123
0.134
0.145
0.156
0.167
0.177
0.188

△

GENERAL NOTES

1. REINFORCEMENT SHALL CONFORM TO THE REQUIREMENTS OF REINFORCED CONCRETE PIPE OF LIKE DIAMETER PER AASHTO DESIGNATION M170, TABLE 2, WALL B.
2. 2 - 1 1/2" φ CAST HOLES REQUIRED AS SHOWN TO ACCOMMODATE 2 - 1" φ TIE BOLTS, USED IN TIEING SECTION TO PIPE CULVERT.
3. △ LENGTH (L) OF A BELL-END OPTION MAY VARY BY A NOMINAL EXTENSION ON THE BELL END.
4. △ FLARED END SECTIONS ARE NOT TO BE USED INSIDE THE CLEAR ZONE.

△ TOE WALL REQUIRED ON ALL DOWNSTREAM FLARED END SECTIONS. TOE WALL AT UPSTREAM END WILL BE CONSTRUCTED WHERE DIRECTED BY THE ENGINEER. TO BE PAID FOR AS CLASS " B " STRUCTURAL CONCRETE - MINOR STRUCTURES.

DATE	REVISIONS	BY
1-5-96	△	S.W.R.
11-8-91	GEN. REV.	J.J.S.
7-1-90	TOE WALL NOTE	JJS
11-4-87	ADDED 15" SIZE	AWK
4-23-87	ADDED NOTE	AWK
3-25-85		A.H.K.
9-9-80	GENERAL	A.W.K.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION △

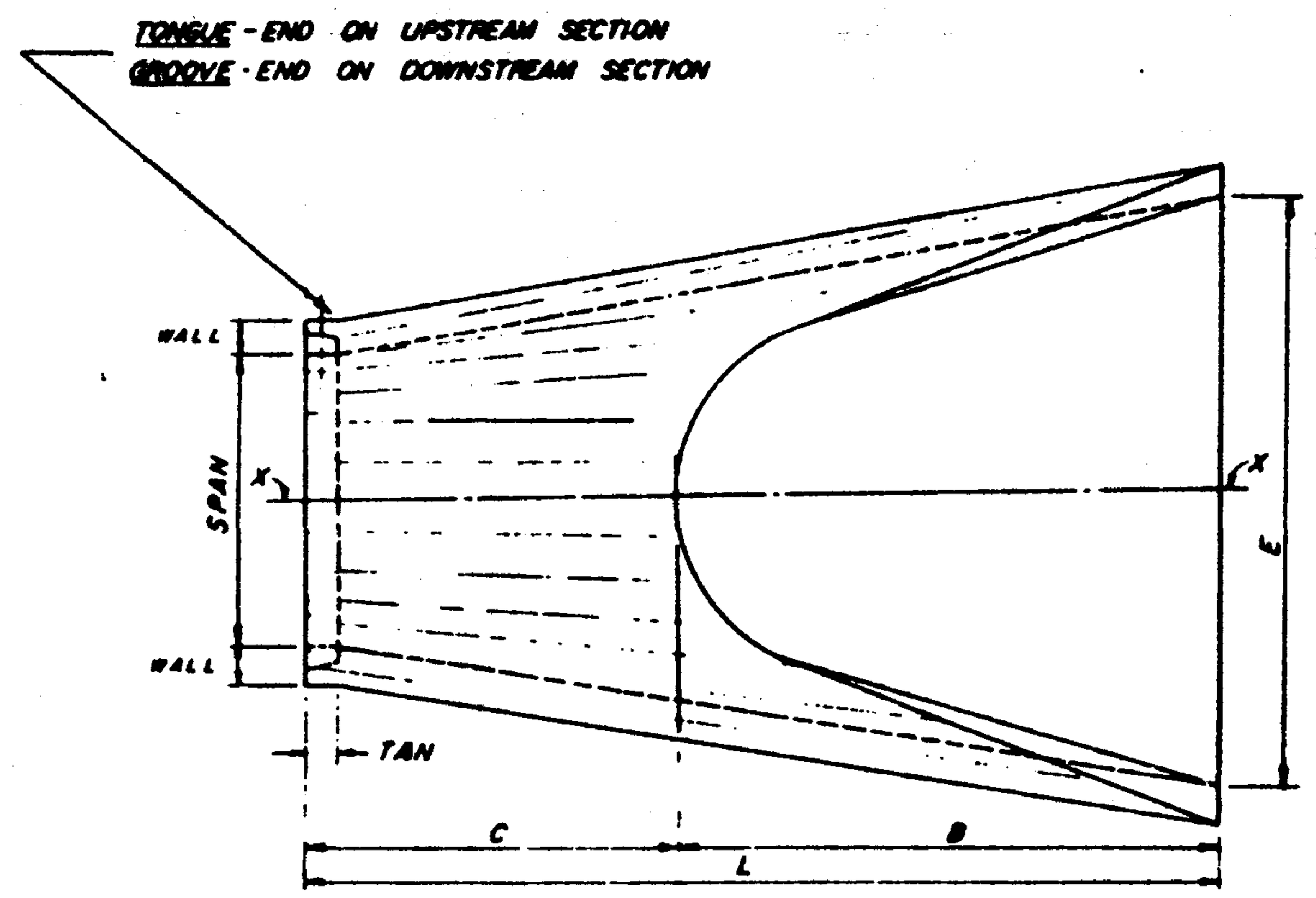
FLARED END SECTION

FOR CONCRETE PIPE

DESIGNED ______ DETAILED ______ TRACED ______
CHECKED ______ ISSUED D. B. J. DATE 11-1-79

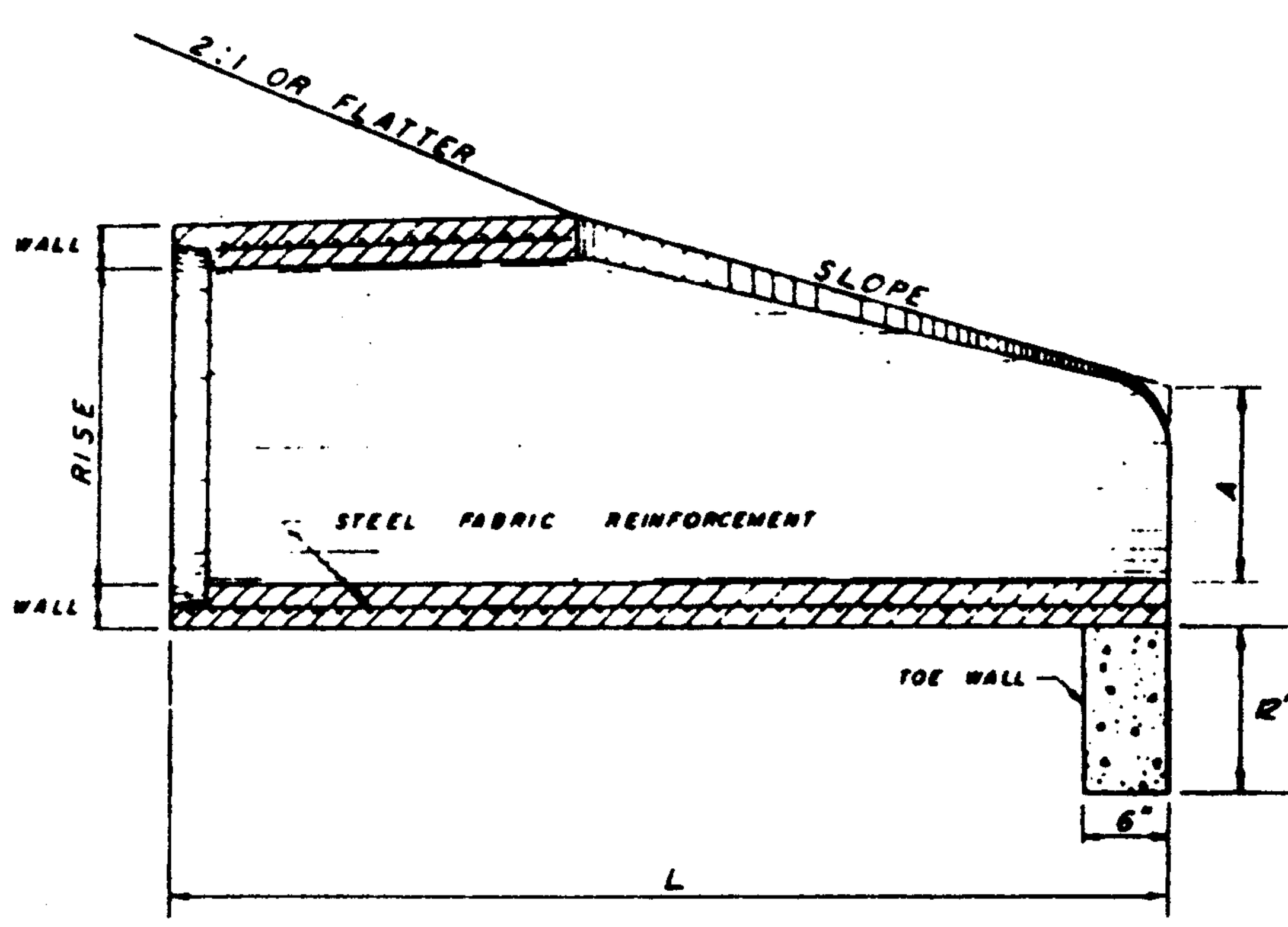
WORKING NUMBER FE-1
SHEET NUMBER 244

TYPE I

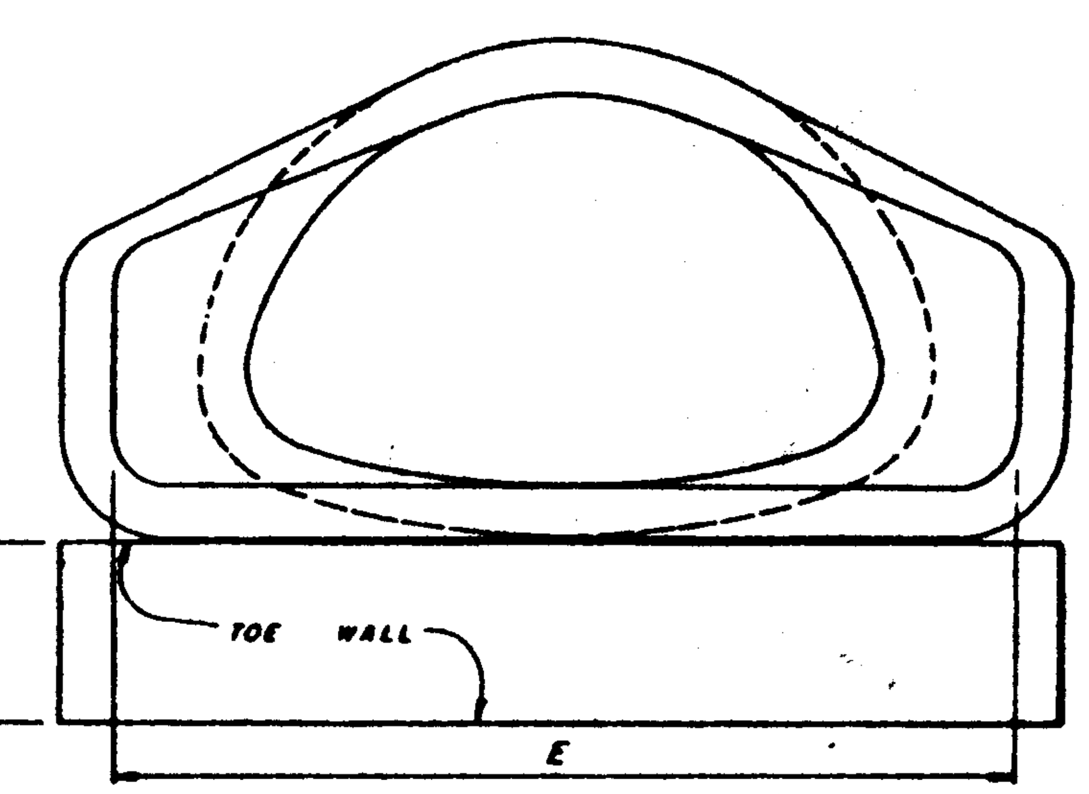


PLAN
(DRAWN FOR DOWNSTREAM SECTION)

FLARED END SECTION FOR CONCRETE ARCH PIPE										TOE WALL QUANTITY CL."B"C.(CY)
EQUIV. SIZE	RISE	SPAN	WALL	SLOPE	A	B	C	E	L	
18"	13½"	22"	2½"	3:1	7"	2'-3"	3'-9"	3'-0"	6'-0"	0.063
24"	18"	28½"	3"	3:1	8"	3'-3"	2'-9"	4'-0"	6'-0"	0.083
30"	22½"	36¼"	3½"	3:1	10"	4'-0"	2'-0"	5'-0"	6'-0"	0.102
36"	26⅝"	43⅜"	4"	3:1	10⅝"	5'-0"	3'-0"	6'-0"	8'-0"	0.123
42"	31 5/16"	51⅛"	4½"	3:1	1'-3 13/16"	5'-0"	3'-0"	6'-6"	8'-0"	0.134
48"	36"	58½"	5"	3:1	1'-9"	5'-0"	3'-0"	7'-0"	8'-0"	0.145
54"	40"	65"	5½"	3:1	2'-1½"	5'-0"	3'-0"	7'-6"	8'-0"	0.156
60"	45"	73"	6"	3:1	2'-2"	6'-3"	1'-9"	8'-0"	8'-0"	0.167
72"	54"	88"	7"	3:1	2'-11"	6'-6"	1'-10"	10'-0"	8'-4"	0.207



SECTION X-X



FRONT ELEVATION

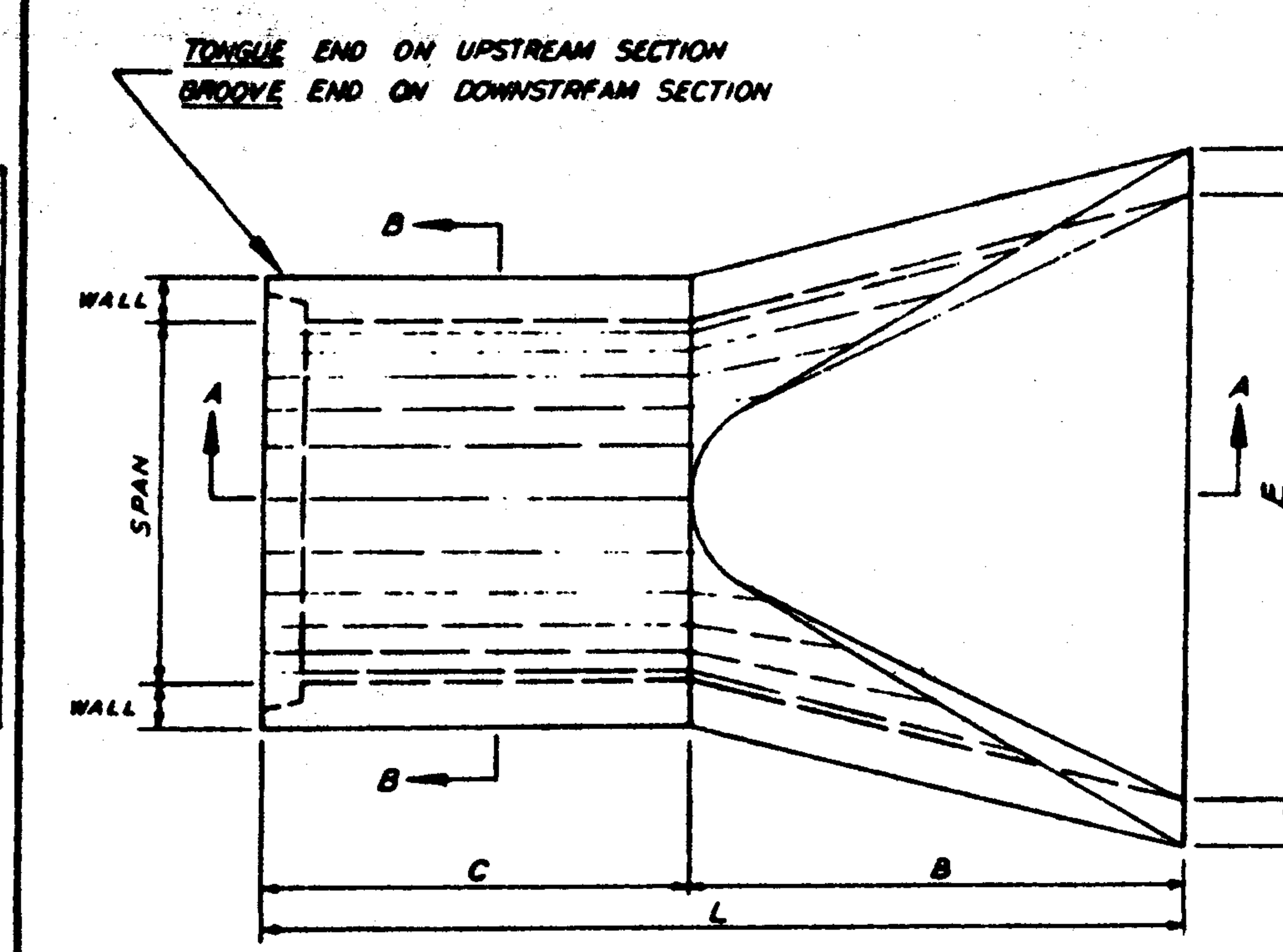
NOTE: REINFORCEMENT (SINGLE LINE) FOR FLARED END SECTION SHALL CONFORM TO REQUIREMENTS OF AASHTO DESIGNATION: M-206 FOR CLASS II ARCH PIPE.

(3) TOE WALL REQ'D ON ALL DOWNSTREAM FLARED END SECTIONS. TOE WALL AT UPSTREAM END WILL BE CONSTRUCTED WHERE DIRECTED BY THE ENGINEER. TO BE PAID FOR AS CLASS "B" STRUCTURAL CONCRETE - MINOR STRUCTURES.

FLARED END SECTIONS MUST MEET THE REQUIREMENTS FOR ARCH PIPE OF EITHER AASHTO DESIGNATION: M-206 OR ASTM DESIGNATION: C-506.

(5) GENERAL NOTE: FLARED END SECTIONS ARE NOT TO BE USED INSIDE THE CLEAR ZONE.

TYPE II



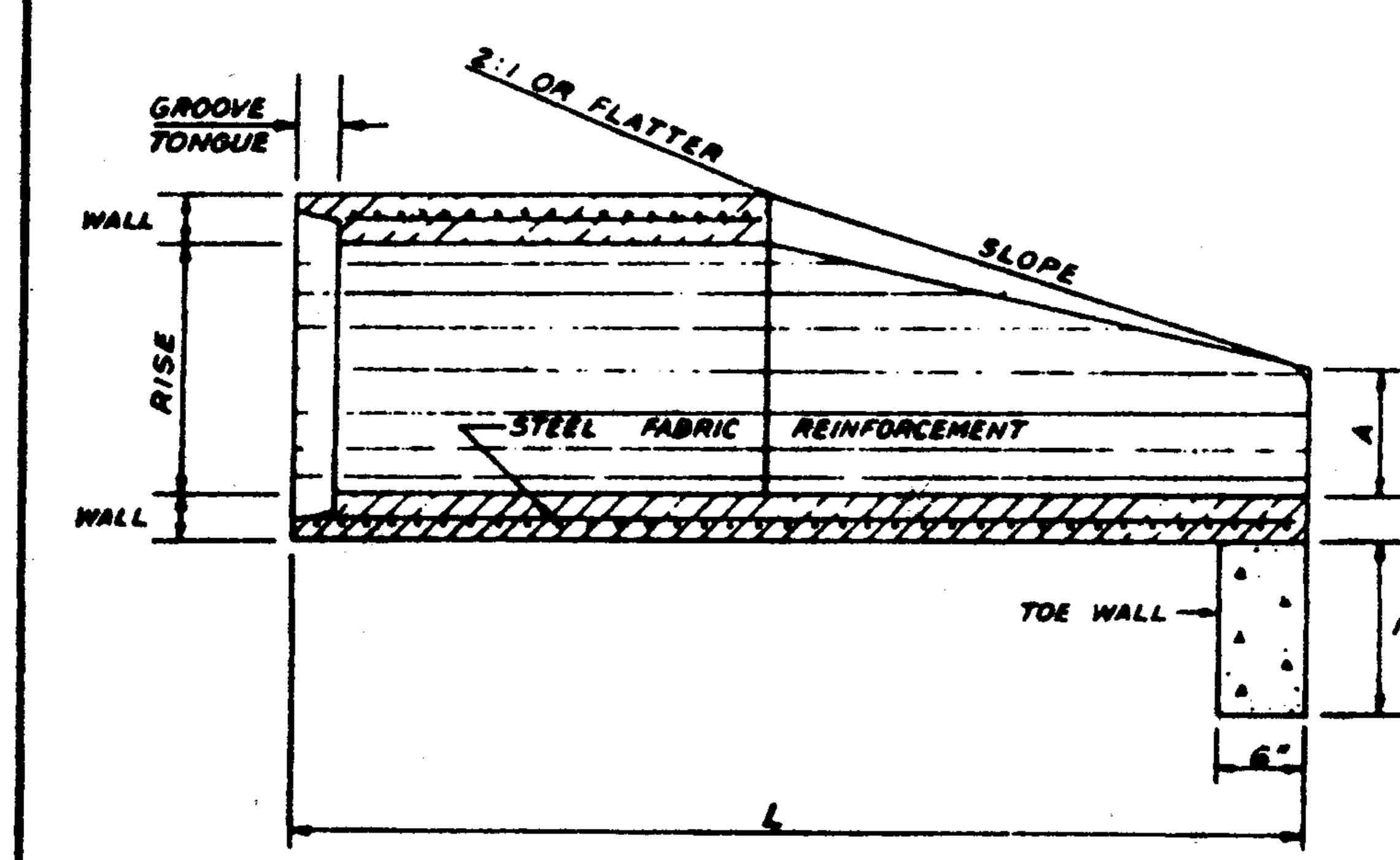
PLAN
(DRAWN FOR DOWNSTREAM SECTION)

FLARED END SECTION FOR CONCRETE ARCH PIPE - SHORT FLARE											TOE WALL QUANTITY CL."B"C.(CY)
EQUIV. SIZE	RISE	SPAN	WALL	SLOPE	A	B	C	E	L	GROOVE TONGUE	
① 18"	13½"	22"	2½"	3:1	7"	2'-3"	3'-9"	3'-0"	6'-0"	2¼"	0.063
24"	18"	28½"	3½"	3.12:1	9"	3'-3"	2'-9½"	4'-0"	6'-0½"	3"	0.083
30"	22½"	36¼"	4"	2.94:1	9½"	4'-2"	3'-10½"	5'-0"	8'-0½"	3½"	0.102
36"	26⅝"	43¾"	4½"	3.08:1	11⅝"	5'-0"	3'-0½"	6'-0"	8'-0½"	4"	0.123
42"	31 5/16"	51⅛"	4½"	3.08:1	1'-4 5/16"	5'-0"	3'-0½"	6'-6"	8'-0½"	4"	0.134
48"	36"	58½"	5"	3.16:1	1'-10"	5'-0"	3'-0½"	7'-0"	8'-0½"	5"	0.145
54"	40"	65"	5½"	3.24:1	2'-3"	5'-0"	3'-0⅝"	7'-6"	8'-0⅝"	5"	0.156
60"	45"	73"	6"	3.33:1	2'-9"	5'-0"	3'-0⅝"	8'-0"	8'-0⅝"	5"	0.167

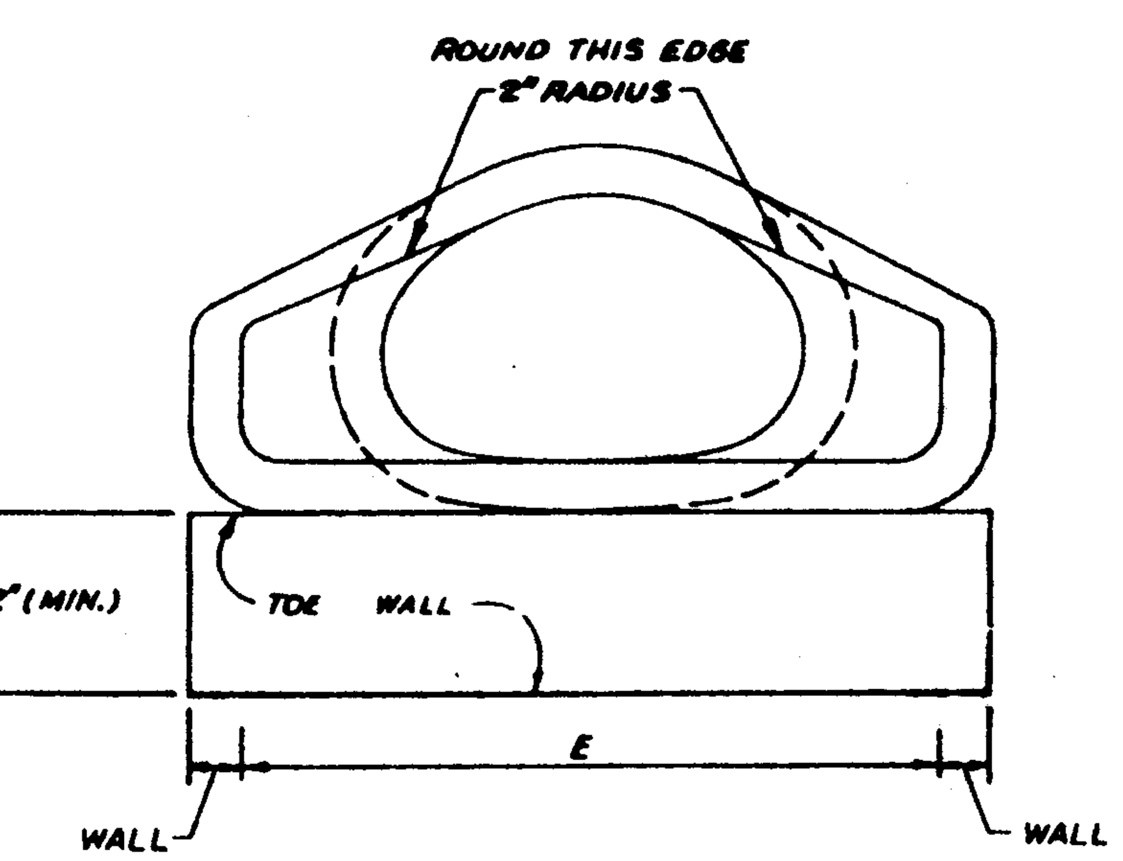
NOTE: ① EQUIVALENT 18" FLARED END SECTION SIMILAR TO TYPE I.

DIMENSIONS A, B, C, E AND L, MAY VARY ± 1 INCH.

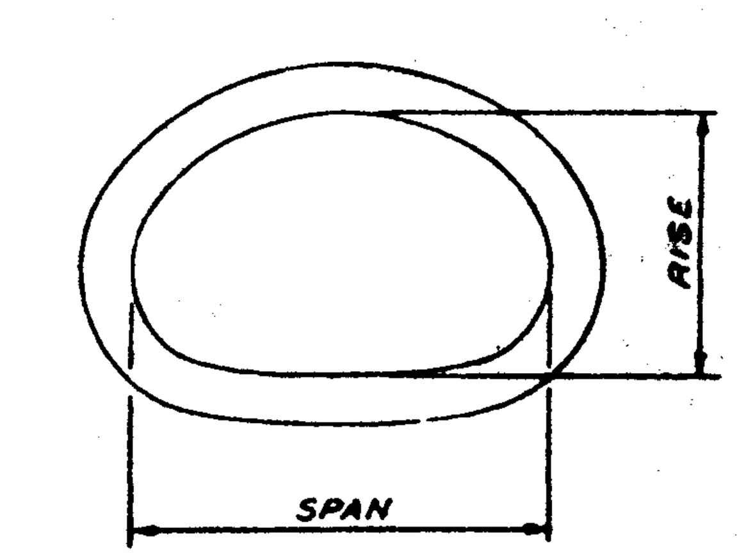
FLARED END SECTIONS MUST MEET THE REQUIREMENTS FOR ARCH PIPE OF EITHER AASHTO DESIGNATION: M-206, OR ASTM DESIGNATION: C-506.



SECTION A-A



FRONT ELEVATION



SECTION B-B

NOTE: REINFORCEMENT (SINGLE LINE) FOR FLARED END SECTION SHALL CONFORM TO REQUIREMENTS OF AASHTO DESIGNATION: M-206 FOR CLASS II ARCH PIPE.

(3) TOE WALL REQ'D ON ALL DOWNSTREAM FLARED END SECTIONS. TOE WALL AT UPSTREAM END WILL BE CONSTRUCTED WHERE DIRECTED BY THE ENGINEER. TO BE PAID FOR AS CLASS "B" STRUTURAL CONCRETE - MINOR STRUCTURES.

• GENERAL NOTE •

UNLESS OTHERWISE DESIGNATED, EITHER TYPE I OR TYPE II MAY BE USED, PROVIDED THE SELECTED TYPE IS COMPATIBLE WITH THE CONFIGURATION OF THE PIPE TO WHICH IT IS TO BE ATTACHED.

DATE	REVISIONS	BY
9-9-80	REMOVED F.E.S. OVER 60" x 54"	AWK
8-18-83		A.H.K.
7-1-90	TOE WALL NOTE	J.J.S.
8-8-01	GEN. REV.	J.J.S.
1-5-06	(5)	S.W.R.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION (5)

FLARED END SECTION FOR CONCRETE ARCH PIPE

DESIGNED ______ DETAILED ______ TRACED ______

CHECKED ______ ISSUED D. B. J. DATE 11-1-72

WORKING NUMBER FE-1A

SHEET NUMBER 244.1

FLARED HEADWALL FOR SINGLE LINE PIPE CULVERT

REINFORCING STEEL FOR ONE HEADWALL

EQUAL PIPE SIZE	G	X	Y	BARS-A NO.	BARS-A L'GTH.	BARS-B NO.	BARS-B L'GTH.	BARS-C NO.	BARS-C L'GTH.	BARS-D NO.	BARS-D L'GTH.	BARS-J1 NO.	BARS-J1 L'GTH.	BARS-J2 NO.	BARS-J2 L'GTH.	BARS-J3 NO.	BARS-J3 L'GTH.	BARS-J4 NO.	BARS-J4 L'GTH.	BARS-J5 NO.	BARS-J5 L'GTH.	BARS-J6 NO.	BARS-J6 L'GTH.	BARS-J7 NO.	BARS-J7 L'GTH.
18"	3'-9¾"	6'-3⅛"	2'-11¼"	4	7'-2"	5	6'-1"	2	2'-6"	2	2'-3"	1	3'-10"	1	4'-7"	1	5'-4"	1	6'-0"	1	6'-9"				
24"	4'-5⅜"	8'-1⅝"	3'-6⅞"	4	8'-4"	6	7'-10"	2	3'-1"	2	2'-6"	1	4'-6"	1	5'-3"	1	6'-0"	1	6'-8"	1	7'-5"	1	8'-2"		
30"	5'-1⅜"	9'-3⅞"	4'-2⅞"	4	9'-4"	6	8'-6"	2	3'-5"	2	2'-9"	1	5'-2"	1	5'-11"	1	6'-8"	1	7'-4"	1	8'-1"	1	8'-10"	1	9'-7"
36"	5'-10⅞"	10'-10¼"	5'-0⅛"	4	10'-6"	7	9'-7"	2	3'-10"	2	3'-0"	1	5'-11"	1	6'-8"	1	7'-5"	1	8'-1"	1	8'-10"	1	9'-7"	1	10'-4"
42"	6'-6⅝"	12'-4⅞"	5'-8⅛"	4	11'-8"	8	10'-9"	2	4'-4"	2	3'-5"	1	6'-7"	1	7'-4"	1	8'-1"	1	8'-9"	1	9'-6"	1	10'-3"	1	11'-0"
48"	7'-3⅛"	14'-0⅛"	6'-4⅜"	4	12'-11"	8	12'-1"	2	4'-10"	2	3'-10"	1	7'-4"	1	8'-1"	1	8'-10"	1	9'-6"	1	10'-3"	1	11'-0"	1	11'-9"
54"	7'-11"	15'-5½"	7'-0½"	4	14'-0"	9	13'-2"	2	5'-3"	2	4'-3"	1	7'-11"	1	8'-8"	1	9'-5"	1	10'-1"	1	10'-10"	1	11'-7"	1	12'-4"
60"	8'-7¾"	17'-1⅛"	7'-9¼"	4	15'-3"	10	14'-6"	2	5'-9"	2	4'-8"	1	8'-8"	1	9'-5"	1	10'-2"	1	10'-10"	1	11'-7"	1	12'-4"	1	13'-1"
72"	10'-0¼"	20'-2¾"	9'-1¾"	4	17'-6"	11	16'-10"	2	6'-8"	2	5'-3"	1	10'-1"	1	10'-10"	1	11'-7"	1	12'-3"	1	13'-0"	1	13'-9"	1	14'-6"

EQUAL PIPE SIZE	BARS-J8 NO.	BARS-J8 L'GTH.	BARS-J9 NO.	BARS-J9 L'GTH.	BARS-J10 NO.	BARS-J10 L'GTH.	BARS-J11 NO.	BARS-J11 L'GTH.	BARS-J12 NO.	BARS-J12 L'GTH.	BARS-J13 NO.	BARS-J13 L'GTH.	BARS-J14 NO.	BARS-J14 L'GTH.	BARS-J15 NO.	BARS-J15 L'GTH.	BARS-U NO.	BARS-U L'GTH.
18"																	4	4'-5"
24"																	4	6'-3"
30"																	4	6'-11"
36"	1	11'-0"															4	8'-1"
42"	1	11'-8"	1	12'-5"													4	9'-4"
48"	1	12'-5"	1	13'-2"	1	13'-11"											4	10'-9"
54"	1	13'-0"	1	13'-9"	1	14'-6"	1	15'-3"	1	16'-0"							4	11'-10"
60"	1	13'-9"	1	14'-6"	1	15'-3"	1	16'-0"	1	16'-8"	1	17'-5"					4	13'-3"
72"	1	15'-2"	1	15'-11"	1	16'-8"	1	17'-5"	1	18'-1"	1	18'-10"	1	19'-7"	1	20'-4"	4	15'-9"

EQUAL PIPE SIZE	BARS-W1 NO.	BARS-W1 L'GTH.	BARS-W2 NO.	BARS-W2 L'GTH.	BARS-W3 NO.	BARS-W3 L'GTH.	BARS-W4 NO.	BARS-W4 L'GTH.	BARS-W5 NO.	BARS-W5 L'GTH.	BARS-W6 NO.	BARS-W6 L'GTH.	BARS-W7 NO.	BARS-W7 L'GTH.	BARS-W8 NO.	BARS-W8 L'GTH.	BARS-W9 NO.	BARS-W9 L'GTH.
18"	4	2'-9"	4	2'-2"	4	1'-9"												
24"	4	3'-9"	4	3'-0"	4	2'-4"	4	1'-10"										
30"	4	4'-5"	4	3'-8"	4	2'-10"	4	2'-2"	2	1'-11"								
36"	4	5'-1"	4	4'-5"	4	3'-7"	4	2'-9"	4	2'-4"								
42"	4	5'-11"	4	5'-2"	4	4'-4"	4	3'-7"	4	2'-10"	2	2'-8"						
48"	4	6'-9"	4	5'-11"	4	5'-2"	4	4'-4"	4	3'-7"	4	2'-10"						
54"	4	7'-7"	4	6'-9"	4	5'-11"	4	5'-1"	4	4'-3"	4	3'-6"	4	3'-3"				
60"	4	8'-6"	4	7'-8"	4	6'-10"	4	6'-1"	4	5'-3"	4	4'-4"	4	3'-7"	2	3'-6"		
72"	4	10'-1"	4	9'-4"	4	8'-6"	4	7'-8"	4	6'-10"	4	6'-0"	4	5'-3"	4	4'-5"	2	4'-2"

EQUAL PIPE SIZE	BARS-Y1 NO.	BARS-Y1 L'GTH.	BARS-Y2 NO.	BARS-Y2 L'GTH.	BARS-Y3 NO.	BARS-Y3 L'GTH.	BARS-Y4 NO.	BARS-Y4 L'GTH.	BARS-Y5 NO.	BARS-Y5 L'GTH.	BARS-Y6 NO.	BARS-Y6 L'GTH.	QUANTITIES FOR ONE HEADWALL CU. YDS. CONCRETE	QUANTITIES FOR ONE HEADWALL POUNDS STEEL	EQUAL PIPE SIZE
18"	2	3'-3"	2	5'-2"									0.90	104	18"
24"	2	3'-3"	2	6'-11"									1.40	146	24"
30"	2	3'-3"	2	7'-5"	2	7'-8"							1.73	182	30"
36"	2	3'-3"	2	7'-5"	2	8'-9"							2.22	223	36"
42"	2	3'-3"	2	7'-5"	2	10'-1"							2.79	271	42"
48"	2	3'-3"	2	7'-5"	2	11'-5"	2	11'-5"					3.49	331	48"
54"	2	3'-3"	2	7'-5"	2	11'-8"	2	12'-7"					4.16	401	54"
60"	2	3'-3"	2	7'-5"	2	11'-8"	2	14'-0"	2	14'-0"			5.03	486	60"
72"	2	3'-3"	2	7'-5"	2	11'-8"	2	15'-11"	2	16'-6"	2	16'-6"	6.80	637	72"

FLARED HEADWALL FOR DOUBLE LINE PIPE CULVERT

REINFORCING STEEL FOR ONE HEADWALL

EQUAL PIPE SIZE	G	X	Y	Z	BARS-A NO.	BARS-A L'GTH.	BARS-B NO.	BARS-B L'GTH.	BARS-C NO.	BARS-C L'GTH.	BARS-D NO.	BARS-D L'GTH.	BARS-J1 NO.	BARS-J1 L'GTH.	BARS-J2 NO.	BARS-J2 L'GTH.	BARS-J3 NO.	BARS-J3 L'GTH.	BARS-J4 NO.	BARS-J4 L'GTH.	BARS-J5 NO.	BARS-J5 L'GTH.	BARS-J6 NO.	BARS-J6 L'GTH.	BARS-J7 NO.	BARS-J7 L'GTH.
18"	7'-1"	9'-6⅜"	6'-2½"	1'-0"	4	10'-5"	8	6'-1"	3	2'-6"	4	2'-3"	1	7'-1"	1	7'-10"	1	8'-7"	1	9'-3"	1	10'-0"				
24"	8'-4¼"	12'-0½"	7'-5¾"	1'-0"	4	12'-3"	9	7'-10"	3	3'-1"	4	2'-6"	1	8'-5"	1	9'-2"	1	9'-11"	1	10'-7"	1	11'-4"	1	12'-1"		
30"	9'-8¼"	13'-10¼"	8'-9¾"	1'-0"	4	13'-11"	11	8'-6"	3	3'-5"	4	2'-9"	1	9'-9"	1	10'-6"	1	11'-3"	1	11'-11"	1	12'-8"	1	13'-5"	1	14'-2"
36"	11'-5¾"	16'-5⅛"	10'-7¼"	1'-3"	4	16'-2"	13	9'-7"	4	3'-10"	4	3'-0"	1	11'-6"	1	12'-3"	1	13'-0"	1	13'-8"	1	14'-5"	1	15'-2"	1	15'-11"
42"	12'-9¾"	18'-7½"	11'-11¼"	1'-3"	4	18'-0"	14	10'-9"	4	4'-4"	4	3'-5"	1	12'-10"	1	13'-7"	1	14'-4"	1	15'-0"	1	15'-9"	1	16'-6"	1	17'-3"
48"	14'-5¾"	21'-2¾"	13'-7¼"	1'-6"	4	20'-2"	16	12'-1"	4	4'-10"	4	3'-10"	1	14'-6"	1	15'-3"	1	16'-0"	1	16'-8"	1	17'-5"	1	18'-2"	1	18'-11"
54"	16'-0½"	23'-7"	15'-2"	1'-9"	4	22'-2"	17	13'-2"	4	5'-3"	4	4'-3"	1	16'-1"	1	16'-10"	1	17'-7"	1	18'-3"	1	19'-0"	1	19'-9"	1	20'-6"
60"	17'-9"	26'-3⅝"	16'-10½"	2'-0"	4	24'-4"	19	14'-6"	4	5'-9"	4	4'-8"	1	17'-9"	1	18'-6"	1	19'-3"	1	19'-11"	1	20'-8"	1	21'-5"	1	22'-2"
72"	20'-9"	30'-11½"	19'-10½"	2'-3"	4	28'-3"	22	16'-10"	5	6'-8"	4	5'-3"	1	20'-9"	1	21'-6"	1	22'-3"	1	22'-11"	1	23'-8"	1	24'-5"	1	25'-2"

EQUAL PIPE SIZE	BARS-J8 NO.	BARS-J8 L'GTH.	BARS-J9 NO.	BARS-J9 L'GTH.	BARS-J10 NO.	BARS-J10 L'GTH.	BARS-J11 NO.	BARS-J11 L'GTH.	BARS-J12 NO.	BARS-J12 L'GTH.	BARS-J13 NO.	BARS-J13 L'GTH.	BARS-J14 NO.	BARS-J14 L'GTH.	BARS-J15 NO.	BARS-J15 L'GTH.	BARS-U NO.	BARS-U L'GTH.
18"																	4	4'-5"
24"																	4	6'-3"
30"																	4	6'-11"
36"	1	16'-7"															4	8'-1"
42"	1	17'-11"	1	18'-8"													4	9'-4"
48"	1	19'-7"	1	20'-4"	1	21'-1"											4	10'-9"
54"	1	21'-2"	1	21'-11"	1	22'-8"	1	23'-5"	1	24'-1"							4	11'-10"
60"	1	22'-10"	1	23'-7"	1	24'-4"	1	25'-1"	1	25'-9"	1	26'-6"					4	13'-3"
72"	1	25'-10"	1	26'-7"	1	27'-4"	1	28'-1"	1	28'-9"	1	29'-6"	1	30'-3"	1	31'-0"	4	15'-9"

EQUAL PIPE SIZE	BARS-W1 NO.	BARS-W1 L'GTH.	BARS-W2 NO.	BARS-W2 L'GTH.	BARS-W3 NO.	BARS-W3 L'GTH.	BARS-W4 NO.	BARS-W4 L'GTH.	BARS-W5 NO.	BARS-W5 L'GTH.	BARS-W6 NO.	BARS-W6 L'GTH.	BARS-W7 NO.	BARS-W7 L'GTH.	BARS-W8 NO.	BARS-W8 L'GTH.	BARS-W9 NO.	BARS-W9 L'GTH.
18"	4	2'-9"	4	2'-2"	4	1'-9"												
24"	4	3'-9"	4	3'-0"	4	2'-4"	4	1'-10"										
30"	4	4'-5"	4	3'-8"	4	2'-10"	4	2'-2"	2	1'-11"								
36"	4	5'-1"	4	4'-5"	4	3'-7"	4	2'-9"	4	2'-4"								
42"	4	5'-11"	4	5'-2"	4	4'-4"	4	3'-7"	4	2'-10"	2	2'-8"						
48"	4	6'-9"	4	5'-11"	4	5'-2"	4	4'-4"	4	3'-7"	4	2'-10"						
54"	4	7'-7"	4	6'-9"	4	5'-11"	4	5'-1"	4	4'-3"	4	3'-6"	4	3'-3"				
60"	4	8'-6"	4	7'-8"	4	6'-10"	4	6'-1"	4	5'-3"	4	4'-4"	4	3'-7"	2	3'-6"		
72"	4	10'-1"	4	9'-4"	4	8'-6"	4	7'-8"	4	6'-10"	4	6'-0"	4	5'-3"	4	4'-5"	2	4'-2"

EQUAL PIPE SIZE	BARS-Y1 NO.	BARS-Y1 L'GTH.	BARS-Y2 NO.	BARS-Y2 L'GTH.	BARS-Y3 NO.	BARS-Y3 L'GTH.	BARS-Y4 NO.	BARS-Y4 L'GTH.	BARS-Y5 NO.	BARS-Y5 L'GTH.	BARS-Y6 NO.	BARS-Y6 L'GTH.	QUANTITIES FOR ONE HEADWALL CU. YDS. CONCRETE	QUANTITIES FOR ONE HEADWALL POUNDS STEEL	EQUAL PIPE SIZE
18"	2	3'-3"	2	5'-2"									1.26	142	18"
24"	2	3'-3"	2	6'-11"									2.02	193	24"
30"	2	3'-3"	2	7'-5"	2	7'-8"							2.51	251	30"
36"	2	3'-3"	2	7'-5"	2	8'-9"							3.28	316	36"
42"	2	3'-3"	2	7'-5"	2	10'-1"							4.10	379	42"
48"	2	3'-3"	2	7'-5"	2	11'-5"	2	11'-5"					5.17	475	48"
54"	2	3'-3"	2	7'-5"	2	11'-8"	2	12'-7"					6.22	570	54"
60"	2	3'-3"	2	7'-5"	2	11'-8"	2	14'-0"	2	14'-0"			7.55	689	60"
72"	2	3'-3"	2	7'-5"	2	11'-8"	2	15'-11"	2	16'-6"	2	16'-6"	10.20	916	72"

FLARED HEADWALL FOR TRIPLE LINE PIPE CULVERT

REINFORCING STEEL FOR ONE HEADWALL

EQUAL PIPE SIZE	G	X	Y	Z	BARS-A NO.	BARS-A L'GTH.	BARS-B NO.	BARS-B L'GTH.	BARS-C NO.	BARS-C L'GTH.	BARS-D NO.	BARS-D L'GTH.	BARS-J1 NO.	BARS-J1 L'GTH.	BARS-J2 NO.	BARS-J2 L'GTH.	BARS-J3 NO.	BARS-J3 L'GTH.	BARS-J4 NO.	BARS-J4 L'GTH.	BARS-J5 NO.	BARS-J5 L'GTH.	BARS-J6 NO.	BARS-J6 L'GTH.	BARS-J7 NO.	BARS-J7 L'GTH.
18"	10'-4¼"	12'-9⅝"	9'-5¼"	1'-0"	4	13'-8"	12	6'-1"	4	2'-6"	6	2'-3"	1	10'-5"	1	11'-2"	1	11'-11"	1	12'-7"	1	13'-4"				
24"	12'-3⅛"	15'-11⅜"	11'-4⅝"	1'-0"	4	16'-2"	13	7'-10"	4	3'-1"	6	2'-6"	1	12'-4"	1	13'-1"	1	13'-10"	1	14'-6"	1	15'-3"	1	16'-0"		
30"	14'-0⅛"	18'-5⅝"	13'-4⅝"	1'-0"	4	18'-3"	15	8'-6"	4	3'-5"	6	2'-9"	1	14'-3"	1	15'-0"	1	15'-9"	1	16'-5"	1	17'-2"	1	17'-11"	1	18'-8"
36"	17'-0⅛"	22'-0½"	16'-2⅜"	1'-3"	4	21'-9"	18	9'-7"	6	3'-10"	6	3'-0"	1	17'-1"	1	17'-10"	1	18'-7"	1	19'-3"	1	20'-0"	1	20'-9"	1	21'-6"
42"	19'-0⅞"	24'-10⅝"	18'-2⅜"	1'-3"	4	24'-3"	20	10'-9"	6	4'-4"	6	3'-5"	1	19'-1"	1	19'-10"	1	20'-7"	1	21'-3"	1	22'-0"	1	22'-9"	1	23'-6"
48"	21'-8⅜"	28'-5⅜"	20'-9⅜"	1'-6"	4	27'-4"	23	12'-1"	6	4'-10"	6	3'-10"	1	21'-9"	1	22'-6"	1	23'-3"	1	23'-11"	1	24'-8"	1	25'-5"	1	26'-2"
54"	24'-2"	31'-8½"	23'-3½"	1'-9"	4	30'-3"	25	13'-2"	6	5'-3"	6	4'-3"	1	24'-2"	1	24'-11"	1	25'-8"	1	26'-4"	1	27'-1"	1	27'-10"	1	28'-7"
60"	26'-10¼"	35'-4⅜"	25'-11¾"	2'-0"	4	33'-5"	28	14'-6"	6	5'-9"	6	4'-8"	1	26'-11"	1	27'-8"	1	28'-5"	1	29'-1"	1	29'-10"	1	30'-7"	1	31'-4"
72"	31'-5¾"	41'-8¼"	30'-7¼"	2'-3"	4	39'-0"	33	16'-10"	8	6'-8"	6	5'-3"	1	31'-6"	1	32'-3"	1	33'-0"	1	33'-8"	1	34'-5"	1	35'-2"	1	35'-11"

EQUAL PIPE SIZE	BARS-J8 NO.	BARS-J8 L'GTH.	BARS-J9 NO.	BARS-J9 L'GTH.	BARS-J10 NO.	BARS-J10 L'GTH.	BARS-J11 NO.	BARS-J11 L'GTH.	BARS-J12 NO.	BARS-J12 L'GTH.	BARS-J13 NO.	BARS-J13 L'GTH.	BARS-J14 NO.	BARS-J14 L'GTH.	BARS-J15 NO.	BARS-J15 L'GTH.	BARS-U NO.	BARS-U L'GTH.
18"																	4	4'-5"
24"																	4	6'-3"
30"																	4	6'-11"
36"	1	22'-2"															4	8'-1"
42"	1	24'-2"	1	24'-11"													4	9'-4"
48"	1	26'-10"	1	27'-7"	1	28'-4"											4	10'-9"
54"	1	29'-3"	1	30'-0"	1	30'-9"	1	31'-6"	1	32'-2"							4	11'-10"
60"	1	32'-0"	1	32'-9"	1	33'-6"	1	34'-3"	1	34'-11"	1	35'-8"					4	13'-3"
72"	1	36'-7"	1	37'-4"	1	38'-1"	1	38'-10"	1	39'-6"	1	40'-3"	1	41'-0"	1	41'-9"	4	15'-9"

EQUAL PIPE SIZE	BARS-W1 NO.	BARS-W1 L'GTH.	BARS-W2 NO.	BARS-W2 L'GTH.	BARS-W3 NO.	BARS-W3 L'GTH.	BARS-W4 NO.	BARS-W4 L'GTH.	BARS-W5 NO.	BARS-W5 L'GTH.	BARS-W6 NO.	BARS-W6 L'GTH.	BARS-W7 NO.	BARS-W7 L'GTH.	BARS-W8 NO.	BARS-W8 L'GTH.	BARS-W9 NO.	BARS-W9 L'GTH.
18"	4	2'-9"	4	2'-2"	4	1'-9"												
24"	4	3'-9"	4	3'-0"	4	2'-4"	4	1'-10"										
30"	4	4'-5"	4	3'-8"	4	2'-10"	4	2'-2"	2	1'-11"								
36"	4	5'-1"	4	4'-5"	4	3'-7"	4	2'-9"	4	2'-4"								
42"	4	5'-11"	4	5'-2"	4	4'-4"	4	3'-7"	4	2'-10"	2	2'-8"						
48"	4	6'-9"	4	5'-11"	4	5'-2"	4	4'-4"	4	3'-7"	4	2'-10"						
54"	4	7'-7"	4	6'-6"	4	5'-11"	4	5'-1"	4	4'-3"	4	3'-6"	4	3'-3"				
60"	4	8'-6"	4	7'-8"	4	6'-10"	4	6'-1"	4	5'-3"	4	4'-4"	4	3'-7"	2	3'-6"		
72"	4	10'-1"	4	9'-4"	4	8'-6"	4	7'-8"	4	6'-10"	4	6'-0"	4	5'-3"	4	4'-5"	2	4'-2"

EQUAL PIPE SIZE	BARS-Y1 NO.	BARS-Y1 L'GTH.	BARS-Y2 NO.	BARS-Y2 L'GTH.	BARS-Y3 NO.	BARS-Y3 L'GTH.	BARS-Y4 NO.	BARS-Y4 L'GTH.	BARS-Y5 NO.	BARS-Y5 L'GTH.	BARS-Y6 NO.	BARS-Y6 L'GTH.	QUANTITIES FOR ONE HEADWALL CU. YDS. CONCRETE	QUANTITIES FOR ONE HEADWALL POUNDS STEEL	EQUAL PIPE SIZE
18"	2	3'-3"	2	5'-2"									1.63	181	18"
24"	2	3'-3"	2	6'-11"									2.64	246	24"
30"	2	3'-3"	2	7'-5"	2	7'-8"							3.29	313	30"
36"	2	3'-3"	2	7'-5"	2	8'-9"							4.34	402	36"
42"	2	3'-3"	2	7'-5"	2	10'-1"							5.41	486	42"
48"	2	3'-3"	2	7'-5"	2	11'-5"	2	11'-5"					6.85	511	48"
54"	2	3'-3"	2	7'-5"	2	11'-8"	2	12'-7"					8.27	740	54"
60"	2	3'-3"	2	7'-5"	2	11'-8"	2	14'-0"	2	14'-0"			10.07	894	60"
72"	2	3'-3"	2	7'-5"	2	11'-8"	2	15'-11"	2	16'-6"	2	16'-6"	13.60	1197	72"

DIMENSIONS / DETAIL DIMENSIONS FOR WING WALL STEEL

EQUAL PIPE SIZE	MIN. THICKNESS OF SHELL "T"	INSIDE SPAN	INSIDE RISE	H	R	S1	S2	W	W1 X	W1 X1	W2 X	W2 X1	W3 X	W3 X1	W4 X	W4 X1	W5 X	W5 X1	W6 X	W6 X1	W7 X	W7 X1	W8 X	W8 X1	W9 X	W9 X1
18"	2½"	22"	13½"	2'-4¼"	4'-6¾"	4'-8⅝"	4'-10¼"	0'-8"	1'-1"	1'-8"	1'-0"	1'-2"	0'-10"	0'-11"												
24"	3"	28½"	18"	2'-11⅜"	6'-3¼"	6'-6⅛"	6'-8"	0'-10"	1'-6"	2'-3"	1'-3"	1'-9"	1'-1"	1'-3"	0'-10"	1'-0"										
30"	3½"	36¼"	22½"	3'-3½"	6'-11⅜"	7'-3⅜"	7'-5⅝"	1'-0"	1'-10"	2'-7"	1'-7"	2'-1"	1'-3"	1'-7"	1'-0"	1'-2"	0'-10"	1'-1"								
36"	4"	43¾"	26⅝"	3'-8⅝"	8'-0¼"	8'-4⅝"	8'-6½"	1'-2"	2'-2"	2'-11"	1'-11"	2'-6"	1'-7"	2'-0"	1'-3"	1'-6"	1'-0"	1'-4"								
42"	4½"	51⅛"	31 5/16"	4'-2⅞"	9'-2¼"	9'-7½"	9'-9⅜"	1'-4"	2'-6"	3'-5"	2'-2"	3'-0"	1'-10"	2'-6"	1'-7"	2'-0"	1'-3"	1'-7"	1'-2"	1'-6"						
48"	5"	58½"	36"	4'-8"	10'-5¾"	11'-0"	11'-1⅞"	1'-6"	2'-10"	3'-11"	2'-6"	3'-5"	2'-2"	3'-0"	1'-10"	2'-6"	1'-6"	2'-1"	1'-3"	1'-7"						
54"	5½"	65"	40"	5'-1¼"	11'-6¾"	12'-1⅞"	12'-3⅝"	1'-8"	3'-2"	4'-5"	2'-10"	3'-11"	2'-6"	3'-5"	2'-2"	2'-11"	1'-10"	2'-5"	1'-6"	2'-0"	1'-5"	1'-10"				
60"	6"	73"	45"	5'-7¼"	12'-10¾"	13'-6¾"	13'-8⅜"	1'-10"	3'-7"	4'-11"	3'-3"	4'-5"	2'-11"	3'-11"	2'-7"	3'-6"	2'-3"	3'-0"	1'-10"	2'-6"	1'-6"	2'-1"	1'-6"	2'-0"		
72"	7"	88"	54"	6'-6¼"	15'-2¾"	16'-0⅝"	16'-2½"	2'-2"	4'-4"	5'-9"	4'-0"	5'-4"	3'-8"	4'-10"	3'-3"	4'-5"	2'-11"	3'-11"	2'-7"	3'-5"	2'-3"	3'-0"	1'-11"	2'-6"	1'-10"	2'-4"

TYPICAL HOOK

SECTION A-A

PLAN VIEW

PLAN VIEW

All Lengths & Quantities In These Tables Are Based On Concrete (Tongue & Groove) Pipe. Quantities Shown Shall Be The Basis For Payment Unless Authorized Modifications Are Made.

Reinforcement (Single Line) For Concrete Arch Pipe Shall Conform To Requirements Of AASHTO Designation M-206 For Class Of Pipe Shown On Plans.

△1

SECTION B-B

FRONT ELEVATION

FRONT ELEVATION

NOTE: All Bars Are No. 4
One 12" Lap Added To Bars "J" Exceeding 30 Ft. (Computed Length).
One 12" Lap Added to Bars "A" For Triple Line 72" Pipe.
Dimensions Shown For Bar Spacing Are To ℄ Bars.

BARS "B"

BARS "A"

NOTE: Schedule Length Includes Hook

BARS "Y"

See Schedule

BARS "U"

See Schedule

BARS "J"

BARS "W"

DATE	REVISIONS	BY
9-9-80	REMOVED ALTERNATE TABLE	AWK

MISSISSIPPI STATE HIGHWAY DEPARTMENT

HEADWALLS
FOR CONCRETE ARCH PIPE,
4:1 SLOPE, 0° -15° SKEW

WORKING NUMBER HWA-4100

SHEET NUMBER 263

DESIGNED ______ DETAILED ______ TRACED ______

CHECKED ______ ISSUED D.B.J. DATE 11-1-79

STATE	PROJECT NO.
MISS.	

INSTRUCTIONS FOR COMPLETING THE VEGETATION SCHEDULE

TOPSOIL - THE NEED FOR TOPSOIL IS DETERMINED FROM THE ORIGINAL SOIL PROFILE BORINGS OR FIELD INSPECTION. IF NOT NEEDED TOPSOIL WILL NOT APPEAR ON THE SCHEDULE. IF EXTREMELY ACID SOILS ARE ENCOUNTERED 8" THICK TOPSOIL IS NORMALLY REQUIRED. PROPOSAL QUANTITIES (EST.) ARE DETERMINED USING A PERCENTAGE OF THE TOTAL ACREAGE OR WITHIN CERTAIN STATION LIMITS.

AGRICULTURAL LIMESTONE - THE 3 TON/ACRE RATE LISTED BELOW IS FOR URBAN GRADE, DRAIN AND BRIDGE PROJECTS; ALL OTHER PROJECTS REQUIRE 2 TON/ACRE.

SOLID SODDING - WHEN CONSTRUCTION IS ADJACENT TO LAWNS THE PAY ITEM NO. 216-B MAY NEED TO BE SPECIFIED. TO REQUIRE THE SAME KIND OF GRASS BE FURNISHED AND PLANTED THAT IS GROWING IN THE ADJACENT LAWNS.

VEGETATION SCHEDULE

EROSION CONTROL ITEMS		SEASONAL APPLICATIONS-DATES & RATES SPRING & SUMMER		FALL & WINTER		REQUIREMENTS
PAY ITEM NO.	ITEMS	RATES	DATES	RATES	DATES	
⑦ 211-B	TOPSOIL FOR SLOPE TREATMENT (LVM)	4" THICK	MARCH 1 TO SEPTEMBER 1	4" THICK	SEPTEMBER 1 TO MARCH 1	TOPSOIL REQUIRED ON SLOPES DETERMINED BY THE ENGINEER DURING CONSTRUCTION.
212-B	STANDARD GROUND PREPARATION	PER SQ.YD.	MARCH 1 TO SEPTEMBER 1	PER SQ.YD.	SEPTEMBER 1 TO MARCH 1	GROUND PREPARATION REQUIRED ON AREAS TO RECEIVE SOLID SODDING OR SEEDING, AS APPLICABLE.
213-A	AGRICULTURAL LIMESTONE	3 TONS/ACRE	MARCH 1 TO SEPTEMBER 1	3 TONS/ACRE	SEPTEMBER 1 TO MARCH 1	LIMESTONE SHALL BE MECHANICALLY SPREAD UNIFORMLY AND INCORPORATED INTO THE SOIL PRIOR TO PLANTING.
213-B	COMBINATION FERTILIZER (13-13-13)	1000 LBS./ACRE	MARCH 1 TO SEPTEMBER 1	1000 LBS./ACRE	SEPTEMBER 1 TO MARCH 1	FERTILIZER SHALL BE MECHANICALLY SPREAD UNIFORMLY AND INCORPORATED INTO THE SOIL PRIOR TO PLANTING.
① 213-C	SUPERPHOSPHATE	0.5 TONS/ACRE (EST.)	MARCH 1 TO DECEMBER 1			SUPERPHOSPHATE (FOR BID ITEM PURPOSES).
② 214-A	SEEDING (BERMUDAGRASS)	20 LBS./ACRE	MARCH 1 TO SEPTEMBER 1	20 LBS./ACRE	SEPTEMBER 1 TO MARCH 1	SEED REQUIRED ON DISTURBED AREAS. UNHULLED SEED MAY BE REQUIRED DURING THE DORMANT SEASON AS DIRECTED.
③ ⑤ 214-A	SEEDING (TALL FESCUE)			20 LBS./ACRE	AUGUST 1 TO APRIL 1	SEED REQUIRED ON DISTURBED AREAS.
③ ⑤ 214-A	SEEDING (CRIMSON CLOVER)			20 LBS./ACRE	AUGUST 1 TO APRIL 1	SEED REQUIRED ON DISTURBED AREAS.
⑥ 215-A	VEGETATIVE MATERIAL FOR MULCH	2 TONS ACRE (EST.)	MARCH 1 TO SEPTEMBER 1	2 TONS/ACRE (EST.)	SEPTEMBER 1 TO MARCH 1	THE ENGINEER WILL DESIGNATE THE RATES OF APPLICATION (SEE SUBSECTION 215.03.3).
216-A	SOLID SODDING	PER SQ.YD.	MARCH 1 TO SEPTEMBER 1	PER SQ. YD.	SEPTEMBER 1 TO MARCH 1	SOLID SOD REQUIRED ON AREAS SPECIFIED IN THE CONTRACT OR BY THE ENGINEER.
219-A	WATERING	20 GALS./S.Y. (EST.)	MARCH 1 TO SEPTEMBER 1	20 GALS. S.Y. (EST.)	SEPTEMBER 1 TO MARCH 1	TO BE USED AS DIRECTED IN THE PLANTING AND ESTABLISHING SOLID SOD.
④ 220-A	INSECT PEST CONTROL	PER ACRE		PER ACRE		SEE SECTION 220.

① ALL AREAS THAT HAVE BEEN VEGETATED, UNDER THIS CONTRACT FOR AT LEAST (60) SIXTY DAYS, SHALL RECEIVE ADDITIONAL APPLICATION(S) OF FERTILIZER(S) OF THE TYPE(S) AND RATE(S) OF APPLICATIONS AS DETERMINED BY SOIL TESTS OR AS DIRECTED DURING THE GROWING SEASONS THE CONTRACT IS IN FORCE. GROUND PREPARATION WILL NOT BE REQUIRED FOR THE ADDITIONAL APPLICATIONS. PAYMENT FOR ALL FERTILIZERS ACCEPTABLY APPLIED AS AN ADDITIONAL APPLICATION(S) WILL BE MADE IN ACCORDANCE WITH SUPERPHOSPHATE BID ITEM 213-C.

② PROPOSAL QUANTITIES ESTIMATED ON THE BASIS THAT 100% OF THE ACREAGE WILL BE SEEDED.

③ PROPOSAL QUANTITIES ESTIMATED ON THE BASIS THAT 50% OF THE ACREAGE WILL BE SEEDED.

④ QUANTITY ESTIMATED ON THE BASIS 50% OF THE ACREAGE VEGETATED MAY REQUIRE TREATMENT.

⑤ THIS ITEM TO BE OMITTED ON AREAS SELECTED BY THE ENGINEER.

⑥ BAHIAGRASS WILL NOT BE PERMITTED AS A MULCH MATERIAL.

⑦ PROPOSAL QUANTITIES ESTIMATED ON THE BASIS THAT 75% OF THE ACREAGE SEEDED MAY REQUIRE TOPSOIL.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION CADD DIVISION

REVISION | BY | DATE

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

DISTRICT 3 OR 5

VEGETATION SCHEDULE

URBAN - ALL TYPES, EXCLUDING MS DELTA

PROJECT NO.

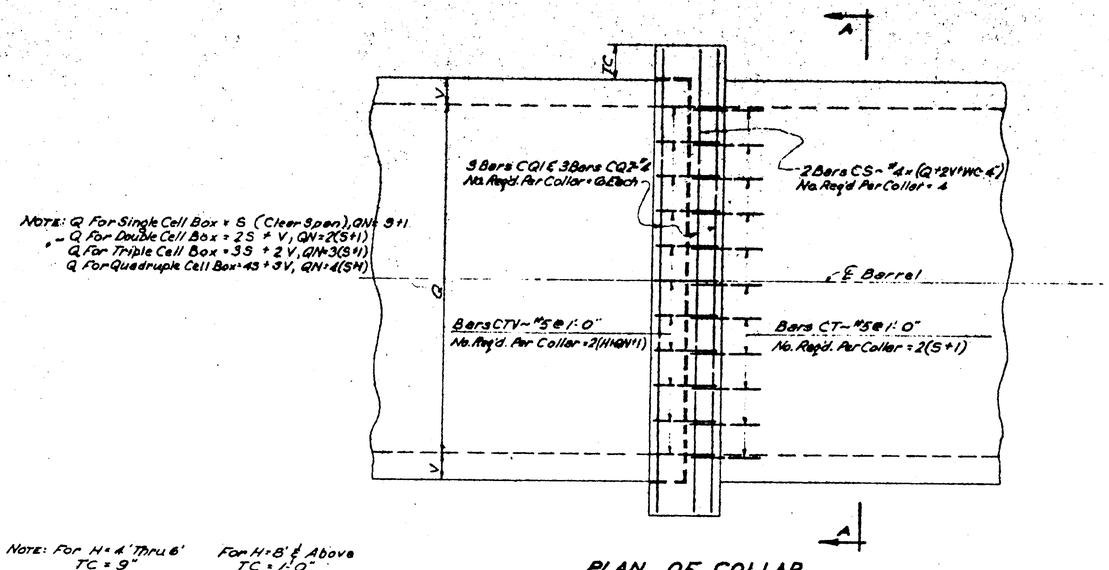
COUNTY

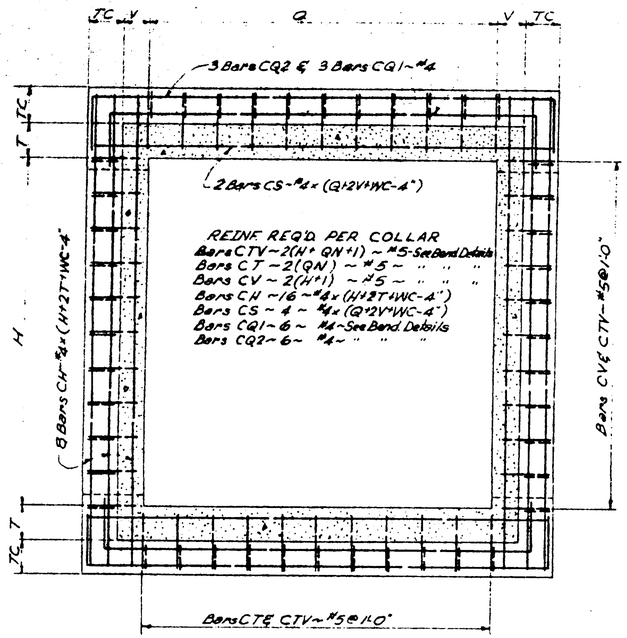
WORKING NUMBER

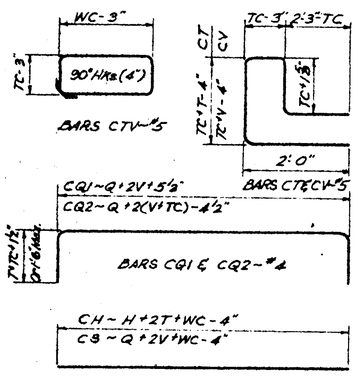
FILENAME:

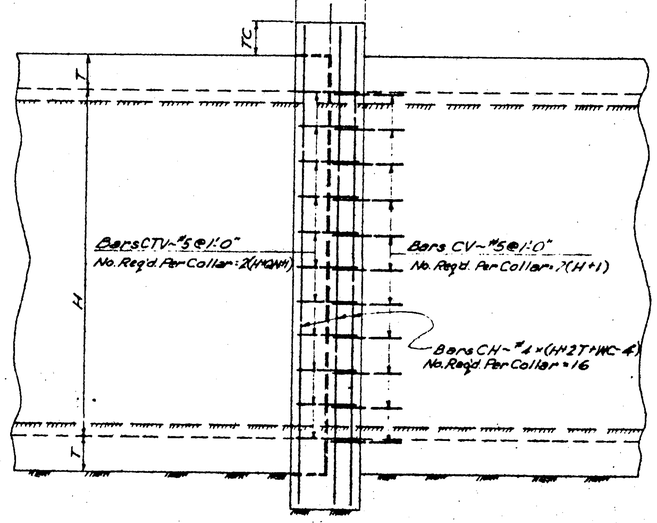
DESIGN TEAM CHECKED DATE

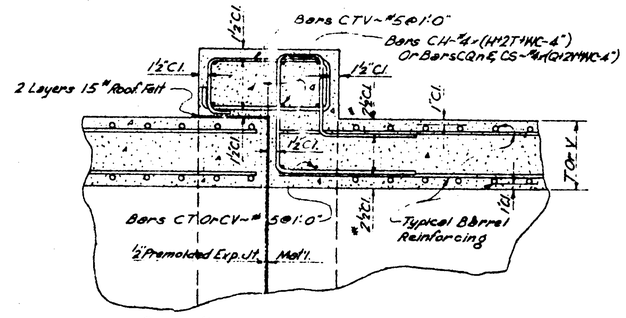
SHEET NUMBER 315











NOTE: Q For Single Cell Box = S (Clear Span), QN = S+1
Q For Double Cell Box = 2S + V, QN=2(S+1)
Q For Triple Cell Box = 3S + 2V, QN=3(S+1)
Q For Quadruple Cell Box = 4S + 3V, QN=4(S+1)

PLAN OF COLLAR

NOTE: For H = 4' Thru 6'
TC = 9"
WC = 1'-6"

For H = 8' & Above
TC = 1'-0"
WC = 2'-0"

REINF. REQ'D. PER COLLAR
Bars CTV ~ 2(H+QN+1) ~ #5 - See Bend Details
Bars CT ~ 2(QN) ~ #5 ~ " " "
Bars CV ~ 2(H+1) ~ #5 ~ " " "
Bars CH ~ 16 ~ #4 x (H+2T+WC-4")
Bars CS ~ 4 ~ #4 x (Q+2V+WC-4")
Bars CQ1 ~ 6 ~ #4 ~ See Bend. Details
Bars CQ2 ~ 6 ~ #4 ~ " " "

SECTION A-A

BAR BENDING DETAILS

NOTE: See * At Right

ELEVATION OF COLLAR

*Note: 2½" Cl. Based On 1" Cl. For Typ. Barrel Reinf. This Cl. Shall Be Adjusted For Cl. Other Than 1".

TYPICAL SECTION OF COLLAR

GENERAL NOTES:

This Drawing Shows The Details Necessary To Construct A Complete Collar Around Barrel At Expansion Joints For Single, Double, Triple And Quadruple Cell Box Structures.

All Details And Requirements Not Shown Hereon Shall Be As Per Specific Drawings Or Sheets As Listed In The Plan Assembly.

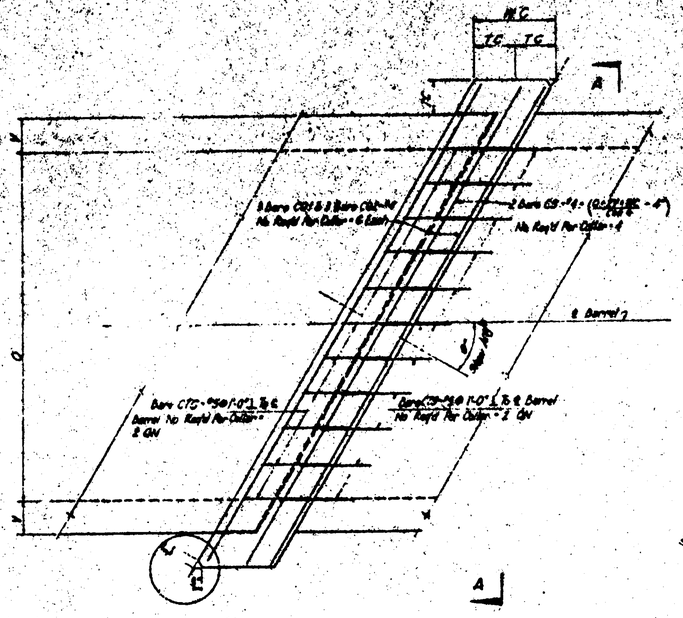
This Drawing Is Detailed For A Single Cell Box Structure And Multi-Cell Box Structures Shall Be Treated Similarly As Shown.

1-7-70 : Title Block, Bars CT, Notes & Heading For TC & WC, H=8 & Above
DATE
REVISIONS
BY

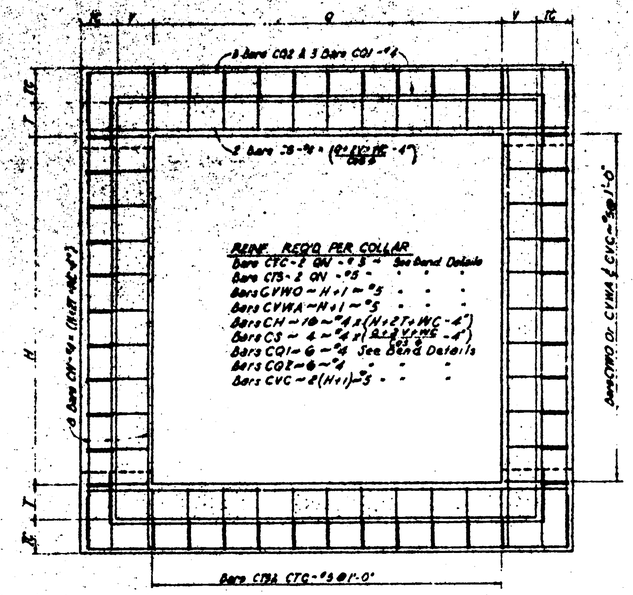
MISSISSIPPI STATE HIGHWAY DEPARTMENT
COLLAR DETAILS
FOR BOX STRUCTURES
(SINGLE, DOUBLE, TRIPLE & QUADRUPLE)

DESIGNED ________ DETAILED ________ TRACED HE
CHECKED ________ ISSUED ________ DATE ________

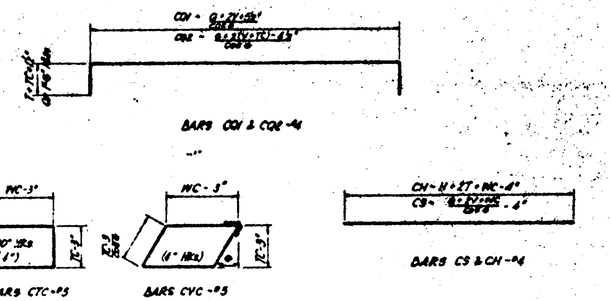
WORKING NUMBER
CJ-1
SHEET NUMBER
316



PLAN OF COLLAR



SECTION A-A



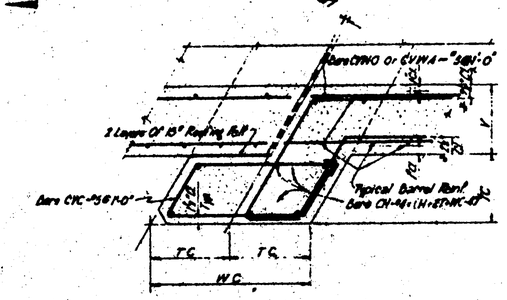
NOTE: See ⊕ Below.

BAR BENDING DETAILS

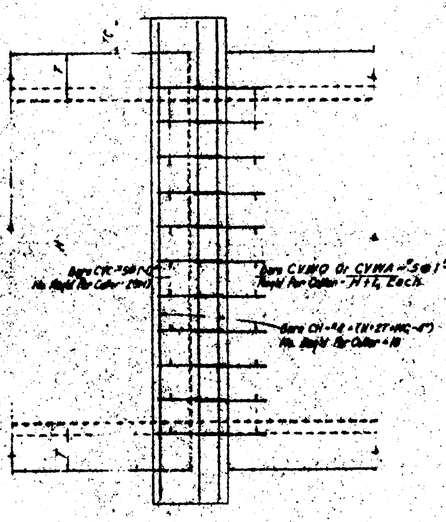
Dimensions Are Out To Out.

Note: Q For Single Cell Box = S (Clear Span), QN = S+1
Q For Double Cell Box = 2S+V, QN = 2(S+1)
Q For Triple Cell Box = 3S+2V, QN = 3(S+1)
Q For Quadruple Cell Box = 4S+3V, QN = 4(S+1)
⊕ = Skew Angle

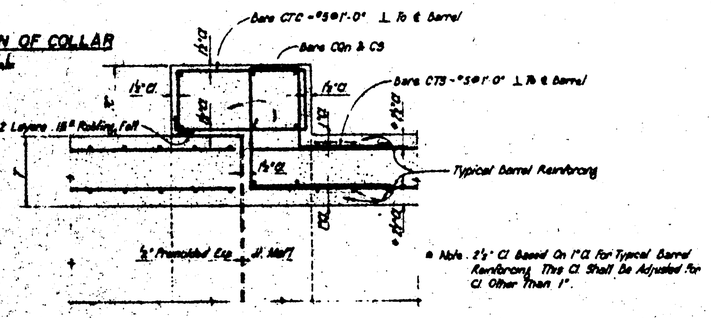
For H = 4' Thru 6'	For H = 6' & Above
TC = 3"	TC = 1'-0"
WC = 1'-6"	WC = 2'-0"



TYPICAL SECTION OF COLLAR AT WALL



ELEVATION OF COLLAR



⊕ Note: 2½" Cl Based On 1" Cl. For Typical Barrel Reinforcing. This Cl. Shall Be Adjusted For Cl. Other Than 1".

TYPICAL SECTION OF COLLAR - TOP & BOTTON

GENERAL NOTES:

This Drawing Shows The Details Necessary To Construct A Complete Collar Around Barrel At Skewed Expansion Joints For Single, Double, Triple And Quadruple Cell Box Structures.
All Details And Requirements Not Shown Hereon Shall Be As Per Specific Drawings Or Sheets As Listed In The Plan Assembly.
This Drawing Is Detailed For A Single Cell Box Structure, And Multi-Cell Box Structures Shall Be Treated Similarly As Shown.

MISSISSIPPI STATE HIGHWAY DEPARTMENT

SKEWED COLLAR DETAILS FOR BOX STRUCTURES

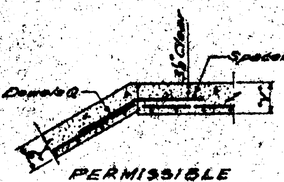
(SINGLE, DOUBLE, TRIPLE & QUADRUPLE)

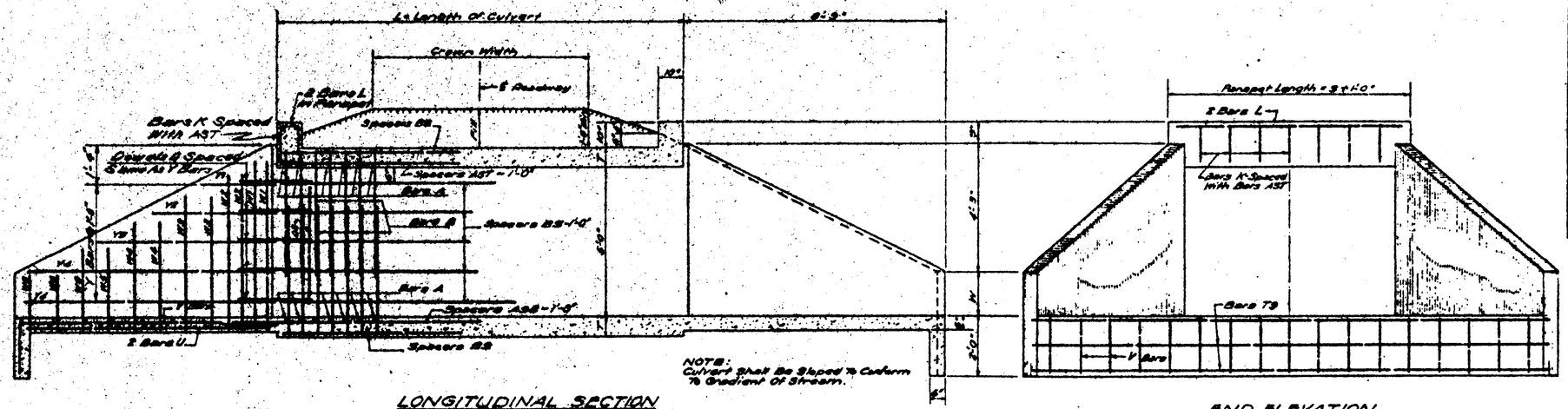
DRAWING NUMBER C/S-1

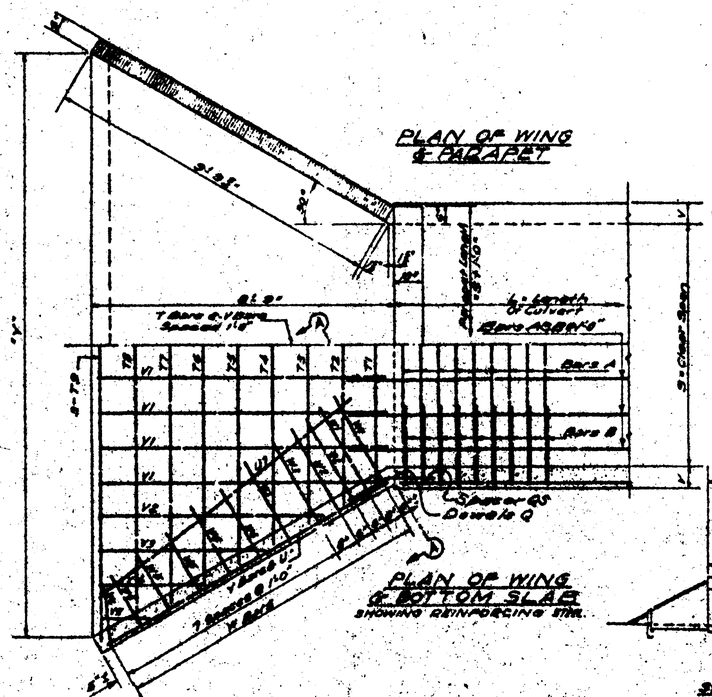
DESIGNED [illegible] DETAILED DAS TRACED DAS

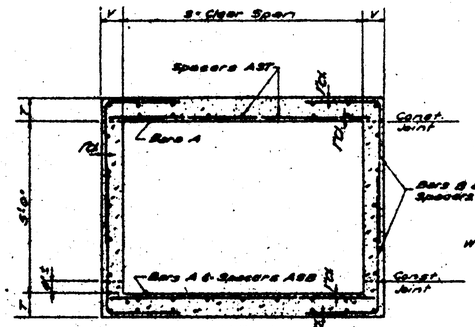
CHECKED [illegible] ISSUED DATE

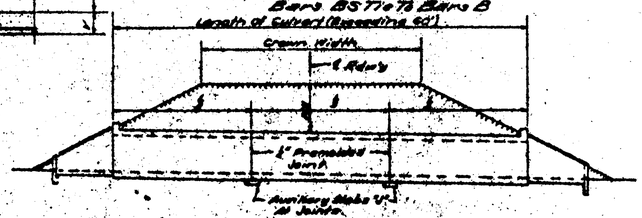
SHEET NUMBER 317

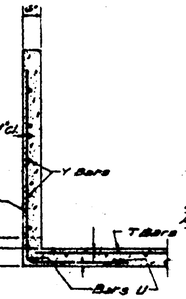


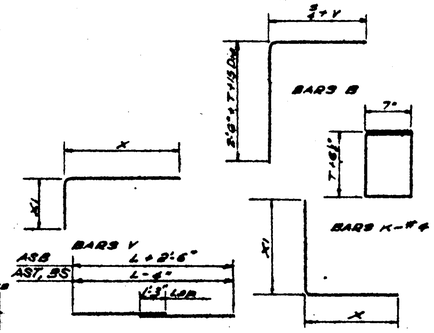


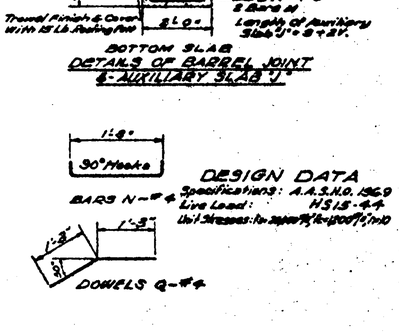












PERMISSIBLE CONSTRUCTION JOINT AT WING

CULVERT DIMENSIONS						ESTIMATED QUANTITIES					
						CULVERT (L=40')		PER LIN. FT. BARREL		2 AUX. SLABS "J"	
CLEAR SPAN	MAX. FILL	T	V	W	Y	CONC. CU. YD.	REINF. STEEL LB.	CONC. CU. YD.	REINF. STEEL LB.	CONC. CU. YD.	REINF. STEEL LB.
5'	18'	7"	7"	1'-6"	[illegible]	26.68	3,546	0.4926	63.4	0.61	36
6'	16'	7½"	7"	1'-5½"	[illegible]	29.75	4,220	0.5478	85.4	0.71	41
7'	15'	8"	7"	1'-6"	[illegible]	33.07	4,694	0.6132	96.0	0.81	47
8'	10'	8½"	7"	1'-6½"	[illegible]	36.64	5,172	0.6370	107.1	0.91	53
9'	8'	9"	7"	1'-7"	[illegible]	40.46	6,037	0.7809	136.7	1.00	58
10'	8'	9½"	7½"	1'-7½"	[illegible]	42.84	7,068	0.8312	151.6	1.11	64
12'	6'	10"	8"	1'-8"	[illegible]	52.38	8,024	1.0700	181.7	1.32	75

BAR LIST FOR BARREL (L=40') & PARAPETS																									BAR LIST 2 AUX. SLABS			
SPAN	BARS "A"				BARS "B"				DOWELS "Q"-#4		SPACERS "QS"-#4		BARS "AST" #4		BARS "ASB" #4		BARS "BS" #4		BARS "K" #4		BARS "L" #4				BARS "M" #4		BARS "N" #4	
	NO.	SIZE	SPAC.	LGTH.	NO.	SIZE	SPAC.	LGTH.	NO.	LGTH.	NO.	LGTH.	NO.	LGTH.	NO.	LGTH.	NO.	LGTH.	NO.	LGTH.	NO.	LGTH.			NO.	LGTH.	NO.	LGTH.
5'	148	#5	6½"	5'-11"	544	#3	3⅜"	5'-5"	20	2'-6"	4	4'-7"	5	40'-11"	5	43'-9"	18	40'-11"	10	4'-8"	4	5'-8"			4	5'-10"	14	2'-2"
6'	166	#5	5⅞"	6'-11"	332	#4	5¾"	5'-10"	20	2'-6"	4	4'-7"	6	40'-11"	6	43'-9"	22	40'-11"	12	4'-1"	4	6'-8"			4	6'-10"	16	2'-2"
7'	174	#5	5½"	7'-11"	348	#4	5½"	6'-2"	20	2'-6"	4	4'-7"	7	40'-11"	7	43'-9"	22	40'-11"	14	4'-2"	4	7'-8"			4	7'-10"	18	2'-2"
8'	182	#5	5¼"	8'-11"	364	#4	5¼"	6'-5"	20	2'-6"	4	4'-7"	8	40'-11"	8	43'-9"	22	40'-11"	16	4'-3"	4	8'-8"			4	8'-10"	20	2'-2"
9'	138	#6	7"	9'-11"	276	#5	7"	6'-10"	20	2'-6"	4	4'-7"	9	40'-11"	9	43'-9"	22	40'-11"	18	4'-4"	4	9'-8"			4	9'-10"	22	2'-2"
10'	154	#6	6¼"	11'-0"	308	#5	6¼"	7'-2"	20	2'-6"	4	4'-7"	10	40'-11"	10	43'-9"	26	40'-11"	20	4'-5"	4	10'-8"			4	10'-11"	24	2'-2"
12'	116	#7	8¼"	13'-1"	348	#6	5½"	7'-9"	20	2'-6"	4	4'-7"	12	40'-11"	12	43'-9"	26	40'-11"	24	4'-6"	4	12'-8"			4	13'-0"	28	2'-2"

BAR LIST FOR WINGS & APRONS											
BAR	SIZE	NO. REQUIRED SPAN							DIM. X	DIM. X1	LENGTH
		5'	6'	7'	8'	9'	10'	12'			
T1	#4	2	2	2	2	2	2	2			S+1'-0"
T2	#4	2	2	2	2	2	2	2			S+2'-2"
T3	#4	2	2	2	2	2	2	2			S+3'-4"
T4	#4	2	2	2	2	2	2	2			S+4'-6"
T5	#4	2	2	2	2	2	2	2			S+5'-8"
T6	#4	2	2	2	2	2	2	2			S+6'-10"
T7	#4	2	2	2	2	2	2	2			S+8'-0"
T8	#4	2	2	2	2	2	2	2			S+9'-2"
T9	#4	6	6	6	6	6	6	6			S+10'-2"
U	#4	8	8	8	8	8	8	8			9'-6"
V1	#4	16	16	18	20	22	24	28	8'-5"	1'-8"	10'-1"
V2	#4	4	4	4	4	4	4	4	6'-6"	1'-8"	8'-3"
V3	#4	4	4	4	4	4	4	4	4'-9"	1'-8"	6'-5"
V4	#4	4	4	4	4	4	4	4	3'-1"	1'-8"	4'-9"
V5	#4	4	4	4	4	4	4	4	1'-5"	1'-8"	3'-1"
W1	#4	8	8	8	8	8	8	8	3'-0"	W+4'-1"	W+7'-1"
W2	#4	8	8	8	8	8	8	8	2'-10"	W+3'-8"	W+6'-6"
W3	#4	8	8	8	8	8	8	8	2'-7"	W+2'-11"	W+5'-6"
W4	#4	8	8	8	8	8	8	8	2'-3"	W+2'-1"	W+4'-4"
W5	#4	8	8	8	8	8	8	8	2'-0"	W+1'-3"	W+3'-3"
W6	#4	8	8	8	8	8	8	8	1'-9"	W+4"	W+2'-1"
Y1	#4	4	4	4	4	4	4	4			2'-7"
Y2	#4	4	4	4	4	4	4	4			4'-11"
Y3	#4	4	4	4	4	4	4	4			7'-2"
Y4	#4	8	8	8	8	8	8	8			9'-6"

LONGITUDINAL SECTION

END ELEVATION

DETAILS OF BARREL JOINT & AUXILIARY SLAB "J"

PLAN OF WING & PARAPET

PLAN OF WING & BOTTOM SLAB SHOWING REINFORCING STL.

CROSS SECTION

Bars AST Tie To Bars A In Top Slab
Bars ASB Tie To Bars A In Bottom Slab
Bars BS Tie To Bars B

SECTION "A"-"A"

BAR BENDING DETAILS

Dimensions Are Out To Out

DESIGN DATA

Specifications: A.A.S.H.O. 1969

Live Load: HS15-44

Unit Stresses: [illegible]

SIDE ELEVATION OF CULVERT EXCEEDING 60 FT. "L" SHOWING JOINTS IN BARREL & AUXILIARY SLABS "J"

GENERAL NOTES:-

Specifications: Mississippi State Highway Department.

All Concrete Shall Be Class "B"

Concrete Surfaces Shall Be Finished In Accordance With Sub-Section 804.24

All Exposed Corners Shall Be Chamfered ¾ Inch.

Reinforcing Steel Shall Be Placed 1" Clear Minimum From Surface Of The Concrete And Shall Be Adequately Supported From The Forms.

All Bars Shall Be Accurately Spaced And Securely Wired At Each Intersection Before Placing Concrete.

Horizontal Construction Joints Shall Be Placed Only At The Locations Shown, And The Concrete Shall Be Allowed To Set A Minimum Period Of 2 Hours Before Continuing The Pour.

Where The Length Of The Culvert Exceeds 60 Feet Place Vertical Expansion Joints And Auxiliary Slabs "J" At The ¼ Points.

The Quantities Shown Will Be Used As The Basis For Final Payment Unless This Dwg. Is Modified.

GENERAL REVISIONS [illegible]

MISSISSIPPI STATE HIGHWAY DEPARTMENT
BOX CULVERT DRAWING
SINGLE CELL

HEIGHT 5 FT.
SPANS 5 - 12 FT.

WORKING NUMBER BS-5

DETAILED N.H.J. CHECKED J.J.M. ISSUED [illegible]
TRACED L.B.R. DATE [illegible] 1946 DATE [illegible]

SHEET NUMBER 322

TABLE OF DIMENSIONS

Culvert Height	L1	L2	N1	N2	P	R1	R2	U	W	Z
2'	3'-5"	3'-5"			.0350+0.00	5"	1'-4"	6"	1'-0"	0"
3'	5'-8½"	7'-9¼"			.0350+0.25	5"	1'-4"	6"	1'-0"	1'-2"
4'	7'-5"	10'-4"			.0350+0.50	5"	1'-4"	6"	1'-0"	2'-4"
5'	9'-9½"	12'-0½"			.0350+0.75	5"	1'-4"	6"	1'-0"	3'-6"
6'	11'-2½"	15'-3½"			.0350+1.00	5"	1'-4"	7"	1'-0"	4'-8"
8'	14'-5"	20'-0½"	3'-4"	4'-0"	.0350+1.25	6"	2'-0"	8"	1'-0"	6'-2"
10'	17'-8"	24'-9"	3'-4"	4'-0"	.0350+1.50	6"	2'-0"	8"	1'-0"	7'-10"
12'	20'-11"	29'-5"	3'-4"	4'-0"	.0350+1.75	6"	2'-0"	8"	1'-0"	9'-6"

(W = Minimum Dimension At Top Of Wall)

NOTE: 0 For Single Cell Culvert = S (Clear Span)
0 For Double Cell Culvert = 2S + V

TABLE OF V BARS

Culvert Height	Bars V1 No.	Bars V1 Dim. X	Bars V2 No.	Bars V2 Dim. X	Bars V3 No.	Bars V3 Dim. X
2'	1	1'-4"				None
3'	2	3'-3" To 11'-1"	1	3'-3"		
4'	3	5'-2" To 12'-9"	2	4'-0" To 12'-9"		
5'	3	6'-6" To 12'-5"	3	6'-2" To 12'-5"		
6'	6	8'-2" To 11'-10"	4	8'-10" To 12'-10"		
8'	8	10'-6" To 12'-3"	6	10'-3" To 12'-3"		
10'	8	14'-3" To 12'-11"	7	14'-9" To 12'-9"		
12'	11	17'-8" To 12'-10"	8	17'-3" To 13'-5"		

Bar V3 Not Required For Culvert Heights Of 2' Or 3'

TABLE OF T BARS

Culvert Height	Bar	No.	Length
2'	T1 & T3	1 Ea.	P-2" To P+2.5"
	T4	3	P+3'-11"
3'	T1 & T3	1 Ea.	P-2" To P+4'-11"
	T5	3	P+5'-10"
4'	T1 & T7	1 Ea.	P-2" To P+7'-3"
	T8	3	P+8'-0"
5'	T1 & T8	1 Ea.	P-2" To P+8'-8"
	T9	3	P+9'-9"
6'	T1 & T10	1 Ea.	P-2" To P+11'-5"
	T11	3	P+13'-0"
8'	T1 & T12	1 Ea.	P-2" To P+16'-4"
	T13	3	P+15'-11"
10'	T1 & T16	1 Ea.	P-2" To P+19'-10"
	T17	3	P+19'-8"
12'	T1 & T18	1 Ea.	P-2" To P+21'-7"
	T19	3	P+22'-10"

TABLE OF U BARS

Culvert Height	U1 No. & Length Long Wing	U1 No. & Length Short Wing	U2 No. & Length Long Wing	U2 No. & Length Short Wing
2'	2 @ 5'-0"	2 @ 3'-8"		
3'	2 @ 7'-5"	2 @ 5'-6"		
4'	2 @ 9'-8"	2 @ 7'-2"		
5'	2 @ 11'-7"	2 @ 8'-7"		
6'	3 @ 16'-1"	3 @ 11'-2"		
8'	3 @ 19'-6"	3 @ 14'-5"		
10'	2 @ 22'-4" 1 @ 20'-6"	3 @ 16'-8"		
12'	2 @ 25'-10" 1 @ 24'-0"	2 @ 19'-10" 1 @ 19'-8"		

TABLE OF Y BARS

Culvert Height	Bar	No.	Length Long Wing	Length Short Wing
2'	Y1 & Y2	1 Ea.	3'-7" To 8'-5"	3'-4" To 8'-0"
3'	Y1 To Y2	1 Ea.	3'-7" To 8'-5"	3'-4" To 8'-0"
	Y3	1	1'-0"	1'-2"
4'	Y1 To Y3	1 Ea.	3'-7" To 9'-5"	3'-4" To 8'-2"
	Y4	1	1'-0"	1'-2"
5'	Y1 To Y3	1 Ea.	3'-3" To 9'-5"	3'-3" To 6'-5"
	Y4	2	1'-0"	9"-6"
6'	Y1 To Y3	1 Ea.	3'-3" To 9'-5"	3'-3" To 6'-5"
	Y5	1	1'-0"	1'-2"
8'	Y1 To Y6	1 Ea.	3'-0" To 9'-5"	2'-9" To 6'-5"
	Y7	2	1'-0"	1'-5"
10'	Y1 To Y6	1 Ea.	4'-3" To 9'-5"	3'-9" To 6'-5"
	Y7	2	2'-8"	1'-6"
12'	Y1 To Y7	1 Ea.	4'-3" To 9'-5"	3'-9" To 6'-4"
	Y8	3	2'-6"	1'-9"

TABLE OF L & M BARS

Culvert Height	Bars L No.	Bars L Size	Bars L Length	Bars M No.	Bars M Size	Bars M Length
2' To 6'	4	#6	P-4"			None
8' To 12'	4	#7	P-4"	2	#4	(3.1416+2)1'-2"

TABLE OF WL BARS

LONG WING

Culvert Height	Bar	No.	Size	Spac.	Dim. X	Dim. X1
2 Ft.	WL1	3	#6	1'-0"	M-3"	K
	WL2	2	#4	1'-0"	M+3"	K+1'-0"
3 Ft.	WL3	3	#5	1'-0"	M+6"	K+1'-9"
	WL4	2	#5	1'-0"	M-11"	K+2'-10"
4 Ft.	WL5	2	#5	1'-0"	M+1'-2"	K+3'-6"
	WL6	2	#6	9"	M+1'-9"	K+4'-3"
6 Ft.	WL7	2	#6	9"	M+1'-8"	K+4'-9"
	WL8	3	#6	9"	M+1'-11"	K+5'-6"
	WL9	3	#6	9"	M+2'-2"	K+6'-1"
8 Ft.	WL10	2	#7	8"	M+2'-6"	K+6'-10"
	WL11	2	#7	8"	M+2'-9"	K+7'-5"
	WL12	2	#7	6"	M+3'-0"	K+7'-10"
10 Ft.	WL13	2	#7	6"	M+3'-6"	K+8'-3"
12 Ft.	WL14	3	#7	6"	M+3'-11"	K+8'-7"

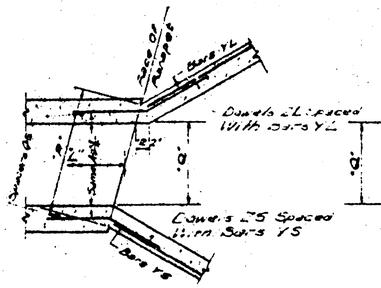
TABLE OF WS BARS

SHORT WING

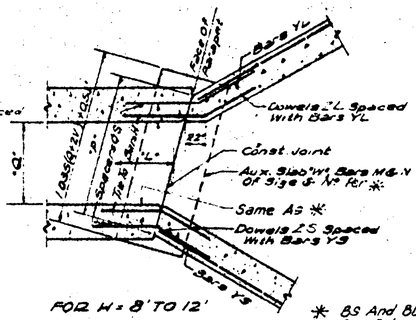
Culvert Height	Bar	No.	Size	Spac.	Dim. X	Dim. X1
2 Ft.	WS1	2	#4	1'-0"	M-3"	K
	WS2	2	#4	1'-0"	M+1'-8"	K+1'-11"
3 Ft.	WS3	2	#5	1'-0"	M+6"	K+1'-11"
	WS4	2	#5	1'-0"	M+1'-1"	K+2'-11"
4 Ft.	WS5	1	#5	1'-0"	M+1'-4"	K+3'-10"
	WS6	2	#5	9"	M+1'-5"	K+4'-3"
6 Ft.	WS7	2	#5	9"	M+1'-9"	K+4'-11"
	WS8	2	#6	9"	M+2'-0"	K+5'-8"
	WS9	2	#6	9"	M+2'-5"	K+6'-5"
8 Ft.	WS10	1	#7	9"	M+2'-7"	K+7'-1"
	WS11	2	#7	9"	M+2'-9"	K+7'-5"
	WS12	3	#7	9"	M+3'-1"	K+8'-2"
10 Ft.	WS13	2	#7	6"	M+3'-4"	K+8'-11"

NOT.	2'	3'	4'	5'	6'	8'	10'	12'
"M"	1'-6"	1'-8"	1'-10"	2'-0"	2'-2"	2'-7"	2'-11"	3'-3"

FOR H = 2' TO 6'

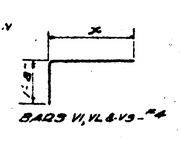


FOR H = 8' TO 12'

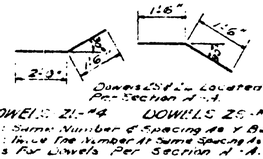


SECTION AT 'A'-'A'

* BS And BD Series Of Box Culvert Drawings



K = W + 1' For H = 2'-5"
K = W + 3" For H = 3' To 6'
K = W + 6" For H = 8'
K = W + 9" For H = 10'
K = W + 1'-0" For H = 12'



DOWELS ZL-#4 DOWELS ZS-#2

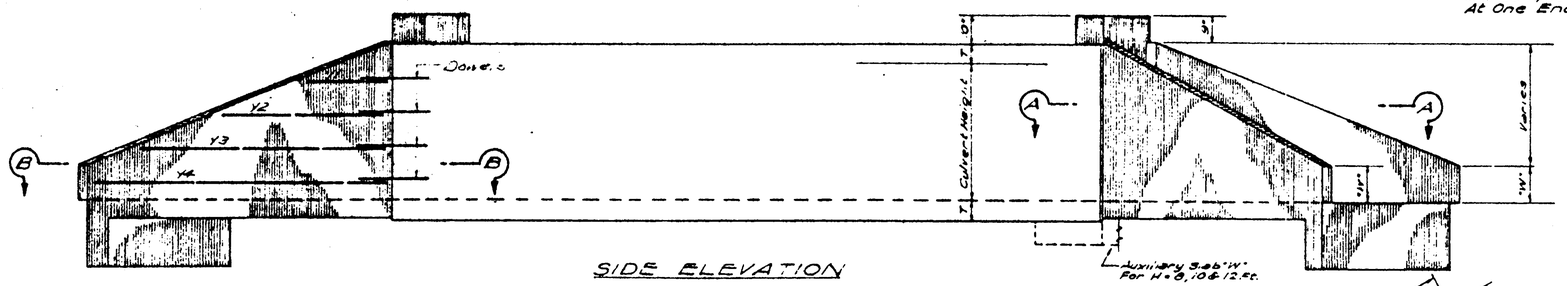
Dowels For H = 2' To 6' Same Number & Spacing As Y Bars. Box Culvert Drawings, Except Spacing Shall Be 1'-0½"
Dowels For H = 8' To 12' Include The Number At Same Spacing As Y Bars.
Provide Vertical Spacers For Dowels Per Section N-N.

BARS K & N Per BS And BD Series Of

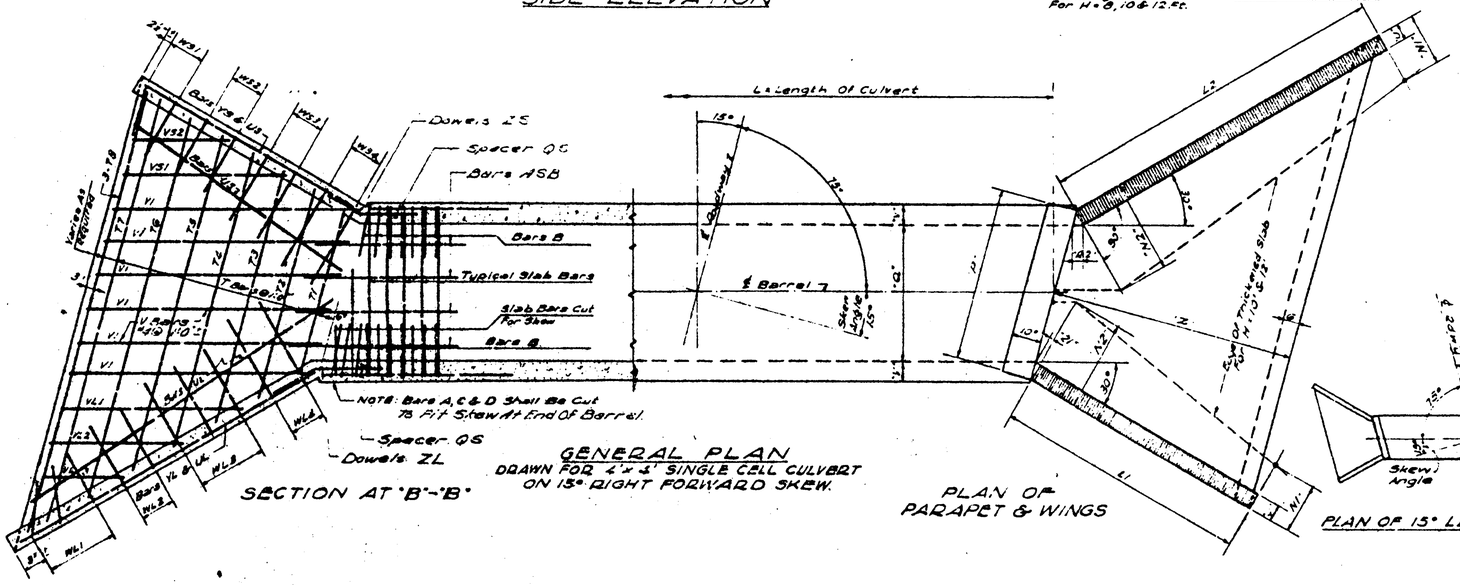
BAR BENDING DETAILS

Dimensions Are Out To Out.

NOTE:-
The Number Of Bars Shown In The Tables Is The Number Required For One Complete Headwall Assembly At One End Of Culvert.



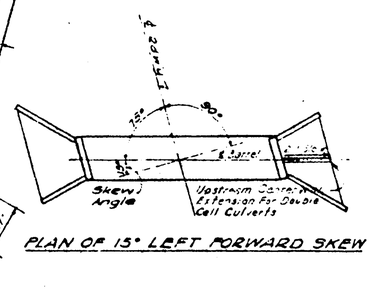
SIDE ELEVATION



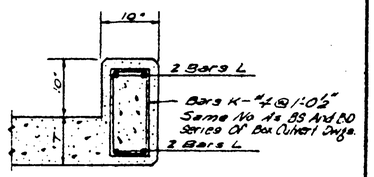
SECTION AT 'B'-'B'

GENERAL PLAN
DRAWN FOR 4'x4' SINGLE CELL CULVERT ON 15° RIGHT FORWARD SKEW.

PLAN OF PARAPET & WINGS



PLAN OF 15° LEFT FORWARD SKEW



PARAPET DETAIL
Slab Steel Not Shown.

GENERAL NOTES:-

This Drawing Shows The General Details Necessary To Modify BS And BD Series Box Culverts For A 15° Skew.
All Governing Dimensions, Reinforcement Details And General Requirements Of The BS And BD Series Of Box Culverts Shall Apply Except As Specifically Modified By This Drawing.
A Complete Placing Plan Showing All Governing Dimensions, Bar List And Bending Details Shall Be Submitted To The Project Engineer For Approval Prior To Fabrication Of The Reinforcing Steel.

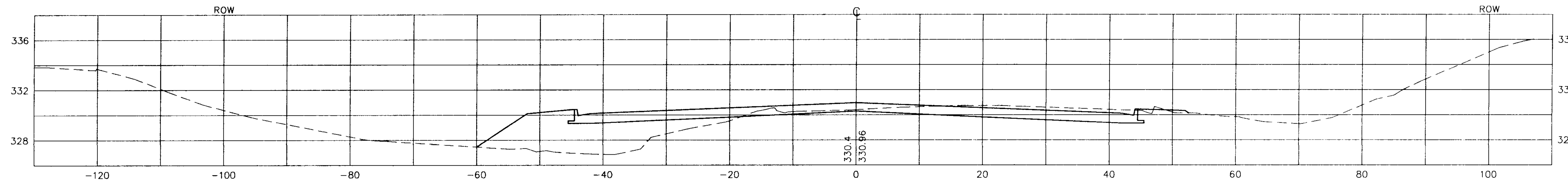
MISSISSIPPI STATE HIGHWAY DEPARTMENT
BOX CULVERT DRAWING
15° SKEW DETAILS
FOR SINGLE AND DOUBLE CELL CULVERTS

Date	Revisions
4-20-43	Revised Bar Sizes T-8 & T-9
11-25-43	Revised Bar Sizes T-8 & T-9

DETAILED M.H.J. CHECKED M.H.B. ISSUED C.S.H.
TRACED L.B.R. DATE Jan. 1, 1943 DATE 1-1-43

WORKING NUMBER SK-15
SHEET NUMBER 334

21+50



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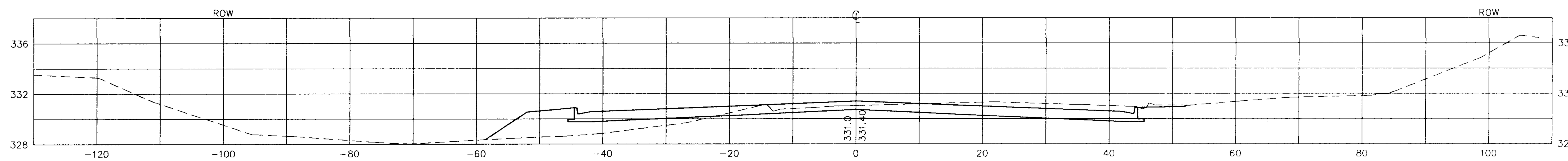

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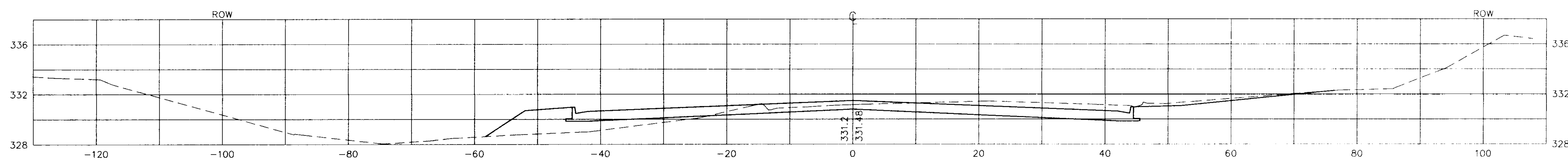

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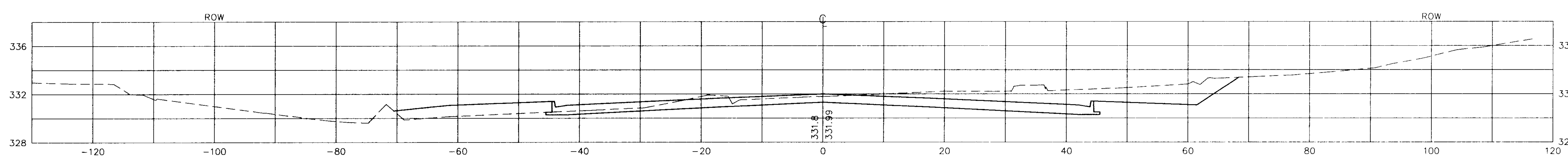

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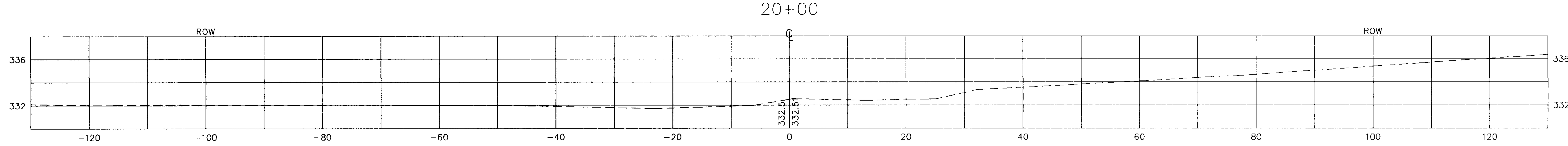

SPILLWAY ROAD
X-SECTIONS
SCALE: 1"=10' HORIZ.
1"=5' VERT.

SHEET NO. ~~+~~ 901

PWP-01212

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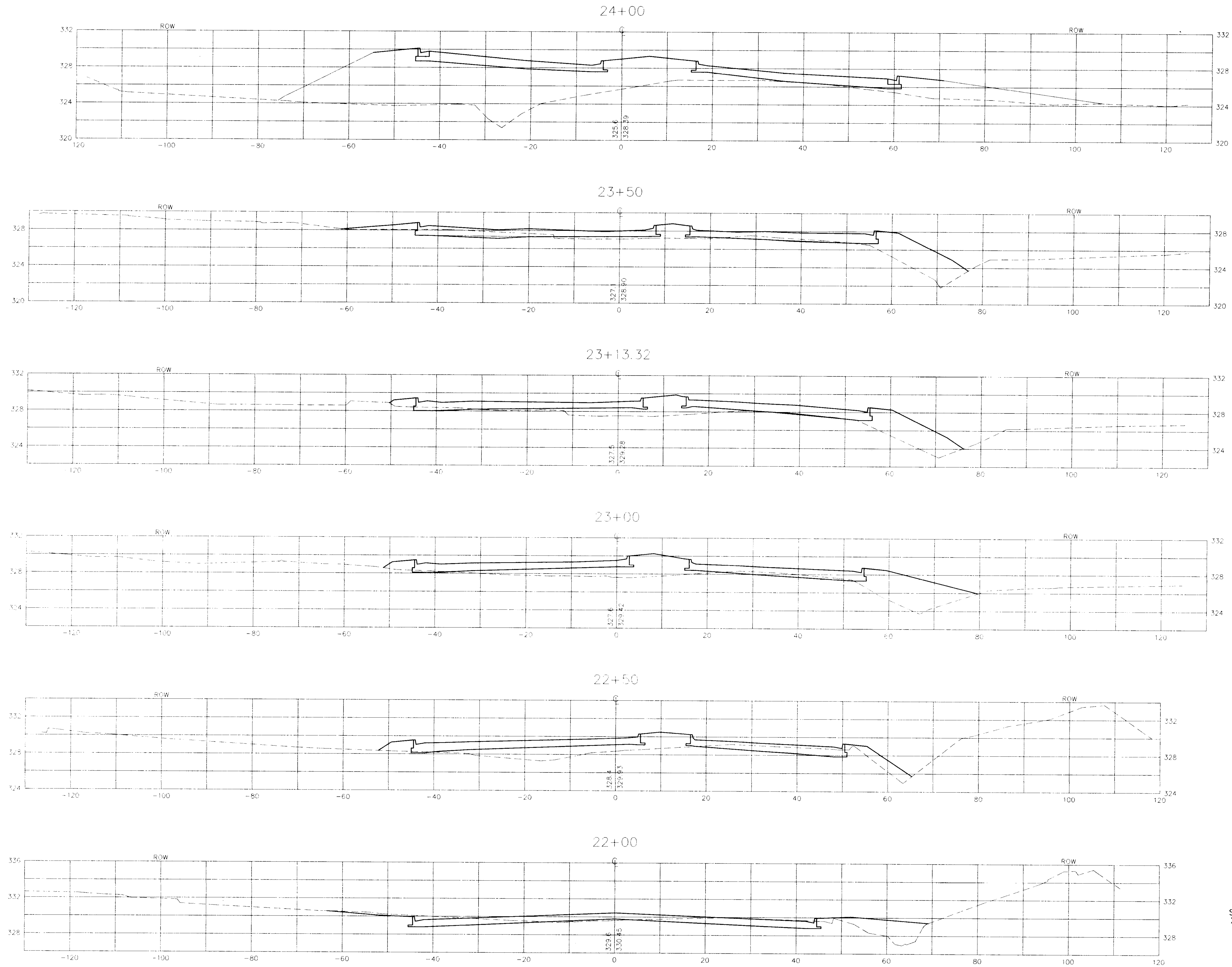
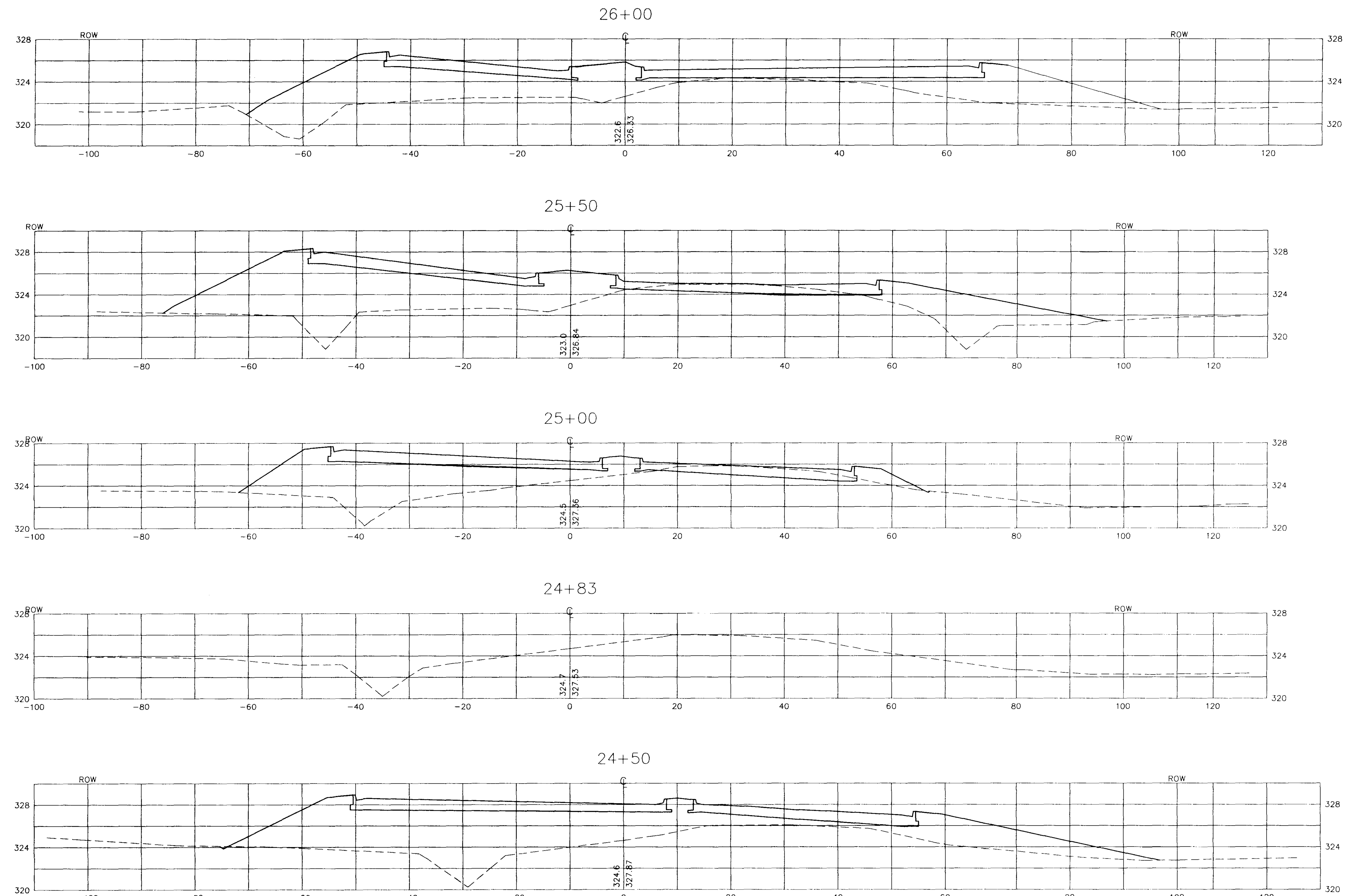


SPILLWAY ROAD
X-SECTIONS
SCALE: 1"=10' HORIZ.
1"=5' VERT.
SHEET NO. ~~2~~ 902



SPILLWAY ROAD
X-SECTIONS
SCALE: 1"=10' HORIZ.
1"=5' VERT

SHEET NO. X-903

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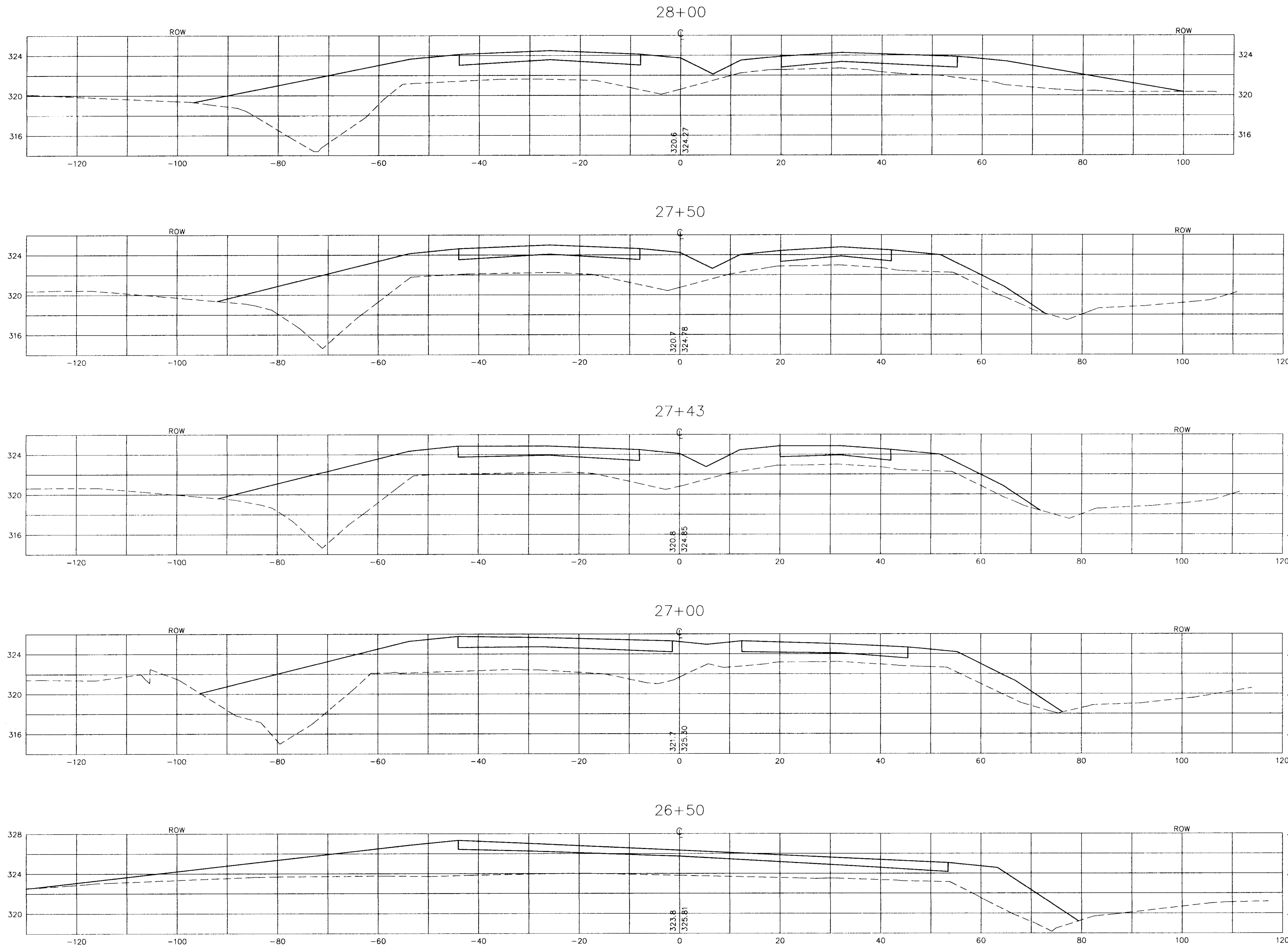
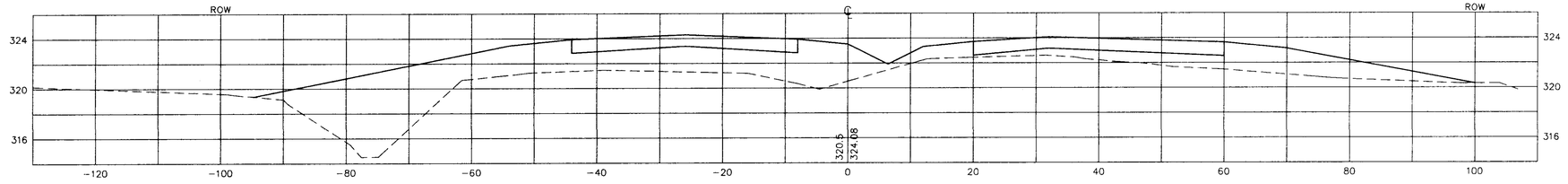


SPILLWAY ROAD
X-SECTIONS
SCALE: 1"=10' HORIZ.
1"=5' VERT.

SHEET NO. 4904

28+18



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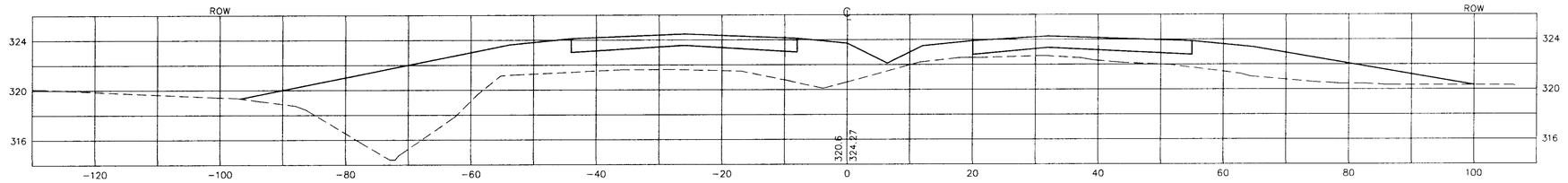

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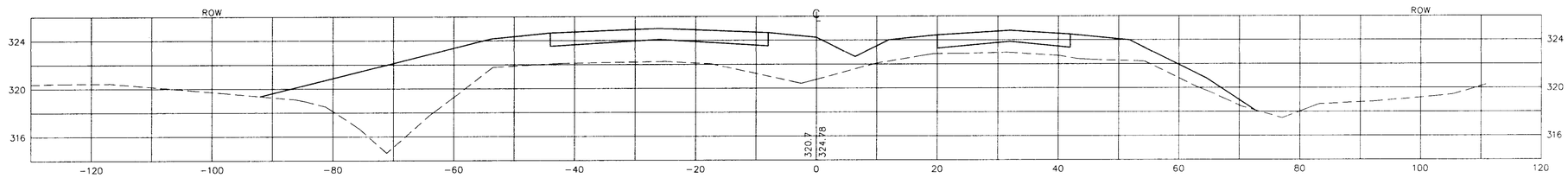

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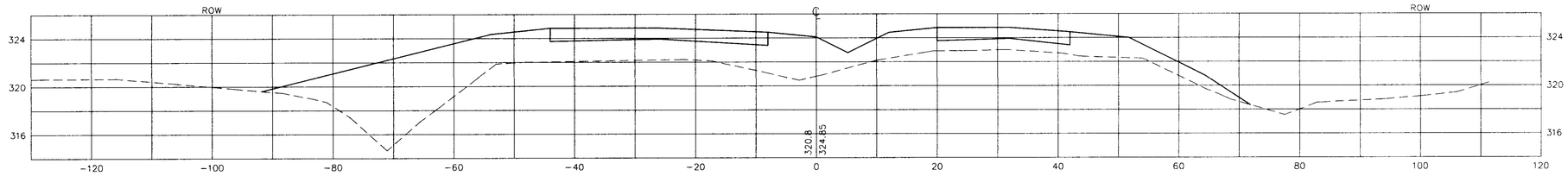

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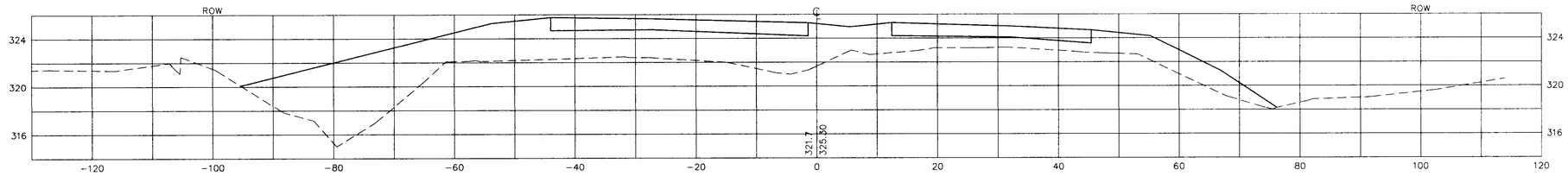
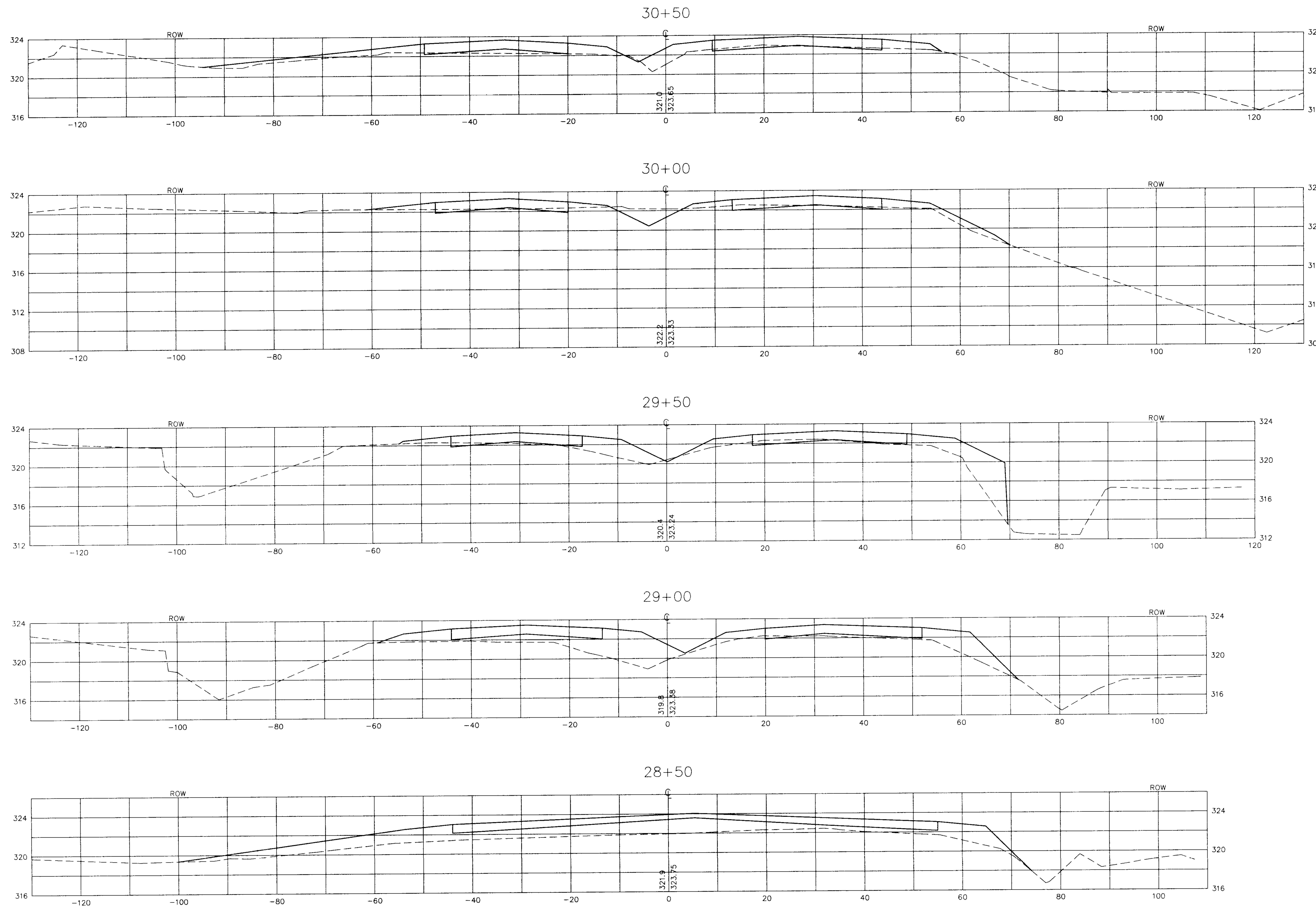


SPILLWAY ROAD
X-SECTIONS
SCALE: 1"=10' HORIZ
1"=5' VERT

SHEET NO. 4 OF 5



SPILLWAY ROAD
X-SECTIONS
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1"=5' VERT.

SHEET NO. ~~6~~ 906

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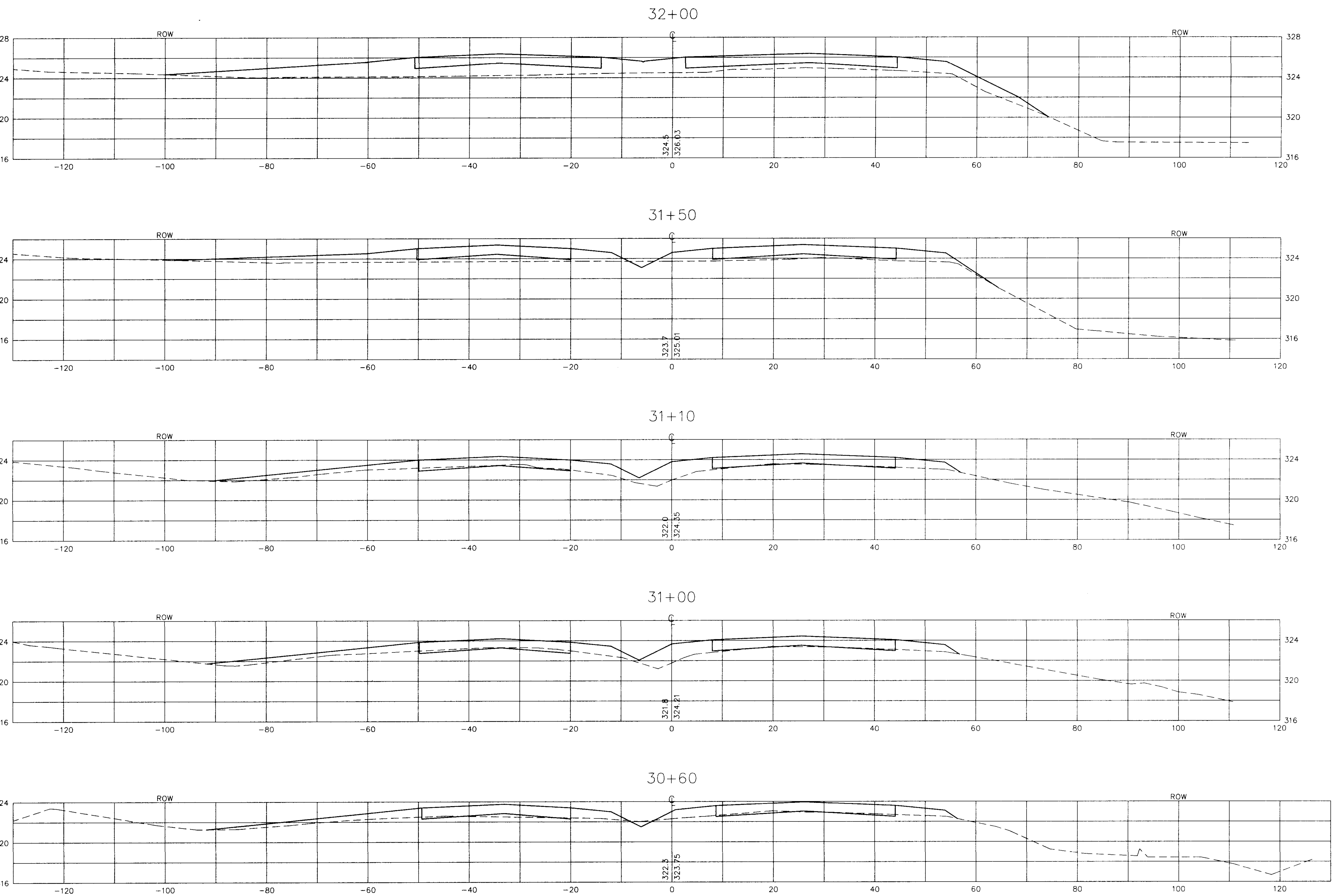

SPILLWAY ROAD
X-SECTIONS
SCALE: 1"=10' HORIZ.
1"=5' VERT.

SHEET NO. → 907

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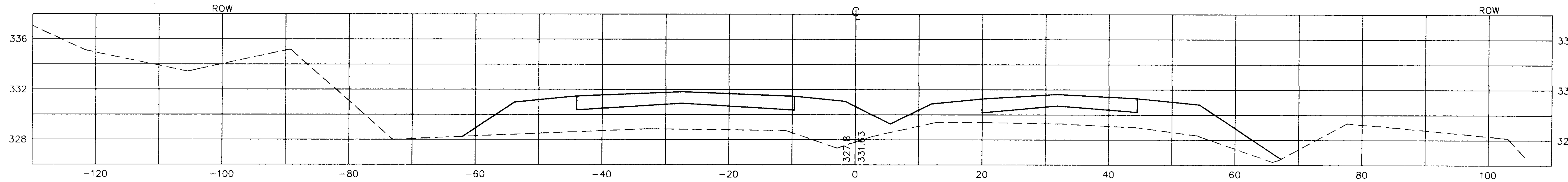
34+50



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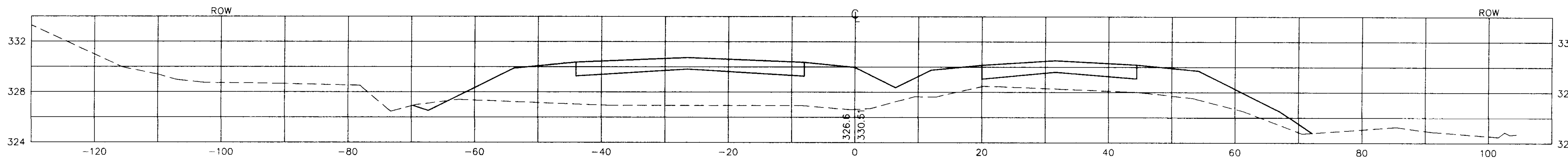

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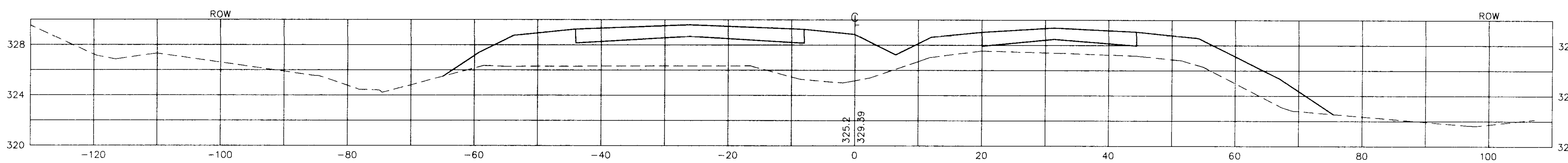

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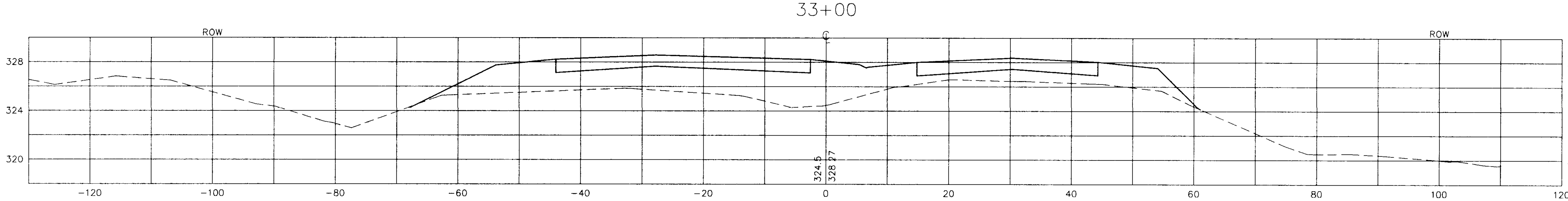

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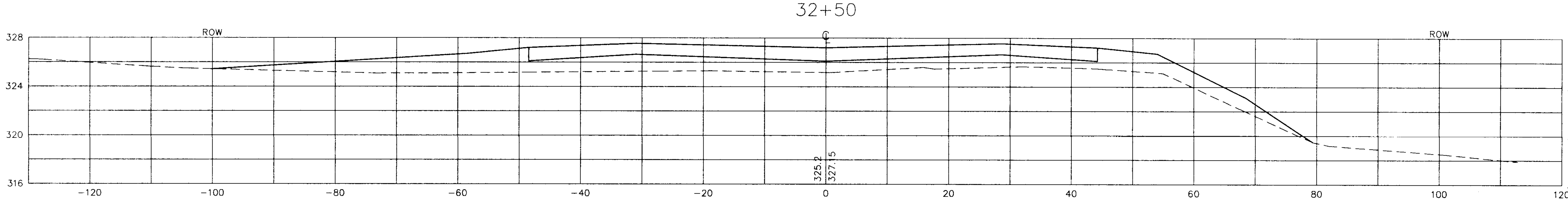

SPILLWAY ROAD
X-SECTIONS
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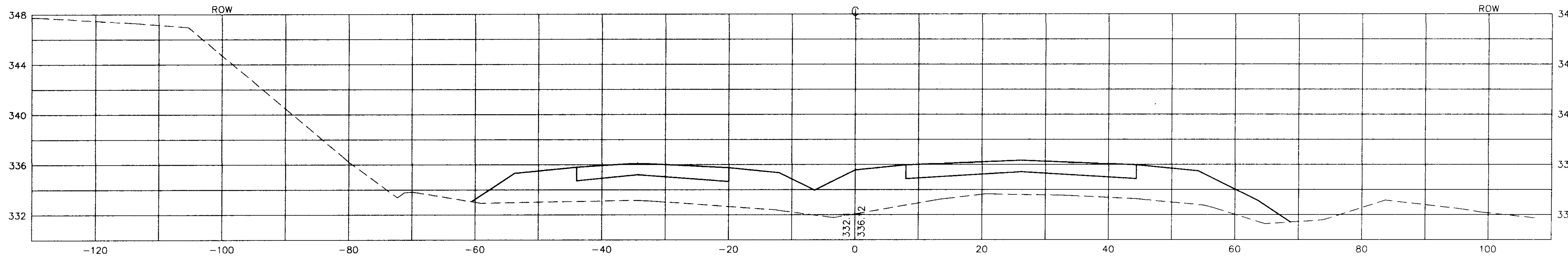
1"=5' VERT.

SHEET NO. 108

C:\sdskproj\94150e\XSECSP13 Tue Apr 29 14:10:53 1997

36+50



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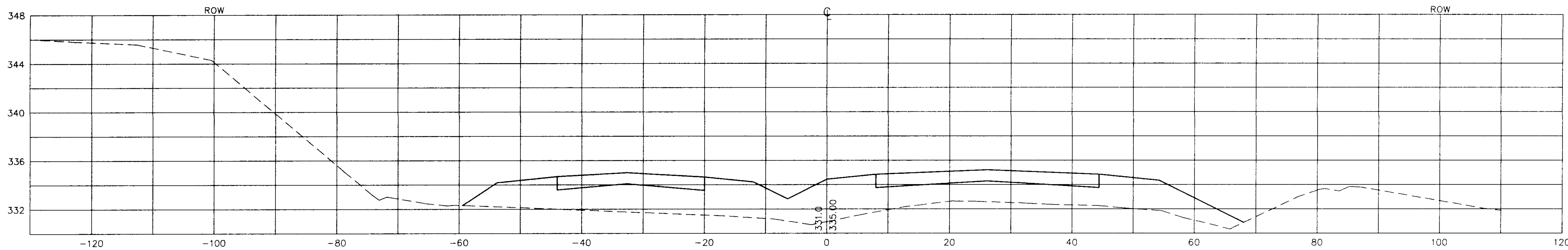

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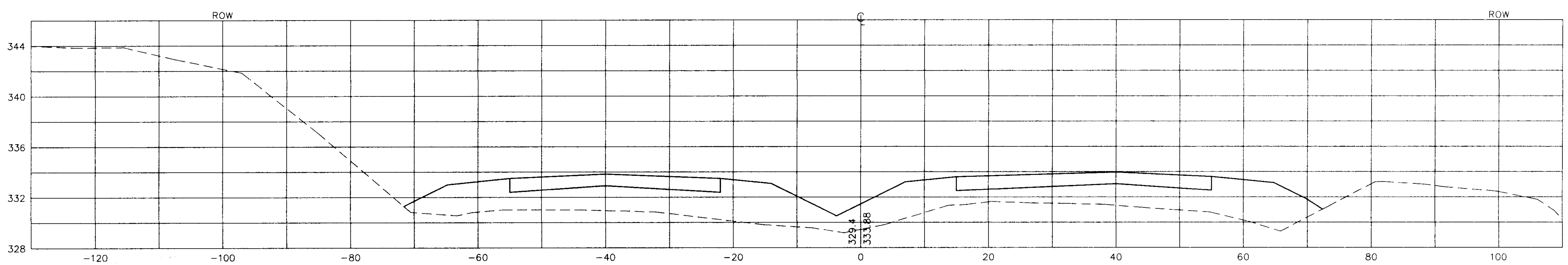

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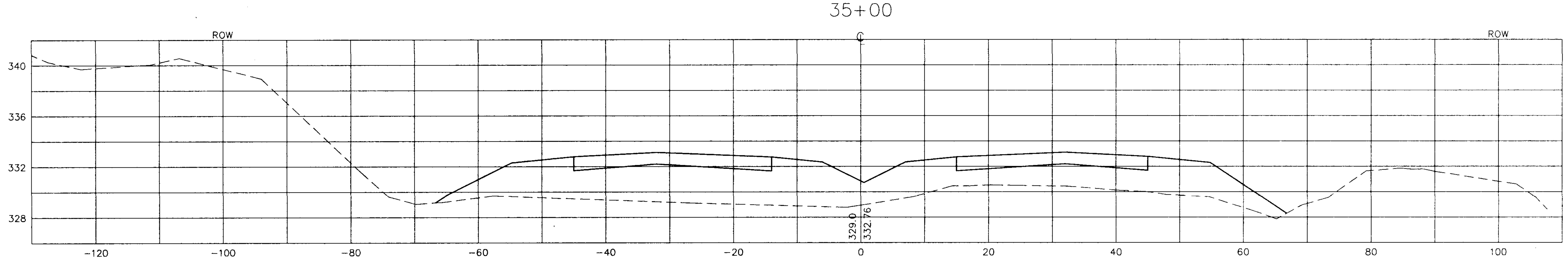
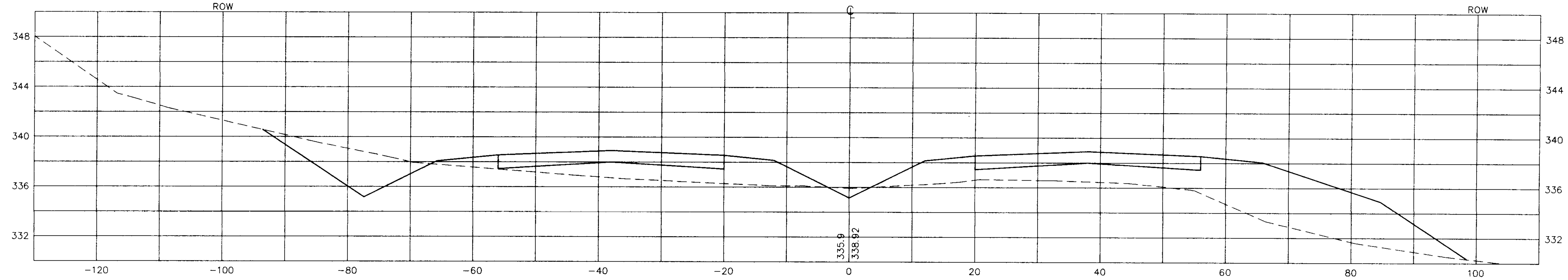


SPILLWAY ROAD
X-SECTIONS
SCALE: 1"=10' HORIZ.
1"=5' VERT.

SHEET NO. ← 907

37+75



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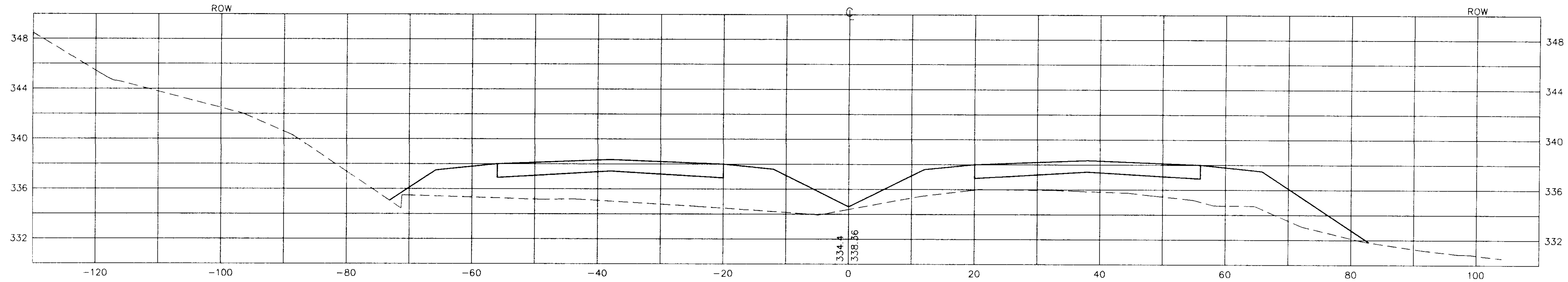

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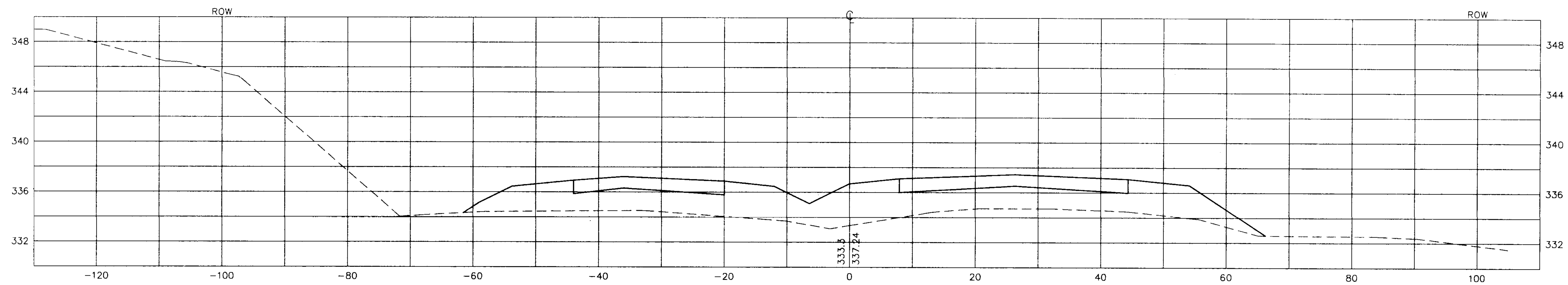

SPILLWAY ROAD
X-SECTIONS
SCALE: 1"=10' HORIZ.
1"=5' VERT.
SHEET NO. ~~10~~ 910

C:\sdskproj\94150e\XSECSP13 Tue Apr 29 14:32:14 1997

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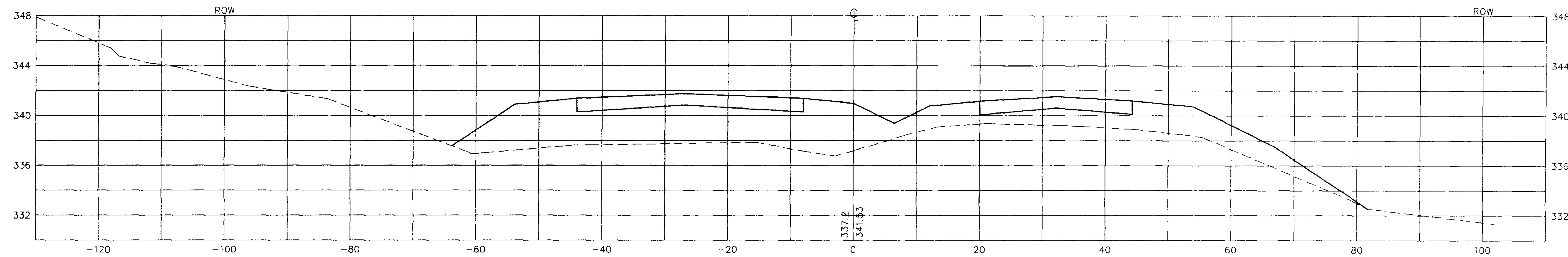

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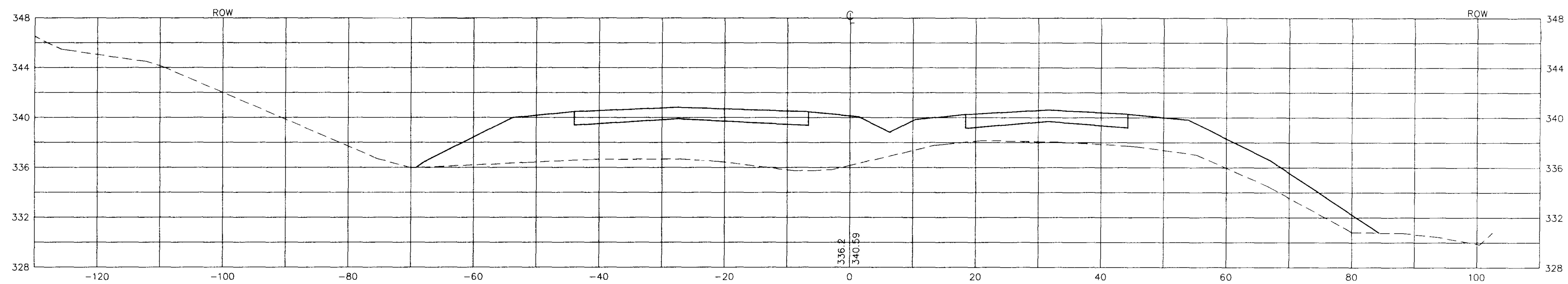

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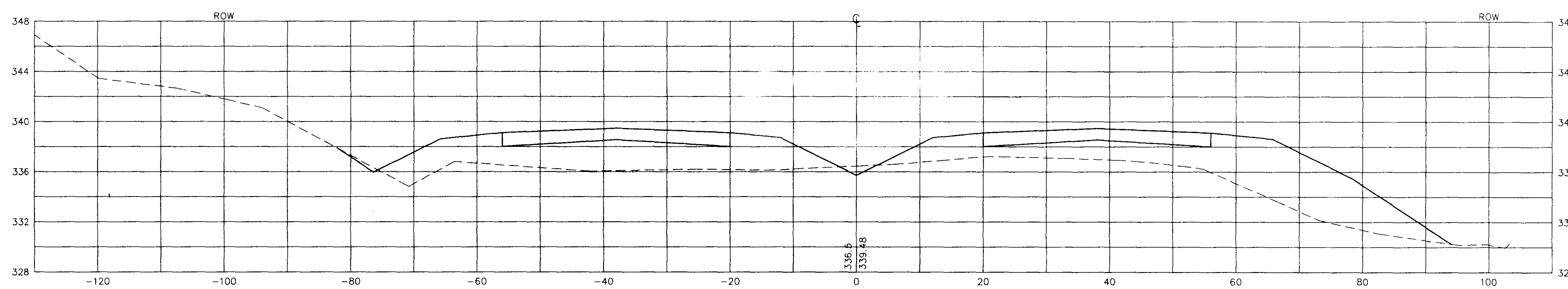

SPILLWAY ROAD
X-SECTIONS
SCALE: 1"=10' HORIZ.
1"=5' VERT.

SHEET NO 911

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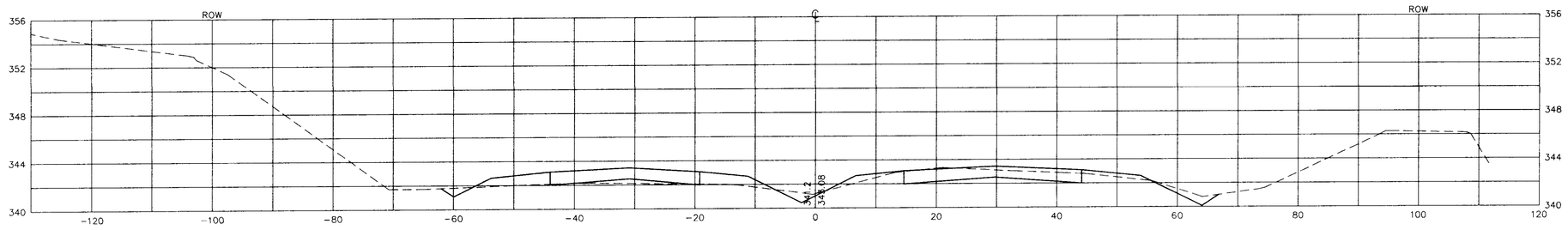
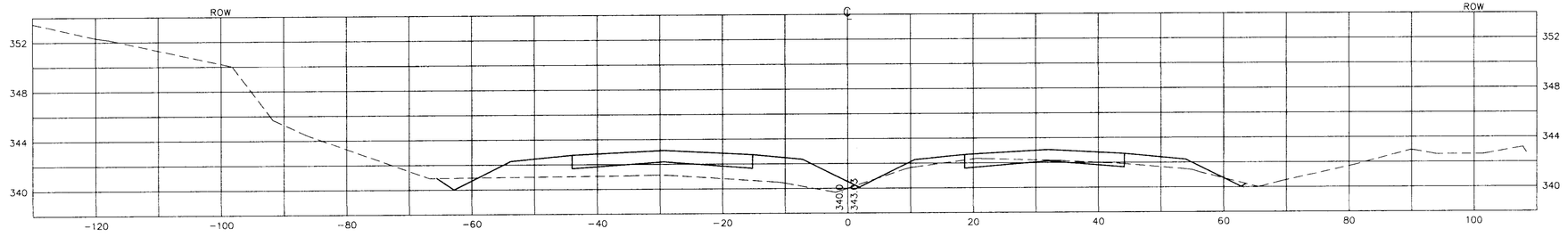
41+00



40+50



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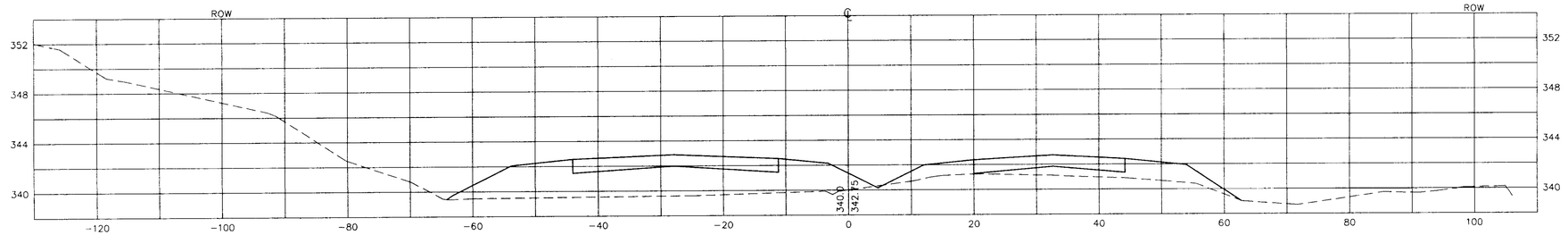

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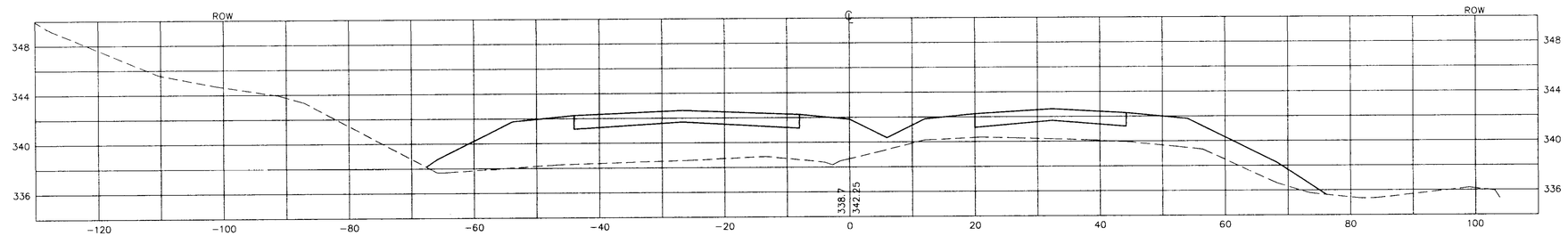
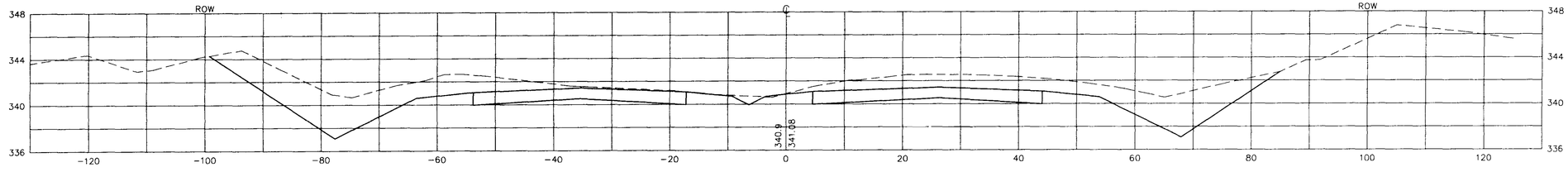


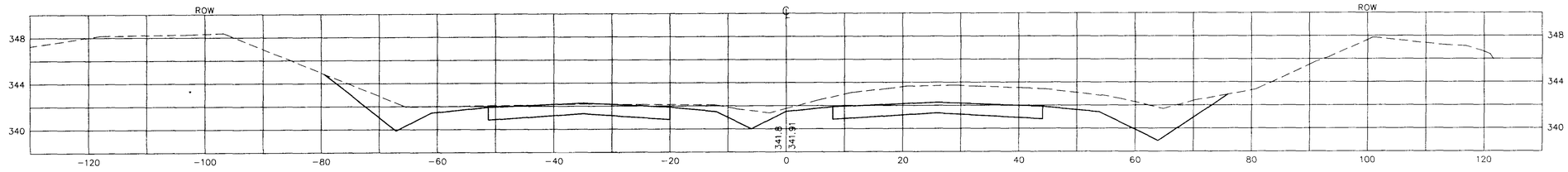
SPILLWAY ROAD
X-SECTIONS
SCALE: 1"=10' HORIZ.
1"=5' VERT.

SHEET NO. ~~17~~ 912

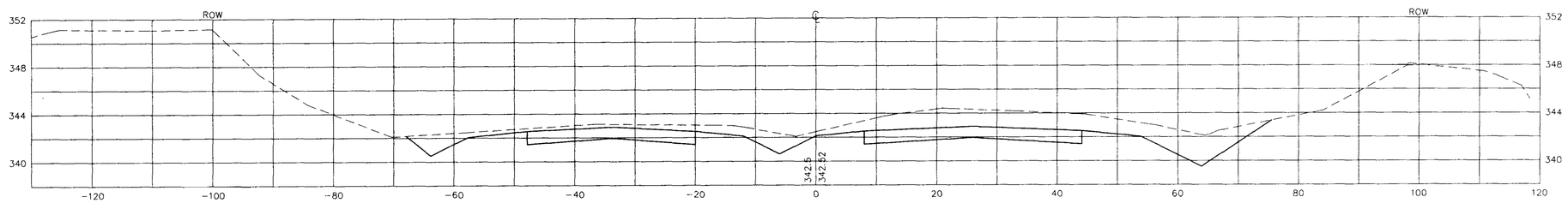
43+00



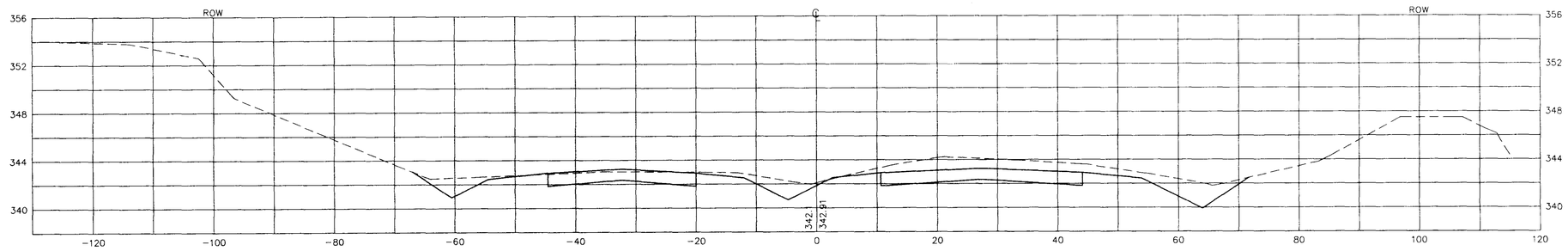
42+50



42+00

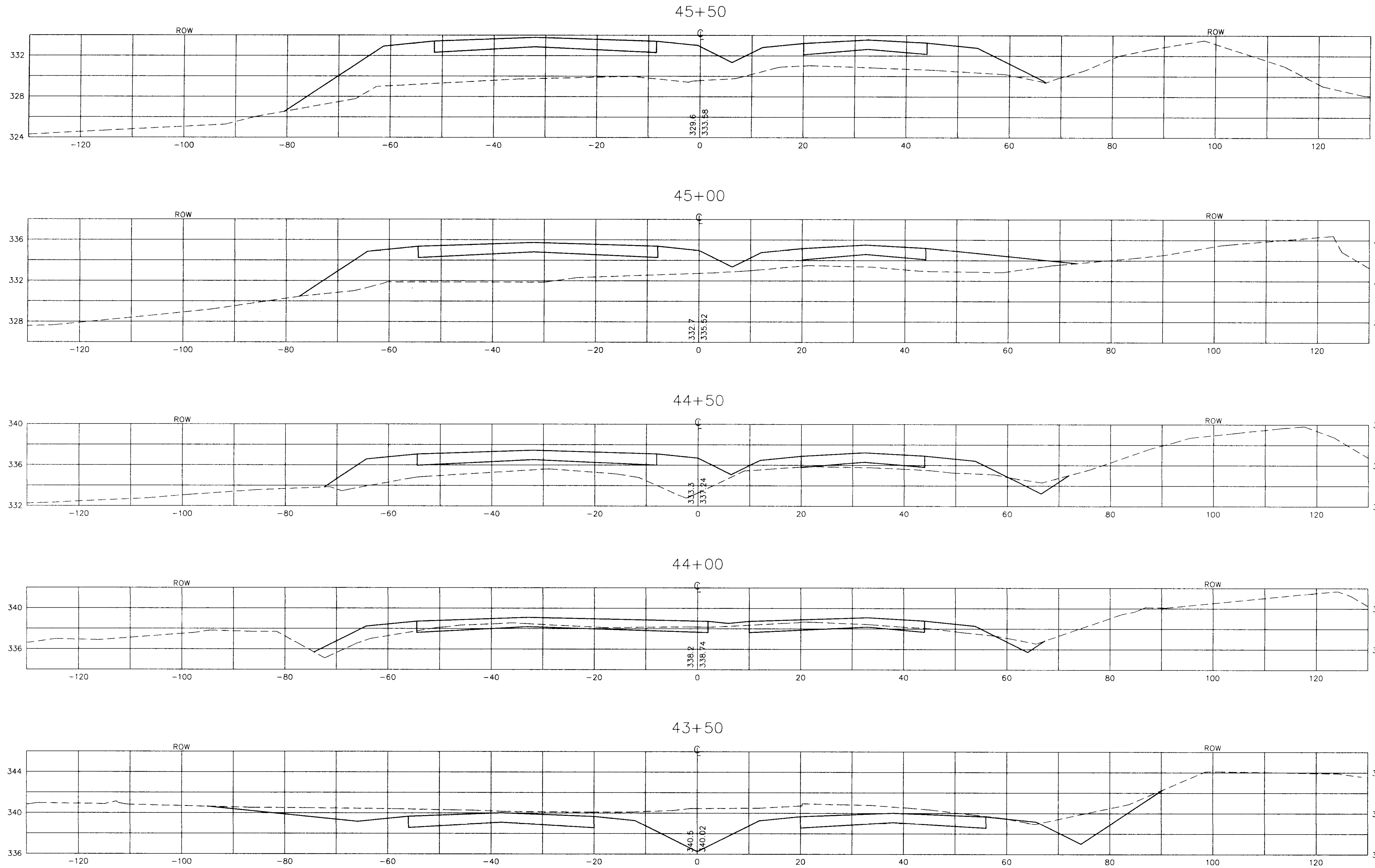


41+50



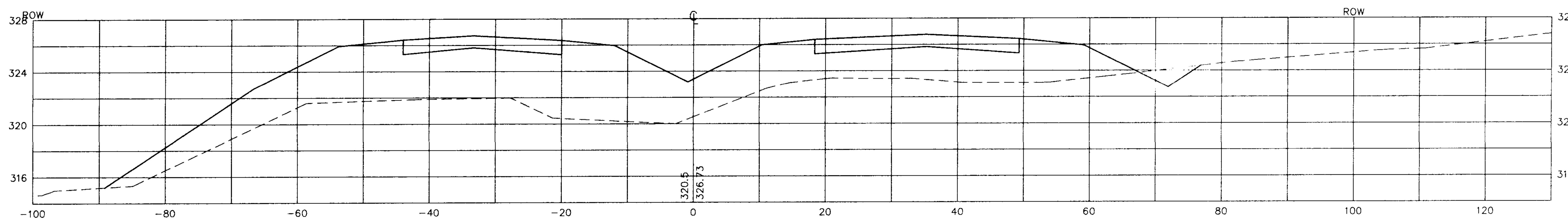
SPILLWAY ROAD
X-SECTIONS
SCALE: 1"=10' HORIZ.
1"=5' VERT.
SHEET NO. 913

C:\sdskpro\34156\XSECSP13 Tue Apr 29 14:34:23 1997

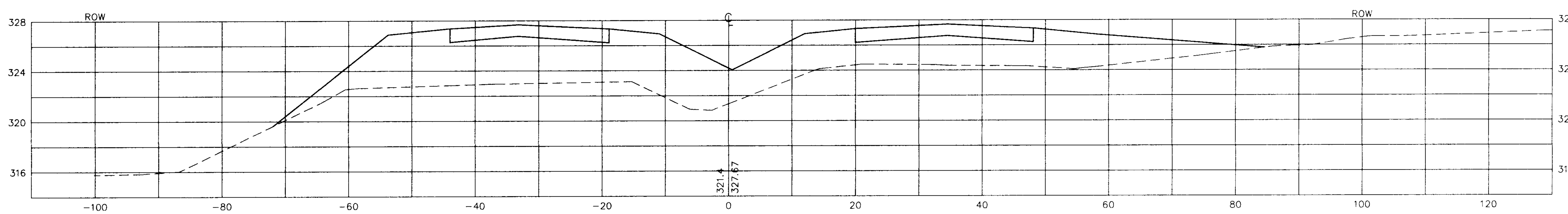


SPILLWAY ROAD
X-SECTIONS
SCALE: 1"=10' HORIZ.
1"=5' VERT.
SHEET NO. 914

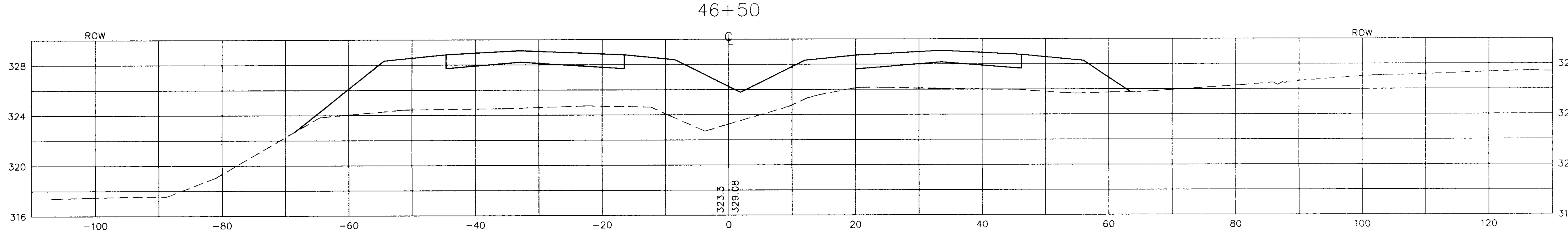
47+00



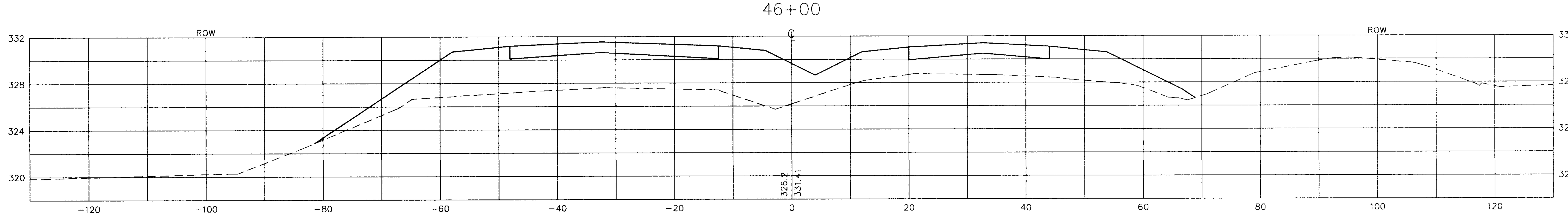
46+80



46+50

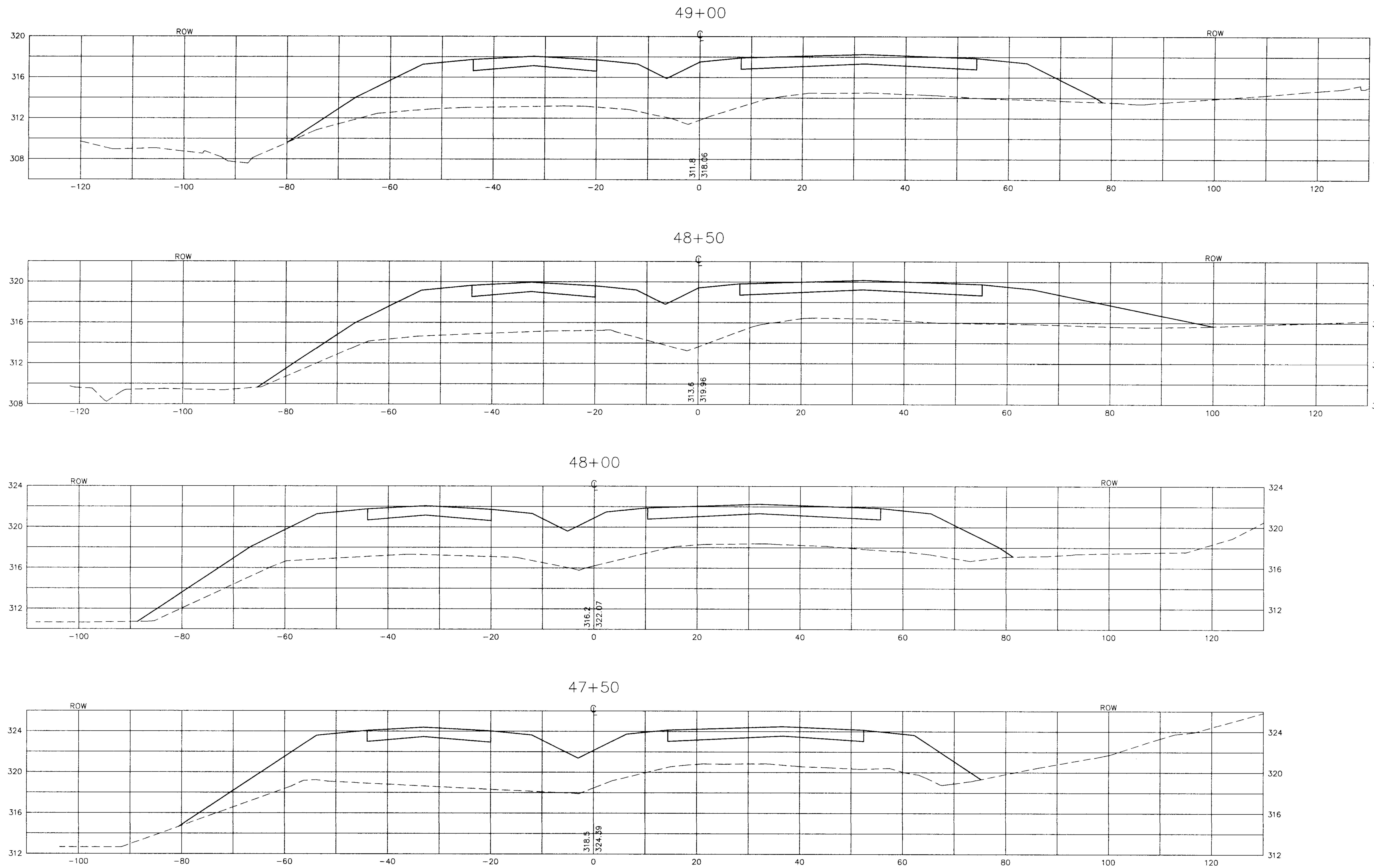


46+00



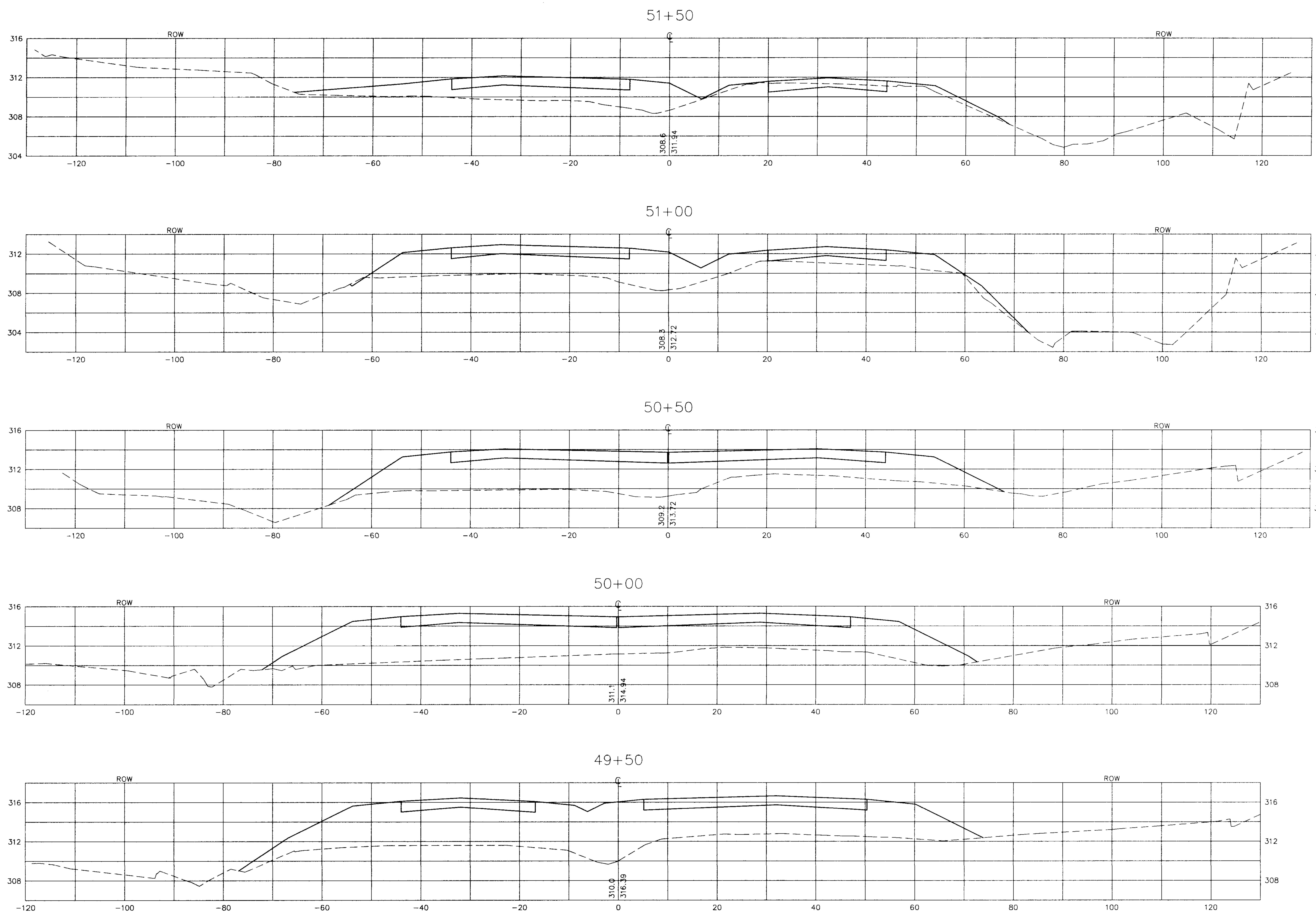
SPILLWAY ROAD
X-SECTIONS
SCALE: 1"=10' HORIZ.
1"=5' VERT.
SHEET NO. 915

I:\sds\proj\94150\XSECSP13 Tue Apr 29 14:35:14 1997



SPILLWAY ROAD
X-SECTIONS
SCALE: 1"=10' HORIZ.
1"=5' VERT.

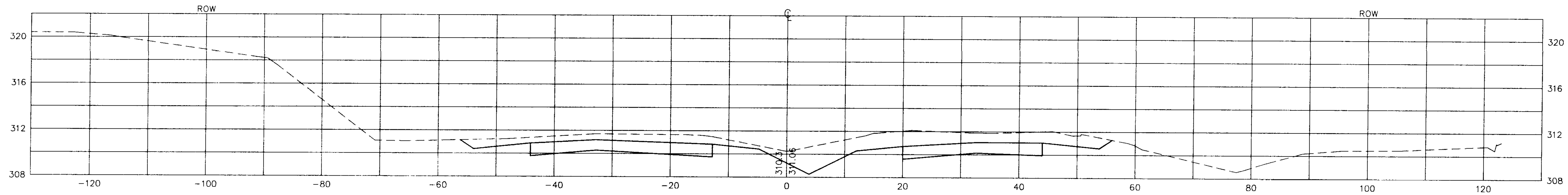
SHEET NO. 916



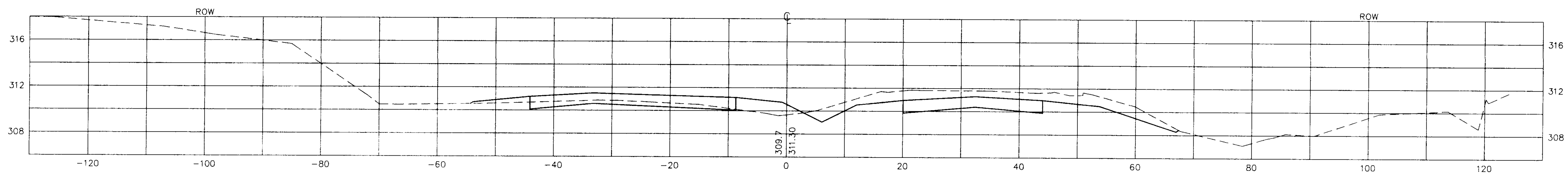
SPILLWAY ROAD
X-SECTIONS
SCALE: 1"=10' HORIZ.
1"=5' VERT.
SHEET NO. ~~17~~ 917

:\sdskproj\94150e\XSECSP13 Tue Apr 29 14:40:28 1997

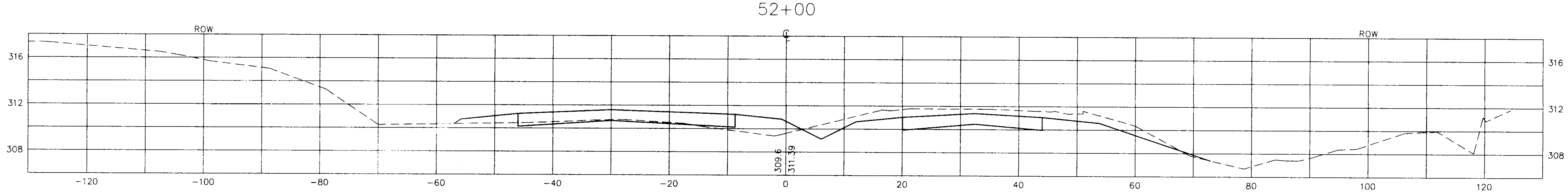
52+50



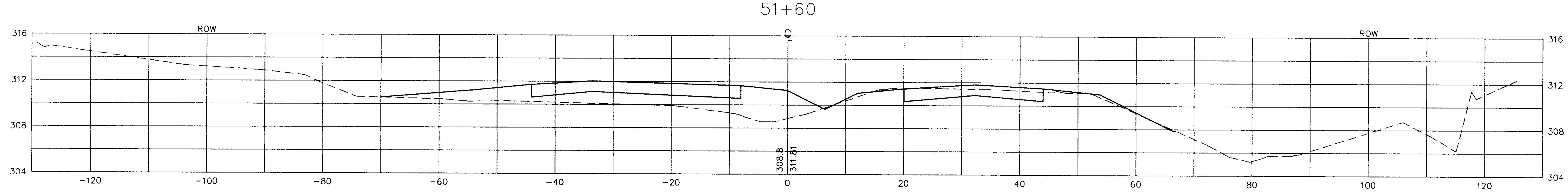
52+10.54



52+00

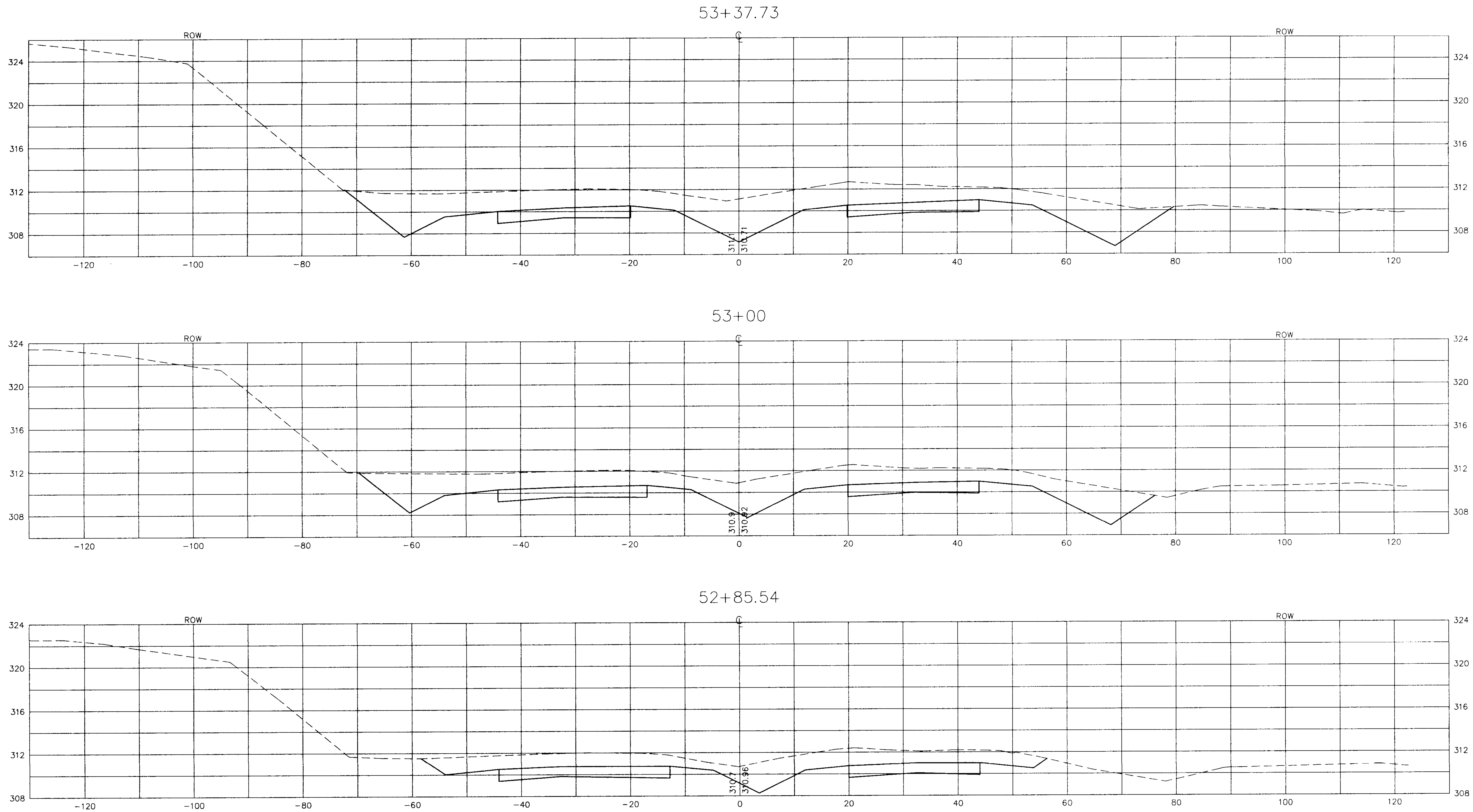


51+60



SPILLWAY ROAD
X-SECTIONS
SCALE: 1"=10' HORIZ.
1"=5' VERT.

SHEET NO. ~~18~~ 918

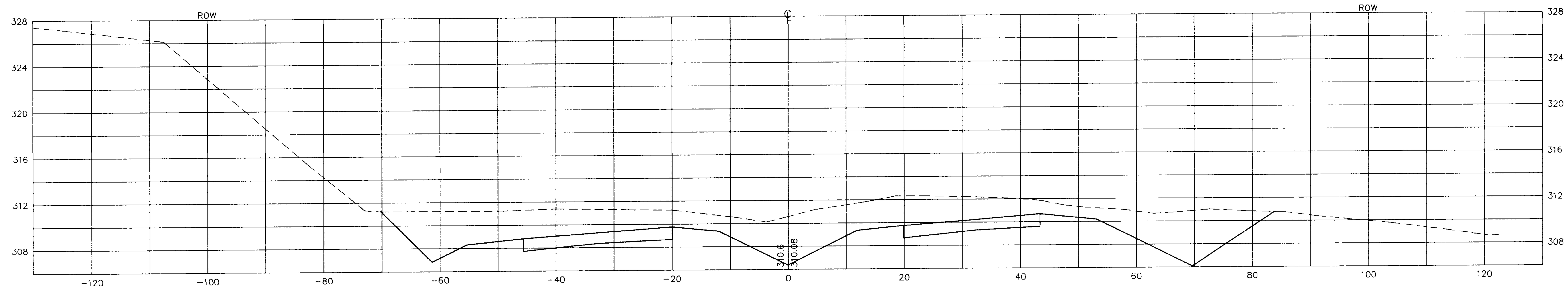


SPILLWAY ROAD
X-SECTIONS
SCALE: 1"=10' HORIZ.
1"=5' VERT.

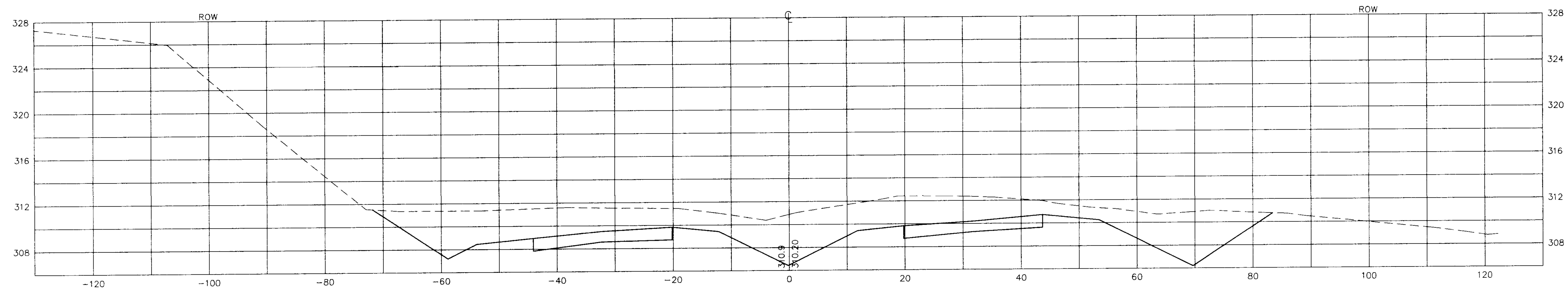
SHEET NO. 319

C:\sdskproj\94150e\XSECSP13 Tue Apr 29 14:41:39 1997

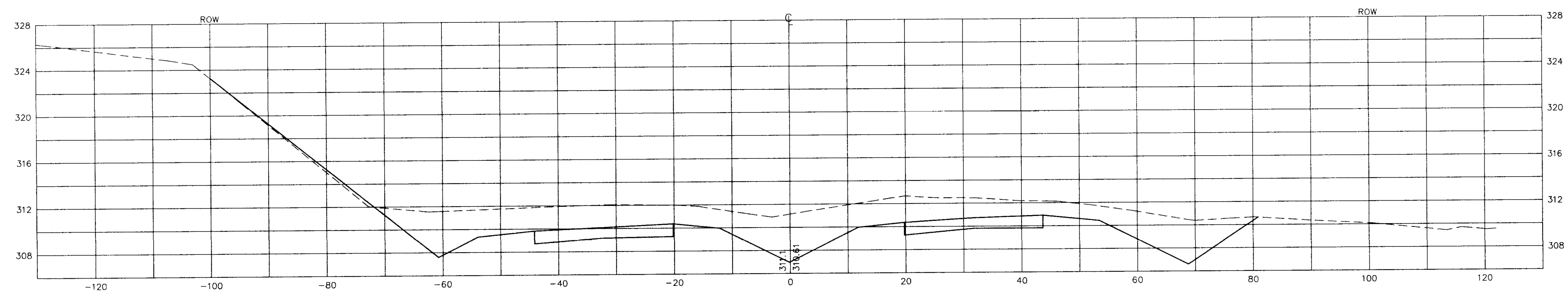
54+00



53+89.92



53+50

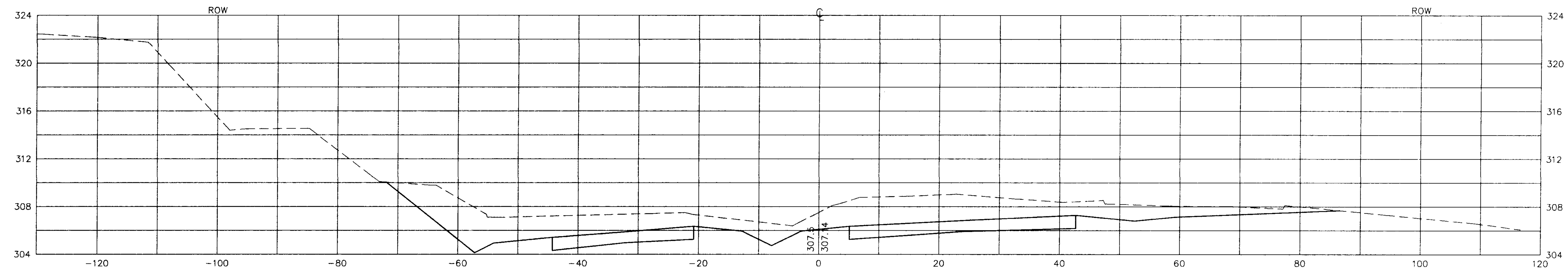


SPILLWAY ROAD
X--SECTIONS
SCALE: 1"=10' HORIZ.
1"=5' VERT.

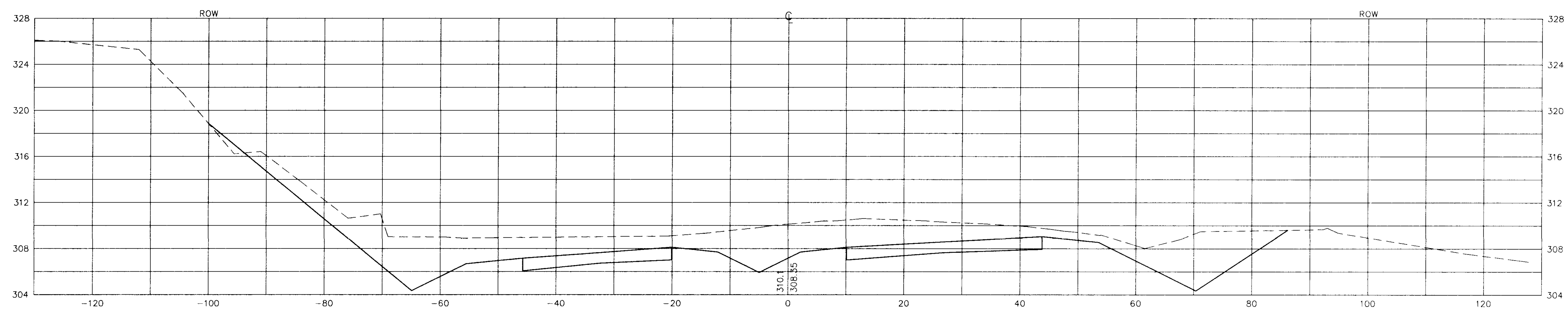
SHEET NO. ~~20~~ 920

C:\sdskproj\94150e\XSECSP13 Tue Apr 29 14:42:05 1997

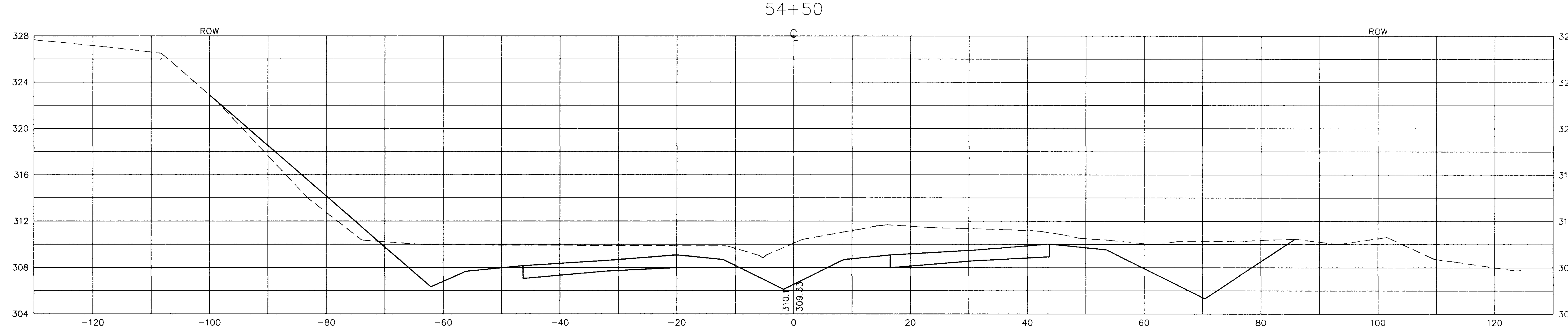
55+50



55+00



54+50

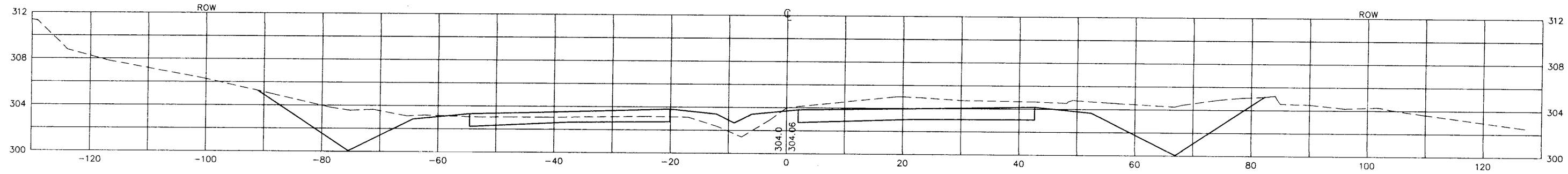


SPILLWAY ROAD
X-SECTIONS
SCALE: 1"=10' HORIZ.
1"=5' VERT.

SHEET NO. ~~2~~ 931

C:\sdskproj\94150e\XSECSP13 Tue Apr 29 14:42:36 1997

56+50



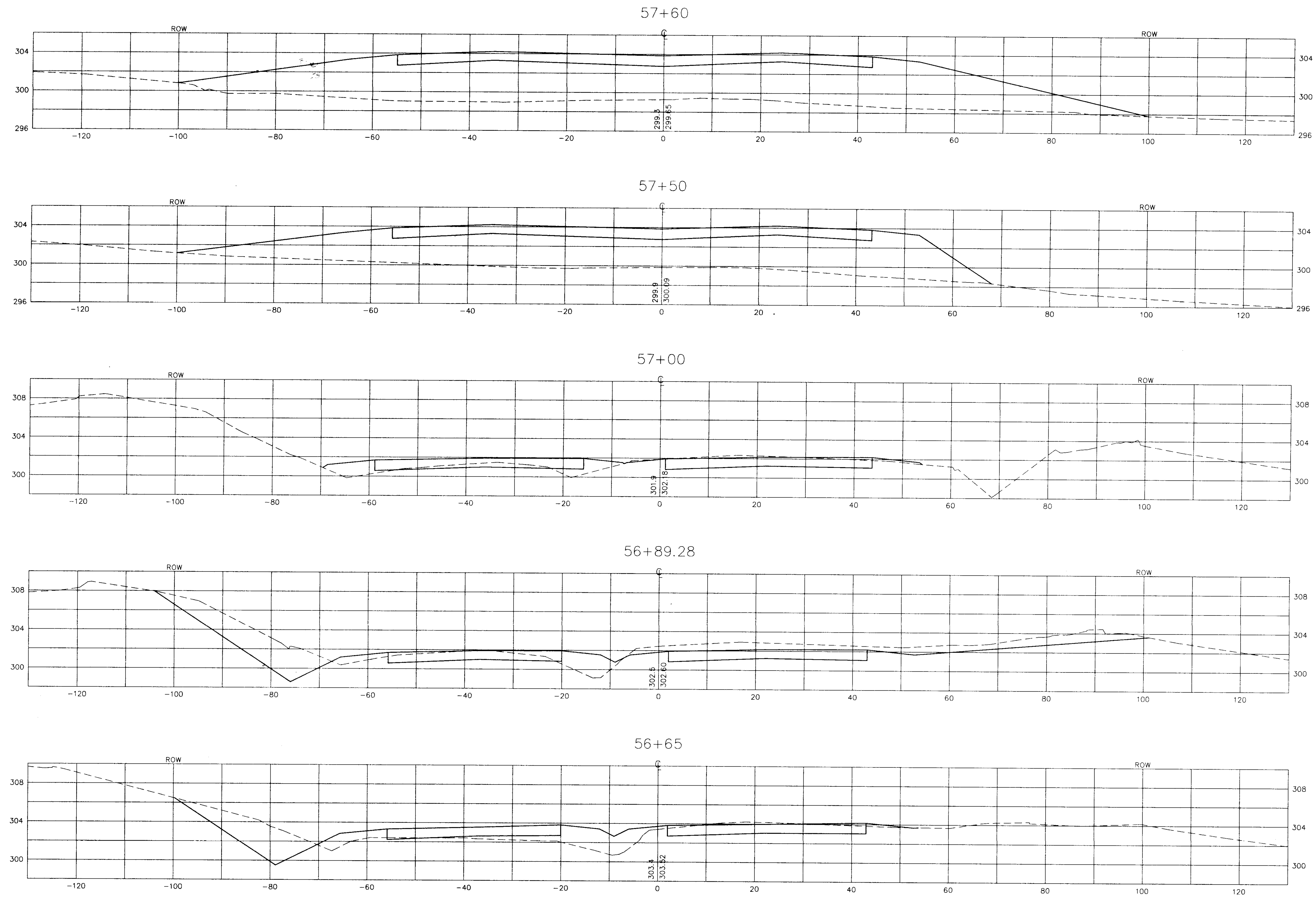
56+37.09

56+00

55+84.90

SPILLWAY ROAD
X-SECTIONS
SCALE: 1"=10' HORIZ.
1"=5' VERT.

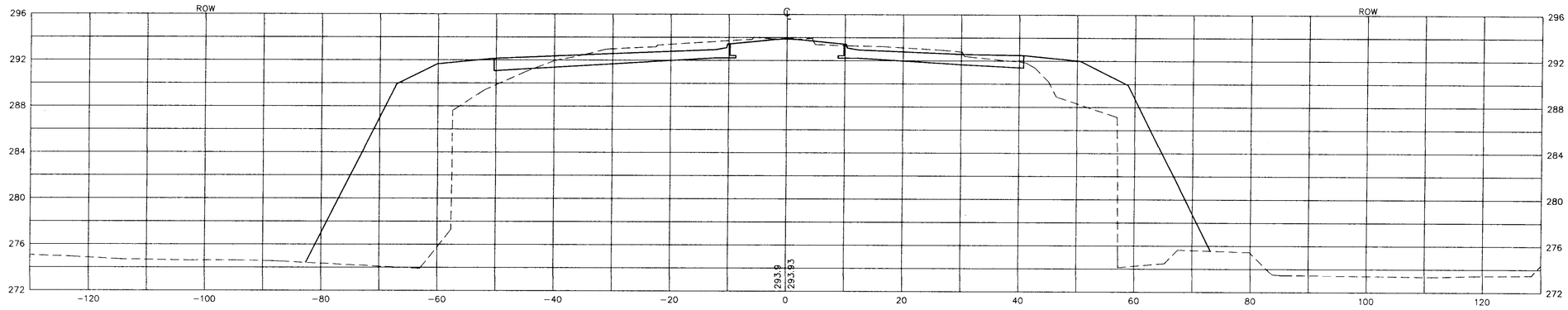
SHEET NO. ~~22~~ 922



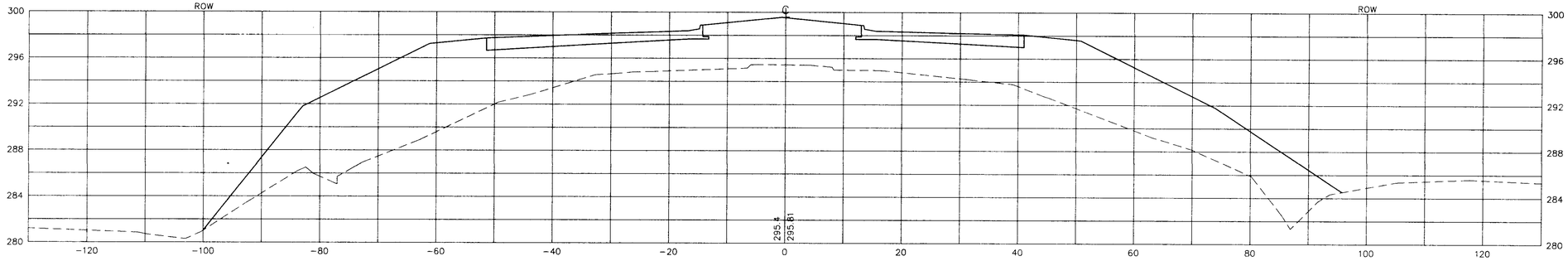
SPILLWAY ROAD
X-SECTIONS
SCALE: 1"=10' HORIZ
1"=5' VERT.
SHEET NO. 7-923

C:\sdskproj\94150e\XSECSP13 Tue Apr 29 14:43:31 1997

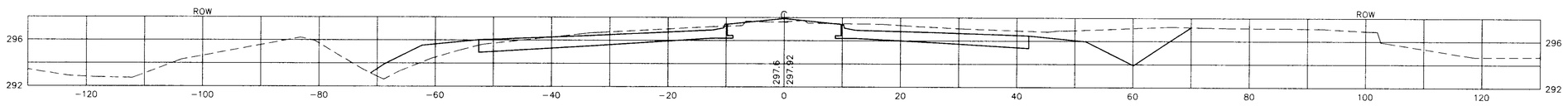
59+00



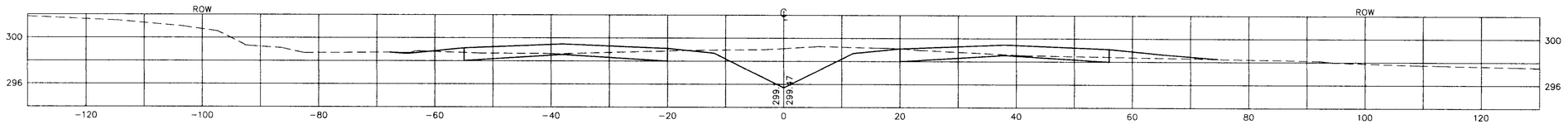
58+50



58+00



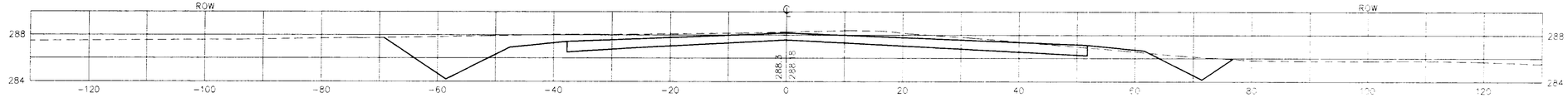
57+64.28



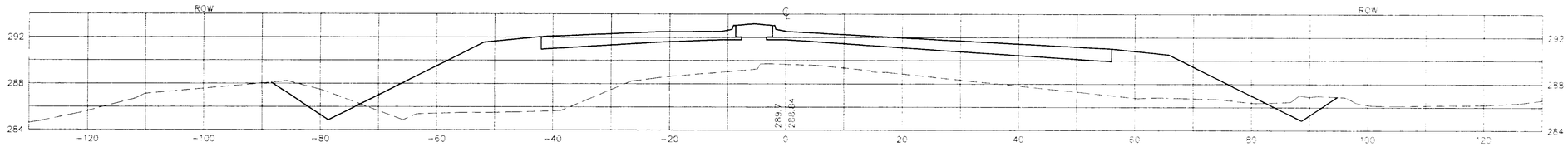
SPILLWAY ROAD
X-SECTIONS
SCALE: 1"=10' HORIZ.
1"=5' VERT.

SHEET NO. ~~24~~ 924

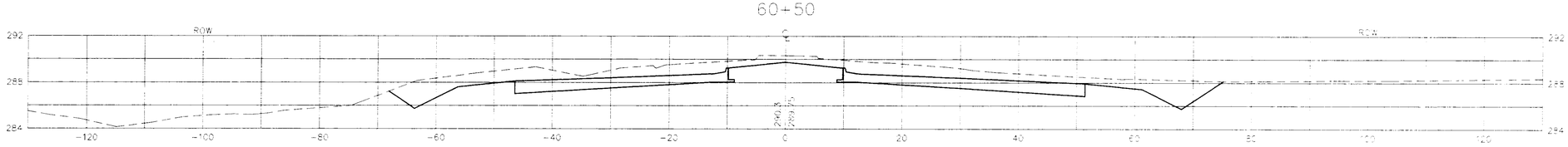
61+50



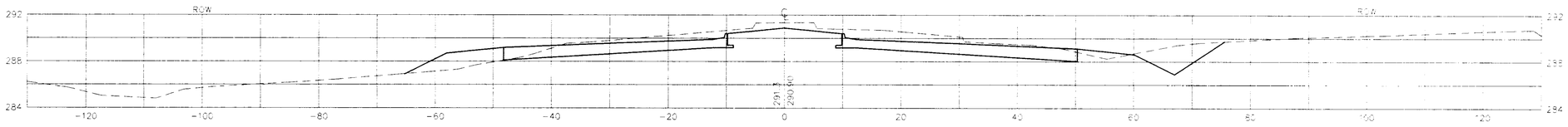
61+00



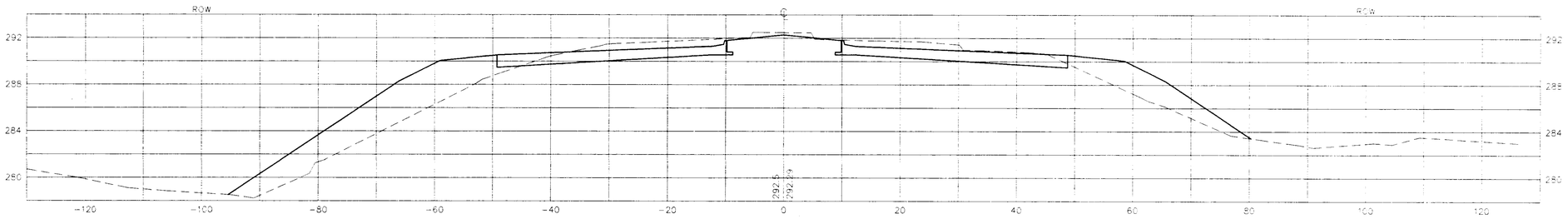
60+50



60+00



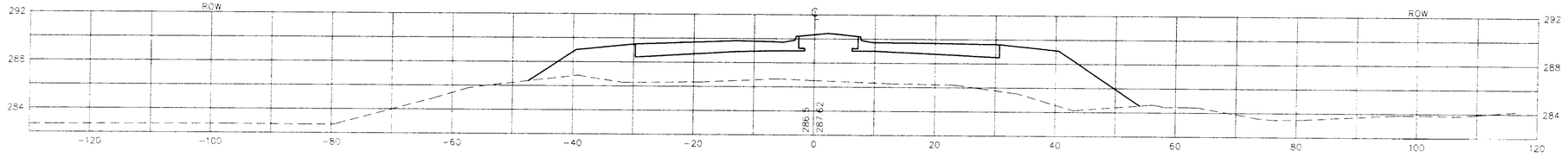
59+50



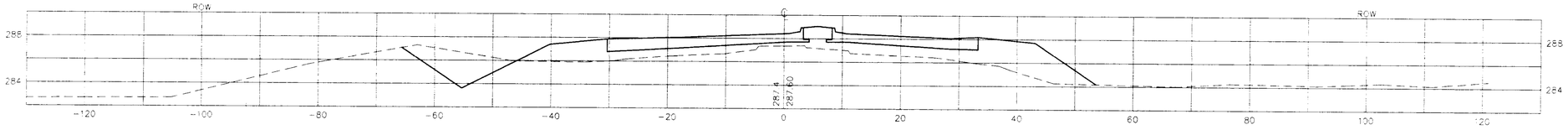
SPILLWAY ROAD
X-SECTIONS
SCALE: 1"=10' HORIZ.
1"=5' VERT.

SHEET NO.925

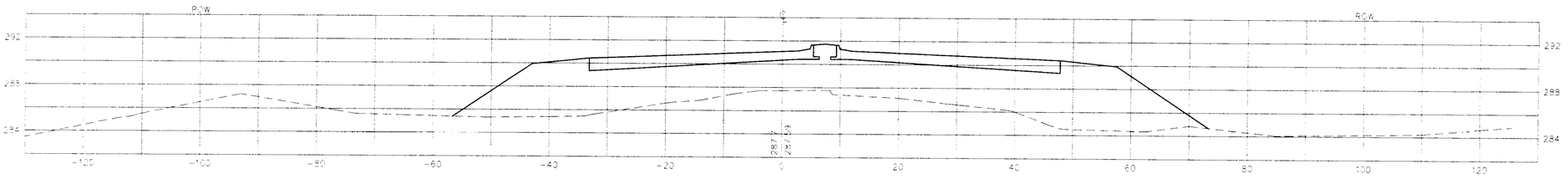
64+00



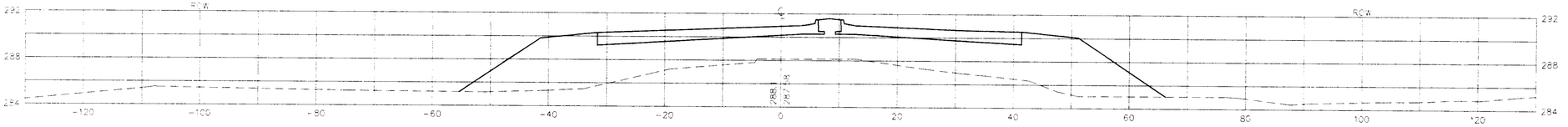
63+50



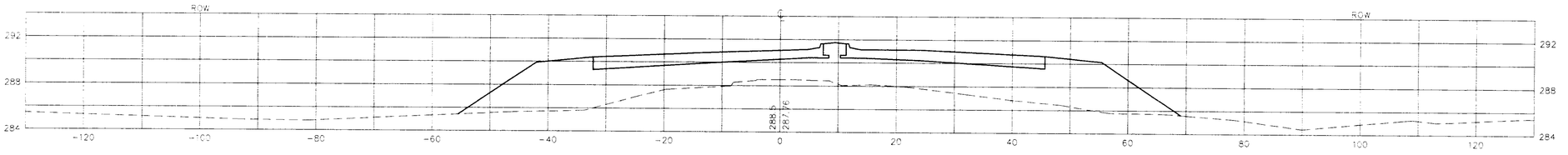
63+00



62+50



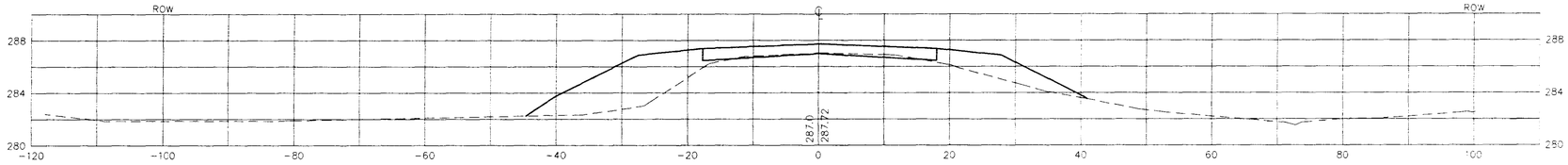
62+00



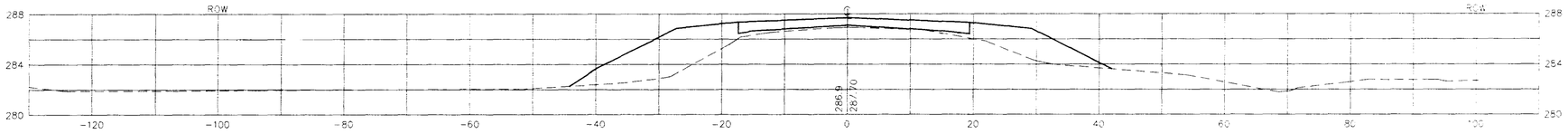
SPILLWAY ROAD
X-SECTIONS
SCALE: 1"=10' HORIZ.
1"=5' VERT.

SHEET NO.926

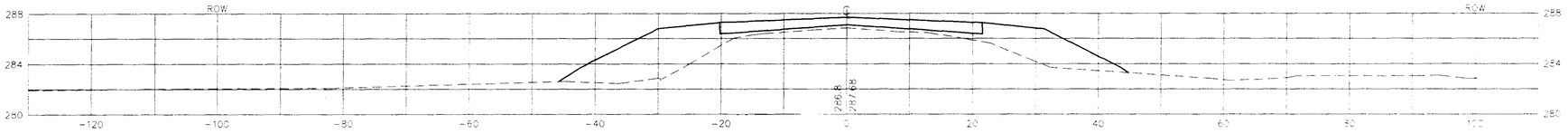
67+00



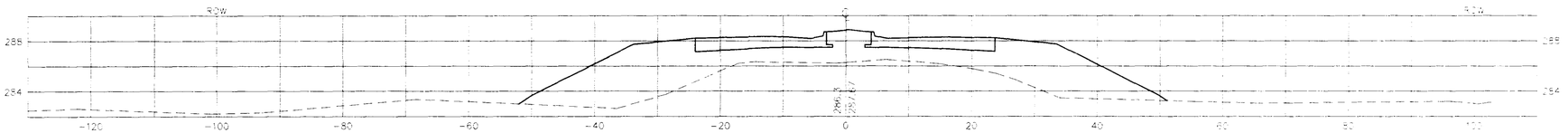
66+50



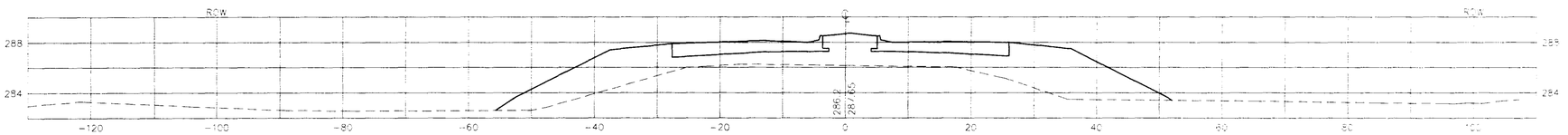
66+00



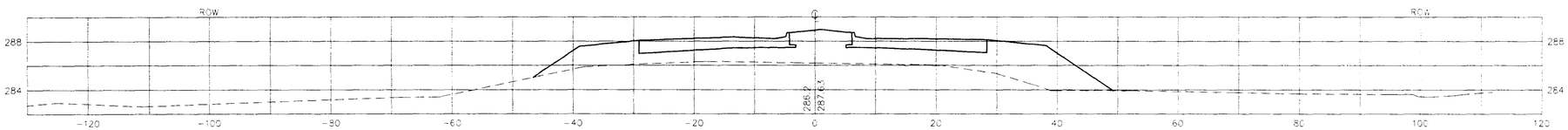
65+50



65+00



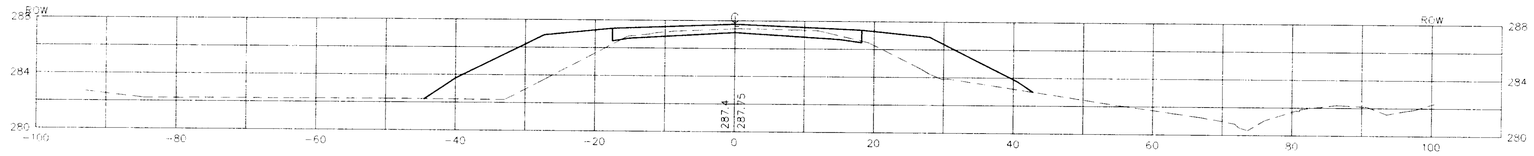
64+50



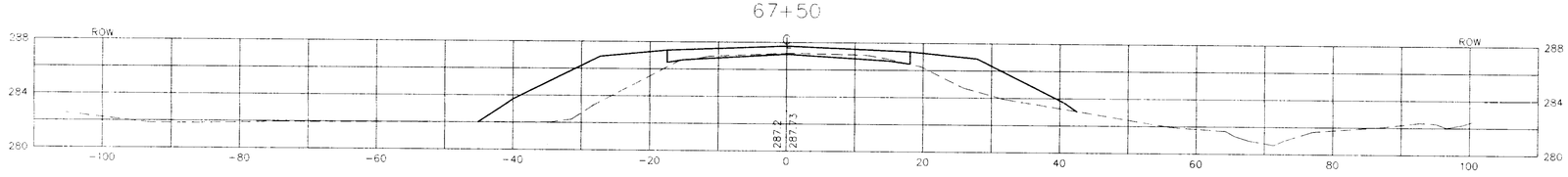
SPILLWAY ROAD
X-SECTIONS
SCALE: 1"=10' HORIZ.
1"=5' VERT.

SHEET NO.927

68+00



67+50

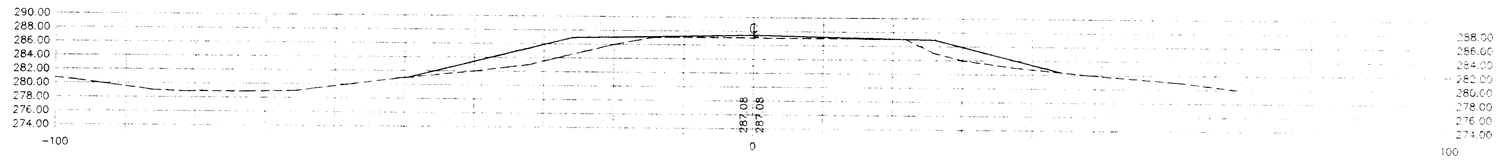


SPILLWAY ROAD
X-SECTIONS
SCALE: 1"=10' HORIZ.
1"=5' VERT.

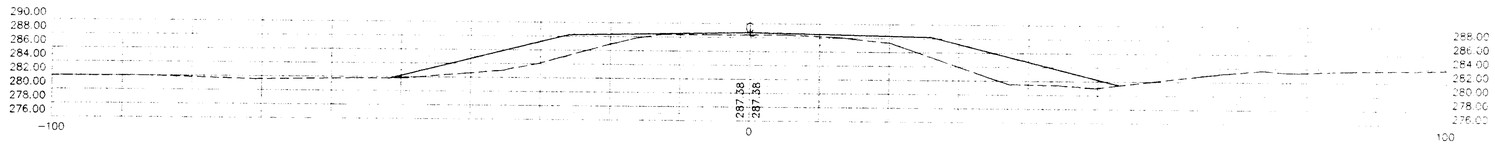
SHEET NO.928

STATE	PROJECT NO.
MISS.	STP-6945(1)/ 49-6945-00-001-10

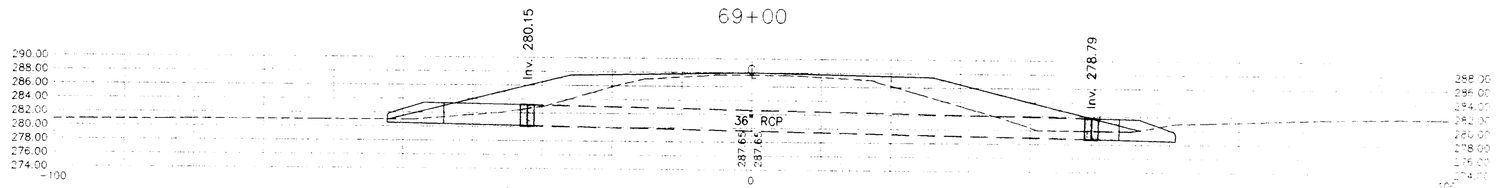
70+00



69+50



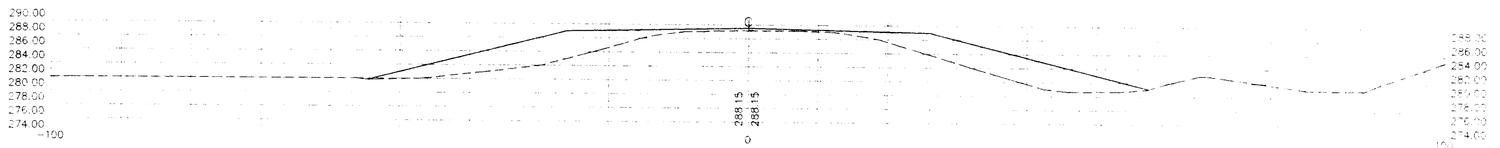
69+00



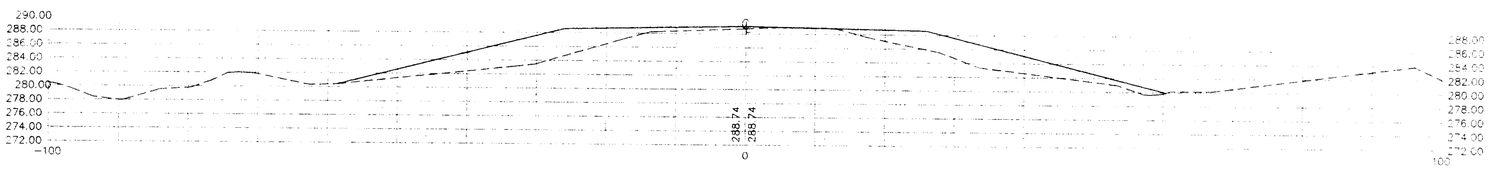
1~Concrete Collar Req'd
12 L.F. 36" RCP Req'd
1 ~FES Req'd

1~Concrete Collar Req'd
4 L.F. 36" RCP Req'd
1 ~FES Req'd

68+50



68+00



WAGGONER ENGINEERING, INC.
ENGINEERS, PLANNERS, SCIENTISTS

NEEL-SCHAFFER, INC.
ENGINEERS • PLANNERS
Jackson, Mississippi

MISSISSIPPI DEPARTMENT OF TRANSPORTATION
CROSS SECTIONS
STA. 68+00 TO
STA. 70+00

PROJECT NO. STP-6945(1)/
49-6945-00-001-10
MADISON COUNTY - RIDGELAND

WORKING NUMBER XS-
SHEET NUMBER 434

FILENAME:
DESIGNED R.R.W. CHECKED M.G.B. DATE 6-96

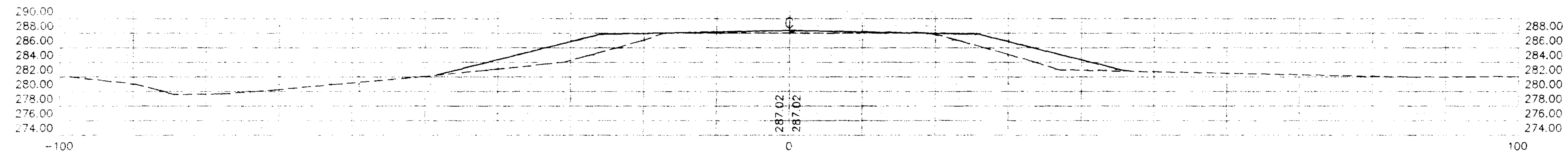
REVISION BY DATE

CAD REF: 2763-XS VIEW 'C' PLOT @ 1=10

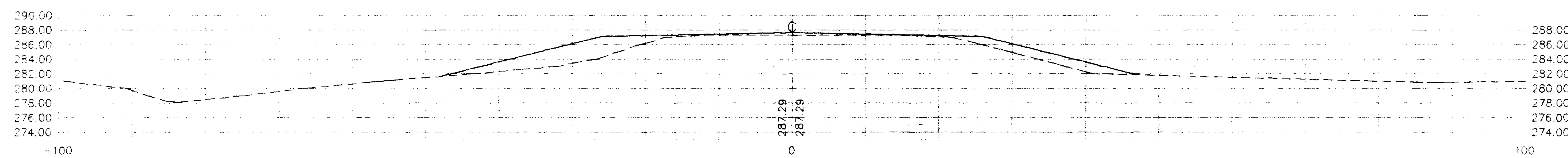
T:\TRAFFIC\ROBERT\2763-02\2763-XS Wed May 21 09:26:32 1997 Billy B.

STATE	PROJECT NO.
MISS.	STP-6945(1)/ 49-6945-00-001-10

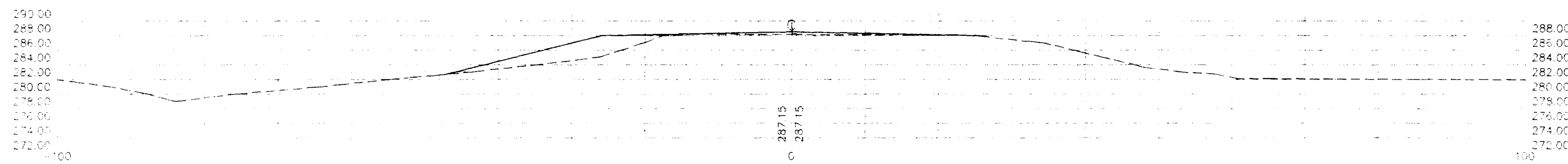
72+50



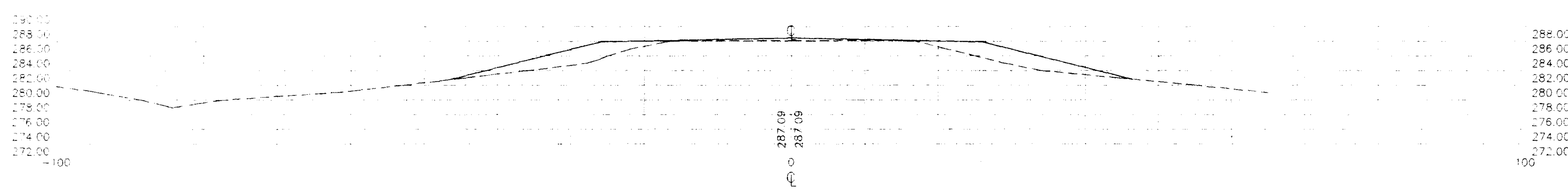
72+00



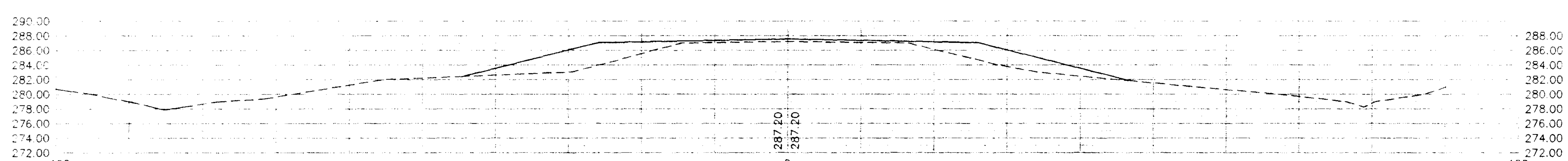
71+50



71+00



70+50



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ENGINEERS • PLANNERS
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MISSISSIPPI DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS
STA. 70+50 TO
STA. 72+50

PROJECT NO. STP-6945(1)/ 49-6945-00-001-10

MADISON COUNTY - RIDGELAND

WORKING NUMBER XS-

FILENAME:

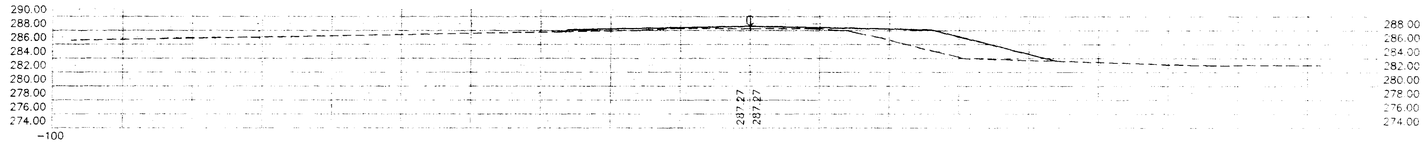
DESIGNED R.R.W. CHECKED M.G.B. DATE 6-96

SHEET NUMBER 930

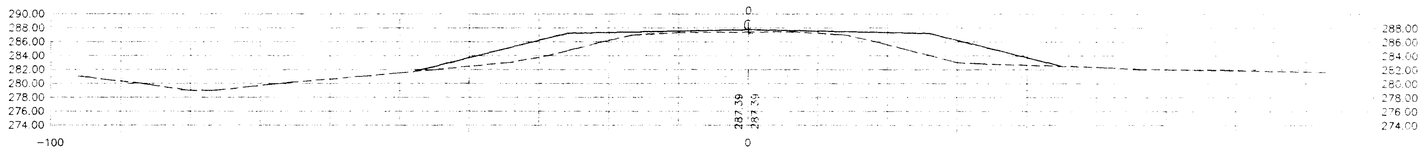
BY | REVISION | DATE

STATE	PROJECT NO.
MISS.	STP-6945(1)/ 49-6945-00-001-10

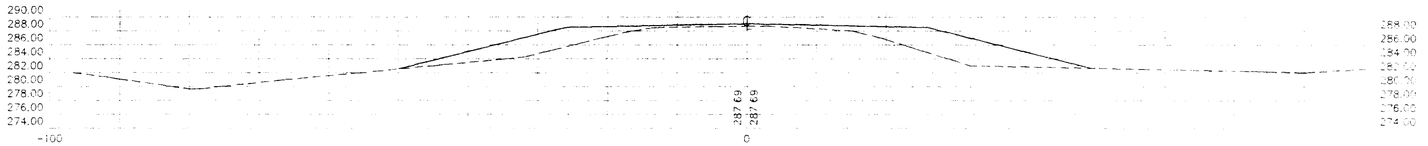
75+00



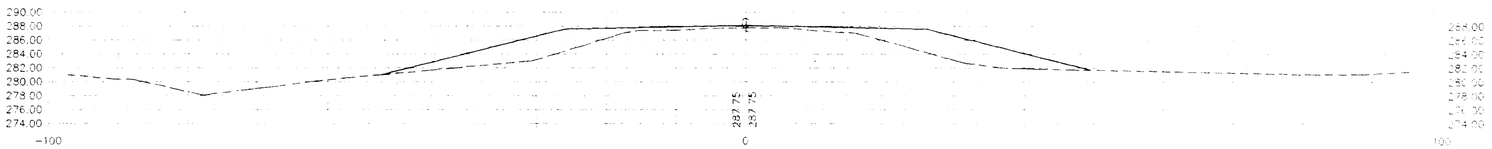
74+50



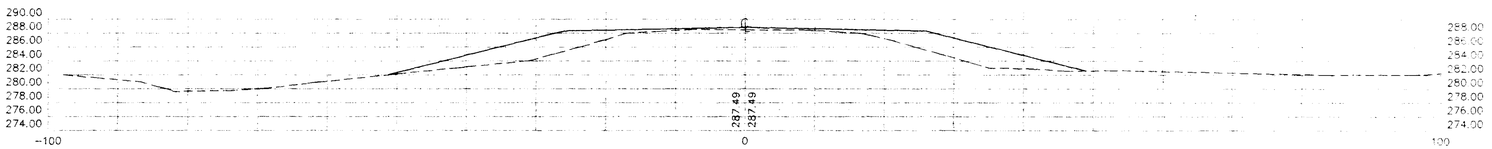
74+00



73+50



73+00



CAD REF. 2763-XS VIEW TO" PLOT @ 1=10

WAGGONER ENGINEERING, INC
ENGINEERS, PLANNERS, SCIENTISTS

NEEL-SCHAFFER, INC.
ENGINEERS • PLANNERS
Jackson, Mississippi

REVISION	BY	DATE

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS STA. 73+00 TO STA. 75+00

PROJECT NO. STP-6945(1)/ 49-6945-00-001-10

MADISON COUNTY - RIDGELAND

WORKING NUMBER XS-

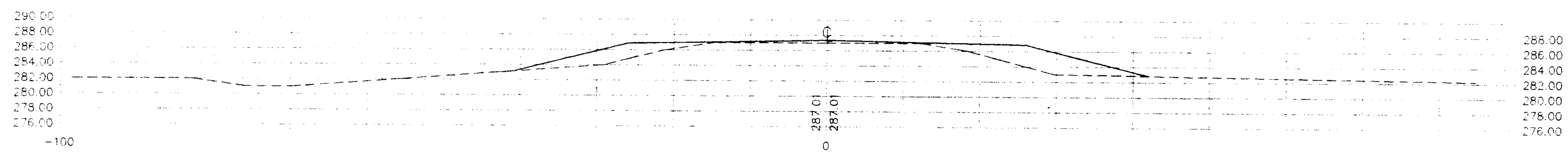
SHEET NUMBER 151

FILENAME:

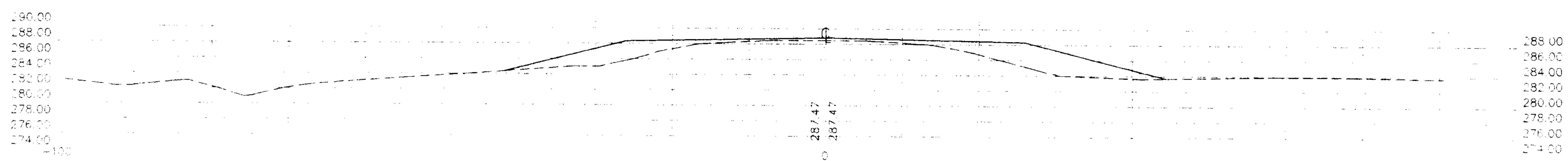
DESIGNED RRW. CHECKED MGB. DATE 6-96

STATE	PROJECT NO.
MISS.	STP-6945(1)/ 49-6945-00-001-10

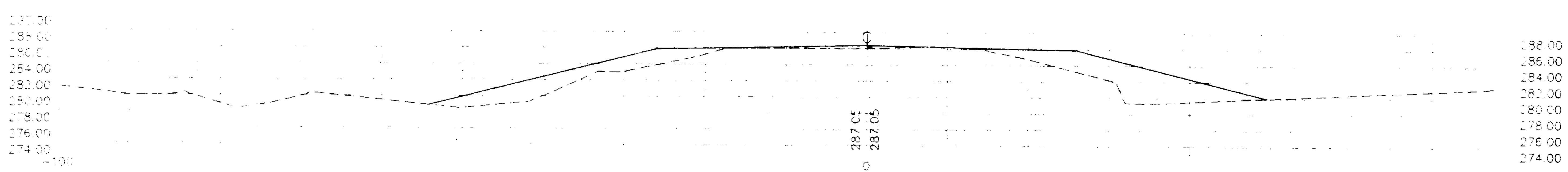
76+93.52



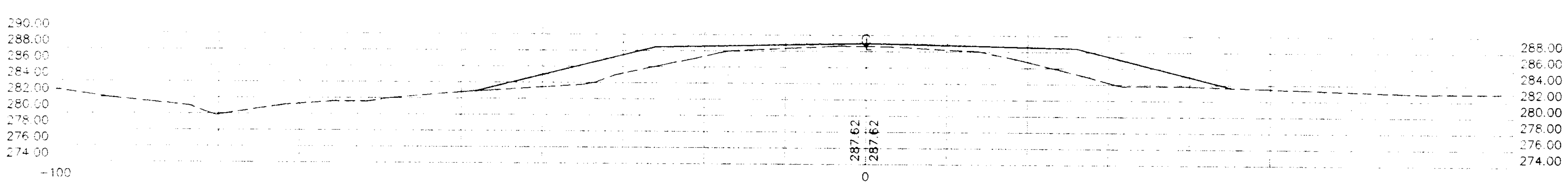
76+50



76+00



75+50



WEI
WAGGONER ENGINEERING, INC.
ENGINEERS, PLANNERS, SCIENTISTS

NEEL-SCHAFFER, INC.
ENGINEERS • PLANNERS
Jackson, Mississippi

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS
STA. 75+50 TO
STA. 76+93.52

PROJECT NO. STP-6945(1)/ 49-6945-00-001-10
MADISON COUNTY - RIDGELAND

WORKING NUMBER XS-
SHEET NUMBER 952

FILENAME:
DESIGNED RRW. CHECKED MGB. DATE 6-96

BY | REVISION | DATE