



North Dakota Department of Transportation

Grant Levi, P.E.
Director

Jack Dalrymple
Governor

November 7, 2014

ADDENDUM 3 – JOB 40

TO: All prospective bidders on project IM-8-029(132)078, Job No. 40 scheduled for the November 14, 2014 bid opening.

The following plan and proposal revisions shall be made:

Plan Revisions:

See attached letter dated Nov 6, 2014 from Jeffrey T. Lansink, P.E. – Houston Engineering, Inc. for an explanation.

Request For Proposal Revisions:

Remove and replace pages 9 through 15 of 16 of the Proposal Form pages located at the beginning of the Request For Proposal, with the enclosed pages revised 11/06/14.

Page 9 of 16:

Item 430 2000 PATCHING, 50 TON was added.

Page 10 – 11 of 16:

Items shifted due to added item.

Page 12 of 16:

Item 762 0103 PVMT MK PAINTED-MESSAGE, quantity increased from 109 to 177 SF.

Item 762 0113 EPOXY PVMT MK 4IN LINE, 15,137 LF was deleted.

Item 762 0117 EPOXY PVMT MK 24IN LINE, 120 LF was deleted.

Item 762 0122 PREFORMED PATTERNED PVMT MK-MESSAGE (GROOVED), 68 SF was deleted.

Page 13 of 16:

Item 762 1104 PVMT MK PAINTED 4IN LINE, 123,281 LF was added.

Item 762 1108 PVMT MK PAINTED 8IN LINE, 991 LF was added.

Item 762 1305 PREFORMED PATTERNED PVMT MK 4IN LINE-GROOVED, 108,144 LF was deleted.

Item 762 1124 PVMT MK PAINTED 24IN LINE, 120 LF was added.

Item 762 1309 PREFORMED PATTERNED PVMT MK 8IN LINE-GROOVED, 991 LF was deleted.

Item 764 0115 3-CABLE GUARDRAIL, quantity increased from 14,750 to 15,250 LF.

Alternate 1

Item 709 0701 GEOTEXTILE FABRIC-TYPE R1, quantity decreased from 218,963 to 210,952 SY.

Page 14 of 16:

Alternate 2

Item 709 0151 GEOSYNTHETIC MATERIAL TYPE R1, quantity decreased from 218,963 to 210,952 SY.

Page 15 of 16:

Completion date was revised.

This addendum is to be incorporated into the bidder's proposal for this project.

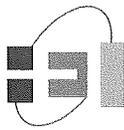
Expedite bid files should be updated by downloading the addendum file from the Bid Express on-line bidding exchange at <http://www.bidx.com/> or the Department's web page (<http://www.dot.nd.gov>) and load it into the Expedite program.

A handwritten signature in black ink, appearing to read "Cal J. Gendreau". The signature is written in a cursive style with a large initial "C".

CAL J. GENDREAU – CONSTRUCTION SERVICES ENGINEER

80:plm

Enclosure



November 6, 2014

To: All prospective bidders on Project IM-8-029(132)078, scheduled for November 14, 2014 bid opening.

The following plan revisions shall be made:

Remove and replace Section 2 sheet 2, Section 6 sheets 3 & 4, Section 8 sheets 1-3, Section 10 sheet 1, Section 100 sheet 2 and Section 130 sheets 1, 3 & 4 with the enclosed sheets revised 11/3/2014 for project IM-8-029(132)078.

Section 2 Sheet 2

- Removed standard drawing D-764-4

Section 6 Sheet 3

- Remove note 704-P06

Section 6 Sheet 4

- Notes 704-P07 and 704-P08 renumbered to 704-P06 and 704-P07
- Phone added to note 706-P01

Section 8 Sheet 1

- Add bid item 430-2000 Patching – 50 Ton

Section 8 Sheet 2

- Adjusted bid items to fit sheet

Section 8 Sheet 3

- Remove the following bid items:
 - 762-0113 Epoxy Pvmt Mk 4IN Line – 15,137 LF
 - 762-0117 Epoxy Pvmt Mk 24IN Line – 120 LF
 - 762-0122 Preformed Patterned Pvmt Mk-Message – 68 SF
 - 762-1305 Preformed Patterned Pvmt Mk 4IN Line-Grooved – 108,144 LF
 - 762-1309 Preformed Patterned Pvmt Mk 8IN Line-Grooved – 991 LF

- Add the following bid items:
 - 762-1104 Pvmt Mk Painted 4IN Line – 123,281 LF
 - 762-1108 Pvmt Mk Painted 8IN Line – 991 LF
 - 762-1124 Pvmt Mk Painted 24IN Line – 120 LF
- Revise quantities:
 - 762-0103 Pvmt Mk Painted-Message – 177 SF
 - 764-0115 3-Cable Guardrail – 15,250 LF
 - Alternate A – 709-0151 Geosynthetic Material Type R1 – 210,952 SY
 - Alternate B – 709-0151 Geosynthetic Material Type R1 – 210,952 SY

Section 10 Sheet 1

- Pavement Marking items revised to painted

Section 20 Sheet 7

- Added Concrete Ramp dowel bar detail

Section 100 Sheet 2

- Note (B) Revised to eliminate ET-2000 end terminal

Section 130 Sheet 1

- Note (B) Revised to eliminate ET-2000 end terminal

Section 130 Sheet 3

- Note (B) Revised to eliminate ET-2000 end terminal

Section 130 Sheet 4

- Guardrail quantity revised from 176.8 LF to 162.5 LF

Remove and replace Section 6 sheet 2, Section 20 sheets 7, and Section 30 sheets 9 &10, with the enclosed sheets revised 11/5/2014 for project IM-8-029(132)078.

Section 6 Sheet 2

- Note 302-P04 revised to “HAULING: The shoulder can be used as a haul route. Haul vehicles shall only drive on the subgrade. Do not drive on the base course and/or geosynthetic material, except when the haul vehicle is dumping. When dumping, the haul vehicle is allowed to drive on the base course in the immediate vicinity of where the load is

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November 6, 2014

dumped. Re-establish subgrade surface tolerance per contract requirements prior to placement of the salvaged base course.”

Section 20 Sheet 7

- Added Concrete Ramp dowel bar detail
- Revise Grade 60 longitudinal bar spacing to 45”

Section 30 Sheet 9

- Revised fabric width from 23.5’ to 22’ right of centerline

Section 30 Sheet 10

- Revised fabric width from 23.5’ to 22’ right of centerline

Section 100 Sheet 9

- Revise 3-Cable Guardrail quantity to include 50’ overlap

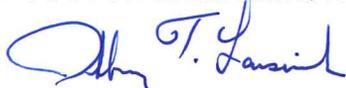
Section 100 Sheet 18

- Revise 3-Cable Guardrail quantity to include 50’ overlap

This addendum is to be incorporated into the bidder’s proposal for this project.

Sincerely,

HOUSTON ENGINEERING INC.



Jeffrey T. Lansink P.E.

Enclosures

H:\Fargo\JBN\3900\3950\10_3950_086\Deliverables\Final Plan Submittal\Addendum 1\ PCN 18984 Addendum 1 Memo 11-5-14.doc

BID ITEMS

Project: IM-8-029(132)078 (PCN-18984)

Bidder must type or neatly print unit prices in numerals, make extensions for each item, and total. Do not carry unit prices further than three (3) decimal places.

Item No.	Spec No.	Code No.	Description	Unit	Approx. Quantity	Unit Price		Amount	
						\$\$\$\$	000	\$\$\$\$	00
033	401	0060	PRIME COAT	GAL	832.				
034	401	0160	BLOTTER MATERIAL CL 44	TON	141.				
035	411	0105	MILLING PAVEMENT SURFACE	SY	13,080.				
036	430	0040	SUPERPAVE FAA 40	TON	110.				
037	430	0043	SUPERPAVE FAA 43	TON	1,986.				
038	430	2000	PATCHING	TON	50.				
039	430	5828	PG 58-28 ASPHALT CEMENT	TON	124.				
040	602	1131	CLASS AE-3 CONCRETE-BOX CULVERT	CY	1,428.600				
041	612	0114	REINFORCING STEEL-GRADE 60-BOX CULVERT	LBS	240,624.				
042	702	0100	MOBILIZATION	L SUM	1.				
043	704	0100	FLAGGING	MHR	1,750.				
044	704	1000	TRAFFIC CONTROL SIGNS	UNIT	6,296.				
045	704	1045	ATTENUATION DEVICE-TYPE B-75	EA	2.				
046	704	1052	TYPE III BARRICADE	EA	45.				
047	704	1060	DELINEATOR DRUMS	EA	212.				
048	704	1067	TUBULAR MARKERS	EA	1,143.				

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Item No.	Spec No.	Code No.	Description	Unit	Approx. Quantity	Unit Price		Amount	
						\$\$\$\$	000	\$\$\$\$	00
049	704	1070	DELINEATOR	EA	277.				
050	704	1072	FLEXIBLE DELINEATORS	EA	636.				
051	704	1080	STACKABLE VERTICAL PANELS	EA	162.				
052	704	1087	SEQUENCING ARROW PANEL-TYPE C	EA	2.				
053	704	1088	SEQUENCING ARROW PANEL-TYPE C-CROSSOVER	EA	2.				
054	704	1500	OBLITERATION OF PAVEMENT MARKING	SF	223.				
055	704	3510	PRECAST CONCRETE MED BARRIER-STATE FURNISHED	EA	79.				
056	706	0400	FIELD OFFICE	EA	1.				
057	706	0500	AGGREGATE LABORATORY	EA	1.				
058	706	0550	BITUMINOUS LABORATORY	EA	1.				
059	706	0600	CONTRACTOR'S LABORATORY	EA	1.				
060	709	0151	GEOSYNTHETIC MATERIAL TYPE R1	SY	24,907.				
061	709	0155	GEOSYNTHETIC MATERIAL TYPE RR	SY	1,143.				
062	710	0410	REMOVAL OF TEMP CONNECTION	EA	3.				
063	714	4090	PIPE CONDUIT 12IN	LF	500.				
064	714	4105	PIPE CONDUIT 24IN	LF	1,260.				

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Item No.	Spec No.	Code No.	Description	Unit	Approx. Quantity	Unit Price		Amount	
						\$\$\$\$\$	000	\$\$\$\$\$	00
065	714	4110	PIPE CONDUIT 30IN	LF	391.				
066	714	4115	PIPE CONDUIT 36IN	LF	354.				
067	714	4120	PIPE CONDUIT 42IN	LF	110.				
068	714	4125	PIPE CONDUIT 48IN	LF	224.				
069	714	4135	PIPE CONDUIT 60IN	LF	192.				
070	714	4145	PIPE CONDUIT 72IN	LF	196.				
071	714	4168	PIPE CONDUIT 60IN-JACKED OR BORED	LF	526.				
072	720	0125	ALIGNMENT MONUMENTS	EA	4.				
073	720	0130	IRON PIN R/W MONUMENTS	EA	3.				
074	720	0135	IRON PIN REFERENCE MONUMENTS	EA	21.				
075	752	0700	FENCE WOVEN WIRE	LF	48,669.				
076	752	3120	CORNER ASSEMBLY WOVEN WIRE	EA	27.				
077	752	4120	DOUBLE BRACE ASSEMBLY WOVEN WIRE	EA	46.				
078	754	0110	FLAT SHEET FOR SIGNS-TYPE XI REFL SHEETING	SF	186.				
079	754	0112	FLAT SHEET FOR SIGNS-TYPE IV REFL SHEETING	SF	194.				
080	754	0195	DIAMOND GRADE DELINEATORS-TYPE A	EA	116.				

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Item No.	Spec No.	Code No.	Description	Unit	Approx. Quantity	Unit Price		Amount	
						\$\$\$\$	000	\$\$\$\$	00
081	754	0196	DIAMOND GRADE DELINEATORS-TYPE B	EA	18.				
082	754	0198	DIAMOND GRADE DELINEATORS-TYPE D	EA	9.				
083	754	0199	DIAMOND GRADE DELINEATORS-TYPE E	EA	12.				
084	754	0206	STEEL GALV POSTS-TELESCOPING PERFORATED TUBE	LF	519.				
085	754	0210	GALV STEEL POST-STANDARD PIPE	LF	101.				
086	754	0214	GALV STEEL POSTS-W-SHAPE POSTS(TWO OR MORE)	LF	232.				
087	754	0534	PANEL FOR SIGNS-TYPE IV REFLECTIVE SHEETING	SF	312.				
088	754	0556	INTERSTATE MILE POSTS-TYPE B	EA	9.				
089	754	0801	OBJECT MARKERS - TYPE I	EA	1.				
090	754	0805	OBJECT MARKERS - CULVERTS	EA	71.				
091	754	1100	CLASS AE CONCRETE-SIGN FOUNDATIONS	CY	3.				
092	754	1104	REMOVE SIGN FOUNDATION	EA	18.				
093	760	0001	RUMBLE STRIPS - CONCRETE SHOULDER	MILE	18.600				
094	762	0103	PVMT MK PAINTED-MESSAGE	SF	177.				
095	762	0200	RAISED PAVEMENT MARKERS	EA	25,326.				
096	762	0430	SHORT TERM 4IN LINE-TYPE NR	LF	55,080.				

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Item No.	Spec No.	Code No.	Description	Unit	Approx. Quantity	Unit Price		Amount	
						\$\$\$\$	000	\$\$\$\$	00
097	762	1104	PVMT MK PAINTED 4IN LINE	LF	123,281.				
098	762	1108	PVMT MK PAINTED 8IN LINE	LF	991.				
099	762	1124	PVMT MK PAINTED 24IN LINE	LF	120.				
100	764	0115	3-CABLE GUARDRAIL	LF	15,250.				
101	764	0131	W-BEAM GUARDRAIL	LF	325.				
102	764	0145	W-BEAM GUARDRAIL END TERMINAL	EA	5.				
103	772	2110	FLASHING BEACON-POST MOUNTED	EA	2.				
			SUBTOTAL						
ALTERNATE 1									
104	216	0100	WATER	M GAL	2,306.				
105	302	0101	SALVAGED BASE COURSE	CY	61,489.				
106	550	0105	6IN NON-REINF CONCRETE PAVEMENT CL AE	SY	41,136.				
107	550	0320	12IN NON REINF CONCRETE PVMT CL AE-DOWELED	SY	164,102.				
108	709	0701	GEOTEXTILE FABRIC-TYPE R1	SY	210,952.				
			SUBTOTAL ALTERNATE 1						

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Item No.	Spec No.	Code No.	Description	Unit	Approx. Quantity	Unit Price		Amount	
						\$\$\$\$	000	\$\$\$\$	00
			ALTERNATE 2						
109	216	0100	WATER	M GAL	2,523.				
110	302	0101	SALVAGED BASE COURSE	CY	67,282.				
111	401	0050	TACK COAT	GAL	2,057.				
112	401	0060	PRIME COAT	GAL	10,284.				
113	401	0160	BLOTTER MATERIAL CL 44	TON	411.				
114	430	0040	SUPERPAVE FAA 40	TON	9,324.				
115	430	5828	PG 58-28 ASPHALT CEMENT	TON	559.				
116	550	0320	12IN NON REINF CONCRETE PVMT CL AE-DOWELED	SY	164,102.				
117	709	0151	GEOSYNTHETIC MATERIAL TYPE R1	SY	210,952.				
			SUBTOTAL ALTERNATE 2						
			SUBTOTAL + SUBTOTAL ALTERNATE 1						
			SUBTOTAL + SUBTOTAL ALTERNATE 2						

PROPOSAL FORM

North Dakota Department of Transportation

BID OPENING: November 14, 2014

Job 040

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Rev: 11/6/2014

Project: IM-8-029(132)078 (PCN-18984)

Type of Work: PCC RECONSTRUCTION, RAMP HBP MILL & OVERLAY, BRIDGE PIER PROTECTION, DRAIN BOX CULVERTS, CENTERLINE PIPES, GUARDRAIL, FENCING & INCID

County: CASS

Length: 9.1030 Miles

TIME FOR COMPLETION:

The undersigned Bidder agrees, if awarded the contract, to prosecute the work with sufficient forces and equipment to complete the contract work within the allowable time specified as follows:

WORKING DAY CONTRACT: NA working days are provided. The Department will begin charging working days beginning NA or the date work begins on the project site, whichever is earlier.

CALENDAR DAY CONTRACT: NA calendar days are provided. The completion date will be determined by adding NA calendar days to NA or the date work begins on the project site, whichever is earlier.

COMPLETION DATE CONTRACT The project completion date is 10/24/2015. The Department provides a minimum of NA working days. The Department will begin charging working days beginning NA or the date work begins on the project site, whichever is earlier.

LIST OF STANDARD DRAWINGS (Included in Back of Plans)

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	IM-8-029(132)078	2	2

<u>Standard No.</u>	<u>Description</u>	<u>Standard No.</u>	<u>Description</u>
D-101-1-3, 10, 20, 21, 30-32	NDDOT Standards	D-754-1	Pipe or W-Shape Assembly Details
D-255-2	Erosion and Siltation Control – Erosion Control Blanket Installation	D-754-2	Breakaway Coupler System for Standard Pipe – Stub Post
D-256-1	Erosion and Siltation Controls	D-754-3	Breakaway System for Standard Pipe Stub Post
D-260-1	Erosion and Siltation Controls – Silt Fence	D-754-4	Multi-Directional Breakaway System for Standard Pipe Stub Post
D-261-1	Erosion Control – Fiber Roll Placement Details	D-754-5	Foundation Data for Steel Supports
D-550-2	Longitudinal Joint Details	D-754-6	Hinge Plate, Fuse Plate, and Foundation Details for Standard Pipe
D-550-4	Transverse Expansion Joint Detail	D-754-7	Pipe Support and Sign Mounting Details
D-550-5	Transverse Construction Joint	D-754-9	Letter and Arrow Details for Variable Length Signs
D-704-1	Attenuation Device	D-754-12	Breakaway Coupler System – Structural Details for W-Shape Supports
D-704-5	Contractor Sign Detail	D-754-13	Breakaway System Structural Details for W-Shape Supports
D-704-7 & 8	Breakaway Systems for Construction Zone Signs	D-754-14	Wind Beams and Anchor Plates for W-Shape Supports
D-704-9, 10, 11	Construction Sign Details	D-754-20	(Expressway-Freeway Use) Mile Posts
D-704-12	Shoulder Closure Tapers	D-754-21	Reflectorized Delineators
D-704-13	Barricade and Channelizing Device Details	D-754-22A	Typical Interchange Delineation
D-704-14	Construction Sign Punching and Mounting Details	D-754-23	Perforated Tube Assembly Details
D-704-15	Road Closure Layouts	D-754-24A	Breakaway Coupler System for Perforated Tubes
D-704-22	Construction Truck and Temporary Detour Layouts	D-754-24 & 25	Mounting Details Perforated Tube
D-704-24	Shoulder Closures and Bridge Painting Layouts	D-754-28, 32, 40, 49, 50, 53, 55, 57	Sign Punching, Stringer, and Support Location Details
D-704-26	Miscellaneous Sign Layouts	D-754-83	Object Markers – Culverts
D-704-27	Traffic Control Plan for Moving Operations	D-760-1	Rumble Strips Interstate Highways
D-704-31	Construction Sign Layout – Non-Signalized Low Volume One Lane Closure	D-762-1	Pavement Marking Message Details
D-704-35	Sign Layout for One Lane Closure – Interstate System	D-762-2	Interstate Pavement Marking 4 Lane Divided Highway
D-704-38 & 39	Traffic Control System – Median Crossover	D-762-4	Pavement Marking
D-704-45	Construction Signing Median Crossover	D-762-6	Short Term Pavement Marking
D-704-50	Portable Sign Support Assembly	D-764-1	W-Beam Guardrail – General Details
D-704-51	Portable Precast Concrete Median Barrier (Temporary Usage)	D-764-5	Sequential Kinking Terminal
D-704-52	Interstate Road Closure Using Ramps	D-764-6	Flared Energy Absorbing Terminal
D-704-56	Mobile Operation (Grinding Shoulder Rumble Strips)	D-764-14	Special W-Beam Guardrail Anchor
D-706-1	Bituminous Laboratory	D-764-23	Typical Grading at Obstructions with W-Beam Guardrail
D-708-6	Erosion and Siltation Control – Median or Ditch Inlet Protection	D-764-32	Three Cable Guardrail
D-714-1	Reinforced Concrete Pipe Culverts and End Sections (Round Pipe)		
D-714-16	Jacked or Bored Pipe		
D-714-22	Concrete Pipe or Precast Concrete Box Culvert Ties		
D-714-25M	Transverse Mainline Pipe Excavation and Installation Detail for Multiple Pipes More Than 4 Feet		
D-714-26	Transverse Mainline Pipe Excavation and Installation Detail for Pipes 4 Feet or Less Below the Top		
D-714-26M	Transverse Mainline Pipe Excavation and Installation Detail for Multiple Pipes 4 Feet or Less		
D-720-1	Standard Monuments and Right of Way Markers		
D-722-7	Precast Concrete Median Drain		
D-752-3	Standard Woven Wire Fence		

NOTES

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	IM-8-029(132)078	6	2

230-P04 SUBGRADE: Construct the final subgrade elevation to within 0.08 feet of the proposed subgrade elevation.

Use low ground pressure equipment on the exposed subgrade.

251-P01 SEED APPLICATION: In addition to Class II Seeding, apply Temporary Cover Crop to the first 10 feet of disturbed topsoil adjacent to pavement surfaces. All costs associated with the placement of the additional Temporary Cover Crop to the first 10 feet of disturbed topsoil adjacent to pavement surfaces, shall be included in the unit price bid for "Seeding Class II".

251-P02 FERTILIZER: Before placing topsoil, place fertilizer that meets the requirements of Section 251.03 G, "Fertilizer". Do not place fertilizer in locations where wetland topsoil will be placed. All costs associated with the placement of fertilizer shall be included in the price bid for "Seeding Class II".

302-P01 SALVAGED BASE COURSE: Surface tolerance for the salvaged base course shall be in accordance with 302.04 C.2, Surface Tolerance Type C. Excess material removed from high points of the base course by the trimming operation shall be reincorporated into the base course.

302-P02 SALVAGED BASE COURSE FOR SUBCUT REPAIRS: Aggregate meeting the requirement of Class 3 or Class 5 specified in Section 816.02, "Miscellaneous Aggregates" may be used if no salvage based material is available at the time subcuts are filled.

Aggregate used in subcut repairs is subject to the requirements of note 230-P01, "Reshaping Roadway", except the optimum moisture and density shall be determined as specified in ND T 180.

Aggregate used in subcut repairs will be paid for at the contract unit price for "Salvaged Base Course" regardless of the class of material used.

302-P03 SALVAGED BASE COURSE: Section 817.01 D, "Salvage Base Course Containing Bituminous Material" is modified as follows:

"The maximum amount of bituminous material in salvaged base course placed beneath a concrete roadway is 65 percent."

302-P04 HAULING: The shoulder can be used as a haul route. Haul vehicles shall only drive on the subgrade. Do not drive on the base course and/or geosynthetic material, except when the haul vehicle is dumping. When dumping, the haul vehicle is allowed to drive on the base course in the immediate vicinity of where the load is dumped. Re-establish subgrade surface tolerance per contract requirements prior to placement of the salvaged base course.

302-P05 SALVAGED BASE COURSE: All salvaged concrete material shall be incorporated into the salvaged base course. All other material required for the salvaged base course shall be recycled HBP or virgin aggregate.

All excess HBP milled material shall be delivered to the NDDOT Storage Yard in Hillsboro, at 610 6th St. NW.

302-P06 MAINTENANCE OF TRAVELED ROADWAY: In areas where excavation is required, only 6 inches shall be replaced with hot bituminous pavement. The remaining depth will be replaced with Salvaged Base Course as approved by the Field Engineer. Payment for "Salvaged Base Course" shall be at the unit price bid.

401-P01 TRIMMING AND PRIME: Priming shall be within one mile or within 48 hours of the trimming operations unless, concrete paving is to take place within 24 hours of trimming.

430-P01 CONTRACTOR MIX DESIGN: The concrete mix design shall meet the following requirements:

Gyratory Effort, # Gyration	N _{ini} =7, N _{des} =75, N _{max} =115	AASHTO R 35
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550-P01 CONCRETE PAVEMENT: The development of a maturity curve specified in Section 550.04 B, "Mix Design" will not be required.

704-016 TRAFFIC CONTROL SUPERVISOR: A Traffic Control Supervisor shall be provided on this project.

704-030 CONSTRUCTION TRAFFIC ACCESS: Construction traffic shall access the area within Highway and/or Interstate R/W under construction only at interchanges unless a request for a temporary access for other locations has been otherwise approved. To receive temporary access allowance at other locations, the Contractor shall develop and submit to the Engineer a traffic control plan, a traffic impact analysis, a safety analysis, and an environmental impact analysis. The Engineer shall then request temporary access allowance and environmental clearance from FHWA. To be considered for approval, the construction traffic control plans along with the request for temporary access allowance at locations other than at interchanges must provide:

1. That the construction site and the plant site are on the same side of the interstate median;
2. That the construction traffic will not cross the lanes of traffic being used by the public at grade;
3. There are methods in place to prevent the public use of the temporary access during active construction and during shutdown periods;
4. The restoration of the access control fence and right-of-way to pre-project conditions prior to the completion of the project.

Any additional costs associated with the construction traffic control plan, traffic impact analysis, safety analysis, environmental clearance, and restoration of fence and R/W will be at the Contractor's expense.

704-P01 PRECAST CONCRETE MEDIAN BARRIERS - STATE FURNISHED: Obtain 79 barriers from the NDDOT Casselton Maintenance storage yard. Return barriers to the NDDOT Casselton Maintenance storage yard at 15482 37th St. SE.

Some 4 inch x 4 inch boards are available at the return location. Provide any additional 4 inch x 4 inch boards necessary to stack barriers. The boards will become property of the Department. Include the cost for boards in the contract unit price for "Precast Concrete Median Barrier - State Furnished".

This document was originally issued and sealed by Jeffrey T. Lansink, Registration Number PE- 5244, on 11/05/14 and the original document is stored at the North Dakota Department of Transportation

NOTES

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	IM-8-029(132)078	6	3

704-P02 TRAFFIC CONTROL PHASING: The traffic control details, as indicated on the plans, have been developed based on the premise that this project will be constructed in three phases for I-29 and one phase for the ramps and crossroads. The work zone traffic control summary lists include the required number of devices for each phase of each described work area. The traffic control device quantities shown in the plans include enough devices to construct each phase independently. The contractor shall be responsible for removal and resetting of devices for each phase of construction. The costs associated with the removal and resetting of traffic control devices shall be included in the price bid for other items.

Phase 1: Phase 1 traffic control is for the outside lane closure of the southbound roadway for the extension of the w-beam guardrail at the Argusville Interchange.

Phase 2: Phase 2 traffic control is for the left lane closure on both the north and southbound roadway for median grading, installation of 3-cable guardrail, the obliteration of the pavement markings, and installation of new temporary traffic control striping in preparation for Phase 3 (head to head traffic on the southbound roadway).

Phase 3: Phase 3 traffic control is for the closure of the northbound roadway, implementing head to head traffic on the southbound lanes, and activating the temporary access ramps and crossovers for the reconstruction of the northbound roadway.

Phase 4: Phase 4 traffic control is for the mill and overlay at the Gardner exit and entrance ramps and the crossroads at Gardner and Arthur. The ramps will remain open to traffic during construction. Work will be performed in stages with traffic being switched between the left and right sides of the ramps. Work on the ramps will not begin until after the northbound roadway of Interstate 29 is reopened to traffic and temporary construction ramps have been removed.

704-P03 TRAFFIC CONTROL DEVICES: The traffic control devices list for each phase has been developed using traffic control signing layouts (shown in Section 100 of the plans) and Standard Drawings as listed below:

- D-704-1 Attenuation Device
- D-704-5, 7, 8, 9, 10, 11 Are applicable
- D-704-12, 13, and 14 Are applicable.
- D-704-22 Layouts Type K and L for construction trucks hauling material.
- D-704-24 Layout Type HH for shoulder closure on freeway.
- D-704-26 Layouts Type CC, EE, and GG for milling and paving operations on the Arthur and Gardner crossroads where needed.
- D-704-27 For moving operations.
- D-704-35 For one lane closure on Interstate system.
- D-704-38, 39 For median crossovers.
- D-704-45 For construction traffic median crossovers.
- D-704-50 For portable sign support assemblies.
- D-704-51 For portable precast concrete median barriers.
- D-704-56 For grinding shoulder rumble strips.

704-P04 CONSTRUCTION TRAFFIC MEDIAN CROSSOVERS: The Contractor shall be allowed to construct median crossovers for the purpose of hauling material over the roadway being used by the motoring public. The Contractor shall not be allowed to haul pavement removals on the roadway being used by the public. Only right-hand on and off movements will be allowed. No crossing of opposing lanes of traffic will be allowed.

Construction traffic median crossovers used for entering the roadway used by the public shall have a stabilized construction access to prevent dust or mud problems on the public roadway. All of the Contractor's vehicles using this crossover must come to a complete stop before entering the public

roadway. The Contractor's traffic shall always yield the right of way to the public traffic. A flag person and stop sign shall always be used as specified on Standard Drawing D-704-45.

The minimum distance between construction traffic median crossovers shall be 3,000 feet or the minimum distance required to install all traffic control required plus an additional 500'. See Standard Drawing D-704-45 for applicable traffic control devices. No more than two median crossovers shall be in use at any time and any crossovers not in use shall be barricaded with Type III barricades. Construction traffic median crossovers shall be barricaded at night and used only during daylight hours.

All vehicles using the construction traffic median crossovers shall be equipped with top mounted flashing beacons visible up to 500' in all directions.

The Contractor must restore the crossover area to pre-project conditions prior to the completion of the project.

The cost for materials, equipment, and labor for Construction Traffic Median Crossovers will not be paid for separately. Include the costs for Construction Traffic Median Crossovers in the contract unit price of other items.

704-P05 TUBULAR MARKERS: There are **230** triple-weighted tubular markers that are currently in place at the locations of the existing median crossovers. These described tubular markers shall remain property of the NDDOT and are to be delivered to the NDDOT Casselton Maintenance yard, at 15482 37th St. SE. The cost to remove, load, haul and deliver the existing tubular markers shall not be paid separately but shall be included in the price bid for traffic control items.

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704-P06 INTERCHANGE RAMP CONNECTIONS: During the period that the mainline pavement being utilized for temporary ramp connections is being reconstructed, the public traffic using the ramps shall be routed around the paving area as shown in Section 100 of the plans. The proposed interstate and ramp paving should be complete and fully cured to prevent the need for temporary paving. Traffic then may use the new ramp for access to the interchange. All costs associated with aggregate surfacing and shifting traffic control to accommodate paving operations shall not be paid for separately but included in the price bid for other items.

704-P07 PAVEMENT MARKING REMOVAL: At the beginning and end project locations, the centerline and edge lines shall be obliterated as shown in Section 100 of the plans and Standard Drawings D-704-38 and D-704-39. At the interchange ramp connections, the centerline and edge lines shall be obliterated as shown in Section 100 of the plans. No grinding will be allowed on new pavement surfaces for obliteration of existing pavement marking. The obliteration of the markings shall be paid by the square yard removed. The cost of all equipment, material, and labor, including the removal of sheeting, if used, shall be included in the price bid for "Obliteration of Pavement Marking."

706-P01 AGGREGATE LABORATORY: In the Aggregate Laboratory, provide a phone and a printer capable of scanning 11x17 inch paper and producing 8.5x11 inch photocopies. Supply ink or toner for the duration of the project. Copier/printer machine shall have a Windows based operating software compatible with that used by NDDOT.

706-P02 FIELD OFFICE: Provide a field office which meets the following requirements:

1. The field office shall be a minimum of 450 square feet.
2. Indoor bathroom facilities
3. Air conditioner (20,000 BTU minimum)
4. Lighting (lumens required 110 foot-candles)
5. Minimum of 3 phone jacks (NDDOT to pay for phone service)
6. Heat, electric, sewer, and water hookups to be furnished by contractor, contractor to pay utility bills.
7. Cabinet space of a minimum of 32 cubic feet.
8. Counter space of a minimum of 40 square feet.
9. The floor is to be free of protrusions so that it will accommodate NDDOT furnished office equipment.
10. Photocopy/printer machine capable of 11x17 photocopies and toner to last the duration of the project (NDDOT will furnish paper). Other features to include digital copying & scanning (fax capabilities can be included but not necessary). Copier/printer machine shall have operating software compatible with that used by NDDOT.
11. The location of the field office shall be on, or as close to the project as possible and approved by the Engineer. Any rental fees shall be paid by Contractor.
12. The field office shall be available for occupancy at the start of the project and remain available to project completion.
13. The following services will be furnished and paid for by the NDDOT and requested through the Work Management System:
 1. Telephone
 2. Broadband internet service including State Network access

All requirements of the Field Office are subject to approval by the Engineer.

Payment for the field office shall be under the bid item "Field Office."

Schedule for Payments:

- 25% when set up on site

- 50% when 30% of work is complete
- 75% when 60% of work is complete
- 100% when project is complete

710-P01 REMOVAL OF TEMP CONNECTIONS: When the temporary ramp connections are no longer needed for traffic control they shall be removed.

This work will consist of:

1. Saw cutting the pavement to be removed at the edge of the finished shoulder.
2. Constructing an aggregate slough at the edge of the sawcut.
3. Shaping the median inslopes to 6:1, placing topsoil, and seeding.
4. Removal and disposal of all pavements. All material shall become the property of the Contractor and shall be removed off of the right-of-way.

All cost for this work will be included in the price bid for "Removal of Temp Connection".

714-P01 TEMPORARY DRAINAGE: Temporary ramp connections may obstruct drainage areas. 500 LF of the item "Pipe Conduit 12IN" has been added to be placed in drainage-problem areas when temporary ramp connections are constructed.

714-P02 CHANNEL CLEANOUT: The Contractor shall be responsible for cleaning out and rerouting of all water channels at the proposed box culvert locations. The Contractor shall develop an erosion control plan for the proposed work. Exposed earthen berms shall not be allowed. If additional impacts to the drains or wetlands result from rerouting the water, the Contractor shall obtain a modified 404 permit from the US Army Corp of Engineers. All work associated with rerouting and reestablishing the existing channels shall not be paid for separately but included in the price bid for other items.

714-P03 PIPE CONDUIT: Aggregate used for bedding and backfill is subject to the requirements of note 230-P01, "Reshaping Roadway", except the optimum moisture and density shall be determined as specified in ND T 180.

752-P01 RIGHT OF WAY FENCE: All right-of-way fence shall be removed and replaced throughout the I-29 project limits. The existing fence shall be removed and become property of the Contractor. The Contractor shall dispose of the materials offsite. All fence posts for corner assemblies, double brace assemblies, line posts, and terminal posts shall be steel. All costs associated with the removal and installation of the right-of-way fence shall be included in the price bid for "Fence Woven Wire" and associated post assemblies.

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SPEC	CODE	ITEM DESCRIPTION	UNIT	MAINLINE	RAMPS	CROSSROADS	TOTAL
103	0100	CONTRACT BOND	L SUM	1			1
201	0330	CLEARING & GRUBBING	L SUM	1			1
202	0101	REMOVAL OF CONCRETE	EA	1			1
202	0136	REMOVAL OF PAVEMENT	TON	177,219	3,724		180,943
202	0153	SAW BITUMINOUS SURFACING-FULL DEPTH	LF	78	53		131
202	0174	REMOVAL OF PIPE ALL TYPES AND SIZES	LF	4,002			4,002
202	0312	REMOVE EXISTING FENCE	LF	48,036			48,036
203	0109	TOPSOIL	CY	98,970			98,970
203	0121	TOPSOIL-WETLAND	CY	4,485			4,485
203	0138	COMMON EXCAVATION-SUBCUT	CY	2,255			2,255
203	0206	FLATTEN DITCH BLOCK	EA	18			18
203	0218	GUARDRAIL EMBANKMENT	EA	18			18
210	0109	CLASS 2 EXCAVATION-BOX CULVERT	EA	8			8
210	0201	FOUNDATION PREPARATION	EA	8			8
210	0210	FOUNDATION FILL	CY	8,402			8,402
210	0212	FLOWABLE FILL	CY	1			1
216	0100	WATER	M GAL	111	46		157
220	0100	PREPARE STOCKPILE SITE	L SUM	1			1
220	0200	RESTORE STOCKPILE SITE	L SUM	1			1
230	0106	RESHAPING ROADWAY	MILE	9.10	0.16		9.26
251	0200	SEEDING CLASS II	ACRE	145.14			145.14
251	1000	WETLAND SEED	ACRE	2.16			2.16
251	2000	TEMPORARY COVER CROP	ACRE	122.69			122.69
253	0101	STRAW MULCH	ACRE	245.38			245.38
255	0103	ECB TYPE 3	SY	3,007			3,007
256	0200	RIPRAP GRADE II	CY	570			570
260	0200	SILT FENCE SUPPORTED	LF	24,682			24,682
260	0201	REMOVE SILT FENCE SUPPORTED	LF	24,682			24,682
261	0112	FIBER ROLLS 12IN	LF	66,253			66,253
261	0113	REMOVE FIBER ROLLS 12IN	LF	21,205			21,205
302	0101	SALVAGED BASE COURSE	CY	2,953	1,239	4	4,196
401	0050	TACK COAT	GAL		275	500	775
401	0060	PRIME COAT	GAL	238	594		832
401	0160	BLOTTER MATERIAL CL 44	TON	10	32	99	141
411	0105	MILLING PAVEMENT SURFACE	SY		3,131	9,949	13,080
430	0040	SUPERPAVE FAA 40	TON	110			110
430	0043	SUPERPAVE FAA 43	TON		876	1,110	1,986
430	2000	PATCHING	TON	50			50
430	5828	PG 58-28 ASPHALT CEMENT	TON	6	52	66	124
602	1131	CLASS AE-3 CONCRETE-BOX CULVERT	CY	1,428.6			1,428.6
612	0114	REINFORCING STEEL-GRADE 60-BOX CULVERT	LBS	240,624			240,624
702	0100	MOBILIZATION	L SUM	1			1
704	0100	FLAGGING	MHR	1,750			1,750

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SPEC	CODE	ITEM DESCRIPTION	UNIT	MAINLINE	RAMPS	CROSSROADS	TOTAL
704	1000	TRAFFIC CONTROL SIGNS	UNIT	6,296			6,296
704	1045	ATTENUATION DEVICE-TYPE B-75	EA	2			2
704	1052	TYPE III BARRICADE	EA	45			45
704	1060	DELINEATOR DRUMS	EA	212			212
704	1067	TUBULAR MARKERS	EA	1,143			1,143
704	1070	DELINEATOR	EA	277			277
704	1072	FLEXIBLE DELINEATORS	EA	636			636
704	1080	STACKABLE VERTICAL PANELS	EA	162			162
704	1087	SEQUENCING ARROW PANEL-TYPE C	EA	2			2
704	1088	SEQUENCING ARROW PANEL-TYPE C-CROSSOVER	EA	2			2
704	1500	OBLITERATION OF PVMT MK	SY	223			223
704	3510	PRECAST CONCRETE MED BARRIER-STATE FURNISHED	EA	79			79
706	0400	FIELD OFFICE	EA	1			1
706	0500	AGGREGATE LABORATORY	EA	1			1
706	0550	BITUMINOUS LABORATORY	EA	1			1
706	0600	CONTRACTOR'S LABORATORY	EA	1			1
709	0151	GEOSYNTHETIC MATERIAL TYPE R1	SY	21,286	3,621		24,907
709	0155	GEOSYNTHETIC MATERIAL TYPE RR	SY	1,143			1,143
710	0410	REMOVAL OF TEMP CONNECTION	EA	3			3
714	4090	PIPE CONDUIT 12IN	LF	500			500
714	4105	PIPE CONDUIT 24IN	LF	1,260			1,260
714	4110	PIPE CONDUIT 30IN	LF	391			391
714	4115	PIPE CONDUIT 36IN	LF	354			354
714	4120	PIPE CONDUIT 42IN	LF	110			110
714	4125	PIPE CONDUIT 48IN	LF	224			224
714	4135	PIPE CONDUIT 60IN	LF	192			192
714	4145	PIPE CONDUIT 72IN	LF	196			196
714	4168	PIPE CONDUIT 60IN-JACKED OR BORED	LF		526		526
720	0125	ALIGNMENT MONUMENTS	EA	4			4
720	0130	IRON PIN R/W MONUMENTS	EA	3			3
720	0135	IRON PIN REFERENCE MONUMENTS	EA	21			21
752	0700	FENCE WOVEN WIRE	LF	48,669			48,669
752	3120	CORNER ASSEMBLY WOVEN WIRE	EA	27			27
752	4120	DOUBLE BRACE ASSEMBLY WOVEN WIRE	EA	46			46
754	0110	FLAT SHEET FOR SIGNS-TYPE XI REFL SHEETING	SF	50	65	71	186
754	0112	FLAT SHEET FOR SIGNS-TYPE IV REFL SHEETING	SF	12		182	194
754	0195	DIAMOND GRADE DELINEATORS-TYPE A	EA	116			116
754	0196	DIAMOND GRADE DELINEATORS-TYPE B	EA		18		18
754	0198	DIAMOND GRADE DELINEATORS-TYPE D	EA		9		9
754	0199	DIAMOND GRADE DELINEATORS-TYPE E	EA	12			12
754	0206	STEEL GALV POSTS-TELESCOPING PERFORATED TUBE	LF	81		438	519
754	0210	GALV STEEL POSTS-STANDARD PIPE	LF	63	38		101
754	0214	GALV STEEL POSTS-W-SHAPE POSTS(TWO OR MORE)	LF	122	110		232

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SPEC	CODE	ITEM DESCRIPTION	UNIT	MAINLINE	RAMPS	CROSSROADS	TOTAL
754	0534	PANEL FOR SIGNS-TYPE IV REFLECTIVE SHEETING	SF	248	64		312
754	0556	INTERSTATE MILE POSTS - TYPE B	EA	9			9
754	0801	OBJECT MARKERS - TYPE I	EA	1			1
754	0805	OBJECT MARKER - CULVERTS	EA	71			71
754	1100	CLASS AE CONCRETE-SIGN FOUNDATIONS	CY	2	1		3
754	1104	REMOVE SIGN FOUNDATION	EA	6	5	7	18
760	0001	RUMBLE STRIPS -CONCRETE SHOULDER	MILE	18.6			18.6
762	0103	PVMT MK PAINTED-MESSAGE	SF	68		109	177
762	0200	RAISED PAVEMENT MARKERS	EA	25,326			25,326
762	0430	SHORT TERM 4IN LINE-TYPE NR	LF	55,080			55,080
762	1104	PVMT MK PAINTED 4IN LINE	LF	108,144	6,469	8,668	123,281
762	1108	PVMT MK PAINTED 8IN LINE	LF		991		991
762	1124	PVMT MK PAINTED 24IN LINE	LF			120	120
764	0115	3-CABLE GUARDRAIL	LF	15,250			15,250
764	0131	W-BEAM GUARDRAIL	LF	325			325
764	0145	W-BEAM GUARDRAIL END TERMINAL	EA	5			5
772	2110	FLASHING BEACON-POST MOUNTED	EA	2			2

SPEC	CODE	ITEM DESCRIPTION	UNIT	MAINLINE	RAMPS	CROSSROADS	TOTAL
ALTERNATE A - CONCRETE SHOULDERS							
216	0100	WATER	M GAL	2,237	69		2,306
302	0101	SALVAGED BASE COURSE	CY	59,646	1,843		61,489
550	0105	6IN NON-REINF CONCRETE PAVEMENT CL AE	SY	41,136			41,136
550	0320	12IN NON-REINF CONCRETE PVMT CL AE-DOWELED	SY	160,217	3,885		164,102
709	0151	GEOSYNTHETIC MATERIAL TYPE R1	SY	210,952			210,952
ALTERNATE B - CONCRETE MEDIAN SHOULDER & 8' ASPHALT SHOULDER							
216	0100	WATER	M GAL	2,454	69		2,523
302	0101	SALVAGED BASE COURSE	CY	65,439	1,843		67,282
401	0050	TACK COAT	GAL	2,057			2,057
401	0060	PRIME COAT	GAL	10,284			10,284
401	0160	BLOTTER MATERIAL CL 44	TON	411			411
430	0040	SUPERPAVE FAA 40	TON	9,324			9,324
430	5828	PG 58-28 ASPHALT CEMENT	TON	559			559
550	0320	12IN NON-REINF CONCRETE PVMT CL AE-DOWELED	SY	160,217	3,885		164,102
709	0151	GEOSYNTHETIC MATERIAL TYPE R1	SY	210,952			210,952

BASIS OF ESTIMATE

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Permanent Pavement Markings

Short Term Pavement Markings

PVMT MK PAINTED 4IN LINE

SHORT TERM 4IN LINE – TYPE NR

Mainline – (Both Roadways) **Quantity**
 4” White center Line, 10’ Line, 30’ Skip – 1,320 LF/Mi 12,016 LF
 (Sta 4180+00 to Sta 4660+65)

Southbound Mainline – Painted (For Head-to-Head Traffic) **Quantity**
 Obliteration of Centerline Pavement Marking – 440 SF/Mi 4,524 SF
 4” Yellow Edge Line - 5,280 LF/Mi 55,080 LF

Mainline – (Both Roadways) **Quantity**
 4” White Edge line – 5,280 LF/Mi 48,064 LF
 4” Yellow Edge Line – 5,280 LF/Mi 48,064 LF

Materials

Superpave FAA 40 & 43	2 TON/CY
Prime Coat	0.25 GAL/SY
PG 58-28 Asphalt Cement	6.0% of HBP
Tack Coat	0.05 GAL/SY
Salvaged Base Course	1.875 TON/CY
Aggregate Base Course	1.875 TON/CY
Salvaged Concrete	2 TON/CY
Remove Aggregate Base	1.875 TON/CY
Remove Bituminous Material	2 TON/CY
Blotter Material CI 44	20 LBS/SY

PVMT MK PAINTED 8IN LINE

Exit Ramp – Gardner SE **Quantity**
 8” White Channel Line 597 LF

Entrance Ramp – Gardner NE **Quantity**
 8” White Channel Line 394 LF

Water

Embankment	10 GAL/CY
Aggregate Base Course	20 GAL/TON
Salvage Base Course	20 GAL/TON
Dust Palliative	135 MGAL/Mile

PVMT MK PAINTED – RAMPS & CROSS ROADS

Exit Ramp – Gardner SE **Quantity**
 4” White Dotted Line 145 LF
 4” White Edge Line 1,786 LF
 4” Yellow Edge Line 906 LF

Entrance Ramp – Gardner NE **Quantity**
 4” White Dotted Line 265 LF
 4” White Edge Line 2,308 LF
 4” Yellow Edge Line 1,059 LF

Cross Roads – Arthur and Gardner **Quantity**
 4” White Edge Line 4,381 LF
 4” Yellow Center Line (Double) 4,287 LF
 24” White Stop Line 120 LF

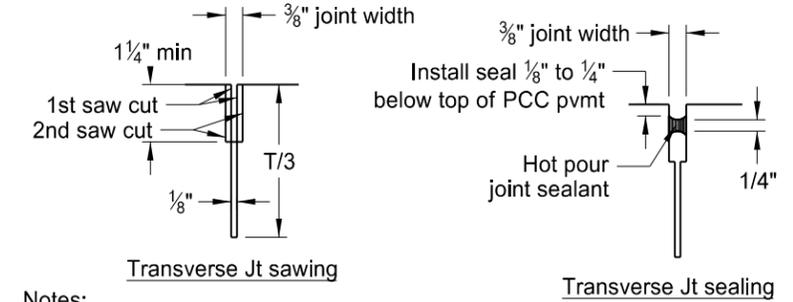
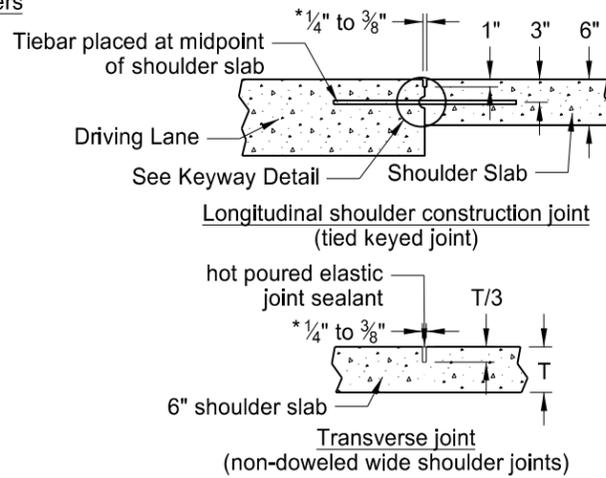
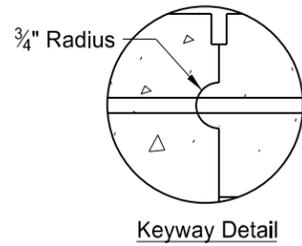
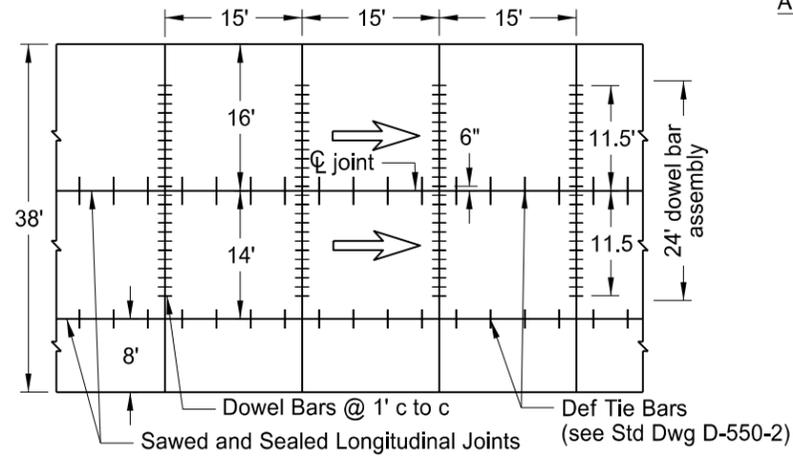
PVMT MK PAINTED-MESSAGE

Speed Measurement Pavement Markings **Quantity**
 18” x 30” White Line – 7.50 SF/MI 67.5 SF

Railroad Crossing at Arthur Separation (Std. Dwg. D-762-1) **Quantity**
 Railroad Cross with 2 “R” Letters 60.5 SF
 2 Bands (24” White Stop Lines) 2 at 12’ length 48 LF

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Alternate A - 15' Joint Spacing with PCC Shoulders



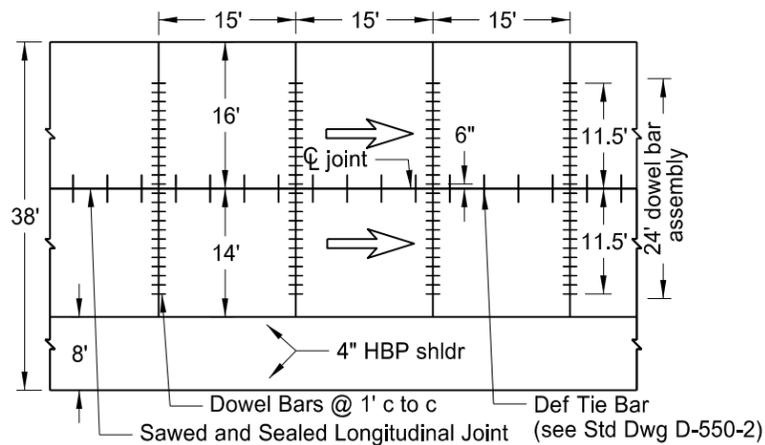
Notes:

T = Pavement Thickness.

For T = 10" or less, use 1 1/4" x 18" dowel bars.
For T greater than 10", use 1 1/2" x 18" dowel bars.

Dowel ramp tapers.

Alternate B - 15' Joint Spacing with Concrete Median Shoulders and 8' Hot Bit Shoulders



Pavement Depth	Longitudinal Joint Tie Bar Size, Length and Spacing**			
	Grade 40		Grade 60	
CL ML				
Spacing (S)	-	36"	-	45"
Size and Length	-	#6 Bar x 36"	-	#5 Bar x 42"
CL Ramp				
Spacing (S)	-	36"	-	45"
Size and Length	-	#6 Bar x 36"	-	#5 Bar x 42"
8' Shoulder				
Spacing (S)	45"	-	45"	-
Size and Length	#4 Bar x 24"	-	#3 Bar x 30"	-

Notes:

The hot poured elastic type joint sealer shall be in accordance with Section 826.02A.2 of the Standard Specifications

The longitudinal joint and seal shall be included in the price bid for the P.C.C. pavement.

Tie bars shall not be placed within 18 inches of a transverse skew joint.

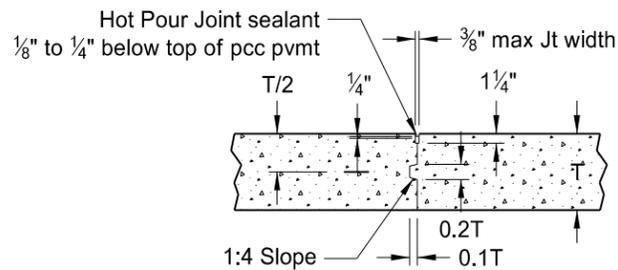
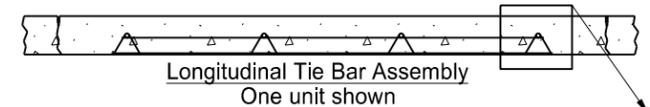
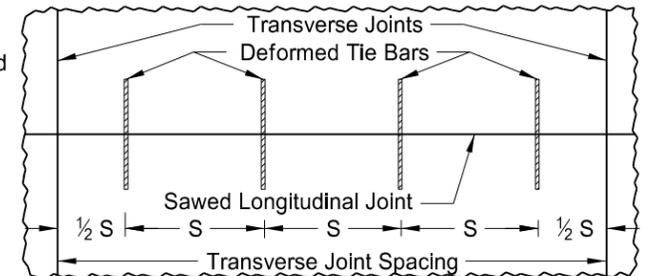
Where tie bars are installed bent and later straightened, Grade 40 steel shall be used.

Tie bar spacing can be increased up to 10% to facilitate construction.

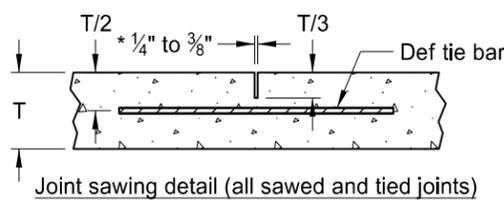
Tie bars shall be at a 48 inch maximum spacing.

A "Warp" joint is a sawed joint or a construction joint with a keyway.

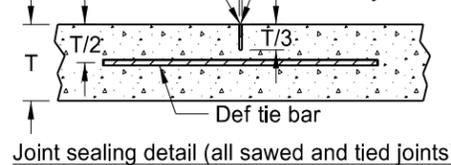
A "Butt Joint" is a construction joint with no keyway.



Longitudinal construction joint (non-tied keyed joints)

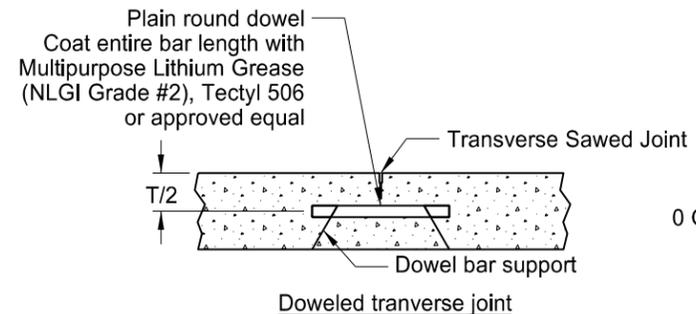


Leave joint sealant below finished pvmt (1/8" max)

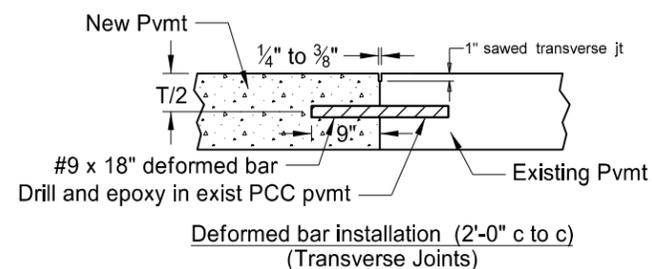


Joint sealing detail (all sawed and tied joints)

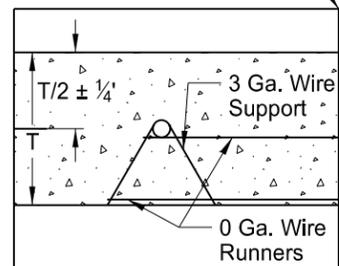
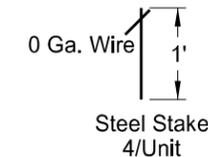
*Width requirement for top 1" only. Bottom portion of saw cut may be narrower.



Doweled transverse joint



Deformed bar installation (2'-0" c to c) (Transverse Joints)

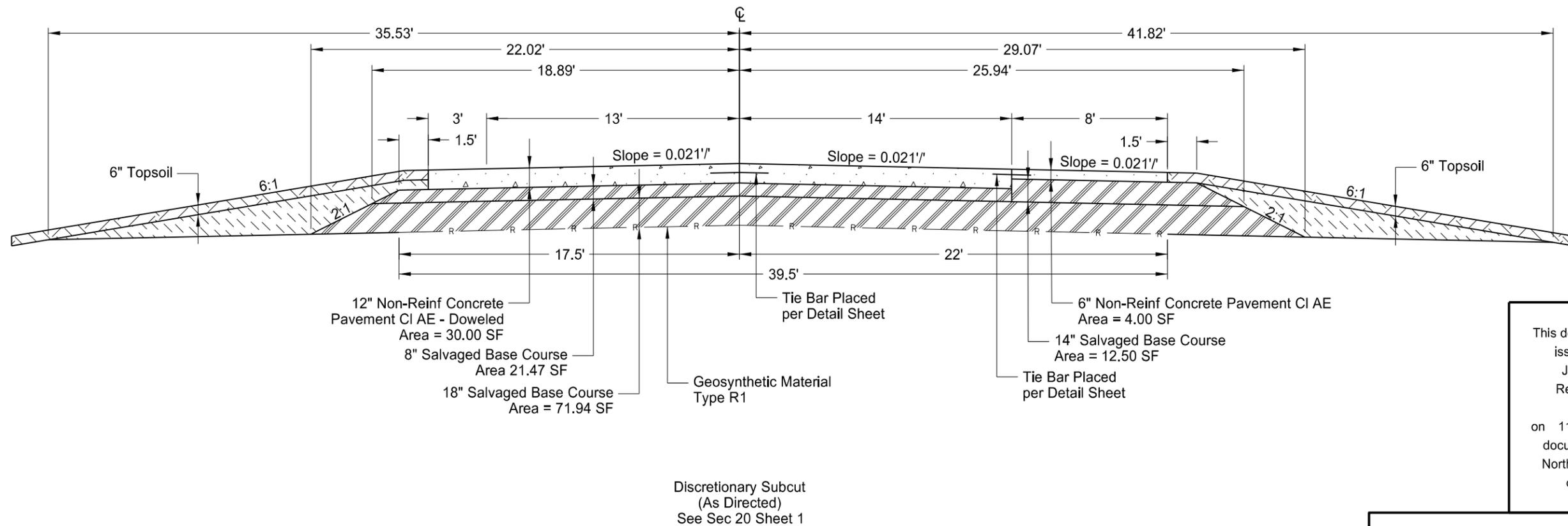
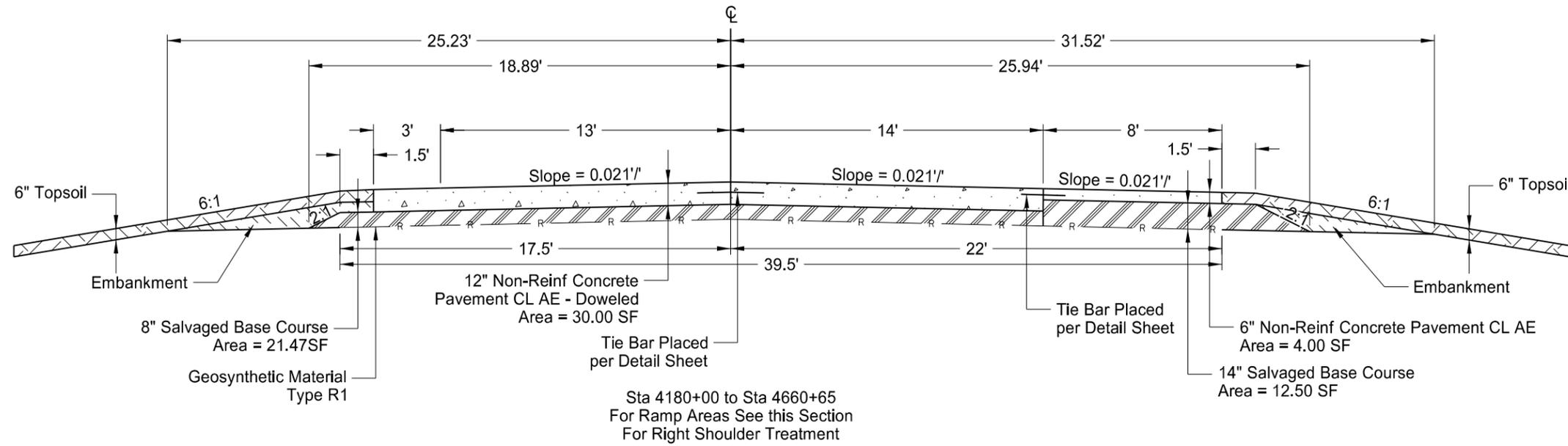


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PCC Joint Details

Interstate 29 - Argusville to Hunter NB

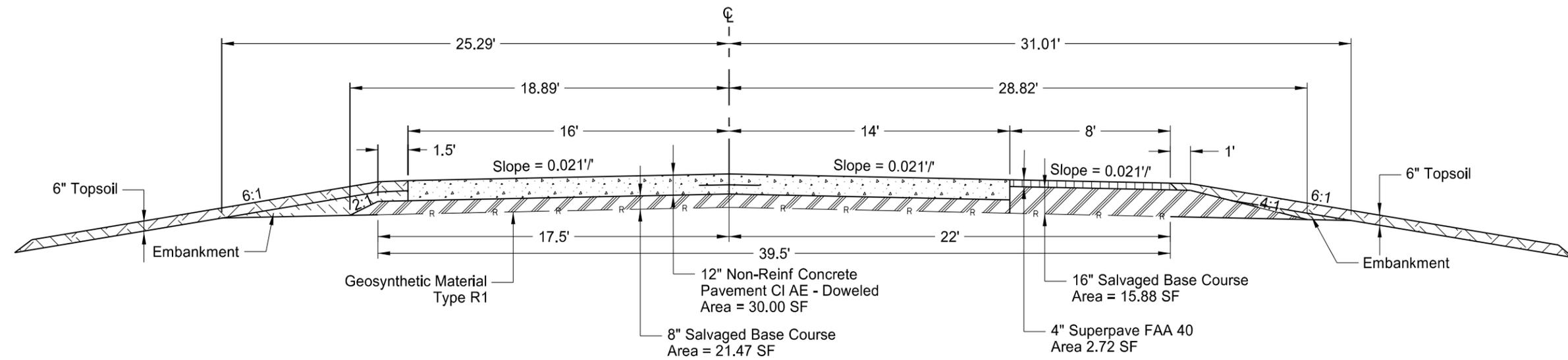
Revised	11/5/14	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
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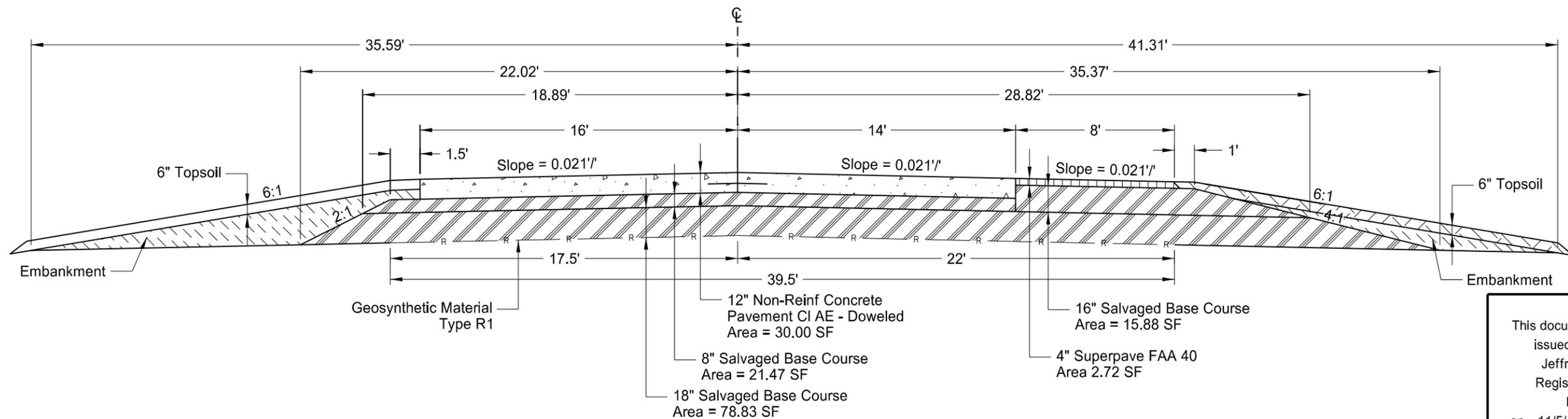
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Proposed Typical Section
Argusville to Hunter
Alternate A - Concrete Shoulders
Interstate 29 - Argusville to Hunter NB

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		ND	IM-8-029(132)078	30	10



Sta 4180+00 to Sta 4660+65
 For Ramp Areas See this Section
 For Right Shoulder Treatment



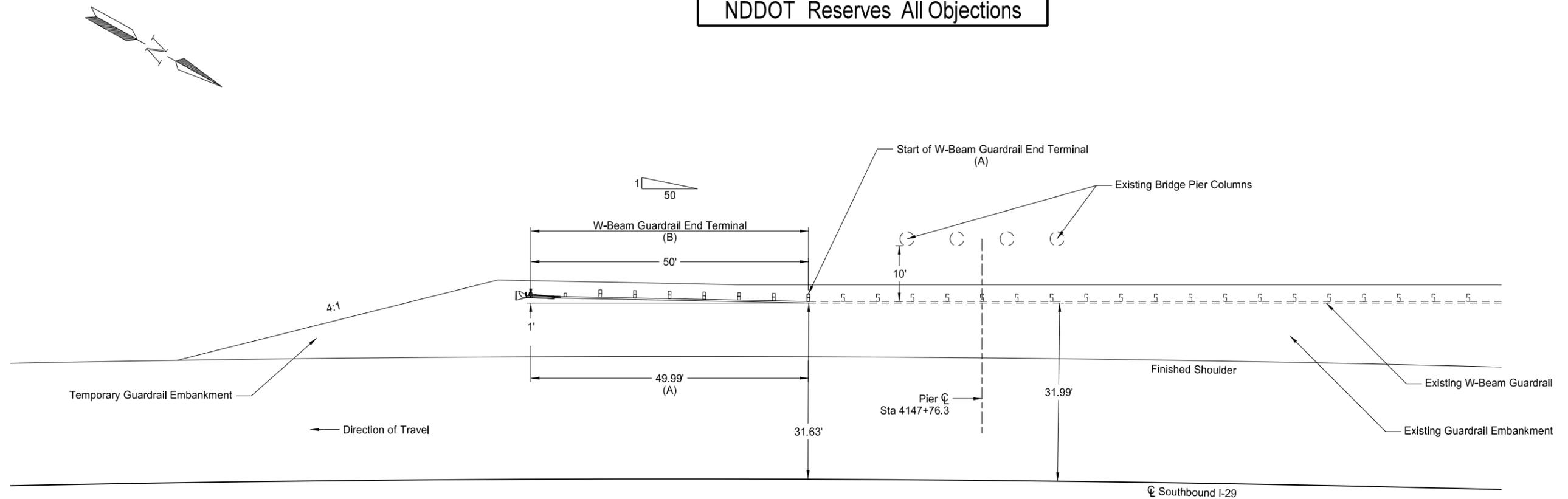
Discretionary Subcut
 (As Directed)
 See Sec 20 Sheet 1

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Proposed Typical Section
 Argusville to Hunter
 Alternate B - Concrete Median Shoulder
 Interstate 29 - Argusville to Hunter NB

Revised	11/3/14	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
		ND	IM-8-029(132)078	100	2

23 USC § 409 Documents
NDDOT Reserves All Objections



W-Beam Guardrail End Terminal (A)(B)
Argusville Interchange 1 EA

Notes

- (A) SCOPE OF WORK: Work consists of removal of existing end treatment section, installing W-beam guardrail end terminal, and temporary guardrail embankment.

W-beam guardrail end terminal shall be removed and end section replaced when no longer needed for two-way traffic.

All cost for embankment and end section installation and removal shall not be paid separately, but shall be included in the price bid for "W-Beam Guardrail End Terminal".
- (B) An SKT or FLEAT end terminal shall be installed at this location.

If the FLEAT is to be installed, any additional fill material required to allow for installation of the FLEAT shall be at the contractor's expense. See Standard Drawing D-764-6.

If the SKT end terminal is to be installed, a 50:1 taper shall be used for this end terminal.

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W-Beam Guardrail Layout
Outside Pier Protection

Argusville Interchange

Interstate 29 - Argusville to Hunter NB

**23 USC § 409 Documents
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Revised	11/5/14	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
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3-Cable Guardrail Summary of Quantities															
3-Cable Guardrail at 25' Obstruction Width															
Location of Guardrail (Start Post Sta to End Post Sta)	Centerline Station of RCBC	(A)	(A)	(A) (C)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(B)
		18" x 18" x 6" Precast Conc. Bearing Block	Line Post	Intermediate Anchor	End Post	Cable Splice Assembly	Conc. Anchor	Breakaway Anchor Angle	Steel Turnbuckle Cable End Assembly	5/16" Hook Bolt	3/4" Dia. Steel Cable	ReflectORIZED Plates	Line Post Plate Washer	Concrete Pedestal For Posts	Guardrail Embankment
		Each	Each	Each	Each	Each	Each	Each	Each	Each	LF	Each	Each	Each	CY
Sta 4305+78.00 to Sta 4314+53.00 Lt Mdn I-29 Southbound County Drain 26 Structure RP 81.620	Sta 4309+78 New Dbl. 8' x 4'	2	69	2	2	0	2	2	6	213	2,708	19	71	1	50
Sta 4305+15.50 to Sta 4313+65.50 Rt Mdn I-29 Northbound County Drain 26 Structure RP 81.620	Sta 4309+78 New Dbl. 8' x 4'	2	67	2	2	0	2	2	6	207	2,633	18	69	1	290
Sta 4529+65.00 to Sta 4538+40.00 Lt Mdn I-29 Southbound County Drain 22 Structure RP 85.859	Sta 4533+65 New Dbl. 9' x 4'	2	69	2	2	0	2	2	6	213	2,708	19	71	1	50
Sta 4529+02.50 to Sta 4537+52.50 Rt Mdn I-29 Northbound County Drain 22 Structure RP 85.859	Sta 4533+65 New Dbl. 9' x 4'	2	67	2	2	0	2	2	6	207	2,633	18	69	1	260
Total		8	272	8	8	0	8	8	24	840	10,682	74	280	4	650

3-Cable Guardrail

Sta 4305+78.00 to Sta 4314+53.00 Lt Mdn	975.0 LF
Sta 4305+15.50 to Sta 4313+65.50 Rt Mdn	950.0 LF
Sta 4529+65.00 to Sta 4538+40.00 Lt Mdn	975.0 LF
Sta 4529+02.50 to Sta 4537+52.50 Rt Mdn	950.0 LF

Guardrail Embankment - Type C

Sta 4305+78.00 to Sta 4314+53.00 Lt Mdn	1 EA
Sta 4305+15.50 to Sta 4313+65.50 Rt Mdn	1 EA
Sta 4529+65.00 to Sta 4538+40.00 Lt Mdn	1 EA
Sta 4529+02.50 to Sta 4537+52.50 Rt Mdn	1 EA

- (A) These items shall not be bid separately, but shall be included in the price bid for the item "3-Cable Guardrail".
- (B) An approximate in-place, compacted volume is shown above for informational purposes only. Guardrail embankment is paid for as "Guardrail Embankment - Type C".
- (C) Quantities shown below are required to assemble each Intermediate Anchor:
1. 18"x18"x6" Precast Conc. Bearing Block - 2 Each
 2. End Post - 2 Each
 3. Conc. Anchor - 2 Each
 4. Breakaway Anchor Angle - 2 Each
 5. Steel Turnbuckle Cable End Assembly - 6 Each
 6. 5/16" Hook Bolt - 15 Each
 7. 3/4" Dia. Steel Cable - 233 LF
 8. Line Post Plate Washer - 5 Each

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**3-Cable Guardrail Quantities
At Temporary Obstruction**

25' Obstruction Width
Sta 4309+78 - RP 81.620
Sta 4533+65 - RP 85.859

Interstate 29 - Argusville to Hunter NB

**23 USC § 409 Documents
NDDOT Reserves All Objections**

Revised	11/5/14	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
		ND	IM-8-029(132)078	100	18

3-Cable Guardrail Summary of Quantities																
3-Cable Guardrail at 475' Obstruction Width																
Location of Guardrail (Start Post Sta to End Post Sta)	Centerline Station of Proposed Culverts	(A)	(A)	(A) (C)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(B)
		18" x 18" x 6" Precast Conc. Bearing Block	Line Post	Intermediate Anchor	End Post	Cable Splice Assembly	Conc. Anchor	Breakaway Anchor Angle	Steel Turnbuckle Cable End Assembly	5/16" Hook Bolt	3/4" Dia. Steel Cable	Reflectorized Plates	Line Post Plate Washer	Concrete Pedestal For Posts	Guardrail Embankment	
		Each	Each	Each	Each	Each	Each	Each	Each	Each	LF	Each	Each	Each	Each	CY
Sta 4361+40.00 to Sta 4374+65.00 Lt Mdn I-29 Southbound RP 82.721	Sta 4365+35 - 72" x 98' Pipe Conduit Sta 4365+60 - 72" x 98' Pipe Conduit Sta 4368+95 - 60" x 96' Pipe Conduit Sta 4369+95 - 60" x 96' Pipe Conduit	2	105	1	2	0	2	2	6	321	4,058	28	107	4	135	
Sta 4360+77.50 to Sta 4373+77.50 Rt Mdn I-29 Northbound RP 82.721	Sta 4365+35 - 72" x 98' Pipe Conduit Sta 4365+60 - 72" x 98' Pipe Conduit Sta 4368+95 - 60" x 96' Pipe Conduit Sta 4369+95 - 60" x 96' Pipe Conduit	2	103	1	2	0	2	2	6	315	3,983	27	105	4	150	
Total		4	208	2	4	0	4	4	12	636	8,041	55	212	8	285	

3-Cable Guardrail

Sta 4361+40.00 to Sta 4374+65.00 Lt Mdn	1,375.0 LF
Sta 4360+77.50 to Sta 4373+77.50 Rt Mdn	1,350.0 LF

Guardrail Embankment - Type C

Sta 4361+40.00 to Sta 4374+65.00 Lt Mdn	1 EA
Sta 4360+77.50 to Sta 4373+77.50 Rt Mdn	1 EA

- (A) These items shall not be bid separately, but shall be included in the price bid for the item "3-Cable Guardrail".
- (B) An approximate in-place, compacted volume is shown above for informational purposes only. Guardrail embankment is paid for as "Guardrail Embankment - Type C".
- (C) Quantities shown below are required to assemble each Intermediate Anchor:
1. 18"x18"x6" Precast Conc. Bearing Block - 2 Each
 2. End Post - 2 Each
 3. Conc. Anchor - 2 Each
 4. Breakaway Anchor Angle - 2 Each
 5. Steel Turnbuckle Cable End Assembly - 6 Each
 6. 5/16" Hook Bolt - 15 Each
 7. 3/4" Dia. Steel Cable - 233 LF
 8. Line Post Plate Washer - 5 Each

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**3-Cable Guardrail Quantities
At Temporary Obstruction**

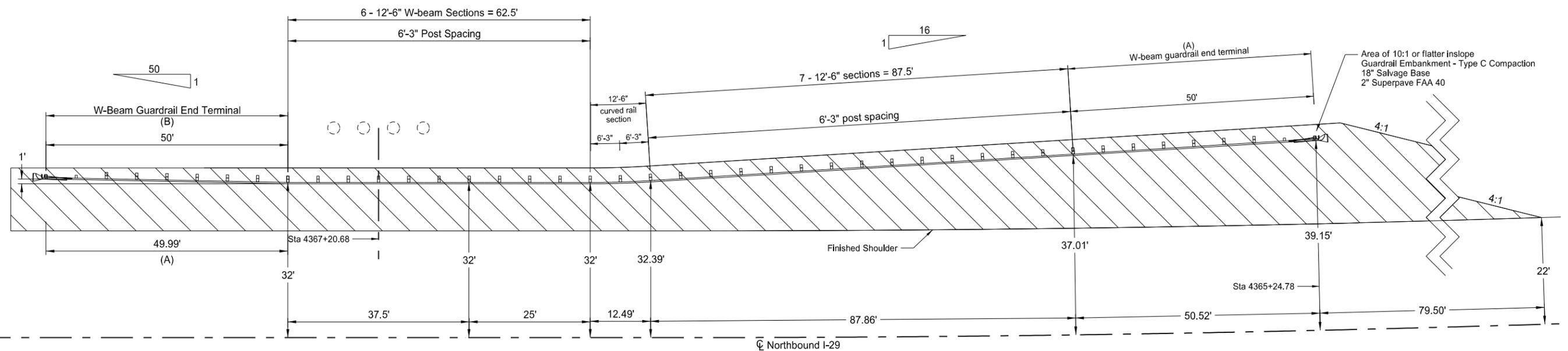
475' Obstruction Width

Interstate 29 - Argusville to Hunter NB

23 USC § 409 Documents
NDDOT Reserves All Objections



Revised	11/3/14	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
		ND	IM-8-029(132)078	130	1



- (A) The W-beam guardrail end terminal to be installed at this location shall be a FLEAT.
 - (B) An SKT or FLEAT end terminal shall be installed at this location.
- If the FLEAT is to be installed, any additional fill material required to allow for installation of the FLEAT shall be at the contractor's expense. See Standard Drawing D-764-6.
- If the SKT end terminal is to be installed, a 50:1 taper shall be used for this end terminal.

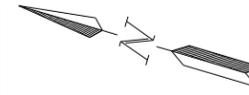
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W-beam Guardrail Layout
Outside Pier Protection

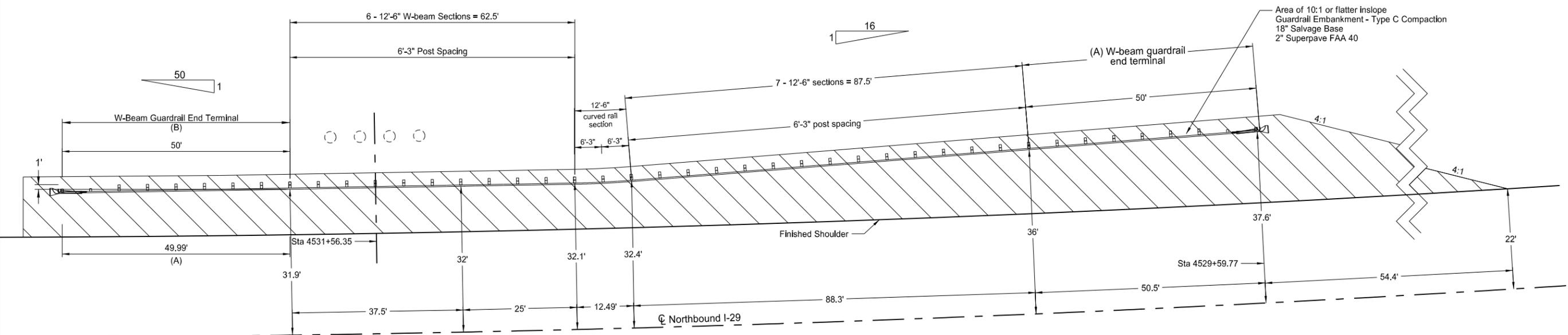
Arthur Separation
Sta 4367+03.52 - RP 82.709

Interstate 29 - Argusville to Hunter NB

23 USC § 409 Documents
 NDDOT Reserves All Objections



Revised	11/3/14	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
		ND	IM-8-029(132)078	130	3



- (A) The W-beam guardrail end terminal to be installed at this location shall be a FLEAT.
 - (B) An SKT or FLEAT end terminal shall be installed at this location.
- If the FLEAT is to be installed, any additional fill material required to allow for installation of the FLEAT shall be at the contractor's expense. See Standard Drawing D-764-6.
- If the SKT end terminal is to be installed, a 50:1 taper shall be used for this end terminal.

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W-beam Guardrail Layout
 Outside Pier Protection

Gardner Interchange
 Sta 4531+61.28 - RP 85.826

Interstate 29 - Argusville to Hunter NB

23 USC § 409 Documents
NDDOT Reserves All Objections

Revised	11/3/14	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
		ND	IM-8-029(132)078	130	4

W-BEAM GUARDRAIL SUMMARY OF QUANTITIES										
W-BEAM GUARDRAIL AT OBSTRUCTIONS										
LOCATION	(A) 5/8" ϕ x 18" LONG GUARDRAIL BOLT	(A) 5/8" ϕ x 1-1/4" LONG GUARDRAIL BOLT	(A) 5/8" ϕ x 10" LONG GUARDRAIL BOLT	(A) 6" x 8" x 14" TIMBER BLOCK	(A) 6" x 8" x 6'-0" TIMBER POST	(A) 12'-6" STRAIGHT W- BEAM RAIL SECTION	(A) 12'-6" CURVED W- BEAM RAIL SECTION	(A) REFLECTORIZED PANELS	(A) W-BEAM END SECTION	(B) GUARDRAIL EMBANKMENT
Sta 4529+26.17 to 4531+91.48	27	104	1	27	27	12	1	9	2	142
Total	27	104	1	27	27	12	1	9	2	142

W-Beam Guardrail
Sta 4529+26.17 to 4531+91.48 Rt 162.5 LF

W-Beam Guardrail End Terminal
Sta 4529+26.17 to 4531+91.48 Rt 1 EA
Sta 4531+75.10 to 4532+25.10 Rt 1 EA

Guardrail Embankment - Type C
Sta 4529+26.17 to 4532+25.10 Rt 1 EA (B)

(A) These items are not to be bid separately but shall be included in the price bid for the item "W-Beam Guardrail"

(B) An approximate in-place, compacted volume is shown above for informational purposes only. Guardrail embankment is paid for as "Guardrail Embankment - Type C"

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W-beam Guardrail Layout
Outside Pier Protection

Gardner Interchange
Sta 4531+61.28 - RP 85.826

Interstate 29 - Argusville to Hunter NB