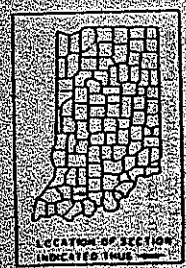
CONTRACT NO. R-18642

Federal Road Region 5

ADT (87) 2240 VPD
ADT ( ) (Proj) VPD
DHV ( ) VPH
Directional Distribution %
Trucks % DHV % ADT



INDIANA

DEPARTMENT OF TRANSPORTATION

PLAN AND PROFILE OF PROPOSED
STATE HIGHWAY
ST-PROJECT NO. 000C(AJP)

VARIOUS LOCATIONS ON S.R.164, BEGINNING AT S.R.162 (LOG MILE 0.0) AND EXTENDING IN A EASTERLY DIRECTION TO THE DUBOIS - CRAWFORD COUNTY LINE (LOG MILE 14.9) ALL IN DUBOIS COUNTY, INDIANA.

Gross Length = 14.9 Mi.
Net Length = 0.24 Mi.

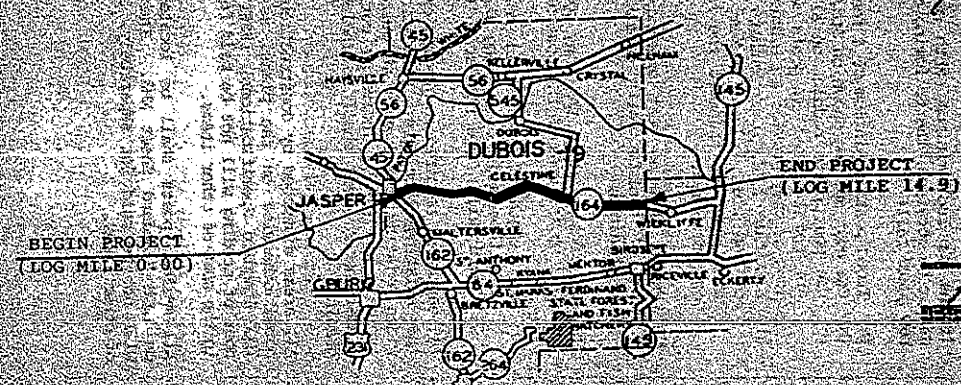
NOTE: NO ADDITIONAL R/W REQ'D. FOR THIS PROJECT

MICHAEL J. FROMELIUS
REGISTERED
No. 8704276
STATE OF INDIANA
PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL: 01-19-90

REX W. KING
REGISTERED
No. 11347
STATE OF INDIANA
PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL: 1-22-90



DESCRIPTION CODE 71680

INDIANA DEPARTMENT OF HIGHWAYS
STANDARD SPECIFICATIONS DATED 1938
TO BE USED WITH THESE PLANS.

APPROVED: 1-22-90

VINCENNES DISTRICT DIRECTOR

GENERAL NOTES

1. Where guard rail type "B" or "D" is called for on this project, the contractor shall use the steel beam section.

2. All guard rail shall be installed to provide a minimum two foot earth embankment behind the guard rail unless noted otherwise on the cross-sections or plans.

   If the two foot minimum earth embankment behind the guard rail post cannot be obtained, the following changes shall be made when installing new guard rail:

   (a) Embed posts a minimum of 4 feet.
   (b) Use post spacing shown on Std. Guard Rail Sheet (GR-8)*.
   (c) Use post plate paddles on all posts less than 7 feet. Paddles are not required on posts which are a minimum 7 feet long as long as they provide a minimum 4 foot embedment.
   (d) Eliminate flat plate washers (3" x 1 3/4") from under the head of the bolt holding W-Beam to blockout except where washers are needed to transmit the forces in the anchor posts to obtain end anchorage.

   * Except that no post spacing shall be greater than 6'-3" when the 2' minimum earth embankment behind the guard rail cannot be obtained.

   The additional cost of the long posts shall not be paid for directly, but shall be included in the cost of the guard rail as follows:

   The length of guard rail measured from mid-panel to mid-panel on either side of a long post location shall be paid for as "Guard Rail", Type ("B" or "D"), Modified.

3. All earthwork required in grading existing shoulders to drain, widening the existing shoulders, relocating ditches, and that required to widen existing embankments at guard rail locations, as shown on the typicals and plans, including cut, fill benching and other related miscellaneous items shall be included in the cost of the item linear grading.

4. All areas disturbed by construction activities shall be seeded, unless noted otherwise on the plans, as specified in Section 621 of the IDOH Standard Specifications, 1988, using mulched seeding, "R". The cost of seeding will not be paid for separately, but shall be included in the cost of other items.

5. All mailbox posts shall be located behind the guard rail as shown on IDOH Standard Sheet MH3. The cost of relocating mailbox posts will not be paid for separately, but shall be included in the cost of other items.

Contract No. R-1642

INDEX

SHEET NO.	DESIGNATION
1	TITLE SHEET
2	GENERAL NOTES
3	INDEX
4	STANDARD SHEET INDEX
5	MAINTENANCE OF TRAFFIC
6	MAP OF PROJECT LOCATIONS
7-14	TYPICAL CROSS SECTIONS & PLANS
15-17	GABION DETAILS, SECTIONS & NOTES
18-20	SPECIAL D_S DETAILS
21	GUARD RAIL SUMMARY TABLE
22	LOCATION SHEET

1164/5.71

Contract No. R-18642

STANDARD SHEET INDEX

DESIGNATION	FHWA APPROVAL	DATE ADOPTED (A) OR REVISED (R)
GUARD RAIL SHEET GR2	*	R 4-2-84
GUARD RAIL SHEET GR10	*	R 2-1-85
STANDARD DETOUR SIGNS SHT. 2	*	A SEPT. 1988
STANDARD DETOUR SIGNS SHT. 2A	*	A SEPT. 1988
STANDARD DETOUR SIGNS SHT. 3	*	R 9-1-88
STANDARD DETOUR SIGNS SHT. 5	*	R 9-1-88
MISC. STANDARD SHT. ME2	6-27-85	R 9-4-84
MISC. STANDARD SHT. MH3	5-19-88	R 4-4-88
MISC. STANDARD SHT. MN	9-24-85	R 6-3-85
MISC. STANDARD SHT. MP	9-24-85	R 6-3-85
GUARDRAIL SHEET GR 8	*	R 4-2-84

* FHWA APPROVAL PENDING

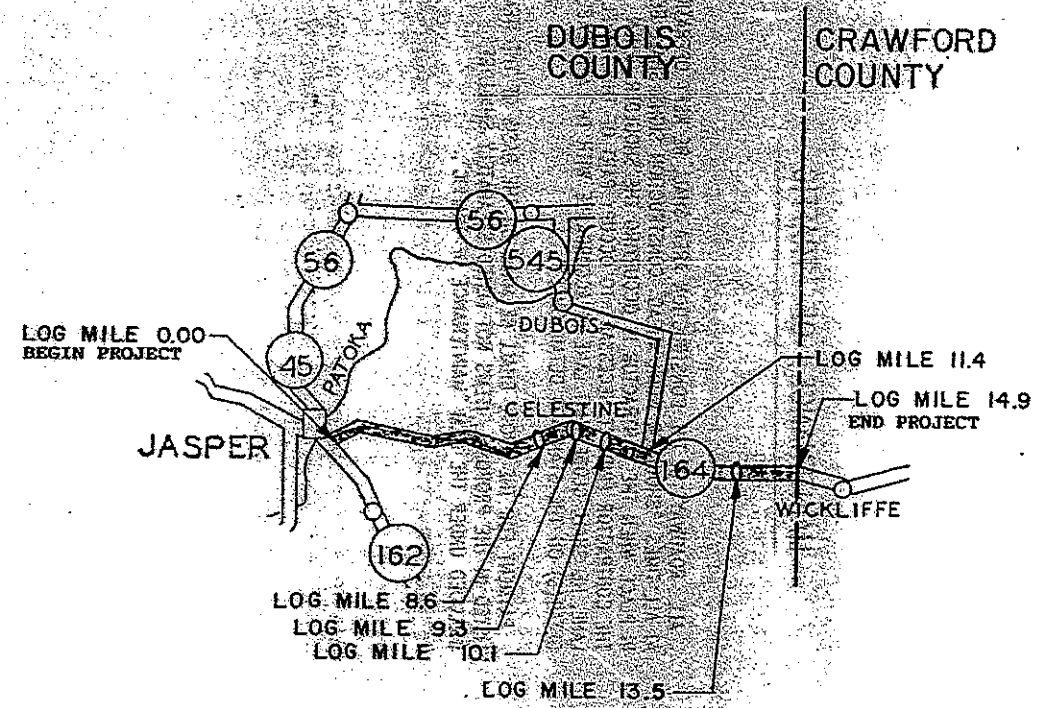
IT SHALL BE THE CONRTACTOR'S RESPONSIBILITY TO PURCHASE THE ABOVE STANDARD SHEETS IN THE INDIANA STATE OFFICE BUILDING, 100 NORTH SENATE AVENUE. ROOM 1313, INDIANAPOLIS, INDIANA 46204.

MAINTENANCE OF TRAFFIC

ALL ROADWAYS IN THE CONSTRUCTION AREA SHALL BE KEPT OPERATIONAL AT ALL TIMES. "SHOULDER WORK AHEAD" CONSTRUCTION SIGNS SHALL BE IN PLACE WHEN THE CONTRACTOR IS OCCUPYING THE SHOULDER. WHEN THE CONTRACTOR FINDS IT NECESSARY TO OCCUPY PART OF THE TRAVEL LANE, HE SHALL CLOSE THAT LANE IN accordance WITH THE APPLICABLE DETAIL(S) ON THE STANDARD DETAIL SHEETS.

PAYMENT FOR THE ABOVE SHALL BE MADE ON THE BASIS OF THE ITEMS LISTED IN THE PROPOSAL. ITEMS NOT LISTED SEPARATELY SHALL BE INCLUDED UNDER THE ITEM "MAINTENANCE OF TRAFFIC".

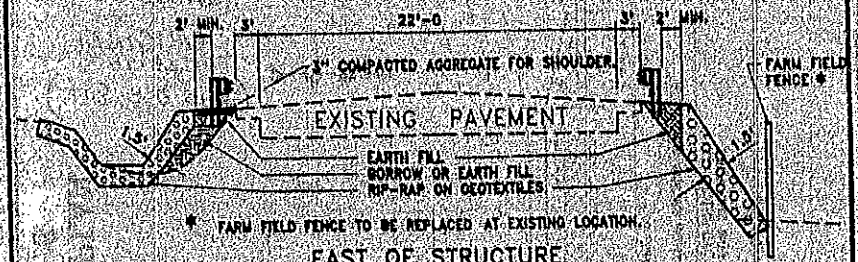
1164/5.72



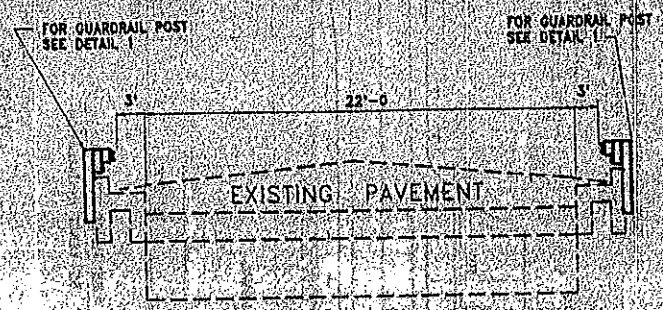
MAP OF PROJECT LOCATIONS

Contract No. R-18642

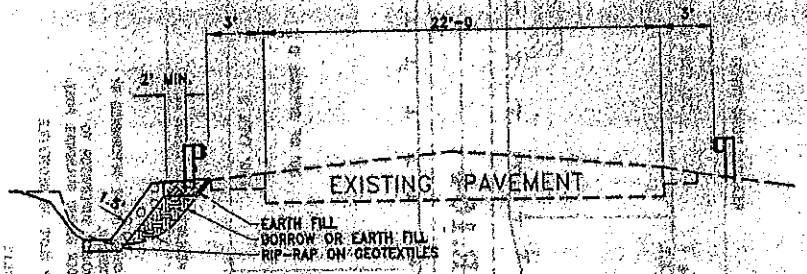
Contract No. [illegible]



EAST OF STRUCTURE



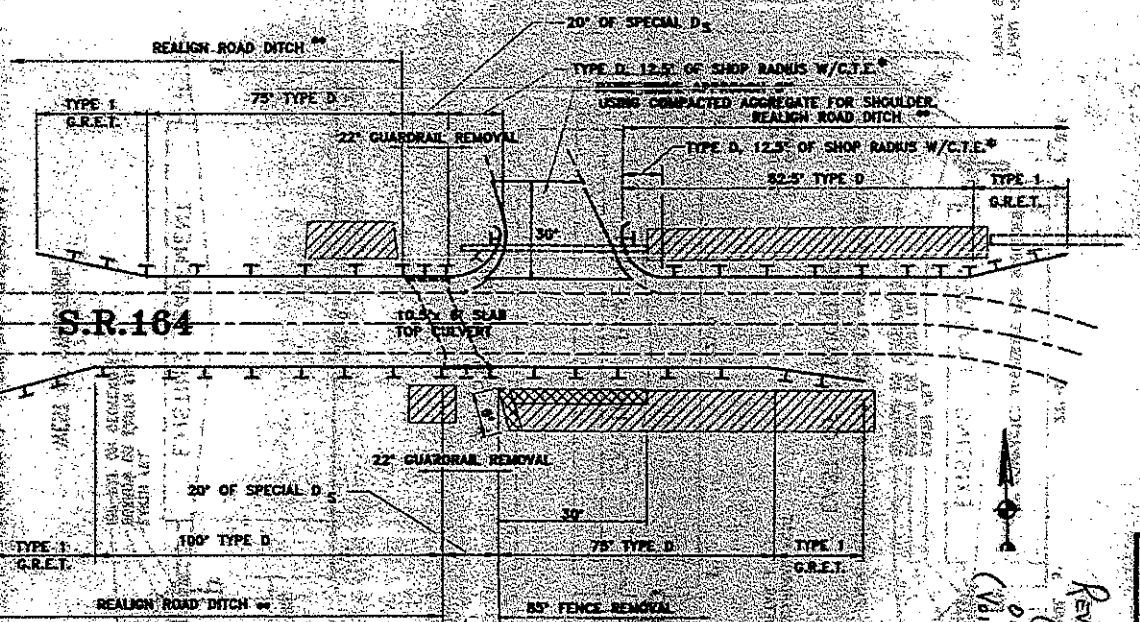
AT STRUCTURE



WEST OF STRUCTURE

TYPICAL CROSS SECTION
LOG MILE 8.6

1164/5.73



NOTES:

* RADIUS FOR SHOP CURVE TO BE DETERMINED BY THE PROJECT SUPERVISOR.
** AS DIRECTED BY PROJECT SUPERVISOR TO PROVIDE 2' SHOULDER BEHIND GUARDRAIL POST.

REVETMENT RIP-RAP REQ'D ON GEOTEXTILE

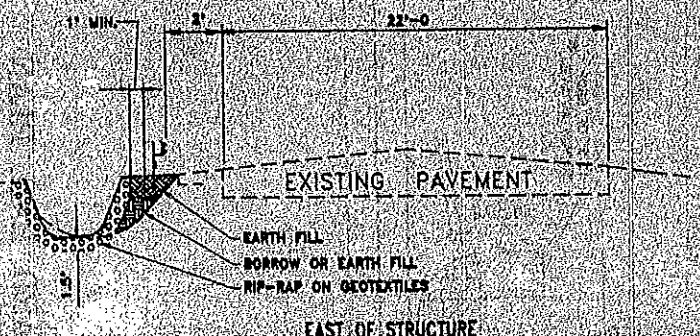
GABION ON GEOTEXTILES

GUARD RAIL PLAN
LOG MILE 8.6

REVISED ORIGINAL 01.25.90 (VOID OLD SHT.)

Contract No. R-18692

Contract No. R-18642



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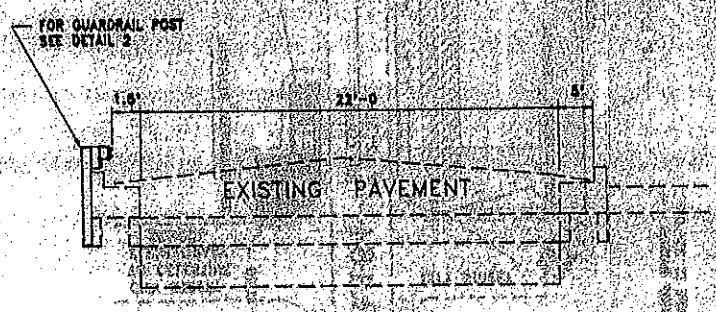
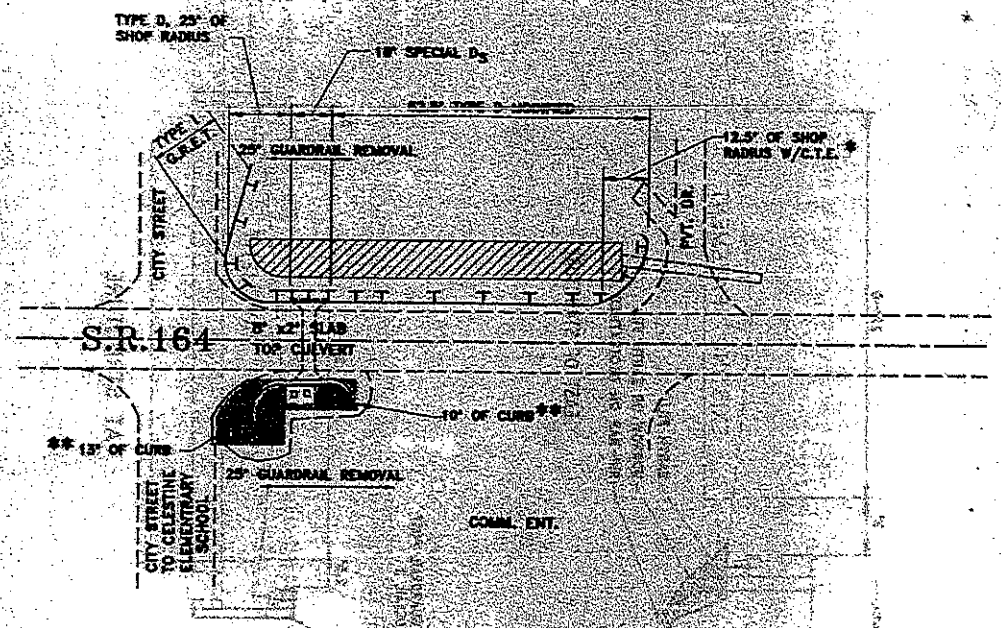


AT STRUCTURE

TYPICAL CROSS SECTION
LOG MILE 9.3

1166/5.74



NOTES:

* RADIUS FOR SHOP CURVE TO BE DETERMINED BY THE PROJECT SUPERVISOR

** BLEND 8" CURB TO 9" CURB

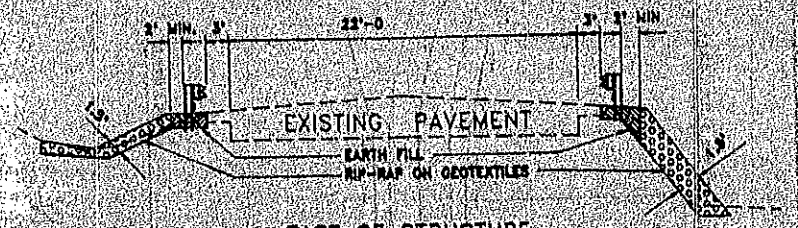
REVETMENT RIP RAP ON GEOTEXTILES LINE DITCH BOTTOM & SIDES.

3" BITUMINOUS BASE SD'S WITH TYPE 1 SEAL COAT.

GUARD RAIL PLAN
LOG MILE 9.3
(IN THE TOWN OF CELESTINE)

Contract No. R-18642

Contract No. R 18642



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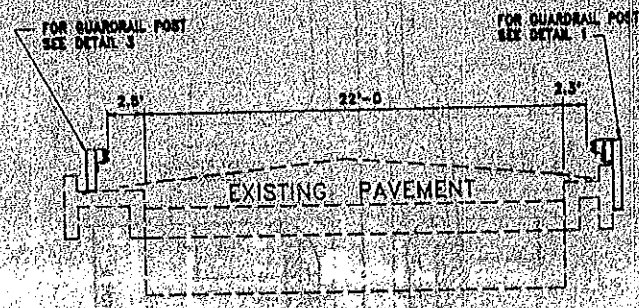
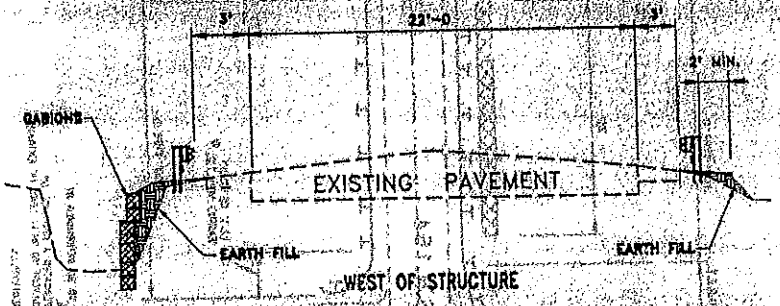


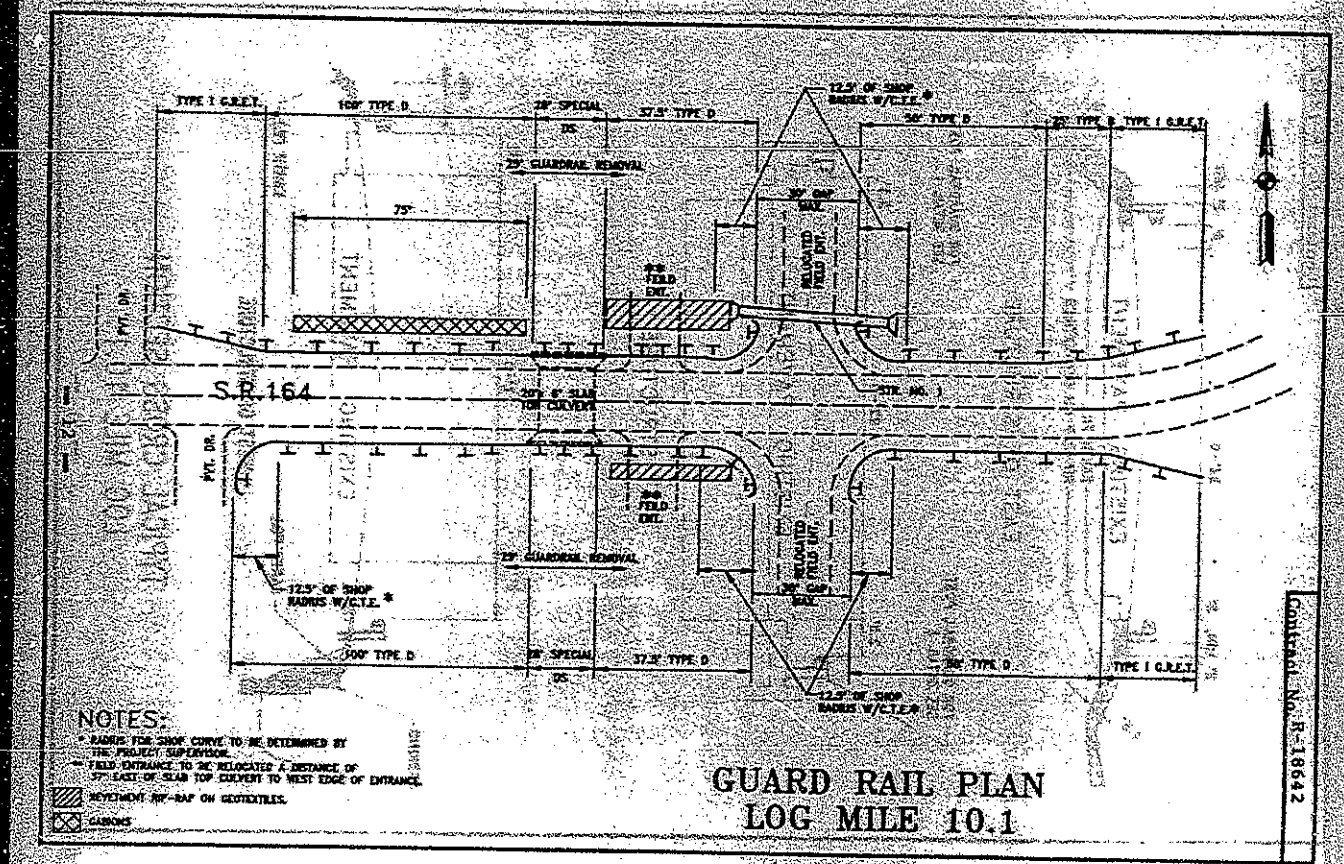
AT STRUCTURE



WEST OF STRUCTURE

TYPICAL CROSS SECTION
LOG MILE 10.1

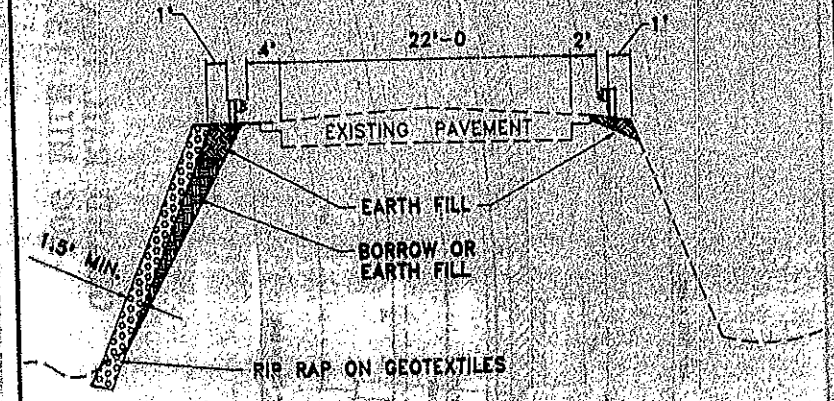
1164/5.75



GUARD RAIL PLAN
LOG MILE 10.1

Contract No. R-18642

Contract No. [illegible]

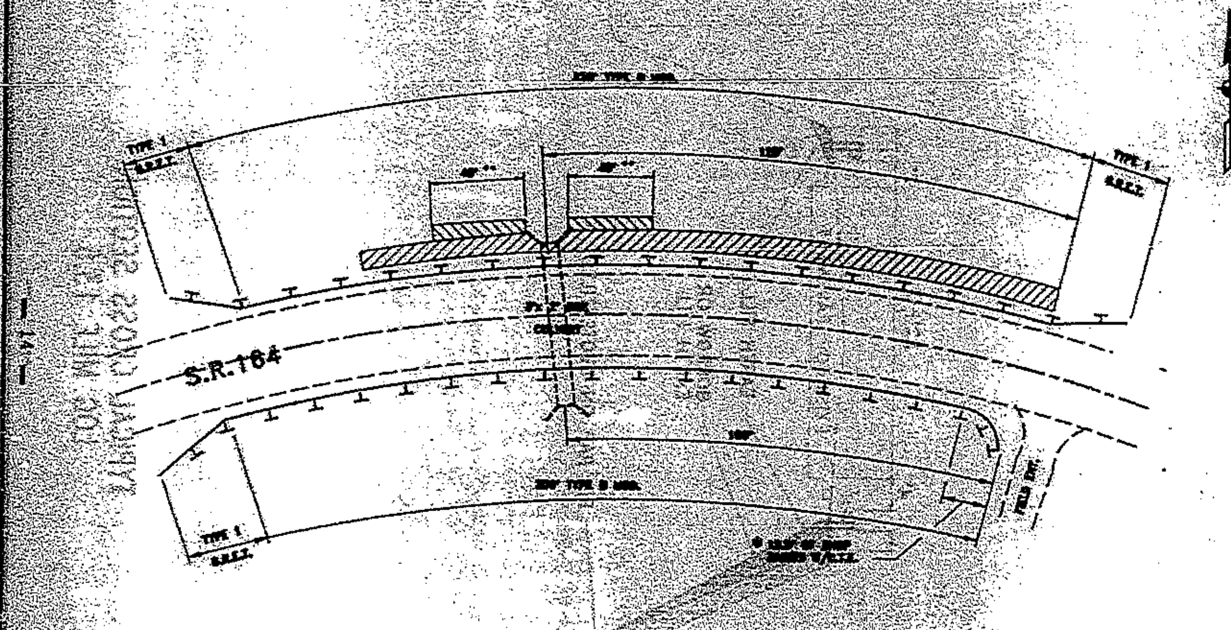


TYPICAL CROSS SECTION
LOG MILE 13.5

— 13 —

1164/5.76

Contract No. R-18642



GUARD RAIL PLAN
LOG MILE 13.5

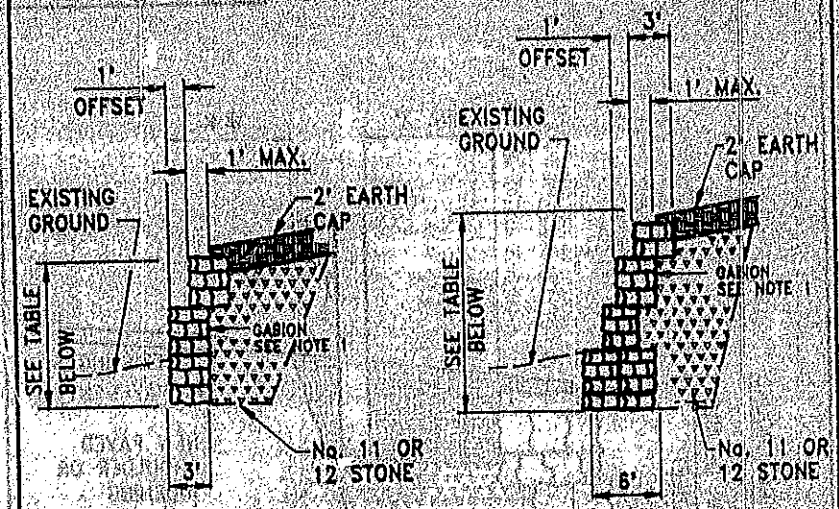
NOTES:

* RADIUS FOR SHOP CURVE TO BE DETERMINED BY THE PROJECT SUPERVISOR.

REVETMENT RIP-RAP ON GEOTEXTILES

** RIP-RAP REQ'D SIDES & BOTTOM OF DITCH.

Contract No. R-18642



GABIONS LESS THAN 8' EXPOSED WALL HEIGHT

GABIONS GREATER THAN OR EQUAL TO 8' EXPOSED WALL HEIGHT

GABION WALL HEIGHT TABLE		
EXPOSED WALL HEIGHT (FT.) (SEE NOTES 2,3)	BURIED WALL HEIGHT (FT.) (SEE NOTES 4,5)	WIDTH OF BURIED WALL (FT.)
2'	1.5'	3'
3' TO 7'	1/2 THE EXPOSED WALL HEIGHT	3'
8' AND OVER	1/2 THE EXPOSED WALL HEIGHT	6'

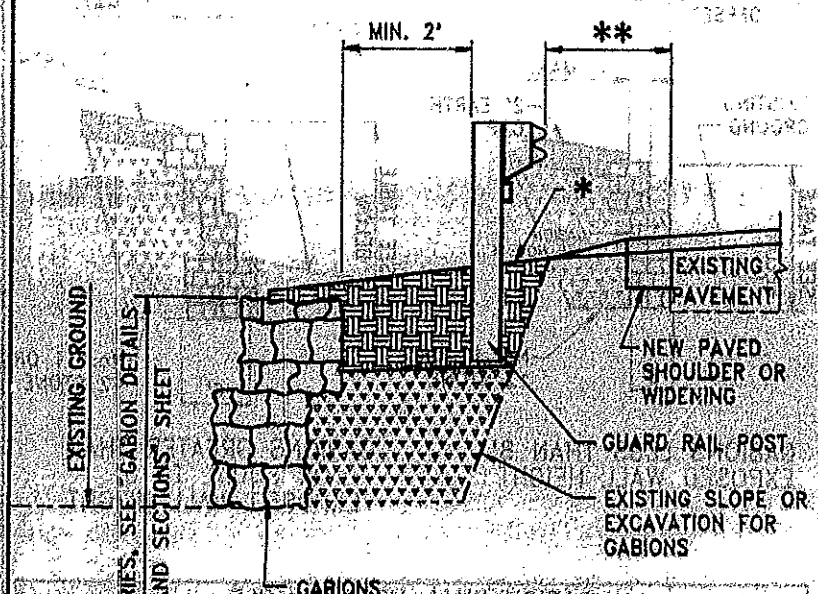
— FOR NOTES, SEE "NOTES FOR GABION DETAILS AND SECTIONS" SHEET.

— ALL WORK THAT IS NOT PAID FOR SEPARATELY WILL BE INCLUDED IN THE COST OF THE GABIONS.

GABION DETAILS AND SECTIONS

1164/5.77

Contract No. R-18642



* SLOPE MAX. 1"/ft.

** SEE "TYPICAL GUARD RAIL SECTION" FOR DISTANCE FROM EDGE OF PAVEMENT OR EDGE OF PAVED SHOULDER.

EARTH FILL REQUIRED TO BOTTOM OF GUARD RAIL POST. WILL BE INCLUDED IN THE COST OF THE GABIONS.

No. 11 OR. No. 12 STONE. STONE WILL BE INCLUDED IN THE COST OF THE GABIONS

GABION SECTION WITH GUARD RAIL

1. Hand laid rip rap to be placed in gabions with geotextiles on top, bottom, back, and ends (typical).

2. First exposed gabion will be centered over buried gabions.

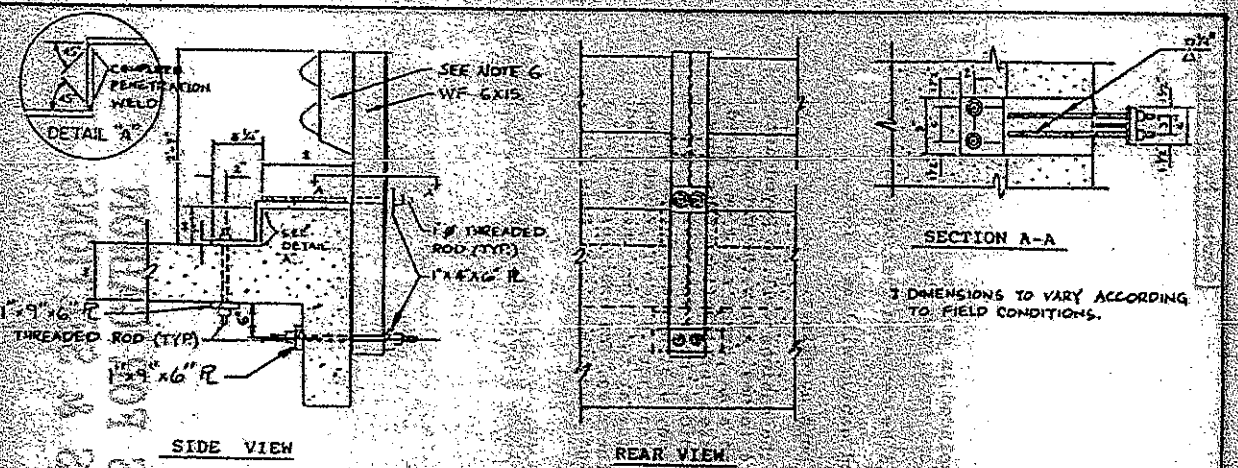
3. The offset on the exposed gabion will be 1 foot.

4. All buried gabions will have no offset.

5. If rock is encountered, the gabions will be keyed into sound rock a minimum of 6 inches. After the bottom gabion is set in the keyed area, grout shall be placed in this area to prevent water infiltration. This work which includes: grout, gabions, rock excavation, and all incidental construction, will be paid for in the following manner. Any gabion that is set in keyed area and grouted will be paid for at two times the measured depth of the gabion in the area. For example: a 3'-0" tall gabion keyed in 1'-0" in depth will be paid for as a gabion 4'-0" tall.

NOTES FOR GABION DETAILS & SECTIONS

1164/5.78



DETAIL 1
SPECIAL CLASS Da GUARDRAIL DETAILS

1) All bolts, nuts, washers and threaded rods are to meet the requirements of 909.11(a)3.

2) All steel shapes and plates are ASTM A-36.

3) Maximum spacing between posts is 6'-3".

4) Posts are to be equally spaced across the structure.

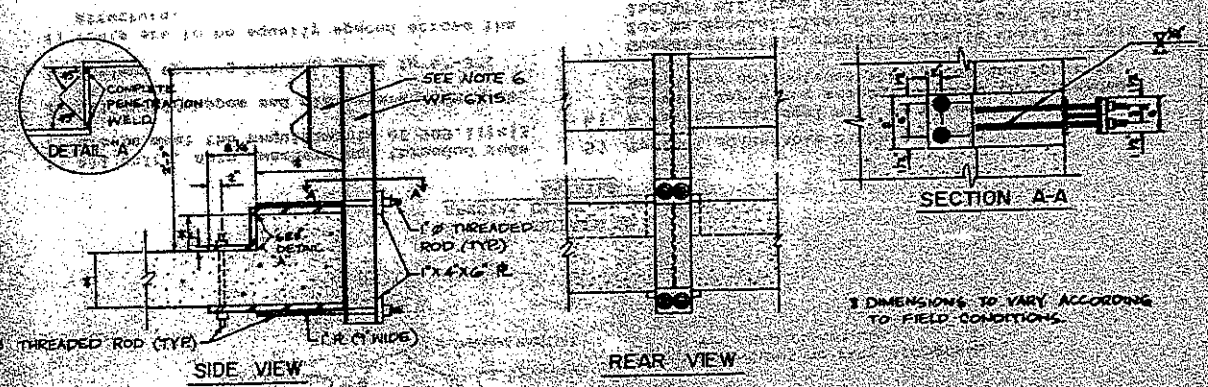
5) Channel to be omitted if clearance is insufficient.

6) Typical adjustable block is W6x15. Additional blockout material is required if the dimension between the face of curb and the face of the guardrail is greater than 3".

7) A water tight seal will be placed so as to prevent any water seepage through the threaded Rod Holes and between the Plates and Concrete.

8) Guardrail within structure limits shall be paid for as Special Class Da guardrail and shall include all items for mounting as shown.

Contract No. R-18642



DETAIL 2
SPECIAL CLASS Ds GUARDRAIL DETAILS

1) All bolts, nuts, washers and threaded rods are to meet the requirements of 909.11(a)3.

2) All steel shapes and plates are ASTM A-36.

3) Maximum spacing between posts is 6'-3".

4) Posts are to be equally spaced across the structure.

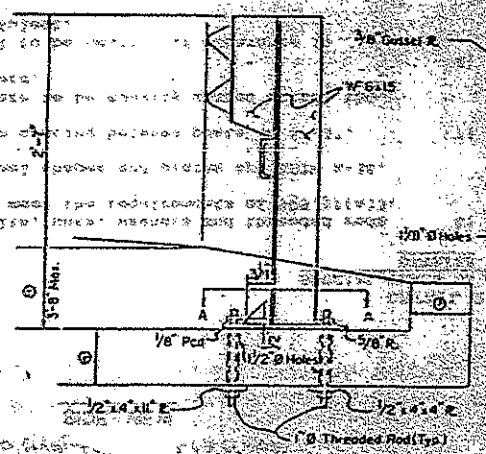
5) Channel to be omitted if clearance is insufficient.

6) Typical adjustable block is W6x15. Additional blockout material is required if the dimension between the face of curb and the face of the guardrail is greater than 3".

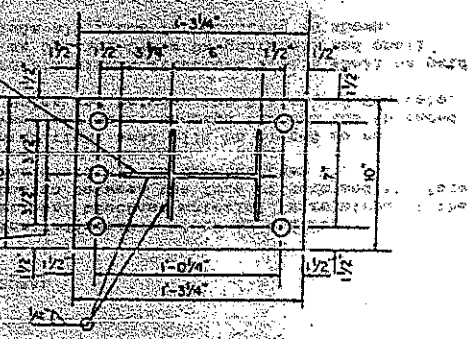
7) A water tight seal will be placed so as to prevent any water seepage through the threaded Rod Holes and between the Plates and Concrete.

8) Guardrail within structure limits shall be paid for as Special Class Ds guardrail and shall include all items for mounting as shown.

CONTRACT NO. R-10642



SIDE VIEW
(BOX)



SECTION A-A

1 DIMENSIONS TO VARY ACCORDING TO FIELD CONDITIONS.

DETAIL 3
SPECIAL CLASS Ds GUARDRAIL DETAILS

1) All bolts, nuts, washers and threaded rods are to meet the requirements of 909.11(a)3.

2) All steel shapes and plates are ASTM A-36.

3) Maximum spacing between posts is 6'-3".

4) Posts are to be equally spaced across the structure.

5) Typical adjustable block is W6x15.

6) A water tight seal will be placed so as to prevent any water seepage through the threaded Rod Holes and between the Plates and Concrete.

7) Guardrail within structure limits shall be paid for as Special Class Ds guardrail and shall include all items for mounting as shown.

GUARD RAIL SUMMARY TABLE

LOCATION	SIDE	TYPE B	B MODIF.	D	D MODIF.	SPEC. Ds	E	G.R.E.T. TYPE I	CURVED END	REMOVAL G.R.	REMARKS
LOG MILE 8.6	RT.			175'		20'		2		22'	SPECIAL Ds DETAIL 1
	LT.			150'		20'		2	2	22'	SPECIAL Ds DETAIL 1 25' SHOP CURVE
LOG MILE 9.3	RT.									25'	23' OF CURB (6")
	LT.			25'	62.5'	18'		1	1	25'	SPECIAL Ds DETAIL 2 37.5' SHOP CURVE
LOG MILE 10.1	RT.			187.5'		28'		1	3	29'	SPECIAL Ds DETAIL 1 25' SHOP CURVE
	LT.	25'		187.5'		28'		2	2	29'	SPECIAL Ds DETAIL 3 37.5' SHOP CURVE
LOG MILE 13.5	RT.		350'					1	1		12.5' SHOP CURVE
	LT.		325'					2			
TOTAL		25'	675'	725'	62.5'	114'		11	9	152'	SHOP CURVE: 112.5' TYPE D 12.5' TYPE D MOD. 12.5' TYPE B MOD.

Contract No. D-1864

1164/5.80

RIP RAP LOCATIONS
(For Information Only)

Log Mile (Lt. or Rt.)		Rip Rap (Tons)	Geotextiles (Sys)
8.6	Rt.	60	125
8.6	Lt.	50	100
9.3	Lt.	80	145
10.1	Rt.	25	40
10.1	Lt.	30	45
10.1	Lt.	150	260

GABION LOCATIONS
(For Information Only)

Log Mile (Lt. or Rt.)		Length (Ft.)	Exposed Height (Ft.)	Gabions (Cys)	Geotextiles (Sys)
8.6	Rt.	33	6	33	72
10.1	Lt.	75	6	75	160

STRUCTURE DATA

Log Mile 10.1 Lt. 24" x 30' Lg. pipe, Group "D" with 2 pipe end sections.
Backfill Method: B*

* "B Borrow for Structural Backfill" shall not be paid for separately, but will be included in the cost of the item "Linear Grading".