DESIGN DATA				
Traffic	Average Daily			
Current 2013	Pass: 2,935	Trucks: 1,085	Total: 4,020	
Forecast 2033	Pass: 4,375	Trucks: 1,780	Total: 6,155	
Clear Zone Distance: 46 / 34		Design Speed: 65		
Minimum Sight Dist. for Stopping: 645		Bridges: HL-93		
Sight Dist. for No Passing Zone: 1,100				
Pavement Design Life: 20 (years)				
Design Accumulated One-way Flexible ESALs: 4,708,519				

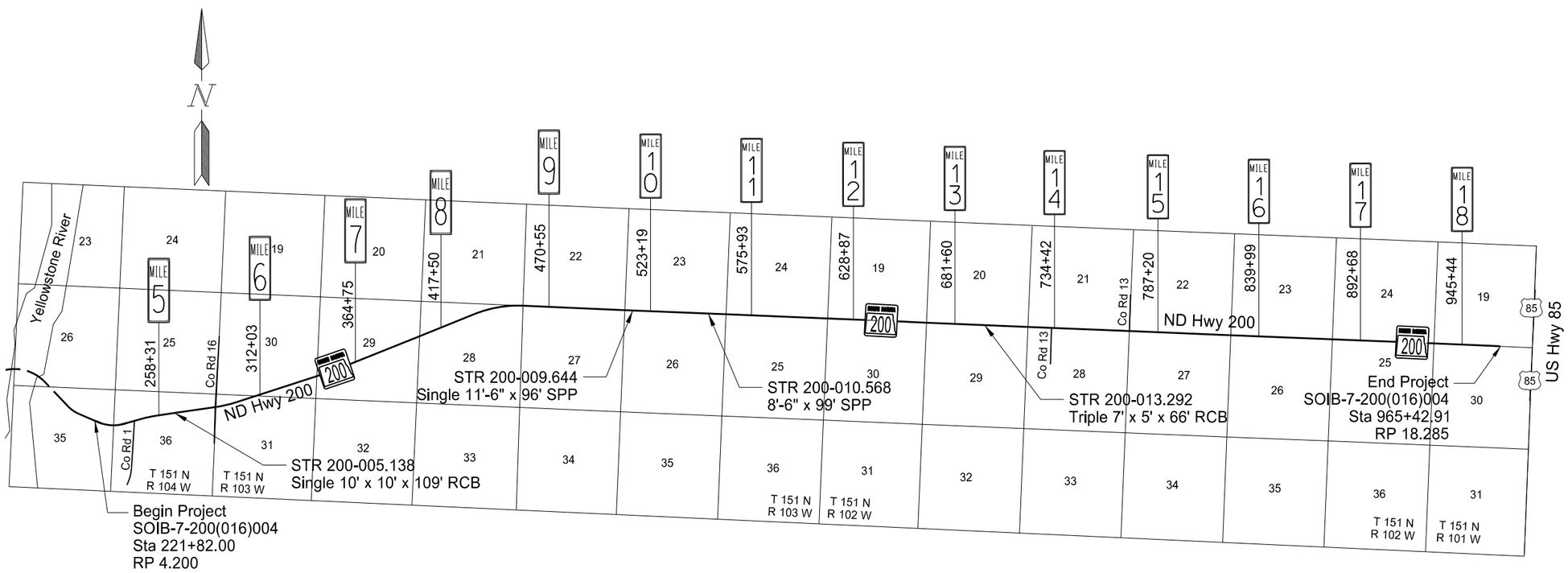
STATE	PROJECT NO.	PCN	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	20295	1	1

JOB # 40
NORTH DAKOTA
DEPARTMENT OF TRANSPORTATION

SOIB-7-200(016)004
McKenzie County
Yellowstone Bridge to Jct. US 85
HMA, Grading, Box Extensions

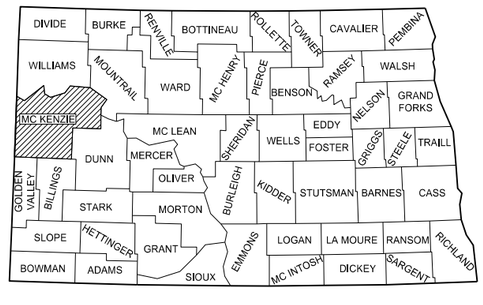
GOVERNING SPECIFICATIONS:
2014 Standard Specifications adopted by the North Dakota Department of Transportation and the Supplemental Specifications effective on the date the project is advertised.

PROJECT NUMBER \ DESCRIPTION	NET MILES	GROSS MILES
SOIB-7-200(016)004	14.084	14.084



Legal Description
T-151-N R-104-W Sec 35
T-151-N R-104-W Sec 36
T-151-N R-103-W Sec 31
T-151-N R-103-W Sec 30
T-151-N R-103-W Sec 29
T-151-N R-103-W Sec 28
T-151-N R-103-W Sec 21
T-151-N R-103-W Sec 22
T-151-N R-103-W Sec 27
T-151-N R-103-W Sec 23
T-151-N R-103-W Sec 26
T-151-N R-103-W Sec 24
T-151-N R-103-W Sec 25
T-151-N R-102-W Sec 19
T-151-N R-102-W Sec 30
T-151-N R-102-W Sec 20
T-151-N R-102-W Sec 29
T-151-N R-102-W Sec 21
T-151-N R-102-W Sec 28
T-151-N R-102-W Sec 22
T-151-N R-102-W Sec 27
T-151-N R-102-W Sec 23
T-151-N R-102-W Sec 26
T-151-N R-102-W Sec 24
T-151-N R-102-W Sec 25
T-151-N R-101-W Sec 19
T-151-N R-101-W Sec 30

DESIGNERS
Jake Wilder /s/
Mark A. Bentley /s/



STATE COUNTY MAP

APPROVED DATE 1/20/16

Roger Weigel /s/
OFFICE OF PROJECT DEVELOPMENT
ND DEPARTMENT OF TRANSPORTATION

I hereby certify that the attached plans were prepared by me or under my direct supervision and that I am a duly registered professional engineer under the laws of the state of ND.

APPROVED DATE 01/15/16

Jay F. Meacham /s/
Civil Science, Inc.

This document was originally issued and sealed by Jay F. Meacham, Registration Number PE- 7926, on 01/15/16 and the original document is stored at the North Dakota Department of Transportation

CIVIL SCIENCE, INC.

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10	1-3	Basis of Estimate
11	1-24	Data Tables
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40	1-39	Removals
50	1-2	Inlet and Manhole Summary
51	1-8	Allowable Pipe List
60	1-77	Plan & Profile
75	1-8	Wetland Impacts
76	1-42	Temporary Erosion Control
77	1-42	Permanent Erosion Control
81	1-3	Survey Coordinate and Curve Data
82	1-11	Survey Data Layouts
90	1-76	Paving Layouts
100	1-2	Work Zone Traffic Control
110	1-85	Signing
170	1-15	Bridges and Box Culverts
180	1-4	Pit Plats and Borrow Areas
200	1-266	Cross Sections

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SP 0004(14)	Federal Migratory Bird Treaty Act
SP 0251(14)	Temporary Water Diversion
SP 5092(14)	Permits and Environmental Considerations

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D-256-1	Erosion and Siltation Controls
D-260-1	Erosion and Siltation Controls - Silt Fence
D-261-1	Erosion Control - Fiber Roll Placement Details
D-704-2	Traffic Control For Coring of Hot Bituminous Pavement
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D-704-7	Breakaway Systems for Construction Zone Signs - Perforated Tube
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D-704-10	Construction Sign Details - Regulatory Signs
D-704-11	Construction Sign Details - Warning Signs
D-704-12	Shoulder Closure Tapers
D-704-13	Barricade and Channelizing Device Details
D-704-14	Construction Sign Punching and Mounting Details
D-704-15	Road Closure Layouts
D-704-17	Sign Layout for One Lane Closure Two Lane Roadway
D-704-19	Road Closure and Lane Closure on a Two Way Road Layouts
D-704-20	Terminal and Seal Coat Sign Layouts
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D-714-27M	Pipe Installation Detail for Multiple Longitudinal Mainline Pipe or Pipe Not Under the Roadway
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D-762-4	Pavement Marking
D-762-6	Short-Term Pavement Marking
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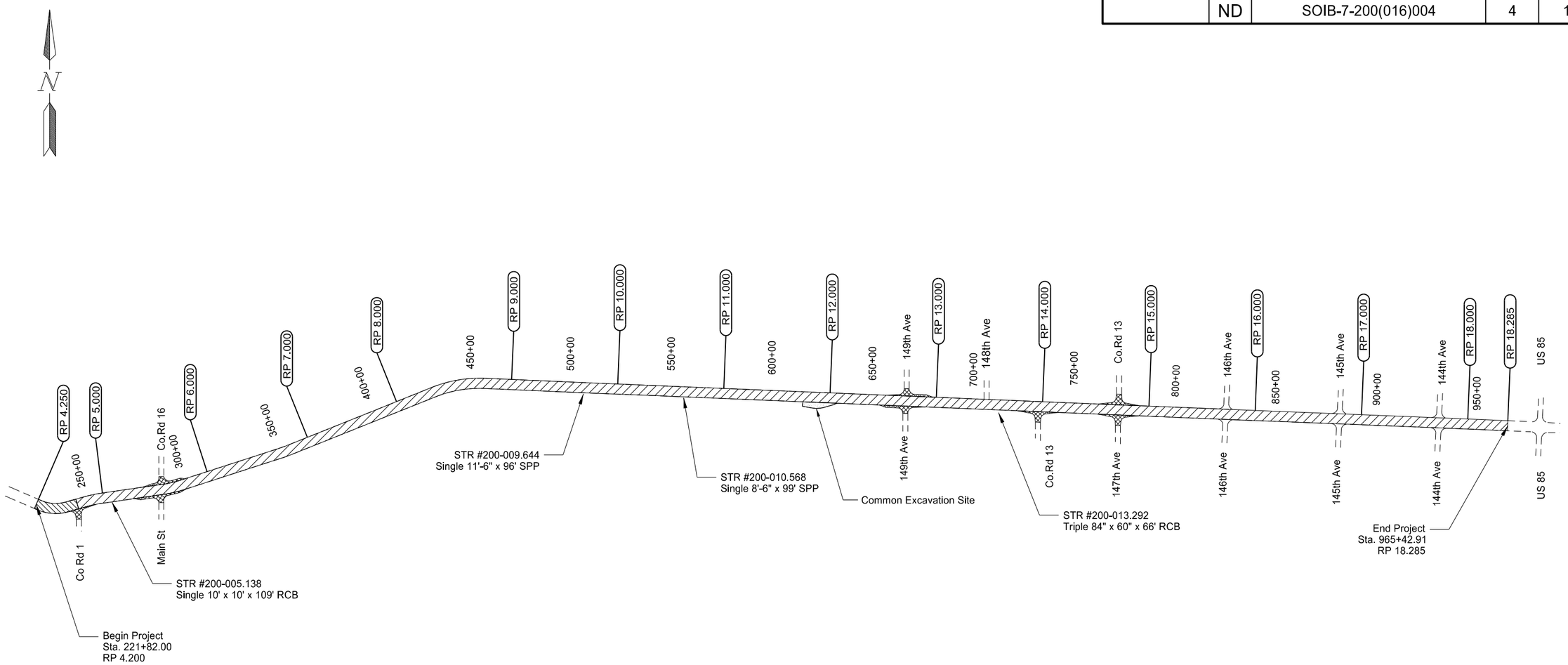
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	4	1



5.0" HMA Overlay
Sta 221+82 to Sta 245+24

3.5" HMA Overlay & Widening

Turn Lane Widening or Flared Approach

Common Excavation Site

This document was originally issued and sealed by Jay F. Meacham Registration Number PE- 7926, on 01/15/16 and the original document is stored at the North Dakota Department of Transportation

Scope of Work

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

NOTES

GENERAL NOTES

100-P01 WEEKLY PLANNING/REPORTING MEETING: Organize a weekly meeting to coordinate efforts between subcontractors, utilities, local authorities, and others.

Send a knowledgeable representative to conduct the weekly reporting/planning meeting. Prepare minutes for each meeting and make the appropriate distribution of the minutes. Have the minutes approved by the Engineer before distribution.

Provide a written schedule of the next week's work and a tentative schedule of the following week. Include a discussion of problems encountered during the current week; also include information of interest to local authorities, subcontractors, and utilities.

Invite interested agencies to the meeting. Include the following agencies and any other agencies that are necessary:

a. North Dakota Department of Transportation
b. Local Government Agencies
c. Police department
d. Fire department
e. Ambulance service
f. Telephone Co.
g. Power Co.
h. Cable T.V.
i. Gas Co.
j. Railroad Co.
k. Subcontractors

100-P02 DESIGN PROFILE: The ND Hwy 200 design profile as shown is for reference only.

100-P03 LIMITED ACCESS: The Contractor shall have limited access to the following areas:

Estate of Milton S. Olson, Jr.	(Station 450+00 Lt to Station 456+00 Lt)
James Revocable Trust UDT	(Station 857+80 Rt to Station 863+30 Rt) (Station 876+84 Rt to Station 877+25 Rt)
Tim Dwyer, Jr.	(Station 876+84 Lt to Station 878+31 Lt) (Station 877+90 Rt to Station 878+71 Rt)
Tim Dwyer Farm Trust	(Station 941+74 Lt to Station 943+12 Lt)

The Contractor's operations, within these areas, from the project start until May 16th, 2016, shall be limited to those that can be constructed within the existing Right of Way. The Contractor shall take care to ensure that no work items commence outside of the Right of Way, in these areas, unless otherwise notified otherwise by the Engineer. The Engineer will stake the affected areas to delineate where work activities are not allowed, at the request of the Contractor.

100-P04 DRIVEWAY GRAVEL: Coordinate the removal of surfacing materials (gravel) from the approach located at Station 813+44 Lt, with the Approach Owner, prior to work activities on the approach

Approach Owner: Edward Mrachek, Phone: (701) 828-3965

105-P01 PRIVATE WATERLINE: An unmarked, buried, 1-1/4" black plastic, private waterline crosses ND-200 in the vicinity of the existing cattle pass at Station 573+65. The Contractor shall not disturb the waterline without prior approval of the Engineer.

Waterline Owner: James R Kuykendall, Phone: (701) 481-2883

107-700 HAUL ROADS: The Engineer will not designate paved roads off the state system as haul roads.

107-710 HAUL ROADS: Before submitting a proposal, contact the appropriate State, County, Township, or City officials to determine if there are any roadways that will be designated as "no haul routes"

202-P01 REMOVAL OF EXISTING FENCE: Provide a minimum 30 day notice to adjacent landowners and engineer before removing fencing.

203-010 SHRINKAGE: 25 percent additional volume is included for shrinkage in earth embankment.

203-P01 EXCAVATION AND FILL ELEVATIONS: All ditch grades and contours are given at the top of the topsoil location.

203-P02 EXISTING APPROACH MATERIAL: All costs associated with the removal of non-bituminous material at existing approaches shall be included in the bid price for "Common Excavation – Type A."

203-P03 TOPSOIL: All topsoil shall be salvaged. Upon completion of the widening, the topsoil shall be spread evenly over areas to be seeded.

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NOTES

430-P01 TEMPORARY ASPHALT WEDGES: The contractor shall place temporary asphalt wedges at crossings to allow smooth passage of vehicles. All costs associated with the labor, materials, and equipment for the installation and removal of the asphalt wedges shall be included in the price bids for “Superpave FAA 45” and “PG 64-28 Asphalt Cement.” An assumed quantity for these wedges has been included in the price bid for “Superpave FAA 45” and “PG 64-28 Asphalt Cement.”

704-100 TRAFFIC CONTROL SUPERVISOR: Provide a Traffic Control Supervisor.

704-P01 TRAFFIC CONTROL FOR SHOULDER DROP-OFF: If the shoulder and adjacent driving lane are not even during construction, adjacent roadway speed must be reduced to 40 MHP or less. Separate the drop-off from travel lanes with stackable panels and utilize the following sign assemblies at the locations listed below.

Sign Assembly: Sign No. W8-9a-48 "Shoulder Drop Off" and supplemental plate Sign No. W20-52-54 to identify the distance. Sign assemblies will be measured and paid for according to Section 704 "Temporary Traffic Control".

Locations:

- In advance of the drop off;
- Spaced at each mile from the advance sign; and
- At major intersections (CMC routes, state and US highways, and Interstate Ramps).

Drop-offs are limited to one side of the roadway.

If the shoulder and adjacent driving lanes are not even at the end of the day, the following additional criteria will apply:

For difference in elevation between the shoulder and the driving lane of 2" or greater, construct a slough on the driving lane that is 4:1 or flatter. No slough is required for differences less than 2".

Traffic is not permitted to cross drop-off.

704-P02 TRAFFIC CONTROL: The contractor shall maintain two way traffic during earthwork operations. A flagger may be used for temporary stoppage of traffic to allow haul trucks to place material but traffic shall be allowed to continue in their respective lane after it is safe to proceed. The use of a full lane closure and pilot car, with flaggers, will only be permitted during paving activities for a maximum of 3 miles in distance.

704-P03 TRAFFIC CONTROL: The traffic control devices list has been developed using the following layouts on the Standard Drawings for traffic control:

D-704-2: For coring hot bituminous pavement.
D-704-5: Contractor sign is applicable.
D-704-7, 8, 9, 11, 12, 13 and 14 are applicable.
D-704-19, Layout Type F: Lane closure for paving operations only.
D-704-22, Layout Type K and L: For construction trucks hauling material.
D-704-24, Layout Type S and U: For shoulder work – pipe extensions and widening.
D-704-26, Layout Type BB, GG, EE, FF: For paving and grade raise operations.
D-704-27: For striping operation.
D-704-56: For grounding shoulder rumble strips.

The required traffic control signs and devices are included in the "Traffic Control” and will be measured and paid at the Contract Unit Price for each device. Additional devices required to accommodate the Contractor's operation shall be the Contractor's responsibility.

706-P01 FIELD OFFICE: The Contractor shall provide a field office that meets the following requirements:
1. Minimum total area of 450 square feet
2. Minimum cabinet space of 32 cubic feet
3. Minimum counter space of 40 square feet
4. Air conditioner with a minimum of 20,000 BTU’s
5. Lighting with a minimum of 110 foot-candles
6. Minimum of 3 phone jacks
7. Fax Machine
8. Photocopy machine/scanner/printer capable of 11x17 photocopies, scanning, and printing with toner to last the duration of the project. The Engineer will be responsible to furnish the paper.
9. Hookups for heat, electricity, sewer and water. The contractor shall be responsible to pay the utility bill for these services.
10. Indoor Bathroom facilities

The Contractor shall place the field office on the project, or as close to the project as possible. The Engineer must approve the location and condition of the field office. The Contractor shall be responsible to pay any rental fees. The field office shall be available for occupancy at the start of the project and remain available to project completion. The Engineer will be responsible to furnish the office equipment.

The Engineer will be responsible to furnish and pay the utility bill for the following services:

1. Telephone
2. FAX
3. Broadband internet service

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".

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NOTES

714-P01 END SECT – TRAVERSABLE METAL __IN: All costs associated with obtaining and installing these end sections shall be included in the price bid for “End Sect – Traversable Metal __IN.”

752-P01 FENCE BARBED WIRE 4 STRAND: All costs associated with installing new fencing including the placement of fence terminal posts, double braced assemblies, and gates shall be included in the price bid for “Fence Barbed Wire 4 Strand.”

752-P02 TEMPORARY FENCE: Temporary Fencing, if needed, will be provided by the contractor after coordinating with the adjacent landowner and determining if livestock will be present during construction. Temporary fence will be placed prior to removing existing fencing and remain in place until permanent fencing is in place. The cost to install and remove temporary fencing is included in the price bid for “Temporary Fence.”

754-P01 REMOVAL OF EXISTING SIGNS: All signs and supports removed from the project which will not be reset, become the property of Contractor.

754-P02 OBJECT MARKERS – CULVERTS: All culverts (centerline and approach) shall have new object markers according to NDDOT Standard Drawings D-754-82, D-754-83. Existing object markers shall be removed and disposed of by the Contractor and the cost of removal shall be included in the price bid for “Object Markers – Culverts.”

754-P03 STOP SIGN REFLECTIVE STRIPE ON POSTS: The stop sign at the intersection of ND 200 and Co. Rd. 16, Station 287+76 Lt, shall have a retro-reflective stripe installed on the front of the sign post. The stripe shall be 2” in width, and shall be the full length of the support post to within two feet above the edge of the roadway. The material shall be high intensity Type XI sheeting, and shall be red in color. The cost of furnishing and installing the retro-reflective stripe on the post shall not be paid for separately, but shall be included in the price bid for “STEEL GALV POSTS – TELESCOPING PERFORATED TUBE.”

980-P01 CATTLE GUARD RESET: Where cattle guards are removed and reset in new locations, the contractor shall be responsible for coordination with adjacent landowners and McKenzie County. The contractor shall give a minimum 30 day notice to adjacent landowners with a copy to the engineer in writing and obtain any relevant permits from the McKenzie County prior to resetting the cattle guard. All costs associated with resetting cattle guards including excavation, surface preparation, bedding, and incidentals shall be included in the price bid for “Cattle Guard Reset.”

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ENVIRONMENTAL COMMITMENTS

ENVIRONMENTAL COMMITMENTS (EC): The North Dakota Department of Transportation and the Federal Highway Administration have made environmental commitments to secure approval of this project. The environmental commitments are as follows:

EC-1: Unavoidable permanent impacts will be mitigated at an NDDOT approved mitigation site or bank in accordance with the mitigation guidance.

ACTION REQUIRED/TAKEN: 0.07 Acres of permanent impacts to USACE jurisdictional waters and 0.06 acres of permanent impacts to EO 11990 wetlands will require mitigation. The NDDOT proposes to mitigate by compensation: 0.07 acres for USACE jurisdictional & 0.06 acres for EO 11990 wetlands at Vollrath.

Wetland Impact Table

Wetland Number	Location	Cowardin Class.	Wetland Type	Wetland Size Ac.	Wetland Feature	USACE Jurisdictional Wetlands*	Wetland Impacts (acres)		USFWS Easement Impacts		Wetland Mitigation				
											Mitigation Required			Location; Acreage; Wetland#; Ratio	Onsite Mitigation Acres
							Temp. Ac.	Perm. Ac.	Temp.	Perm.	EO 11990	USACE	USFWS		
11	Sec.30, T151N, R103W	NA	Wet Meadow	0.01	Artificial	Yes	0.01	< 0.01	0.00	0.00	Y	N	N	Vollrath 15/21 11990 NDDOT Mitigation Bank < 0.01 (1:1)	---
12	Sec.29, T151N, R103W	NA	Wet Meadow	0.04	Natural	Yes	<0.01	0.02	0.00	0.00	Y	N	N	Vollrath 15/21 11990 NDDOT Mitigation Bank 0.02 (1:1)	---
13	Sec.29, T151N, R103W	NA	Wet Meadow	0.09	Natural	Yes	0.01	< 0.01	0.00	0.00	Y	N	N	Vollrath 15/21 11990 NDDOT Mitigation Bank < 0.01 (1:1)	---
14	Sec. 21 & 28 T151N R103 W	NA	Wet Meadow	0.26	Natural	Yes	0.03	0.02	0.00	0.00	Y	N	N	Vollrath 15/21 11990 NDDOT Mitigation Bank 0.02 (1:1)	---
15	Sec. 30 T151N R102W	NA	Wet Meadow	0.02	Natural	Yes	<0.01	0.02	0.00	0.00	Y	N	N	Vollrath 15/21 11990 NDDOT Mitigation Bank 0.02 (1:1)	---
16	Sec. 19 T151N R102W	NA	Wet Meadow	0.04	Natural	Yes	0.04	< 0.01	0.00	0.00	Y	N	N	Vollrath 15/21 11990 NDDOT Mitigation Bank < 0.01 (1:1)	---
17	Sec. 29 T151N R102W	NA	Wet Meadow	0.01	Natural	Yes	0.00	0.01	0.00	0.00	Y	N	N	Vollrath 15/21 11990 NDDOT Mitigation Bank 0.01 (1:1)	---
18	Sec. 23 & 26 T151N R102W	NA	Wet Meadow	0.39	Natural	No	0.08	0.06	0.00	0.00	Y	N	N	Vollrath 15/21 11990 NDDOT Mitigation Bank 0.06 (1:1)	---
			Totals	**0.86**			**0.17**	**0.13**	**0.00**	**0.00**					---

* A wetland Jurisdictional Determination was issued by the USACE on 7/09/2014; NWO-2014-0327-BIS.

**All impacts to natural wetlands (natural/jurisdictional and natural/non-jurisdictional), regardless of size, as well as impacts greater than 0.10 acre to artificial/jurisdictional wetlands require mitigation.

***All artificial/non-jurisdictional, deep water (impacts greater than 6.6 feet), Other Waters less than 300 linear feet (determined by the USACE on a case by case), and temporary impacts do not require mitigation.

ENVIRONMENTAL COMMITMENTS

Other Waters Impact Table

Other Waters											Other Water Mitigation				
			Size				Impacts to Other Waters				Mitigation Required				
							Acres		Linear Feet						
Number	Location	Type	Acres	Linear Feet	Feature	USACE Jurisdictional*	Temp	Perm	Temp	Perm	EO 11990	USACE	USFWS	Location	Method
OW10	Sec.23, T151N, R103W	Drain	0.04	215	Natural	Yes	0.01	0.05	25	150	N	N	N	NA	NA
		Totals	**0.04**	**215**			**0.01**	**0.05**	**25**	**150**					

* A wetland Jurisdictional Determination was issued by the USACE on 7/09/2014; NWO-2014-0327-BIS.

Summary Impact Table

Total Permanent Impact Summary		Temporary Impacts and additional information	
Wetland Type	**Total (Acres)**	**Wetland Type**	**Total (Acres/Lf)**
Natural/JD	0.07	**Temporary JD**	0.16
Natural/Non-JD	0.06	**Non-JD Temporary**	0.08
Artificial/JD	< 0.01	**Permanent JD > 0.10**	0.00
Artificial /Non-JD	0.00	**Permanent OW**	0.05 / 150
Total	**0.13**	**Temporary OW**	0.01 / 25

Compensation Requirements by Agency and Water Type

Water Type	USACE Mitigation	EO 11990 Mitigation
Natural/JD Wetland	> 0.1 acre	All
Natural/Non-JD Wetland	No mitigation required	All
Artificial/JD Wetland	> 0.1 acre	No mitigation required
Artificial/Non-JD Wetland	No mitigation required	No mitigation required
Deep Water (> than 6.6 feet)	No mitigation required	No mitigation required
Other Water	> 300 linear feet	No mitigation required
Preamble	No mitigation required	No mitigation required

NOTIFICATIONS TO BE FILED BY CONTRACTOR:

- North Dakota Department of Health SFN 17987 Asbestos Notification of Demolition and Renovation for bridges and boxes.

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	8	1

ESTIMATE OF QUANTITIES

SPEC	CODE	ITEM DESCRIPTION	UNIT	QUANTITY
103	100	Contract Bond	L Sum	1
103	200	Escrow of Bid Documentation	L Sum	1
202	101	Removal of Concrete	EA	2
202	136	Removal of Pavement	Ton	94135
202	169	Removal of End Section, All Types & Sizes	EA	103
202	170	Removal of Culverts, All types and Sizes	LF	3427
202	312	Removal of Existing Fence	LF	6288
203	101	Common Excavation - Type A	CY	175345
203	109	Topsoil	CY	125628
203	121	Topsoil - Wetland	CY	40
210	50	Box Culvert Excavation	EA	2
210	210	Foundation Fill	CY	130
210	405	Foundation Preparation - Box Culvert	EA	2
216	100	Water	M. GAL	6034
230	300	Subgrade Preparation - Type A	Mile	0.10
230	303	Subgrade Preparation - Type A - Shoulders	Mile	27.57
251	200	Seeding Class II	Acre	155.74
251	2000	Temporary Cover Crop	Acre	155.74
253	101	Straw Mulch	Acre	311.48
253	301	Bonded Fiber Matrix	Acre	2.11
255	103	ECB Type 3	SY	3457
256	100	Riprap Grade I	CY	138.0
256	200	Riprap Grade II	CY	167.0
261	112	Fiber Roll 12IN	LF	56910
261	113	Remove Fiber Rolls 12IN	LF	27880
261	120	Fiber Roll 20IN	LF	432
261	121	Remove Fiber Rolls 20IN	LF	216
302	120	Aggregate Base Course Cl 5	Ton	196447
401	50	Tack Coat	Gal	43968
401	60	Prime Coat	Gal	34207

SPEC	CODE	ITEM DESCRIPTION	UNIT	QUANTITY
401	160	Blotter Material CL 44	Ton	1026
411	100	Milling Pavement Surface	Ton	650.0
430	45	Superpave FAA 45	Ton	97303
430	1000	Cored Sample	EA	298
430	6428	PG 64-28 Asphalt Cement	Ton	5838
602	1131	Class AE-3 Concrete-Box Culvert	CY	165.0
612	114	Reinforcing Steel - Grade 60 - Box Culvert	Lbs	23723
702	100	Mobilization	L Sum	1
704	100	Flagging	Man Hour	5000
704	1000	Traffic Control Signs	Unit	3658
704	1060	Delineator Drums	EA	48
704	1067	Tubular Markers	EA	676
704	1080	Stackable Vertical Panels	EA	334
704	1185	Pilot Car	HR	400
706	400	Field Office	EA	1
706	500	Aggregate Laboratory	EA	1
706	550	Bituminous Laboratory	EA	1
706	600	Contractors Laboratory	EA	1
708	8500	Stabilized Construction Access	EA	2
708	8501	Removal Stabilized Construction Access	EA	2
709	155	Geosynthetic Material Type RR	SY	504
714	615	Pipe Conc Reinf 24IN CL III	LF	364
714	820	Pipe Conc Reinf 30IN CL III	LF	184
714	905	Pipe Conc Reinf 36IN CL III	LF	290
714	1105	Pipe Conc Reinf 48IN CL III	LF	48
714	1310	Pipe Conc Reinf 60IN CL III	LF	126
714	1510	Pipe Conc Reinf 72IN CL III	LF	164
714	3020	End Sect-Conc Reinf 24IN	EA	1
714	3023	End Sect-Traversable Reinf. Conc. 24IN	EA	38
714	3030	End Sect-Conc Reinf 30IN	EA	7

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	8	2

ESTIMATE OF QUANTITIES

SPEC	CODE	ITEM DESCRIPTION	UNIT	QUANTITY
714	3033	End Sect-Traversable Reinf. Conc. 30IN	EA	10
714	3035	End Sect-Conc Reinf 36IN	EA	2
714	3036	End Sect-Traversable Reinf. Conc. 36IN	EA	13
714	3055	End Sect-Conc Reinf 60IN	EA	1
714	3065	End Sect-Conc Reinf 72IN	EA	2
714	3412	8FT Str Plate Pipe .168IN	LF	108
714	3417	8FT 6IN Str Plate Pipe .138IN	LF	50
714	3445	11FT 6IN Str Plate Pipe .168IN	LF	52
714	4106	Pipe Conduit 24IN - Approach	LF	4421
714	5015	Pipe Corr Steel .064IN 18IN	LF	36
714	5035	Pipe Corr Steel .064IN 24IN	LF	109
714	5810	End Sect Corr Steel .064IN 18IN	EA	4
714	5820	End Sect Corr Steel .064IN 24IN	EA	3
714	6501	End Sect - Traversable Metal 18IN	EA	8
714	6506	End Sect - Traversable Metal 24IN	EA	13
714	9200	Cattle Pass Conc Intermed Section	LF	124
714	9350	End Section Concrete Cattle Pass	EA	3
714	9660	Remove & Relay End Section - All Type & Sizes	EA	39
720	110	Right of Way Markers	EA	230
720	125	Alignment Monuments	EA	47
720	130	Iron Pin R/W Monuments	EA	145
720	135	Iron Pin Reference Monuments	EA	85
722	115	Manhole 66 IN	EA	1
722	140	Manhole 96 IN	EA	1
722	200	Manhole 108 IN	EA	1
722	1115	Manhole Riser 66IN	LF	13
722	1140	Manhole Riser 96IN	LF	15
722	1200	Manhole Riser 108IN	LF	14
752	200	Fence Barbed Wire 4 Strand	LF	6753
752	905	Temporary Fencing	LF	5700

SPEC	CODE	ITEM DESCRIPTION	UNIT	QUANTITY
754	110	Flat Sheet for signs - Type XI Reflective Sheeting	SF	129
754	112	Flat Sheet for signs - Type IV Reflective Sheeting	SF	136
754	150	Delineators - Type A	EA	320
754	206	Steel Galvanized Posts - Telescoping Perforated Tube	LF	932
754	561	Reference Marker - Type A	EA	5
754	562	Reference Marker - Type B	EA	9
754	592	Reset Sign Panel	EA	15
754	803	Object Markers - Type III	EA	14
754	805	Object Markers - Culverts	EA	275
760	5	Rumble Strips - Asphalt Shoulder	Mile	28.16
760	7	Rumble Strips - Asphalt Centerline	Mile	14.08
762	112	Epoxy Pavement Mark Message	SF	540
762	113	Epoxy Pavement Mark 4IN Line	LF	239803
762	115	Epoxy Pavement Mark 8IN Line	LF	7052
762	117	Epoxy Pavement Mark 24IN Line	LF	166
762	430	Short Term 4 IN Line - Type NR	LF	155000
766	100	Mailbox - All Types	EA	13
900	1000	Temporary Stream Diversion	EA	5
980	170	Cattle Guard Reset	EA	2

BASIS OF ESTIMATE

PAVING SUMMARY

			ND Hwy 200 Mainline	ND Hwy 200 Mainline	ND Hwy 200 Shoulders, Turn Lanes, & Flared Intersections	ND Hwy 200 Mainline	ND Hwy 200 Field Drives, Private Drives, & Public Roads	ND Hwy 200 Cross Slope &Superelevation Correction	ND Hwy 200 Mainline	Project Totals
			Milling and Paving Transition #1	*5.0" HMA Overlay*	*6.5" HMA over 18" Aggregate Base*	*3.5" HMA Overlay*	*Varies (See Section 20)*	*All*	*Milling and Paving Transition #2*	
			Station 221+82 to Station 224+32	Station 224+32 to Station 245+24	Station 236+82 to Station 965+43	Station 245+24 to Station 963+68	Station 221+82 to Station 965+43	Station 221+82 to Station 965+43	Station 963+68 to Station 965+43	
Material	**Rate**	**Unit**	**Total**	**Total**	**Total**	**Total**	**Total**	**Total**	**Total**	**Total**
Aggregate Base Course Cl 5	1.875 Ton/CY	Ton	NA	NA	172,768	NA	15,929	7,750	NA	196,447
Prime Coat	0.25 Gal/SY	Gal	NA	NA	31,512	NA	2,695	NA	NA	34,207
Blotter Material Cl 44	15 lbs/SY	Ton	NA	NA	945.1	NA	80.8	NA	NA	1,026
Tack Coat	0.05 Gal/SY	Gal	74	821	18,847	21,553	1555	1,073	45	43,968
Superpave FAA 45	2.000 Ton/CY	Ton	193.2	2,174.0	38,854.6	41,914.0	3,191	10,885	91.4	97,303
PG 64-28 Asphalt Cement	6.0 % FAA 45	Ton	11.6	130.4	2,331.3	2,514.8	191.5	653.1	5.5	5,838

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BASIS OF ESTIMATE

PAVEMENT MARKING SUMMARY

Permanent Pavement Marking			
Type	Basis	Gross Quantity	Net Quantity
Epoxy Pvmt MK 4 IN Line	White Edge Line @ 5,280 LF/Mile	148,958	148,958
	Double Yellow Barrier Line @ 10,560 LF/Mile	33,809	67,618
	Yellow Solid – Skip Line 10' Line, 30' Skip @ 6,600 LF/Mile	11,959	14,949
	Yellow Center Line, 10' Line, 30' Skip @ 1,320 LF/Mile	33,112	8,278
Epoxy Pvmt MK 8 IN Line	White Channel Line @ 5,280 LF/Mile	7,052	7,052
Epoxy Pvmt MK 24 IN Line	White Stop Bar @ 5,280 LF/Mile	166	166
Epoxy Pavement Mark Message	Right Arrow @ 15 SF Each	15 EA	225 SF
	Left Arrow @ 15 SF Each	21 EA	315 SF

Short Term 4 IN Line-Type NR		
Type	**Basis**	**Quantity***
Short Term 4IN Line –Type NR	Yellow Center Line @ 5,280 LF/Mile	155,000

*2 applications on ND Hwy 200 centerline, 3 applications on the centerlines of Cartwright Main Street, 149th Avenue, Country Road 1, Country Road 13 and County Road 16.

CORING SUMMARY

HBP Cored Samples							
	A	B	C	D			
Specification Section	**Lanes**	**Lifts**	**Distance (Feet)**	**Sublots (A × B × C)÷2000**	**Quantity (D × 2)**	**Quantity (1 per mile)**	**Unit**
430.04 I.2.b(1), "General"	2	2	74364	149	298	N/A	EA
430.04 I.2.b(2), "Pavement Thickness Determination Cores"					N/A	0	EA
				Total	298	0	EA

EARTHWORK SUMMARY

Location	Excv. Rdwy (CY)	Common Excv. Site (CY)	Pvmt. Removal (CY)	Common Excv. - Type A (CY) Pay Item	Embk. (CY)	Borrow - Excv. (CY) Pay Item
	A	B	C	D = A+B-C	E	F = E-D
ND Hwy 200 Mainline	67,654	125,695	54,773	138,576	138,576	**0**
ND Hwy 200 Approaches	887	36,326	444	36,769	36,769	**0**

Location	Topsoil Req'd (CY)	Topsoil (CY) Pay Item	Topsoil - Wetland (CY) Pay Item	Topsoil - Imported (CY) Pay Item
	G	H	J	I=G-H
ND Hwy 200 Mainline	**125,628**	**125,628**	**40**	**0**
ND Hwy 200 Approaches	***NA**	***NA**	***NA**	***NA**

*Included in ND Hwy 200 Mainline Quantities

MAILBOX SUMMARY

Station	Type	Work
255+47 RT	Single	Replace
262+54 LT	Single	Replace
482+71 RT	Single	Replace
492+53 RT	Single	Replace
509+38 RT	Single	Replace
518+97 RT	Single	Replace
518+98 RT	Single	Replace
573+38 RT	Single	Replace
623+51 RT	Single	Replace
666+35 RT	Multiple	Replace
772+55 RT	Single	Replace
808+50 RT	Single	Replace
868+10 RT	Multiple	Replace

See NDDOT Standard Drawing D-766-1 for details on placing mailboxes

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BASIS OF ESTIMATE

WATER SUMMARY

25 MGal/Mile for Dust Palliative
20 Gal/Ton for Aggregate Base Course Cl 5
10 Gal/CY for Embankment

RUMBLE STRIP SUMMARY

Rumble Strips – Asphalt Shoulder		
From Station	**To Station**	**Miles**
221+82 LT	965+43 LT	14.08
221+82 RT	965+43 RT	14.08
Total		28.16

Rumble Strips – Centerline		
From Station	**To Station**	**Miles**
221+82	965+43	14.08
Total		14.08

REFLECTORIZED DELINEATOR

Reflectorized Delineator			
***Location**	**Type**	**LT**	**RT**
Sta 221+82 to Sta 965+43	Type A	160	160

*Delineators shall be installed in accordance with D-754-21

SUBGRADE PREPARATION SUMMARY

Subgrade Preparation – Type A – Shoulders		
From Station	**To Station**	**Miles**
238+62 LT	965+43 LT	13.77
236+82 RT	965+43 RT	13.80
Total		27.57

Subgrade Preparation – Type A		
From Station	**To Station**	**Miles**
2+00 (CR #1)	4+56 (CR #1)	0.05
5+53 (CR #16)	7+86 (CR #16)	0.05
Total		0.10

STABILIZED CONSTRUCTION ACCESS

2 Stabilized Construction Access's @ Common Excavation Site (615+00 Rt to 630+00 Rt)
Both construction access's to be removed at the conclusion of the project.

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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	11	1

EXISTING PAVEMENT CORE DATA			
REFERENCE POINT	RT or LT	CORE NO.	BITUMINOUS DEPTH (in)
4.25	RT	16	6.00
4.50	LT	17	4.75
4.75	RT	18	8.00
5.00	LT	19	7.75
5.25	RT	20	8.25
5.50	LT	21	8.00
5.75	RT	22	7.75
6.00	LT	23	9.50
6.25	RT	24	8.50
6.50	LT	25	12.25
6.75	RT	26	8.25
7.00	LT	27	7.75
7.25	RT	28	8.50
7.50	LT	29	9.50
7.75	RT	30	8.25
8.00	LT	31	8.50
8.25	RT	32	7.25
8.50	LT	33	10.75
8.75	RT	34	8.00
9.00	LT	35	10.00
9.25	RT	36	8.75
9.50	LT	37	9.25
9.75	RT	38	8.00
10.00	LT	39	8.25
10.25	RT	40	7.75
10.50	LT	41	8.50
10.75	RT	42	8.00
11.00	LT	43	8.50
11.25	RT	44	8.50

EXISTING PAVEMENT CORE DATA (cont)			
REFERENCE POINT	RT or LT	CORE NO.	BITUMINOUS DEPTH (in)
11.50	LT	45	8.00
11.75	RT	46	8.00
12.00	LT	47	9.00
12.25	RT	48	8.50
12.50	LT	49	9.00
12.75	RT	50	8.75
13.00	LT	51	10.25
13.25	RT	52	9.25
13.50	LT	53	8.25
13.75	RT	54	8.50
14.00	LT	55	8.00
14.25	RT	56	8.75
14.50	LT	57	9.50
14.75	RT	58	8.75
15.00	LT	59	10.00
15.25	RT	60	8.00
15.50	LT	61	10.75
15.75	RT	62	8.50
16.00	LT	63	9.50
16.25	RT	64	8.25
16.50	LT	65	8.75
16.75	RT	66	8.25
17.00	LT	67	10.00
17.25	RT	68	8.25
17.50	LT	69	9.75
17.75	RT	70	8.50
18.00	LT	71	9.50
18.25	RT	72	9.00
18.50	LT	73	9.25

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Coring Data
Cores No. 16 - 73

ND Hwy 200
Major Rehabilitation
RP 4.250 to 18.285

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	11	2

Spec	Code	Bid Item	Qty	Unit
720	0125	Alignment Monuments		
		Total	47	EA

Alignment Monuments		
Station	Offset	Description
224+32.04	0.00	TS
233+09.02	119.75	PI
233+81.41	0.00	SEC. LINE
237+31.15	0.00	CS
241+31.15	0.00	ST
249+76.42	0.00	PC
253+45.70	-11.89	PI
257+13.96	0.00	PT
261+13.01	0.00	QTR. SEC. LINE
267+70.90	0.00	PI
288+02.03	0.00	SEC. LINE
288+90.38	0.00	PC
293+71.75	20.18	PI
298+50.87	0.00	PT
309+84.22	0.00	SEC. LINE
314+67.39	0.00	QTR. SEC. LINE
342+82.22	0.00	SEC. LINE
349+07.92	0.00	PC
352+00.76	4.99	PI
354+93.38	0.00	PT
371+52.55	0.00	QTR. SEC. LINE
380+33.67	0.00	QTR. SEC. LINE
400+51.30	0.00	SEC. LINE
429+40.43	0.00	QTR. SEC. LINE
431+30.09	0.00	PC
444+55.80	-141.51	PI
456+69.26	-0.47	SC
457+41.41	0.00	PT
483+12.87	0.00	QTR. SEC. COR
509+56.50	0.00	SEC. LINE
535+94.77	0.00	QTR. SEC. COR
562+29.25	0.00	SC
588+68.11	0.00	QTR. SEC. COR
615+06.96	0.00	SC
640+77.79	0.00	QTR. SEC. COR
666+48.62	0.00	SC
692+89.20	0.00	QTR. SEC. COR
719+29.79	0.00	SC
745+67.18	0.00	QTR. SEC. COR
772+04.56	0.00	SC
798+39.86	0.00	QTR. SEC. COR
824+75.16	0.00	SC
851+16.17	0.00	QTR. SEC. COR
877+57.11	0.00	SC
904+00.00	0.00	QTR. SEC. COR
930+42.91	0.00	SC
955+25.91	0.00	QTR. SEC. COR

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Alignment Monuments

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	11	3

Spec	Code	Bid Item	Qty	Unit
720	0110	Right of Way Markers		
		Total	145	EA
720	0130	Iron Pin R/W Monuments		
		Total	145	EA

Iron Pin R/W Monuments

Station	Offset	Description	Include Iron Pin	Include R/W Marker
224+32.04	-150.00	TS	X	X
236+16.06	129.49	RW	X	X
236+16.09	109.42	RW	X	X
237+38.48	125.00	RW	X	X
239+28.28	-125.00	RW	X	X
239+28.28	-100.00	RW	X	X
241+30.51	125.00	ST	X	X
247+72.52	-110.00	RW	X	X
249+76.01	100.00	PC	X	X
257+01.83	110.00	RW	X	X
257+01.92	100.00	RW	X	X
257+13.96	110.00	PT	X	X
265+71.64	110.00	RW	X	X
265+71.66	160.00	RW	X	X
265+72.16	-160.00	RW	X	X
265+72.16	-110.00	RW	X	X
267+70.17	-110.00	RW	X	X
267+70.18	-160.00	RW	X	X
267+71.67	110.00	RW	X	X
267+71.70	160.00	RW	X	X
288+66.15	-135.00	RW	X	X
288+90.38	-135.00	RW	X	X
288+90.38	-85.00	RW	X	X
291+24.97	95.00	RW	X	X
291+66.52	-85.00	RW	X	X
292+00.17	100.00	RW	X	X
292+49.05	-100.00	RW	X	X
321+70.16	-100.00	RW	X	X
321+70.23	-120.00	RW	X	X
323+69.70	-120.00	RW	X	X
323+69.70	-100.00	RW	X	X
347+76.36	100.00	RW	X	X
347+76.36	160.00	RW	X	X
349+07.81	160.00	PC	X	X
349+92.00	160.00	RW	X	X
349+92.00	195.00	RW	X	X
350+42.00	195.00	RW	X	X
350+42.00	160.00	RW	X	X
351+67.59	100.00	RW	X	X
351+67.59	160.00	RW	X	X
354+93.39	100.00	PT	X	X
357+73.73	100.00	RW	X	X
357+73.73	180.00	RW	X	X
380+66.23	-180.00	RW	X	X
380+66.23	-125.00	RW	X	X

Iron Pin R/W Monuments

Station	Offset	Description	Include Iron Pin	Include R/W Marker
384+38.00	-125.00	RW	X	X
384+38.00	-160.00	RW	X	X
386+88.00	-160.00	RW	X	X
386+88.00	-125.00	RW	X	X
391+31.25	125.00	RW	X	X
391+32.05	180.00	RW	X	X
403+40.00	100.00	RW	X	X
403+40.00	125.00	RW	X	X
404+40.00	125.00	RW	X	X
404+40.00	100.00	RW	X	X
422+65.89	-125.00	RW	X	X
422+66.05	-165.00	RW	X	X
428+81.47	130.00	RW	X	X
428+95.08	100.00	RW	X	X
429+99.39	-130.00	RW	X	X
430+15.27	-165.00	RW	X	X
431+30.09	-130.00	PC	X	X
431+30.09	130.00	PC	X	X
451+31.00	130.00	RW	X	X
451+31.00	175.00	RW	X	X
451+83.00	-130.00	RW	X	X
451+83.00	-165.00	RW	X	X
452+33.00	-165.00	RW	X	X
452+33.00	-130.00	RW	X	X
455+40.00	175.00	RW	X	X
455+40.00	130.00	RW	X	X
457+41.41	-130.00	PT	X	X
457+41.41	130.00	PT	X	X
470+04.64	-130.00	RW	X	X
470+04.68	-125.00	RW	X	X
470+06.65	75.00	RW	X	X
470+07.19	130.00	RW	X	X
483+12.02	-150.00	RW	X	X
483+12.02	-125.00	RW	X	X
483+12.02	75.00	RW	X	X
499+26.00	75.00	RW	X	X
499+26.00	100.00	RW	X	X
499+76.00	100.00	RW	X	X
499+76.00	75.00	RW	X	X
513+59.60	100.00	RW	X	X
513+82.00	99.12	RW	X	X
513+82.00	129.12	RW	X	X
514+32.00	127.15	RW	X	X
514+32.00	97.15	RW	X	X
514+58.30	-125.00	RW	X	X

Iron Pin R/W Monuments

Station	Offset	Description	Include Iron Pin	Include R/W Marker
514+58.34	-200.00	RW	X	X
519+95.32	75.00	RW	X	X
535+94.77	75.00	RW	X	X
535+94.78	100.00	RW	X	X
588+70.60	75.00	RW	X	X
588+70.60	100.00	RW	X	X
589+14.00	75.00	RW	X	X
589+14.00	115.00	RW	X	X
589+64.00	115.00	RW	X	X
589+64.00	75.00	RW	X	X
597+20.11	75.00	RW	X	X
604+53.32	122.74	RW	X	X
615+40.31	-300.00	RW	X	X
617+62.96	-300.00	RW	X	X
617+92.96	-190.00	RW	X	X
619+80.07	322.00	RW	X	X
627+45.13	222.38	RW	X	X
627+71.60	211.56	RW	X	X
629+62.96	-190.00	RW	X	X
629+62.96	-125.00	RW	X	X
632+74.91	85.00	RW	X	X
632+79.08	124.79	RW	X	X
633+22.74	80.62	RW	X	X
633+25.87	120.50	RW	X	X
634+66.26	75.00	RW	X	X
638+13.36	75.00	RW	X	X
638+13.36	110.00	RW	X	X
643+13.36	75.00	RW	X	X
643+13.36	110.00	RW	X	X
858+00.00	75.00	RW	X	X
858+00.00	110.00	RW	X	X
862+79.00	110.00	RW	X	X
862+79.00	75.00	RW	X	X
866+88.07	-125.00	RW	X	X
866+88.09	-140.00	RW	X	X
876+84.10	75.00	RW	X	X
876+84.10	135.00	RW	X	X
876+84.14	-140.00	RW	X	X
876+84.16	-240.00	RW	X	X
877+24.10	135.00	RW	X	X
877+24.17	-240.00	RW	X	X
877+90.08	200.00	RW	X	X
877+90.12	100.00	RW	X	X
877+90.16	-225.00	RW	X	X
878+30.16	-225.00	RW	X	X

Iron Pin R/W Monuments

Station	Offset	Description	Include Iron Pin	Include R/W Marker
878+30.16	-125.00	RW	X	X
878+70.08	200.00	RW	X	X
878+87.92	75.00	RW	X	X
878+87.92	100.00	RW	X	X
930+75.91	-300.00	RW	X	X
930+76.91	130.00	RW	X	X
931+51.45	-300.00	RW	X	X
931+51.72	-125.00	RW	X	X
931+51.91	130.00	RW	X	X
931+52.07	100.00	RW	X	X

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Iron Pin R/W Monuments

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	11	4

Spec	Code	Bid Item		Qty	Unit
720	0110	Right of Way Markers			
			Total	85	EA
720	0135	Iron Pin Reference Monuments			
			Total	85	EA

Iron Pin Reference Monuments		
Station	Offset	Description
232+10.84	-150.00	Section Tie
232+62.90	130.41	Section Tie
234+92.78	121.89	Section Tie
235+52.24	-150.00	Section Tie
261+13.01	-110.00	Qtr Section
261+13.01	110.00	Qtr Section
286+92.03	-110.00	Section Tie
286+92.03	110.00	Section Tie
309+84.22	-100.00	Section Tie
309+84.22	100.00	Section Tie
314+67.39	-100.00	Qtr Section
314+67.39	100.00	Qtr Section
341+82.08	-100.00	Section Tie
341+82.36	100.00	Section Tie
344+62.47	-180.00	Section Tie
371+52.55	-180.00	Qtr Section
371+52.55	180.00	Qtr Section
380+43.64	-180.00	Section Tie
380+43.64	180.00	Section Tie
399+26.30	-125.00	Section Tie
399+26.30	125.00	Section Tie
401+51.24	100.00	Section Tie
401+76.38	-125.00	Section Tie
429+40.39	130.00	Qtr Section
429+40.48	-165.00	Qtr Section
455+31.24	130.00	Section Tie
455+46.50	-130.00	Section Tie
457+99.24	130.00	Section Tie
457+99.25	-130.00	Section Tie
483+12.87	-150.00	Qtr Section
483+12.87	75.00	Qtr Section
508+05.84	-150.00	Section Tie
508+81.83	75.00	Section Tie
535+94.88	-125.00	Qtr Section
561+29.25	100.00	Section Tie
612+76.57	230.39	Section Tie
613+81.96	-125.00	Section Tie
617+62.96	-256.39	Section Tie
618+06.90	299.49	Section Tie
640+77.79	-125.00	Qtr Section
640+77.79	110.00	Qtr Section
665+23.16	-125.00	Section Tie

Iron Pin Reference Monuments		
Station	Offset	Description
665+73.93	75.00	Section Tie
667+23.96	75.00	Section Tie
667+73.30	-125.00	Section Tie
692+89.20	-125.00	Qtr Section
692+89.20	75.00	Qtr Section
718+04.79	-125.00	Section Tie
718+54.89	75.00	Section Tie
720+04.62	75.00	Section Tie
720+54.96	-125.00	Section Tie
745+66.98	75.00	Qtr Section
745+67.18	-125.00	Qtr Section
770+79.56	-125.00	Section Tie
771+29.62	75.00	Section Tie
772+79.53	75.00	Section Tie
773+29.66	-125.00	Section Tie
798+39.62	75.00	Qtr Section
798+40.26	-125.00	Qtr Section
823+50.16	-125.00	Section Tie
824+00.25	75.00	Section Tie
825+50.16	75.00	Section Tie
826+00.16	-125.00	Section Tie
851+16.16	-125.00	Qtr Section
876+17.12	-140.00	Section Tie
876+82.12	75.00	Section Tie
878+57.17	100.00	Section Tie
878+82.12	-125.00	Section Tie
903+99.76	75.00	Qtr Section
904+00.45	-125.00	Qtr Section
929+17.91	-125.00	Section Tie
929+67.92	75.00	Section Tie
931+52.08	109.16	Section Tie
931+67.91	-125.00	Section Tie
955+25.63	-125.00	Qtr Section
955+26.13	100.00	Qtr Section
342+82.22	100.00	Section Tie
342+82.29	-100.00	Section Tie
343+82.08	100.00	Section Tie
510+56.27	100.00	Section Tie
511+56.82	-200.00	Section Tie
561+04.25	-125.00	Section Tie
563+29.51	100.00	Section Tie
563+53.93	-125.00	Section Tie
851+16.16	75.00	Qtr Section

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Iron Pin Reference Monuments

ND Hwy 200
Major Rehabilitation
RP 4.250 to 18.285

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	11	5

Roadway Cross Slopes with Pavement and Milling Depths

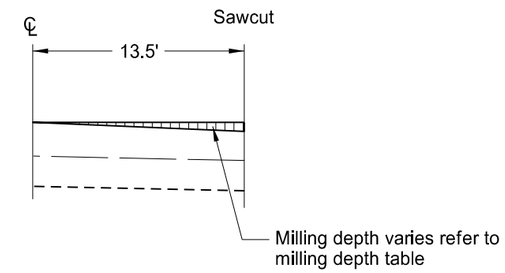
LEFT							RIGHT					
Station	Existing Cross Slope	Design Cross Slope	Corrected Cross Slope	Milling Depth at 13.5' LT	Asphalt Depth at 13.5' LT		Station	Existing Cross Slope	Design Cross Slope	Corrected Cross Slope	Milling Depth at 13.5' RT	Asphalt Depth at 13.5' RT
222+00.00	-2.52%	-2.10%	-2.10%	N/A	5.67"		222+00.00	-2.68%	-2.10%	-2.10%	N/A	5.95"
222+50.00	-2.84%	-2.10%	-2.10%	N/A	6.20"		222+50.00	-2.46%	-2.10%	-2.10%	N/A	5.58"
222+89.67	-1.93%	-2.10%	-1.93%	N/A	5.00"		222+89.67	-2.53%	-2.10%	-2.10%	N/A	5.69"
223+00.00	-2.31%	-2.10%	-2.10%	N/A	5.34"		223+00.00	-3.00%	-1.95%	-1.95%	N/A	6.70"
223+50.00	-3.15%	-2.10%	-2.10%	N/A	6.70"		223+50.00	-4.16%	-1.21%	-1.21%	N/A	9.78"
224+00.00	-3.53%	-2.10%	-2.10%	N/A	7.31"		224+00.00	-3.01%	-0.47%	-0.47%	N/A	9.11"
224+32.04	-3.11%	-2.10%	-2.10%	N/A	6.63"		224+32.04	-4.73%	0.00%	0.00%	N/A	12.67"
224+50.00	-3.54%	-2.10%	-2.10%	N/A	7.33"		224+50.00	-4.28%	0.26%	0.26%	N/A	12.35"
225+00.00	-5.82%	-2.10%	-2.10%	N/A	11.02"		225+00.00	-3.78%	1.00%	1.00%	N/A	12.75"
225+50.00	-5.19%	-2.10%	-2.10%	N/A	10.00"		225+50.00	-2.38%	1.74%	1.74%	N/A	11.68"
225+74.42	-4.59%	-2.10%	-2.10%	N/A	9.04"		225+74.42	-2.82%	2.10%	2.10%	N/A	12.97"
226+00.00	-4.55%	-2.48%	-2.48%	N/A	8.35"		226+00.00	-2.92%	2.48%	2.48%	N/A	13.75"
226+50.00	-6.51%	-3.22%	-3.22%	N/A	10.34"		226+50.00	-3.06%	3.21%	3.21%	N/A	15.16"
227+00.00	-5.32%	-3.95%	-3.95%	N/A	7.21"		227+00.00	-0.53%	3.95%	3.95%	N/A	12.26"
227+50.00	-5.36%	-4.69%	-4.69%	N/A	6.09"		227+50.00	1.18%	4.69%	4.69%	N/A	10.69"
228+00.00	-5.88%	-5.43%	-5.43%	N/A	5.73"		228+00.00	2.80%	5.43%	5.43%	N/A	9.26"
228+32.04	-7.56%	-5.90%	-5.90%	N/A	7.69"		228+32.04	3.51%	5.90%	5.90%	N/A	8.87"
228+50.00	-7.91%	-5.90%	-5.90%	N/A	8.26"		228+50.00	2.93%	5.90%	5.90%	N/A	9.81"
229+00.00	-6.89%	-5.90%	-5.90%	N/A	6.60"		229+00.00	5.11%	5.90%	5.90%	N/A	6.28"
229+50.00	-7.71%	-5.90%	-5.90%	N/A	7.93"		229+50.00	4.31%	5.90%	5.90%	N/A	7.58"
230+00.00	-7.02%	-5.90%	-5.90%	N/A	6.81"		230+00.00	5.32%	5.90%	5.90%	N/A	5.93"
230+50.00	-6.70%	-5.90%	-5.90%	N/A	6.30"		230+50.00	5.02%	5.90%	5.90%	N/A	6.42"
231+00.00	-6.46%	-5.90%	-5.90%	N/A	5.91"		231+00.00	5.81%	5.90%	5.90%	N/A	5.14"
231+50.00	-6.23%	-5.90%	-5.90%	N/A	5.53"		231+50.00	6.11%	5.90%	5.90%	-0.34"	5.00"
232+00.00	-6.88%	-5.90%	-5.90%	N/A	6.59"		232+00.00	5.29%	5.90%	5.90%	N/A	5.98"
232+50.00	-6.71%	-5.90%	-5.90%	N/A	6.31"		232+50.00	4.84%	5.90%	5.90%	N/A	6.72"
233+00.00	-6.53%	-5.90%	-5.90%	N/A	6.01"		233+00.00	4.53%	5.90%	5.90%	N/A	7.21"
233+50.00	-6.28%	-5.90%	-5.90%	N/A	5.61"		233+50.00	4.28%	5.90%	5.90%	N/A	7.62"
234+00.00	-6.17%	-5.90%	-5.90%	N/A	5.44"		234+00.00	4.30%	5.90%	5.90%	N/A	7.59"
234+50.00	-6.55%	-5.90%	-5.90%	N/A	6.06"		234+50.00	3.27%	5.90%	5.90%	N/A	9.25"
235+00.00	-7.46%	-5.90%	-5.90%	N/A	7.53"		235+00.00	3.03%	5.90%	5.90%	N/A	9.64"
235+50.00	-7.18%	-5.90%	-5.90%	N/A	7.08"		235+50.00	3.54%	5.90%	5.90%	N/A	8.83"
236+00.00	-7.30%	-5.90%	-5.90%	N/A	7.26"		236+00.00	3.24%	5.90%	5.90%	N/A	9.30"
236+50.00	-8.55%	-5.90%	-5.90%	N/A	9.30"		236+50.00	2.82%	5.90%	5.90%	N/A	9.99"
237+00.00	-6.81%	-5.90%	-5.90%	N/A	6.48"		237+00.00	3.37%	5.90%	5.90%	N/A	9.10"
237+31.15	-6.49%	-5.90%	-5.90%	N/A	5.95"		237+31.15	2.92%	5.90%	5.90%	N/A	9.83"
237+50.00	-6.87%	-5.62%	-5.62%	N/A	7.03"		237+50.00	2.63%	5.62%	5.62%	N/A	9.85"
238+00.00	-5.29%	-4.88%	-4.88%	N/A	5.66"		238+00.00	2.40%	4.88%	4.88%	N/A	9.02"
238+50.00	-4.56%	-4.15%	-4.15%	N/A	5.66"		238+50.00	1.11%	4.15%	4.15%	N/A	9.91"
239+00.00	-4.45%	-3.41%	-3.41%	N/A	6.68"		239+00.00	1.14%	3.41%	3.41%	N/A	8.67"
239+50.00	-3.95%	-2.67%	-2.67%	N/A	7.06"		239+50.00	0.59%	2.67%	2.67%	N/A	8.37"
239+88.78	-4.07%	-2.10%	-2.10%	N/A	8.19"		239+88.78	0.23%	2.10%	2.10%	N/A	8.02"
240+00.00	-4.20%	-2.10%	-2.10%	N/A	8.40"		240+00.00	0.07%	1.93%	1.93%	N/A	8.02"
240+50.00	-4.18%	-2.10%	-2.10%	N/A	8.37"		240+50.00	-0.89%	1.20%	1.20%	N/A	8.38"
241+00.00	-3.75%	-2.10%	-2.10%	N/A	7.67"		241+00.00	-0.98%	0.46%	0.46%	N/A	7.33"
241+31.15	-4.05%	-2.10%	-2.10%	N/A	8.15"		241+31.15	-0.74%	0.00%	0.00%	N/A	6.20"
241+50.00	-3.96%	-2.10%	-2.10%	N/A	8.02"		241+50.00	-0.48%	-0.28%	-0.28%	N/A	5.32"
242+00.00	-4.09%	-2.10%	-2.10%	N/A	8.22"		242+00.00	-1.36%	-1.02%	-1.02%	N/A	5.56"
242+50.00	-3.98%	-2.10%	-2.10%	N/A	8.04"		242+50.00	-1.97%	-1.75%	-1.75%	N/A	5.35"
242+73.52	-3.81%	-2.10%	-2.10%	N/A	7.77"		242+73.52	-2.10%	-2.10%	-2.10%	N/A	5.00"
243+00.00	-4.47%	-2.10%	-2.10%	N/A	8.84"		243+00.00	-2.71%	-2.10%	-2.10%	N/A	5.99"
243+50.00	-4.17%	-2.10%	-2.10%	N/A	8.36"		243+50.00	-1.70%	-2.10%	-1.70%	N/A	5.00"
244+00.00	-3.02%	-2.10%	-2.10%	N/A	6.50"		244+00.00	-2.07%	-2.10%	-2.07%	N/A	5.00"
244+50.00	-4.01%	-2.10%	-2.10%	N/A	8.10"		244+50.00	-3.82%	-2.10%	-2.10%	N/A	7.78"
245+00.00	-3.02%	-2.10%	-2.10%	N/A	6.50"		245+00.00	-2.70%	-2.10%	-2.10%	N/A	5.98"
245+50.00	-3.61%	-2.10%	-2.10%	N/A	6.44"		245+50.00	-4.22%	-2.10%	-2.10%	N/A	7.43"
246+00.00	-2.98%	-2.10%	-2.10%	N/A	4.93"		246+00.00	-4.65%	-2.10%	-2.10%	N/A	7.63"
246+50.00	-2.64%	-2.10%	-2.10%	N/A	4.37"		246+50.00	-4.99%	-2.10%	-2.10%	N/A	8.18"
247+00.00	-2.03%	-2.10%	-2.03%	N/A	3.50"		247+00.00	-4.77%	-2.10%	-2.10%	N/A	7.83"
247+50.00	-1.65%	-2.10%	-1.65%	N/A	3.50"		247+50.00	-4.86%	-2.10%	-2.10%	N/A	7.97"
248+00.00	-0.35%	-2.10%	-1.50%	-1.87"	3.50"		248+00.00	-4.63%	-2.10%	-2.10%	N/A	7.59"
248+38.39	-0.40%	-2.10%	-1.50%	-1.79"	3.50"		248+38.39	-4.78%	-2.10%	-2.10%	N/A	7.84"
248+50.00	-0.10%	-1.76%	-1.76%	-2.67"	3.50"		248+50.00	-4.71%	-2.10%	-2.10%	N/A	7.73"
249+00.00	0.41%	-0.27%	-0.27%	-1.09"	3.50"		249+00.00	-4.49%	-2.10%	-2.10%	N/A	7.37"
249+09.09	0.45%	0.00%	0.00%	-0.73"	3.50"		249+09.09	-4.48%	-2.10%	-2.10%	N/A	7.36"
249+50.00	0.18%	1.22%	1.22%	N/A	5.18"		249+50.00	-4.62%	-2.10%	-2.10%	N/A	7.58"
249+79.79	0.28%	2.10%	2.10%	N/A	6.45"		249+79.79	-3.87%	-2.10%	-2.10%	N/A	6.37"
250+00.00	0.56%	2.70%	2.70%	N/A	6.97"		250+00.00	-4.13%	-2.70%	-2.70%	N/A	5.81"
250+10.09	0.80%	3.00%	3.00%	N/A	7.06"		250+10.09	-3.88%	-3.00%	-3.00%	N/A	4.92"
250+50.00	1.27%	3.00%	3.00%	N/A	6.30"		250+50.00	-4.17%	-3.00%	-3.00%	N/A	5.39"
251+00.00	1.04%	3.00%	3.00%	N/A	6.68"		251+00.00	-4.90%	-3.00%	-3.00%	N/A	6.57"
251+50.00	0.93%	3.00%	3.00%	N/A	6.85"		251+50.00	-4.66%	-3.00%	-3.00%	N/A	6.19"
252+00.00	0.24%	3.00%	3.00%	N/A	7.98"		252+00.00	-5.31%	-3.00%	-3.00%	N/A	7.25"
252+50.00	0.14%	3.00%	3.00%	N/A	8.13"		252+50.00	-4.45%	-3.00%	-3.00%	N/A	5.84"
253+00.00	-0.06%	3.00%	3.00%	N/A	8.46"		253+00.00	-6.00%	-3.00%	-3.00%	N/A	8.36"
253+50.00	-0.21%	3.00%	3.00%	N/A	8.70"		253+50.00	-6.33%	-3.00%	-3.00%	N/A	8.90"
254+00.00	0.61%	3.00%	3.00%	N/A	7.37"		254+00.00	-6.38%	-3.00%	-3.00%	N/A	8.98"

Superelevated

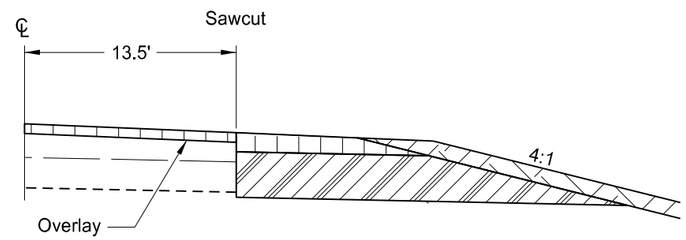
Roadway Cross Slopes with Pavement and Milling Depths

LEFT							RIGHT					
Station	Existing Cross Slope	Design Cross Slope	Corrected Cross Slope	Milling Depth at 13.5' LT	Asphalt Depth at 13.5' LT		Station	Existing Cross Slope	Design Cross Slope	Corrected Cross Slope	Milling Depth at 13.5' RT	Asphalt Depth at 13.5' RT
254+50.00	0.52%	3.00%	3.00%	N/A	7.52"		254+50.00	-7.03%	-3.00%	-3.00%	N/A	10.03"
255+00.00	1.27%	3.00%	3.00%	N/A	6.31"		255+00.00	-5.16%	-3.00%	-3.00%	N/A	7.00"
255+50.00	0.26%	3.00%	3.00%	N/A	7.94"		255+50.00	-4.93%	-3.00%	-3.00%	N/A	6.62"
256+00.00	0.37%	3.00%	3.00%	N/A	7.76"		256+00.00	-5.37%	-3.00%	-3.00%	N/A	7.34"
256+50.00	0.33%	3.00%	3.00%	N/A	7.82"		256+50.00	-4.94%	-3.00%	-3.00%	N/A	6.64"
256+80.30	0.15%	3.00%	3.00%	N/A	8.12"		256+80.30	-5.21%	-3.00%	-3.00%	N/A	7.08"
257+00.00	0.17%	2.41%	2.41%	N/A	7.13"		257+00.00	-5.32%	-2.42%	-2.42%	N/A	8.20"
257+10.60	-0.01%	2.10%	2.10%	N/A	6.92"		257+10.60	-5.49%	-2.10%	-2.10%	N/A	8.99"
257+50.00	-0.84%	0.93%	0.93%	N/A	6.37"		257+50.00	-5.56%	-2.10%	-2.10%	N/A	9.10"
257+81.30	-1.50%	0.00%	0.00%	N/A	5.92"		257+81.30	-5.41%	-2.10%	-2.10%	N/A	8.87"
258+00.00	-1.73%	-0.56%	-0.56%	N/A	5.40"		258+00.00	-5.49%	-2.10%	-2.10%	N/A	9.00"
258+50.00	-2.39%	-2.04%	-2.04%	N/A	4.07"		258+50.00	-4.72%	-2.10%	-2.10%	N/A	7.75"
258+52.00	-2.35%	-2.10%	-2.10%	N/A	3.90"		258+52.00	-4.69%	-2.10%	-2.10%	N/A	7.69"
259+00.00	-1.68%	-2.10%	-1.68%	N/A	3.50"		259+00.00	-4.13%	-2.10%	-2.10%	N/A	6.78"
259+50.00	-1.83%	-2.10%	-1.83%	N/A	3.50"		259+50.00	-4.03%	-2.10%	-2.10%	N/A	6.62"
260+00.00	-2.10%	-2.10%	-2.10%	N/A	3.50"		260+00.00	-4.79%	-2.10%	-2.10%	N/A	7.86"
260+50.00	-2.62%	-2.10%	-2.10%	N/A	4.34"		260+50.00	-3.25%	-2.10%	-2.10%	N/A	5.36"
261+00.00	-3.26%	-2.10%	-2.10%	N/A	5.37"		261+00.00	-3.19%	-2.10%	-2.10%	N/A	5.26"
261+50.00	-2.87%	-2.10%	-2.10%	N/A	4.74"		261+50.00	-2.62%	-2.10%	-2.10%	N/A	4.35"
262+00.00	-3.07%	-2.10%	-2.10%	N/A	5.06"		262+00.00	-2.82%	-2.10%	-2.10%	N/A	4.66"
262+50.00	-2.94%	-2.10%	-2.10%	N/A	4.87"		262+50.00	-2.41%	-2.10%	-2.10%	N/A	4.01"
263+00.00	-3.32%	-2.10%	-2.10%	N/A	5.47"		263+00.00	-2.89%	-2.10%	-2.10%	N/A	4.78"
263+50.00	-3.02%	-2.10%	-2.10%	N/A	4.99"		263+50.00	-2.94%	-2.10%	-2.10%	N/A	4.85"
264+00.00	-2.66%	-2.10%	-2.10%	N/A	4.41"		264+00.00	-2.42%	-2.10%	-2.10%	N/A	4.02"
264+50.00	-2.15%	-2.10%	-2.10%	N/A	3.58"		264+50.00	-1.90%	-2.10%	-1.90%	N/A	3.50"
265+00.00	-2.34%	-2.10%	-2.10%	N/A	3.88"		265+00.00	-1.87%	-2.10%	-1.87%	N/A	3.50"
265+50.00	-2.45%	-2.10%	-2.10%	N/A	4.07"		265+50.00	-2.57%	-2.10%	-2.10%	N/A	4.25"
266+00.00	-2.12%	-2.10%	-2.10%	N/A	3.53"		266+00.00	-2.42%	-2.10%	-2.10%	N/A	4.02"
266+50.00	-3.05%	-2.10%	-2.10%	N/A	5.04"		266+50.00	-2.64%	-2.10%	-2.10%	N/A	4.38"
267+00.00	-3.00%	-2.10%	-2.10%	N/A	4.96"		267+00.00	-2.10%	-2.10%	-2.10%	N/A	3.50"
267+50.00	-2.63%	-2.10%	-2.10%	N/A	4.35"		267+50.00	-2.20%	-2.10%	-2.10%	N/A	3.67"
268+00.00	-3.62%	-2.10%	-2.10%	N/A	5.97"		268+00.00	-2.09%	-2.10%	-2.09%	N/A	3.50"
268+50.00	-3.10%	-2.10%	-2.10%	N/A	5.12"		268+50.00	-2.75%	-2.10%	-2.10%	N/A	4.55"
269+00.00	-3.21%	-2.10%	-2.10%	N/A	5.29"		269+00.00	-2.96%	-2.10%	-2.10%	N/A	4.89"
269+50.00	-2.37%	-2.10%	-2.10%	N/A	3.93"		269+50.00	-3.13%	-2.10%	-2.10%	N/A	5.17"
270+00.00	-2.69%	-2.10%	-2.10%	N/A	4.46"		270+00.00	-2.88%	-2.10%	-2.10%	N/A	4.76"
270+50.00	-2.77%	-2.10%	-2.10%	N/A	4.58"		270+50.00	-2.26%	-2.10%	-2.10%	N/A	3.76"
271+00.00	-2.60%	-2.10%	-2.10%	N/A	4.31"		271+00.00	-1.97%	-2.10%	-1.97%	N/A	3.50"
271+50.00	-2.09%	-2.10%	-2.09%	N/A	3.50"		271+50.00	-1.54%	-2.10%	-1.54%	N/A	3.50"
272+00.00	-2.78%	-2.10%	-2.10%	N/A	4.60"		272+00.00	-0.71%	-2.10%	-1.50%	-1.28"	3.50"
272+50.00	-3.03%	-2.10%	-2.10%	N/A	5.00"		272+50.00	-2.15%	-2.10%	-2.10%	N/A	3.58"
273+00.00	-2.84%	-2.10%	-2.10%	N/A	4.70"		273+00.00	-2.29%	-2.10%	-2.10%	N/A	3.80"
273+50.00	-3.18%	-2.10%	-2.10%	N/A	5.25"		273+50.00	-2.06%	-2.10%	-2.06%	N/A	3.50"
274+00.00	-3.90%	-2.10%	-2.10%	N/A	6.41"		274+00.00	-2.07%	-2.10%	-2.07%	N/A	3.50"
274+50.00	-3.56%	-2.10%	-2.10%	N/A	5.87"		274+50.00	-2.38%	-2.10%	-2.10%	N/A	3.96"
275+00.00	-3.54%	-2.10%	-2.10%	N/A	5.83"		275+00.00	-2.69%	-2.10%	-2.10%	N/A	4.45"
275+50.00	-3.31%	-2.10%	-2.10%	N/A	5.45"		275+50.00	-2.70%	-2.10%	-2.10%	N/A	4.47"
276+00.00	-2.84%	-2.10%	-2.10%	N/A	4.70"		276+00.00	-2.59%	-2.10%	-2.10%	N/A	4.29"
276+50.00	2.00%	2.10%	2.00%	N/A	3.50"		276+50.00	2.07%	2.10%	2.07%	N/A	3.50"
277+00.00	-1.68%	-2.10%	-1.68%	N/A	3.50"		277+00.00	-2.44%	-2.10%	-2.10%	N/A	4.04"
277+50.00	-4.49%	-2.10%	-2.10%	N/A	7.38"		277+50.00	-2.71%	-2.10%	-2.10%	N/A	4.49"
278+00.00	-4.46%	-2.10%	-2.10%	N/A	7.33"		278+00.00	-3.68%	-2.10%	-2.10%	N/A	6.05"
278+50.00	-4.28%	-2.10%	-2.10%	N/A	7.02"		278+50.00	-2.93%	-2.10%	-2.10%	N/A	4.84"
279+00.00	-4.37%	-2.10%	-2.10%	N/A	7.18"		279+00.00	-3.48%	-2.10%	-2.10%	N/A	5.73"
279+50.00	-3.83%	-2.10%	-2.10%	N/A	6.29"		279+50.00	-3.39%	-2.10%	-2.10%	N/A	5.59"
280+00.00	-3.22%	-2.10%	-2.10%	N/A	5.32"		280+00.00	-3.48%	-2.10%	-2.10%	N/A	5.73"
280+50.00	-3.30%	-2.10%	-2.10%	N/A	5.44"		280+50.00	-3.38%	-2.10%	-2.10%	N/A	5.58"
281+00.00	-2.72%	-2.10%	-2.10%	N/A	4.51"		281+00.00	-4.41%	-2.10%	-2.10%	N/A	7.24"
281+50.00	-2.23%	-2.10%	-2.10%	N/A	3.71"		281+50.00	-3.88%	-2.10%	-2.10%	N/A	6.38"
282+00.00	-1.92%	-2.10%	-1.92%	N/A	3.50"		282+00.00	-4.23%	-2.10%	-2.10%	N/A	6.95"
282+50.00	-2.61%	-2.10%	-2.10%	N/A	4.33"		282+50.00	-4.90%	-2.10%	-2.10%	N/A	8.03"
283+00.00	-3.48%	-2.10%	-2.10%	N/A	5.73"		283+00.00	-4.45%	-2.10%	-2.10%	N/A	7.31"
283+50.00	-3.79%	-2.10%	-2.10%	N/A	6.24"		283+50.00	-4.66%	-2.10%	-2.10%	N/A	7.64"
284+00.00	-3.55%	-2.10%	-2.10%	N/A	5.85"		284+00.00	-2.95%	-2.10%	-2.10%	N/A	4.88"
284+50.00	-2.95%	-2.10%	-2.10%	N/A	4.87"		284+50.00	-3.12%	-2.10%	-2.10%	N/A	5.16"
285+00.00	-3.13%	-2.10%	-2.10%	N/A	5.18"		285+00.00	-2.43%	-2.10%	-2.10%	N/A	4.03"
285+50.00	-3.80%	-2.10%	-2.10%	N/A	6.25"		285+50.00	-2.20%	-2.10%	-2.10%	N/A	3.66"
286+00.00	-3.53%	-2.10%	-2.10%	N/A	5.81"		286+00.00	-1.66%	-2.10%	-1.66%	N/A	3.50"
286+50.00	-4.34%	-2.10%	-2.10%	N/A	7.14"		286+50.00	-1.50%	-2.10%	-1.50%	-0.01"	3.50"
287+00.00	-4.31%	-2.10%	-2.10%	N/A	7.09"		287+00.00	-2.11%	-2.10%	-2.10%	N/A	3.52"

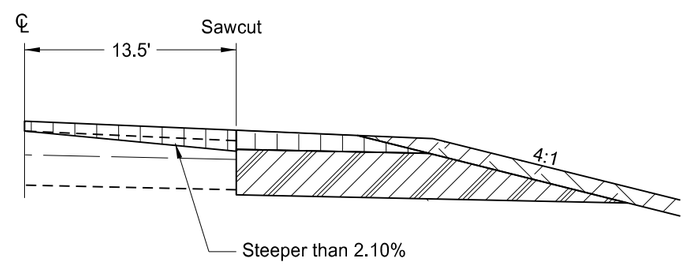
Superelevated



Milling Typical



Paving Typical at Milling Locations



Paving Typical at Locations
Required Additional Thickness

This document was originally issued and sealed by Kyle J. Comer Registration Number PE- 7537, on 03/11/16 and the original document is stored at the North Dakota Department of Transportation

Note: Milling depths shown as negative values.

Milling & Paving Depths

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	11	6

Roadway Cross Slopes with Pavement and Milling Depths

LEFT						RIGHT					
Station	Existing Cross Slope	Design Cross Slope	Corrected Cross Slope	Milling Depth at 13.5' LT	Asphalt Depth at 13.5' LT	Station	Existing Cross Slope	Design Cross Slope	Corrected Cross Slope	Milling Depth at 13.5' RT	Asphalt Depth at 13.5' RT
287+50.00	-3.89%	-2.10%	-2.10%	N/A	6.40"	287+50.00	-2.17%	-2.10%	-2.10%	N/A	3.61"
287+52.35	-3.60%	-2.10%	-2.10%	N/A	5.93"	287+52.35	-2.28%	-2.10%	-2.10%	N/A	3.80"
288+00.00	-1.99%	-2.10%	-1.99%	N/A	3.50"	288+00.00	-0.44%	-0.69%	-0.69%	-0.40"	3.50"
288+23.05	-2.04%	-2.10%	-2.04%	N/A	3.50"	288+23.05	-1.22%	0.00%	0.00%	N/A	5.48"
288+50.00	-1.78%	-2.10%	-1.78%	N/A	3.50"	288+50.00	-1.90%	0.80%	0.80%	N/A	7.87"
288+93.75	-2.78%	-2.10%	-2.10%	N/A	4.60"	288+93.75	0.25%	2.10%	2.10%	N/A	6.50"
289+00.00	-3.05%	-2.29%	-2.29%	N/A	4.73"	289+00.00	0.27%	2.29%	2.29%	N/A	6.77"
289+24.05	-3.21%	-3.00%	-3.00%	N/A	3.83"	289+24.05	0.91%	3.00%	3.00%	N/A	6.88"
289+50.00	-3.15%	-3.00%	-3.00%	N/A	3.74"	289+50.00	1.15%	3.00%	3.00%	N/A	6.50"
290+00.00	-3.02%	-3.00%	-3.00%	N/A	3.54"	290+00.00	0.48%	3.00%	3.00%	N/A	7.58"
290+50.00	-1.93%	-3.00%	-3.00%	-1.73"	3.50"	290+50.00	0.56%	3.00%	3.00%	N/A	7.45"
291+00.00	-3.48%	-3.00%	-3.00%	N/A	4.27"	291+00.00	1.51%	3.00%	3.00%	N/A	5.91"
291+50.00	-3.03%	-3.00%	-3.00%	N/A	3.55"	291+50.00	1.27%	3.00%	3.00%	N/A	6.30"
292+00.00	-3.88%	-3.00%	-3.00%	N/A	4.92"	292+00.00	2.15%	3.00%	3.00%	N/A	4.87"
292+50.00	-4.10%	-3.00%	-3.00%	N/A	5.28"	292+50.00	0.77%	3.00%	3.00%	N/A	7.11"
293+00.00	-6.40%	-3.00%	-3.00%	N/A	9.01"	293+00.00	-0.28%	3.00%	3.00%	N/A	8.81"
293+50.00	-5.77%	-3.00%	-3.00%	N/A	7.99"	293+50.00	-0.81%	3.00%	3.00%	N/A	9.67"
294+00.00	-4.17%	-3.00%	-3.00%	N/A	5.39"	294+00.00	1.53%	3.00%	3.00%	N/A	5.88"
294+50.00	-3.68%	-3.00%	-3.00%	N/A	4.61"	294+50.00	1.47%	3.00%	3.00%	N/A	5.97"
295+00.00	-3.55%	-3.00%	-3.00%	N/A	4.39"	295+00.00	2.15%	3.00%	3.00%	N/A	4.87"
295+50.00	-3.27%	-3.00%	-3.00%	N/A	3.94"	295+50.00	1.96%	3.00%	3.00%	N/A	5.19"
296+00.00	-3.34%	-3.00%	-3.00%	N/A	4.06"	296+00.00	1.81%	3.00%	3.00%	N/A	5.42"
296+50.00	-3.91%	-3.00%	-3.00%	N/A	4.97"	296+50.00	0.18%	3.00%	3.00%	N/A	8.06"
297+00.00	-4.17%	-3.00%	-3.00%	N/A	5.40"	297+00.00	0.82%	3.00%	3.00%	N/A	7.04"
297+50.00	-3.90%	-3.00%	-3.00%	N/A	4.95"	297+50.00	1.32%	3.00%	3.00%	N/A	6.23"
298+00.00	-3.41%	-3.00%	-3.00%	N/A	4.17"	298+00.00	1.41%	3.00%	3.00%	N/A	6.07"
298+17.21	-3.45%	-3.00%	-3.00%	N/A	4.22"	298+17.21	1.05%	3.00%	3.00%	N/A	6.66"
298+47.51	-3.87%	-2.10%	-2.10%	N/A	6.37"	298+47.51	0.36%	2.10%	2.10%	N/A	6.32"
298+50.00	-3.93%	-2.10%	-2.10%	N/A	6.46"	298+50.00	0.28%	2.03%	2.03%	N/A	6.33"
299+00.00	-4.56%	-2.10%	-2.10%	N/A	7.49"	299+00.00	-1.02%	0.54%	0.54%	N/A	6.03"
299+18.21	-4.79%	-2.10%	-2.10%	N/A	7.86"	299+18.21	-1.42%	0.00%	0.00%	N/A	5.80"
299+50.00	-4.92%	-2.10%	-2.10%	N/A	8.07"	299+50.00	-1.66%	-0.94%	-0.94%	N/A	4.66"
299+88.91	-3.93%	-2.10%	-2.10%	N/A	6.47"	299+88.91	-1.58%	-2.10%	-1.58%	N/A	3.50"
300+00.00	-3.73%	-2.10%	-2.10%	N/A	6.14"	300+00.00	-1.49%	-2.10%	-1.50%	-0.02"	3.50"
300+50.00	-2.74%	-2.10%	-2.10%	N/A	4.53"	300+50.00	-2.55%	-2.10%	-2.10%	N/A	4.22"
301+00.00	-2.29%	-2.10%	-2.10%	N/A	3.81"	301+00.00	-2.66%	-2.10%	-2.10%	N/A	4.41"
301+50.00	-2.65%	-2.10%	-2.10%	N/A	4.38"	301+50.00	-2.09%	-2.10%	-2.09%	N/A	3.50"
302+00.00	-3.73%	-2.10%	-2.10%	N/A	6.14"	302+00.00	-2.38%	-2.10%	-2.10%	N/A	3.95"
302+50.00	-3.84%	-2.10%	-2.10%	N/A	6.32"	302+50.00	-2.58%	-2.10%	-2.10%	N/A	4.28"
303+00.00	-3.10%	-2.10%	-2.10%	N/A	5.13"	303+00.00	-2.64%	-2.10%	-2.10%	N/A	4.37"
303+50.00	-2.77%	-2.10%	-2.10%	N/A	4.59"	303+50.00	-2.70%	-2.10%	-2.10%	N/A	4.47"
304+00.00	-3.66%	-2.10%	-2.10%	N/A	6.03"	304+00.00	-3.03%	-2.10%	-2.10%	N/A	5.01"
304+50.00	-4.43%	-2.10%	-2.10%	N/A	7.28"	304+50.00	-3.02%	-2.10%	-2.10%	N/A	4.99"
305+00.00	-4.18%	-2.10%	-2.10%	N/A	6.87"	305+00.00	-2.52%	-2.10%	-2.10%	N/A	4.17"
305+50.00	-3.59%	-2.10%	-2.10%	N/A	5.91"	305+50.00	-1.70%	-2.10%	-1.70%	N/A	3.50"
306+00.00	-2.57%	-2.10%	-2.10%	N/A	4.26"	306+00.00	-1.93%	-2.10%	-1.93%	N/A	3.50"
306+50.00	-2.47%	-2.10%	-2.10%	N/A	4.10"	306+50.00	-3.18%	-2.10%	-2.10%	N/A	5.26"
307+00.00	-2.56%	-2.10%	-2.10%	N/A	4.24"	307+00.00	-3.38%	-2.10%	-2.10%	N/A	5.57"
307+50.00	-2.86%	-2.10%	-2.10%	N/A	4.74"	307+50.00	-3.02%	-2.10%	-2.10%	N/A	4.99"
308+00.00	-3.07%	-2.10%	-2.10%	N/A	5.07"	308+00.00	-2.91%	-2.10%	-2.10%	N/A	4.82"
308+50.00	-2.58%	-2.10%	-2.10%	N/A	4.27"	308+50.00	-2.20%	-2.10%	-2.10%	N/A	3.66"
309+00.00	-2.20%	-2.10%	-2.10%	N/A	3.66"	309+00.00	-2.11%	-2.10%	-2.10%	N/A	3.51"
309+50.00	-0.90%	-2.10%	-1.50%	-0.97"	3.50"	309+50.00	-2.13%	-2.10%	-2.10%	N/A	3.55"
310+00.00	-1.39%	-2.10%	-1.50%	-0.18"	3.50"	310+00.00	-2.35%	-2.10%	-2.10%	N/A	3.90"
310+50.00	-1.94%	-2.10%	-1.94%	N/A	3.50"	310+50.00	-2.28%	-2.10%	-2.10%	N/A	3.79"
311+00.00	-2.12%	-2.10%	-2.10%	N/A	3.53"	311+00.00	-3.76%	-2.10%	-2.10%	N/A	6.19"
311+50.00	-2.84%	-2.10%	-2.10%	N/A	4.69"	311+50.00	-4.05%	-2.10%	-2.10%	N/A	6.65"
312+00.00	-2.24%	-2.10%	-2.10%	N/A	3.72"	312+00.00	-4.30%	-2.10%	-2.10%	N/A	7.06"
312+50.00	-3.04%	-2.10%	-2.10%	N/A	5.01"	312+50.00	-3.46%	-2.10%	-2.10%	N/A	5.70"
313+00.00	-3.18%	-2.10%	-2.10%	N/A	5.25"	313+00.00	-2.73%	-2.10%	-2.10%	N/A	4.52"
313+50.00	-3.05%	-2.10%	-2.10%	N/A	5.03"	313+50.00	-3.12%	-2.10%	-2.10%	N/A	5.15"
314+00.00	-2.73%	-2.10%	-2.10%	N/A	4.51"	314+00.00	-3.18%	-2.10%	-2.10%	N/A	5.25"
314+50.00	-2.25%	-2.10%	-2.10%	N/A	3.75"	314+50.00	-3.50%	-2.10%	-2.10%	N/A	5.76"
315+00.00	-2.16%	-2.10%	-2.10%	N/A	3.59"	315+00.00	-3.83%	-2.10%	-2.10%	N/A	6.30"
315+50.00	-1.80%	-2.10%	-1.80%	N/A	3.50"	315+50.00	-3.50%	-2.10%	-2.10%	N/A	5.76"
316+00.00	-2.67%	-2.10%	-2.10%	N/A	4.42"	316+00.00	-4.65%	-2.10%	-2.10%	N/A	7.63"
316+50.00	-1.59%	-2.10%	-1.59%	N/A	3.50"	316+50.00	-2.22%	-2.10%	-2.10%	N/A	3.70"
317+00.00	-1.06%	-2.10%	-1.50%	-0.71"	3.50"	317+00.00	-2.30%	-2.10%	-2.10%	N/A	3.82"
317+50.00	-1.21%	-2.10%	-1.50%	-0.47"	3.50"	317+50.00	-2.04%	-2.10%	-2.04%	N/A	3.50"
318+00.00	-2.12%	-2.10%	-2.10%	N/A	3.53"	318+00.00	-2.56%	-2.10%	-2.10%	N/A	4.25"
318+50.00	-2.66%	-2.10%	-2.10%	N/A	4.40"	318+50.00	-2.94%	-2.10%	-2.10%	N/A	4.86"
319+00.00	-2.92%	-2.10%	-2.10%	N/A	4.82"	319+00.00	-3.03%	-2.10%	-2.10%	N/A	5.00"
319+50.00	-2.72%	-2.10%	-2.10%	N/A	4.50"	319+50.00	-2.97%	-2.10%	-2.10%	N/A	4.91"
320+00.00	-2.14%	-2.10%	-2.10%	N/A	3.57"	320+00.00	-2.39%	-2.10%	-2.10%	N/A	3.97"
320+50.00	-1.69%	-2.10%	-1.69%	N/A	3.50"	320+50.00	-1.95%	-2.10%	-1.95%	N/A	3.50"
321+00.00	-3.35%	-2.10%	-2.10%	N/A	5.52"	321+00.00	-2.50%	-2.10%	-2.10%	N/A	4.15"

Superelevated

Roadway Cross Slopes with Pavement and Milling Depths

LEFT						RIGHT					
Station	Existing Cross Slope	Design Cross Slope	Corrected Cross Slope	Milling Depth at 13.5' LT	Asphalt Depth at 13.5' LT	Station	Existing Cross Slope	Design Cross Slope	Corrected Cross Slope	Milling Depth at 13.5' RT	Asphalt Depth at 13.5' RT
321+50.00	-3.41%	-2.10%	-2.10%	N/A	5.63"	321+50.00	-2.26%	-2.10%	-2.10%	N/A	3.75"
322+00.00	-2.60%	-2.10%	-2.10%	N/A	4.31"	322+00.00	-2.76%	-2.10%	-2.10%	N/A	4.57"
322+50.00	-2.90%	-2.10%	-2.10%	N/A	4.79"	322+50.00	-1.60%	-2.10%	-1.60%	N/A	3.50"
323+00.00	-3.20%	-2.10%	-2.10%	N/A	5.28"	323+00.00	-2.13%	-2.10%	-2.10%	N/A	3.56"
323+50.00	-3.34%	-2.10%	-2.10%	N/A	5.51"	323+50.00	-2.46%	-2.10%	-2.10%	N/A	4.08"
324+00.00	-3.84%	-2.10%	-2.10%	N/A	6.33"	324+00.00	-2.65%	-2.10%	-2.10%	N/A	4.39"
324+50.00	-2.41%	-2.10%	-2.10%	N/A	4.00"	324+50.00	-2.85%	-2.10%	-2.10%	N/A	4.72"
325+00.00	-2.62%	-2.10%	-2.10%	N/A	4.34"	325+00.00	-2.10%	-2.10%	-2.10%	N/A	3.50"
325+50.00	-2.50%	-2.10%	-2.10%	N/A	4.15"	325+50.00	-2.45%	-2.10%	-2.10%	N/A	4.07"
326+00.00	-2.34%	-2.10%	-2.10%	N/A	3.88"	326+00.00	-2.25%	-2.10%	-2.10%	N/A	3.75"
326+50.00	-2.86%	-2.10%	-2.10%	N/A	4.73"	326+50.00	-2.97%	-2.10%	-2.10%	N/A	4.92"
327+00.00	-3.02%	-2.10%	-2.10%	N/A	4.99"	327+00.00	-2.02%	-2.10%	-2.02%	N/A	3.50"
327+50.00	-2.78%	-2.10%	-2.10%	N/A	4.60"	327+50.00	-1.88%	-2.10%	-1.88%	N/A	3.50"
328+00.00	-2.02%	-2.10%	-2.02%	N/A	3.50"	328+00.00	-1.91%	-2.10%	-1.91%	N/A	3.50"
328+50.00	-3.03%	-2.10%	-2.10%	N/A	5.01"	328+50.00	-3.12%	-2.10%	-2.10%	N/A	5.16"
329+00.00	-1.98%	-2.10%	-1.98%	N/A	3.50"	329+00.00	-2.37%	-2.10%	-2.10%	N/A	3.93"
329+50.00	-3.11%	-2.10%	-2.10%	N/A	5.14"	329+50.00	-2.61%	-2.10%	-2.10%	N/A	4.32"
330+00.00	-3.41%	-2.10%	-2.10%	N/A	5.63"	330+00.00	-2.62%	-2.10%	-2.10%	N/A	4.35"
330+50.00	-3.38%	-2.10%	-2.10%	N/A	5.57"	330+50.00	-2.29%	-2.10%	-2.10%	N/A	3.81"
331+00.00	-2.95%	-2.10%	-2.10%	N/A	4.88"	331+00.00	-1.68%	-2.10%	-1.68%	N/A	3.50"
331+50.00	-2.68%	-2.10%	-2.10%	N/A	4.44"	331+50.00	-1.41%	-2.10%	-1.50%	-0.15"	3.50"
332+00.00	-2.55%	-2.10%	-2.10%	N/A	4.23"	332+00.00	-1.82%	-2.10%	-1.82%	N/A	3.50"
332+50.00	-3.23%	-2.10%	-2.10%	N/A	5.33"	332+50.00	-2.05%	-2.10%	-2.05%	N/A	3.50"
333+00.00	-3.66%	-2.10%	-2.10%	N/A	6.03"	333+00.00	-1.64%	-2.10%	-1.64%	N/A	3.50"
333+50.00	-3.19%	-2.10%	-2.10%	N/A	5.27"	333+50.00	-2.30%	-2.10%	-2.10%	N/A	3.82"
334+00.00	-2.75%	-2.10%	-2.10%	N/A	4.55"	334+00.00	-2.45%	-2.10%	-2.10%	N/A	4.07"
334+50.00	-3.03%	-2.10%	-2.10%	N/A	5.01"	334+50.00	-2.72%	-2.10%	-2.10%	N/A	4.51"
335+00.00	-2.40%	-2.10%	-2.10%	N/A	3.98"	335+00.00	-3.00%	-2.10%	-2.10%	N/A	4.96"
335+50.00	-2.12%	-2.10%	-2.10%	N/A	3.54"	335+50.00	-2.59%	-2.10%	-2.10%	N/A	4.30"
336+00.00	-2.92%	-2.10%	-2.10%	N/A	4.83"	336+00.00	-2.90%	-2.10%	-2.10%	N/A	4.79"
336+50.00	-3.46%	-2.10%	-2.10%	N/A	5.70"	336+50.00	-3.32%	-2.10%	-2.10%	N/A	5.47"
337+00.00	-2.96%	-2.10%	-2.10%	N/A	4.89"	337+00.00	-2.25%	-2.10%	-2.10%	N/A	3.74"
337+50.00	-2.84%	-2.10%	-2.10%	N/A	4.70"	337+50.00	-1.46%	-2.10%	-1.50%	-0.07"	3.50"
338+00.00	-2.64%	-2.10%	-2.10%	N/A	4.37"	338+00.00	-2.48%	-2.10%	-2.10%	N/A	4.12"
338+50.00	-3.09%	-2.10%	-2.10%	N/A	5.11"	338+50.00	-1.59%	-2.10%	-1.59%	N/A	3.50"
339+00.00	-3.30%	-2.10%	-2.10%	N/A	5.44"	339+00.00	-1.38%	-2.10%	-1.50%	-0.20"	3.50"
339+50.00	-2.60%	-2.10%	-2.10%	N/A	4.32"	339+50.00	-1.24%	-2.10%	-1.50%	-0.41"	3.50"
340+00.00	-2.75%	-2.10%	-2.10%	N/A	4.56"	340+00.00	-2.13%	-2.10%	-2.10%	N/A	3.55"
340+50.00	-3.45%	-2.10%	-2.10%	N/A	5.68"	340+50.00	-2.80%	-2.10%	-2.10%	N/A	4.64"
341+00.00	-2.78%	-2.10%	-2.10%	N/A	4.60"	341+00.00	-1.32%	-2.10%	-1.50%	-0.29"	3.50"
341+50.00	-3.53%	-2.10%	-2.10%	N/A	5.82"	341+50.00	-2.29%	-2.10%	-2.10%	N/A	3.80"
342+00.00	-3.54%	-2.10%	-2.10%	N/A	5.83"	342+00.00	-2.68%	-2.10%	-2.10%	N/A	4.43"
342+50.00	-3.72%	-2.10%	-2.10%	N/A	6.12"	342+50.00	-2.56%	-2.10%	-2.10%	N/A	4.25"
343+00.00	-3.76%	-2.10%	-2.10%	N/A	6.19"	343+00.00	-1.94%	-2.10%	-1.94%	N/A	3.50"
343+50.00	-3.78%	-2.10%	-2.10%	N/A	6.22"	343+50.00	-1.47%	-2.10%	-1.50%	-0.04"	3.50"
344+00.00	-3.32%	-2.10%	-2.10%	N/A	5.48"	344+00.00	-2.25%	-2.10%	-2.10%	N/A	3.74"
344+50.00	-3.49%	-2.10%	-2.10%	N/A	5.75"	344+50.00	-3.17%	-2.10%	-2.10%	N/A	5.23"
345+00.00	-2.87%	-2.10%	-2.10%	N/A	4.74"	345+00.00	-2.82%	-2.10%	-2.10%	N/A	4.66"
345+50.00	-2.89%	-2.10%	-2.10%	N/A	4.78"	345+50.00	-2.95%	-2.10%	-2.10%	N/A	4.88"
346+00.00	-3.39%	-2.10%	-2.10%	N/A	5.59"	346+00.00	-3.60%	-2.10%	-2.10%	N/A	5.92"
346+50.00	-3.12%	-2.10%	-2.10%	N/A	5.14"	346+50.00	-3.60%	-2.10%	-2.10%	N/A	5.93"
347+00.00	-2.81%	-2.10%	-2.10%	N/A	4.65"	347+00.00	-3.83%	-2.10%	-2.10%	N/A	6.30"
347+50.00	-1.43%	-2.10%	-1.50%	-0.12"	3.50"	347+50.00	-2.50%	-2.10%	-2.10%	N/A	4.15"
347+87.95	-1.28%	-2.10%	-1.50%	-0.36"	3.50"	347+87.95	-2.30%	-2.10%	-2.10%	N/A	3.83"
348+00.00	-1.18%	-2.10%	-1.50%	-0.52"	3.50"	348+00.00	-2.22%	-1.74%	-1.74%	N/A	4.28"
348+50.00	-1.26%	-2.10%	-1.50%	-0.40"	3.50"	348+50.00	-2.06%	-0.26%	-0.26%	N/A	6.42"
348+58.59	-1.59%	-2.10%	-1.59%	N/A	3.50"	348+58.59	-2.14%	0.00%	0.00%	N/A	6.97"
349+00.00	-1.71%	-2.10%	-1.71%	N/A	3.50"	349+00.00	-3.60%	1.23%	1.23%	N/A	11.33"
349+29.22	-2.53%	-2.10%	-2.10%	N/A	4.19"	349+29.22	-3.97%	2.10%	2.10%	N/A	13.33"
349+32.59	-2.57%	-2.20%	-2.20%	N/A	4.09"	349+32.59	-3.83%	2.20%	2.20%	N/A	13.27"
349+50.00	-2.32%	-2.20%	-2.20%	N/A	3.69"	349+50.00	-2.98%	2.20%	2.20%	N/A	11.89"
350+00.00	-0.21%	-2.20%	-2.20%	-3.22"	3.50"	350+00.00	-1.02%	2.20%	2.20%	N/A	8.71"
350+50.00	-1.38%	-2.20%	-2.20%	-1.33"	3.50"	350+50.00	-1.98%	2.20%	2.20%	N/A	10.27"
351+00.00	-2.01%	-2.20%	-2.20%	-0.31"	3.50"	351+00.00	-2.14%	2.20%	2.20%	N/A	10.52"
351+50.00	-1.49%	-2.20%	-2.20%	-1.16"	3.50"	351+50.00	-1.89%	2.20%	2.20%	N/A	10.12"
352+00.00	-2.42%	-2.20%	-2.20%	N/A	3.86"	352+00.00	-3.12%	2.20%	2.20%	N/A	12.12"

Superelevated

Roadway Cross Slopes with Pavement and Milling Depths

LEFT						RIGHT					
Station	Existing Cross Slope	Design Cross Slope	Corrected Cross Slope	Milling Depth at 13.5' LT	Asphalt Depth at 13.5' LT	Station	Existing Cross Slope	Design Cross Slope	Corrected Cross Slope	Milling Depth at 13.5' RT	Asphalt Depth at 13.5' RT
352+50.00	-2.13%	-2.20%	-2.20%	-0.12"	3.50"	352+50.00	-1.90%	2.20%	2.20%	N/A	10.15"
353+00.00	-2.51%	-2.20%	-2.20%	N/A	4.00"	353+00.00	-2.34%	2.20%	2.20%	N/A	10.85"
353+50.00	-2.51%	-2.20%	-2.20%	N/A	4.00"	353+50.00	-2.64%	2.20%	2.20%	N/A	11.33"
354+00.00	-4.11%	-2.20%	-2.20%	N/A	6.60"	354+00.00	-3.11%	2.20%	2.20%	N/A	12.09"
354+50.00	-4.02%	-2.20%	-2.20%	N/A	6.44"	354+50.00	-2.41%	2.20%	2.20%	N/A	10.97"
354+68.72	-3.50%	-2.20%	-2.20%	N/A	5.61"	354+68.72	-2.55%	2.20%	2.20%	N/A	11.19"
354+72.08	-3.40%	-2.10%	-2.10%	N/A	5.61"	354+72.08	-2.52%	2.10%	2.10%	N/A	10.99"
355+00.00	-3.81%	-2.10%	-2.10%	N/A	6.27"	355+00.00	-2.42%	1.27%	1.27%	N/A	9.48"
355+42.72	-2.88%	-2.10%	-2.10%	N/A	4.76"	355+42.72	-1.96%	0.00%	0.00%	N/A	6.68"
355+50.00	-3.15%	-2.10%	-2.10%	N/A	5.19"	355+50.00	-2.32%	-0.22%	-0.22%	N/A	6.90"
356+00.00	-3.53%	-2.10%	-2.10%	N/A	5.82"	356+00.00	-2.62%	-1.70%	-1.70%	N/A	4.98"
356+13.35	-3.27%	-2.10%	-2.10%	N/A	5.39"	356+13.35	-2.19%	-2.10%	-2.10%	N/A	3.65"
356+50.00	-3.17%	-2.10%	-2.10%	N/A	5.24"	356+50.00	-2.12%	-2.10%	-2.10%	N/A	3.53"
357+00.00	-2.83%	-2.10%	-2.10%	N/A	4.68"	357+00.00	-2.51%	-2.10%	-2.10%	N/A	4.16"
357+50.00	-2.46%	-2.10%	-2.10%	N/A	4.09"	357+50.00	-3.03%	-2.10%	-2.10%	N/A	5.00"
358+00.00	-2.20%	-2.10%	-2.10%	N/A	3.67"	358+00.00	-3.13%	-2.10%	-2.10%	N/A	5.18"
358+50.00	-3.02%	-2.10%	-2.10%	N/A	4.99"	358+50.00	-2.74%	-2.10%	-2.10%	N/A	4.53"
359+00.00	-2.98%	-2.10%	-2.10%	N/A	4.92"	359+00.00	-2.69%	-2.10%	-2.10%	N/A	4.45"
359+50.00	-3.71%	-2.10%	-2.10%	N/A	6.11"	359+50.00	-2.27%	-2.10%	-2.10%	N/A	3.77"
360+00.00	-2.34%	-2.10%	-2.10%	N/A	3.89"	360+00.00	-1.35%	-2.10%	-1.50%	-0.25"	3.50"
360+50.00	-2.79%	-2.10%	-2.10%	N/A	4.61"	360+50.00	-1.91%	-2.10%	-1.91%	N/A	3.50"
361+00.00	-3.12%	-2.10%	-2.10%	N/A	5.15"	361+00.00	-1.73%	-2.10%	-1.73%	N/A	3.50"
361+50.00	-2.83%	-2.10%	-2.10%	N/A	4.69"	361+50.00	-2.03%	-2.10%	-2.03%	N/A	3.50"
362+00.00	-2.87%	-2.10%	-2.10%	N/A	4.75"	362+00.00	-2.05%	-2.10%	-2.05%	N/A	3.50"
362+50.00	-3.44%	-2.10%	-2.10%	N/A	5.66"	362+50.00	-2.86%	-2.10%	-2.10%	N/A	4.73"
363+00.00	-3.04%	-2.10%	-2.10%	N/A	5.02"	363+00.00	-2.42%	-2.10%	-2.10%	N/A	4.01"
363+50.00	-2.73%	-2.10%	-2.10%	N/A	4.52"	363+50.00	-1.55%	-2.10%	-1.55%	N/A	3.50"
364+00.00	-2.87%	-2.10%	-2.10%	N/A	4.74"	364+00.00	-2.04%	-2.10%	-2.04%	N/A	3.50"
364+50.00	-2.50%	-2.10%	-2.10%	N/A	4.15"	364+50.00	-2.24%	-2.10%	-2.10%	N/A	3.73"
365+00.00	-2.99%	-2.10%	-2.10%	N/A	4.94"	365+00.00	-2.98%	-2.10%	-2.10%	N/A	4.93"
365+50.00	-3.10%	-2.10%	-2.10%	N/A	5.12"	365+50.00	-2.40%	-2.10%	-2.10%	N/A	3.98"
366+00.00	-2.57%	-2.10%	-2.10%	N/A	4.26"	366+00.00	-1.91%	-2.10%	-1.91%	N/A	3.50"
366+50.00	-4.29%	-2.10%	-2.10%	N/A	7.04"	366+50.00	-2.78%	-2.10%	-2.10%	N/A	4.59"
367+00.00	-3.92%	-2.10%	-2.10%	N/A	6.45"	367+00.00	-1.31%	-2.10%	-1.50%	-0.30"	3.50"
367+50.00	-2.98%	-2.10%	-2.10%	N/A	4.93"	367+50.00	-1.51%	-2.10%	-1.51%	N/A	3.50"
368+00.00	-1.94%	-2.10%	-1.94%	N/A	3.50"	368+00.00	-2.08%	-2.10%	-2.08%	N/A	3.50"
368+50.00	-2.41%	-2.10%	-2.10%	N/A	4.00"	368+50.00	-1.99%	-2.10%	-1.99%	N/A	3.50"
369+00.00	-2.01%	-2.10%	-2.01%	N/A	3.50"	369+00.00	-1.75%	-2.10%	-1.75%	N/A	3.50"
369+50.00	-2.18%	-2.10%	-2.10%	N/A	3.62"	369+50.00	-2.37%	-2.10%	-2.10%	N/A	3.93"
370+00.00	-2.67%	-2.10%	-2.10%	N/A	4.42"	370+00.00	-2.85%	-2.10%	-2.10%	N/A	4.72"
370+50.00	-2.20%	-2.10%	-2.10%	N/A	3.66"	370+50.00	-2.36%	-2.10%	-2.10%	N/A	3.92"
371+00.00	-3.04%	-2.10%	-2.10%	N/A	5.02"	371+00.00	-1.77%	-2.10%	-1.77%	N/A	3.50"

Superelevated

This document was originally issued and sealed by Kyle J. Comer Registration Number PE- 7537, on 03/11/16 and the original document is stored at the North Dakota Department of Transportation

Milling & Paving Depths

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	11	7

Roadway Cross Slopes with Pavement and Milling Depths

LEFT						RIGHT					
Station	Existing Cross Slope	Design Cross Slope	Corrected Cross Slope	Milling Depth at 13.5' LT	Asphalt Depth at 13.5' LT	Station	Existing Cross Slope	Design Cross Slope	Corrected Cross Slope	Milling Depth at 13.5' RT	Asphalt Depth at 13.5' RT
371+50.00	-2.74%	-2.10%	-2.10%	N/A	4.54"	371+50.00	-1.66%	-2.10%	-1.66%	N/A	3.50"
372+00.00	-1.19%	-2.10%	-1.50%	-0.50"	3.50"	372+00.00	-1.43%	-2.10%	-1.50%	-0.12"	3.50"
372+50.00	-1.95%	-2.10%	-1.95%	N/A	3.50"	372+50.00	-1.65%	-2.10%	-1.65%	N/A	3.50"
373+00.00	-2.10%	-2.10%	-2.10%	N/A	3.50"	373+00.00	-1.63%	-2.10%	-1.63%	N/A	3.50"
373+50.00	-2.52%	-2.10%	-2.10%	N/A	4.18"	373+50.00	-1.46%	-2.10%	-1.50%	-0.06"	3.50"
374+00.00	-3.32%	-2.10%	-2.10%	N/A	5.48"	374+00.00	-2.17%	-2.10%	-2.10%	N/A	3.61"
374+50.00	-2.99%	-2.10%	-2.10%	N/A	4.95"	374+50.00	-1.29%	-2.10%	-1.50%	-0.34"	3.50"
375+00.00	-2.56%	-2.10%	-2.10%	N/A	4.24"	375+00.00	-1.06%	-2.10%	-1.50%	-0.71"	3.50"
375+50.00	-2.87%	-2.10%	-2.10%	N/A	4.74"	375+50.00	-1.96%	-2.10%	-1.96%	N/A	3.50"
376+00.00	-2.40%	-2.10%	-2.10%	N/A	3.98"	376+00.00	-1.66%	-2.10%	-1.66%	N/A	3.50"
376+50.00	-3.55%	-2.10%	-2.10%	N/A	5.85"	376+50.00	-1.28%	-2.10%	-1.50%	-0.36"	3.50"
377+00.00	-2.83%	-2.10%	-2.10%	N/A	4.68"	377+00.00	-1.63%	-2.10%	-1.63%	N/A	3.50"
377+50.00	-2.81%	-2.10%	-2.10%	N/A	4.65"	377+50.00	-2.15%	-2.10%	-2.10%	N/A	3.59"
378+00.00	-3.56%	-2.10%	-2.10%	N/A	5.87"	378+00.00	-1.84%	-2.10%	-1.84%	N/A	3.50"
378+50.00	-3.27%	-2.10%	-2.10%	N/A	5.39"	378+50.00	-1.61%	-2.10%	-1.61%	N/A	3.50"
379+00.00	-3.64%	-2.10%	-2.10%	N/A	6.00"	379+00.00	-2.15%	-2.10%	-2.10%	N/A	3.58"
379+50.00	-2.97%	-2.10%	-2.10%	N/A	4.90"	379+50.00	-2.03%	-2.10%	-2.03%	N/A	3.50"
380+00.00	-2.26%	-2.10%	-2.10%	N/A	3.77"	380+00.00	-1.64%	-2.10%	-1.64%	N/A	3.50"
380+50.00	-2.54%	-2.10%	-2.10%	N/A	4.20"	380+50.00	-1.63%	-2.10%	-1.63%	N/A	3.50"
381+00.00	-3.05%	-2.10%	-2.10%	N/A	5.04"	381+00.00	-2.47%	-2.10%	-2.10%	N/A	4.10"
381+50.00	-2.78%	-2.10%	-2.10%	N/A	4.60"	381+50.00	-1.85%	-2.10%	-1.85%	N/A	3.50"
382+00.00	-2.11%	-2.10%	-2.10%	N/A	3.52"	382+00.00	-2.37%	-2.10%	-2.10%	N/A	3.94"
382+50.00	-2.27%	-2.10%	-2.10%	N/A	3.78"	382+50.00	-2.21%	-2.10%	-2.10%	N/A	3.68"
383+00.00	-3.08%	-2.10%	-2.10%	N/A	5.08"	383+00.00	-2.63%	-2.10%	-2.10%	N/A	4.37"
383+50.00	-3.20%	-2.10%	-2.10%	N/A	5.28"	383+50.00	-2.80%	-2.10%	-2.10%	N/A	4.64"
384+00.00	-2.61%	-2.10%	-2.10%	N/A	4.32"	384+00.00	-2.76%	-2.10%	-2.10%	N/A	4.56"
384+50.00	-2.93%	-2.10%	-2.10%	N/A	4.85"	384+50.00	-3.53%	-2.10%	-2.10%	N/A	5.82"
385+00.00	-3.34%	-2.10%	-2.10%	N/A	5.51"	385+00.00	-2.54%	-2.10%	-2.10%	N/A	4.21"
385+50.00	-2.34%	-2.10%	-2.10%	N/A	3.89"	385+50.00	-2.48%	-2.10%	-2.10%	N/A	4.12"
386+00.00	-2.61%	-2.10%	-2.10%	N/A	4.32"	386+00.00	-1.72%	-2.10%	-1.72%	N/A	3.50"
386+50.00	-3.14%	-2.10%	-2.10%	N/A	5.18"	386+50.00	-2.55%	-2.10%	-2.10%	N/A	4.23"
387+00.00	-2.17%	-2.10%	-2.10%	N/A	3.61"	387+00.00	-2.21%	-2.10%	-2.10%	N/A	3.67"
387+50.00	-2.46%	-2.10%	-2.10%	N/A	4.09"	387+50.00	-2.60%	-2.10%	-2.10%	N/A	4.31"
388+00.00	-1.83%	-2.10%	-1.83%	N/A	3.50"	388+00.00	-1.25%	-2.10%	-1.50%	-0.41"	3.50"
388+50.00	-2.84%	-2.10%	-2.10%	N/A	4.70"	388+50.00	-2.35%	-2.10%	-2.10%	N/A	3.90"
389+00.00	-3.01%	-2.10%	-2.10%	N/A	4.97"	389+00.00	-3.95%	-2.10%	-2.10%	N/A	6.49"
389+50.00	-2.04%	-2.10%	-2.04%	N/A	3.50"	389+50.00	-2.12%	-2.10%	-2.10%	N/A	3.54"
390+00.00	-2.15%	-2.10%	-2.10%	N/A	3.57"	390+00.00	-1.82%	-2.10%	-1.82%	N/A	3.50"
390+50.00	-3.10%	-2.10%	-2.10%	N/A	5.12"	390+50.00	-2.58%	-2.10%	-2.10%	N/A	4.28"
391+00.00	-2.28%	-2.10%	-2.10%	N/A	3.79"	391+00.00	-1.52%	-2.10%	-1.52%	N/A	3.50"
391+50.00	-3.45%	-2.10%	-2.10%	N/A	5.68"	391+50.00	-2.14%	-2.10%	-2.10%	N/A	3.57"
392+00.00	-2.17%	-2.10%	-2.10%	N/A	3.62"	392+00.00	-1.66%	-2.10%	-1.66%	N/A	3.50"
392+50.00	-2.63%	-2.10%	-2.10%	N/A	4.35"	392+50.00	-1.89%	-2.10%	-1.89%	N/A	3.50"
393+00.00	-2.99%	-2.10%	-2.10%	N/A	4.94"	393+00.00	-2.07%	-2.10%	-2.07%	N/A	3.50"
393+50.00	-1.61%	-2.10%	-1.61%	N/A	3.50"	393+50.00	-1.68%	-2.10%	-1.68%	N/A	3.50"
394+00.00	-3.02%	-2.10%	-2.10%	N/A	4.99"	394+00.00	-2.24%	-2.10%	-2.10%	N/A	3.72"
394+50.00	-2.51%	-2.10%	-2.10%	N/A	4.16"	394+50.00	-2.02%	-2.10%	-2.02%	N/A	3.50"
395+00.00	-2.54%	-2.10%	-2.10%	N/A	4.21"	395+00.00	-2.20%	-2.10%	-2.10%	N/A	3.66"
395+50.00	-3.74%	-2.10%	-2.10%	N/A	6.15"	395+50.00	-2.99%	-2.10%	-2.10%	N/A	4.94"
396+00.00	-3.47%	-2.10%	-2.10%	N/A	5.72"	396+00.00	-3.00%	-2.10%	-2.10%	N/A	4.95"
396+50.00	-2.31%	-2.10%	-2.10%	N/A	3.85"	396+50.00	-2.05%	-2.10%	-2.05%	N/A	3.50"
397+00.00	-2.94%	-2.10%	-2.10%	N/A	4.86"	397+00.00	-2.57%	-2.10%	-2.10%	N/A	4.25"
397+50.00	-3.13%	-2.10%	-2.10%	N/A	5.17"	397+50.00	-2.79%	-2.10%	-2.10%	N/A	4.62"
398+00.00	-3.15%	-2.10%	-2.10%	N/A	5.19"	398+00.00	-3.76%	-2.10%	-2.10%	N/A	6.18"
398+50.00	-2.98%	-2.10%	-2.10%	N/A	4.93"	398+50.00	-2.87%	-2.10%	-2.10%	N/A	4.74"
399+00.00	-2.14%	-2.10%	-2.10%	N/A	3.56"	399+00.00	-2.67%	-2.10%	-2.10%	N/A	4.43"
399+50.00	-2.83%	-2.10%	-2.10%	N/A	4.68"	399+50.00	-2.70%	-2.10%	-2.10%	N/A	4.47"
400+00.00	-2.29%	-2.10%	-2.10%	N/A	3.81"	400+00.00	-2.69%	-2.10%	-2.10%	N/A	4.45"
400+50.00	-3.55%	-2.10%	-2.10%	N/A	5.85"	400+50.00	-2.98%	-2.10%	-2.10%	N/A	4.93"
401+00.00	-2.64%	-2.10%	-2.10%	N/A	4.38"	401+00.00	-2.33%	-2.10%	-2.10%	N/A	3.87"
401+50.00	-3.33%	-2.10%	-2.10%	N/A	5.50"	401+50.00	-3.58%	-2.10%	-2.10%	N/A	5.89"
402+00.00	-2.35%	-2.10%	-2.10%	N/A	3.91"	402+00.00	-3.17%	-2.10%	-2.10%	N/A	5.23"
402+50.00	-2.95%	-2.10%	-2.10%	N/A	4.88"	402+50.00	-2.20%	-2.10%	-2.10%	N/A	3.66"
403+00.00	-3.05%	-2.10%	-2.10%	N/A	5.04"	403+00.00	-2.71%	-2.10%	-2.10%	N/A	4.48"
403+50.00	-2.30%	-2.10%	-2.10%	N/A	3.82"	403+50.00	-3.27%	-2.10%	-2.10%	N/A	5.39"
404+00.00	-2.98%	-2.10%	-2.10%	N/A	4.92"	404+00.00	-2.61%	-2.10%	-2.10%	N/A	4.33"
404+50.00	-2.87%	-2.10%	-2.10%	N/A	4.74"	404+50.00	-1.68%	-2.10%	-1.68%	N/A	3.50"
405+00.00	-2.06%	-2.10%	-2.06%	N/A	3.50"	405+00.00	-2.01%	-2.10%	-2.01%	N/A	3.50"
405+50.00	-3.13%	-2.10%	-2.10%	N/A	5.16"	405+50.00	-2.74%	-2.10%	-2.10%	N/A	4.54"
406+00.00	-2.96%	-2.10%	-2.10%	N/A	4.90"	406+00.00	-2.74%	-2.10%	-2.10%	N/A	4.54"
406+50.00	-3.74%	-2.10%	-2.10%	N/A	6.16"	406+50.00	-3.73%	-2.10%	-2.10%	N/A	6.14"
407+00.00	-2.93%	-2.10%	-2.10%	N/A	4.84"	407+00.00	-3.14%	-2.10%	-2.10%	N/A	5.18"
407+50.00	-2.90%	-2.10%	-2.10%	N/A	4.80"	407+50.00	-3.24%	-2.10%	-2.10%	N/A	5.35"
408+00.00	-2.57%	-2.10%	-2.10%	N/A	4.25"	408+00.00	-3.21%	-2.10%	-2.10%	N/A	5.30"
408+50.00	-3.01%	-2.10%	-2.10%	N/A	4.98"	408+50.00	-3.87%	-2.10%	-2.10%	N/A	6.37"
409+00.00	-3.59%	-2.10%	-2.10%	N/A	5.91"	409+00.00	-4.41%	-2.10%	-2.10%	N/A	7.24"

Roadway Cross Slopes with Pavement and Milling Depths

LEFT						RIGHT					
Station	Existing Cross Slope	Design Cross Slope	Corrected Cross Slope	Milling Depth at 13.5' LT	Asphalt Depth at 13.5' LT	Station	Existing Cross Slope	Design Cross Slope	Corrected Cross Slope	Milling Depth at 13.5' RT	Asphalt Depth at 13.5' RT
409+50.00	-2.78%	-2.10%	-2.10%	N/A	4.60"	409+50.00	-4.18%	-2.10%	-2.10%	N/A	6.87"
410+00.00	-2.73%	-2.10%	-2.10%	N/A	4.52"	410+00.00	-2.95%	-2.10%	-2.10%	N/A	4.88"
410+50.00	-3.72%	-2.10%	-2.10%	N/A	6.13"	410+50.00	-4.05%	-2.10%	-2.10%	N/A	6.66"
411+00.00	-2.97%	-2.10%	-2.10%	N/A	4.91"	411+00.00	-3.33%	-2.10%	-2.10%	N/A	5.49"
411+50.00	-2.62%	-2.10%	-2.10%	N/A	4.34"	411+50.00	-3.19%	-2.10%	-2.10%	N/A	5.26"
412+00.00	-2.41%	-2.10%	-2.10%	N/A	4.00"	412+00.00	-3.48%	-2.10%	-2.10%	N/A	5.73"
412+50.00	-2.61%	-2.10%	-2.10%	N/A	4.32"	412+50.00	-3.87%	-2.10%	-2.10%	N/A	6.36"
413+00.00	-2.88%	-2.10%	-2.10%	N/A	4.77"	413+00.00	-3.95%	-2.10%	-2.10%	N/A	6.50"
413+50.00	-1.87%	-2.10%	-1.87%	N/A	3.50"	413+50.00	-4.39%	-2.10%	-2.10%	N/A	7.21"
414+00.00	-2.79%	-2.10%	-2.10%	N/A	4.61"	414+00.00	-2.83%	-2.10%	-2.10%	N/A	4.68"
414+50.00	-2.91%	-2.10%	-2.10%	N/A	4.81"	414+50.00	-3.13%	-2.10%	-2.10%	N/A	5.17"
415+00.00	-2.46%	-2.10%	-2.10%	N/A	4.08"	415+00.00	-3.09%	-2.10%	-2.10%	N/A	5.11"
415+50.00	-1.96%	-2.10%	-1.96%	N/A	3.50"	415+50.00	-2.98%	-2.10%	-2.10%	N/A	4.93"
416+00.00	-2.17%	-2.10%	-2.10%	N/A	3.61"	416+00.00	-3.08%	-2.10%	-2.10%	N/A	5.09"
416+50.00	-2.32%	-2.10%	-2.10%	N/A	3.86"	416+50.00	-3.17%	-2.10%	-2.10%	N/A	5.23"
417+00.00	-2.06%	-2.10%	-2.06%	N/A	3.50"	417+00.00	-3.55%	-2.10%	-2.10%	N/A	5.86"
417+50.00	-2.33%	-2.10%	-2.10%	N/A	3.86"	417+50.00	-3.30%	-2.10%	-2.10%	N/A	5.44"
418+00.00	-2.49%	-2.10%	-2.10%	N/A	4.13"	418+00.00	-3.85%	-2.10%	-2.10%	N/A	6.33"
418+50.00	-1.90%	-2.10%	-1.90%	N/A	3.50"	418+50.00	-3.17%	-2.10%	-2.10%	N/A	5.23"
419+00.00	-1.84%	-2.10%	-1.84%	N/A	3.50"	419+00.00	-2.92%	-2.10%	-2.10%	N/A	4.83"
419+50.00	-2.74%	-2.10%	-2.10%	N/A	4.54"	419+50.00	-2.78%	-2.10%	-2.10%	N/A	4.60"
420+00.00	-1.83%	-2.10%	-1.83%	N/A	3.50"	420+00.00	-2.72%	-2.10%	-2.10%	N/A	4.51"
420+50.00	-1.95%	-2.10%	-1.95%	N/A	3.50"	420+50.00	-2.47%	-2.10%	-2.10%	N/A	4.09"
421+00.00	-1.94%	-2.10%	-1.94%	N/A	3.50"	421+00.00	-2.81%	-2.10%	-2.10%	N/A	4.65"
421+50.00	-2.27%	-2.10%	-2.10%	N/A	3.77"	421+50.00	-3.02%	-2.10%	-2.10%	N/A	5.00"
422+00.00	-2.60%	-2.10%	-2.10%	N/A	4.30"	422+00.00	-3.38%	-2.10%	-2.10%	N/A	5.57"
422+50.00	-2.42%	-2.10%	-2.10%	N/A	4.01"	422+50.00	-2.56%	-2.10%	-2.10%	N/A	4.24"
423+00.00	-2.21%	-2.10%	-2.10%	N/A	3.68"	423+00.00	-2.71%	-2.10%	-2.10%	N/A	4.49"
423+50.00	-2.04%	-2.10%	-2.04%	N/A	3.50"	423+50.00	-2.87%	-2.10%	-2.10%	N/A	4.75"
424+00.00	-2.18%	-2.10%	-2.10%	N/A	3.64"	424+00.00	-2.77%	-2.10%	-2.10%	N/A	4.59"
424+50.00	-2.45%	-2.10%	-2.10%	N/A	4.06"	424+50.00	-2.47%	-2.10%	-2.10%	N/A	4.10"
425+00.00	-2.50%	-2.10%	-2.10%	N/A	4.15"	425+00.00	-2.29%	-2.10%	-2.10%	N/A	3.81"
425+50.00	-3.22%	-2.10%	-2.10%	N/A	5.32"	425+50.00	-3.70%	-2.10%	-2.10%	N/A	6.10"
426+00.00	-4.20%	-2.10%	-2.10%	N/A	6.89"	426+00.00	-5.81%	-2.10%	-2.10%	N/A	9.51"
426+50.00	-3.29%	-2.10%	-2.10%	N/A	5.43"	426+50.00	-3.78%	-2.10%	-2.10%	N/A	6.22"
427+00.00	-2.98%	-2.10%	-2.10%	N/A	4.93"	427+00.00	-3.13%	-2.10%	-2.10%	N/A	5.16"
427+50.00	-2.83%	-2.10%	-2.10%	N/A	4.68"	427+50.00	-2.95%	-2.10%	-2.10%	N/A	4.88"
428+00.00	-2.82%	-2.10%	-2.10%	N/A	4.67"	428+00.00	-3.30%	-2.10%	-2.10%	N/A	5.45"
428+50.00	-1.25%	-2.10%	-1.50%	-0.41"	3.50"	428+50.00	-2.92%	-2.10%	-2.10%	N/A	4.83"
429+00.00	-0.91%	-2.10%	-1.50%	-0.96"	3.50"	429+00.00	-2.88%	-2.10%	-2.10%	N/A	4.76"
429+50.00	-0.01%	-2.10%	-1.50%	-2.42"	3.50"	429+50.00	-3.27%	-2.10%	-2.10%	N/A	5.39"
429+95.18	0.33%	-2.10%	-1.50%	-2.97"	3.50"	429+95.18	-2.44%	-2.10%	-2.10%	N/A	4.06"
430+00.00	0.60%	-1.96%	-1.96%	-4.14"	3.50"	430+00.00	-2.49%	-2.10%	-2.10%	N/A	4.13"
430+50.00	2.02%	-0.46%	-0.46%	-4.02"	3.50"	430+50.00	-2.62%	-2.10%	-2.10%	N/A	4.34"
430+65.43	1.57%	0.00%	0.00%	-2.55"	3.50"	430+65.43	-2.64%	-2.10%	-2.10%	N/A	4.37"
431+00.00	1.55%	1.03%	1.03%	-0.83"	3.50"	431+00.00	-3.10%	-2.10%	-2.10%	N/A	5.12"
431+35.67	1.40%	2.10%	2.10%	N/A	4.63"	431+35.67	-2.80%	-2.10%	-2.10%	N/A	4.63"
431+50.00	0.17%	2.53%	2.53%	N/A	7.32"	431+50.00	-3.09%	-2.53%	-2.53%	N/A	4.41"
431+62.43	-0.60%	2.90%	2.90%	N/A	9.17"	431+62.43	-3.75%	-2.90%	-2.90%	N/A	4.87"
432+00.00	-0.55%	2.90%	2.90%	N/A	9.09"	432+00.00	-5.07%	-2.90%	-2.90%	N/A	7.01"
432+50.00	1.26%	2.90%	2.90%	N/A	6.16"	432+50.00	-5.04%	-2.90%	-2.90%	N/A	6.96"
433+00.00	-0.36%	2.90%	2.90%	N/A	8.78"	433+00.00	-4.43%	-2.90%	-2.90%	N/A	5.98"
433+50.00	1.01%	2.90%	2.90%	N/A	6.56"	433+50.00	-4.13%	-2.90%	-2.90%	N/A	5.48"
434+00.00	0.50%	2.90%	2.90%	N/A	7.38"	434+00.00	-4.30%	-2.90%	-2.90%	N/A	5.76"
434+50.00	0.91%	2.90%	2.90%	N/A	6.72"	434+50.00	-2.79%	-2.90%	-2.90%	-0.18"	3.50"
435+00.00	1.25%	2.90%	2.90%	N/A	6.18"	435+00.00	-2.61%	-2.90%	-2.90%	-0.47"	3.50"
435+50.00	1.24%	2.90%	2.90%	N/A	6.20"	435+50.00	-2.55%	-2.90%	-2.90%	-0.57"	3.50"
436+00.00	1.21%	2.90%	2.90%	N/A	6.23"	436+00.00	-3.43%	-2.90%	-2.90%	N/A	4.36"
436+50.00	1.16%	2.90%	2.90%	N/A	6.31"	436+50.00	-3.96%	-2.90%	-2.90%	N/A	5.22"
437+00.00	0.96%	2.90%	2.90%	N/A	6.64"	437+00.00	-2.84%	-2.90%	-2.90%	-0.10"	3.50"
437+50.00	0.56%	2.90%	2.90%	N/A	7.29"	437+50.00	-5.42%	-2.90%	-2.90%	N/A	7.59"
438+00.00	0.32%	2.90%	2.90%	N/A	7.68"	438+00.00	-5.34%	-2.90%	-2.90%	N/A	7.45"
438+50.00	0.68%	2.90%	2.90%	N/A	7.10"	438+50.00	-5.53%	-2.90%	-2.90%	N/A	7.75"
439+00.00	0.12%	2.90%	2.90%	N/A	8.00"	439+00.00	-3.39%	-2.90%	-2.90%	N/A	4.30"
439+50.00	0.12%	2.90%	2.90%	N/A	8.00"	439+50.00	-4.01%	-2.90%	-2.90%	N/A	5.29"
440+00.00	0.47%	2.90%	2.90%	N/A	7.44"	440+00.00	-3.98%	-2.90%	-2.90%	N/A	5.25"
440+50.00	0.74%	2.90%	2.90%	N/A	7.00"	440+50.00	-2.95%	-2.90%	-2.90%	N/A	3.58"
441+00.00	0.78%	2.90%	2.90%	N/A	6.93"	441+00.00	-3.02%	-2.90%	-2.90%	N/A	3.70"
441+50.00	1.20%	2.90%	2.90%	N/A	6.26"	441+50.00	-3.26%	-2.90%	-2.90%	N/A	4.09"
442+00.00	0.02%	2.90%	2.90%	N/A	8.16"	442+00.00	-4.66%	-2.90%	-2.90%	N/A	6.34"
442+50.00	-0.22%	2.90%	2.90%	N/A	8.56"	442+50.00	-3.13%	-2.90%	-2.90%	N/A	3.87"
443+00.00	-0.09%	2.90%	2.90%	N/A	8.34"	443+00.00	-3.92%	-2.90%	-2.90%	N/A	5.15"
443+50.00	0.31%	2.90%	2.90%	N/A	7.70"	443+50.00	-3.43%	-2.90%	-2.90%	N/A	4.36"
444+00.00	-0.99%	2.90%	2.90%	N/A	9.79"	444+00.00	-3.22%	-2.90%	-2.90%	N/A	4.02"
444+50.00	-1.79%	2.90%	2.90%	N/A	11.10"	444+50.00	-1.88%	-2.90%	-2.90%	-1.65"	3.50"
445+00.00	1.26%	2.90%	2.90%	N/A	6.16"	445+00.00	-2.59%	-2.90%	-2.90%	-0.50"	3.50"

Superelevated

Roadway Cross Slopes with Pavement and Milling Depths

LEFT						RIGHT					
Station	Existing Cross Slope	Design Cross Slope	Corrected Cross Slope	Milling Depth at 13.5' LT	Asphalt Depth at 13.5' LT	Station	Existing Cross Slope	Design Cross Slope	Corrected Cross Slope	Milling Depth at 13.5' RT	Asphalt Depth at 13.5' RT
445+50.00	0.78%	2.90%	2.90%	N/A	6.94"	445+50.00	-3.59%	-2.90%	-2.90%	N/A	4.62"
446+00.00	0.31%	2.90%	2.90%	N/A	7.70"	446+00.00	-5.05%	-2.90%	-2.90%	N/A	6.98"
446+50.00	0.41%	2.90%	2.90%	N/A	7.53"	446+50.00	-4.63%	-2.90%	-2.90%	N/A	6.30"
447+00.00	1.37%	2.90%	2.90%	N/A	5.98"	447+00.00	-4.75%	-2.90%	-2.90%	N/A	6.50"
447+50.00	0.43%	2.90%	2.90%	N/A	7.50"	447+50.00	-3.98%	-2.90%	-2.90%	N/A	5.25"
448+00.00	0.75%	2.90%	2.90%	N/A	6.98"	448+00.00	-3.87%	-2.90%	-2.90%	N/A	5.07"
448+50.00	0.45%	2.90%	2.90%	N/A	7.47"	448+50.00	-3.99%	-2.90%	-2.90%	N/A	5.27"
449+00.00	0.01%	2.90%	2.90%	N/A	8.18"	449+00.00	-5.15%	-2.90%	-2.90%	N/A	7.14"
449+50.00	0.05%	2.90%	2.90%	N/A	8.11"	449+50.00	-5.13%	-2.90%	-2.90%	N/A	7.11"
450+00.00	0.67%	2.90%	2.90%	N/A	7.11"	450+00.00	-4.69%	-2.90%	-2.90%	N/A	6.40"
450+50.00	0.51%	2.90%	2.90%	N/A	7.37"	450+50.00	-4.82%	-2.90%	-2.90%	N/A	6.62"
451+00.00	0.41%	2.90%	2.90%	N/A	7.53"	451+00.00	-5.07%	-2.90%	-2.90%	N/A	7.02"
451+50.00	1.05%	2.90%	2.90%	N/A	6.50"	451+50.00	-3.69%	-2.90%	-2.90%	N/A	4.78"
452+00.00	0.87%	2.90%	2.90%	N/A	6.79"	452+00.00	-3.77%	-2.90%	-2.90%	N/A	4.91"
452+50.00	1.72%	2.90%	2.90%	N/A	5.41"	452+50.00	-3.72%	-2.90%	-2.90%	N/A	4.83"
453+00.00	1.26%	2.90%	2.90%	N/A	6.15"	453+00.00	-3.71%	-2.90%	-2.90%	N/A	4.82"
453+50.00	1.39%	2.90%	2.90%	N/A	5.94"	453+50.00	-4.31%	-2.90%	-2.90%	N/A	5.79"
454+00.00	1.58%	2.90%	2.90%	N/A	5.64"	454+00.00	-3.83%	-2.90%	-2.90%	N/A	5.01"
454+50.00	1.13%	2.90%	2.90%	N/A	6.37"	454+50.00	-3.89%	-2.90%	-2.90%	N/A	5.10"
455+00.00	1.20%	2.90%	2.90%	N/A	6.26"	455+00.00	-3.84%	-2.90%	-2.90%	N/A	5.02"
455+50.00	1.41%	2.90%	2.90%	N/A	5.92"	455+50.00	-3.47%	-2.90%	-2.90%	N/A	4.42"
456+00.00	1.04%	2.90%	2.90%	N/A	6.51"	456+00.00	-4.42%	-2.90%	-2.90%	N/A	5.97"
456+50.00	1.36%	2.90%	2.90%	N/A	5.99"	456+50.00	-4.11%	-2.90%	-2.90%	N/A	5.46"
457+00.00	1.35%	2.90%	2.90%	N/A	6.01"	457+00.00	-3.98%	-2.90%	-2.90%	N/A	5.25"
457+09.08	1.13%	2.90%	2.90%	N/A	6.36"	457+09.08	-3.95%	-2.90%	-2.90%	N/A	5.19"
457+35.83	-0.52%	2.10%	2.10%	N/A	7.74"	457+35.83	-4.21%	-2.10%	-2.10%	N/A	6.92"
457+50.00	-1.04%	1.68%	1.68%	N/A	7.90"	457+50.00	-4.30%	-2.10%	-2.10%	N/A	7.06"
458+00.00	-1.28%	0.18%	0.18%	N/A	5.87"	458+00.00	-3.91%	-2.10%	-2.10%	N/A	6.43"
458+06.08	-1.17%	0.00%	0.00%	N/A	5.40"	458+06.08	-3.80%	-2.10%	-2.10%	N/A	6.25"
458+50.00	-1.23%	-1.31%	-1.31%	-0.13"	3.50"	458+50.00	-1.66%	-2.10%	-1.66%	N/A	3.50"
458+76.32	-1.73%	-2.10%	-1.73%	N/A	3.50"	458+76.32	-1.70%	-2.10%	-1.70%	N/A	3.50"
459+00.00	-2.37%	-2.10%	-2.10%	N/A	3.94"	459+00.00	-1.89%	-2.10%	-1.89%	N/A	3.50"
459+50.00	-2.98%	-2.10%	-2.10%	N/A	4.92"	459+50.00	-1.64%	-2.10%	-1.64%	N/A	3.50"
460+00.00	-3.17%	-2.10%	-2.10%	N/A	5.24"	460+00.00	-1.56%	-2.10%	-1.56%	N/A	3.50"
460+50.00	-2.86%	-2.10%	-2.10%	N/A	4.73"	460+50.00	-1.56%	-2.10%	-1.56%	N/A	3.50"
461+00.00	-3.56%	-2.10%	-2.10%	N/A	5.87"	461+00.00	-2.37%	-2.10%	-2.10%	N/A	3.94"
461+50.00	-2.11%	-2.10%	-2.10%	N/A	3.51"	461+50.00	-2.19%	-2.10%	-2.10%	N/A	3.65"
462+00.00	-2.67%	-2.10%	-2.10%	N/A	4.42"	462+00.00	-2.53%	-2.10%	-2.10%	N/A	4.19"
462+50.00	-3.08%	-2.10%	-2.10%	N/A	5.09"	462+50.00	-2.76%	-2.10%	-2.10%	N/A	4.57"
463+00.00	-2.99%	-2.10%	-2.10%	N/A	4.94"	463+00.00	-2.21%	-2.10%	-2.10%	N/A	3.68"
463+50.00	-2.34%	-2.10%	-2.10%	N/A	3.89"	463+50.00	-2.17%	-2.10%	-2.10%	N/A	3.61"
464+00.00	-2.29%	-2.10%	-2.10%	N/A	3.81"	464+00.00	-1.36%	-2.10%	-1.50%	-0.23"	3.50"
464+50.00	-3.60%	-2.10%	-2.10%	N/A	5.93"	464+50.00	-2.57%	-2.10%	-2.10%	N/A	4.25"
465+00.00	-1.94%	-2.10%	-1.94%	N/A	3.50"	465+00.00	-1.22%	-2.10%	-1.50%	-0.46"	3.50"
465+50.00	-2.72%	-2.10%	-2.10%	N/A	4.50"	465+50.00	-2.61%	-2.10%	-2.10%	N/A	4.33"
466+00.00	-1.72%	-2.10%	-1.72%	N/A	3.50"	466+00.00	-1.66%	-2.10%	-1.66%	N/A	3.50"

Superelevated

This document was originally issued and sealed by Kyle J. Comer Registration Number PE- 7537, on 03/11/16 and the original document is stored at the North Dakota Department of Transportation

Milling & Paving Depths

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	11	8

Roadway Cross Slopes with Pavement and Milling Depths

LEFT						RIGHT					
Station	Existing Cross Slope	Design Cross Slope	Corrected Cross Slope	Milling Depth at 13.5' LT	Asphalt Depth at 13.5' LT	Station	Existing Cross Slope	Design Cross Slope	Corrected Cross Slope	Milling Depth at 13.5' RT	Asphalt Depth at 13.5' RT
466+50.00	-2.63%	-2.10%	-2.10%	N/A	4.36"	466+50.00	-1.98%	-2.10%	-1.98%	N/A	3.50"
467+00.00	-2.00%	-2.10%	-2.00%	N/A	3.50"	467+00.00	-1.47%	-2.10%	-1.50%	-0.05"	3.50"
467+50.00	-2.09%	-2.10%	-2.09%	N/A	3.50"	467+50.00	-1.58%	-2.10%	-1.58%	N/A	3.50"
468+00.00	-2.14%	-2.10%	-2.10%	N/A	3.56"	468+00.00	-1.95%	-2.10%	-1.95%	N/A	3.50"
468+50.00	-1.13%	-2.10%	-1.50%	-0.60"	3.50"	468+50.00	-2.04%	-2.10%	-2.04%	N/A	3.50"
469+00.00	-2.73%	-2.10%	-2.10%	N/A	4.52"	469+00.00	-3.23%	-2.10%	-2.10%	N/A	5.33"
469+50.00	-2.39%	-2.10%	-2.10%	N/A	3.97"	469+50.00	-2.94%	-2.10%	-2.10%	N/A	4.86"
470+00.00	-2.04%	-2.10%	-2.04%	N/A	3.50"	470+00.00	-2.93%	-2.10%	-2.10%	N/A	4.85"
470+50.00	-2.84%	-2.10%	-2.10%	N/A	4.69"	470+50.00	-2.89%	-2.10%	-2.10%	N/A	4.78"
471+00.00	-3.00%	-2.10%	-2.10%	N/A	4.96"	471+00.00	-3.10%	-2.10%	-2.10%	N/A	5.12"
471+50.00	-3.24%	-2.10%	-2.10%	N/A	5.35"	471+50.00	-2.64%	-2.10%	-2.10%	N/A	4.38"
472+00.00	-2.47%	-2.10%	-2.10%	N/A	4.09"	472+00.00	-2.60%	-2.10%	-2.10%	N/A	4.31"
472+50.00	-1.89%	-2.10%	-1.89%	N/A	3.50"	472+50.00	-1.51%	-2.10%	-1.51%	N/A	3.50"
473+00.00	-2.78%	-2.10%	-2.10%	N/A	4.61"	473+00.00	-1.90%	-2.10%	-1.90%	N/A	3.50"
473+50.00	-3.08%	-2.10%	-2.10%	N/A	5.08"	473+50.00	-2.30%	-2.10%	-2.10%	N/A	3.83"
474+00.00	-1.75%	-2.10%	-1.75%	N/A	3.50"	474+00.00	-2.46%	-2.10%	-2.10%	N/A	4.09"
474+50.00	-2.59%	-2.10%	-2.10%	N/A	4.29"	474+50.00	-1.41%	-2.10%	-1.50%	-0.15"	3.50"
475+00.00	-3.35%	-2.10%	-2.10%	N/A	5.52"	475+00.00	-2.71%	-2.10%	-2.10%	N/A	4.48"
475+50.00	-3.71%	-2.10%	-2.10%	N/A	6.11"	475+50.00	-2.82%	-2.10%	-2.10%	N/A	4.67"
476+00.00	-2.97%	-2.10%	-2.10%	N/A	4.91"	476+00.00	-2.10%	-2.10%	-2.10%	N/A	3.50"
476+50.00	-3.38%	-2.10%	-2.10%	N/A	5.58"	476+50.00	-2.27%	-2.10%	-2.10%	N/A	3.78"
477+00.00	-2.77%	-2.10%	-2.10%	N/A	4.59"	477+00.00	-1.17%	-2.10%	-1.50%	-0.53"	3.50"
477+50.00	-2.20%	-2.10%	-2.10%	N/A	3.66"	477+50.00	-2.10%	-2.10%	-2.10%	N/A	3.50"
478+00.00	-3.19%	-2.10%	-2.10%	N/A	5.26"	478+00.00	-2.28%	-2.10%	-2.10%	N/A	3.78"
478+50.00	-3.08%	-2.10%	-2.10%	N/A	5.09"	478+50.00	-2.26%	-2.10%	-2.10%	N/A	3.76"
479+00.00	-3.50%	-2.10%	-2.10%	N/A	5.77"	479+00.00	-3.07%	-2.10%	-2.10%	N/A	5.08"
479+50.00	-2.89%	-2.10%	-2.10%	N/A	4.78"	479+50.00	-1.50%	-2.10%	-1.50%	N/A	3.50"
480+00.00	-3.11%	-2.10%	-2.10%	N/A	5.14"	480+00.00	-1.92%	-2.10%	-1.92%	N/A	3.50"
480+50.00	-2.46%	-2.10%	-2.10%	N/A	4.09"	480+50.00	-1.07%	-2.10%	-1.50%	-0.70"	3.50"
481+00.00	-3.31%	-2.10%	-2.10%	N/A	5.46"	481+00.00	-0.81%	-2.10%	-1.50%	-1.11"	3.50"
481+50.00	-4.23%	-2.10%	-2.10%	N/A	6.95"	481+50.00	-2.30%	-2.10%	-2.10%	N/A	3.82"
482+00.00	-3.02%	-2.10%	-2.10%	N/A	4.99"	482+00.00	-2.71%	-2.10%	-2.10%	N/A	4.49"
482+50.00	-3.46%	-2.10%	-2.10%	N/A	5.70"	482+50.00	-1.80%	-2.10%	-1.80%	N/A	3.50"
483+00.00	-2.99%	-2.10%	-2.10%	N/A	4.94"	483+00.00	-1.77%	-2.10%	-1.77%	N/A	3.50"
483+50.00	-3.40%	-2.10%	-2.10%	N/A	5.60"	483+50.00	-2.41%	-2.10%	-2.10%	N/A	4.00"
484+00.00	-2.87%	-2.10%	-2.10%	N/A	4.75"	484+00.00	-1.59%	-2.10%	-1.59%	N/A	3.50"
484+50.00	-3.40%	-2.10%	-2.10%	N/A	5.61"	484+50.00	-2.19%	-2.10%	-2.10%	N/A	3.64"
485+00.00	-3.14%	-2.10%	-2.10%	N/A	5.19"	485+00.00	-2.22%	-2.10%	-2.10%	N/A	3.69"
485+50.00	-2.72%	-2.10%	-2.10%	N/A	4.51"	485+50.00	-2.71%	-2.10%	-2.10%	N/A	4.49"
486+00.00	-3.92%	-2.10%	-2.10%	N/A	6.45"	486+00.00	-2.96%	-2.10%	-2.10%	N/A	4.90"
486+50.00	-3.02%	-2.10%	-2.10%	N/A	5.00"	486+50.00	-2.18%	-2.10%	-2.10%	N/A	3.63"
487+00.00	-3.68%	-2.10%	-2.10%	N/A	6.06"	487+00.00	-2.59%	-2.10%	-2.10%	N/A	4.29"
487+50.00	-4.12%	-2.10%	-2.10%	N/A	6.76"	487+50.00	-2.61%	-2.10%	-2.10%	N/A	4.32"
488+00.00	-2.43%	-2.10%	-2.10%	N/A	4.04"	488+00.00	-1.66%	-2.10%	-1.66%	N/A	3.50"
488+50.00	-3.73%	-2.10%	-2.10%	N/A	6.14"	488+50.00	-1.84%	-2.10%	-1.84%	N/A	3.50"
489+00.00	-3.72%	-2.10%	-2.10%	N/A	6.13"	489+00.00	-2.03%	-2.10%	-2.03%	N/A	3.50"
489+50.00	-2.55%	-2.10%	-2.10%	N/A	4.23"	489+50.00	-2.09%	-2.10%	-2.09%	N/A	3.50"
490+00.00	-2.78%	-2.10%	-2.10%	N/A	4.60"	490+00.00	-1.57%	-2.10%	-1.57%	N/A	3.50"
490+50.00	-2.02%	-2.10%	-2.02%	N/A	3.50"	490+50.00	-1.28%	-2.10%	-1.50%	-0.36"	3.50"
491+00.00	-2.97%	-2.10%	-2.10%	N/A	4.91"	491+00.00	-2.68%	-2.10%	-2.10%	N/A	4.44"
491+50.00	-3.40%	-2.10%	-2.10%	N/A	5.61"	491+50.00	-2.60%	-2.10%	-2.10%	N/A	4.31"
492+00.00	-3.28%	-2.10%	-2.10%	N/A	5.41"	492+00.00	-3.15%	-2.10%	-2.10%	N/A	5.21"
492+50.00	-2.94%	-2.10%	-2.10%	N/A	4.85"	492+50.00	-2.19%	-2.10%	-2.10%	N/A	3.64"
493+00.00	-3.34%	-2.10%	-2.10%	N/A	5.51"	493+00.00	-2.86%	-2.10%	-2.10%	N/A	4.72"
493+50.00	-2.83%	-2.10%	-2.10%	N/A	4.68"	493+50.00	-3.01%	-2.10%	-2.10%	N/A	4.97"
494+00.00	-2.33%	-2.10%	-2.10%	N/A	3.87"	494+00.00	-2.55%	-2.10%	-2.10%	N/A	4.23"
494+50.00	-2.32%	-2.10%	-2.10%	N/A	3.85"	494+50.00	-2.29%	-2.10%	-2.10%	N/A	3.80"
495+00.00	-2.89%	-2.10%	-2.10%	N/A	4.78"	495+00.00	-2.10%	-2.10%	-2.10%	N/A	3.50"
495+50.00	-2.15%	-2.10%	-2.10%	N/A	3.58"	495+50.00	-2.65%	-2.10%	-2.10%	N/A	4.39"
496+00.00	-2.59%	-2.10%	-2.10%	N/A	4.30"	496+00.00	-3.11%	-2.10%	-2.10%	N/A	5.14"
496+50.00	-1.72%	-2.10%	-1.72%	N/A	3.50"	496+50.00	-2.35%	-2.10%	-2.10%	N/A	3.90"
497+00.00	-2.64%	-2.10%	-2.10%	N/A	4.38"	497+00.00	-1.88%	-2.10%	-1.88%	N/A	3.50"
497+50.00	-2.98%	-2.10%	-2.10%	N/A	4.92"	497+50.00	-1.40%	-2.10%	-1.50%	-0.17"	3.50"
498+00.00	-3.20%	-2.10%	-2.10%	N/A	5.29"	498+00.00	-2.33%	-2.10%	-2.10%	N/A	3.87"
498+50.00	-3.74%	-2.10%	-2.10%	N/A	6.16"	498+50.00	-2.54%	-2.10%	-2.10%	N/A	4.22"
499+00.00	-2.16%	-2.10%	-2.10%	N/A	3.59"	499+00.00	-1.06%	-2.10%	-1.50%	-0.71"	3.50"
499+50.00	-2.73%	-2.10%	-2.10%	N/A	4.52"	499+50.00	-2.67%	-2.10%	-2.10%	N/A	4.42"
500+00.00	-3.39%	-2.10%	-2.10%	N/A	5.60"	500+00.00	-2.95%	-2.10%	-2.10%	N/A	4.88"
500+50.00	-2.90%	-2.10%	-2.10%	N/A	4.80"	500+50.00	-2.01%	-2.10%	-2.01%	N/A	3.50"
501+00.00	-2.12%	-2.10%	-2.10%	N/A	3.53"	501+00.00	-2.60%	-2.10%	-2.10%	N/A	4.31"
501+50.00	-2.70%	-2.10%	-2.10%	N/A	4.48"	501+50.00	-2.50%	-2.10%	-2.10%	N/A	4.15"
502+00.00	-2.69%	-2.10%	-2.10%	N/A	4.46"	502+00.00	-2.81%	-2.10%	-2.10%	N/A	4.65"
502+50.00	-3.24%	-2.10%	-2.10%	N/A	5.35"	502+50.00	-3.59%	-2.10%	-2.10%	N/A	5.91"
503+00.00	-2.66%	-2.10%	-2.10%	N/A	4.41"	503+00.00	-3.16%	-2.10%	-2.10%	N/A	5.22"

Roadway Cross Slopes with Pavement and Milling Depths

LEFT						RIGHT					
Station	Existing Cross Slope	Design Cross Slope	Corrected Cross Slope	Milling Depth at 13.5' LT	Asphalt Depth at 13.5' LT	Station	Existing Cross Slope	Design Cross Slope	Corrected Cross Slope	Milling Depth at 13.5' RT	Asphalt Depth at 13.5' RT
503+50.00	-2.48%	-2.10%	-2.10%	N/A	4.11"	503+50.00	-2.95%	-2.10%	-2.10%	N/A	4.87"
504+00.00	-3.28%	-2.10%	-2.10%	N/A	5.41"	504+00.00	-3.04%	-2.10%	-2.10%	N/A	5.02"
504+50.00	-2.59%	-2.10%	-2.10%	N/A	4.30"	504+50.00	-2.42%	-2.10%	-2.10%	N/A	4.02"
505+00.00	-2.29%	-2.10%	-2.10%	N/A	3.80"	505+00.00	-2.30%	-2.10%	-2.10%	N/A	3.82"
505+50.00	-2.92%	-2.10%	-2.10%	N/A	4.83"	505+50.00	-2.01%	-2.10%	-2.01%	N/A	3.50"
506+00.00	-2.03%	-2.10%	-2.03%	N/A	3.50"	506+00.00	-2.68%	-2.10%	-2.10%	N/A	4.44"
506+50.00	-1.46%	-2.10%	-1.50%	-0.06"	3.50"	506+50.00	-2.82%	-2.10%	-2.10%	N/A	4.66"
507+00.00	-1.84%	-2.10%	-1.84%	N/A	3.50"	507+00.00	-2.74%	-2.10%	-2.10%	N/A	4.53"
507+50.00	-2.79%	-2.10%	-2.10%	N/A	4.61"	507+50.00	-3.11%	-2.10%	-2.10%	N/A	5.13"
508+00.00	-3.63%	-2.10%	-2.10%	N/A	5.98"	508+00.00	-3.24%	-2.10%	-2.10%	N/A	5.35"
508+50.00	-3.72%	-2.10%	-2.10%	N/A	6.13"	508+50.00	-3.23%	-2.10%	-2.10%	N/A	5.34"
509+00.00	-3.47%	-2.10%	-2.10%	N/A	5.71"	509+00.00	-3.40%	-2.10%	-2.10%	N/A	5.60"
509+50.00	-1.91%	-2.10%	-1.91%	N/A	3.50"	509+50.00	-1.78%	-2.10%	-1.78%	N/A	3.50"
510+00.00	-2.18%	-2.10%	-2.10%	N/A	3.63"	510+00.00	-2.39%	-2.10%	-2.10%	N/A	3.97"
510+50.00	-0.91%	-2.10%	-1.50%	-0.95"	3.50"	510+50.00	-1.40%	-2.10%	-1.50%	-0.16"	3.50"
511+00.00	-1.72%	-2.10%	-1.72%	N/A	3.50"	511+00.00	-1.46%	-2.10%	-1.50%	-0.06"	3.50"
511+50.00	-2.12%	-2.10%	-2.10%	N/A	3.54"	511+50.00	-1.98%	-2.10%	-1.98%	N/A	3.50"
512+00.00	-2.91%	-2.10%	-2.10%	N/A	4.81"	512+00.00	-1.80%	-2.10%	-1.80%	N/A	3.50"
512+50.00	-2.92%	-2.10%	-2.10%	N/A	4.83"	512+50.00	-2.45%	-2.10%	-2.10%	N/A	4.07"
513+00.00	-1.61%	-2.10%	-1.61%	N/A	3.50"	513+00.00	-1.70%	-2.10%	-1.70%	N/A	3.50"
513+50.00	-1.82%	-2.10%	-1.82%	N/A	3.50"	513+50.00	-2.71%	-2.10%	-2.10%	N/A	4.49"
514+00.00	-2.55%	-2.10%	-2.10%	N/A	4.23"	514+00.00	-1.77%	-2.10%	-1.77%	N/A	3.50"
514+50.00	-2.92%	-2.10%	-2.10%	N/A	4.83"	514+50.00	-2.66%	-2.10%	-2.10%	N/A	4.41"
515+00.00	-2.39%	-2.10%	-2.10%	N/A	3.97"	515+00.00	-2.38%	-2.10%	-2.10%	N/A	3.96"
515+50.00	-3.17%	-2.10%	-2.10%	N/A	5.23"	515+50.00	-2.48%	-2.10%	-2.10%	N/A	4.11"
516+00.00	-2.79%	-2.10%	-2.10%	N/A	4.61"	516+00.00	-1.76%	-2.10%	-1.76%	N/A	3.50"
516+50.00	-3.19%	-2.10%	-2.10%	N/A	5.26"	516+50.00	-1.97%	-2.10%	-1.97%	N/A	3.50"
517+00.00	-2.88%	-2.10%	-2.10%	N/A	4.76"	517+00.00	-1.70%	-2.10%	-1.70%	N/A	3.50"
517+50.00	-3.30%	-2.10%	-2.10%	N/A	5.45"	517+50.00	-2.08%	-2.10%	-2.08%	N/A	3.50"
518+00.00	-3.13%	-2.10%	-2.10%	N/A	5.16"	518+00.00	-1.67%	-2.10%	-1.67%	N/A	3.50"
518+50.00	-3.21%	-2.10%	-2.10%	N/A	5.29"	518+50.00	-1.40%	-2.10%	-1.50%	-0.16"	3.50"
519+00.00	-2.86%	-2.10%	-2.10%	N/A	4.73"	519+00.00	-1.49%	-2.10%	-1.50%	-0.02"	3.50"
519+50.00	-3.04%	-2.10%	-2.10%	N/A	5.03"	519+50.00	-1.92%	-2.10%	-1.92%	N/A	3.50"
520+00.00	-2.97%	-2.10%	-2.10%	N/A	4.91"	520+00.00	-1.83%	-2.10%	-1.83%	N/A	3.50"
520+50.00	-3.29%	-2.10%	-2.10%	N/A	5.42"	520+50.00	-1.22%	-2.10%	-1.50%	-0.46"	3.50"
521+00.00	-3.81%	-2.10%	-2.10%	N/A	6.26"	521+00.00	-1.51%	-2.10%	-1.51%	N/A	3.50"
521+50.00	-2.13%	-2.10%	-2.10%	N/A	3.55"	521+50.00	-1.56%	-2.10%	-1.56%	N/A	3.50"
522+00.00	-2.02%	-2.10%	-2.02%	N/A	3.50"	522+00.00	-1.64%	-2.10%	-1.64%	N/A	3.50"
522+50.00	-2.60%	-2.10%	-2.10%	N/A	4.31"	522+50.00	-2.11%	-2.10%	-2.10%	N/A	3.51"
523+00.00	-2.80%	-2.10%	-2.10%	N/A	4.63"	523+00.00	-1.95%	-2.10%	-1.95%	N/A	3.50"
523+50.00	-3.49%	-2.10%	-2.10%	N/A	5.75"	523+50.00	-1.53%	-2.10%	-1.53%	N/A	3.50"
524+00.00	-3.06%	-2.10%	-2.10%	N/A	5.05"	524+00.00	-1.85%	-2.10%	-1.85%	N/A	3.50"
524+50.00	-2.60%	-2.10%	-2.10%	N/A	4.31"	524+50.00	-2.00%	-2.10%	-2.00%	N/A	3.50"
525+00.00	-3.08%	-2.10%	-2.10%	N/A	5.09"	525+00.00	-2.31%	-2.10%	-2.10%	N/A	3.84"
525+50.00	-3.27%	-2.10%	-2.10%	N/A	5.40"	525+50.00	-2.59%	-2.10%	-2.10%	N/A	4.29"
526+00.00	-2.59%	-2.10%	-2.10%	N/A	4.29"	526+00.00	-2.17%	-2.10%	-2.10%	N/A	3.62"
526+50.00	-2.73%	-2.10%	-2.10%	N/A	4.53"	526+50.00	-2.11%	-2.10%	-2.10%	N/A	3.51"
527+00.00	-2.89%	-2.10%	-2.10%	N/A	4.78"	527+00.00	-2.55%	-2.10%	-2.10%	N/A	4.23"
527+50.00	-3.19%	-2.10%	-2.10%	N/A	5.26"	527+50.00	-2.72%	-2.10%	-2.10%	N/A	4.51"
528+00.00	-2.91%	-2.10%	-2.10%	N/A	4.81"	528+00.00	-3.04%	-2.10%	-2.10%	N/A	5.02"
528+50.00	-2.86%	-2.10%	-2.10%	N/A	4.73"	528+50.00	-3.33%	-2.10%	-2.10%	N/A	5.49"
529+00.00	-2.87%	-2.10%	-2.10%	N/A	4.75"	529+00.00	-3.24%	-2.10%	-2.10%	N/A	5.35"
529+50.00	-2.77%	-2.10%	-2.10%	N/A	4.58"	529+50.00	-3.12%	-2.10%	-2.10%	N/A	5.14"
530+00.00	-2.97%	-2.10%	-2.10%	N/A	4.92"	530+00.00	-3.11%	-2.10%	-2.10%	N/A	5.13"
530+50.00	-3.08%	-2.10%	-2.10%	N/A	5.08"	530+50.00	-2.50%	-2.10%	-2.10%	N/A	4.15"
531+00.00	-3.39%	-2.10%	-2.10%	N/A	5.59"	531+00.00	-2.65%	-2.10%	-2.10%	N/A	4.39"
531+50.00	-3.06%	-2.10%	-2.10%	N/A	5.05"	531+50.00	-3.01%	-2.10%	-2.10%	N/A	4.98"
532+00.00	-3.69%	-2.10%	-2.10%	N/A	6.07"	532+00.00	-3.43%	-2.10%	-2.10%	N/A	5.65"
532+50.00	-4.02%	-2.10%	-2.10%	N/A	6.61"	532+50.00	-3.03%	-2.10%	-2.10%	N/A	5.01"
533+00.00	-3.30%	-2.10%	-2.10%	N/A	5.44"	533+00.00	-2.63%	-2.10%	-2.10%	N/A	4.37"
533+50.00	-2.08%	-2.10%	-2.08%	N/A	3.50"	533+50.00	-2.09%	-2.10%	-2.09%	N/A	3.50"
534+00.00	-2.50%	-2.10%	-2.10%	N/A	4.14"	534+00.00	-2.53%	-2.10%	-2.10%	N/A	4.20"
534+50.00	-2.04%	-2.10%	-2.04%	N/A	3.50"	534+50.00	-1.93%	-2.10%	-1.93%	N/A	3.50"
535+00.00	-1.87%	-2.10%	-1.87%	N/A	3.50"	535+00.00	-2.52%	-2.10%	-2.10%	N/A	4.18"
535+50.00	-1.37%	-2.10%	-1.50%	-0.21"	3.50"	535+50.00	-2.21%	-2.10%	-2.10%	N/A	3.67"
536+00.00	-1.54%	-2.10%	-1.54%	N/A	3.50"	536+00.00	-2.23%	-2.10%	-2.10%	N/A	3.70"
536+50.00	-1.64%	-2.10%	-1.64%	N/A	3.50"	536+50.00	-2.67%	-2.10%	-2.10%	N/A	4.42"
537+00.00	-1.78%	-2.10%	-1.78%	N/A	3.50"	537+00.00	-2.85%	-2.10%	-2.10%	N/A	4.72"
537+50.00	-2.20%	-2.10%	-2.10%	N/A	3.65"	537+50.00	-3.15%	-2.10%	-2.10%	N/A	5.20"
538+00.00	-2.15%	-2.10%	-2.10%	N/A	3.59"	538+00.00	-2.96%	-2.10%	-2.10%	N/A	4.90"
538+50.00	-2.50%	-2.10%	-2.10%	N/A	4.14"	538+50.00	-2.31%	-2.10%	-2.10%	N/A	3.84"
539+00.00	-2.37%	-2.10%	-2.10%	N/A	3.93"	539+00.00	-2.35%	-2.10%	-2.10%	N/A	3.91"
539+50.00	-2.56%	-2.10%	-2.10%	N/A	4.24"	539+50.00	-2.53%	-2.10%	-2.10%	N/A	4.19"
540+00.00	-1.55%	-2.10%	-1.55%	N/A	3.50"	540+00.00	-2.15%	-2.10%	-2.10%	N/A	3.58"
540+50.00	-2.54%	-2.10%	-2.10%	N/A	4.21"	540+50.00	-2.83%	-2.10%	-2.10%	N/A	4.67"
541+00.00	-1.89%	-2.10%	-1.89%	N/A	3.50"	541+00.00	-2.52%	-2.10%	-2.10%	N/A	4.18"

Roadway Cross Slopes with Pavement and Milling Depths

LEFT						RIGHT					
Station	Existing Cross Slope	Design Cross Slope	Corrected Cross Slope	Milling Depth at 13.5' LT	Asphalt Depth at 13.5' LT	Station	Existing Cross Slope	Design Cross Slope	Corrected Cross Slope	Milling Depth at 13.5' RT	Asphalt Depth at 13.5' RT
541+50.00	-1.91%	-2.10%	-1.91%	N/A	3.50"	541+50.00	-2.67%	-2.10%	-2.10%	N/A	4.42"
542+00.00	-1.65%	-2.10%	-1.65%	N/A	3.50"	542+00.00	-1.22%	-2.10%	-1.50%	-0.46"	3.50"
542+50.00	-2.53%	-2.10%	-2.10%	N/A	4.19"	542+50.00	-4.66%	-2.10%	-2.10%	N/A	7.64"
543+00.00	-1.51%	-2.10%	-1.51%	N/A	3.50"	543+00.00	-3.60%	-2.10%	-2.10%	N/A	5.93"
543+50.00	-2.05%	-2.10%	-2.05%	N/A	3.50"	543+50.00	-4.52%	-2.10%	-2.10%	N/A	7.42"
544+00.00	-3.21%	-2.10%	-2.10%	N/A	5.30"	544+00.00	-3.57%	-2.10%	-2.10%	N/A	5.88"
544+50.00	-2.61%	-2.10%	-2.10%	N/A	4.32"	544+50.00	-3.54%	-2.10%	-2.10%	N/A	5.82"
545+00.00	-3.17%	-2.10%	-2.10%	N/A	5.23"	545+00.00	-3.00%	-2.10%	-2.10%	N/A	4.95"
545+50.00	-4.32%	-2.10%	-2.10%	N/A	7.09"	545+50.00	-4.98%	-2.10%	-2.10%	N/A	8.17"
546+00.00	-2.95%	-2.10%	-2.10%	N/A	4.88"	546+00.00	-2.78%	-2.10%	-2.10%	N/A	4.60"
546+50.00	-3.17%	-2.10%	-2.10%	N/A	5.23"	546+50.00	-3.16%	-2.10%	-2.10%	N/A	5.22"
547+00.00	-3.27%	-2.10%	-2.10%	N/A	5.40"	547+00.00	-2.79%	-2.10%	-2.10%	N/A	4.62"
547+50.00	-3.24%	-2.10%	-2.10%	N/A	5.35"	547+50.00	-2.56%	-2.10%	-2.10%	N/A	4.24"
548+00.00	-2.82%	-2.10%	-2.10%	N/A	4.67"	548+00.00	-2.62%	-2.10%	-2.10%	N/A	4.34"
548+50.00	-3.58%	-2.10%	-2.10%	N/A	5.90"	548+50.00	-2.95%	-2.10%	-2.10%	N/A	4.87"
549+00.00	-3.34%	-2.10%	-2.10%	N/A	5.50"	549+00.00	-3.30%	-2.10%	-2.10%	N/A	5.44"
549+50.00	-2.94%	-2.10%	-2.10%	N/A	4.86"	549+50.00	-3.37%	-2.10%	-2.10%	N/A	5.56"
550+00.00	-2.55%	-2.10%	-2.10%	N/A	4.22"	550+00.00	-3.27%	-2.10%	-2.10%	N/A	5.39"
550+50.00	-3.17%	-2.10%	-2.10%	N/A	5.24"	550+50.00	-3.01%	-2.10%	-2.10%	N/A	4.98"
551+00.00	-3.54%	-2.10%	-2.10%	N/A	5.84"	551+00.00	-2.84%	-2.10%	-2.10%	N/A	4.70"
551+50.00	-4.04%	-2.10%	-2.10%	N/A	6.65"	551+50.00	-2.81%	-2.10%	-2.10%	N/A	4.65"
552+00.00	-3.32%	-2.10%	-2.10%	N/A	5.47"	552+00.00	-2.66%	-2.10%	-2.10%	N/A	4.41"
552+50.00	-3.03%	-2.10%	-2.10%	N/A	5.01"	552+50.00	-2.01%	-2.10%	-2.01%	N/A	3.50"
553+00.00	-3.29%	-2.10%	-2.10%	N/A	5.43"	553+00.00	-1.92%	-2.10%	-1.92%	N/A	3.50"
553+50.00	-3.32%	-2.10%	-2.10%	N/A	5.47"	553+50.00	-2.58%	-2.10%	-2.10%	N/A	4.28"
554+00.00	-3.05%	-2.10%	-2.10%	N/A	5.03"	554+00.00	-2.29%	-2.10%	-2.10%	N/A	3.81"
554+50.00	-2.56%	-2.10%	-2.10%	N/A	4.25"	554+50.00	-1.92%	-2.10%	-1.92%	N/A	3.50"
555+00.00	-2.37%	-2.10%	-2.10%	N/A	3.93"	555+00.00	-1.19%	-2.10%	-1.50%	-0.51"	3.50"
555+50.00	-2.20%	-2.10%	-2.10%	N/A	3.66"	555+50.00	-1.28%	-2.10%	-1.50%	-0.36"	3.50"
556+00.00	-2.17%	-2.10%	-2.10%	N/A	3.61"	556+00.00	-0.55%	-2.10%	-1.50%	-1.53"	3.50"
556+50.00	-2.69%	-2.10%	-2.10%	N/A	4.46"	556+50.00	-1.28%	-2.10%	-1.50%	-0.36"	3.50"
557+00.00	-2.15%	-2.10%	-2.10%	N/A	3.58"	557+00.00	-2.24%	-2.10%	-2.10%	N/A	3.73"
557+50.00	-2.36%	-2.10%	-2.10%	N/A	3.91"	557+50.00	-2.31%	-2.10%	-2.10%	N/A	3.85"
558+00.00	-2.27%	-2.10%	-2.10%	N/A	3.78"	558+00.00	-2.14%	-2.10%	-2.10%	N/A	3.56"
558+50.00	-2.49%	-2.10%	-2.10%	N/A	4.14"	558+50.00	-2.29%	-2.10%	-2.10%	N/A	3.81"
559+00.00	-2.74%	-2.10%	-2.10%	N/A	4.54"	559+00.00	-2.58%	-2.10%	-2.10%	N/A	4.28"
559+50.00	-3.22%	-2.10%	-2.10%	N/A	5.32"	559+50.00	-2.88%	-2.10%	-2.10%	N/A	4.77"
560+00.00	-3.94%	-2.10%	-2.10%	N/A	6.47"	560+00.00	-2.97%	-2.10%	-2.10%	N/A	4.90"
560+50.00	-3.39%	-2.10%	-2.10%	N/A	5.58"	560+50.00	-2.33%	-2.10%	-2.10%	N/A	3.87"
561+00.00	-3.77%	-2.10%	-2.10%	N/A	6.21"	561+00.00	-1.96%	-2.10%	-1.96%	N/A	3.50"
561+50.00	-3.66%	-2.10%	-2.10%	N/A	6.03"	561+50.00	-3.07%	-2.10%	-2.10%	N/A	5.07"
562+00.00	-4.48%	-2.10%	-2.10%	N/A	7.36"	562+00.00	-3.41%	-2.10%	-2.10%	N/A	5.62"
562+50.00	-2.60%	-2.10%	-2.10%	N/A	4.31"	562+50.00	-1.68%	-2.10%	-1.68%	N/A	3.50"
563+00.00	3.52%	2.10%	2.10%	N/A	5.79"	563+00.00	2.71%	2.10%	2.10%	N/A	4.48"
563+50.00	-3.44%	-2.10%	-2.10%	N/A	5.67"	563+50.00	-3.17%	-2.10%	-2.10%	N/A	5.23"
564+00.00	-2.73%	-2.10%	-2.10%	N/A	4.52"	564+00.00	-2.57%	-2.10%	-2.10%	N/A	4.26"

This document was originally issued and sealed by Kyle J. Comer Registration Number PE- 7537, on 03/11/16 and the original document is stored at the North Dakota Department of Transportation

Milling & Paving Depths

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	11	9

Roadway Cross Slopes with Pavement and Milling Depths

LEFT						RIGHT					
Station	Existing Cross Slope	Design Cross Slope	Corrected Cross Slope	Milling Depth at 13.5' LT	Asphalt Depth at 13.5' LT	Station	Existing Cross Slope	Design Cross Slope	Corrected Cross Slope	Milling Depth at 13.5' RT	Asphalt Depth at 13.5' RT
564+50.00	-2.82%	-2.10%	-2.10%	N/A	4.67"	564+50.00	-2.53%	-2.10%	-2.10%	N/A	4.19"
565+00.00	-2.64%	-2.10%	-2.10%	N/A	4.37"	565+00.00	-2.47%	-2.10%	-2.10%	N/A	4.10"
565+50.00	-2.68%	-2.10%	-2.10%	N/A	4.43"	565+50.00	-2.44%	-2.10%	-2.10%	N/A	4.05"
566+00.00	-2.53%	-2.10%	-2.10%	N/A	4.19"	566+00.00	-2.32%	-2.10%	-2.10%	N/A	3.85"
566+50.00	-3.05%	-2.10%	-2.10%	N/A	5.03"	566+50.00	-3.54%	-2.10%	-2.10%	N/A	5.83"
567+00.00	-3.01%	-2.10%	-2.10%	N/A	4.98"	567+00.00	-3.52%	-2.10%	-2.10%	N/A	5.81"
567+50.00	-3.08%	-2.10%	-2.10%	N/A	5.09"	567+50.00	-3.43%	-2.10%	-2.10%	N/A	5.65"
568+00.00	-2.40%	-2.10%	-2.10%	N/A	3.99"	568+00.00	-3.00%	-2.10%	-2.10%	N/A	4.95"
568+50.00	-2.62%	-2.10%	-2.10%	N/A	4.34"	568+50.00	-3.22%	-2.10%	-2.10%	N/A	5.31"
569+00.00	-2.98%	-2.10%	-2.10%	N/A	4.93"	569+00.00	-2.82%	-2.10%	-2.10%	N/A	4.66"
569+50.00	-3.06%	-2.10%	-2.10%	N/A	5.05"	569+50.00	-2.51%	-2.10%	-2.10%	N/A	4.17"
570+00.00	-2.77%	-2.10%	-2.10%	N/A	4.58"	570+00.00	-3.26%	-2.10%	-2.10%	N/A	5.37"
570+50.00	-4.36%	-2.10%	-2.10%	N/A	7.15"	570+50.00	-3.27%	-2.10%	-2.10%	N/A	5.40"
571+00.00	-2.92%	-2.10%	-2.10%	N/A	4.83"	571+00.00	-1.74%	-2.10%	-1.74%	N/A	3.50"
571+50.00	-3.28%	-2.10%	-2.10%	N/A	5.40"	571+50.00	-2.56%	-2.10%	-2.10%	N/A	4.25"
572+00.00	-3.11%	-2.10%	-2.10%	N/A	5.14"	572+00.00	-2.43%	-2.10%	-2.10%	N/A	4.03"
572+50.00	-2.66%	-2.10%	-2.10%	N/A	4.41"	572+50.00	-2.22%	-2.10%	-2.10%	N/A	3.70"
573+00.00	-3.46%	-2.10%	-2.10%	N/A	5.70"	573+00.00	-3.48%	-2.10%	-2.10%	N/A	5.74"
573+50.00	-3.56%	-2.10%	-2.10%	N/A	5.86"	573+50.00	-3.54%	-2.10%	-2.10%	N/A	5.83"
574+00.00	-2.61%	-2.10%	-2.10%	N/A	4.32"	574+00.00	-2.44%	-2.10%	-2.10%	N/A	4.05"
574+50.00	-1.83%	-2.10%	-1.83%	N/A	3.50"	574+50.00	-2.60%	-2.10%	-2.10%	N/A	4.30"
575+00.00	-2.34%	-2.10%	-2.10%	N/A	3.89"	575+00.00	-2.77%	-2.10%	-2.10%	N/A	4.59"
575+50.00	-2.65%	-2.10%	-2.10%	N/A	4.39"	575+50.00	-1.77%	-2.10%	-1.77%	N/A	3.50"
576+00.00	-2.35%	-2.10%	-2.10%	N/A	3.91"	576+00.00	-2.64%	-2.10%	-2.10%	N/A	4.37"
576+50.00	-2.48%	-2.10%	-2.10%	N/A	4.12"	576+50.00	-2.37%	-2.10%	-2.10%	N/A	3.94"
577+00.00	-2.21%	-2.10%	-2.10%	N/A	3.68"	577+00.00	-1.65%	-2.10%	-1.65%	N/A	3.50"
577+50.00	-2.10%	-2.10%	-2.10%	N/A	3.50"	577+50.00	-2.59%	-2.10%	-2.10%	N/A	4.29"
578+00.00	-2.19%	-2.10%	-2.10%	N/A	3.64"	578+00.00	-2.85%	-2.10%	-2.10%	N/A	4.72"
578+50.00	-3.44%	-2.10%	-2.10%	N/A	5.67"	578+50.00	-2.45%	-2.10%	-2.10%	N/A	4.07"
579+00.00	-3.50%	-2.10%	-2.10%	N/A	5.76"	579+00.00	-2.65%	-2.10%	-2.10%	N/A	4.38"
579+50.00	-2.01%	-2.10%	-2.01%	N/A	3.50"	579+50.00	-1.66%	-2.10%	-1.66%	N/A	3.50"
580+00.00	-3.16%	-2.10%	-2.10%	N/A	5.22"	580+00.00	-3.14%	-2.10%	-2.10%	N/A	5.18"
580+50.00	-3.17%	-2.10%	-2.10%	N/A	5.24"	580+50.00	-2.31%	-2.10%	-2.10%	N/A	3.84"
581+00.00	-3.60%	-2.10%	-2.10%	N/A	5.93"	581+00.00	-2.76%	-2.10%	-2.10%	N/A	4.56"
581+50.00	-2.88%	-2.10%	-2.10%	N/A	4.76"	581+50.00	-1.87%	-2.10%	-1.87%	N/A	3.50"
582+00.00	-2.80%	-2.10%	-2.10%	N/A	4.64"	582+00.00	-1.86%	-2.10%	-1.86%	N/A	3.50"
582+50.00	-2.66%	-2.10%	-2.10%	N/A	4.40"	582+50.00	-3.25%	-2.10%	-2.10%	N/A	5.37"
583+00.00	-2.60%	-2.10%	-2.10%	N/A	4.31"	583+00.00	-2.61%	-2.10%	-2.10%	N/A	4.32"
583+50.00	-2.26%	-2.10%	-2.10%	N/A	3.76"	583+50.00	-2.72%	-2.10%	-2.10%	N/A	4.51"
584+00.00	-2.64%	-2.10%	-2.10%	N/A	4.37"	584+00.00	-2.26%	-2.10%	-2.10%	N/A	3.76"
584+50.00	-2.70%	-2.10%	-2.10%	N/A	4.48"	584+50.00	-1.88%	-2.10%	-1.88%	N/A	3.50"
585+00.00	-3.05%	-2.10%	-2.10%	N/A	5.04"	585+00.00	-2.51%	-2.10%	-2.10%	N/A	4.16"
585+50.00	-3.00%	-2.10%	-2.10%	N/A	4.95"	585+50.00	-2.14%	-2.10%	-2.10%	N/A	3.56"
586+00.00	-3.53%	-2.10%	-2.10%	N/A	5.81"	586+00.00	-2.71%	-2.10%	-2.10%	N/A	4.49"
586+50.00	-3.67%	-2.10%	-2.10%	N/A	6.04"	586+50.00	-2.77%	-2.10%	-2.10%	N/A	4.58"
587+00.00	-2.40%	-2.10%	-2.10%	N/A	3.99"	587+00.00	-1.94%	-2.10%	-1.94%	N/A	3.50"
587+50.00	-2.34%	-2.10%	-2.10%	N/A	3.89"	587+50.00	-2.18%	-2.10%	-2.10%	N/A	3.62"
588+00.00	-2.77%	-2.10%	-2.10%	N/A	4.59"	588+00.00	-2.29%	-2.10%	-2.10%	N/A	3.80"
588+50.00	-2.38%	-2.10%	-2.10%	N/A	3.95"	588+50.00	-2.67%	-2.10%	-2.10%	N/A	4.42"
589+00.00	-3.56%	-2.10%	-2.10%	N/A	5.86"	589+00.00	-3.21%	-2.10%	-2.10%	N/A	5.29"
589+50.00	-3.31%	-2.10%	-2.10%	N/A	5.45"	589+50.00	-3.12%	-2.10%	-2.10%	N/A	5.16"
590+00.00	-3.37%	-2.10%	-2.10%	N/A	5.55"	590+00.00	-2.83%	-2.10%	-2.10%	N/A	4.69"
590+50.00	-1.84%	-2.10%	-1.84%	N/A	3.50"	590+50.00	-2.45%	-2.10%	-2.10%	N/A	4.06"
591+00.00	-2.22%	-2.10%	-2.10%	N/A	3.69"	591+00.00	-2.41%	-2.10%	-2.10%	N/A	4.00"
591+50.00	-2.42%	-2.10%	-2.10%	N/A	4.01"	591+50.00	-2.51%	-2.10%	-2.10%	N/A	4.16"
592+00.00	-2.58%	-2.10%	-2.10%	N/A	4.28"	592+00.00	-2.17%	-2.10%	-2.10%	N/A	3.62"
592+50.00	-1.70%	-2.10%	-1.70%	N/A	3.50"	592+50.00	-2.21%	-2.10%	-2.10%	N/A	3.67"
593+00.00	-2.49%	-2.10%	-2.10%	N/A	4.14"	593+00.00	-1.95%	-2.10%	-1.95%	N/A	3.50"
593+50.00	-2.91%	-2.10%	-2.10%	N/A	4.81"	593+50.00	-2.27%	-2.10%	-2.10%	N/A	3.77"
594+00.00	-2.74%	-2.10%	-2.10%	N/A	4.53"	594+00.00	-2.39%	-2.10%	-2.10%	N/A	3.97"
594+50.00	-2.71%	-2.10%	-2.10%	N/A	4.49"	594+50.00	-1.36%	-2.10%	-1.50%	-0.23"	3.50"
595+00.00	-2.98%	-2.10%	-2.10%	N/A	4.93"	595+00.00	-1.80%	-2.10%	-1.80%	N/A	3.50"
595+50.00	-2.59%	-2.10%	-2.10%	N/A	4.30"	595+50.00	-1.91%	-2.10%	-1.91%	N/A	3.50"
596+00.00	-3.87%	-2.10%	-2.10%	N/A	6.37"	596+00.00	-2.78%	-2.10%	-2.10%	N/A	4.60"
596+50.00	-3.21%	-2.10%	-2.10%	N/A	5.30"	596+50.00	-2.26%	-2.10%	-2.10%	N/A	3.75"
597+00.00	-2.80%	-2.10%	-2.10%	N/A	4.64"	597+00.00	-3.01%	-2.10%	-2.10%	N/A	4.97"
597+50.00	-2.51%	-2.10%	-2.10%	N/A	4.16"	597+50.00	-2.68%	-2.10%	-2.10%	N/A	4.44"
598+00.00	-2.84%	-2.10%	-2.10%	N/A	4.69"	598+00.00	-2.74%	-2.10%	-2.10%	N/A	4.54"
598+50.00	-3.26%	-2.10%	-2.10%	N/A	5.38"	598+50.00	-3.35%	-2.10%	-2.10%	N/A	5.52"
599+00.00	-2.24%	-2.10%	-2.10%	N/A	3.73"	599+00.00	-2.05%	-2.10%	-2.05%	N/A	3.50"
599+50.00	-2.35%	-2.10%	-2.10%	N/A	3.90"	599+50.00	-2.95%	-2.10%	-2.10%	N/A	4.88"
600+00.00	-2.26%	-2.10%	-2.10%	N/A	3.76"	600+00.00	-2.39%	-2.10%	-2.10%	N/A	3.97"
600+50.00	-2.38%	-2.10%	-2.10%	N/A	3.95"	600+50.00	-1.67%	-2.10%	-1.67%	N/A	3.50"
601+00.00	-1.52%	-2.10%	-1.52%	N/A	3.50"	601+00.00	-2.17%	-2.10%	-2.10%	N/A	3.62"
601+50.00	-1.69%	-2.10%	-1.69%	N/A	3.50"	601+50.00	-2.57%	-2.10%	-2.10%	N/A	4.26"
602+00.00	-2.00%	-2.10%	-2.00%	N/A	3.50"	602+00.00	-2.20%	-2.10%	-2.10%	N/A	3.66"

Roadway Cross Slopes with Pavement and Milling Depths

LEFT						RIGHT					
Station	Existing Cross Slope	Design Cross Slope	Corrected Cross Slope	Milling Depth at 13.5' LT	Asphalt Depth at 13.5' LT	Station	Existing Cross Slope	Design Cross Slope	Corrected Cross Slope	Milling Depth at 13.5' RT	Asphalt Depth at 13.5' RT
602+50.00	-1.85%	-2.10%	-1.85%	N/A	3.50"	602+50.00	-3.14%	-2.10%	-2.10%	N/A	5.18"
603+00.00	-2.50%	-2.10%	-2.10%	N/A	4.15"	603+00.00	-2.46%	-2.10%	-2.10%	N/A	4.09"
603+50.00	-3.25%	-2.10%	-2.10%	N/A	5.35"	603+50.00	-2.33%	-2.10%	-2.10%	N/A	3.88"
604+00.00	-2.56%	-2.10%	-2.10%	N/A	4.24"	604+00.00	-1.57%	-2.10%	-1.57%	N/A	3.50"
604+50.00	-2.01%	-2.10%	-2.01%	N/A	3.50"	604+50.00	-1.80%	-2.10%	-1.80%	N/A	3.50"
605+00.00	-2.53%	-2.10%	-2.10%	N/A	4.20"	605+00.00	-1.76%	-2.10%	-1.76%	N/A	3.50"
605+50.00	-2.90%	-2.10%	-2.10%	N/A	4.80"	605+50.00	-2.51%	-2.10%	-2.10%	N/A	4.16"
606+00.00	-2.40%	-2.10%	-2.10%	N/A	3.99"	606+00.00	-1.52%	-2.10%	-1.52%	N/A	3.50"
606+50.00	-2.14%	-2.10%	-2.10%	N/A	3.56"	606+50.00	-3.22%	-2.10%	-2.10%	N/A	5.31"
607+00.00	-1.28%	-2.10%	-1.50%	-0.36"	3.50"	607+00.00	-1.51%	-2.10%	-1.51%	N/A	3.50"
607+50.00	-3.57%	-2.10%	-2.10%	N/A	5.87"	607+50.00	-2.91%	-2.10%	-2.10%	N/A	4.82"
608+00.00	-2.80%	-2.10%	-2.10%	N/A	4.64"	608+00.00	-2.96%	-2.10%	-2.10%	N/A	4.89"
608+50.00	-2.92%	-2.10%	-2.10%	N/A	4.83"	608+50.00	-2.45%	-2.10%	-2.10%	N/A	4.07"
609+00.00	-3.14%	-2.10%	-2.10%	N/A	5.18"	609+00.00	-2.95%	-2.10%	-2.10%	N/A	4.88"
609+50.00	-1.54%	-2.10%	-1.54%	N/A	3.50"	609+50.00	-1.91%	-2.10%	-1.91%	N/A	3.50"
610+00.00	-2.46%	-2.10%	-2.10%	N/A	4.08"	610+00.00	-2.65%	-2.10%	-2.10%	N/A	4.40"
610+50.00	-2.52%	-2.10%	-2.10%	N/A	4.17"	610+50.00	-2.33%	-2.10%	-2.10%	N/A	3.87"
611+00.00	-3.15%	-2.10%	-2.10%	N/A	5.20"	611+00.00	-2.95%	-2.10%	-2.10%	N/A	4.88"
611+50.00	-3.23%	-2.10%	-2.10%	N/A	5.34"	611+50.00	-1.84%	-2.10%	-1.84%	N/A	3.50"
612+00.00	-3.18%	-2.10%	-2.10%	N/A	5.26"	612+00.00	-2.29%	-2.10%	-2.10%	N/A	3.81"
612+50.00	-3.19%	-2.10%	-2.10%	N/A	5.27"	612+50.00	-2.71%	-2.10%	-2.10%	N/A	4.49"
613+00.00	-3.14%	-2.10%	-2.10%	N/A	5.19"	613+00.00	-1.56%	-2.10%	-1.56%	N/A	3.50"
613+50.00	-2.84%	-2.10%	-2.10%	N/A	4.70"	613+50.00	-2.00%	-2.10%	-2.00%	N/A	3.50"
614+00.00	-3.37%	-2.10%	-2.10%	N/A	5.56"	614+00.00	-2.66%	-2.10%	-2.10%	N/A	4.41"
614+50.00	-2.86%	-2.10%	-2.10%	N/A	4.73"	614+50.00	-3.66%	-2.10%	-2.10%	N/A	6.03"
615+00.00	-2.44%	-2.10%	-2.10%	N/A	4.05"	615+00.00	-3.27%	-2.10%	-2.10%	N/A	5.40"
615+50.00	-1.83%	-2.10%	-1.83%	N/A	3.50"	615+50.00	-1.40%	-2.10%	-1.50%	-0.17"	3.50"
616+00.00	-2.40%	-2.10%	-2.10%	N/A	3.99"	616+00.00	-1.78%	-2.10%	-1.78%	N/A	3.50"
616+50.00	-1.44%	-2.10%	-1.50%	-0.10"	3.50"	616+50.00	-2.72%	-2.10%	-2.10%	N/A	4.50"
617+00.00	-1.34%	-2.10%	-1.50%	-0.27"	3.50"	617+00.00	-3.29%	-2.10%	-2.10%	N/A	5.43"
617+50.00	-0.55%	-2.10%	-1.50%	-1.53"	3.50"	617+50.00	-3.14%	-2.10%	-2.10%	N/A	5.19"
618+00.00	-0.81%	-2.10%	-1.50%	-1.12"	3.50"	618+00.00	-2.39%	-2.10%	-2.10%	N/A	3.97"
618+50.00	-2.09%	-2.10%	-2.09%	N/A	3.50"	618+50.00	-3.38%	-2.10%	-2.10%	N/A	5.57"
619+00.00	-1.68%	-2.10%	-1.68%	N/A	3.50"	619+00.00	-2.42%	-2.10%	-2.10%	N/A	4.01"
619+50.00	-2.64%	-2.10%	-2.10%	N/A	4.37"	619+50.00	-2.71%	-2.10%	-2.10%	N/A	4.49"
620+00.00	-2.31%	-2.10%	-2.10%	N/A	3.84"	620+00.00	-2.49%	-2.10%	-2.10%	N/A	4.13"
620+50.00	-2.75%	-2.10%	-2.10%	N/A	4.56"	620+50.00	-3.09%	-2.10%	-2.10%	N/A	5.10"
621+00.00	-3.28%	-2.10%	-2.10%	N/A	5.41"	621+00.00	-2.85%	-2.10%	-2.10%	N/A	4.71"
621+50.00	-3.02%	-2.10%	-2.10%	N/A	4.99"	621+50.00	-2.66%	-2.10%	-2.10%	N/A	4.40"
622+00.00	-3.08%	-2.10%	-2.10%	N/A	5.09"	622+00.00	-2.19%	-2.10%	-2.10%	N/A	3.65"
622+50.00	-3.03%	-2.10%	-2.10%	N/A	5.00"	622+50.00	-2.32%	-2.10%	-2.10%	N/A	3.86"
623+00.00	-3.14%	-2.10%	-2.10%	N/A	5.18"	623+00.00	-3.26%	-2.10%	-2.10%	N/A	5.37"
623+50.00	-2.65%	-2.10%	-2.10%	N/A	4.38"	623+50.00	-2.46%	-2.10%	-2.10%	N/A	4.09"
624+00.00	-3.02%	-2.10%	-2.10%	N/A	4.99"	624+00.00	-2.65%	-2.10%	-2.10%	N/A	4.38"
624+50.00	-3.06%	-2.10%	-2.10%	N/A	5.06"	624+50.00	-2.83%	-2.10%	-2.10%	N/A	4.67"
625+00.00	-2.33%	-2.10%	-2.10%	N/A	3.87"	625+00.00	-2.33%	-2.10%	-2.10%	N/A	3.88"

This document was originally issued and sealed by Kyle J. Comer Registration Number PE- 7537, on 03/11/16 and the original document is stored at the North Dakota Department of Transportation

Milling & Paving Depths

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	11	10

Roadway Cross Slopes with Pavement and Milling Depths

LEFT						RIGHT					
Station	Existing Cross Slope	Design Cross Slope	Corrected Cross Slope	Milling Depth at 13.5' LT	Asphalt Depth at 13.5' LT	Station	Existing Cross Slope	Design Cross Slope	Corrected Cross Slope	Milling Depth at 13.5' RT	Asphalt Depth at 13.5' RT
625+50.00	-2.94%	-2.10%	-2.10%	N/A	4.86"	625+50.00	-2.57%	-2.10%	-2.10%	N/A	4.25"
626+00.00	-3.40%	-2.10%	-2.10%	N/A	5.61"	626+00.00	-2.50%	-2.10%	-2.10%	N/A	4.14"
626+50.00	-3.43%	-2.10%	-2.10%	N/A	5.66"	626+50.00	-3.21%	-2.10%	-2.10%	N/A	5.30"
627+00.00	-2.21%	-2.10%	-2.10%	N/A	3.68"	627+00.00	-2.97%	-2.10%	-2.10%	N/A	4.91"
627+50.00	-2.62%	-2.10%	-2.10%	N/A	4.34"	627+50.00	-1.16%	-2.10%	-1.50%	-0.55"	3.50"
628+00.00	-3.35%	-2.10%	-2.10%	N/A	5.53"	628+00.00	-1.98%	-2.10%	-1.98%	N/A	3.50"
628+50.00	-2.95%	-2.10%	-2.10%	N/A	4.87"	628+50.00	-2.29%	-2.10%	-2.10%	N/A	3.81"
629+00.00	-2.75%	-2.10%	-2.10%	N/A	4.55"	629+00.00	-2.76%	-2.10%	-2.10%	N/A	4.57"
629+50.00	-2.00%	-2.10%	-2.00%	N/A	3.50"	629+50.00	-3.38%	-2.10%	-2.10%	N/A	5.58"
630+00.00	-2.90%	-2.10%	-2.10%	N/A	4.79"	630+00.00	-2.35%	-2.10%	-2.10%	N/A	3.90"
630+50.00	-2.33%	-2.10%	-2.10%	N/A	3.86"	630+50.00	-2.20%	-2.10%	-2.10%	N/A	3.66"
631+00.00	-2.67%	-2.10%	-2.10%	N/A	4.43"	631+00.00	-3.11%	-2.10%	-2.10%	N/A	5.13"
631+50.00	-3.20%	-2.10%	-2.10%	N/A	5.29"	631+50.00	-3.72%	-2.10%	-2.10%	N/A	6.12"
632+00.00	-3.90%	-2.10%	-2.10%	N/A	6.41"	632+00.00	-4.41%	-2.10%	-2.10%	N/A	7.24"
632+50.00	-2.85%	-2.10%	-2.10%	N/A	4.72"	632+50.00	-3.88%	-2.10%	-2.10%	N/A	6.38"
633+00.00	-2.73%	-2.10%	-2.10%	N/A	4.52"	633+00.00	-2.72%	-2.10%	-2.10%	N/A	4.51"
633+50.00	-3.38%	-2.10%	-2.10%	N/A	5.57"	633+50.00	-3.06%	-2.10%	-2.10%	N/A	5.06"
634+00.00	-2.66%	-2.10%	-2.10%	N/A	4.40"	634+00.00	-2.97%	-2.10%	-2.10%	N/A	4.91"
634+50.00	-2.32%	-2.10%	-2.10%	N/A	3.85"	634+50.00	-3.43%	-2.10%	-2.10%	N/A	5.66"
635+00.00	-2.27%	-2.10%	-2.10%	N/A	3.77"	635+00.00	-2.50%	-2.10%	-2.10%	N/A	4.14"
635+50.00	-2.87%	-2.10%	-2.10%	N/A	4.75"	635+50.00	-2.84%	-2.10%	-2.10%	N/A	4.70"
636+00.00	-3.23%	-2.10%	-2.10%	N/A	5.34"	636+00.00	-3.64%	-2.10%	-2.10%	N/A	5.99"
636+50.00	-3.19%	-2.10%	-2.10%	N/A	5.27"	636+50.00	-3.36%	-2.10%	-2.10%	N/A	5.54"
637+00.00	-3.29%	-2.10%	-2.10%	N/A	5.42"	637+00.00	-3.54%	-2.10%	-2.10%	N/A	5.83"
637+50.00	-2.68%	-2.10%	-2.10%	N/A	4.44"	637+50.00	-1.63%	-2.10%	-1.63%	N/A	3.50"
638+00.00	-2.84%	-2.10%	-2.10%	N/A	4.69"	638+00.00	-1.38%	-2.10%	-1.50%	-0.19"	3.50"
638+50.00	-2.67%	-2.10%	-2.10%	N/A	4.43"	638+50.00	-1.91%	-2.10%	-1.91%	N/A	3.50"
639+00.00	-2.13%	-2.10%	-2.10%	N/A	3.56"	639+00.00	-1.04%	-2.10%	-1.50%	-0.75"	3.50"
639+50.00	-2.09%	-2.10%	-2.09%	N/A	3.50"	639+50.00	-1.53%	-2.10%	-1.53%	N/A	3.50"
640+00.00	-2.31%	-2.10%	-2.10%	N/A	3.84"	640+00.00	-1.34%	-2.10%	-1.50%	-0.26"	3.50"
640+50.00	-2.60%	-2.10%	-2.10%	N/A	4.31"	640+50.00	-1.88%	-2.10%	-1.88%	N/A	3.50"
641+00.00	-3.14%	-2.10%	-2.10%	N/A	5.19"	641+00.00	-1.31%	-2.10%	-1.50%	-0.31"	3.50"
641+50.00	-1.82%	-2.10%	-1.82%	N/A	3.50"	641+50.00	-1.75%	-2.10%	-1.75%	N/A	3.50"
642+00.00	-2.65%	-2.10%	-2.10%	N/A	4.39"	642+00.00	-2.28%	-2.10%	-2.10%	N/A	3.78"
642+50.00	-2.24%	-2.10%	-2.10%	N/A	3.73"	642+50.00	-2.47%	-2.10%	-2.10%	N/A	4.09"
643+00.00	-2.31%	-2.10%	-2.10%	N/A	3.85"	643+00.00	-2.91%	-2.10%	-2.10%	N/A	4.81"
643+50.00	-2.64%	-2.10%	-2.10%	N/A	4.37"	643+50.00	-2.91%	-2.10%	-2.10%	N/A	4.81"
644+00.00	-1.93%	-2.10%	-1.93%	N/A	3.50"	644+00.00	-2.53%	-2.10%	-2.10%	N/A	4.19"
644+50.00	-2.15%	-2.10%	-2.10%	N/A	3.57"	644+50.00	-3.32%	-2.10%	-2.10%	N/A	5.48"
645+00.00	-2.09%	-2.10%	-2.09%	N/A	3.50"	645+00.00	-2.64%	-2.10%	-2.10%	N/A	4.38"
645+50.00	-2.34%	-2.10%	-2.10%	N/A	3.89"	645+50.00	-2.62%	-2.10%	-2.10%	N/A	4.34"
646+00.00	-2.86%	-2.10%	-2.10%	N/A	4.73"	646+00.00	-2.43%	-2.10%	-2.10%	N/A	4.03"
646+50.00	-2.45%	-2.10%	-2.10%	N/A	4.07"	646+50.00	-2.32%	-2.10%	-2.10%	N/A	3.85"
647+00.00	-2.76%	-2.10%	-2.10%	N/A	4.57"	647+00.00	-3.43%	-2.10%	-2.10%	N/A	5.65"
647+50.00	-3.06%	-2.10%	-2.10%	N/A	5.05"	647+50.00	-2.95%	-2.10%	-2.10%	N/A	4.87"
648+00.00	-2.16%	-2.10%	-2.10%	N/A	3.60"	648+00.00	-3.15%	-2.10%	-2.10%	N/A	5.19"
648+50.00	-2.01%	-2.10%	-2.01%	N/A	3.50"	648+50.00	-3.11%	-2.10%	-2.10%	N/A	5.14"
649+00.00	-2.20%	-2.10%	-2.10%	N/A	3.66"	649+00.00	-2.98%	-2.10%	-2.10%	N/A	4.92"
649+50.00	-2.78%	-2.10%	-2.10%	N/A	4.60"	649+50.00	-2.35%	-2.10%	-2.10%	N/A	3.90"
650+00.00	-2.77%	-2.10%	-2.10%	N/A	4.58"	650+00.00	-2.26%	-2.10%	-2.10%	N/A	3.75"
650+50.00	-2.27%	-2.10%	-2.10%	N/A	3.78"	650+50.00	-1.47%	-2.10%	-1.50%	-0.04"	3.50"
651+00.00	-2.63%	-2.10%	-2.10%	N/A	4.36"	651+00.00	-2.28%	-2.10%	-2.10%	N/A	3.80"
651+50.00	-2.83%	-2.10%	-2.10%	N/A	4.68"	651+50.00	-2.28%	-2.10%	-2.10%	N/A	3.80"
652+00.00	-3.52%	-2.10%	-2.10%	N/A	5.79"	652+00.00	-0.95%	-2.10%	-1.50%	-0.89"	3.50"
652+50.00	-3.05%	-2.10%	-2.10%	N/A	5.03"	652+50.00	-2.08%	-2.10%	-2.08%	N/A	3.50"
653+00.00	-3.26%	-2.10%	-2.10%	N/A	5.38"	653+00.00	-2.24%	-2.10%	-2.10%	N/A	3.72"
653+50.00	-2.93%	-2.10%	-2.10%	N/A	4.84"	653+50.00	-2.02%	-2.10%	-2.02%	N/A	3.50"
654+00.00	-3.16%	-2.10%	-2.10%	N/A	5.21"	654+00.00	-2.45%	-2.10%	-2.10%	N/A	4.07"
654+50.00	-3.65%	-2.10%	-2.10%	N/A	6.01"	654+50.00	-2.90%	-2.10%	-2.10%	N/A	4.79"
655+00.00	-4.37%	-2.10%	-2.10%	N/A	7.18"	655+00.00	-2.41%	-2.10%	-2.10%	N/A	4.01"
655+50.00	-3.81%	-2.10%	-2.10%	N/A	6.27"	655+50.00	-2.48%	-2.10%	-2.10%	N/A	4.11"
656+00.00	-3.73%	-2.10%	-2.10%	N/A	6.13"	656+00.00	-2.44%	-2.10%	-2.10%	N/A	4.05"
656+50.00	-3.40%	-2.10%	-2.10%	N/A	5.61"	656+50.00	-2.12%	-2.10%	-2.10%	N/A	3.52"
657+00.00	-3.70%	-2.10%	-2.10%	N/A	6.09"	657+00.00	-2.45%	-2.10%	-2.10%	N/A	4.06"
657+50.00	-3.31%	-2.10%	-2.10%	N/A	5.46"	657+50.00	-2.09%	-2.10%	-2.09%	N/A	3.50"
658+00.00	-3.14%	-2.10%	-2.10%	N/A	5.19"	658+00.00	-0.97%	-2.10%	-1.50%	-0.87"	3.50"
658+50.00	-2.49%	-2.10%	-2.10%	N/A	4.13"	658+50.00	-0.67%	-2.10%	-1.50%	-1.34"	3.50"
659+00.00	-2.96%	-2.10%	-2.10%	N/A	4.89"	659+00.00	-1.54%	-2.10%	-1.54%	N/A	3.50"
659+50.00	-2.72%	-2.10%	-2.10%	N/A	4.51"	659+50.00	-1.53%	-2.10%	-1.53%	N/A	3.50"
660+00.00	-2.77%	-2.10%	-2.10%	N/A	4.59"	660+00.00	-1.58%	-2.10%	-1.58%	N/A	3.50"
660+50.00	-3.70%	-2.10%	-2.10%	N/A	6.09"	660+50.00	-2.15%	-2.10%	-2.10%	N/A	3.59"
661+00.00	-3.87%	-2.10%	-2.10%	N/A	6.36"	661+00.00	-1.89%	-2.10%	-1.89%	N/A	3.50"
661+50.00	-3.81%	-2.10%	-2.10%	N/A	6.26"	661+50.00	-1.89%	-2.10%	-1.89%	N/A	3.50"
662+00.00	-3.70%	-2.10%	-2.10%	N/A	6.09"	662+00.00	-2.19%	-2.10%	-2.10%	N/A	3.64"
662+50.00	-3.25%	-2.10%	-2.10%	N/A	5.36"	662+50.00	-2.36%	-2.10%	-2.10%	N/A	3.91"
663+00.00	-3.20%	-2.10%	-2.10%	N/A	5.28"	663+00.00	-2.18%	-2.10%	-2.10%	N/A	3.62"

Roadway Cross Slopes with Pavement and Milling Depths

LEFT						RIGHT					
Station	Existing Cross Slope	Design Cross Slope	Corrected Cross Slope	Milling Depth at 13.5' LT	Asphalt Depth at 13.5' LT	Station	Existing Cross Slope	Design Cross Slope	Corrected Cross Slope	Milling Depth at 13.5' RT	Asphalt Depth at 13.5' RT
663+50.00	-3.68%	-2.10%	-2.10%	N/A	6.05"	663+50.00	-2.16%	-2.10%	-2.10%	N/A	3.60"
664+00.00	-4.42%	-2.10%	-2.10%	N/A	7.26"	664+00.00	-1.95%	-2.10%	-1.95%	N/A	3.50"
664+50.00	-3.73%	-2.10%	-2.10%	N/A	6.14"	664+50.00	-1.77%	-2.10%	-1.77%	N/A	3.50"
665+00.00	-3.31%	-2.10%	-2.10%	N/A	5.46"	665+00.00	-1.84%	-2.10%	-1.84%	N/A	3.50"
665+50.00	-3.28%	-2.10%	-2.10%	N/A	5.41"	665+50.00	-2.22%	-2.10%	-2.10%	N/A	3.69"
666+00.00	-4.05%	-2.10%	-2.10%	N/A	6.65"	666+00.00	-2.54%	-2.10%	-2.10%	N/A	4.21"
666+50.00	-3.66%	-2.10%	-2.10%	N/A	6.03"	666+50.00	-2.37%	-2.10%	-2.10%	N/A	3.94"
667+00.00	-3.57%	-2.10%	-2.10%	N/A	5.87"	667+00.00	-2.10%	-2.10%	-2.10%	N/A	3.50"
667+50.00	-3.02%	-2.10%	-2.10%	N/A	4.99"	667+50.00	-1.99%	-2.10%	-1.99%	N/A	3.50"
668+00.00	-3.29%	-2.10%	-2.10%	N/A	5.43"	668+00.00	-2.23%	-2.10%	-2.10%	N/A	3.70"
668+50.00	-3.27%	-2.10%	-2.10%	N/A	5.40"	668+50.00	-1.62%	-2.10%	-1.62%	N/A	3.50"
669+00.00	-3.42%	-2.10%	-2.10%	N/A	5.64"	669+00.00	-1.38%	-2.10%	-1.50%	-0.19"	3.50"
669+50.00	-2.67%	-2.10%	-2.10%	N/A	4.42"	669+50.00	-0.84%	-2.10%	-1.50%	-1.06"	3.50"
670+00.00	-3.03%	-2.10%	-2.10%	N/A	5.00"	670+00.00	-2.14%	-2.10%	-2.10%	N/A	3.57"
670+50.00	-3.37%	-2.10%	-2.10%	N/A	5.56"	670+50.00	-2.02%	-2.10%	-2.02%	N/A	3.50"
671+00.00	-3.36%	-2.10%	-2.10%	N/A	5.54"	671+00.00	-2.33%	-2.10%	-2.10%	N/A	3.88"
671+50.00	-3.10%	-2.10%	-2.10%	N/A	5.12"	671+50.00	-2.20%	-2.10%	-2.10%	N/A	3.66"
672+00.00	-2.57%	-2.10%	-2.10%	N/A	4.26"	672+00.00	-1.98%	-2.10%	-1.98%	N/A	3.50"
672+50.00	-3.16%	-2.10%	-2.10%	N/A	5.22"	672+50.00	-2.41%	-2.10%	-2.10%	N/A	4.00"
673+00.00	-2.86%	-2.10%	-2.10%	N/A	4.74"	673+00.00	-2.06%	-2.10%	-2.06%	N/A	3.50"
673+50.00	-2.57%	-2.10%	-2.10%	N/A	4.26"	673+50.00	-1.76%	-2.10%	-1.76%	N/A	3.50"
674+00.00	-2.23%	-2.10%	-2.10%	N/A	3.71"	674+00.00	-2.22%	-2.10%	-2.10%	N/A	3.69"
674+50.00	-2.30%	-2.10%	-2.10%	N/A	3.83"	674+50.00	-1.38%	-2.10%	-1.50%	-0.19"	3.50"
675+00.00	-1.62%	-2.10%	-1.62%	N/A	3.50"	675+00.00	-1.80%	-2.10%	-1.80%	N/A	3.50"
675+50.00	-1.86%	-2.10%	-1.86%	N/A	3.50"	675+50.00	-2.07%	-2.10%	-2.07%	N/A	3.50"
676+00.00	-2.53%	-2.10%	-2.10%	N/A	4.19"	676+00.00	-2.35%	-2.10%	-2.10%	N/A	3.90"
676+50.00	-2.50%	-2.10%	-2.10%	N/A	4.14"	676+50.00	-2.40%	-2.10%	-2.10%	N/A	3.99"
677+00.00	-2.24%	-2.10%	-2.10%	N/A	3.73"	677+00.00	-3.12%	-2.10%	-2.10%	N/A	5.16"
677+50.00	-2.54%	-2.10%	-2.10%	N/A	4.21"	677+50.00	-1.92%	-2.10%	-1.92%	N/A	3.50"
678+00.00	-2.96%	-2.10%	-2.10%	N/A	4.89"	678+00.00	-2.60%	-2.10%	-2.10%	N/A	4.31"
678+50.00	-2.82%	-2.10%	-2.10%	N/A	4.67"	678+50.00	-2.05%	-2.10%	-2.05%	N/A	3.50"
679+00.00	-2.28%	-2.10%	-2.10%	N/A	3.79"	679+00.00	-1.66%	-2.10%	-1.66%	N/A	3.50"
679+50.00	-2.62%	-2.10%	-2.10%	N/A	4.33"	679+50.00	-2.01%	-2.10%	-2.01%	N/A	3.50"
680+00.00	-2.84%	-2.10%	-2.10%	N/A	4.69"	680+00.00	-2.44%	-2.10%	-2.10%	N/A	4.06"
680+50.00	-2.99%	-2.10%	-2.10%	N/A	4.93"	680+50.00	-2.26%	-2.10%	-2.10%	N/A	3.76"
681+00.00	-2.76%	-2.10%	-2.10%	N/A	4.56"	681+00.00	-2.17%	-2.10%	-2.10%	N/A	3.62"
681+50.00	-2.61%	-2.10%	-2.10%	N/A	4.33"	681+50.00	-2.49%	-2.10%	-2.10%	N/A	4.13"
682+00.00	-2.28%	-2.10%	-2.10%	N/A	3.79"	682+00.00	-2.33%	-2.10%	-2.10%	N/A	3.87"
682+50.00	-2.10%	-2.10%	-2.10%	N/A	3.50"	682+50.00	-2.11%	-2.10%	-2.10%	N/A	3.51"
683+00.00	-2.37%	-2.10%	-2.10%	N/A	3.93"	683+00.00	-2.26%	-2.10%	-2.10%	N/A	3.75"
683+50.00	-2.94%	-2.10%	-2.10%	N/A	4.86"	683+50.00	-1.84%	-2.10%	-1.84%	N/A	3.50"
684+00.00	-2.45%	-2.10%	-2.10%	N/A	4.07"	684+00.00	-0.91%	-2.10%	-1.50%	-0.95"	3.50"
684+50.00	-2.62%	-2.10%	-2.10%	N/A	4.33"	684+50.00	-1.54%	-2.10%	-1.54%	N/A	3.50"
685+00.00	-2.43%	-2.10%	-2.10%	N/A	4.03"	685+00.00	-1.40%	-2.10%	-1.50%	-0.16"	3.50"
685+50.00	-2.69%	-2.10%	-2.10%	N/A	4.46"	685+50.00	-2.05%	-2.10%	-2.05%	N/A	3.50"
686+00.00	-2.59%	-2.10%	-2.10%	N/A	4.30"	686+00.00	-2.31%	-2.10%	-2.10%	N/A	3.84"
686+50.00	-2.65%	-2.10%	-2.10%	N/A	4.39"	686+50.00	-1.53%	-2.10%	-1.53%	N/A	3.50"
687+00.00	-3.05%	-2.10%	-2.10%	N/A	5.04"	687+00.00	-2.10%	-2.10%	-2.10%	N/A	3.50"
687+50.00	-2.84%	-2.10%	-2.10%	N/A	4.70"	687+50.00	-1.29%	-2.10%	-1.50%	-0.34"	3.50"
688+00.00	-3.02%	-2.10%	-2.10%	N/A	4.99"	688+00.00	-1.81%	-2.10%	-1.81%	N/A	3.50"
688+50.00	-2.80%	-2.10%	-2.10%	N/A	4.63"	688+50.00	-1.63%	-2.10%	-1.63%	N/A	3.50"
689+00.00	-3.14%	-2.10%	-2.10%	N/A	5.18"	689+00.00	-1.66%	-2.10%	-1.66%	N/A	3.50"
689+50.00	-2.81%	-2.10%	-2.10%	N/A	4.65"	689+50.00	-1.07%	-2.10%	-1.50%	-0.69"	3.50"
690+00.00	-2.21%	-2.10%	-2.10%	N/A	3.68"	690+00.00	-1.11%	-2.10%	-1.50%	-0.63"	3.50"
690+50.00	-1.71%	-2.10%	-1.71%	N/A	3.50"	690+50.00	-0.98%	-2.10%	-1.50%	-0.84"	3.50"
691+00.00	-3.02%	-2.10%	-2.10%	N/A	5.00"	691+00.00	-2.48%	-2.10%	-2.10%	N/A	4.11"
691+50.00	-4.88%	-2.10%	-2.10%	N/A	8.00"	691+50.00	-3.37%	-2.10%	-2.10%	N/A	5.56"
692+00.00	-2.43%	-2.10%	-2.10%	N/A	4.03"	692+00.00	-1.96%	-2.10%	-1.96%	N/A	3.50"
692+50.00	-2.66%	-2.10%	-2.10%	N/A	4.40"	692+50.00	-1.74%	-2.10%	-1.74%	N/A	3.50"
693+00.00	-3.76%	-2.10%	-2.10%	N/A	6.19"	693+00.00	-2.45%	-2.10%	-2.10%	N/A	4.07"
693+50.00	-3.94%	-2.10%	-2.10%	N/A	6.49"	693+50.00	-2.54%	-2.10%	-2.10%	N/A	4.21"
694+00.00	-3.78%	-2.10%	-2.10%	N/A	6.22"	694+00.00	-2.70%	-2.10%	-2.10%	N/A	4.47"
694+50.00	-2.26%	-2.10%	-2.10%	N/A	3.76"	694+50.00	-2.39%	-2.10%	-2.10%	N/A	3.98"
695+00.00	-3.27%	-2.10%	-2.10%	N/A	5.40"	695+00.00	-2.65%	-2.10%	-2.10%	N/A	4.40"
695+50.00	-2.61%	-2.10%	-2.10%	N/A	4.33"	695+50.00	-2.41%	-2.10%	-2.10%	N/A	4.00"
696+00.00	-2.07%	-2.10%	-2.07%	N/A	3.50"	696+00.00	-2.35%	-2.10%	-2.10%	N/A	3.90"
696+50.00	-2.70%	-2.10%	-2.10%	N/A	4.47"	696+50.00	-2.63%	-2.10%	-2.10%	N/A	4.35"
697+00.00	-2.57%	-2.10%	-2.10%	N/A	4.25"	697+00.00	-2.37%	-2.10%	-2.10%	N/A	3.93"
697+50.00	-2.73%	-2.10%	-2.10%	N/A	4.52"	697+50.00	-2.45%	-2.10%	-2.10%	N/A	4.06"
698+00.00	-2.88%	-2.10%	-2.10%	N/A	4.76"	698+00.00	-1.81%	-2.10%	-1.81%	N/A	3.50"
698+50.00	-3.08%	-2.10%	-2.10%	N/A	5.09"	698+50.00	-2.79%	-2.10%	-2.10%	N/A	4.62"
699+00.00	-3.50%	-2.10%	-2.10%	N/A	5.77"	699+00.00	-2.27%	-2.10%	-2.10%	N/A	3.78"
699+50.00	-3.65%	-2.10%	-2.10%	N/A	6.00"	699+50.00	-2.52%	-2.10%	-2.10%	N/A	4.18"
700+00.00	-3.34%	-2.10%	-2.10%	N/A	5.50"	700+00.00	-2.04%	-2.10%	-2.04%	N/A	3.50"
700+50.00	-3.53%	-2.10%	-2.10%	N/A	5.81"	700+50.00	-1.92%	-2.10%	-1.92%	N/A	3.50"
701+00.00	-3.71%	-2.10%	-2.10%	N/A	6.11"	701+00.00	-2.50%	-2.10%	-2.10%	N/A	4.14"

Roadway Cross Slopes with Pavement and Milling Depths

LEFT						RIGHT					
Station	Existing Cross Slope	Design Cross Slope	Corrected Cross Slope	Milling Depth at 13.5' LT	Asphalt Depth at 13.5' LT	Station	Existing Cross Slope	Design Cross Slope	Corrected Cross Slope	Milling Depth at 13.5' RT	Asphalt Depth at 13.5' RT
701+50.00	-3.61%	-2.10%	-2.10%	N/A	5.94"	701+50.00	-2.42%	-2.10%	-2.10%	N/A	4.01"
702+00.00	-3.76%	-2.10%	-2.10%	N/A	6.20"	702+00.00	-1.92%	-2.10%	-1.92%	N/A	3.50"
702+50.00	-3.48%	-2.10%	-2.10%	N/A	5.74"	702+50.00	-2.44%	-2.10%	-2.10%	N/A	4.06"
703+00.00	-2.96%	-2.10%	-2.10%	N/A	4.90"	703+00.00	-2.51%	-2.10%	-2.10%	N/A	4.16"
703+50.00	-2.58%	-2.10%	-2.10%	N/A	4.28"	703+50.00	-2.14%	-2.10%	-2.10%	N/A	3.56"
704+00.00	-2.60%	-2.10%	-2.10%	N/A	4.31"	704+00.00	-2.15%	-2.10%	-2.10%	N/A	3.57"
704+50.00	-3.12%	-2.10%	-2.10%	N/A	5.15"	704+50.00	-2.00%	-2.10%	-2.00%	N/A	3.50"
705+00.00	-3.26%	-2.10%	-2.10%	N/A	5.38"	705+00.00	-1.70%	-2.10%	-1.70%	N/A	3.50"
705+50.00	-2.71%	-2.10%	-2.10%	N/A	4.48"	705+50.00	-2.18%	-2.10%	-2.10%	N/A	3.63"
706+00.00	-2.88%	-2.10%	-2.10%	N/A	4.76"	706+00.00	-1.73%	-2.10%	-1.73%	N/A	3.50"
706+50.00	-3.27%	-2.10%	-2.10%	N/A	5.40"	706+50.00	-2.13%	-2.10%	-2.10%	N/A	3.55"
707+00.00	-2.93%	-2.10%	-2.10%	N/A	4.84"	707+00.00	-0.47%	-2.10%	-1.50%	-1.68"	3.50"
707+50.00	-2.47%	-2.10%	-2.10%	N/A	4.09"	707+50.00	-1.63%	-2.10%	-1.63%	N/A	3.50"
708+00.00	-2.91%	-2.10%	-2.10%	N/A	4.82"	708+00.00	-1.32%	-2.10%	-1.50%	-0.29"	3.50"
708+50.00	-2.60%	-2.10%	-2.10%	N/A	4.31"	708+50.00	-1.57%	-2.10%	-1.57%	N/A	3.50"
709+00.00	-3.02%	-2.10%	-2.10%	N/A	4.99"	709+00.00	-2.76%	-2.10%	-2.10%	N/A	4.57"
709+50.00	-2.92%	-2.10%	-2.10%	N/A	4.83"	709+50.00	-1.90%	-2.10%	-1.90%	N/A	3.50"
710+00.00	-2.36%	-2.10%	-2.10%	N/A	3.92"	710+00.00	-2.07%	-2.10%	-2.07%	N/A	3.50"
710+50.00	-2.31%	-2.10%	-2.10%	N/A	3.84"	710+50.00	-1.41%	-2.10%	-1.50%	-0.15"	3.50"
711+00.00	-2.48%	-2.10%	-2.10%	N/A	4.12"	711+00.00	-0.96%	-2.10%	-1.50%	-0.88"	3.50"
711+50.00	-2.71%	-2.10%	-2.10%	N/A	4.49"	711+50.00	-1.50%	-2.10%	-1.50%	N/A	3.50"
712+00.00	-2.71%	-2.10%	-2.10%	N/A	4.48"	712+00.00	-1.36%	-2.10%	-1.50%	-0.22"	3.50"
712+50.00	-2.00%	-2.10%	-2.00%	N/A	3.50"	712+50.00	-1.46%	-2.10%	-1.50%	-0.06"	3.50"
713+00.00	-3.04%	-2.10%	-2.10%	N/A	5.02"	713+00.00	-2.22%	-2.10%	-2.10%	N/A	3.70"
713+50.00	-3.11%	-2.10%	-2.10%	N/A	5.13"	713+50.00	-2.69%	-2.10%	-2.10%	N/A	4.46"
714+00.00	-3.35%	-2.10%	-2.10%	N/A	5.52"	714+00.00	-2.32%	-2.10%	-2.10%	N/A	3.85"
714+50.00	-2.16%	-2.10%	-2.10%	N/A	3.59"	714+50.00	-2.72%	-2.10%	-2.10%	N/A	4.50"
715+00.00	-3.08%	-2.10%	-2.10%	N/A	5.09"	715+00.00	-2.58%	-2.10%	-2.10%	N/A	4.27"
715+50.00	-2.58%	-2.10%	-2.10%	N/A	4.28"	715+50.00	-1.70%	-2.10%	-1.70%	N/A	3.50"
716+00.00	-2.57%	-2.10%	-2.10%	N/A	4.27"	716+00.00	-2.03%	-2.10%	-2.03%	N/A	3.50"
716+50.00	-2.92%	-2.10%	-2.10%	N/A	4.82"	716+50.00	-2.70%	-2.10%	-2.10%	N/A	4.47"
717+00.00	-3.63%	-2.10%	-2.10%	N/A	5.97"	717+00.00	-2.62%	-2.10%	-2.10%	N/A	4.34"
717+50.00	-3.95%	-2.10%	-2.10%	N/A	6.49"	717+50.00	-2.14%	-2.10%	-2.10%	N/A	3.56"
718+00.00	-4.36%	-2.10%	-2.10%	N/A	7.15"	718+00.00	-2.35%	-2.10%	-2.10%	N/A	3.90"
718+50.00	-3.06%	-2.10%	-2.10%	N/A	5.05"	718+50.00	-2.29%	-2.10%	-2.10%	N/A	3.81"
719+00.00	-3.41%	-2.10%	-2.10%	N/A	5.62"	719+00.00	-1.79%	-2.10%	-1.79%	N/A	3.50"
719+50.00	-3.36%	-2.10%	-2.10%	N/A	5.54"	719+50.00	-1.82%	-2.10%	-1.82%	N/A	3.50"
720+00.00	-4.14%	-2.10%	-2.10%	N/A	6.80"	720+00.00	-2.48%	-2.10%	-2.10%	N/A	4.12"
720+50.00	-2.99%	-2.10%	-2.10%	N/A	4.94"	720+50.00	-1.97%	-2.10%	-1.97%	N/A	3.50"
721+00.00	-3.92%	-2.10%	-2.10%	N/A	6.45"	721+00.00	-2.28%	-2.10%	-2.10%	N/A	3.78"
721+50.00	-3.42%	-2.10%	-2.10%	N/A	5.63"	721+50.00	-2.89%	-2.10%	-2.10%	N/A	4.78"
722+00.00	-3.19%	-2.10%	-2.10%	N/A	5.27"	722+00.00	-2.21%	-2.10%	-2.10%	N/A	3.68"
722+50.00	-2.20%	-2.10%	-2.10%	N/A	3.67"	722+50.00	-2.58%	-2.10%	-2.10%	N/A	4.28"
723+00.00	-3.18%	-2.10%	-2.10%	N/A	5.24"	723+00.00	-2.81%	-2.10%	-2.10%	N/A	4.65"
723+50.00	-3.15%	-2.10%	-2.10%	N/A	5.20"	723+50.00	-1.89%	-2.10%	-1.89%	N/A	3.50"
724+00.00	-2.90%	-2.10%	-2.10%	N/A	4.80"	724+00.00	-2.73%	-2.10%	-2.10%	N/A	4.52"

This document was originally issued and sealed by Kyle J. Comer Registration Number PE- 7537, on 03/11/16 and the original document is stored at the North Dakota Department of Transportation

Milling & Paving Depths

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	11	11

Roadway Cross Slopes with Pavement and Milling Depths

LEFT						RIGHT					
Station	Existing Cross Slope	Design Cross Slope	Corrected Cross Slope	Milling Depth at 13.5' LT	Asphalt Depth at 13.5' LT	Station	Existing Cross Slope	Design Cross Slope	Corrected Cross Slope	Milling Depth at 13.5' RT	Asphalt Depth at 13.5' RT
724+50.00	-2.89%	-2.10%	-2.10%	N/A	4.78"	724+50.00	-2.04%	-2.10%	-2.04%	N/A	3.50"
725+00.00	-3.51%	-2.10%	-2.10%	N/A	5.78"	725+00.00	-2.34%	-2.10%	-2.10%	N/A	3.90"
725+50.00	-3.63%	-2.10%	-2.10%	N/A	5.97"	725+50.00	-2.28%	-2.10%	-2.10%	N/A	3.79"
726+00.00	-2.43%	-2.10%	-2.10%	N/A	4.04"	726+00.00	-1.60%	-2.10%	-1.60%	N/A	3.50"
726+50.00	-2.54%	-2.10%	-2.10%	N/A	4.21"	726+50.00	-1.98%	-2.10%	-1.98%	N/A	3.50"
727+00.00	-2.52%	-2.10%	-2.10%	N/A	4.18"	727+00.00	-1.34%	-2.10%	-1.50%	-0.26"	3.50"
727+50.00	-2.24%	-2.10%	-2.10%	N/A	3.72"	727+50.00	-1.80%	-2.10%	-1.80%	N/A	3.50"
728+00.00	-2.70%	-2.10%	-2.10%	N/A	4.47"	728+00.00	-2.10%	-2.10%	-2.10%	N/A	3.50"
728+50.00	-2.65%	-2.10%	-2.10%	N/A	4.39"	728+50.00	-1.91%	-2.10%	-1.91%	N/A	3.50"
729+00.00	-3.01%	-2.10%	-2.10%	N/A	4.97"	729+00.00	-1.80%	-2.10%	-1.80%	N/A	3.50"
729+50.00	-1.54%	-2.10%	-1.54%	N/A	3.50"	729+50.00	-0.86%	-2.10%	-1.50%	-1.04"	3.50"
730+00.00	-1.81%	-2.10%	-1.81%	N/A	3.50"	730+00.00	-2.17%	-2.10%	-2.10%	N/A	3.62"
730+50.00	-1.77%	-2.10%	-1.77%	N/A	3.50"	730+50.00	-1.72%	-2.10%	-1.72%	N/A	3.50"
731+00.00	-1.98%	-2.10%	-1.98%	N/A	3.50"	731+00.00	-1.96%	-2.10%	-1.96%	N/A	3.50"
731+50.00	-2.11%	-2.10%	-2.10%	N/A	3.52"	731+50.00	-1.39%	-2.10%	-1.50%	-0.18"	3.50"
732+00.00	-3.39%	-2.10%	-2.10%	N/A	5.60"	732+00.00	-3.17%	-2.10%	-2.10%	N/A	5.24"
732+50.00	-2.91%	-2.10%	-2.10%	N/A	4.81"	732+50.00	-2.93%	-2.10%	-2.10%	N/A	4.85"
733+00.00	-3.41%	-2.10%	-2.10%	N/A	5.63"	733+00.00	-2.51%	-2.10%	-2.10%	N/A	4.16"
733+50.00	-3.97%	-2.10%	-2.10%	N/A	6.52"	733+50.00	-1.61%	-2.10%	-1.61%	N/A	3.50"
734+00.00	-2.58%	-2.10%	-2.10%	N/A	4.28"	734+00.00	-1.24%	-2.10%	-1.50%	-0.41"	3.50"
734+50.00	-2.91%	-2.10%	-2.10%	N/A	4.81"	734+50.00	-2.52%	-2.10%	-2.10%	N/A	4.18"
735+00.00	-2.37%	-2.10%	-2.10%	N/A	3.94"	735+00.00	-3.00%	-2.10%	-2.10%	N/A	4.96"
735+50.00	-2.62%	-2.10%	-2.10%	N/A	4.35"	735+50.00	-3.31%	-2.10%	-2.10%	N/A	5.46"
736+00.00	-2.49%	-2.10%	-2.10%	N/A	4.14"	736+00.00	-3.42%	-2.10%	-2.10%	N/A	5.63"
736+50.00	-1.98%	-2.10%	-1.98%	N/A	3.50"	736+50.00	-2.68%	-2.10%	-2.10%	N/A	4.43"
737+00.00	-3.19%	-2.10%	-2.10%	N/A	5.27"	737+00.00	-3.75%	-2.10%	-2.10%	N/A	6.17"
737+50.00	-3.25%	-2.10%	-2.10%	N/A	5.36"	737+50.00	-4.24%	-2.10%	-2.10%	N/A	6.97"
738+00.00	-2.84%	-2.10%	-2.10%	N/A	4.70"	738+00.00	-3.94%	-2.10%	-2.10%	N/A	6.48"
738+50.00	-3.05%	-2.10%	-2.10%	N/A	5.04"	738+50.00	-2.23%	-2.10%	-2.10%	N/A	3.71"
739+00.00	-3.62%	-2.10%	-2.10%	N/A	5.96"	739+00.00	-2.08%	-2.10%	-2.08%	N/A	3.50"
739+50.00	-3.12%	-2.10%	-2.10%	N/A	5.15"	739+50.00	-2.34%	-2.10%	-2.10%	N/A	3.89"
740+00.00	-2.84%	-2.10%	-2.10%	N/A	4.71"	740+00.00	-2.70%	-2.10%	-2.10%	N/A	4.46"
740+50.00	-3.38%	-2.10%	-2.10%	N/A	5.58"	740+50.00	-2.14%	-2.10%	-2.10%	N/A	3.57"
741+00.00	-2.97%	-2.10%	-2.10%	N/A	4.91"	741+00.00	-2.03%	-2.10%	-2.03%	N/A	3.50"
741+50.00	-3.73%	-2.10%	-2.10%	N/A	6.14"	741+50.00	-1.43%	-2.10%	-1.50%	-0.12"	3.50"
742+00.00	-2.72%	-2.10%	-2.10%	N/A	4.51"	742+00.00	-1.66%	-2.10%	-1.66%	N/A	3.50"
742+50.00	-2.61%	-2.10%	-2.10%	N/A	4.33"	742+50.00	-2.63%	-2.10%	-2.10%	N/A	4.36"
743+00.00	-2.71%	-2.10%	-2.10%	N/A	4.48"	743+00.00	-2.71%	-2.10%	-2.10%	N/A	4.49"
743+50.00	-2.95%	-2.10%	-2.10%	N/A	4.88"	743+50.00	-3.36%	-2.10%	-2.10%	N/A	5.54"
744+00.00	-3.79%	-2.10%	-2.10%	N/A	6.24"	744+00.00	-2.83%	-2.10%	-2.10%	N/A	4.68"
744+50.00	-3.40%	-2.10%	-2.10%	N/A	5.61"	744+50.00	-2.41%	-2.10%	-2.10%	N/A	3.99"
745+00.00	-3.19%	-2.10%	-2.10%	N/A	5.27"	745+00.00	-2.17%	-2.10%	-2.10%	N/A	3.62"
745+50.00	-2.70%	-2.10%	-2.10%	N/A	4.47"	745+50.00	-1.55%	-2.10%	-1.55%	N/A	3.50"
746+00.00	-2.31%	-2.10%	-2.10%	N/A	3.85"	746+00.00	-1.66%	-2.10%	-1.66%	N/A	3.50"
746+50.00	-2.86%	-2.10%	-2.10%	N/A	4.74"	746+50.00	-2.20%	-2.10%	-2.10%	N/A	3.66"
747+00.00	-3.19%	-2.10%	-2.10%	N/A	5.27"	747+00.00	-2.05%	-2.10%	-2.05%	N/A	3.50"
747+50.00	-2.74%	-2.10%	-2.10%	N/A	4.53"	747+50.00	-1.89%	-2.10%	-1.89%	N/A	3.50"
748+00.00	-3.69%	-2.10%	-2.10%	N/A	6.08"	748+00.00	-2.32%	-2.10%	-2.10%	N/A	3.86"
748+50.00	-3.24%	-2.10%	-2.10%	N/A	5.34"	748+50.00	-2.76%	-2.10%	-2.10%	N/A	4.56"
749+00.00	-3.05%	-2.10%	-2.10%	N/A	5.04"	749+00.00	-2.11%	-2.10%	-2.10%	N/A	3.51"
749+50.00	-3.10%	-2.10%	-2.10%	N/A	5.12"	749+50.00	-2.15%	-2.10%	-2.10%	N/A	3.57"
750+00.00	-2.92%	-2.10%	-2.10%	N/A	4.83"	750+00.00	-2.00%	-2.10%	-2.00%	N/A	3.50"
750+50.00	-2.77%	-2.10%	-2.10%	N/A	4.58"	750+50.00	-2.24%	-2.10%	-2.10%	N/A	3.73"
751+00.00	-3.12%	-2.10%	-2.10%	N/A	5.15"	751+00.00	-1.60%	-2.10%	-1.60%	N/A	3.50"
751+50.00	-3.49%	-2.10%	-2.10%	N/A	5.76"	751+50.00	-2.38%	-2.10%	-2.10%	N/A	3.95"
752+00.00	-3.36%	-2.10%	-2.10%	N/A	5.55"	752+00.00	-2.42%	-2.10%	-2.10%	N/A	4.02"
752+50.00	-2.59%	-2.10%	-2.10%	N/A	4.30"	752+50.00	-1.30%	-2.10%	-1.50%	-0.33"	3.50"
753+00.00	-2.65%	-2.10%	-2.10%	N/A	4.40"	753+00.00	-1.17%	-2.10%	-1.50%	-0.54"	3.50"
753+50.00	-3.19%	-2.10%	-2.10%	N/A	5.27"	753+50.00	-1.72%	-2.10%	-1.72%	N/A	3.50"
754+00.00	-2.61%	-2.10%	-2.10%	N/A	4.32"	754+00.00	-1.76%	-2.10%	-1.76%	N/A	3.50"
754+50.00	-3.13%	-2.10%	-2.10%	N/A	5.18"	754+50.00	-2.55%	-2.10%	-2.10%	N/A	4.24"
755+00.00	-3.74%	-2.10%	-2.10%	N/A	6.16"	755+00.00	-2.48%	-2.10%	-2.10%	N/A	4.11"
755+50.00	-3.89%	-2.10%	-2.10%	N/A	6.41"	755+50.00	-3.50%	-2.10%	-2.10%	N/A	5.77"
756+00.00	-4.35%	-2.10%	-2.10%	N/A	7.14"	756+00.00	-3.02%	-2.10%	-2.10%	N/A	5.00"
756+50.00	-3.72%	-2.10%	-2.10%	N/A	6.13"	756+50.00	-2.18%	-2.10%	-2.10%	N/A	3.64"
757+00.00	-2.75%	-2.10%	-2.10%	N/A	4.56"	757+00.00	-2.58%	-2.10%	-2.10%	N/A	4.28"
757+50.00	-2.75%	-2.10%	-2.10%	N/A	4.55"	757+50.00	-2.73%	-2.10%	-2.10%	N/A	4.52"
758+00.00	-3.38%	-2.10%	-2.10%	N/A	5.58"	758+00.00	-2.53%	-2.10%	-2.10%	N/A	4.20"
758+50.00	-2.69%	-2.10%	-2.10%	N/A	4.46"	758+50.00	-2.05%	-2.10%	-2.05%	N/A	3.50"
759+00.00	-3.02%	-2.10%	-2.10%	N/A	4.98"	759+00.00	-2.58%	-2.10%	-2.10%	N/A	4.27"
759+50.00	-2.82%	-2.10%	-2.10%	N/A	4.66"	759+50.00	-1.83%	-2.10%	-1.83%	N/A	3.50"
760+00.00	-4.46%	-2.10%	-2.10%	N/A	7.32"	760+00.00	-3.00%	-2.10%	-2.10%	N/A	4.96"
760+50.00	-3.40%	-2.10%	-2.10%	N/A	5.60"	760+50.00	-2.46%	-2.10%	-2.10%	N/A	4.08"
761+00.00	-2.72%	-2.10%	-2.10%	N/A	4.50"	761+00.00	-1.28%	-2.10%	-1.50%	-0.35"	3.50"
761+50.00	-2.39%	-2.10%	-2.10%	N/A	3.96"	761+50.00	-1.49%	-2.10%	-1.50%	-0.01"	3.50"
762+00.00	-3.43%	-2.10%	-2.10%	N/A	5.65"	762+00.00	-1.53%	-2.10%	-1.53%	N/A	3.50"

Roadway Cross Slopes with Pavement and Milling Depths

LEFT						RIGHT					
Station	Existing Cross Slope	Design Cross Slope	Corrected Cross Slope	Milling Depth at 13.5' LT	Asphalt Depth at 13.5' LT	Station	Existing Cross Slope	Design Cross Slope	Corrected Cross Slope	Milling Depth at 13.5' RT	Asphalt Depth at 13.5' RT
762+50.00	-2.71%	-2.10%	-2.10%	N/A	4.49"	762+50.00	-1.88%	-2.10%	-1.88%	N/A	3.50"
763+00.00	-2.53%	-2.10%	-2.10%	N/A	4.20"	763+00.00	-1.18%	-2.10%	-1.50%	-0.52"	3.50"
763+50.00	-2.24%	-2.10%	-2.10%	N/A	3.72"	763+50.00	-1.74%	-2.10%	-1.74%	N/A	3.50"
764+00.00	-2.49%	-2.10%	-2.10%	N/A	4.13"	764+00.00	-1.91%	-2.10%	-1.91%	N/A	3.50"
764+50.00	-2.47%	-2.10%	-2.10%	N/A	4.10"	764+50.00	-1.29%	-2.10%	-1.50%	-0.33"	3.50"
765+00.00	-2.07%	-2.10%	-2.07%	N/A	3.50"	765+00.00	-1.82%	-2.10%	-1.82%	N/A	3.50"
765+50.00	-3.37%	-2.10%	-2.10%	N/A	5.55"	765+50.00	-2.36%	-2.10%	-2.10%	N/A	3.92"
766+00.00	-2.40%	-2.10%	-2.10%	N/A	3.99"	766+00.00	-2.26%	-2.10%	-2.10%	N/A	3.76"
766+50.00	-2.51%	-2.10%	-2.10%	N/A	4.17"	766+50.00	-2.11%	-2.10%	-2.10%	N/A	3.52"
767+00.00	-1.91%	-2.10%	-1.91%	N/A	3.50"	767+00.00	-1.10%	-2.10%	-1.50%	-0.64"	3.50"
767+50.00	-2.47%	-2.10%	-2.10%	N/A	4.09"	767+50.00	-0.64%	-2.10%	-1.50%	-1.40"	3.50"
768+00.00	-2.49%	-2.10%	-2.10%	N/A	4.13"	768+00.00	-1.94%	-2.10%	-1.94%	N/A	3.50"
768+50.00	-3.12%	-2.10%	-2.10%	N/A	5.16"	768+50.00	-2.52%	-2.10%	-2.10%	N/A	4.19"
769+00.00	-3.12%	-2.10%	-2.10%	N/A	5.15"	769+00.00	-2.40%	-2.10%	-2.10%	N/A	3.98"
769+50.00	-2.49%	-2.10%	-2.10%	N/A	4.14"	769+50.00	-1.84%	-2.10%	-1.84%	N/A	3.50"
770+00.00	-2.90%	-2.10%	-2.10%	N/A	4.79"	770+00.00	-1.06%	-2.10%	-1.50%	-0.71"	3.50"
770+50.00	-3.39%	-2.10%	-2.10%	N/A	5.59"	770+50.00	-2.56%	-2.10%	-2.10%	N/A	4.24"
771+00.00	-1.29%	-2.10%	-1.50%	-0.35"	3.50"	771+00.00	-2.24%	-2.10%	-2.10%	N/A	3.72"
771+50.00	-1.49%	-2.10%	-1.50%	-0.02"	3.50"	771+50.00	-1.38%	-2.10%	-1.50%	-0.19"	3.50"
772+00.00	-2.30%	-2.10%	-2.10%	N/A	3.83"	772+00.00	-1.37%	-2.10%	-1.50%	-0.22"	3.50"
772+50.00	-1.06%	-2.10%	-1.50%	-0.71"	3.50"	772+50.00	-1.94%	-2.10%	-1.94%	N/A	3.50"
773+00.00	-1.69%	-2.10%	-1.69%	N/A	3.50"	773+00.00	-1.40%	-2.10%	-1.50%	-0.17"	3.50"
773+50.00	-2.47%	-2.10%	-2.10%	N/A	4.10"	773+50.00	-1.46%	-2.10%	-1.50%	-0.07"	3.50"
774+00.00	-3.20%	-2.10%	-2.10%	N/A	5.29"	774+00.00	-1.92%	-2.10%	-1.92%	N/A	3.50"
774+50.00	-2.73%	-2.10%	-2.10%	N/A	4.52"	774+50.00	-2.55%	-2.10%	-2.10%	N/A	4.23"
775+00.00	-2.59%	-2.10%	-2.10%	N/A	4.30"	775+00.00	-1.40%	-2.10%	-1.50%	-0.17"	3.50"
775+50.00	-2.49%	-2.10%	-2.10%	N/A	4.13"	775+50.00	-1.26%	-2.10%	-1.50%	-0.38"	3.50"
776+00.00	-2.97%	-2.10%	-2.10%	N/A	4.91"	776+00.00	-1.82%	-2.10%	-1.82%	N/A	3.50"
776+50.00	-2.66%	-2.10%	-2.10%	N/A	4.40"	776+50.00	-2.21%	-2.10%	-2.10%	N/A	3.68"
777+00.00	-2.09%	-2.10%	-2.09%	N/A	3.50"	777+00.00	-1.78%	-2.10%	-1.78%	N/A	3.50"
777+50.00	-1.67%	-2.10%	-1.67%	N/A	3.50"	777+50.00	-1.81%	-2.10%	-1.81%	N/A	3.50"
778+00.00	-2.38%	-2.10%	-2.10%	N/A	3.95"	778+00.00	-2.26%	-2.10%	-2.10%	N/A	3.76"
778+50.00	-2.58%	-2.10%	-2.10%	N/A	4.28"	778+50.00	-2.07%	-2.10%	-2.07%	N/A	3.50"
779+00.00	-2.27%	-2.10%	-2.10%	N/A	3.78"	779+00.00	-1.48%	-2.10%	-1.50%	-0.03"	3.50"
779+50.00	-2.40%	-2.10%	-2.10%	N/A	3.99"	779+50.00	-1.73%	-2.10%	-1.73%	N/A	3.50"
780+00.00	-2.49%	-2.10%	-2.10%	N/A	4.13"	780+00.00	-2.56%	-2.10%	-2.10%	N/A	4.25"
780+50.00	-2.57%	-2.10%	-2.10%	N/A	4.26"	780+50.00	-2.37%	-2.10%	-2.10%	N/A	3.93"
781+00.00	-3.15%	-2.10%	-2.10%	N/A	5.20"	781+00.00	-2.79%	-2.10%	-2.10%	N/A	4.61"
781+50.00	-2.79%	-2.10%	-2.10%	N/A	4.62"	781+50.00	-3.11%	-2.10%	-2.10%	N/A	5.14"
782+00.00	-2.72%	-2.10%	-2.10%	N/A	4.50"	782+00.00	-3.10%	-2.10%	-2.10%	N/A	5.12"
782+50.00	-2.00%	-2.10%	-2.00%	N/A	3.50"	782+50.00	-2.99%	-2.10%	-2.10%	N/A	4.94"
783+00.00	-3.26%	-2.10%	-2.10%	N/A	5.37"	783+00.00	-2.93%	-2.10%	-2.10%	N/A	4.84"
783+50.00	-3.49%	-2.10%	-2.10%	N/A	5.74"	783+50.00	-2.44%	-2.10%	-2.10%	N/A	4.04"
784+00.00	-2.69%	-2.10%	-2.10%	N/A	4.46"	784+00.00	-2.65%	-2.10%	-2.10%	N/A	4.39"
784+50.00	-3.59%	-2.10%	-2.10%	N/A	5.91"	784+50.00	-2.79%	-2.10%	-2.10%	N/A	4.61"
785+00.00	-2.70%	-2.10%	-2.10%	N/A	4.47"	785+00.00	-3.10%	-2.10%	-2.10%	N/A	5.12"
785+50.00	-2.88%	-2.10%	-2.10%	N/A	4.76"	785+50.00	-2.73%	-2.10%	-2.10%	N/A	4.51"
786+00.00	-3.00%	-2.10%	-2.10%	N/A	4.96"	786+00.00	-2.29%	-2.10%	-2.10%	N/A	3.81"
786+50.00	-2.71%	-2.10%	-2.10%	N/A	4.49"	786+50.00	-2.94%	-2.10%	-2.10%	N/A	4.87"
787+00.00	-3.08%	-2.10%	-2.10%	N/A	5.09"	787+00.00	-2.61%	-2.10%	-2.10%	N/A	4.32"
787+50.00	-2.83%	-2.10%	-2.10%	N/A	4.68"	787+50.00	-2.14%	-2.10%	-2.10%	N/A	3.56"
788+00.00	-1.69%	-2.10%	-1.69%	N/A	3.50"	788+00.00	-1.29%	-2.10%	-1.50%	-0.34"	3.50"
788+50.00	-3.03%	-2.10%	-2.10%	N/A	5.01"	788+50.00	-1.67%	-2.10%	-1.67%	N/A	3.50"
789+00.00	-2.61%	-2.10%	-2.10%	N/A	4.33"	789+00.00	-2.38%	-2.10%	-2.10%	N/A	3.95"
789+50.00	-2.53%	-2.10%	-2.10%	N/A	4.19"	789+50.00	-1.55%	-2.10%	-1.55%	N/A	3.50"
790+00.00	-3.00%	-2.10%	-2.10%	N/A	4.95"	790+00.00	-2.66%	-2.10%	-2.10%	N/A	4.41"
790+50.00	-3.21%	-2.10%	-2.10%	N/A	5.30"	790+50.00	-2.57%	-2.10%	-2.10%	N/A	4.26"
791+00.00	-3.77%	-2.10%	-2.10%	N/A	6.20"	791+00.00	-1.97%	-2.10%	-1.97%	N/A	3.50"
791+50.00	-2.82%	-2.10%	-2.10%	N/A	4.67"	791+50.00	-2.09%	-2.10%	-2.09%	N/A	3.50"
792+00.00	-2.32%	-2.10%	-2.10%	N/A	3.86"	792+00.00	-2.26%	-2.10%	-2.10%	N/A	3.76"
792+50.00	-2.66%	-2.10%	-2.10%	N/A	4.40"	792+50.00	-2.37%	-2.10%	-2.10%	N/A	3.93"
793+00.00	-2.89%	-2.10%	-2.10%	N/A	4.78"	793+00.00	-3.02%	-2.10%	-2.10%	N/A	4.98"
793+50.00	-2.50%	-2.10%	-2.10%	N/A	4.14"	793+50.00	-2.52%	-2.10%	-2.10%	N/A	4.17"
794+00.00	-2.67%	-2.10%	-2.10%	N/A	4.42"	794+00.00	-3.04%	-2.10%	-2.10%	N/A	5.02"
794+50.00	-2.94%	-2.10%	-2.10%	N/A	4.86"	794+50.00	-2.62%	-2.10%	-2.10%	N/A	4.35"
795+00.00	-3.70%	-2.10%	-2.10%	N/A	6.09"	795+00.00	-3.20%	-2.10%	-2.10%	N/A	5.28"
795+50.00	-3.18%	-2.10%	-2.10%	N/A	5.25"	795+50.00	-2.38%	-2.10%	-2.10%	N/A	3.96"
796+00.00	-2.81%	-2.10%	-2.10%	N/A	4.64"	796+00.00	-2.30%	-2.10%	-2.10%	N/A	3.83"
796+50.00	-2.94%	-2.10%	-2.10%	N/A	4.86"	796+50.00	-3.17%	-2.10%	-2.10%	N/A	5.24"
797+00.00	-2.44%	-2.10%	-2.10%	N/A	4.05"	797+00.00	-3.00%	-2.10%	-2.10%	N/A	4.95"
797+50.00	-2.68%	-2.10%	-2.10%	N/A	4.44"	797+50.00	-3.00%	-2.10%	-2.10%	N/A	4.96"
798+00.00	-2.90%	-2.10%	-2.10%	N/A	4.80"	798+00.00	-3.10%	-2.10%	-2.10%	N/A	5.12"
798+50.00	-2.09%	-2.10%	-2.09%	N/A	3.50"	798+50.00	-2.92%	-2.10%	-2.10%	N/A	4.83"
799+00.00	-1.97%	-2.10%	-1.97%	N/A	3.50"	799+00.00	-2.18%	-2.10%	-2.10%	N/A	3.63"
799+50.00	-1.92%	-2.10%	-1.92%	N/A	3.50"	799+50.00	-2.80%	-2.10%	-2.10%	N/A	4.64"
800+00.00	-2.45%	-2.10%	-2.10%	N/A	4.07"	800+00.00	-3.12%	-2.10%	-2.10%	N/A	5.15"

Roadway Cross Slopes with Pavement and Milling Depths

LEFT						RIGHT					
Station	Existing Cross Slope	Design Cross Slope	Corrected Cross Slope	Milling Depth at 13.5' LT	Asphalt Depth at 13.5' LT	Station	Existing Cross Slope	Design Cross Slope	Corrected Cross Slope	Milling Depth at 13.5' RT	Asphalt Depth at 13.5' RT
800+50.00	-2.13%	-2.10%	-2.10%	N/A	3.55"	800+50.00	-1.83%	-2.10%	-1.83%	N/A	3.50"
801+00.00	-3.94%	-2.10%	-2.10%	N/A	6.48"	801+00.00	-3.00%	-2.10%	-2.10%	N/A	4.96"
801+50.00	-3.31%	-2.10%	-2.10%	N/A	5.47"	801+50.00	-2.68%	-2.10%	-2.10%	N/A	4.44"
802+00.00	-3.06%	-2.10%	-2.10%	N/A	5.05"	802+00.00	-2.88%	-2.10%	-2.10%	N/A	4.76"
802+50.00	-2.44%	-2.10%	-2.10%	N/A	4.06"	802+50.00	-2.07%	-2.10%	-2.07%	N/A	3.50"
803+00.00	-3.10%	-2.10%	-2.10%	N/A	5.13"	803+00.00	-2.27%	-2.10%	-2.10%	N/A	3.78"
803+50.00	-3.40%	-2.10%	-2.10%	N/A	5.61"	803+50.00	-2.53%	-2.10%	-2.10%	N/A	4.20"
804+00.00	-3.57%	-2.10%	-2.10%	N/A	5.89"	804+00.00	-2.70%	-2.10%	-2.10%	N/A	4.47"
804+50.00	-3.12%	-2.10%	-2.10%	N/A	5.15"	804+50.00	-2.29%	-2.10%	-2.10%	N/A	3.80"
805+00.00	-2.50%	-2.10%	-2.10%	N/A	4.15"	805+00.00	-2.62%	-2.10%	-2.10%	N/A	4.34"
805+50.00	-2.04%	-2.10%	-2.04%	N/A	3.50"	805+50.00	-2.68%	-2.10%	-2.10%	N/A	4.43"
806+00.00	-1.77%	-2.10%	-1.77%	N/A	3.50"	806+00.00	-2.55%	-2.10%	-2.10%	N/A	4.23"
806+50.00	-1.99%	-2.10%	-1.99%	N/A	3.50"	806+50.00	-2.32%	-2.10%	-2.10%	N/A	3.85"
807+00.00	-2.97%	-2.10%	-2.10%	N/A	4.92"	807+00.00	-3.17%	-2.10%	-2.10%	N/A	5.24"
807+50.00	-1.68%	-2.10%	-1.68%	N/A	3.50"	807+50.00	-2.84%	-2.10%	-2.10%	N/A	4.70"
808+00.00	-2.35%	-2.10%	-2.10%	N/A	3.91"	808+00.00	-3.12%	-2.10%	-2.10%	N/A	5.15"
808+50.00	-1.85%	-2.10%	-1.85%	N/A	3.50"	808+50.00	-1.68%	-2.10%	-1.68%	N/A	3.50"
809+00.00	-2.42%	-2.10%	-2.10%	N/A	4.02"	809+00.00	-2.46%	-2.10%	-2.10%	N/A	4.09"
809+50.00	-1.82%	-2.10%	-1.82%	N/A	3.50"	809+50.00	-2.20%	-2.10%	-2.10%	N/A	3.66"
810+00.00	-1.49%	-2.10%	-1.50%	-0.02"	3.50"	810+00.00	-2.20%	-2.10%	-2.10%	N/A	3.66"
810+50.00	-2.27%	-2.10%	-2.10%	N/A	3.78"	810+50.00	-1.55%	-2.10%	-1.55%	N/A	3.50"
811+00.00	-2.26%	-2.10%	-2.10%	N/A	3.75"	811+00.00	-1.78%	-2.10%	-1.78%	N/A	3.50"
811+50.00	-2.75%	-2.10%	-2.10%	N/A	4.55"	811+50.00	-2.04%	-2.10%	-2.04%	N/A	3.50"
812+00.00	-3.08%	-2.10%	-2.10%	N/A	5.08"	812+00.00	-2.51%	-2.10%	-2.10%	N/A	4.17"
812+50.00	-3.16%	-2.10%	-2.10%	N/A	5.21"	812+50.00	-2.19%	-2.10%	-2.10%	N/A	3.65"
813+00.00	-2.16%	-2.10%	-2.10%	N/A	3.60"	813+00.00	-0.93%	-2.10%	-1.50%	-0.92"	3.50"
813+50.00	-1.83%	-2.10%	-1.83%	N/A	3.50"	813+50.00	-1.17%	-2.10%	-1.50%	-0.53"	3.50"
814+00.00	-3.79%	-2.10%	-2.10%	N/A	6.23"	814+00.00	-1.67%	-2.10%	-1.67%	N/A	3.50"
814+50.00	-3.10%	-2.10%	-2.10%	N/A	5.12"	814+50.00	-2.62%	-2.10%	-2.10%	N/A	4.34"
815+00.00	-2.10%	-2.10%	-2.10%	0.00"	3.50"	815+00.00	-2.13%	-2.10%	-2.10%	N/A	3.55"
815+50.00	-3.23%	-2.10%	-2.10%	N/A	5.33"	815+50.00	-2.44%	-2.10%	-2.10%	N/A	4.04"
816+00.00	-2.30%	-2.10%	-2.10%	N/A	3.82"	816+00.00	-2.46%	-2.10%	-2.10%	N/A	4.08"
816+50.00	-2.33%	-2.10%	-2.10%	N/A	3.87"	816+50.00	-2.43%	-2.10%	-2.10%	N/A	4.03"
817+00.00	-2.46%	-2.10%	-2.10%	N/A	4.08"	817+00.00	-1.84%	-2.10%	-1.84%	N/A	3.50"
817+50.00	-2.31%	-2.10%	-2.10%	N/A	3.84"	817+50.00	-3.10%	-2.10%	-2.10%	N/A	5.11"
818+00.00	-1.76%	-2.10%	-1.76%	N/A	3.50"	818+00.00	-2.72%	-2.10%	-2.10%	N/A	4.50"
818+50.00	-1.68%	-2.10%	-1.68%	N/A	3.50"	818+50.00	-2.00%	-2.10%	-2.00%	N/A	3.50"
819+00.00	-2.38%	-2.10%	-2.10%	N/A	3.95"	819+00.00	-2.23%	-2.10%	-2.10%	N/A	3.71"
819+50.00	-2.11%	-2.10%	-2.10%	N/A	3.52"	819+50.00	-2.26%	-2.10%	-2.10%	N/A	3.76"
820+00.00	-2.15%	-2.10%	-2.10%	N/A	3.59"	820+00.00	-2.14%	-2.10%	-2.10%	N/A	3.57"
820+50.00	-2.47%	-2.10%	-2.10%	N/A	4.10"	820+50.00	-1.86%	-2.10%	-1.86%	N/A	3.50"
821+00.00	-2.37%	-2.10%	-2.10%	N/A	3.94"	821+00.00	-2.71%	-2.10%	-2.10%	N/A	4.48"
821+50.00	-1.93%	-2.10%	-1.93%	N/A	3.50"	821+50.00	-2.55%	-2.10%	-2.10%	N/A	4.23"
822+00.00	-2.20%	-2.10%	-2.10%	N/A	3.66"	822+00.00	-2.54%	-2.10%	-2.10%	N/A	4.20"
822+50.00	-2.46%	-2.10%	-2.10%	N/A	4.09"	822+50.00	-2.87%	-2.10%	-2.10%	N/A	4.74"
823+00.00	-2.41%	-2.10%	-2.10%	N/A	4.01"	823+00.00	-2.45%	-2.10%	-2.10%	N/A	4.07"

This document was originally issued and sealed by Kyle J. Comer Registration Number PE- 7537, on 03/11/16 and the original document is stored at the North Dakota Department of Transportation

Milling & Paving Depths

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	11	12

Roadway Cross Slopes with Pavement and Milling Depths

LEFT						RIGHT					
Station	Existing Cross Slope	Design Cross Slope	Corrected Cross Slope	Milling Depth at 13.5' LT	Asphalt Depth at 13.5' LT	Station	Existing Cross Slope	Design Cross Slope	Corrected Cross Slope	Milling Depth at 13.5' RT	Asphalt Depth at 13.5' RT
823+50.00	-2.66%	-2.10%	-2.10%	N/A	4.41"	823+50.00	-2.23%	-2.10%	-2.10%	N/A	3.72"
824+00.00	-2.27%	-2.10%	-2.10%	N/A	3.78"	824+00.00	-2.37%	-2.10%	-2.10%	N/A	3.93"
824+50.00	-2.02%	-2.10%	-2.02%	N/A	3.50"	824+50.00	-2.28%	-2.10%	-2.10%	N/A	3.79"
825+00.00	-2.80%	-2.10%	-2.10%	N/A	4.64"	825+00.00	-2.12%	-2.10%	-2.10%	N/A	3.53"
825+50.00	-4.07%	-2.10%	-2.10%	N/A	6.68"	825+50.00	-2.18%	-2.10%	-2.10%	N/A	3.63"
826+00.00	-4.45%	-2.10%	-2.10%	N/A	7.31"	826+00.00	-2.58%	-2.10%	-2.10%	N/A	4.27"
826+50.00	-4.07%	-2.10%	-2.10%	N/A	6.69"	826+50.00	-2.39%	-2.10%	-2.10%	N/A	3.97"
827+00.00	-3.60%	-2.10%	-2.10%	N/A	5.93"	827+00.00	-1.41%	-2.10%	-1.50%	-0.14"	3.50"
827+50.00	-3.93%	-2.10%	-2.10%	N/A	6.47"	827+50.00	-2.08%	-2.10%	-2.08%	N/A	3.50"
828+00.00	-3.68%	-2.10%	-2.10%	N/A	6.06"	828+00.00	-0.96%	-2.10%	-1.50%	-0.88"	3.50"
828+50.00	-3.05%	-2.10%	-2.10%	N/A	5.05"	828+50.00	-0.71%	-2.10%	-1.50%	-1.28"	3.50"
829+00.00	-3.88%	-2.10%	-2.10%	N/A	6.39"	829+00.00	-3.03%	-2.10%	-2.10%	N/A	5.00"
829+50.00	-4.18%	-2.10%	-2.10%	N/A	6.87"	829+50.00	-2.94%	-2.10%	-2.10%	N/A	4.86"
830+00.00	-3.86%	-2.10%	-2.10%	N/A	6.35"	830+00.00	-2.19%	-2.10%	-2.10%	N/A	3.64"
830+50.00	-4.93%	-2.10%	-2.10%	N/A	8.08"	830+50.00	-2.06%	-2.10%	-2.06%	N/A	3.50"
831+00.00	-5.74%	-2.10%	-2.10%	N/A	9.40"	831+00.00	-2.11%	-2.10%	-2.10%	N/A	3.51"
831+50.00	-4.73%	-2.10%	-2.10%	N/A	7.76"	831+50.00	-2.31%	-2.10%	-2.10%	N/A	3.84"
832+00.00	-4.71%	-2.10%	-2.10%	N/A	7.72"	832+00.00	-2.66%	-2.10%	-2.10%	N/A	4.41"
832+50.00	-4.50%	-2.10%	-2.10%	N/A	7.38"	832+50.00	-2.01%	-2.10%	-2.01%	N/A	3.50"
833+00.00	-4.32%	-2.10%	-2.10%	N/A	7.09"	833+00.00	-2.19%	-2.10%	-2.10%	N/A	3.65"
833+50.00	-4.97%	-2.10%	-2.10%	N/A	8.15"	833+50.00	-2.90%	-2.10%	-2.10%	N/A	4.80"
834+00.00	-5.64%	-2.10%	-2.10%	N/A	9.24"	834+00.00	-2.77%	-2.10%	-2.10%	N/A	4.58"
834+50.00	-5.00%	-2.10%	-2.10%	N/A	8.20"	834+50.00	-1.85%	-2.10%	-1.85%	N/A	3.50"
835+00.00	-5.39%	-2.10%	-2.10%	N/A	8.82"	835+00.00	-2.76%	-2.10%	-2.10%	N/A	4.56"
835+50.00	-6.05%	-2.10%	-2.10%	N/A	9.90"	835+50.00	-2.44%	-2.10%	-2.10%	N/A	4.05"
836+00.00	-5.34%	-2.10%	-2.10%	N/A	8.75"	836+00.00	-2.70%	-2.10%	-2.10%	N/A	4.48"
836+50.00	-5.28%	-2.10%	-2.10%	N/A	8.65"	836+50.00	-2.30%	-2.10%	-2.10%	N/A	3.82"
837+00.00	-4.89%	-2.10%	-2.10%	N/A	8.02"	837+00.00	-2.37%	-2.10%	-2.10%	N/A	3.94"
837+50.00	-5.19%	-2.10%	-2.10%	N/A	8.50"	837+50.00	-1.73%	-2.10%	-1.73%	N/A	3.50"
838+00.00	-5.33%	-2.10%	-2.10%	N/A	8.72"	838+00.00	-2.14%	-2.10%	-2.10%	N/A	3.57"
838+50.00	-5.32%	-2.10%	-2.10%	N/A	8.72"	838+50.00	-1.68%	-2.10%	-1.68%	N/A	3.50"
839+00.00	-5.56%	-2.10%	-2.10%	N/A	9.10"	839+00.00	-1.85%	-2.10%	-1.85%	N/A	3.50"
839+50.00	-5.32%	-2.10%	-2.10%	N/A	8.72"	839+50.00	-1.81%	-2.10%	-1.81%	N/A	3.50"
840+00.00	-5.66%	-2.10%	-2.10%	N/A	9.27"	840+00.00	-2.53%	-2.10%	-2.10%	N/A	4.19"
840+50.00	-5.67%	-2.10%	-2.10%	N/A	9.28"	840+50.00	-2.94%	-2.10%	-2.10%	N/A	4.85"
841+00.00	-4.85%	-2.10%	-2.10%	N/A	7.95"	841+00.00	-2.36%	-2.10%	-2.10%	N/A	3.91"
841+50.00	-2.55%	-2.10%	-2.10%	N/A	4.23"	841+50.00	-1.05%	-2.10%	-1.50%	-0.73"	3.50"
842+00.00	-3.51%	-2.10%	-2.10%	N/A	5.78"	842+00.00	-1.34%	-2.10%	-1.50%	-0.26"	3.50"
842+50.00	-4.65%	-2.10%	-2.10%	N/A	7.63"	842+50.00	-2.73%	-2.10%	-2.10%	N/A	4.52"
843+00.00	-3.82%	-2.10%	-2.10%	N/A	6.28"	843+00.00	-2.42%	-2.10%	-2.10%	N/A	4.02"
843+50.00	-3.28%	-2.10%	-2.10%	N/A	5.42"	843+50.00	-0.96%	-2.10%	-1.50%	-0.88"	3.50"
844+00.00	-4.09%	-2.10%	-2.10%	N/A	6.72"	844+00.00	-2.28%	-2.10%	-2.10%	N/A	3.79"
844+50.00	-3.58%	-2.10%	-2.10%	N/A	5.90"	844+50.00	-2.47%	-2.10%	-2.10%	N/A	4.09"
845+00.00	-2.66%	-2.10%	-2.10%	N/A	4.41"	845+00.00	-1.52%	-2.10%	-1.52%	N/A	3.50"
845+50.00	-3.28%	-2.10%	-2.10%	N/A	5.41"	845+50.00	-1.31%	-2.10%	-1.50%	-0.31"	3.50"
846+00.00	-3.99%	-2.10%	-2.10%	N/A	6.56"	846+00.00	-2.56%	-2.10%	-2.10%	N/A	4.25"
846+50.00	-3.25%	-2.10%	-2.10%	N/A	5.36"	846+50.00	-1.90%	-2.10%	-1.90%	N/A	3.50"
847+00.00	-3.57%	-2.10%	-2.10%	N/A	5.88"	847+00.00	-2.34%	-2.10%	-2.10%	N/A	3.89"
847+50.00	-3.38%	-2.10%	-2.10%	N/A	5.57"	847+50.00	-1.97%	-2.10%	-1.97%	N/A	3.50"
848+00.00	-2.84%	-2.10%	-2.10%	N/A	4.70"	848+00.00	-1.96%	-2.10%	-1.96%	N/A	3.50"
848+50.00	-2.20%	-2.10%	-2.10%	N/A	3.66"	848+50.00	-1.68%	-2.10%	-1.68%	N/A	3.50"
849+00.00	-2.62%	-2.10%	-2.10%	N/A	4.34"	849+00.00	-1.81%	-2.10%	-1.81%	N/A	3.50"
849+50.00	-3.02%	-2.10%	-2.10%	N/A	4.99"	849+50.00	-2.16%	-2.10%	-2.10%	N/A	3.59"
850+00.00	-2.73%	-2.10%	-2.10%	N/A	4.52"	850+00.00	-1.75%	-2.10%	-1.75%	N/A	3.50"
850+50.00	-3.15%	-2.10%	-2.10%	N/A	5.20"	850+50.00	-1.87%	-2.10%	-1.87%	N/A	3.50"
851+00.00	-1.72%	-2.10%	-1.72%	N/A	3.50"	851+00.00	-0.73%	-2.10%	-1.50%	-1.25"	3.50"
851+50.00	-3.18%	-2.10%	-2.10%	N/A	5.25"	851+50.00	-0.72%	-2.10%	-1.50%	-1.27"	3.50"
852+00.00	-2.35%	-2.10%	-2.10%	N/A	3.91"	852+00.00	-0.55%	-2.10%	-1.50%	-1.53"	3.50"
852+50.00	-2.79%	-2.10%	-2.10%	N/A	4.62"	852+50.00	-0.34%	-2.10%	-1.50%	-1.88"	3.50"
853+00.00	-2.41%	-2.10%	-2.10%	N/A	4.00"	853+00.00	-0.58%	-2.10%	-1.50%	-1.50"	3.50"
853+50.00	-2.49%	-2.10%	-2.10%	N/A	4.13"	853+50.00	-1.58%	-2.10%	-1.58%	N/A	3.50"
854+00.00	-2.20%	-2.10%	-2.10%	N/A	3.66"	854+00.00	-1.83%	-2.10%	-1.83%	N/A	3.50"
854+50.00	-2.86%	-2.10%	-2.10%	N/A	4.73"	854+50.00	-2.00%	-2.10%	-2.00%	N/A	3.50"
855+00.00	-3.36%	-2.10%	-2.10%	N/A	5.53"	855+00.00	-1.16%	-2.10%	-1.50%	-0.55"	3.50"
855+50.00	-3.01%	-2.10%	-2.10%	N/A	4.97"	855+50.00	-1.56%	-2.10%	-1.56%	N/A	3.50"
856+00.00	-2.57%	-2.10%	-2.10%	N/A	4.27"	856+00.00	-1.50%	-2.10%	-1.50%	N/A	3.50"
856+50.00	-2.56%	-2.10%	-2.10%	N/A	4.25"	856+50.00	-1.99%	-2.10%	-1.99%	N/A	3.50"
857+00.00	-2.42%	-2.10%	-2.10%	N/A	4.01"	857+00.00	-1.79%	-2.10%	-1.79%	N/A	3.50"
857+50.00	-2.07%	-2.10%	-2.07%	N/A	3.50"	857+50.00	-1.93%	-2.10%	-1.93%	N/A	3.50"
858+00.00	-2.90%	-2.10%	-2.10%	N/A	4.79"	858+00.00	-1.29%	-2.10%	-1.50%	-0.34"	3.50"
858+50.00	-2.53%	-2.10%	-2.10%	N/A	4.20"	858+50.00	-1.90%	-2.10%	-1.90%	N/A	3.50"
859+00.00	-1.67%	-2.10%	-1.67%	N/A	3.50"	859+00.00	-1.18%	-2.10%	-1.50%	-0.52"	3.50"
859+50.00	-2.77%	-2.10%	-2.10%	N/A	4.59"	859+50.00	-0.89%	-2.10%	-1.50%	-0.99"	3.50"
860+00.00	-3.11%	-2.10%	-2.10%	N/A	5.14"	860+00.00	-2.53%	-2.10%	-2.10%	N/A	4.20"
860+50.00	-2.94%	-2.10%	-2.10%	N/A	4.85"	860+50.00	-2.05%	-2.10%	-2.05%	N/A	3.50"
861+00.00	-3.06%	-2.10%	-2.10%	N/A	5.05"	861+00.00	-1.56%	-2.10%	-1.56%	N/A	3.50"

Roadway Cross Slopes with Pavement and Milling Depths

LEFT						RIGHT					
Station	Existing Cross Slope	Design Cross Slope	Corrected Cross Slope	Milling Depth at 13.5' LT	Asphalt Depth at 13.5' LT	Station	Existing Cross Slope	Design Cross Slope	Corrected Cross Slope	Milling Depth at 13.5' RT	Asphalt Depth at 13.5' RT
861+50.00	-2.70%	-2.10%	-2.10%	N/A	4.48"	861+50.00	-1.27%	-2.10%	-1.50%	-0.37"	3.50"
862+00.00	-2.29%	-2.10%	-2.10%	N/A	3.81"	862+00.00	-1.54%	-2.10%	-1.54%	N/A	3.50"
862+50.00	-2.33%	-2.10%	-2.10%	N/A	3.87"	862+50.00	-1.15%	-2.10%	-1.50%	-0.58"	3.50"
863+00.00	-1.59%	-2.10%	-1.59%	N/A	3.50"	863+00.00	-1.43%	-2.10%	-1.50%	-0.11"	3.50"
863+50.00	-1.60%	-2.10%	-1.60%	N/A	3.50"	863+50.00	-0.80%	-2.10%	-1.50%	-1.13"	3.50"
864+00.00	-2.50%	-2.10%	-2.10%	N/A	4.14"	864+00.00	-0.30%	-2.10%	-1.50%	-1.94"	3.50"
864+50.00	-1.81%	-2.10%	-1.81%	N/A	3.50"	864+50.00	-0.09%	-2.10%	-1.50%	-2.29"	3.50"
865+00.00	-2.10%	-2.10%	-2.10%	N/A	3.50"	865+00.00	-1.19%	-2.10%	-1.50%	-0.51"	3.50"
865+50.00	-2.15%	-2.10%	-2.10%	N/A	3.57"	865+50.00	-2.17%	-2.10%	-2.10%	N/A	3.61"
866+00.00	-2.14%	-2.10%	-2.10%	N/A	3.57"	866+00.00	-1.49%	-2.10%	-1.50%	-0.02"	3.50"
866+50.00	-1.87%	-2.10%	-1.87%	N/A	3.50"	866+50.00	-1.21%	-2.10%	-1.50%	-0.46"	3.50"
867+00.00	-2.43%	-2.10%	-2.10%	N/A	4.03"	867+00.00	-0.70%	-2.10%	-1.50%	-1.30"	3.50"
867+50.00	-2.81%	-2.10%	-2.10%	N/A	4.65"	867+50.00	-0.72%	-2.10%	-1.50%	-1.26"	3.50"
868+00.00	-2.05%	-2.10%	-2.05%	N/A	3.50"	868+00.00	-0.48%	-2.10%	-1.50%	-1.66"	3.50"
868+50.00	-2.24%	-2.10%	-2.10%	N/A	3.73"	868+50.00	-0.11%	-2.10%	-1.50%	-2.25"	3.50"
869+00.00	-2.27%	-2.10%	-2.10%	N/A	3.78"	869+00.00	-1.38%	-2.10%	-1.50%	-0.19"	3.50"
869+50.00	-2.60%	-2.10%	-2.10%	N/A	4.32"	869+50.00	-0.77%	-2.10%	-1.50%	-1.19"	3.50"
870+00.00	-3.34%	-2.10%	-2.10%	N/A	5.51"	870+00.00	-0.46%	-2.10%	-1.50%	-1.69"	3.50"
870+50.00	-3.47%	-2.10%	-2.10%	N/A	5.72"	870+50.00	-1.43%	-2.10%	-1.50%	-0.11"	3.50"
871+00.00	-2.96%	-2.10%	-2.10%	N/A	4.89"	871+00.00	-1.04%	-2.10%	-1.50%	-0.75"	3.50"
871+50.00	-2.36%	-2.10%	-2.10%	N/A	3.91"	871+50.00	-0.91%	-2.10%	-1.50%	-0.95"	3.50"
872+00.00	-2.13%	-2.10%	-2.10%	N/A	3.55"	872+00.00	-1.10%	-2.10%	-1.50%	-0.84"	3.50"
872+50.00	-2.38%	-2.10%	-2.10%	N/A	3.96"	872+50.00	-0.21%	-2.10%	-1.50%	-2.09"	3.50"
873+00.00	-2.70%	-2.10%	-2.10%	N/A	4.47"	873+00.00	-1.24%	-2.10%	-1.50%	-0.43"	3.50"
873+50.00	-2.21%	-2.10%	-2.10%	N/A	3.67"	873+50.00	-1.66%	-2.10%	-1.66%	N/A	3.50"
874+00.00	-1.45%	-2.10%	-1.50%	-0.08"	3.50"	874+00.00	-1.22%	-2.10%	-1.50%	-0.46"	3.50"
874+50.00	-1.96%	-2.10%	-1.96%	N/A	3.50"	874+50.00	-0.93%	-2.10%	-1.50%	-0.92"	3.50"
875+00.00	-2.27%	-2.10%	-2.10%	N/A	3.77"	875+00.00	-1.08%	-2.10%	-1.50%	-0.68"	3.50"
875+50.00	-2.66%	-2.10%	-2.10%	N/A	4.40"	875+50.00	-0.95%	-2.10%	-1.50%	-0.89"	3.50"
876+00.00	-2.34%	-2.10%	-2.10%	N/A	3.89"	876+00.00	-0.85%	-2.10%	-1.50%	-1.05"	3.50"
876+50.00	-2.65%	-2.10%	-2.10%	N/A	4.40"	876+50.00	-0.87%	-2.10%	-1.50%	-1.02"	3.50"
877+00.00	-2.77%	-2.10%	-2.10%	N/A	4.58"	877+00.00	-1.22%	-2.10%	-1.50%	-0.46"	3.50"
877+50.00	-2.86%	-2.10%	-2.10%	N/A	4.73"	877+50.00	-0.80%	-2.10%	-1.50%	-1.13"	3.50"
878+00.00	-2.45%	-2.10%	-2.10%	N/A	4.06"	878+00.00	-2.57%	-2.10%	-2.10%	N/A	4.25"
878+50.00	-2.76%	-2.10%	-2.10%	N/A	4.57"	878+50.00	-2.26%	-2.10%	-2.10%	N/A	3.76"
879+00.00	-2.21%	-2.10%	-2.10%	N/A	3.68"	879+00.00	-1.52%	-2.10%	-1.52%	N/A	3.50"
879+50.00	-1.49%	-2.10%	-1.50%	-0.02"	3.50"	879+50.00	-1.49%	-2.10%	-1.50%	-0.02"	3.50"
880+00.00	-1.04%	-2.10%	-1.50%	-0.75"	3.50"	880+00.00	-1.61%	-2.10%	-1.61%	N/A	3.50"
880+50.00	-1.36%	-2.10%	-1.50%	-0.23"	3.50"	880+50.00	-1.19%	-2.10%	-1.50%	-0.50"	3.50"
881+00.00	-1.46%	-2.10%	-1.50%	-0.06"	3.50"	881+00.00	-0.71%	-2.10%	-1.50%	-1.28"	3.50"
881+50.00	-2.60%	-2.10%	-2.10%	N/A	4.30"	881+50.00	-0.58%	-2.10%	-1.50%	-1.49"	3.50"
882+00.00	-3.01%	-2.10%	-2.10%	N/A	4.98"	882+00.00	-0.89%	-2.10%	-1.50%	-0.98"	3.50"
882+50.00	-3.87%	-2.10%	-2.10%	N/A	6.36"	882+50.00	-1.36%	-2.10%	-1.50%	-0.22"	3.50"
883+00.00	-2.66%	-2.10%	-2.10%	N/A	4.40"	883+00.00	-0.44%	-2.10%	-1.50%	-1.72"	3.50"
883+50.00	-3.05%	-2.10%	-2.10%	N/A	5.03"	883+50.00	-0.41%	-2.10%	-1.50%	-1.77"	3.50"
884+00.00	-2.41%	-2.10%	-2.10%	N/A	4.00"	884+00.00	-1.18%	-2.10%	-1.50%	-0.51"	3.50"
884+50.00	-2.75%	-2.10%	-2.10%	N/A	4.54"	884+50.00	-0.70%	-2.10%	-1.50%	-1.30"	3.50"
885+00.00	-3.08%	-2.10%	-2.10%	N/A	5.09"	885+00.00	-0.70%	-2.10%	-1.50%	-1.30"	3.50"
885+50.00	-2.88%	-2.10%	-2.10%	N/A	4.76"	885+50.00	-0.54%	-2.10%	-1.50%	-1.55"	3.50"
886+00.00	-2.95%	-2.10%	-2.10%	N/A	4.87"	886+00.00	-0.87%	-2.10%	-1.50%	-1.03"	3.50"
886+50.00	-2.11%	-2.10%	-2.10%	N/A	3.52"	886+50.00	-1.03%	-2.10%	-1.50%	-0.77"	3.50"
887+00.00	-2.70%	-2.10%	-2.10%	N/A	4.46"	887+00.00	-1.56%	-2.10%	-1.56%	N/A	3.50"
887+50.00	-3.24%	-2.10%	-2.10%	N/A	5.35"	887+50.00	-1.25%	-2.10%	-1.50%	-0.41"	3.50"
888+00.00	-2.65%	-2.10%	-2.10%	N/A	4.40"	888+00.00	-1.64%	-2.10%	-1.64%	N/A	3.50"
888+50.00	-2.37%	-2.10%	-2.10%	N/A	3.93"	888+50.00	-1.37%	-2.10%	-1.50%	-0.21"	3.50"
889+00.00	-2.71%	-2.10%	-2.10%	N/A	4.49"	889+00.00	-1.14%	-2.10%	-1.50%	-0.59"	3.50"
889+50.00	-2.39%	-2.10%	-2.10%	N/A	3.98"	889+50.00	-1.66%	-2.10%	-1.66%	N/A	3.50"
890+00.00	-1.11%	-2.10%	-1.50%	-0.64"	3.50"	890+00.00	-1.02%	-2.10%	-1.50%	-0.77"	3.50"
890+50.00	-2.57%	-2.10%	-2.10%	N/A	4.27"	890+50.00	-0.93%	-2.10%	-1.50%	-0.92"	3.50"
891+00.00	-0.95%	-2.10%	-1.50%	-0.89"	3.50"	891+00.00	-1.10%	-2.10%	-1.50%	-0.65"	3.50"
891+50.00	-1.37%	-2.10%	-1.50%	-0.21"	3.50"	891+50.00	-1.01%	-2.10%	-1.50%	-0.80"	3.50"
892+00.00	-1.66%	-2.10%	-1.66%	N/A	3.50"	892+00.00	-1.29%	-2.10%	-1.50%	-0.34"	3.50"
892+50.00	-2.24%	-2.10%	-2.10%	N/A	3.73"	892+50.00	-1.29%	-2.10%	-1.50%	-0.34"	3.50"
893+00.00	-3.10%	-2.10%	-2.10%	N/A	5.12"	893+00.00	-0.69%	-2.10%	-1.50%	-1.32"	3.50"
893+50.00	-2.22%	-2.10%	-2.10%	N/A	3.70"	893+50.00	-0.59%	-2.10%	-1.50%	-1.48"	3.50"
894+00.00	-3.39%	-2.10%	-2.10%	N/A	5.59"	894+00.00	-1.73%	-2.10%	-1.73%	N/A	3.50"
894+50.00	-2.95%	-2.10%	-2.10%	N/A	4.87"	894+50.00	-1.83%	-2.10%	-1.83%	N/A	3.50"
895+00.00	-3.27%	-2.10%	-2.10%	N/A	5.40"	895+00.00	-1.71%	-2.10%	-1.71%	N/A	3.50"
895+50.00	-3.66%	-2.10%	-2.10%	N/A	6.03"	895+50.00	-1.87%	-2.10%	-1.87%	N/A	3.50"
896+00.00	-3.95%	-2.10%	-2.10%	N/A	6.50"	896+00.00	-1.68%	-2.10%	-1.68%	N/A	3.50"
896+50.00	-2.83%	-2.10%	-2.10%	N/A	4.68"	896+50.00	-1.02%	-2.10%	-1.50%	-0.77"	3.50"
897+00.00	-3.15%	-2.10%	-2.10%	N/A	5.19"	897+00.00	-1.08%	-2.10%	-1.50%	-0.68"	3.50"
897+50.00	-3.09%	-2.10%	-2.10%	N/A	5.11"	897+50.00	-1.11%	-2.10%	-1.50%	-0.64"	3.50"
898+00.00	-3.16%	-2.10%	-2.10%	N/A	5.21"	898+00.00	-1.47%	-2.10%	-1.50%	-0.05"	3.50"
898+50.00	-2.19%	-2.10%	-2.10%	N/A	3.65"	898+50.00	-1.43%	-2.10%	-1.50%	-0.11"	3.50"
899+00.00	-2.47%	-2.10%	-2.10%	N/A	4.10"	899+00.00	-1.57%	-2.10%	-1.57%	N/A	3.50"

Roadway Cross Slopes with Pavement and Milling Depths

LEFT						RIGHT					
Station	Existing Cross Slope	Design Cross Slope	Corrected Cross Slope	Milling Depth at 13.5' LT	Asphalt Depth at 13.5' LT	Station	Existing Cross Slope	Design Cross Slope	Corrected Cross Slope	Milling Depth at 13.5' RT	Asphalt Depth at 13.5' RT
899+50.00	-3.29%	-2.10%	-2.10%	N/A	5.43"	899+50.00	-1.83%	-2.10%	-1.83%	N/A	3.50"
900+00.00	-3.74%	-2.10%	-2.10%	N/A	6.15"	900+00.00	-1.92%	-2.10%	-1.92%	N/A	3.50"
900+50.00	-2.26%	-2.10%	-2.10%	N/A	3.75"	900+50.00	-2.29%	-2.10%	-2.10%	N/A	3.80"
901+00.00	-2.46%	-2.10%	-2.10%	N/A	4.09"	901+00.00	-2.30%	-2.10%	-2.10%	N/A	3.83"
901+50.00	-3.61%	-2.10%	-2.10%	N/A	5.95"	901+50.00	-1.56%	-2.10%	-1.56%	N/A	3.50"
902+00.00	-2.62%	-2.10%	-2.10%	N/A	4.34"	902+00.00	-0.96%	-2.10%	-1.50%	-0.87"	3.50"
902+50.00	-3.38%	-2.10%	-2.10%	N/A	5.57"	902+50.00	-1.78%	-2.10%	-1.78%	N/A	3.50"
903+00.00	-1.61%	-2.10%	-1.61%	N/A	3.50"	903+00.00	-1.20%	-2.10%	-1.50%	-0.48"	3.50"
903+50.00	-2.99%	-2.10%	-2.10%	N/A	4.94"	903+50.00	-1.19%	-2.10%	-1.50%	-0.51"	3.50"
904+00.00	-2.32%	-2.10%	-2.10%	N/A	3.85"	904+00.00	-0.91%	-2.10%	-1.50%	-0.95"	3.50"
904+50.00	-3.68%	-2.10%	-2.10%	N/A	6.06"	904+50.00	-1.65%	-2.10%	-1.65%	N/A	3.50"
905+00.00	-3.34%	-2.10%	-2.10%	N/A	5.51"	905+00.00	-1.26%	-2.10%	-1.50%	-0.39"	3.50"
905+50.00	-3.41%	-2.10%	-2.10%	N/A	5.63"	905+50.00	-0.91%	-2.10%	-1.50%	-0.96"	3.50"
906+00.00	-2.74%	-2.10%	-2.10%	N/A	4.54"	906+00.00	-1.57%	-2.10%	-1.57%	N/A	3.50"
906+50.00	-2.97%	-2.10%	-2.10%	N/A	4.90"	906+50.00	-1.74%	-2.10%	-1.74%	N/A	3.50"
907+00.00	-2.79%	-2.10%	-2.10%	N/A	4.61"	907+00.00	-1.75%	-2.10%	-1.75%	N/A	3.50"
907+50.00	-2.96%	-2.10%	-2.10%	N/A	4.90"	907+50.00	-1.47%	-2.10%	-1.50%	-0.05"	3.50"
908+00.00	-2.82%	-2.10%	-2.10%	N/A	4.67"	908+00.00	-2.12%	-2.10%	-2.10%	N/A	3.53"
908+50.00	-3.95%	-2.10%	-2.10%	N/A	6.50"	908+50.00	-2.06%	-2.10%	-2.06%	N/A	3.50"
909+00.00	-3.72%	-2.10%	-2.10%	N/A	6.13"	909+00.00	-1.94%	-2.10%	-1.94%	N/A	3.50"
909+50.00	-2.82%	-2.10%	-2.10%	N/A	4.67"	909+50.00	-1.32%	-2.10%	-1.50%	-0.29"	3.50"
910+00.00	-2.66%	-2.10%	-2.10%	N/A	4.41"	910+00.00	-1.95%	-2.10%	-1.95%	N/A	3.50"
910+50.00	-2.35%	-2.10%	-2.10%	N/A	3.91"	910+50.00	-1.82%	-2.10%	-1.82%	N/A	3.50"
911+00.00	-2.53%	-2.10%	-2.10%	N/A	4.20"	911+00.00	-1.90%	-2.10%	-1.90%	N/A	3.50"
911+50.00	-2.40%	-2.10%	-2.10%	N/A	3.98"	911+50.00	-1.68%	-2.10%	-1.68%	N/A	3.50"
912+00.00	-2.67%	-2.10%	-2.10%	N/A	4.42"	912+00.00	-1.77%	-2.10%	-1.77%	N/A	3.50"
912+50.00	-3.06%	-2.10%	-2.10%	N/A	5.05"	912+50.00	-1.28%	-2.10%	-1.50%	-0.35"	3.50"
913+00.00	-3.22%	-2.10%	-2.10%	N/A	5.32"	913+00.00	-1.55%	-2.10%	-1.55%	N/A	3.50"
913+50.00	-3.03%	-2.10%	-2.10%	N/A	5.01"	913+50.00	-2.09%	-2.10%	-2.09%	N/A	3.50"
914+00.00	-2.91%	-2.10%	-2.10%	N/A	4.81"	914+00.00	-2.01%	-2.10%	-2.01%	N/A	3.50"
914+50.00	-3.15%	-2.10%	-2.10%	N/A	5.19"	914+50.00	-2.14%	-2.10%	-2.10%	N/A	3.57"
915+00.00	-3.12%	-2.10%	-2.10%	N/A	5.15"	915+00.00	-1.96%	-2.10%	-1.96%	N/A	3.50"
915+50.00	-3.16%	-2.10%	-2.10%	N/A	5.22"	915+50.00	-1.71%	-2.10%	-1.71%	N/A	3.50"
916+00.00	-3.08%	-2.10%	-2.10%	N/A	5.09"	916+00.00	-1.53%	-2.10%	-1.53%	N/A	3.50"
916+50.00	-3.04%	-2.10%	-2.10%	N/A	5.02"	916+50.00	-1.27%	-2.10%	-1.50%	-0.37"	3.50"
917+00.00	-3.06%	-2.10%	-2.10%	N/A	5.06"	917+00.00	-2.18%	-2.10%	-2.10%	N/A	3.63"
917+50.00	-3.92%	-2.10%	-2.10%	N/A	6.45"	917+50.00	-2.40%	-2.10%	-2.10%	N/A	3.99"
918+00.00	-3.28%	-2.10%	-2.10%	N/A	5.41"	918+00.00	-2.18%	-2.10%	-2.10%	N/A	3.63"
918+50.00	-3.18%	-2.10%	-2.10%	N/A	5.25"	918+50.00	-2.87%	-2.10%	-2.10%	N/A	4.75"
919+00.00	-3.06%	-2.10%	-2.10%	N/A	5.06"	919+00.00	-1.60%	-2.10%	-1.60%	N/A	3.50"
919+50.00	-2.91%	-2.10%	-2.10%	N/A	4.82"	919+50.00	-1.96%	-2.10%	-1.96%	N/A	3.50"
920+00.00	-2.44%	-2.10%	-2.10%	N/A	4.06"	920+00.00	-1.91%	-2.10%	-1.91%	N/A	3.50"
920+50.00	-2.18%	-2.10%	-2.10%	N/A	3.63"	920+50.00	-1.57%	-2.10%	-1.57%	N/A	3.50"
921+00.00	-2.22%	-2.10%	-2.10%	N/A	3.69"	921+00.00	-1.88%	-2.10%	-1.88%	N/A	3.50"
921+50.00	-2.88%	-2.10%	-2.10%	N/A	4.76"	921+50.00	-2.55%	-2.10%	-2.10%	N/A	4.23"
922+00.00	-2.32%	-2.10%	-2.10%	N/A	3.86"	922+00.00	-2.17%	-2.10%	-2.10%	N/A	3.62"

This document was originally issued and sealed by Kyle J. Comer Registration Number PE- 7537, on 03/11/16 and the original document is stored at the North Dakota Department of Transportation

Milling & Paving Depths

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	11	13

Roadway Cross Slopes with Pavement and Milling Depths

LEFT						RIGHT					
Station	Existing Cross Slope	Design Cross Slope	Corrected Cross Slope	Milling Depth at 13.5' LT	Asphalt Depth at 13.5' LT	Station	Existing Cross Slope	Design Cross Slope	Corrected Cross Slope	Milling Depth at 13.5' RT	Asphalt Depth at 13.5' RT
922+50.00	-2.62%	-2.10%	-2.10%	N/A	4.34"	922+50.00	-2.01%	-2.10%	-2.01%	N/A	3.50"
923+00.00	-2.86%	-2.10%	-2.10%	N/A	4.73"	923+00.00	-2.38%	-2.10%	-2.10%	N/A	3.96"
923+50.00	-2.78%	-2.10%	-2.10%	N/A	4.61"	923+50.00	-2.99%	-2.10%	-2.10%	N/A	4.95"
924+00.00	-2.66%	-2.10%	-2.10%	N/A	4.40"	924+00.00	-3.13%	-2.10%	-2.10%	N/A	5.17"
924+50.00	-2.64%	-2.10%	-2.10%	N/A	4.37"	924+50.00	-3.18%	-2.10%	-2.10%	N/A	5.26"
925+00.00	-2.08%	-2.10%	-2.08%	N/A	3.50"	925+00.00	-2.58%	-2.10%	-2.10%	N/A	4.28"
925+50.00	-1.82%	-2.10%	-1.82%	N/A	3.50"	925+50.00	-2.14%	-2.10%	-2.10%	N/A	3.56"
926+00.00	-2.72%	-2.10%	-2.10%	N/A	4.51"	926+00.00	-2.04%	-2.10%	-2.04%	N/A	3.50"
926+50.00	-2.65%	-2.10%	-2.10%	N/A	4.40"	926+50.00	-2.37%	-2.10%	-2.10%	N/A	3.94"
927+00.00	-2.16%	-2.10%	-2.10%	N/A	3.60"	927+00.00	-2.28%	-2.10%	-2.10%	N/A	3.80"
927+50.00	-1.71%	-2.10%	-1.71%	N/A	3.50"	927+50.00	-1.96%	-2.10%	-1.96%	N/A	3.50"
928+00.00	-1.19%	-2.10%	-1.50%	-0.51"	3.50"	928+00.00	-1.49%	-2.10%	-1.50%	-0.02"	3.50"
928+50.00	-1.85%	-2.10%	-1.85%	N/A	3.50"	928+50.00	-0.83%	-2.10%	-1.50%	-1.08"	3.50"
929+00.00	-1.63%	-2.10%	-1.63%	N/A	3.50"	929+00.00	-1.20%	-2.10%	-1.50%	-0.49"	3.50"
929+50.00	-1.06%	-2.10%	-1.50%	-0.71"	3.50"	929+50.00	-1.13%	-2.10%	-1.50%	-0.60"	3.50"
930+00.00	-0.86%	-2.10%	-1.50%	-1.03"	3.50"	930+00.00	-0.35%	-2.10%	-1.50%	-1.86"	3.50"
930+50.00	-1.68%	-2.10%	-1.68%	N/A	3.50"	930+50.00	-0.66%	-2.10%	-1.50%	-1.36"	3.50"
931+00.00	-2.80%	-2.10%	-2.10%	N/A	4.63"	931+00.00	-1.62%	-2.10%	-1.62%	N/A	3.50"
931+50.00	-2.64%	-2.10%	-2.10%	N/A	4.38"	931+50.00	-1.19%	-2.10%	-1.50%	-0.50"	3.50"
932+00.00	-2.49%	-2.10%	-2.10%	N/A	4.12"	932+00.00	-2.27%	-2.10%	-2.10%	N/A	3.78"
932+50.00	-2.75%	-2.10%	-2.10%	N/A	4.56"	932+50.00	-2.03%	-2.10%	-2.03%	N/A	3.50"
933+00.00	-3.18%	-2.10%	-2.10%	N/A	5.25"	933+00.00	-2.67%	-2.10%	-2.10%	N/A	4.42"
933+50.00	-2.73%	-2.10%	-2.10%	N/A	4.52"	933+50.00	-2.11%	-2.10%	-2.10%	N/A	3.51"
934+00.00	-2.51%	-2.10%	-2.10%	N/A	4.17"	934+00.00	-1.86%	-2.10%	-1.86%	N/A	3.50"
934+50.00	-2.71%	-2.10%	-2.10%	N/A	4.49"	934+50.00	-3.42%	-2.10%	-2.10%	N/A	5.64"
935+00.00	-2.80%	-2.10%	-2.10%	N/A	4.63"	935+00.00	-3.49%	-2.10%	-2.10%	N/A	5.75"
935+50.00	-2.71%	-2.10%	-2.10%	N/A	4.48"	935+50.00	-3.45%	-2.10%	-2.10%	N/A	5.69"
936+00.00	-2.48%	-2.10%	-2.10%	N/A	4.12"	936+00.00	-1.96%	-2.10%	-1.96%	N/A	3.50"
936+50.00	-3.18%	-2.10%	-2.10%	N/A	5.25"	936+50.00	-3.47%	-2.10%	-2.10%	N/A	5.71"
937+00.00	-3.09%	-2.10%	-2.10%	N/A	5.10"	937+00.00	-2.48%	-2.10%	-2.10%	N/A	4.11"
937+50.00	-3.53%	-2.10%	-2.10%	N/A	5.81"	937+50.00	-3.70%	-2.10%	-2.10%	N/A	6.09"
938+00.00	-3.92%	-2.10%	-2.10%	N/A	6.45"	938+00.00	-3.44%	-2.10%	-2.10%	N/A	5.67"
938+50.00	-2.51%	-2.10%	-2.10%	N/A	4.17"	938+50.00	-2.66%	-2.10%	-2.10%	N/A	4.41"
939+00.00	-2.37%	-2.10%	-2.10%	N/A	3.94"	939+00.00	-3.27%	-2.10%	-2.10%	N/A	5.40"
939+50.00	-2.12%	-2.10%	-2.10%	N/A	3.53"	939+50.00	-3.69%	-2.10%	-2.10%	N/A	6.08"
940+00.00	-2.23%	-2.10%	-2.10%	N/A	3.71"	940+00.00	-3.15%	-2.10%	-2.10%	N/A	5.20"
940+50.00	-2.60%	-2.10%	-2.10%	N/A	4.31"	940+50.00	-2.98%	-2.10%	-2.10%	N/A	4.93"
941+00.00	-2.58%	-2.10%	-2.10%	N/A	4.27"	941+00.00	-3.04%	-2.10%	-2.10%	N/A	5.03"
941+50.00	-2.72%	-2.10%	-2.10%	N/A	4.50"	941+50.00	-2.86%	-2.10%	-2.10%	N/A	4.73"
942+00.00	-2.59%	-2.10%	-2.10%	N/A	4.30"	942+00.00	-3.56%	-2.10%	-2.10%	N/A	5.87"
942+50.00	-1.85%	-2.10%	-1.85%	N/A	3.50"	942+50.00	-3.15%	-2.10%	-2.10%	N/A	5.20"
943+00.00	-2.08%	-2.10%	-2.08%	N/A	3.50"	943+00.00	-3.39%	-2.10%	-2.10%	N/A	5.59"
943+50.00	-2.24%	-2.10%	-2.10%	N/A	3.73"	943+50.00	-2.97%	-2.10%	-2.10%	N/A	4.91"
944+00.00	-2.21%	-2.10%	-2.10%	N/A	3.67"	944+00.00	-2.78%	-2.10%	-2.10%	N/A	4.61"
944+50.00	-2.60%	-2.10%	-2.10%	N/A	4.30"	944+50.00	-3.36%	-2.10%	-2.10%	N/A	5.55"
945+00.00	-1.69%	-2.10%	-1.69%	N/A	3.50"	945+00.00	-1.83%	-2.10%	-1.83%	N/A	3.50"
945+50.00	-2.72%	-2.10%	-2.10%	N/A	4.51"	945+50.00	-2.04%	-2.10%	-2.04%	N/A	3.50"
946+00.00	-2.60%	-2.10%	-2.10%	N/A	4.31"	946+00.00	-2.71%	-2.10%	-2.10%	N/A	4.48"
946+50.00	-2.78%	-2.10%	-2.10%	N/A	4.60"	946+50.00	-2.85%	-2.10%	-2.10%	N/A	4.71"
947+00.00	-2.33%	-2.10%	-2.10%	N/A	3.87"	947+00.00	-1.44%	-2.10%	-1.50%	-0.10"	3.50"
947+50.00	-2.14%	-2.10%	-2.10%	N/A	3.57"	947+50.00	-2.06%	-2.10%	-2.06%	N/A	3.50"
948+00.00	-2.66%	-2.10%	-2.10%	N/A	4.41"	948+00.00	-2.86%	-2.10%	-2.10%	N/A	4.72"
948+50.00	-2.12%	-2.10%	-2.10%	N/A	3.54"	948+50.00	-3.31%	-2.10%	-2.10%	N/A	5.46"
949+00.00	-1.83%	-2.10%	-1.83%	N/A	3.50"	949+00.00	-2.95%	-2.10%	-2.10%	N/A	4.87"
949+50.00	-2.17%	-2.10%	-2.10%	N/A	3.61"	949+50.00	-1.96%	-2.10%	-1.96%	N/A	3.50"
950+00.00	-2.09%	-2.10%	-2.09%	N/A	3.50"	950+00.00	-2.38%	-2.10%	-2.10%	N/A	3.95"
950+50.00	-1.93%	-2.10%	-1.93%	N/A	3.50"	950+50.00	-2.48%	-2.10%	-2.10%	N/A	4.12"
951+00.00	-1.88%	-2.10%	-1.88%	N/A	3.50"	951+00.00	-2.32%	-2.10%	-2.10%	N/A	3.85"
951+50.00	-2.15%	-2.10%	-2.10%	N/A	3.59"	951+50.00	-2.00%	-2.10%	-2.00%	N/A	3.50"
952+00.00	-2.51%	-2.10%	-2.10%	N/A	4.17"	952+00.00	-2.80%	-2.10%	-2.10%	N/A	4.63"
952+50.00	-2.93%	-2.10%	-2.10%	N/A	4.85"	952+50.00	-2.97%	-2.10%	-2.10%	N/A	4.90"
953+00.00	-2.48%	-2.10%	-2.10%	N/A	4.11"	953+00.00	-2.94%	-2.10%	-2.10%	N/A	4.85"
953+50.00	-2.62%	-2.10%	-2.10%	N/A	4.34"	953+50.00	-2.27%	-2.10%	-2.10%	N/A	3.77"
954+00.00	-3.90%	-2.10%	-2.10%	N/A	6.41"	954+00.00	-2.64%	-2.10%	-2.10%	N/A	4.37"
954+50.00	-2.49%	-2.10%	-2.10%	N/A	4.13"	954+50.00	-2.49%	-2.10%	-2.10%	N/A	4.12"
955+00.00	-3.78%	-2.10%	-2.10%	N/A	6.22"	955+00.00	-3.30%	-2.10%	-2.10%	N/A	5.44"
955+50.00	-2.93%	-2.10%	-2.10%	N/A	4.84"	955+50.00	-2.57%	-2.10%	-2.10%	N/A	4.26"
956+00.00	-3.20%	-2.10%	-2.10%	N/A	5.28"	956+00.00	-2.77%	-2.10%	-2.10%	N/A	4.59"
956+50.00	-2.34%	-2.10%	-2.10%	N/A	3.89"	956+50.00	-2.32%	-2.10%	-2.10%	N/A	3.85"
957+00.00	-3.36%	-2.10%	-2.10%	N/A	5.54"	957+00.00	-3.91%	-2.10%	-2.10%	N/A	6.43"
957+50.00	-2.78%	-2.10%	-2.10%	N/A	4.59"	957+50.00	-2.72%	-2.10%	-2.10%	N/A	4.50"
958+00.00	-2.70%	-2.10%	-2.10%	N/A	4.47"	958+00.00	-2.02%	-2.10%	-2.02%	N/A	3.50"
958+50.00	-2.56%	-2.10%	-2.10%	N/A	4.25"	958+50.00	-2.17%	-2.10%	-2.10%	N/A	3.62"
959+00.00	-2.31%	-2.10%	-2.10%	N/A	3.85"	959+00.00	-1.64%	-2.10%	-1.64%	N/A	3.50"
959+50.00	-1.64%	-2.10%	-1.64%	N/A	3.50"	959+50.00	-2.03%	-2.10%	-2.03%	N/A	3.50"
960+00.00	-3.07%	-2.10%	-2.10%	N/A	5.07"	960+00.00	-3.49%	-2.10%	-2.10%	N/A	5.74"

Roadway Cross Slopes with Pavement and Milling Depths

LEFT						RIGHT					
Station	Existing Cross Slope	Design Cross Slope	Corrected Cross Slope	Milling Depth at 13.5' LT	Asphalt Depth at 13.5' LT	Station	Existing Cross Slope	Design Cross Slope	Corrected Cross Slope	Milling Depth at 13.5' RT	Asphalt Depth at 13.5' RT
960+50.00	-1.70%	-2.10%	-1.70%	N/A	3.50"	960+50.00	-2.79%	-2.10%	-2.10%	N/A	4.62"
961+00.00	-2.80%	-2.10%	-2.10%	N/A	4.63"	961+00.00	-2.87%	-2.10%	-2.10%	N/A	4.75"
961+50.00	-2.50%	-2.10%	-2.10%	N/A	4.15"	961+50.00	-2.22%	-2.10%	-2.10%	N/A	3.69"
962+00.00	-3.08%	-2.10%	-2.10%	N/A	5.08"	962+00.00	-2.62%	-2.10%	-2.10%	N/A	4.35"
962+50.00	-2.37%	-2.10%	-2.10%	N/A	3.93"	962+50.00	-1.80%	-2.10%	-1.80%	N/A	3.50"
963+00.00	-2.60%	-2.10%	-2.10%	N/A	4.31"	963+00.00	-2.26%	-2.10%	-2.10%	N/A	3.75"
963+50.00	-2.20%	-2.10%	-2.10%	N/A	3.67"	963+50.00	-1.61%	-2.10%	-1.61%	N/A	3.50"
964+00.00	-2.60%	-2.10%	-2.10%	N/A	4.31"	964+00.00	-2.05%	-2.10%	-2.05%	N/A	3.50"
964+50.00	-2.66%	-2.10%	-2.10%	N/A	4.41"	964+50.00	-1.93%	-2.10%	-1.93%	N/A	3.50"
965+00.00	-2.73%	-2.10%	-2.10%	N/A	4.52"	965+00.00	-2.59%	-2.10%	-2.10%	N/A	4.30"

This document was originally issued and sealed by Kyle J. Comer Registration Number PE- 7537, on 03/11/16 and the original document is stored at the North Dakota Department of Transportation

Milling & Paving Depths

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	11	14

Spec	Code	Bid Item	Qty	Unit
202	0312	Removal of Existing Fence		
		Total	6288	LF
752	0200	Fence Barbed Wire 4 Strand		
		Total	6753	LF

FENCE BARBED WIRE 4 STRAND - INSTALLS

Installation Section No.	Length (Feet)	From Station	To Station
1	129	255+43 - 102' Rt	256+45 - 129' Rt
2	109	256+54 - 108' Rt	257+02 - 109' Rt
3	24	288+66 - 135' Lt	288+90 - 135' Lt
3	50	288+90 - 135' Lt	288+90 - 85' Lt
4	44	338+27 - 100' Rt	338+71 - 100' RT
5	44	339+03 - 100' Rt	339+17 - 100' Rt
6	42	339+15 - 133' Rt	339+47 - 132' Rt
7	60	338+55 - 100' Lt	339+15 - 100' Lt
8	35	349+92 - 160' Rt	349+92 - 195' Rt
8	51	349+92 - 195' Rt	350+42 - 195' Rt
8	35	350+42 - 195' Rt	350+42 - 160' Rt
9	49	383+89 - 154' Lt	384+38 - 147' Lt
9	12	384+38 - 147' Lt	384+38 - 160' Lt
9	250	384+38 - 160' Lt	386+88 - 160' Lt
9	35	386+88 - 160' Lt	386+88 - 125' Lt
10	20	403+40 - 150' Rt	403+40 - 125' Rt
10	100	403+40 - 125' Rt	404+40 - 125' Rt
10	25	404+40 - 125' Rt	404+40 - 100' Rt
11	130	450+00 - 130' Rt	451+30 - 130' Rt
11	45	451+30 - 130' Rt	451+30 - 175' Rt
11	410	451+30 - 175' Rt	455+40 - 175' Rt
11	45	455+40 - 175' Rt	455+40 - 130' Rt
11	60	455+40 - 130' Rt	456+00 - 130' Rt
12	35	451+83 - 130' Lt	451+83 - 165' Lt
12	51	451+83 - 165' Lt	452+33 - 165' Lt
12	35	452+33 - 165' Lt	452+33 - 130' Lt
13	36	470+07 - 111' Rt	470+07 - 75' Rt
13	20	470+07 - 75' Rt	470+27 - 75' Rt
14	50	470+96 - 75' Rt	471+46 - 75' Rt
15	50	484+89 - 75' Rt	485+39 - 75' Rt
16	116	498+10 - 71 ' Rt	499+26 - 80' Rt
16	20	499+26 - 80' Rt	499+26 - 100' Rt
16	50	499+26 - 100' Rt	499+76 - 100' Rt
16	21	499+76 - 100' Rt	499+76 - 79' Rt
16	340	499+76 - 79' Rt	503+16 - 75' Rt
16	33	503+16 - 75' Rt	503+38 - 52' Rt
17	32	503+45 - 52' Rt	503+68 -75' Rt
17	292	503+68 -75' Rt	506+60 - 78' Rt
18	139	502+40 - 150' Lt	503+38 - 52' Lt
19	139	503+46 - 52' Lt	504+44 - 150' Lt
20	73	512+51 - 150' Lt	513+24 - 150' Lt
20	109	513+24 - 150' Lt	514+01 - 73' Lt
20	13	514+01 - 73' Lt	514+14 - 73' Lt
20	69	514+14 - 73' Lt	514+58 - 125' Lt
21	6	513+76 - 99' Rt	513+82 - 99' Rt
21	30	513+82 - 99' Rt	513+82 -129' Rt
Subtotal	3563		

FENCE BARBED WIRE 4 STRAND - INSTALLS (CONT.)

Installation Section No.	Length (Feet)	From Station	To Station
21	50	513+82 -129' Rt	514+32 - 127' Rt
21	30	514+32 - 127' Rt	514+32 - 97' Rt
21	14	514+32 - 97' Rt	514+45 - 97' Rt
22	459	568+16 - 100' Rt	572+75 - 100' Rt
22	11	572+75 - 100' Rt	572+83 - 108' Rt
23	81	573+04 - 100' Rt	573+85 -100' Rt
24	62	573+68 - 56 - Rt	574+12 - 100' Rt
25	100	572+91 - 125' Lt	573+62 - 55' Lt
26	100	573+70 - 54' Lt	574+40 - 125' Lt
27	160	583+00 - 100' Rt	584+60 - 100' Rt
28	25	588+71 - 100' Rt	588+71 - 75' Rt
28	43	588+71 - 75' Rt	589+14- 75' Rt
28	40	589+14- 75' Rt	589+14- 115' Rt
28	50	589+14- 115' Rt	589+64 - 115' Rt
28	40	589+64 - 115' Rt	589+64 - 75' Rt
28	32	589+64 - 75' Rt	589+96 - 77' Rt
29	31	595+10 - 78' Rt	595+41 - 83' Rt
30	48	595+62 - 81 ' Rt	596+10 - 78' Rt
31	131	631+49 - 141' Rt	632+78 - 117' Rt
31	7	632+78 - 117' Rt	632+79 - 125' Rt
31	47	632+79 - 125' Rt	633+25 - 120' Rt
31	12	633+25 - 120' Rt	633+25 - 109' Rt
31	77	633+25 - 109' Rt	634+00 - 95' Rt
32	50	649+19 - 75' Rt	649+69 - 76' Rt
33	24	812+84 - 125' Lt	813+07 - 125' Lt
34	19	813+86 - 126' Lt	814+04 - 126' LT
35	130	815+10 - 75' Rt	816+40 - 75' Rt
36	21	857+80 - 78' Rt	858+01 - 78' Rt
36	35	858+01 - 78' Rt	858+01 - 110' Rt
36	473	858+01 - 110' Rt	862+79 -110' Rt
36	25	862+79 -110' Rt	862+79 -78' Rt
36	51	862+79 -78' Rt	863+30 -78' Rt
37	60	876+84 - 75' Rt	876+84 - 135' Rt
37	40	876+84 - 135' Rt	877+24 - 135' Rt
38	100	876+84 - 140' Lt	876+84 - 240' Lt
38	40	876+84 - 240' Lt	877+24 - 240' Lt
39	80	877+90 - 200' Rt	878+70 - 200' Rt
39	100	878+70 - 200' Rt	878+70 - 100' Rt
40	40	877+90 - 225' Lt	878+30 - 225' Lt
40	100	878+30 - 225' Lt	878+30 - 125' Lt
41	26	916+73 - 79 ' Rt	916+99 - 80' Rt
42	20	917+33 - 76' Rt	917+53 - 75' Rt
43	43	941+71 - 125' Lt	942+14 - 125' Lt
44	63	942+48 - 125' Lt	943+11 - 125; Lt
Subtotal	3190		
Total	6753		

REMOVAL OF EXISTING FENCE

Removal Section No.	Length (Feet)	From Station	To Station
1	103	255+43 - 102' Rt	256+45 - 129' Rt
2	109	256+54 - 108' Rt	257+02- 109' Rt
3	44	338+27 - 100' Rt	338+71 - 100 - Rt
4	54	338+94 - 100' Rt	339+47 - 100' Rt
5	32	339+15 - 133' Rt	339+47 - 132' Rt
6	60	338+55 - 100' Lt	339+15 - 100' Lt
7	256	383+90 - 154' Lt	386+44 - 125' Lt
7	38	386+44 - 125' Lt	386+60 - 160' Lt
8	33	394+66 - 125' Rt	394+94 - 125' Rt
9	32	395+34 - 125' Rt	395+66 - 125' Rt
10	100	403+40 - 105' Rt	404+40 - 100' Rt
11	410	450+00 - 130' Rt	454+18 - 130' Rt
11	75	455+15 - 132' Rt	456+00 - 130' Rt
12	30	455+15 - 132' Rt	455+45 - 131' Rt
13	31	455+68 - 132' Rt	456+00 - 131' Rt
14	48	470+07 - 111' Rt	470+27 - 78' Rt
15	50	470+96 - 77' Rt	471+46 - 76' Rt
16	76	484+89 - 76' Rt	485+39 -76' Rt
17	483	498+10 - 81' Rt	502+93 - 77' Rt
17	60	502+93 - 77' Rt	503+37 - 36' Rt
17	8	503+37 - 36' Rt	503+45 - 36' Rt
17	48	503+45 - 36' Rt	503+71 - 76' Rt
17	288	503+71 - 76' Rt	506+60 - 78' Rt
18	47	502+42 - 150' Lt	502+87 - 150' Lt
18	128	502+87 - 150' Lt	503+38 - 32' Lt
18	8	503+38 - 32' Lt	503+45 - 32' Lt
18	128	503+45 - 32' Lt	503+85 - 150' Lt
18	59	503+85 - 150' Lt	504+43 - 150' Lt
19	185	512+53 - 150' Lt	514+08 - 52' Lt
19	95	514+08 - 52' Lt	514+58 -124' Lt
20	55	513+76 - 97' Lt	514+05 - 57' Lt
21	55	514+10 - 58' Lt	514+45 - 95' Lt
22	570	568+16 -100' Rt	573+85 -100' Rt
23	74	573+68 - 34' Rt	573+99 - 100' Rt
23	13	573+99 - 100' Rt	574+12 - 100' Rt
24	40	572+90 - 125' Lt	573+29 - 125' Lt
24	100	573+29 - 125' Lt	573+62 - 34' Lt
25	92	573+69 - 34' Lt	573+88 - 125' Lt
25	56	573+88 - 125' Lt	574+43 - 125' Lt
26	160	583+00 - 100' Rt	584+60 - 100' Rt
27	129	588+71 - 100' Rt	589+96 - 77' Rt
28	32	595+10 - 78' Rt	595+41 - 83' Rt
29	48	595+62 - 81' Rt	596+10 - 78' Rt
30	256	631+49 - 141' Rt	634+00 - 95' Rt

REMOVAL OF EXISTING FENCE

Removal Section No.	Length (Feet)	From Station	To Station
31	50	649+19 - 75' Rt	649+70 -76' Rt
32	24	812+84 - 126' Lt	813+08 - 126' Lt
33	17	813+87 - 126' Lt	814+04 - 126' Lt
34	130	814+04 - 126' Rt	816+40 - 76' Rt
35	445	857+80 - 78' Rt	862+22 -782' Rt
36	452	857+80 - 78' Rt	862+22 - 78' Rt
39	90	877+83 - 106' Rt	878+70 - 101' Rt
40	120	878+08 - 225' Lt	878+21 - 125' Lt
41	26	916+73 - 79 ' Rt	916+99 - 80' Rt
42	20	917+33 - 75' Rt	917+53 - 75' Rt
43	43	941+71 - 125' Lt	942+14 - 125' Lt
44	73	942+38 - 126' Lt	943+11 - 126' Lt
Total	6288		

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Fencing Removal & Installation

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

Object Markers - Centerline Culverts		
Station	**Offset**	**Quantity**
227+97	Lt / Rt	2
233+71	Lt / Rt	2
237+94	Lt / Rt	2
254+08	Lt / Rt	2
254+19	Lt / Rt	2
263+11	Lt / Rt	2
284+71	Lt / Rt	2
292+11	Lt / Rt	2
311+70	Lt / Rt	2
323+71	Lt / Rt	2
327+47	Lt / Rt	2
327+57	Lt / Rt	2
336+68	Lt / Rt	2
342+45	Rt	1
342+86	Lt	1
350+53	Lt / Rt	2
358+59	Lt / Rt	2
365+80	Lt / Rt	2
371+67	Lt / Rt	2
381+36	Lt / Rt	2
384+77	Lt / Rt	2
386+56	Lt / Rt	2
395+47	Lt / Rt	2
403+86	Lt / Rt	2
420+49	Lt / Rt	2
426+92	Lt / Rt	2
430+45	Lt / Rt	2
434+43	Lt / Rt	2
436+66	Lt / Rt	2
452+11	Lt / Rt	2
461+64	Lt / Rt	2
471+21	Lt / Rt	2
485+14	Lt / Rt	2

Object Markers - Centerline Culverts (Cont)		
Station	**Offset**	**Quantity**
490+02	Lt / Rt	2
493+25	Lt / Rt	2
499+51	Lt / Rt	2
503+42	Lt / Rt	2
505+67	Lt / Rt	2
527+02	Lt / Rt	2
558+10	Lt / Rt	2
570+93	Lt / Rt	2
573+65	Lt / Rt	2
584+28	Lt / Rt	2
589+39	Lt / Rt	2
596+07	Lt / Rt	2
616+37	Lt	1
632+85	Lt	1
632+98	Rt	1
649+44	Lt / Rt	2
708+67	Lt / Rt	2
708+75	Lt / Rt	2
719+76	Lt / Rt	2
733+07	Lt / Rt	2
775+08	Lt / Rt	2
815+28	Lt / Rt	2
825+19	Lt / Rt	2
832+67	Lt / Rt	2
860+50	Lt / Rt	2
877+04	Lt	1
878+31	Rt	1
893+04	Lt / Rt	2
907+04	Lt / Rt	2
931+14	Lt / Rt	2
944+42	Lt / Rt	2
956+73	Lt / Rt	2

Object Markers - Type III		
Station	**Offset**	**Quantity**
266+71	Lt / Rt	2
514+08	Lt / Rt	4
553+37	Lt / Rt	2
615+45	Rt	1
616+52	Lt	1
697+07	Lt / Rt	4

Spec	Code	Bid Item	Qty	Unit
754	0805	Object Markers - Culverts		
		Total	123	EA
754	0803	Object Markers - Type III		
		Total	14	EA

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Object Marker - Centerline Culverts

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

Spec	Code	Bid Item		
754	0805	Object Markers - Culverts		
		Total	152	EA

Object Markers - Approach Culverts		
Station	**Offset**	**Quantity**
226+97	Lt	2
244+24	Lt	2
245+09	Rt	2
255+84	Rt	2
268+83	Lt	2
271+79	Lt	2
277+93	Lt	2
287+89	Rt	2
288+25	Lt	2
291+62	Rt	2
305+75	Rt	2
312+77	Rt	2
320+24	Lt	2
320+47	Rt	2
327+95	Rt	2
338+85	Lt	2
352+00	Lt	2
355+73	Rt	2
369+73	Lt	2
413+89	Lt	2
413+91	Rt	2
424+65	Rt	2
439+72	Rt	2
456+70	Rt	2
456+75	Lt	2
469+69	Rt	2
469+74	Lt	2
482+96	Lt	2
492+28	Lt	2
509+56	Lt	2
519+30	Rt	2
519+84	Lt	2
535+97	Lt	2
543+97	Rt	2
545+90	Lt	2
562+25	Lt	2
562+29	Rt	2
575+78	Lt	2
578+32	Rt	2

Object Markers - Approach Culverts (Cont)		
Station	**Offset**	**Quantity**
602+65	Lt	2
608+56	Rt	2
608+63	Lt	2
628+33	Lt	2
642+40	Rt	2
652+65	Rt	2
666+48	Rt	2
666+52	Lt	2
668+47	Lt	2
691+11	Lt	2
691+15	Rt	2
705+91	Rt	2
711+32	Lt	2
752+64	Rt	2
752+70	Lt	2
755+89	Rt	2
772+05	Rt	2
798+13	Lt	2
798+31	Rt	2
808+10	Rt	2
808+18	Lt	2
810+20	Rt	2
813+44	Lt	2
824+79	Rt	2
837+25	Rt	2
856+73	Rt	2
868+25	Rt	2
868+30	Lt	2
871+68	Rt	2
877+69	Lt	2
895+82	Lt	2
895+82	Rt	2
904+00	Lt	2
917+13	Lt	2
917+13	Rt	2
942+31	Rt	2
962+37	Rt	2

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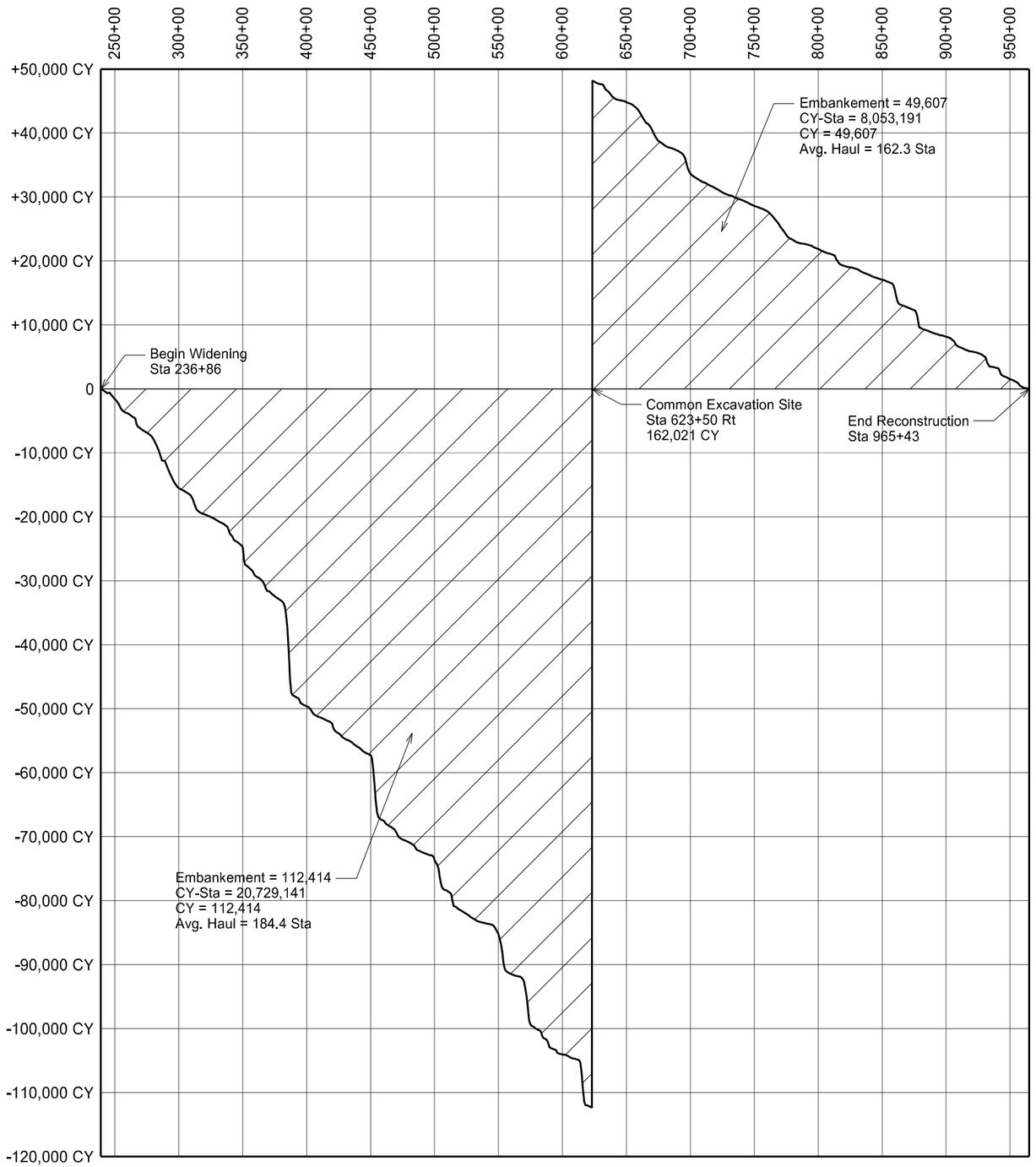
Object Marker - Approach Culverts

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	11	17



Project Earthwork Summary	
Embankment	162,021 CY
Common Excavation Site	162,021CY
Cubic Yard-Station	28,791,132
Cubic Yards	162,021
Average Haul (Station)	177.7

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Mass Diagram

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	11	18

*25% additional volumes are included in Embankment quantities

Station	End Area (SF)				Volume (CY)				Mass Ordinate (CY)	
	Topsoil		Embankment		Topsoil		Embankment		Topsoil	Embankment
	Exc	Fill	Exc	Fill	Exc	Fill	Exc	Fill*		
239+00.00	13.2	16.5	0.0	33.8	N/A	N/A	N/A	N/A	N/A	N/A
240+00.00	12.9	15.3	0.9	32.1	48	59	2	153	-11	-151
241+00.00	15.8	16.8	4.9	40.7	53	59	11	169	-17	-309
242+00.00	20.5	19.8	5.0	51.5	67	68	18	213	-18	-504
243+00.00	20.8	20.3	0.0	46.4	76	74	9	227	-16	-722
244+20.00	17.4	11.9	8.1	47.1	85	72	18	260	-3	-964
245+20.00	2.4	2.9	100.4	20.6	37	27	201	157	7	-920
246+00.00	26.6	22.5	2.1	90.1	43	38	152	205	12	-973
247+00.00	25.5	23.3	3.6	80.6	96	85	11	395	23	-1357
248+00.00	26.1	25.6	5.1	75.3	96	91	16	361	28	-1702
249+00.00	25.9	24.8	3.9	72.2	96	93	17	341	31	-2026
250+00.00	27.1	25.8	0.9	75.5	98	94	9	342	35	-2359
250+51.00	15.6	22.4	15.4	64.3	40	46	15	165	29	-2509
251+00.00	16.0	15.3	1.8	53.9	29	34	16	134	24	-2627
252+00.00	28.0	27.0	1.6	100.5	81	78	6	357	27	-2978
253+00.00	27.5	27.3	0.4	94.5	103	101	4	451	29	-3425
254+15.00	32.5	32.5	0.0	137.0	128	127	1	616	30	-4040
255+00.00	27.5	27.0	2.2	93.4	94	94	3	453	30	-4490
255+80.00	12.5	13.9	8.9	64.3	59	61	16	292	28	-4766
257+00.00	22.9	27.1	0.1	52.3	79	91	20	324	16	-5070
258+00.00	20.1	25.7	0.9	28.8	80	98	2	188	-2	-5256
259+00.00	20.1	24.8	6.2	24.0	74	94	13	122	-22	-5365
260+00.00	19.9	25.3	3.8	27.0	74	93	19	118	-41	-5464
261+00.00	21.1	26.1	2.7	34.6	76	95	12	143	-60	-5595
262+00.00	28.7	33.4	3.1	59.0	92	110	11	217	-78	-5801
262+70.00	24.0	32.1	10.4	44.3	68	85	18	167	-95	-5950
263+11.00	37.6	42.4	1.0	71.5	47	57	9	110	-105	-6051
264+00.00	28.0	32.6	4.5	36.2	108	124	9	222	-121	-6264
265+00.00	25.0	28.6	6.0	35.1	98	113	19	165	-136	-6410
266+00.00	29.5	33.6	5.9	37.8	101	115	22	169	-150	-6557
266+70.00	30.5	67.7	4.5	469.3	78	131	13	822	-203	-7366
267+00.00	58.3	62.6	5.3	203.9	49	72	5	468	-226	-7829
268+00.00	20.6	25.0	4.1	33.2	146	162	17	549	-242	-8361
268+80.00	16.9	19.6	4.9	38.9	56	66	13	134	-252	-8482
270+00.00	29.6	34.3	3.5	60.4	103	120	19	276	-269	-8739
271+00.00	29.9	33.9	5.3	55.9	110	126	16	269	-285	-8992
271+80.00	16.7	18.6	8.3	42.2	69	78	20	182	-294	-9154
273+00.00	25.9	30.0	4.4	48.6	95	108	28	252	-307	-9378
274+00.00	22.3	26.5	3.1	38.0	89	105	14	200	-323	-9564
274+65.00	0.0	0.0	6.4	18.7	27	32	11	85	-328	-9638
275+30.00	21.4	24.6	4.5	41.4	26	30	13	90	-332	-9715
276+00.00	23.6	25.5	5.2	50.3	58	65	13	149	-339	-9851
277+00.00	26.0	25.8	5.9	66.0	92	95	21	269	-342	-10099
278+00.00	13.5	13.6	6.6	46.0	73	73	23	259	-342	-10335
279+00.00	26.6	25.6	1.8	86.4	74	73	16	306	-341	-10625
280+00.00	28.5	25.9	2.1	96.9	102	95	7	424	-334	-11042
281+00.00	31.2	27.0	2.1	120.3	111	98	8	503	-321	-11537
282+00.00	33.0	26.2	4.6	136.0	119	99	12	593	-301	-12118
283+00.00	31.9	26.1	1.9	139.7	120	97	12	638	-278	-12744
284+00.00	32.3	25.9	1.7	131.0	119	96	7	627	-255	-13364
284+70.00	33.7	26.6	3.0	190.2	86	68	6	520	-237	-13878
286+00.00	35.7	27.0	4.0	169.0	167	129	17	1081	-199	-14942
287+00.00	37.8	27.3	3.0	183.6	136	101	13	816	-164	-15745
288+00.00	0.0	0.0	178.6	44.4	70	51	336	528	-145	-15937
289+00.00	34.8	27.2	1.6	146.1	64	50	334	441	-131	-16044
290+00.00	33.5	26.3	3.1	142.5	126	99	9	668	-104	-16703
291+00.00	34.7	26.3	3.9	141.7	126	97	13	658	-75	-17348
291+60.00	0.0	0.0	18.9	181.3	39	29	25	449	-65	-17772

Station	End Area (SF)				Volume (CY)				Mass Ordinate (CY)	
	Topsoil		Embankment		Topsoil		Embankment		Topsoil	Embankment
	Exc	Fill	Exc	Fill	Exc	Fill	Exc	Fill*		
292+10.00	32.9	26.1	2.2	142.3	30	24	20	375	-59	-18127
293+00.00	33.1	26.8	0.3	141.0	110	88	4	590	-37	-18713
294+00.00	32.6	25.2	2.8	124.9	122	96	6	616	-11	-19323
295+00.00	33.8	25.8	3.9	131.4	123	94	12	593	18	-19904
296+00.00	32.0	25.6	4.0	117.9	122	95	15	577	45	-20466
297+00.00	27.9	25.9	0.6	90.6	111	95	9	483	61	-20940
298+00.00	27.1	26.4	2.7	85.2	102	97	6	407	66	-21341
299+00.00	24.4	25.7	0.4	70.5	95	96	6	360	65	-21695
300+00.00	22.3	24.7	3.5	51.7	86	93	7	283	58	-21971
301+00.00	20.1	23.9	4.7	31.9	79	90	15	194	47	-22150
302+00.00	19.5	24.3	2.8	32.6	73	89	14	149	31	-22285
302+80.00	9.2	11.2	4.1	37.3	43	53	10	129	21	-22404
304+00.00	19.5	24.4	1.6	33.6	64	79	13	197	6	-22588
305+00.00	20.6	25.3	2.2	38.3	74	92	7	166	-12	-22747
305+80.00	12.2	14.2	5.0	48.4	49	59	11	161	-22	-22897
307+00.00	20.9	25.5	2.7	36.3	74	88	17	235	-36	-23115
308+00.00	21.7	25.9	2.9	42.5	79	95	10	182	-52	-23287
309+00.00	25.8	29.2	6.1	67.5	88	102	17	255	-66	-23525
310+00.00	30.6	33.8	6.2	99.0	104	117	23	385	-79	-23887
311+00.00	33.2	37.3	3.7	125.8	118	132	18	520	-93	-24389
311+70.00	34.3	38.8	1.6	234.2	88	99	7	583	-104	-24965
312+00.00	34.3	38.6	2.8	161.7	38	43	2	275	-109	-25238
312+75.00	15.1	25.2	4.9	213.2	69	89	11	651	-129	-25878
314+00.00	27.3	31.6	2.9	74.8	98	131	18	833	-162	-26693
315+00.00	22.2	27.0	3.0	44.5	92	109	11	276	-179	-26958
316+00.00	22.3	27.5	2.1	53.9	82	101	9	228	-198	-27177
317+00.00	21.6	25.6	6.4	33.8	81	98	16	203	-215	-27364
318+00.00	19.5	23.7	5.3	33.3	76	91	22	155	-230	-27497
319+00.00	19.2	23.7	3.1	29.3	72	88	16	145	-246	-27626
320+25.00	2.8	4.4	8.8	16.9	51	65	28	134	-260	-27732
320+50.00	4.5	6.6	7.9	33.2	3	5	8	29	-262	-27753
321+00.00	19.1	23.9	3.0	29.1	22	28	10	72	-268	-27815
322+00.00	18.8	23.4	4.0	28.0	70	88	13	132	-286	-27934
323+00.00	19.7	24.2	4.0	30.0	71	88	15	134	-303	-28053
323+70.00	20.0	24.8	3.4	36.8	51	64	10	108	-316	-28151
324+00.00	19.2	24.5	2.2	30.9	22	27	3	47	-321	-28195
325+00.00	19.4	23.8	5.1	34.9	71	89	14	152	-339	-28333
326+00.00	19.8	23.8	5.3	34.3	73	88	19	160	-354	-28474
327+25.00	10.2	11.9	6.1	20.3	69	83	26	158	-368	-28606
327+55.00	19.6	23.5	4.9	57.5	17	20	6	54	-371	-28654
327+90.00	7.1	9.4	8.2	65.9	17	21	8	100	-375	-28746
329+00.00	20.5	24.4	6.1	30.5	56	69	29	245	-388	-28962
330+00.00	21.0	24.7	3.3	40.8	77	91	17	165	-402	-29110
331+00.00	21.4	24.8	4.6	40.4	79	92	15	188	-415	-29283
332+00.00	20.6	24.1	4.9	34.5	78	91	18	173	-428	-29438
333+00.00	20.9	24.7	3.2	37.6	77	90	15	167	-441	-29590
334+00.00	20.4	24.3	4.2	32.7	76	91	14	163	-456	-29739
335+00.00	23.7	27.2	3.7	32.7	82	95	15	151	-469	-29875
336+00.00	30.2	34.0	3.0	45.4	100	113	12	181	-482	-30044
336+70.00	33.7	38.2	2.7	79.2	83	94	7	202	-493	-30239
337+00.00	30.2	34.3	4.5	26.3	36	40	4	73	-497	-30308
338+00.00	31.3	35.2	4.3	38.4	114	129	16	150	-512	-30442
338+90.00	0.0	0.0	7.0	307.5	52	59	19	721	-519	-31144
340+00.00	33.5	37.7	4.9	44.9	68	77	24	897	-528	-32017
341+00.00	36.8	40.6	5.0	80.4	130	145	18	290	-543	-32289
342+00.00	40.5	45.0	2.4	84.5	143	159	14	382	-559	-32657
342+65.00	40.1	61.9	3.9	189.3	97	129	8	412	-591	-33061
343+00.00	41.9	46.4	3.5	99.5	53	70	5	234	-608	-33290

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Earthwork Values

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	11	19

*25% additional volumes are included in Embankment quantities

Station	End Area (SF)				Volume (CY)				Mass Ordinate (CY)	
	Topsoil		Embankment		Topsoil		Embankment		Topsoil	Embankment
	Exc	Fill	Exc	Fill	Exc	Fill	Exc	Fill*		
344+00.00	22.9	28.2	3.9	23.6	117	138	14	222	-931	-23760
345+00.00	18.9	24.2	4.3	19.2	78	97	15	99	-950	-23844
346+00.00	21.7	27.1	0.8	38.3	75	95	9	133	-970	-23968
347+00.00	21.3	27.4	2.5	31.9	79	101	6	163	-992	-24125
348+00.00	23.4	27.1	5.4	42.6	83	101	15	172	-1010	-24282
349+00.00	23.8	28.5	3.0	51.7	87	103	16	218	-1026	-24484
350+00.00	42.2	47.3	6.2	67.1	122	140	17	275	-1044	-24742
350+55.00	103.8	110.4	4.4	724.5	149	161	11	1008	-1056	-25739
351+00.00	77.7	85.0	3.2	285.8	151	163	6	1052	-1068	-26785
352+00.00	16.2	20.7	4.7	30.6	174	196	15	732	-1090	-27502
353+00.00	18.4	24.6	2.5	31.3	64	84	13	143	-1110	-27632
354+00.00	19.1	25.0	0.2	39.5	69	92	5	164	-1133	-27791
355+00.00	18.8	24.0	0.3	35.9	70	91	1	175	-1154	-27965
355+70.00	8.9	11.2	0.2	45.5	36	46	1	132	-1164	-28096
357+00.00	19.9	24.2	5.3	31.7	69	85	13	232	-1180	-28315
358+00.00	50.3	57.1	4.0	65.9	130	151	17	226	-1201	-28524
358+70.00	68.7	87.3	3.9	139.0	154	187	10	332	-1234	-28846
359+00.00	56.3	62.2	3.4	97.5	69	83	4	164	-1248	-29006
360+00.00	21.0	25.5	6.0	23.1	143	162	17	279	-1267	-29268
361+00.00	20.5	25.3	4.5	26.3	77	94	19	115	-1284	-29364
362+00.00	21.2	25.6	4.4	28.2	77	94	16	126	-1301	-29474
363+00.00	22.0	26.8	3.3	34.1	80	97	14	144	-1318	-29604
364+00.00	28.3	32.9	4.3	42.2	93	111	14	177	-1336	-29767
365+00.00	42.0	47.7	2.5	43.1	130	149	13	197	-1355	-29951
365+80.00	51.7	58.4	1.7	64.3	139	157	6	199	-1373	-30144
366+00.00	55.8	61.9	5.8	62.6	40	45	3	59	-1378	-30200
367+00.00	53.2	59.4	3.3	108.9	202	225	17	397	-1401	-30580
368+10.00	13.2	15.1	6.0	149.3	135	152	19	657	-1418	-31218
369+00.00	22.7	26.9	5.8	31.9	60	70	20	378	-1428	-31576
369+80.00	0.0	3.0	6.9	7.5	34	44	19	73	-1438	-31630
371+00.00	22.9	28.3	4.2	20.9	51	70	25	79	-1457	-31684
371+65.00	39.1	45.2	4.7	78.3	75	88	11	149	-1470	-31822
372+00.00	33.7	38.8	6.9	38.5	47	54	8	95	-1477	-31909
373+00.00	25.3	29.4	5.5	42.1	109	126	23	187	-1494	-32073
374+00.00	22.7	27.7	3.3	39.5	89	106	16	189	-1511	-32246
375+00.00	21.2	25.4	5.3	37.8	81	98	16	179	-1528	-32409
376+00.00	20.4	24.6	5.4	35.9	77	93	20	170	-1544	-32559
377+00.00	19.8	24.3	5.2	27.3	74	91	20	146	-1561	-32685
378+00.00	20.4	25.1	4.1	32.6	74	91	17	139	-1578	-32807
379+00.00	21.6	26.6	2.8	38.0	78	96	13	163	-1596	-32957
380+00.00	21.2	25.3	6.0	29.4	79	96	16	156	-1613	-33097
381+00.00	30.4	35.7	3.5	35.1	95	113	18	149	-1631	-33228
381+35.00	40.6	46.1	5.5	77.4	46	53	6	91	-1638	-33313
382+00.00	28.8	33.8	5.4	37.9	84	96	13	174	-1650	-33474
383+10.00	0.0	93.1	5.3	239.2	59	259	22	706	-1850	-34158
383+25.00	0.0	0.0	5.1	408.8	0	26	3	225	-1876	-34380
384+00.00	42.6	60.7	3.5	152.4	59	84	12	974	-1901	-35342
384+83.80	115.6	130.2	0.0	810.0	246	296	5	1867	-1951	-37204
386+00.00	103.8	112.6	0.0	615.5	472	522	0	3834	-2001	-41038
386+55.00	128.8	139.7	0.0	1175.3	237	257	0	2280	-2021	-43318
387+00.00	118.6	128.3	0.0	769.1	206	223	0	2025	-2038	-45343
388+00.00	51.9	57.9	0.0	149.2	316	345	0	2126	-2067	-47469
389+00.00	22.4	29.0	1.4	30.3	138	161	3	415	-2090	-47881
390+00.00	19.3	23.6	5.6	24.8	77	97	13	128	-2110	-47996
391+00.00	20.4	24.7	5.4	29.4	74	89	20	125	-2125	-48101
392+00.00	20.3	25.0	6.1	29.0	75	92	21	135	-2142	-48215
393+00.00	20.4	25.3	4.4	29.9	75	93	19	136	-2160	-48332
394+00.00	20.7	25.7	4.1	32.5	76	94	16	144	-2178	-48460

Station	End Area (SF)				Volume (CY)				Mass Ordinate (CY)	
	Topsoil		Embankment		Topsoil		Embankment		Topsoil	Embankment
	Exc	Fill	Exc	Fill	Exc	Fill	Exc	Fill*		
395+20.00	0.0	0.0	7.1	181.3	46	57	25	594	-2189	-49029
395+50.00	20.6	26.8	1.4	24.9	11	15	5	143	-2193	-49167
396+00.00	20.9	26.9	1.8	22.3	38	50	3	55	-2205	-49219
397+00.00	22.4	28.1	3.7	23.5	80	102	10	106	-2227	-49315
398+00.00	20.7	26.8	1.2	26.7	80	102	9	116	-2249	-49422
399+00.00	18.2	23.5	4.9	23.1	72	93	11	115	-2270	-49526
400+00.00	17.8	22.8	4.7	22.1	67	86	18	105	-2289	-49613
401+00.00	18.1	22.6	4.5	26.3	66	84	17	112	-2307	-49708
402+00.00	27.2	33.0	3.6	41.5	84	103	15	157	-2326	-49850
403+00.00	30.0	35.6	3.1	53.1	106	127	12	219	-2347	-50057
403+90.00	54.8	61.8	2.0	101.9	141	162	9	323	-2368	-50371
405+00.00	37.2	42.7	6.1	52.5	187	213	17	393	-2394	-50747
406+00.00	28.3	34.2	3.5	32.3	121	142	18	196	-2415	-50925
407+00.00	27.3	33.2	2.7	24.4	103	125	11	131	-2437	-51045
408+00.00	25.1	31.0	3.2	22.3	97	119	11	108	-2459	-51142
409+00.00	17.5	24.2	0.3	21.7	79	102	6	102	-2482	-51238
410+00.00	16.2	21.8	3.4	16.4	62	85	7	88	-2505	-51319
411+00.00	15.8	21.3	2.3	15.9	59	80	11	75	-2526	-51383
412+00.00	17.4	22.8	3.1	22.6	61	82	10	89	-2547	-51462
413+00.00	17.1	22.6	1.6	26.9	64	84	9	115	-2567	-51568
413+90.00	0.0	0.0	5.3	22.0	29	38	12	102	-2576	-51658
415+00.00	18.5	23.2	3.5	28.6	38	47	18	129	-2585	-51769
416+00.00	17.6	23.0	4.3	19.0	67	86	14	110	-2604	-51865
417+00.00	15.5	21.0	3.6	13.6	61	81	15	75	-2624	-51925
418+00.00	20.7	26.4	2.6	31.2	67	88	11	104	-2645	-52018
419+00.00	22.9	27.5	5.6	38.6	81	100	15	162	-2664	-52165
420+00.00	29.3	34.2	6.0	54.9	97	114	21	216	-2681	-52360
420+50.00	59.3	64.6	5.7	253.6	82	91	11	357	-2690	-52706
421+00.00	45.9	51.3	5.1	91.7	97	107	10	400	-2700	-53096
422+00.00	33.5	39.0	3.0	53.8	147	167	15	337	-2720	-53418
423+00.00	27.6	32.8	5.0	36.9	113	133	15	210	-2740	-53613
424+00.00	18.5	23.0	4.7	25.0	85	103	18	143	-2758	-53738
424+70.00	9.4	11.9	7.4	24.7	36	45	16	81	-2767	-53803
426+00.00	18.9	26.7	0.0	41.7	68	93	18	200	-2792	-53985
426+90.00	32.5	38.4	2.2	60.9	86	109	4	214	-2815	-54195
428+00.00	21.3	26.9	2.3	32.4	109	133	9	238	-2839	-54424
429+00.00	24.7	29.0	6.6	35.9	85	104	16	158	-2858	-54566
430+00.00	31.8	35.8	9.9	36.8	105	120	31	168	-2873	-54703
430+45.00	33.6	37.7	10.0	46.2	55	61	17	86	-2879	-54772
431+20.00	1.4	4.1	8.2	10.3	49	58	25	98	-2888	-54845
432+00.00	11.3	18.1	0.1	14.6	19	33	12	46	-2902	-54879
433+00.00	18.8	26.2	0.5	21.5	56	82	1	84	-2928	-54962
434+00.00	31.7	38.3	3.1	27.2	94	119	7	113	-2953	-55068
434+40.00	37.4	44.1	4.0	40.4	51	61	5	63	-2963	-55126
435+00.00	29.2	35.2	3.9	22.7	74	88	9	88	-2977	-55205
436+00.00	39.0	44.9	2.4	46.2	126	148	12	160	-2999	-55353
436+65.00	45.5	51.7	2.2	55.6	102	116	6	153	-3013	-55500
437+00.00	25.6	31.1	3.1	27.1	46	54	3	67	-3021	-55564
438+00.00	20.1	25.0	2.5	30.7	85	104	10	134	-3040	-55688
439+00.00	20.1	25.2	1.9	37.4	74	93	8	158	-3059	-55838
439+80.00	9.2	11.9	2.1	23.3	43	55	6	112	-3071	-55944
441+00.00	19.3	23.3	2.4	29.3	63	78	10	146	-3086	-56080
442+00.00	20.5	24.8	1.2	39.6	74	89	7	160	-3101	-56233
443+00.00	22.6	26.7	1.5	46.6	80	95	5	199	-3116	-56427
444+00.00	22.0	26.7	2.4	40.5	83	99	7	201	-3132	-56621
445+00.00	19.7	24.1	3.9	26.6	77	94	12	155	-3149	-56764
446+00.00	16.3	21.8	0.0	23.1	67	85	7	115	-3167	-56872
447+00.00	17.5	22.6	0.9	25.3	63	82	2	112	-3186	-56982

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Earthwork Values

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	11	20

*25% additional volumes are included in Embankment quantities

Station	End Area (SF)				Volume (CY)				Mass Ordinate (CY)	
	Topsoil		Embankment		Topsoil		Embankment		Topsoil	Embankment
	Exc	Fill	Exc	Fill	Exc	Fill	Exc	Fill*		
447+00.00	17.5	22.6	0.9	25.3	63	82	2	112	-3186	-56982
448+00.00	17.6	23.0	2.0	19.7	65	84	5	104	-3205	-57081
449+00.00	19.5	25.7	0.0	23.9	69	90	4	101	-3226	-57178
450+00.00	32.3	39.3	0.2	19.9	96	120	0	101	-3250	-57279
451+00.00	71.6	96.2	5.3	178.1	192	251	10	458	-3309	-57727
452+20.00	109.5	120.6	5.6	507.3	403	482	24	1904	-3388	-59607
453+00.00	50.2	77.2	6.2	562.1	237	293	17	1980	-3444	-61570
454+00.00	39.9	70.0	4.1	597.2	167	273	19	2684	-3550	-64235
455+00.00	44.7	68.9	1.8	263.9	157	257	11	1993	-3650	-66217
456+00.00	21.7	28.0	0.2	36.8	123	179	4	696	-3706	-66909
456+80.00	0.0	0.0	4.6	59.8	32	41	7	179	-3715	-67081
458+00.00	19.8	25.8	0.3	25.8	44	57	11	238	-3728	-67308
459+00.00	19.8	25.1	6.1	21.2	73	94	12	109	-3749	-67405
460+00.00	32.2	38.2	4.1	31.6	96	117	19	122	-3770	-67508
461+00.00	66.9	74.6	2.4	53.3	183	209	12	197	-3796	-67693
461+65.00	74.4	81.4	4.8	76.3	170	188	9	195	-3814	-67879
462+00.00	65.5	72.5	4.3	54.0	91	100	6	106	-3823	-67979
463+00.00	21.5	26.9	4.3	24.2	161	184	16	181	-3846	-68144
464+00.00	20.9	25.7	5.8	29.8	78	97	19	125	-3865	-68250
465+00.00	21.9	26.3	6.1	31.7	79	96	22	142	-3882	-68370
466+00.00	22.1	26.4	6.1	34.9	82	98	23	154	-3898	-68501
467+00.00	23.0	27.0	5.4	33.5	84	99	21	158	-3913	-68638
468+00.00	23.4	27.3	4.9	37.2	86	101	19	164	-3928	-68783
469+00.00	22.7	27.9	2.6	34.9	85	102	14	167	-3945	-68936
469+70.00	0.0	0.0	7.3	107.3	29	36	13	230	-3952	-69153
471+00.00	35.7	41.8	2.4	76.4	86	101	23	553	-3967	-69683
471+25.00	38.8	44.5	2.2	103.6	34	40	2	104	-3973	-69785
472+00.00	30.3	35.9	4.7	57.9	96	112	10	280	-3989	-70055
473+00.00	20.5	26.0	4.9	25.8	94	115	18	194	-4010	-70231
474+00.00	19.4	24.6	5.3	25.0	74	94	19	118	-4030	-70330
475+00.00	20.2	25.9	2.8	24.7	73	94	15	115	-4051	-70430
476+00.00	18.1	23.4	4.6	19.9	71	91	14	103	-4071	-70519
477+00.00	19.1	24.2	5.4	24.0	69	88	19	102	-4090	-70602
478+00.00	17.7	23.3	3.7	21.8	68	88	17	106	-4110	-70691
479+00.00	18.4	24.5	1.4	21.0	67	89	9	99	-4132	-70781
480+00.00	18.8	24.2	4.7	25.0	69	90	11	106	-4153	-70876
481+00.00	20.1	25.2	4.9	30.3	72	91	18	128	-4172	-70986
482+00.00	19.0	24.6	3.3	29.1	72	92	15	138	-4192	-71109
483+00.00	11.0	14.1	6.5	34.3	56	72	18	147	-4208	-71238
484+00.00	25.0	30.5	5.0	31.4	67	83	21	152	-4224	-71369
485+15.00	39.6	45.7	4.3	127.3	138	162	20	422	-4248	-71771
486+00.00	18.4	24.2	1.4	19.4	91	110	9	289	-4267	-72051
487+00.00	18.9	24.5	2.5	21.5	69	90	7	95	-4288	-72139
488+00.00	19.0	23.6	6.3	19.5	70	89	16	95	-4307	-72218
489+00.00	18.8	24.4	3.6	25.8	70	89	18	105	-4326	-72305
490+00.00	19.6	24.7	5.3	25.1	71	91	16	118	-4346	-72407
491+00.00	18.4	23.9	4.1	25.8	70	90	17	118	-4366	-72508
492+30.00	0.0	0.0	5.4	12.1	44	58	23	114	-4380	-72599
493+00.00	17.5	23.5	2.2	17.0	23	30	10	47	-4387	-72636
493+25.00	17.0	22.6	2.9	27.3	16	21	2	26	-4392	-72660
494+00.00	17.1	22.4	4.9	18.5	47	63	11	79	-4408	-72728
495+00.00	19.3	24.6	4.7	24.7	67	87	18	100	-4428	-72810
496+00.00	1.3	25.8	3.5	13.1	38	93	15	87	-4483	-72882
497+00.00	1.9	25.4	5.8	8.9	6	95	17	51	-4572	-72916
498+00.00	1.6	24.9	3.8	11.1	7	93	18	46	-4658	-72944
499+00.00	47.6	53.6	6.8	54.7	91	145	20	152	-4712	-73076
499+50.00	67.6	74.1	5.6	163.4	107	118	11	252	-4723	-73317
500+00.00	55.2	61.8	3.6	127.1	114	126	9	336	-4735	-73644

Station	End Area (SF)				Volume (CY)				Mass Ordinate (CY)	
	Topsoil		Embankment		Topsoil		Embankment		Topsoil	Embankment
	Exc	Fill	Exc	Fill	Exc	Fill	Exc	Fill*		
501+00.00	18.9	21.9	7.5	62.5	137	155	21	439	-4753	-74062
502+00.00	29.7	33.7	3.9	92.3	90	103	21	358	-4766	-74399
503+00.00	34.1	38.2	2.7	135.9	118	133	12	528	-4781	-74915
503+40.00	56.4	60.5	3.8	348.6	67	73	5	449	-4787	-75359
504+00.00	56.3	61.6	1.8	262.7	125	136	6	849	-4798	-76202
505+00.00	52.1	56.7	5.2	185.0	201	219	13	1036	-4816	-77225
505+65.00	55.7	60.3	5.2	182.4	130	141	13	553	-4827	-77765
506+00.00	40.3	44.3	4.9	81.2	62	68	7	214	-4833	-77972
507+00.00	22.1	26.2	4.3	31.0	116	131	17	260	-4848	-78215
508+00.00	17.4	23.4	1.1	18.0	73	92	10	114	-4867	-78319
509+00.00	14.9	20.6	1.0	7.6	60	81	4	59	-4888	-78374
509+50.00	0.0	0.0	9.8	39.2	14	19	10	54	-4893	-78418
511+00.00	25.2	29.5	6.0	35.4	70	82	44	259	-4905	-78633
512+00.00	25.7	30.4	5.2	35.4	94	111	21	164	-4922	-78776
513+00.00	41.7	46.7	6.4	47.4	125	143	21	192	-4940	-78947
514+00.00	74.8	77.5	6.8	395.1	216	230	24	1024	-4954	-79947
515+00.00	18.8	14.3	5.8	7.9	173	170	23	933	-4951	-80857
516+00.00	2.6	35.4	5.5	23.4	40	92	21	72	-5003	-80908
517+00.00	2.6	39.4	5.4	34.4	10	139	20	134	-5132	-81022
518+00.00	29.4	34.0	4.8	52.1	59	136	19	200	-5209	-81203
519+20.00	11.5	13.7	6.6	30.1	91	106	25	228	-5224	-81406
519+80.00	9.0	11.7	5.9	14.7	23	28	14	62	-5229	-81454
521+00.00	21.6	26.3	3.6	34.6	68	84	21	137	-5245	-81570
522+00.00	21.9	25.9	5.4	33.1	81	97	17	157	-5261	-81710
523+00.00	20.9	25.2	4.9	30.7	79	95	19	148	-5277	-81839
524+00.00	21.4	25.7	4.4	30.2	78	94	17	141	-5293	-81963
525+00.00	22.3	27.0	4.4	30.8	81	98	16	141	-5310	-82088
526+00.00	21.5	26.5	5.4	25.7	81	99	18	131	-5328	-82201
527+00.00	28.6	33.6	4.6	50.4	93	111	19	176	-5346	-82358
528+00.00	21.9	26.7	3.8	33.3	94	112	16	194	-5364	-82536
529+00.00	20.5	25.1	3.9	30.2	79	96	14	147	-5381	-82669
530+00.00	19.1	24.2	3.3	26.0	73	91	13	130	-5399	-82786
531+00.00	19.2	24.2	2.8	26.9	71	90	11	122	-5418	-82897
532+00.00	18.8	24.3	0.8	28.3	71	90	7	128	-5437	-83018
533+00.00	20.5	25.5	2.8	29.9	73	92	7	135	-5456	-83146
534+00.00	18.0	23.2	4.6	15.5	71	90	14	105	-5475	-83237
535+00.00	18.2	23.3	5.6	18.1	67	86	19	78	-5494	-83296
536+00.00	10.1	12.4	7.8	20.2	52	66	25	89	-5508	-83360
537+00.00	16.9	22.0	6.6	10.3	50	64	27	71	-5522	-83404
538+00.00	18.0	23.4	4.4	14.8	65	84	20	58	-5541	-83442
539+00.00	17.8	23.1	5.1	16.6	66	86	18	73	-5561	-83497
540+00.00	18.5	23.5	6.5	17.4	67	86	21	79	-5580	-83555
541+00.00	16.5	21.7	5.9	11.6	65	84	23	67	-5599	-83599
542+00.00	17.9	22.6	7.6	11.1	64	82	25	53	-5617	-83627
543+00.00	17.3	22.4	5.3	11.8	65	83	24	53	-5635	-83656
544+00.00	8.0	11.1	1.7	18.4	47	62	13	70	-5650	-83713
545+00.00	20.3	26.0	2.3	17.4	52	69	7	83	-5667	-83789
546+00.00	15.8	18.4	5.3	44.8	67	82	14	144	-5682	-83919
547+00.00	38.7	44.4	3.4	64.4	101	116	16	253	-5697	-84156
548+00.00	52.3	58.2	4.4	87.2	168	190	14	351	-5719	-84493
549+00.00	56.4	63.3	1.9	69.6	201	225	12	363	-5743	-84844
550+00.00	59.5	65.8	3.9	106.7	215	239	11	408	-5767	-85241
551+00.00	64.8	70.9	3.1	187.7	230	253	13	681	-5790	-85909
552+00.00	66.5	72.4	3.4	228.6	243	265	12	963	-5812	-86860
553+00.00	69.3	75.3	3.8	295.1	251	274	13	1212	-5835	-88059
553+35.00	70.6	76.4	3.6	470.1	91	98	5	620	-5842	-88674
554+00.00	67.7	73.1	3.9	294.9	166	180	9	1151	-5856	-89816
555+00.00	33.6	37.5	5.8	89.2	188	205	18	889	-5873	-90687

This document was originally issued and sealed by Jay F. Meacham, Registration Number PE- 7926, on 01/05/16 and the original document is stored at the North Dakota Department of Transportation

Earthwork Values

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	11	21

*25% additional volumes are included in Embankment quantities

Station	End Area (SF)				Volume (CY)				Mass Ordinate (CY)	
	Topsoil		Embankment		Topsoil		Embankment		Topsoil	Embankment
	Exc	Fill	Exc	Fill	Exc	Fill	Exc	Fill*		
554+00.00	67.7	73.1	3.9	294.9	166	180	9	1151	-5731	-90489
555+00.00	33.6	37.5	5.8	89.2	188	205	18	889	-5748	-91360
556+00.00	26.6	30.1	7.2	53.6	112	125	24	331	-5761	-91667
557+00.00	22.4	26.7	5.9	32.5	91	105	24	199	-5775	-91842
558+10.00	19.6	24.6	5.5	27.9	86	105	23	154	-5794	-91973
559+00.00	18.7	23.4	4.3	18.5	64	80	16	97	-5810	-92054
560+00.00	18.9	24.7	1.6	22.4	70	89	11	95	-5829	-92138
561+00.00	20.3	25.5	3.2	25.9	73	93	9	112	-5849	-92241
562+20.00	0.0	0.0	6.1	10.1	45	57	21	100	-5861	-92320
563+00.00	16.7	22.6	2.3	18.6	25	33	12	53	-5869	-92361
564+00.00	16.6	22.1	4.4	13.8	62	83	12	75	-5890	-92424
565+00.00	16.9	22.3	4.7	12.2	62	82	17	60	-5910	-92467
566+00.00	17.0	22.4	5.0	10.7	63	83	18	53	-5930	-92502
567+00.00	20.4	26.0	2.8	16.6	69	90	14	63	-5951	-92551
568+00.00	32.0	37.4	4.4	42.0	97	117	13	136	-5971	-92674
569+00.00	35.2	41.0	3.1	56.0	124	145	14	227	-5992	-92887
570+00.00	27.5	32.7	3.2	80.7	116	136	12	316	-6012	-93191
570+95.00	75.9	82.0	4.5	290.3	182	202	14	816	-6032	-93993
572+00.00	53.2	58.8	4.1	171.5	251	274	17	1122	-6055	-95098
572+85.00	0.2	51.8	3.5	559.3	84	174	12	1438	-6145	-96524
573+65.00	47.9	52.4	2.9	376.9	71	154	9	1734	-6228	-98249
574+00.00	43.8	48.5	4.4	194.1	59	65	5	463	-6234	-98707
575+00.00	29.1	34.0	4.5	76.9	135	153	16	627	-6252	-99318
575+80.00	11.1	13.3	10.2	32.8	60	70	22	203	-6262	-99499
577+00.00	19.8	24.4	6.0	25.3	69	84	36	161	-6277	-99624
578+30.00	10.3	13.5	6.0	48.7	73	91	29	222	-6295	-99817
579+00.00	19.0	24.8	2.5	23.7	38	50	11	117	-6307	-99923
580+00.00	19.0	24.8	2.2	21.1	71	92	9	104	-6328	-100018
581+00.00	18.8	24.6	2.2	24.5	70	91	8	106	-6349	-100116
582+00.00	18.6	23.6	4.6	23.2	69	89	13	110	-6369	-100213
583+00.00	26.8	32.5	4.5	44.5	84	104	17	157	-6389	-100353
584+00.00	56.9	63.2	4.7	204.8	155	177	17	577	-6411	-100913
584+30.00	50.2	59.5	5.5	126.3	59	68	6	230	-6420	-101137
585+00.00	29.6	35.5	3.6	33.1	103	123	12	258	-6440	-101383
586+00.00	18.6	24.2	2.6	23.4	89	111	11	131	-6462	-101503
587+00.00	19.8	24.9	5.5	25.0	71	91	15	112	-6482	-101600
588+00.00	32.2	38.0	4.5	52.3	96	116	19	179	-6502	-101760
589+00.00	37.6	51.3	1.3	159.7	129	165	11	491	-6538	-102240
589+40.00	49.9	56.8	1.8	203.8	65	80	2	337	-6553	-102575
590+00.00	26.9	32.9	2.4	25.7	85	100	5	319	-6568	-102889
591+00.00	20.0	24.7	5.3	23.6	87	107	14	114	-6588	-102989
592+00.00	18.6	23.3	5.1	22.7	71	89	19	107	-6606	-103077
593+00.00	18.4	22.9	5.4	19.2	68	86	19	97	-6624	-103155
594+00.00	18.3	23.1	4.4	18.8	68	85	18	88	-6641	-103225
595+00.00	17.4	22.1	4.6	16.7	66	84	17	82	-6659	-103290
595+55.00	0.0	12.5	9.5	163.9	18	35	14	230	-6676	-103506
596+05.00	24.7	30.4	1.8	26.1	23	40	10	220	-6693	-103716
597+00.00	18.0	22.9	3.3	16.7	75	94	9	94	-6712	-103801
598+00.00	18.0	22.8	3.7	17.0	67	85	13	78	-6730	-103866
599+00.00	17.2	21.8	6.2	12.4	65	83	18	68	-6748	-103916
600+00.00	17.2	21.7	5.5	11.9	64	81	22	56	-6765	-103950
601+00.00	17.3	21.6	6.2	13.4	64	80	22	59	-6781	-103987
602+00.00	16.3	20.6	6.3	15.7	62	78	23	67	-6797	-104031
602+55.00	9.6	12.2	4.1	13.0	26	33	11	37	-6804	-104057
603+00.00	12.1	16.8	5.0	13.2	18	24	8	27	-6810	-104076
604+00.00	20.1	24.9	5.1	29.1	60	77	19	98	-6827	-104155
605+00.00	21.0	25.6	4.7	31.1	76	94	18	139	-6845	-104276
606+00.00	20.7	25.3	5.6	31.7	77	94	19	146	-6862	-104403

Station	End Area (SF)				Volume (CY)				Mass Ordinate (CY)	
	Topsoil		Embankment		Topsoil		Embankment		Topsoil	Embankment
	Exc	Fill	Exc	Fill	Exc	Fill	Exc	Fill*		
607+00.00	19.2	23.6	6.6	18.3	74	91	23	116	-6879	-104496
608+00.00	17.9	23.0	3.4	22.4	69	86	19	94	-6896	-104571
608+60.00	0.0	0.0	5.9	4.1	20	26	10	37	-6902	-104598
609+00.00	7.8	13.1	2.9	4.4	6	10	7	8	-6906	-104599
610+00.00	17.1	22.5	4.7	16.4	46	66	14	48	-6926	-104633
611+00.00	16.6	22.1	2.8	19.2	62	83	14	83	-6947	-104702
612+00.00	18.1	23.7	3.7	19.9	64	85	12	90	-6968	-104780
613+00.00	24.9	30.6	4.0	14.0	80	101	14	78	-6989	-104844
614+00.00	52.8	59.6	3.6	148.2	144	167	14	375	-7012	-105205
615+00.00	81.0	89.1	6.6	535.9	248	275	19	1583	-7039	-106769
616+05.00	118.5	146.0	5.8	596.7	388	457	24	2753	-7108	-109498
617+00.00	66.7	76.4	6.7	265.0	326	391	22	1895	-7173	-111371
618+00.00	36.9	45.8	10.2	27.1	192	226	31	676	-7207	-112016
619+00.00	13.9	18.7	5.4	10.5	94	119	29	87	-7232	-112074
620+00.00	22.1	27.1	4.7	21.2	67	85	19	73	-7250	-112128
621+00.00	18.9	24.2	2.6	24.7	76	95	14	106	-7269	-112220
622+00.00	18.5	23.9	4.1	23.0	69	89	12	110	-7289	-112318
623+00.00	17.5	23.3	2.1	23.4	67	87	11	107	-7309	-112414
623+50.00	Common Excavation Site				N/A		162021		-7309	49607
623+80.00	9.5	12.3	5.7	12.6	244	312	54	369	-7377	49292
625+00.00	21.7	27.0	5.5	30.6	69	87	25	120	-7395	49197
626+00.00	20.7	26.2	3.3	30.7	79	99	16	142	-7415	49071
627+00.00	20.2	25.5	4.7	25.9	76	96	15	131	-7435	48955
628+30.00	8.4	11.0	5.5	12.5	69	88	25	116	-7454	48864
629+00.00	17.3	23.0	3.6	18.4	33	44	12	50	-7465	48826
630+00.00	7.3	3.4	4.5	1.7	46	49	15	47	-7468	48794
631+00.00	17.6	19.1	3.6	9.3	46	42	15	26	-7464	48783
632+00.00	34.1	35.2	0.1	48.9	96	101	7	135	-7469	48655
632+92.00	42.0	51.1	5.5	136.4	130	147	10	395	-7486	48270
634+00.00	33.8	39.9	4.4	22.9	152	182	20	398	-7516	47892
635+00.00	29.8	35.2	5.6	30.3	118	139	19	123	-7537	47788
636+00.00	41.4	48.2	2.0	42.9	132	154	14	170	-7559	47632
637+00.00	48.4	55.5	1.3	67.6	166	192	6	256	-7585	47382
638+00.00	49.6	55.3	5.0	62.4	182	205	12	301	-7608	47093
639+00.00	45.8	51.3	6.7	45.8	177	197	22	250	-7628	46865
640+00.00	39.9	45.8	5.8	34.7	159	180	23	186	-7649	46702
641+00.00	33.9	39.6	4.4	40.4	137	158	19	174	-7670	46547
642+30.00	12.6	14.9	6.6	14.8	112	131	26	166	-7689	46407
643+00.00	17.0	22.2	5.2	12.9	38	48	15	45	-7699	46377
644+00.00	18.1	23.2	5.7	15.5	65	84	20	66	-7718	46331
645+00.00	17.3	22.3	5.1	14.6	66	84	20	70	-7736	46281
646+00.00	16.5	22.0	4.2	9.8	63	82	17	56	-7755	46242
647+00.00	16.3	22.0	2.8	10.1	61	81	13	46	-7775	46209
648+00.00	17.8	23.0	4.9	13.3	63	83	14	54	-7795	46169
648+50.00	11.6	14.5	6.5	7.4	27	35	11	24	-7803	46156
649+45.00	34.4	40.2	4.8	44.1	81	96	20	113	-7818	46063
650+00.00	30.6	36.2	4.5	25.5	66	78	9	89	-7830	45983
651+00.00	21.8	26.8	4.2	18.8	97	117	16	103	-7850	45896
652+00.00	19.0	24.0	4.3	16.7	76	94	16	82	-7868	45830
652+70.00	9.4	11.5	5.9	22.3	37	46	13	63	-7877	45780
654+00.00	19.2	24.1	3.7	23.5	69	86	23	138	-7894	45665
655+00.00	20.7	24.7	3.2	31.8	74	90	13	128	-7910	45550
656+00.00	22.7	25.3	3.1	38.1	80	93	12	162	-7923	45400
657+00.00	23.9	25.2	2.6	44.2	86	94	11	190	-7931	45221
658+00.00	23.2	23.0	5.2	40.5	87	89	14	196	-7933	45039
659+00.00	24.2	23.6	5.1	43.4	88	86	19	194	-7931	44864
660+00.00	27.4	23.8	5.5	58.7	95	88	20	236	-7924	44648
663+00.00	30.5	25.6	4.3	78.8	113	95	14	370	-7871	43631

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Earthwork Values

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	11	22

*25% additional volumes are included in Embankment quantities

Station	End Area (SF)				Volume (CY)				Mass Ordinate (CY)	
	Topsoil		Embankment		Topsoil		Embankment		Topsoil	Embankment
	Exc	Fill	Exc	Fill	Exc	Fill	Exc	Fill*		
664+00.00	29.8	24.7	3.6	74.0	112	93	15	354	-7852	43292
665+00.00	28.7	23.3	4.9	60.1	108	89	16	310	-7833	42998
666+00.00	24.7	20.4	2.2	39.5	99	81	13	231	-7815	42780
666+50.00	0.0	0.0	31.3	0.1	23	19	31	46	-7811	42765
667+00.00	25.2	20.5	3.2	50.9	23	19	32	59	-7807	42738
668+00.00	27.5	22.1	3.6	85.3	98	79	13	315	-7788	42436
668+50.00	12.1	11.6	17.5	31.4	37	31	20	135	-7782	42321
669+00.00	27.4	21.5	4.2	90.7	37	31	20	141	-7776	42200
670+00.00	26.4	20.8	4.3	86.1	100	78	16	409	-7754	41807
671+00.00	27.3	21.6	3.1	93.0	99	79	14	415	-7734	41406
672+00.00	27.9	22.0	5.4	91.2	102	81	16	426	-7713	40996
673+00.00	26.9	23.4	4.4	78.6	101	84	18	393	-7696	40621
674+00.00	23.5	22.7	5.4	45.9	93	85	18	288	-7688	40351
675+00.00	23.2	22.3	6.0	36.6	86	83	21	191	-7685	40181
676+00.00	21.5	22.4	4.8	29.6	83	83	20	153	-7685	40048
677+00.00	21.7	24.1	3.4	34.2	80	86	15	148	-7691	39915
678+00.00	24.6	28.5	3.5	36.9	86	97	13	165	-7702	39763
679+00.00	28.2	32.8	6.1	36.7	98	114	18	170	-7718	39611
680+00.00	31.9	37.9	4.0	37.7	111	131	19	172	-7738	39458
681+00.00	25.8	31.4	4.7	25.0	107	128	16	145	-7759	39329
682+00.00	21.6	26.8	5.2	21.5	88	108	18	107	-7779	39240
683+00.00	18.3	22.9	5.3	19.4	74	92	19	94	-7797	39165
684+00.00	17.2	21.3	6.0	16.4	66	82	21	83	-7813	39103
685+00.00	16.7	21.3	5.6	14.5	63	79	21	72	-7829	39052
686+00.00	16.5	21.5	4.7	14.1	62	79	19	66	-7846	39005
687+00.00	19.9	24.8	4.2	26.3	67	86	16	93	-7865	38928
688+00.00	19.3	24.1	4.9	23.9	73	91	17	116	-7883	38829
689+00.00	21.0	25.8	4.7	25.3	75	92	18	114	-7900	38733
690+00.00	18.7	23.0	6.5	16.9	73	90	21	98	-7917	38656
691+10.00	0.0	0.0	3.6	26.8	38	47	21	111	-7926	38566
692+00.00	20.9	25.6	5.9	24.2	35	43	16	106	-7934	38476
693+00.00	23.7	28.1	3.2	36.3	83	99	17	140	-7950	38353
694+00.00	24.3	29.0	2.8	49.6	89	106	11	199	-7967	38165
695+00.00	30.4	35.2	3.1	70.4	101	119	11	278	-7985	37898
696+00.00	37.7	41.7	6.0	100.1	126	142	17	394	-8001	37521
697+00.00	41.1	50.1	5.1	296.2	146	170	21	917	-8025	36625
698+00.00	40.5	45.5	5.0	105.4	151	177	19	930	-8051	35714
699+00.00	37.6	41.8	3.3	89.1	145	162	15	450	-8068	35279
700+00.00	33.3	37.8	4.0	61.7	131	147	14	349	-8084	34944
701+00.00	24.1	28.1	2.4	44.2	106	122	12	245	-8100	34711
702+00.00	21.3	26.0	4.0	34.1	84	100	12	181	-8116	34542
703+00.00	19.7	24.5	4.3	30.6	76	94	15	150	-8134	34407
704+00.00	20.6	25.2	5.5	29.3	75	92	18	139	-8151	34286
705+00.00	21.5	26.1	4.4	36.1	78	95	18	151	-8168	34153
706+00.00	10.1	12.4	6.5	21.4	58	71	20	133	-8181	34040
706+50.00	11.3	13.5	4.7	19.6	20	24	10	48	-8185	34002
707+00.00	19.6	24.1	6.0	29.6	29	35	10	57	-8191	33955
708+00.00	19.1	23.7	4.9	27.7	72	89	20	133	-8208	33842
708+75.00	18.8	23.8	4.8	40.2	53	66	13	118	-8221	33737
709+00.00	17.8	22.4	3.0	23.9	17	21	4	37	-8225	33704
710+00.00	16.6	21.3	5.7	13.5	64	81	16	87	-8242	33633
711+30.00	9.9	12.3	8.5	23.0	64	81	34	110	-8259	33557
712+00.00	21.1	25.7	5.2	27.9	40	49	18	82	-8268	33493
713+00.00	22.2	26.8	4.0	32.5	80	97	17	140	-8285	33370
714+00.00	21.7	27.1	3.3	28.5	81	100	14	141	-8304	33243
715+00.00	21.4	26.3	3.1	26.1	80	99	12	127	-8323	33128
716+00.00	21.1	25.3	5.2	18.3	79	96	15	103	-8340	33040
717+00.00	19.1	24.5	2.5	20.8	74	92	14	91	-8358	32963
718+00.00	19.2	24.5	2.4	26.1	71	91	9	108	-8378	32864
719+30.00	0.0	0.0	9.6	27.7	46	59	29	162	-8391	32731
719+75.00	16.1	21.6	2.0	20.4	13	18	10	50	-8396	32691
720+00.00	17.2	22.7	2.3	20.0	15	21	2	23	-8402	32670
721+00.00	18.2	23.8	2.7	21.5	66	86	9	96	-8422	32583
722+00.00	21.7	26.3	3.7	32.3	74	93	12	125	-8441	32470
723+00.00	22.6	28.0	2.8	30.9	82	101	12	146	-8460	32336
724+00.00	23.5	28.7	3.5	31.0	85	105	12	143	-8480	32205
725+00.00	21.5	26.6	3.3	28.4	83	102	13	137	-8499	32081
726+00.00	21.1	25.6	5.7	24.2	79	97	17	122	-8517	31976
727+00.00	20.6	25.2	5.6	19.8	77	94	21	102	-8534	31895
728+00.00	21.1	25.8	4.9	25.3	77	94	19	104	-8551	31810
729+00.00	20.0	24.9	4.8	21.5	76	94	18	108	-8569	31720
730+00.00	19.2	23.9	5.6	20.6	73	90	19	98	-8586	31641
731+00.00	22.3	22.4	6.2	27.3	77	86	22	111	-8595	31552
732+30.00	0.0	0.0	29.1	10.3	54	54	85	113	-8595	31524
733+00.00	24.7	25.4	2.8	56.1	32	33	41	108	-8596	31457
734+00.00	24.9	26.3	5.5	46.3	92	96	15	237	-8600	31235
735+00.00	19.8	24.8	3.7	23.4	83	95	17	161	-8612	31091
736+00.00	19.4	25.0	2.8	16.7	73	92	12	93	-8631	31010
737+00.00	19.1	24.9	1.2	18.3	71	92	7	81	-8652	30936
738+00.00	19.7	25.7	1.7	18.3	72	94	5	85	-8674	30856
739+00.00	19.8	25.0	3.5	13.7	73	94	10	74	-8695	30792
740+00.00	20.7	25.9	3.6	17.7	75	94	13	73	-8714	30732
741+00.00	21.2	26.1	4.7	20.1	78	96	15	87	-8732	30660
742+00.00	23.4	28.0	5.2	22.6	83	100	18	99	-8749	30579
743+00.00	22.3	27.4	3.8	26.3	85	103	17	113	-8767	30483
744+00.00	20.9	26.3	1.9	22.8	80	99	11	114	-8786	30380
745+00.00	20.7	25.7	4.0	25.4	77	96	11	112	-8805	30279
746+00.00	21.7	26.3	5.9	26.2	79	96	18	119	-8822	30178
747+00.00	21.1	26.1	4.2	24.5	79	97	19	117	-8840	30080
748+00.00	20.5	25.8	3.0	24.3	77	96	13	113	-8859	29980
749+00.00	20.5	25.5	4.4	24.4	76	95	14	113	-8878	29881
750+00.00	20.0	24.8	4.6	23.9	75	93	17	112	-8896	29786
751+00.00	18.8	23.5	4.5	15.6	72	89	17	91	-8913	29712
752+00.00	17.5	22.5	3.3	12.4	67	85	14	65	-8931	29661
752+70.00	0.0	0.0	9.2	19.1	23	29	16	51	-8937	29626
754+00.00	18.4	23.0	5.4	18.4	44	55	35	113	-8948	29548
755+00.00	17.7	23.1	2.7	19.4	67	85	15	88	-8966	29475
756+00.00	9.2	12.2	1.8	17.3	50	65	8	85	-8981	29398
757+00.00	18.2	23.2	4.4	21.7	51	66	11	90	-8996	29319
758+00.00	18.3	23.7	3.0	22.8	67	87	14	103	-9016	29230
759+00.00	19.7	25.4	3.6	25.0	70	91	12	111	-9037	29131
760+00.00	20.0	25.4	1.4	32.3	74	94	9	133	-9057	29007
761+00.00	22.3	25.1	5.3	33.8	78	94	12	153	-9073	28866
762+00.00	24.3	26.3	3.8	43.7	86	95	17	179	-9082	28704
763+00.00	25.3	25.4	5.8	52.3	92	96	18	222	-9086	28500
764+00.00	25.3	24.9	5.5	50.3	94	93	21	238	-9085	28283
765+00.00	26.2	25.1	5.9	60.4	95	93	21	256	-9083	28048
766+00.00	25.0	24.1	5.3	56.1	95	91	21	270	-9079	27799
767+00.00	26.5	24.6	6.4	55.7	95	90	22	259	-9074	27562
768+00.00	26.6	25.3	5.2	58.2	98	92	21	264	-9068	27319
769+00.00	27.7	26.7	3.4	69.8	101	96	16	296	-9063	27039
770+00.00	33.3	29.5	4.8	86.5	113	104	15	362	-9054	26692
771+00.00	36.6	30.8	6.3	101.9	130	112	21	436	-9036	26277
772+00.00	0.0	0.0	120.9	21.5	68	57	236	286	-9025	26227
773+00.00	37.2	31.2	6.6	114.5	69	58	236	315	-9014	26148
774+00.00	40.6	33.5	3.8	114.0	144	120	19	529	-8990	25638

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Earthwork Values

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	11	23

*25% additional volumes are included in Embankment quantities

Station	End Area (SF)				Volume (CY)				Mass Ordinate (CY)	
	Topsoil		Embankment		Topsoil		Embankment		Topsoil	Embankment
	Exc	Fill	Exc	Fill	Exc	Fill	Exc	Fill*		
775+10.00	35.8	35.2	5.5	101.7	156	140	19	549	-8974	25108
776+00.00	34.1	34.0	4.1	94.7	116	115	16	409	-8973	24715
777+00.00	33.9	33.9	5.8	89.1	126	126	18	425	-8973	24308
778+00.00	32.8	33.0	5.2	76.7	124	124	20	384	-8973	23944
779+00.00	33.1	33.3	6.3	77.1	122	123	21	356	-8974	23609
780+00.00	30.8	31.6	4.7	68.8	118	120	20	338	-8976	23291
781+00.00	29.5	31.1	2.9	65.1	112	116	14	310	-8980	22995
782+00.00	26.9	29.6	3.0	56.2	104	112	11	281	-8988	22725
783+00.00	23.7	27.8	2.2	36.7	94	106	10	215	-9000	22520
784+00.00	19.3	23.9	4.3	19.4	80	96	12	130	-9016	22402
785+00.00	17.5	23.1	3.0	14.4	68	87	14	78	-9035	22338
786+00.00	16.3	21.7	4.2	9.8	63	83	13	56	-9055	22295
787+00.00	15.3	20.8	3.2	8.8	59	79	14	43	-9075	22266
788+00.00	17.7	22.2	6.4	14.2	61	80	18	53	-9094	22231
789+00.00	15.5	20.6	4.9	10.0	61	79	21	56	-9112	22196
790+00.00	14.3	19.7	3.9	10.9	55	75	16	48	-9132	22164
791+00.00	15.6	21.0	2.9	15.3	55	75	13	61	-9152	22116
792+00.00	14.9	19.9	5.4	12.3	56	76	15	64	-9172	22067
793+00.00	16.5	22.1	3.1	15.1	58	78	16	64	-9192	22019
794+00.00	18.4	23.7	4.0	20.2	65	85	13	82	-9212	21950
795+00.00	18.8	24.9	1.3	24.7	69	90	10	104	-9233	21856
796+00.00	20.5	25.4	4.2	28.5	73	93	10	123	-9253	21743
797+00.00	19.2	24.6	4.0	17.8	74	93	15	107	-9272	21651
798+20.00	0.0	0.0	5.1	25.2	43	55	20	119	-9284	21552
799+00.00	20.2	25.4	6.5	17.0	30	38	17	78	-9292	21491
800+00.00	21.2	26.7	3.7	24.0	77	96	19	95	-9311	21415
801+00.00	21.0	27.2	1.6	22.0	78	100	10	107	-9333	21318
802+00.00	22.2	28.1	2.8	28.5	80	102	8	117	-9355	21209
803+00.00	20.6	26.0	4.0	20.0	79	100	13	112	-9376	21110
804+00.00	19.5	25.4	2.5	21.4	74	95	12	96	-9397	21026
805+00.00	19.6	24.9	4.5	24.2	72	93	13	105	-9418	20934
806+00.00	19.7	24.7	6.0	20.8	73	92	19	104	-9437	20849
807+00.00	19.3	25.0	2.8	22.6	72	92	16	100	-9457	20765
808+20.00	0.0	0.0	8.1	5.2	43	56	24	77	-9470	20712
809+00.00	18.8	24.1	5.4	15.4	28	36	20	38	-9478	20694
810+20.00	8.9	11.8	9.8	19.4	61	80	34	97	-9497	20631
811+00.00	20.4	24.9	6.8	23.7	43	54	25	80	-9508	20576
812+00.00	27.7	33.3	4.2	25.0	89	108	20	113	-9527	20483
813+00.00	29.5	34.6	7.0	23.4	106	126	21	112	-9547	20392
813+50.00	17.4	18.8	8.1	204.6	43	49	14	264	-9553	20142
814+00.00	35.5	40.7	5.1	36.4	49	55	12	279	-9559	19875
815+00.00	49.3	54.7	6.4	62.6	157	177	21	229	-9579	19667
815+30.00	52.3	58.4	4.5	119.4	56	63	6	126	-9586	19547
816+00.00	42.9	48.4	5.0	48.9	123	138	12	273	-9601	19286
817+00.00	25.2	29.3	6.1	34.2	126	144	21	192	-9619	19115
818+00.00	20.6	25.1	5.8	24.4	85	101	22	136	-9635	19001
819+00.00	18.5	23.1	5.4	17.5	72	89	21	97	-9652	18925
820+00.00	18.8	22.8	5.9	19.5	69	85	21	86	-9668	18860
821+00.00	18.1	22.8	4.7	17.2	68	84	20	85	-9684	18795
822+00.00	19.4	24.2	6.8	13.6	69	87	21	71	-9702	18745
823+00.00	18.8	23.0	6.0	15.5	71	87	24	67	-9718	18702
824+00.00	18.5	23.1	6.9	14.5	69	85	24	69	-9734	18657
824+80.00	0.0	0.0	9.9	2.8	27	34	25	32	-9741	18650
825+20.00	15.8	20.7	7.0	12.0	12	15	13	14	-9744	18649
826+00.00	18.4	23.0	3.9	14.4	51	65	16	49	-9758	18616
827+00.00	17.5	21.6	5.0	14.8	66	83	16	68	-9775	18564
828+00.00	18.7	22.2	6.3	16.2	67	81	21	72	-9789	18513
829+00.00	17.2	22.5	2.1	14.9	66	83	16	72	-9806	18457

Station	End Area (SF)				Volume (CY)				Mass Ordinate (CY)	
	Topsoil		Embankment		Topsoil		Embankment		Topsoil	Embankment
	Exc	Fill	Exc	Fill	Exc	Fill	Exc	Fill*		
830+00.00	18.8	23.1	5.8	16.6	67	84	15	73	-9823	18399
831+00.00	21.0	25.3	4.2	21.6	74	90	19	88	-9839	18330
832+00.00	43.8	47.6	4.5	26.6	120	135	16	112	-9854	18234
832+65.00	31.0	35.9	5.3	27.7	90	101	12	82	-9865	18164
833+00.00	28.7	33.4	5.6	20.2	39	45	7	39	-9871	18132
834+00.00	24.7	29.8	2.5	20.0	99	117	15	93	-9889	18054
835+00.00	20.1	25.6	1.9	21.0	83	103	8	95	-9909	17967
836+00.00	18.4	23.7	2.3	16.7	71	91	8	87	-9929	17888
837+20.00	8.0	11.9	4.8	11.6	59	79	16	78	-9949	17826
838+00.00	17.0	22.7	2.7	21.0	37	51	11	60	-9963	17777
839+00.00	18.1	23.3	3.6	21.2	65	85	12	98	-9983	17691
840+00.00	18.6	24.2	2.0	23.0	68	88	10	102	-10003	17599
841+00.00	18.9	24.1	2.7	21.4	69	89	9	103	-10023	17505
842+00.00	20.2	25.1	4.8	17.1	72	91	14	89	-10042	17430
843+00.00	19.1	24.9	2.1	21.4	73	93	13	89	-10062	17354
844+00.00	18.4	24.3	2.2	16.3	69	91	8	87	-10084	17275
845+00.00	17.3	22.2	6.2	11.2	66	86	16	64	-10104	17227
846+00.00	17.6	23.6	1.7	16.9	65	85	15	65	-10124	17177
847+00.00	18.3	24.1	2.5	20.4	66	88	8	86	-10146	17099
848+00.00	19.3	24.8	4.9	19.0	70	91	14	91	-10167	17022
849+00.00	17.7	22.4	7.1	11.8	69	87	22	71	-10185	16973
850+00.00	14.5	20.8	6.7	9.5	60	80	26	49	-10205	16950
851+00.00	0.0	1.7	10.3	16.1	27	42	31	59	-10220	16922
852+00.00	18.8	22.6	8.1	20.4	35	45	34	85	-10230	16871
853+00.00	19.8	24.5	7.2	20.1	71	87	28	94	-10246	16805
854+00.00	18.8	24.3	6.5	20.2	72	90	25	93	-10264	16737
855+00.00	19.7	24.1	4.3	21.8	71	90	20	97	-10283	16660
856+00.00	18.0	22.7	6.1	13.2	70	87	19	81	-10300	16598
856+80.00	8.6	11.5	6.4	15.0	39	51	19	52	-10312	16565
858+00.00	38.0	44.3	5.3	44.2	104	124	26	164	-10332	16427
859+00.00	53.2	59.0	6.5	161.0	169	191	22	475	-10354	15974
860+00.00	41.5	61.0	3.3	226.3	175	222	18	897	-10401	15095
860+50.00	50.3	56.8	4.7	269.5	85	109	7	574	-10425	14528
861+00.00	43.4	49.8	5.5	228.2	87	99	9	576	-10437	13961
862+00.00	51.4	57.6	7.2	162.1	176	199	24	903	-10460	13082
863+00.00	35.7	41.0	7.0	44.0	161	183	26	477	-10482	12631
864+00.00	23.5	28.0	7.6	14.6	110	128	27	135	-10500	12523
865+00.00	17.8	22.2	7.3	12.6	76	93	28	63	-10517	12488
866+00.00	18.9	23.3	6.5	16.2	68	84	26	67	-10533	12447
867+00.00	20.2	24.2	6.5	20.2	72	88	24	84	-10549	12387
868+20.00	0.0	0.0	14.1	20.3	45	54	46	112	-10558	12321
869+00.00	23.6	24.6	7.2	22.3	35	36	32	79	-10559	12274
870+00.00	16.5	23.5	5.0	17.1	74	89	23	91	-10574	12206
871+00.00	19.3	24.6	5.3	18.6	66	89	19	83	-10597	12142
871+70.00	10.5	13.7	8.3	10.2	39	50	18	47	-10608	12113
873+00.00	20.0	24.0	7.1	15.2	74	91	37	76	-10625	12074
874+00.00	19.1	22.9	7.7	16.4	72	87	27	73	-10640	12028
875+00.00	22.7	26.5	7.2	20.5	78	91	28	85	-10653	11971
876+00.00	35.0	35.2	6.3	45.7	107	114	25	153	-10660	11843
877+00.00	59.8	69.1	5.9	195.2	176	193	23	558	-10677	11308
877+65.00	15.9	101.8	24.0	276.7	91	206	36	710	-10792	10634
877+70.00	0.0	0.0	12.0	439.7	1	9	3	83	-10800	10554
879+00.00	34.3	37.6	6.8	48.0	83	91	45	1468	-10808	9131
880+00.00	29.0	31.8	8.6	18.8	117	129	29	154	-10820	9006
881+00.00	14.2	25.5	6.5	10.2	80	106	28	67	-10846	8967
882+00.00	19.5	24.1	5.7	16.7	62	92	23	62	-10876	8928
883+00.00	20.9	24.5	6.6	19.0	75	90	23	83	-10891	8868
884+00.00	20.7	24.2	6.1	23.9	77	90	24	99	-10904	8793

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Earthwork Values

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	11	24

*25% additional volumes are included in Embankment quantities

Station	End Area (SF)				Volume (CY)				Mass Ordinate (CY)	
	Topsoil		Embankment		Topsoil		Embankment		Topsoil	Embankment
	Exc	Fill	Exc	Fill	Exc	Fill	Exc	Fill*		
885+00.00	19.4	23.5	4.7	20.7	74	88	20	103	-10918	8710
886+00.00	18.8	22.0	4.9	19.0	71	84	18	92	-10931	8636
887+00.00	20.6	23.8	5.6	24.1	73	85	19	100	-10943	8555
888+00.00	20.4	23.5	4.8	25.4	76	88	19	115	-10955	8459
889+00.00	18.6	22.0	6.3	16.4	72	84	21	97	-10967	8383
890+00.00	19.9	23.5	7.3	18.8	71	84	25	82	-10980	8326
891+00.00	21.2	24.6	6.9	19.8	76	89	26	89	-10993	8263
892+00.00	20.0	24.5	6.5	21.6	76	91	25	96	-11008	8192
893+00.00	20.4	24.7	4.9	16.7	75	91	21	89	-11024	8124
894+00.00	21.6	26.6	2.6	26.0	78	95	14	99	-11041	8039
895+00.00	19.4	23.6	4.0	17.5	76	93	12	101	-11058	7950
895+80.00	0.0	0.0	5.3	0.7	29	35	14	34	-11064	7930
897+00.00	18.4	22.9	5.1	14.8	41	51	23	43	-11074	7910
898+00.00	18.8	23.4	5.0	19.4	69	86	19	79	-11091	7850
899+00.00	19.8	23.7	5.9	18.8	72	87	20	88	-11106	7782
900+00.00	17.7	22.8	2.4	16.6	69	86	15	82	-11123	7715
901+00.00	16.5	21.4	4.3	12.4	63	82	12	67	-11142	7660
902+00.00	15.9	20.3	6.6	8.7	60	77	20	49	-11159	7631
903+00.00	18.2	22.3	7.1	11.5	63	79	25	47	-11175	7609
904+00.00	13.5	16.2	10.1	71.3	59	71	32	192	-11187	7449
905+00.00	19.9	24.8	5.1	12.8	62	76	28	195	-11201	7282
906+00.00	46.4	52.2	6.6	37.5	123	143	22	117	-11221	7187
907+00.00	49.3	55.5	5.9	99.5	177	199	23	317	-11243	6893
908+00.00	39.5	45.8	5.6	46.6	165	188	21	338	-11266	6576
909+00.00	30.3	35.8	4.6	23.3	129	151	19	162	-11288	6433
910+00.00	26.4	31.6	6.0	25.5	105	125	20	113	-11308	6340
911+00.00	22.4	27.6	6.6	13.4	90	110	23	90	-11328	6273
912+00.00	13.8	28.8	5.1	12.9	67	104	22	61	-11365	6234
913+00.00	25.4	30.5	5.3	20.4	73	110	19	77	-11402	6176
914+00.00	26.8	30.3	6.2	24.7	97	113	21	104	-11418	6093
915+00.00	23.0	28.0	5.5	19.9	92	108	22	103	-11434	6012
916+00.00	21.7	26.4	5.5	17.6	83	101	20	87	-11452	5945
917+10.00	0.0	0.0	6.9	23.2	44	54	25	104	-11462	5866
918+00.00	20.7	25.8	4.8	10.2	34	43	20	70	-11471	5816
919+00.00	21.2	26.3	6.0	6.8	78	96	20	39	-11489	5797
920+00.00	22.6	27.6	6.8	12.2	81	100	24	44	-11508	5777
921+00.00	22.3	27.2	6.2	17.1	83	101	24	68	-11526	5733
922+00.00	20.4	25.6	5.8	13.3	79	98	22	70	-11545	5685
923+00.00	19.3	24.9	4.4	13.3	74	94	19	62	-11565	5642
924+00.00	19.4	25.0	3.6	18.1	72	92	15	73	-11585	5584
925+00.00	19.4	24.5	4.7	16.7	72	92	15	81	-11605	5518
926+00.00	20.6	26.0	4.9	23.1	74	94	18	92	-11625	5444
927+00.00	19.1	24.0	5.9	16.0	74	93	20	90	-11644	5374
928+00.00	22.9	26.2	6.7	31.1	78	93	23	109	-11659	5288
929+00.00	24.9	28.1	6.6	49.3	89	101	25	186	-11671	5127
930+00.00	25.7	28.3	12.1	31.0	94	104	35	186	-11681	4976
930+40.00	0.0	0.0	34.1	0.0	19	21	34	29	-11683	4981
931+15.00	41.6	45.7	6.1	200.5	58	63	56	348	-11688	4689
932+00.00	35.5	39.5	7.1	113.4	121	134	21	618	-11701	4092
933+00.00	30.7	35.0	3.1	78.8	123	138	19	445	-11716	3666
934+00.00	21.8	25.4	6.3	29.8	97	112	17	251	-11731	3432
934+60.00	0.0	0.0	4.1	3.9	24	28	12	47	-11735	3397
936+00.00	16.2	21.4	5.4	9.9	42	55	25	45	-11748	3377
937+00.00	14.8	20.3	3.6	7.6	57	77	17	41	-11768	3353
938+00.00	16.5	22.9	0.8	12.4	58	80	8	46	-11790	3315
939+00.00	18.3	23.9	3.6	16.4	64	87	8	67	-11813	3256
940+00.00	17.8	23.2	4.3	18.1	67	87	15	80	-11833	3191
941+00.00	18.8	24.4	3.7	15.9	68	88	15	79	-11853	3127

Station	End Area (SF)				Volume (CY)				Mass Ordinate (CY)	
	Topsoil		Embankment		Topsoil		Embankment		Topsoil	Embankment
	Exc	Fill	Exc	Fill	Exc	Fill	Exc	Fill*		
942+30.00	0.0	0.0	6.7	183.4	45	59	25	600	-11867	2552
943+00.00	42.8	49.3	4.0	28.1	56	64	14	343	-11875	2223
944+00.00	43.7	49.9	5.0	22.5	160	184	17	117	-11899	2123
944+40.00	35.2	50.7	3.7	45.4	58	75	6	63	-11916	2066
945+00.00	32.9	38.1	6.9	20.6	76	99	12	92	-11939	1986
946+00.00	20.4	25.9	4.0	18.3	99	119	20	90	-11959	1916
947+00.00	20.7	25.4	5.7	25.8	76	95	18	102	-11978	1832
948+00.00	21.3	26.8	3.6	28.9	78	97	17	127	-11997	1722
949+00.00	20.5	25.6	5.0	23.2	77	97	16	121	-12017	1617
950+00.00	20.3	25.2	5.6	22.8	76	94	20	107	-12035	1530
951+00.00	18.7	23.9	6.4	17.9	72	91	22	94	-12054	1458
952+00.00	19.5	25.1	4.0	24.2	71	91	19	98	-12074	1379
953+00.00	19.5	25.1	3.9	24.0	72	93	15	112	-12095	1282
954+00.00	19.5	25.7	2.4	25.0	72	94	12	114	-12117	1180
955+00.00	25.3	32.0	1.0	24.1	83	107	6	114	-12141	1072
956+00.00	46.8	53.7	2.6	35.0	134	159	7	137	-12166	942
956+75.00	56.5	63.3	5.2	73.8	144	163	11	189	-12185	764
957+00.00	51.0	58.9	0.5	60.0	50	57	3	77	-12192	690
958+00.00	41.2	47.3	4.9	32.8	171	197	10	215	-12218	485
959+00.00	34.7	39.7	5.4	28.9	141	161	19	143	-12238	361
960+00.00	20.7	26.6	1.5	20.7	103	123	13	115	-12258	259
961+00.00	15.6	20.8	3.3	19.4	67	88	9	93	-12279	175
962+30.00	0.0	0.0	7.3	10.3	37	50	26	89	-12292	112
963+00.00	11.1	15.7	4.9	10.0	14	20	16	33	-12298	95
964+00.00	10.9	15.1	5.0	12.7	41	57	18	53	-12314	60
965+00.00	17.6	22.8	4.0	20.4	53	70	17	77	-12331	0

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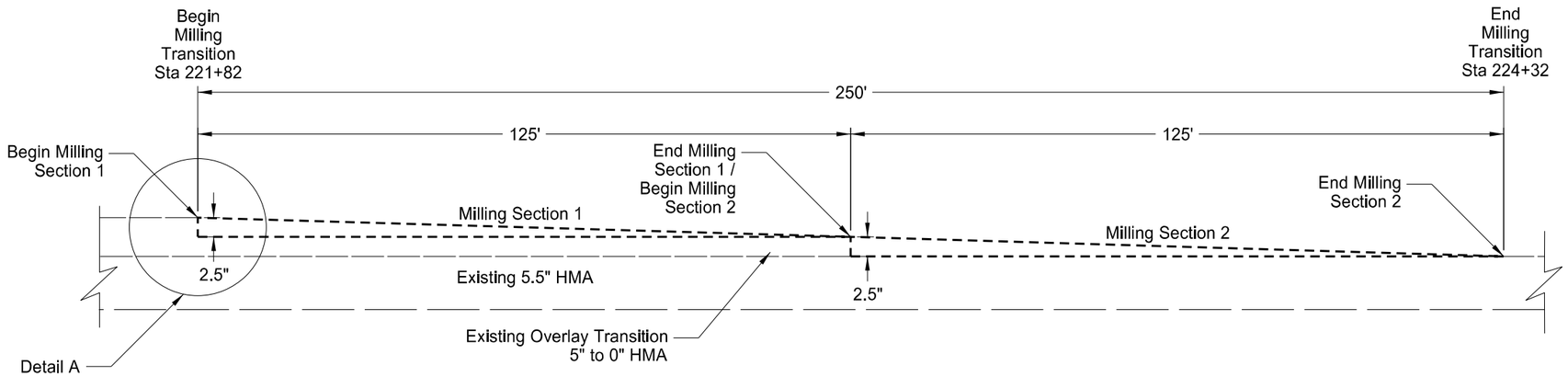
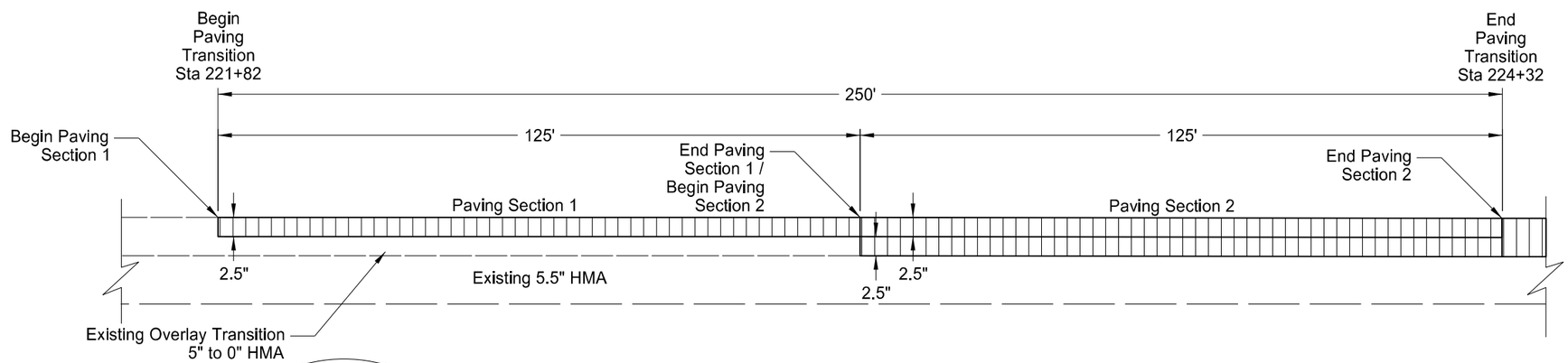
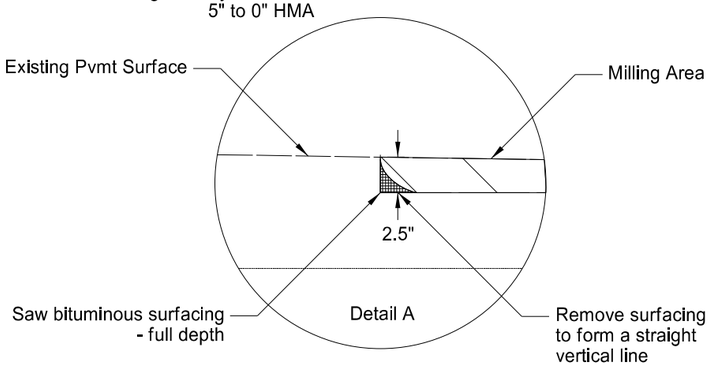
Earthwork Values

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	20	1







Notes:
1. Milling transitions are 50 linear feet for every 1 inch in milling depth.
2. Milling and Paving Transition #1 shall begin at Station 221+82 and end at Station 224+32

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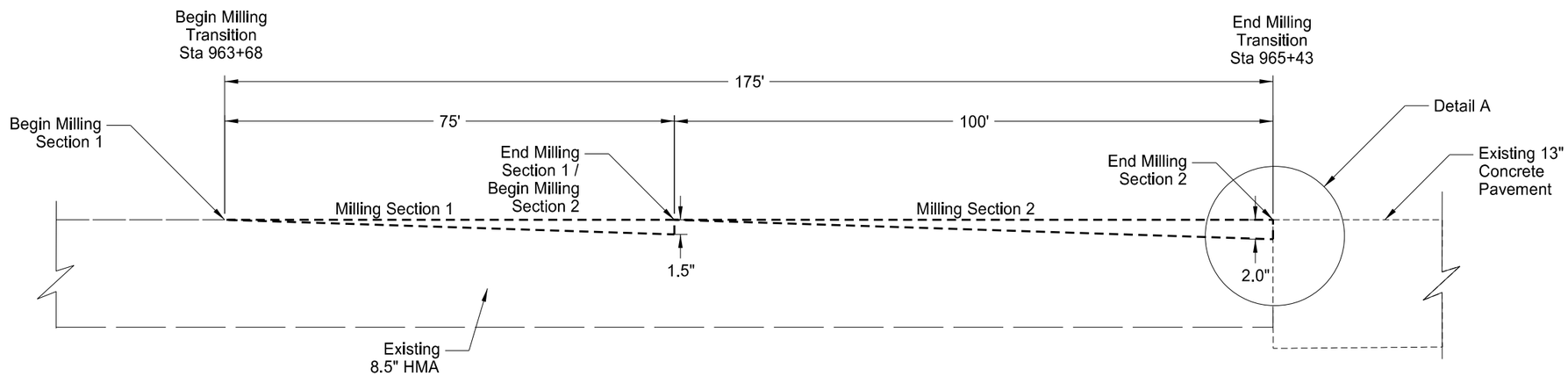
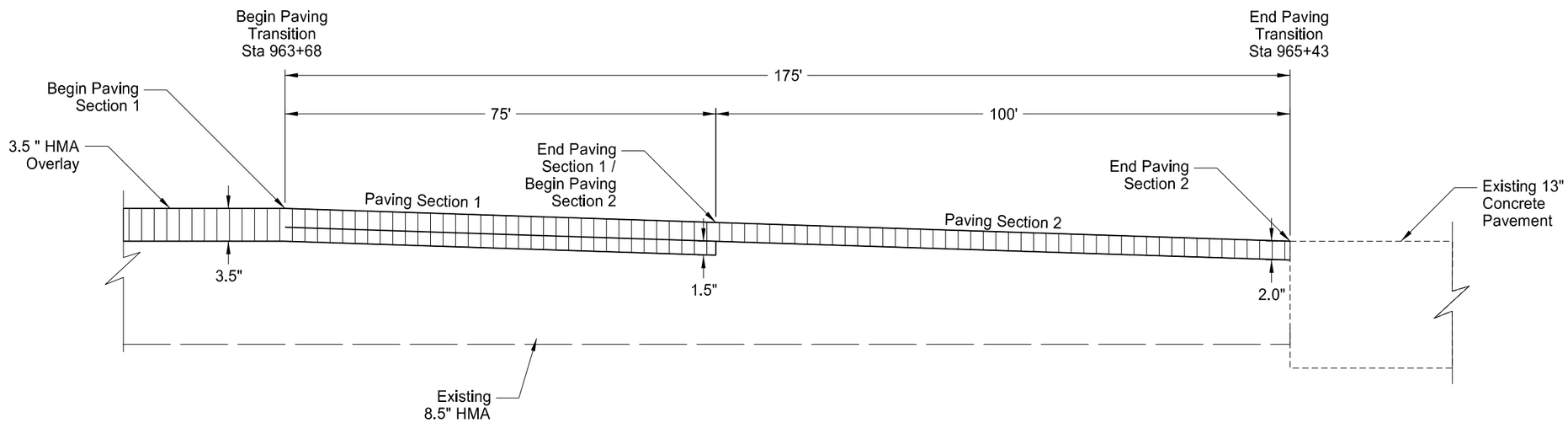
Milling and Paving Transition

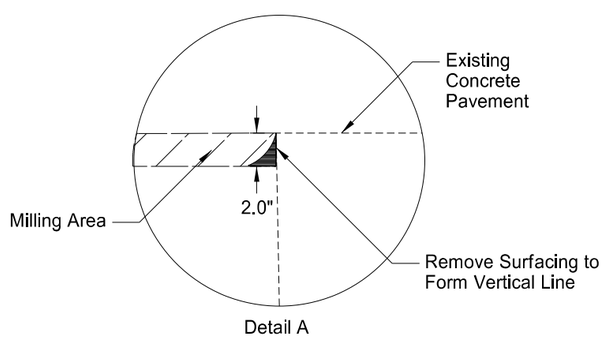
#1

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	20	2







Notes:
1. Milling transitions are 50 linear feet for every 1 inch in milling depth.
2. Milling and Paving Transition #2 shall begin at Station 963+68 and end at 965+43

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Milling and Paving Transition

#2

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	20	3

Curve SCS4 - Spiral Curve - Design Speed 65 MPH

T.S. Station 224+32.04
S.C. Station 228+32.04

P.C. Station 228+32.04
P.I. Station 233+09.02
Delta = 38° 58' 24.00" (LT)
Degree = 3° 00' 00.00"
Tangent = 876.98
Length = 1699.11
Radius = 1,909.85
External = 119.75
P.T. Station 237+31.15

C.S. Station 237+31.15
S.T. Station 241+31.15

Station	Left Slope	Right Slope
TS	-2.1	-2.1
TS + 107'	-2.1	0.0
SC	-5.9	5.9
CS	-5.9	5.9
ST - 107'	-2.1	0.0
ST	-2.1	-2.1

Curve C5 - Non-Spiral Curve - Design Speed 65 MPH

P.C. Station 249+76.42
P.I. Station 253+45.70
Delta = 7° 22' 31.00" (RT)
Degree = 1° 00' 00.00"
Tangent = 369.28
Length = 737.54
Radius = 5,729.57
External = 11.89
P.T. Station 257+13.96

Station	Left Slope	Right Slope
PC - 138'	-2.1	-2.1
PC - 67'	0.0	-2.1
PC	2.0	-2.1
PC + 34'	3.0	-3.0
PT - 34'	3.0	-3.0
PT	2.0	-2.1
PT + 67'	0.0	-2.1
PT + 138'	-2.1	-2.1

Curve C6 - Non-Spiral Curve - Design Speed 65 MPH

P.C. Station 288+90.38
P.I. Station 293+71.75
Delta = 9° 36' 17.00" (LT)
Degree = 1° 00' 00.00"
Tangent = 481.37
Length = 960.49
Radius = 5,729.57
External = 20.19
P.T. Station 298+50.87

Station	Left Slope	Right Slope
PC - 138'	-2.1	-2.1
PC - 67'	-2.1	0.0
PC	-2.1	2.0
PC + 34'	-3.0	3.0
PT - 34'	-3.0	3.0
PT	-2.1	2.0
PT + 67'	-2.1	0.0
PT + 138'	-2.1	-2.1

Curve C7 - Non-Spiral Curve - Design Speed 65 MPH

P.C. Station 349+07.92
P.I. Station 352+00.76
Delta = 3° 54' 11.00" (LT)
Degree = 0° 40' 00.00"
Tangent = 292.85
Length = 585.46
Radius = 8,594.42
External = 4.99
P.T. Station 354+93.38

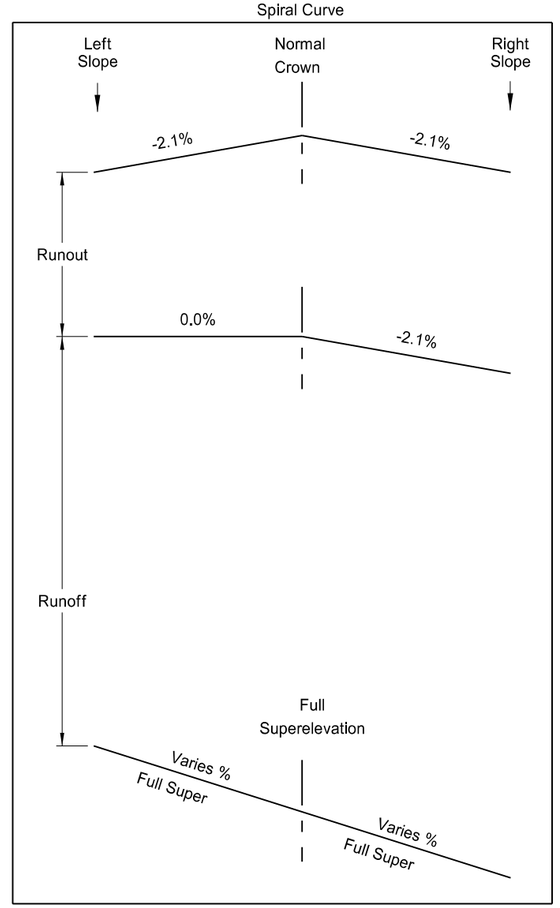
Station	Left Slope	Right Slope
PC - 120'	-2.1	-2.1
PC - 50'	-2.1	0.0
PC	-2.1	1.5
PC + 25'	-2.2	2.2
PT - 25'	-2.2	2.2
PT	-2.1	1.5
PT + 50'	-2.1	0.0
PT + 120'	-2.1	-2.1

Curve C8 - Non-Spiral Curve - Design Speed 65 MPH

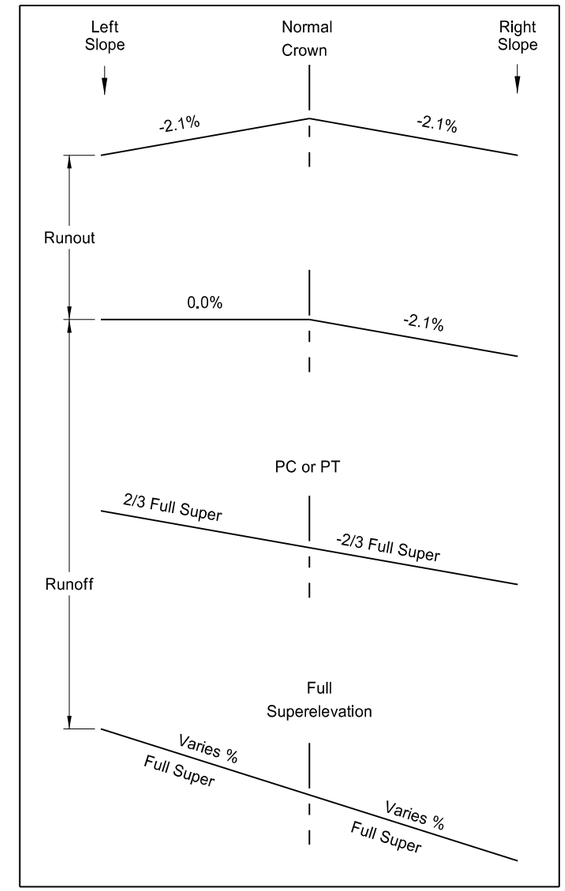
P.C. Station 431+30.09
P.I. Station 444+55.80
Delta = 24° 22' 19.00" (RT)
Degree = 0° 56' 00.00"
Tangent = 1,325.71
Length = 2,611.32
Radius = 6,138.90
External = 141.51
P.T. Station 457+41.41

Station	Left Slope	Right Slope
PC - 136'	-2.1	-2.1
PC - 66'	0.0	-2.1
PC	1.9	-2.1
PC + 33'	2.9	-2.9
PT - 33'	2.9	-2.9
PT	1.9	-2.1
PT + 66'	0.0	-2.1
PT + 136'	-2.1	-2.1

Spiral Curve



Non-Spiral Curve



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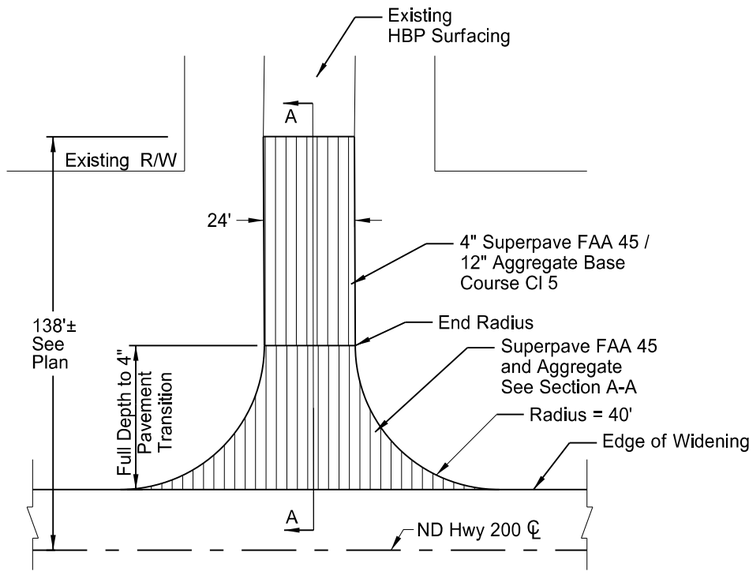
Note: Calculations based on AASHTO method five. A design speed of 65 mph and maximum superelevation of 6% were used.

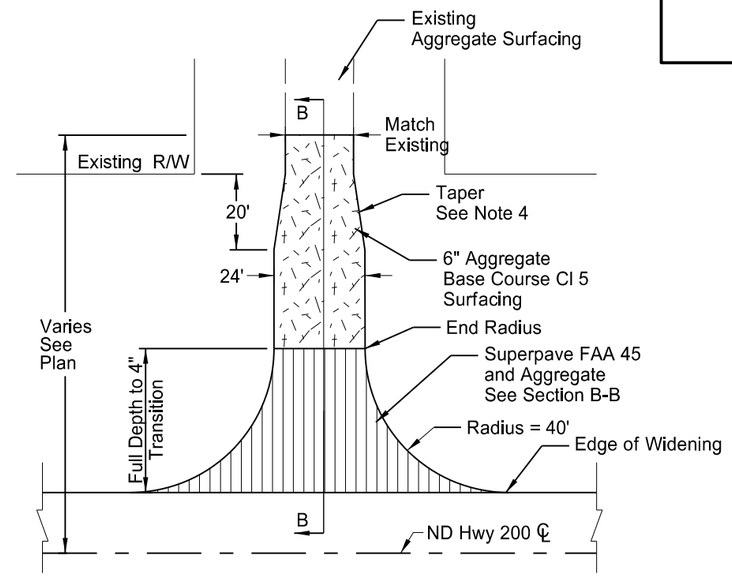
Superelevation Tables

ND Hwy 200
Major Rehabilation
RP 4.200 to RP 18.285

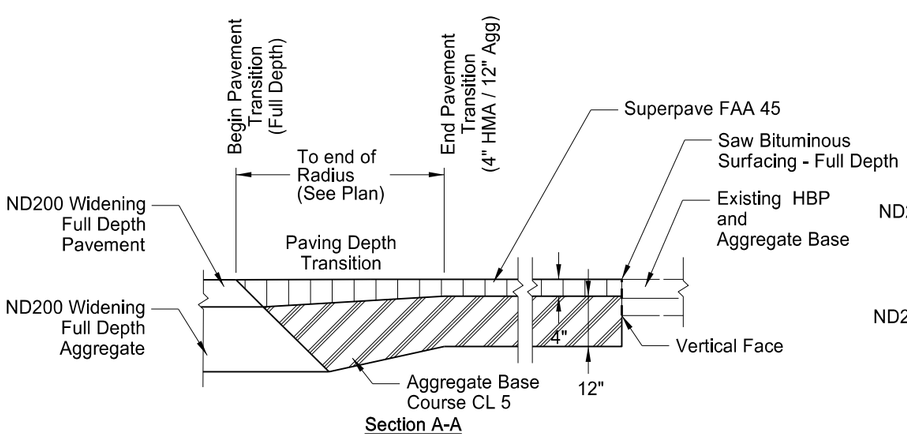
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	20	4



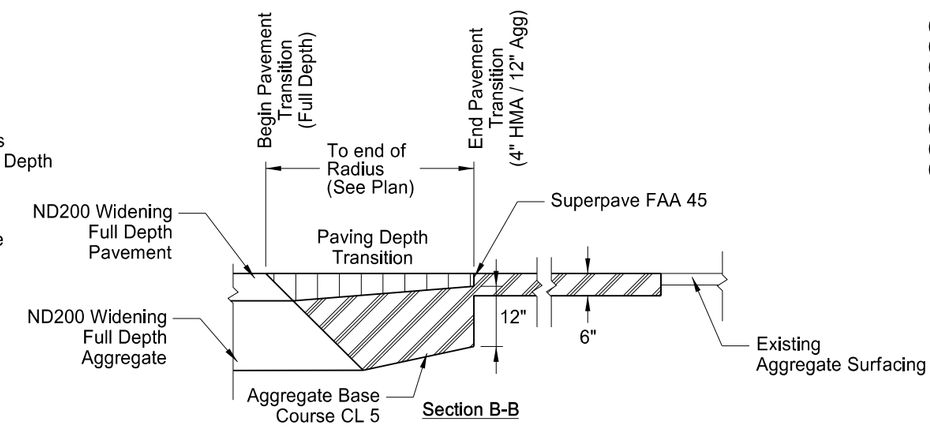
(1) Paved Section Line, County Road, or Street Approach



(2) Gravel Section Line, County Road, or Street Approach



Section A-A



Section B-B

Notes:

1. Actual HBP paving and Aggregate Base Course CL 5 locations may vary in the field, as approved by the Engineer.
2. Quantity totals shown on this sheet have been included in the bid items listing within Section 8 "Estimate of Quantities".
3. Paving and Aggregate quantities shown on this sheet are NOT included in those quantities shown on Section 90 sheets.
4. See Section 82 for additional layout information.
5. Unless otherwise noted or shown in the plans, taper new approach surfacing to match width of existing aggregate surfacing (road) when found to be less than 24 feet in width. Taper shall begin 20 feet prior to R/W and end at R/W, matching existing surfacing width.
6. Unless otherwise noted or shown in the plans, approaches found to be greater than 24' in width must be reconstructed to 24' in width.
7. This detail applies to the following approaches only:

(1) Sta. 288+00 Rt (Main St.)
(2) Sta. 291+87 Rt
(2) Sta. 469+69 Rt (Cartwright Rd)
(2) Sta. 666+49 Lt (149th Ave)
(2) Sta. 666+49 Rt (149th Ave - Co. Rd. 13)
(2) Sta. 719+30 Lt (148th Ave)
(2) Sta. 824+79 Rt (146th Ave)
(2) Sta. 877+69 Lt (145th Ave)

BASIS OF ESTIMATE				(1)	(2)	
SPEC	CODE	ITEM DESCRIPTION	UNIT	Paved Approach	Gravel Approach	TOTALS
		Number of Locations	#	1	8	9
302	120	Aggregate Base Course Cl 5	TON	354.7	1810.6	2165.3
401	50	Tack Coat	GAL	57	230	287
401	60	Prime Coat	GAL	96	383	479
401	160	Blotter Material CL 44	TON	2.9	11.5	14.4
430	6428	PG 64-28 Asphalt Cement	TON	6.7	28.2	34.9
430	45	Superpave FAA 45	TON	111.1	470	581.1

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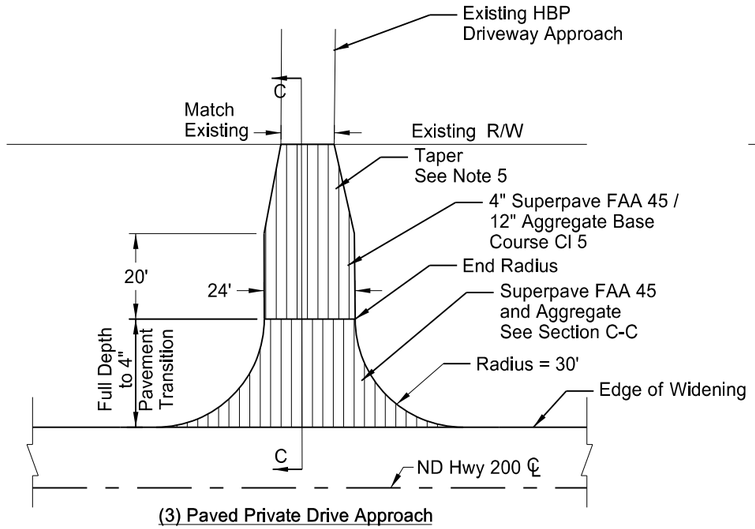
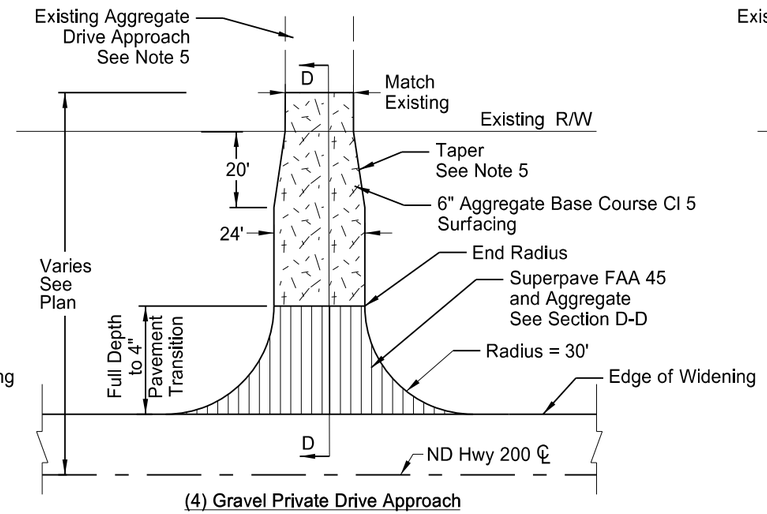
Approach Paving
Section Line, County Rd, Street

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

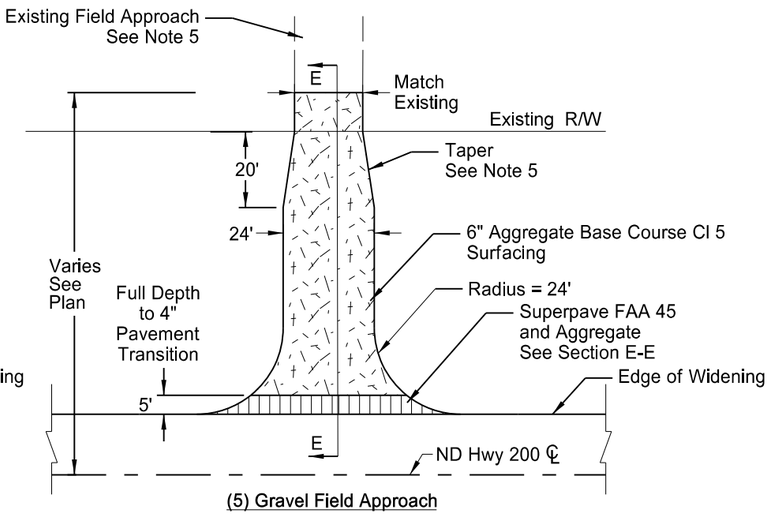
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	20	5



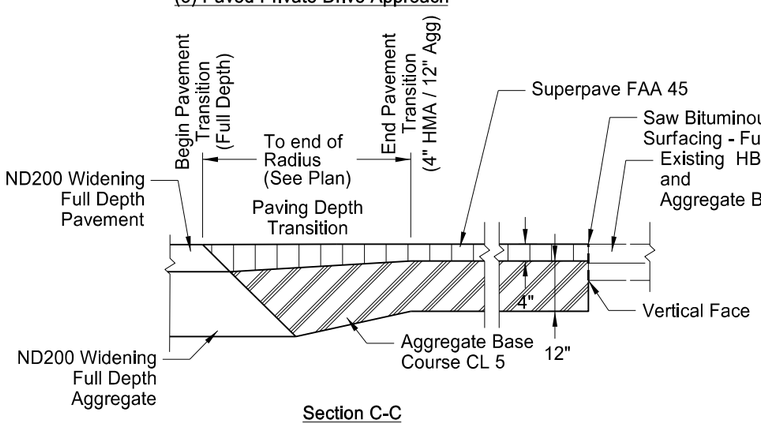
(3) Paved Private Drive Approach



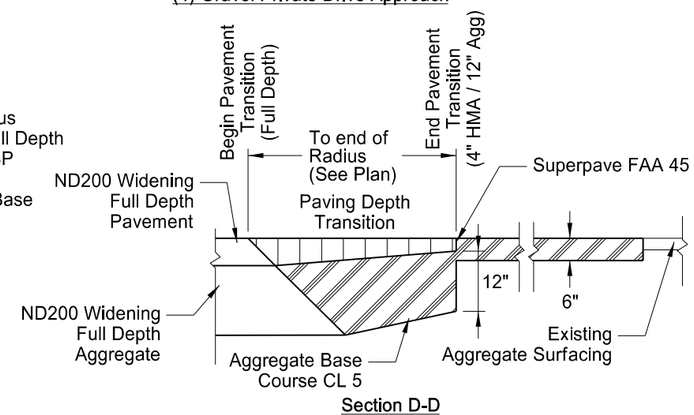
(4) Gravel Private Drive Approach



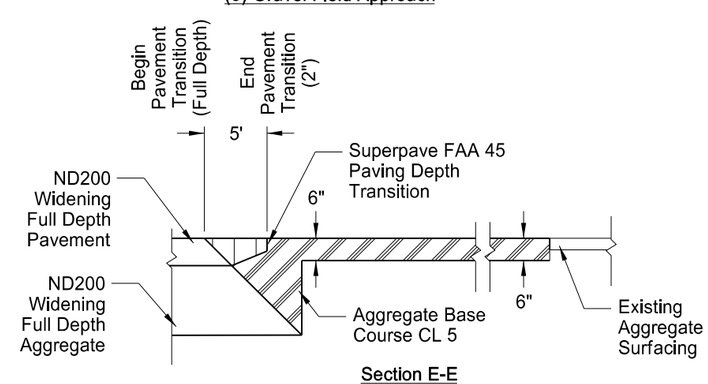
(5) Gravel Field Approach



Section C-C



Section D-D



Section E-E

Notes:

1. Actual HBP paving and Aggregate Base Course CL 5 locations may vary in the field, as approved by the Engineer.

2. Quantity totals shown on this sheet have been included in the bid items listing within Section 8 "Estimate of Quantities".

3. Paving and Aggregate quantities shown on this sheet are NOT included in those quantities shown on Section 90 sheets.

4. Unless otherwise noted or shown in the plans, taper new approach surfacing to match width of existing approach when found to be less than 24 feet in width. Taper shall begin 20 feet prior to R/W and end at R/W, matching existing surfacing width.

5. Unless otherwise noted or shown in the plans, approaches found greater than 24' in width must be reconstructed to 24' in width.

6. Taper to match width of existing drive approach when less than 24' in width.

BASIS OF ESTIMATE				(3)	(4)	(5)	
SPEC	CODE	ITEM DESCRIPTION	UNIT	Paved Private Drive	Gravel Private Drive	Field Drive	TOTALS
		Number of Locations	#	2	42	57	101
302	120	Aggregate Base Course Cl 5	TON	649.1	7388.7	4723.9	12761.7
401	50	Tack Coat	GAL	109	779	248	1136
401	60	Prime Coat	GAL	181	1298	412	1891.4
401	160	Blotter Material CL 44	TON	5.4	38.9	12.4	56.7
430	6428	PG 64-28 Asphalt Cement	TON	12.1	100.3	23.9	136.3
430	45	Superpave FAA 45	TON	202.4	1671.6	399.0	2273.0

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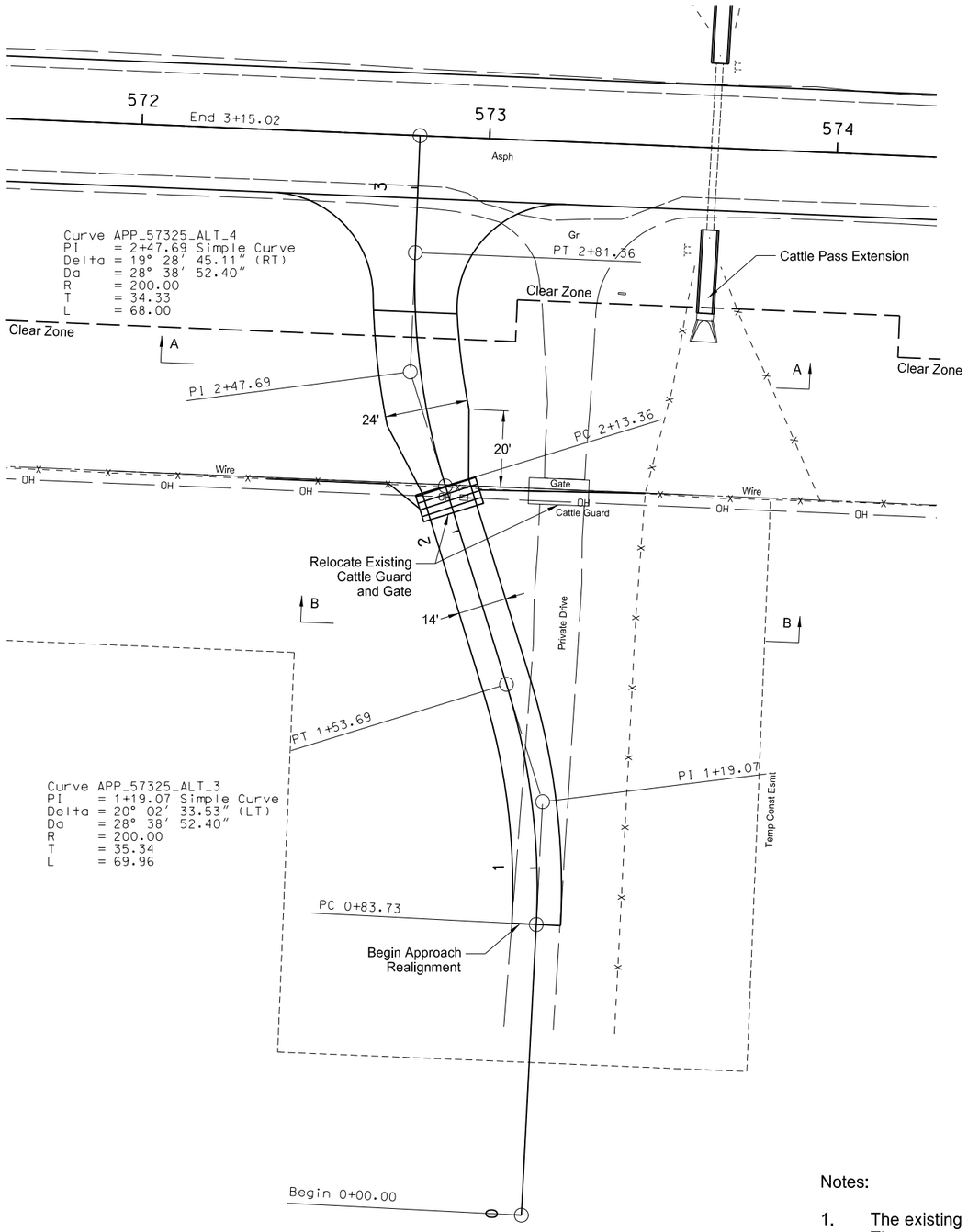
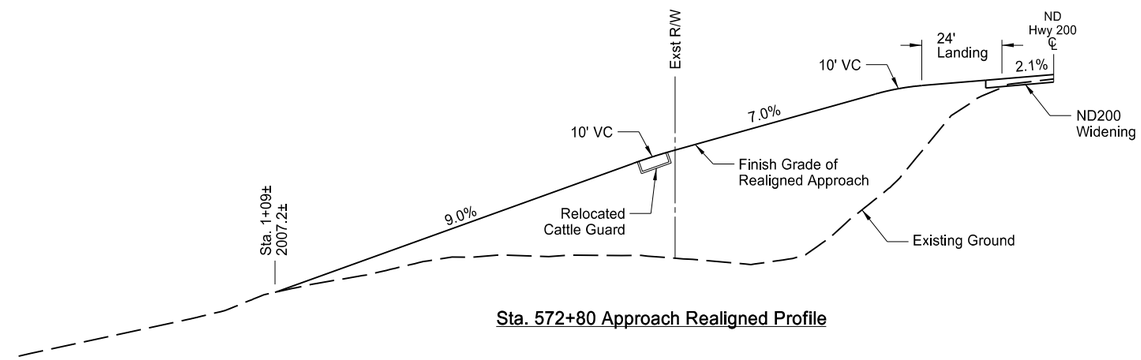
Approach Paving

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

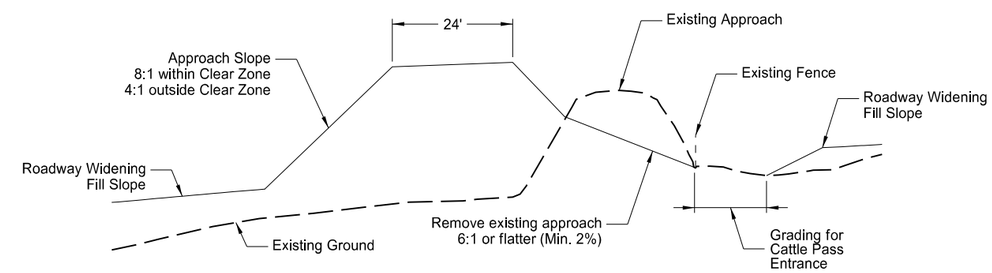
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	20	6



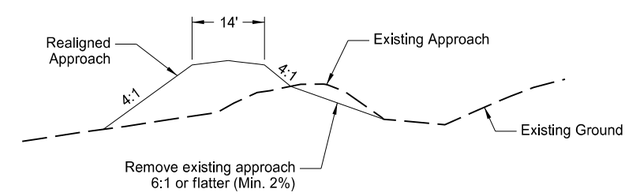
Sta. 572+80 Approach Realignment Layout



Sta. 572+80 Approach Realigned Profile



Section A-A



Section B-B

Notes:

1. The existing cattle guard and gate shall be relocated as shown. The contractor shall avoid disturbing existing fencing except as described in Section 11, Fencing Removal & Installation.

2. All costs associated with relocating the cattle guard shall be included in the price bid for "Cattle Guard Reset."

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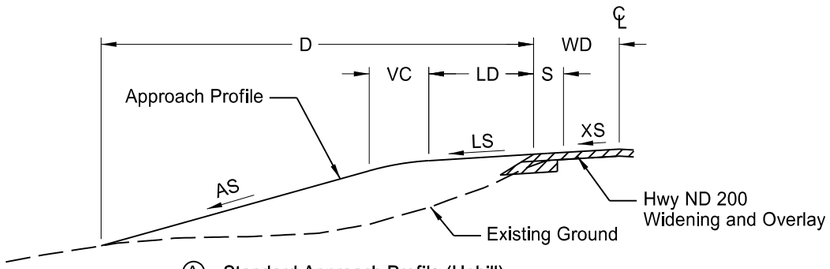
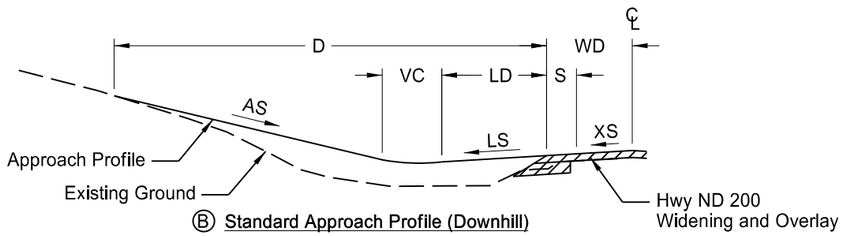
Approach Reconstruction
Sta. 572+80

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

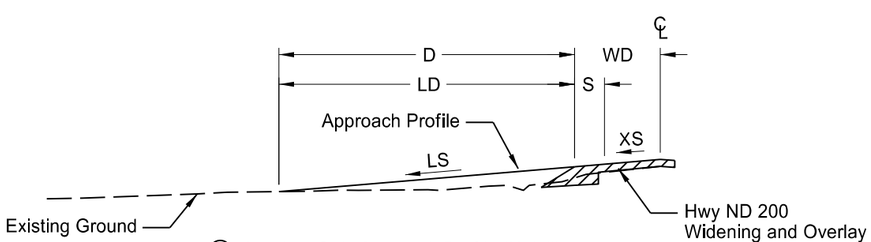
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	20	7



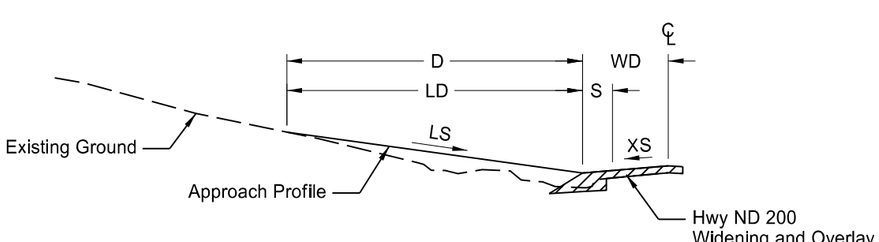
Ⓐ Standard Approach Profile (Uphill)



Ⓑ Standard Approach Profile (Downhill)



Ⓒ Landing Only Approach Profile (Uphill)



Ⓓ Landing Only Approach Profile (Downhill)

APPROACH PROFILE DATA

Station	Right / Left	Approach Type	Profile Type	Approach Slope AS	Total Approach Regrading Length D	Landing Distance (Outside Widening) LD	Landing Distance (Shoulder) S	Landing Slope LS	Centerline to Edge of Widening WD	Widening Cross Slope (+/-) XS	Vertical Curve Length VC	Note
226+94	Rt	Private	A	7.0%	79.0 Ft	20 Ft	4 Ft	1.5%	16.0 Ft	-3.2%	10 Ft	See Section 82
226+97	Lt	Private	A	6.0%	42.0 Ft	20 Ft	4 Ft	3.2%	16.0 Ft	3.2%	10 Ft	
244+24	Lt	Private	C	-	18.0 Ft	18 Ft	6 Ft	1.8%	24.0 Ft	2.1%	-	Match existing grade at end of landing
250+51	Rt	Private	A	6.0%	49.5 Ft	18 Ft	6 Ft	3.0%	24.0 Ft	3.0%	10 Ft	
255+69	Rt	Private	A	6.0%	59.0 Ft	18 Ft	6 Ft	3.0%	21.4 Ft	3.0%	10 Ft	See Section 82, Construction Easement
262+66	Lt	Field	A	7.5%	44.5 Ft	14 Ft	6 Ft	2.1%	18.0 Ft	2.1%	10 Ft	
268+78	Lt	Private	A	6.0%	39.5 Ft	18 Ft	6 Ft	2.1%	18.0 Ft	2.1%	10 Ft	
271+84	Lt	Private	A	5.0%	44.0 Ft	18 Ft	6 Ft	2.1%	18.0 Ft	2.1%	10 Ft	
274+63	Rt	Field	A	10.0%	44.5 Ft	14 Ft	6 Ft	2.1%	18.0 Ft	2.1%	10 Ft	
274+70	Lt	Private	A	6.0%	37.0 Ft	18 Ft	6 Ft	2.1%	18.0 Ft	2.1%	10 Ft	
277+95	Lt	Private	C	-	20.0 Ft	20 Ft	6 Ft	2.1%	21.4 Ft	2.1%	-	Match existing grade at end of landing
Main St.	Rt	Public	A	5.0%	109.2 Ft	30 Ft	10 Ft	1.5%	28.9 Ft	1.0%	40 Ft	See Section 82 (Superelevated Curve on Mainline)
291+71	Lt	Field	A	10.0%	36.0 Ft	16 Ft	4 Ft	3.0%	31.0 Ft	3.0%	10 Ft	
291+87	Rt	Public	A	6.5%	114.5 Ft	24 Ft	6 Ft	1.5%	21.4 Ft	-3.0%	40 Ft	See Section 82 (Superelevated Curve on Mainline)
302+75	Rt	Field	A	7.0%	55.8 Ft	14 Ft	6 Ft	2.1%	18.0 Ft	2.1%	10 Ft	
305+75	Lt	Field	A	5.0%	53.0 Ft	14 Ft	6 Ft	2.1%	18.0 Ft	2.1%	10 Ft	
312+70	Rt	Private	A	7.0%	115.0 Ft	18 Ft	6 Ft	2.1%	18.0 Ft	2.1%	10 Ft	See Section 82, Construction Easement
320+24	Lt	Field	A	10.0%	38.0 Ft	14 Ft	6 Ft	2.1%	18.0 Ft	2.1%	10 Ft	
320+47	Rt	Field	A	10.0%	53.0 Ft	14 Ft	6 Ft	2.1%	18.0 Ft	2.1%	10 Ft	
327+21	Lt	Field	A	7.0%	32.5 Ft	14 Ft	6 Ft	2.1%	18.0 Ft	2.1%	10 Ft	
327+96	Rt	Field	A	7.0%	69.0 Ft	14 Ft	6 Ft	2.1%	18.0 Ft	2.1%	10 Ft	
338+85	Lt	Field	A	10.0%	93.5 Ft	14 Ft	6 Ft	2.1%	18.0 Ft	2.1%	10 Ft	Construction Easement
338+87	Rt	Field	A	10.0%	123.0 Ft	14 Ft	6 Ft	2.1%	18.0 Ft	2.1%	10 Ft	Construction Easement
352+00	Lt	Private	D	-	24.0 Ft	24 Ft	6 Ft	-2.0%	18.0 Ft	2.1%	-	Match existing grade at end of landing
355+73	Rt	Field	A	1.8%	82.0 Ft	14 Ft	6 Ft	0.9%	18.0 Ft	0.9%	10 Ft	
368+15	Rt	Field	A	10.0%	67.0 Ft	14 Ft	6 Ft	2.2%	18.0 Ft	2.2%	10 Ft	
369+73	Lt	Field	C	-	32.5 Ft	32 Ft	6 Ft	2.1%	18.0 Ft	2.1%	-	Match existing grade at end of landing
383+15	Lt	Private	C	-	34.0 Ft	34 Ft	6 Ft	2.1%	18.0 Ft	2.1%	-	Match existing grade at end of landing
383+21	Rt	Private	A	9%/7%*	415.0 Ft	18 Ft	6 Ft	2.1%	18.0 Ft	2.1%	10Ft	*See Detail. See Section 82, Construction Easement

WD = Widening Distance from Centerline
XS = Widening Cross Slope from Centerline (Finish)
S = Shoulder Width (Edge of Travel Lane to WD)
LD = Landing Distance (Widening to VC or Tie-In)
LS = Landing Slope
VC = Vertical Curve length
AS = Approach Slope
D = Total approach distance (Edge of Widening to Existing Ground)

Notes:

1. Total landing distance = (LD+S)

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Approach Profile Data

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	20	8

APPROACH PROFILE DATA

Station	Right / Left	Approach Type	Profile Type	Approach Slope AS	Total Approach Regrading Length D	Landing Distance (Outside Widening) LD	Landing Distance (Shoulder) S	Landing Slope LS	Centerline to Edge of Widening WD	Widening Cross Slope (+/-) XS	Vertical Curve Length VC	Note
395+16	Rt	Field	A	10.0%	146.5 Ft	14 Ft	6 Ft	2.1%	18.0 Ft	2.1%	10 Ft	Construction Easement
395+26	Lt	Field	A	10.0%	52.0 Ft	14 Ft	6 Ft	2.1%	18.0 Ft	2.1%	10 Ft	
413+89	Lt	Field	C	-	42.0 Ft	42 Ft	6 Ft	2.1%	18.0 Ft	2.1%	-	Match existing grade at end of landing
413+91	Rt	Field	C	-	64.0 Ft	64 Ft	6 Ft	1.5%	18.0 Ft	1.5%	-	Match existing grade at end of landing
424+65	Rt	Field	A	7.0%	43.5 Ft	14 Ft	6 Ft	2.1%	18.0 Ft	2.1%	10 Ft	
431+30	Lt	Private	D	-	61.0 Ft	61 Ft	6 Ft	-0.5%	18.0 Ft	-1.9%	-	Match existing grade at end of landing
439+72	Rt	Private	C	-	54.0 Ft	54 Ft	6 Ft	3.0%	18.0 Ft	3.0%	-	Match existing grade at end of landing
456+54	Rt	Private	C	-	50.0 Ft	50 Ft	6 Ft	2.9%	18.0 Ft	2.9%	-	Match existing grade at end of landing
456+75	Lt	Field	D	-	63.0 Ft	63 Ft	6 Ft	-2.9%	18.0 Ft	-2.9%	-	Match existing grade at end of landing
469+69	Rt	Public	A	5.0%	112.0 Ft	24 Ft	6 Ft	2.5%	18.0 Ft	2.1%	20 Ft	
469+74	Lt	Field	A	10.0%	51.5 Ft	14 Ft	6 Ft	2.1%	18.0 Ft	2.1%	10 Ft	
482+96	Lt	Private	A	7.0%	56.5 Ft	18 Ft	6 Ft	2.1%	18.0 Ft	2.1%	10 Ft	
492+28	Lt	Field	C	-	46.0 Ft	46 Ft	6 Ft	2.1%	18.0 Ft	2.1%	-	Match existing grade at end of landing
492+28	Rt	Private	C	-	50.0 Ft	50 Ft	6 Ft	2.1%	18.0 Ft	2.1%	-	Match existing grade at end of landing
501+00	Lt	Field	C	-	39.0 Ft	39 Ft	6 Ft	2.1%	18.0 Ft	2.1%	-	Match existing grade at end of landing
509+56	Lt	Private	B	-7.0%	118.0 Ft	18 Ft	6 Ft	2.1%	18.0 Ft	2.1%	10 Ft	Downhill approach
509+56	Rt	Private	A	7.0%	98.5 Ft	18 Ft	6 Ft	2.5%	18.0 Ft	2.1%	10 Ft	
519+30	Rt	Private	B	-4.5%	54.5 Ft	18 Ft	6 Ft	2.1%	18.0 Ft	2.1%	10 Ft	Downhill approach
519+84	Lt	Private	C	-	54.0 Ft	54 Ft	6 Ft	2.1%	18.0 Ft	2.1%	-	Match existing grade at end of landing
535+97	Lt	Private	A	7.0%	45.0 Ft	18 Ft	6 Ft	1.8%	18.0 Ft	1.8%	10 Ft	
543+89	Rt	Field	C	-	44.0 Ft	44 Ft	6 Ft	2.1%	18.0 Ft	2.1%	-	Match existing grade at end of landing
545+90	Lt	Field	A	10.0%	41.5 Ft	14 Ft	6 Ft	2.1%	18.0 Ft	2.1%	10 Ft	
562+25	Lt	Private	C	-	39.0 Ft	39 Ft	6 Ft	2.1%	18.0 Ft	2.1%	-	Match existing grade at end of landing
562+29	Rt	Field	A	10.0%	35.0 Ft	14 Ft	6 Ft	1.8%	18.0 Ft	1.8%	10 Ft	
572+80	Rt	Private	C	9%/7%*	188.0 Ft	18 Ft	6 Ft	2.1%	18.0 Ft	2.1%	10Ft	*See Detail. See Section 82, Construction Easement
575+78	Lt	Field	A	-	42.0 Ft	42 Ft	6 Ft	2.1%	18.0 Ft	2.1%	-	Match existing grade at end of landing
578+32	Rt	Field	B	-10.0%	63.0 Ft	14 Ft	6 Ft	2.1%	18.0 Ft	2.1%	10 Ft	Downhill approach
595+50	Rt	Field	A	10.0%	131.5 Ft	14 Ft	6 Ft	2.1%	18.0 Ft	2.1%	10 Ft	Construction Easement
595+65	Lt	Field	A	10.0%	32.0 Ft	14 Ft	6 Ft	2.1%	18.0 Ft	2.1%	10 Ft	
602+65	Lt	Private	C	-	23.0 Ft	23 Ft	6 Ft	2.1%	18.0 Ft	2.1%	-	Match existing grade at end of landing
608+56	Rt	Field	C	-	43.0 Ft	43 Ft	6 Ft	2.1%	18.0 Ft	2.1%	-	Match existing grade at end of landing
608+63	Lt	Private	C	-	34.0 Ft	34 Ft	6 Ft	2.1%	18.0 Ft	2.1%	-	Match existing grade at end of landing
623+74	Rt	Private	C	-	44.0 Ft	44 Ft	6 Ft	2.1%	18.0 Ft	2.1%	-	Match existing grade at end of landing
628+33	Lt	Field	C	-	53.0 Ft	53 Ft	6 Ft	2.1%	18.0 Ft	2.1%	-	Match existing grade at end of landing
642+40	Rt	Private	C	-	25.0 Ft	25 Ft	6 Ft	2.1%	18.0 Ft	2.1%	-	Match existing grade at end of landing
648+56	Lt	Private	C	-	38.0 Ft	38 Ft	6 Ft	2.1%	18.0 Ft	2.1%	-	Match existing grade at end of landing
652+65	Rt	Field	A	10.0%	49.5 Ft	14 Ft	6 Ft	2.1%	18.0 Ft	2.1%	10 Ft	
149th Ave	Rt	Public	C	-	65.0 Ft	65 Ft	6 Ft	2.1%	24.0 Ft	2.1%	-	Match existing grade at end of landing
149th Ave	Lt	Public	C	-	41.0 Ft	41 Ft	6 Ft	2.1%	24.0 Ft	2.1%	-	Match existing grade at end of landing
668+47	Lt	Field	C	-	54.0 Ft	54 Ft	4 Ft	2.1%	34.0 Ft	2.1%	10 Ft	Match existing grade at end of landing
691+11	Lt	Field	A	10.0%	42.5 Ft	14 Ft	6 Ft	2.1%	18.0 Ft	2.1%	10 Ft	
691+15	Rt	Private	A	7.0%	54.5 Ft	18 Ft	6 Ft	2.1%	18.0 Ft	2.1%	10 Ft	

Notes:

1. See Approach Profile Data detail.

WD = Widening Distance from Centerline
XS = Widening Cross Slope from Centerline (Finish)
S = Shoulder Width (Edge of Travel Lane to WD)
LD = Landing Distance (Widening to VC or Tie-In)
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VC = Vertical Curve length
AS = Approach Slope
D = Total approach distance (Edge of Widening to Existing Ground)

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Approach Profile Table

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	20	9

APPROACH PROFILE DATA

Station	Right / Left	Approach Type	Profile Type	Approach Slope	Total Approach Regrading Length	Landing Distance (Outside Widening)	Landing Distance (Shoulder)	Landing Slope	Centerline to Edge of Widening	Widening Cross Slope (+/-)	Vertical Curve Length	
				AS	D	LD	S	LS	WD	XS	VC	Note
705+91	Rt	Field	C	-	44.0 Ft	44 Ft	6 Ft	2.1%	18.0 Ft	2.1%	-	Match existing grade at end of landing
706+59	Lt	Field	A	10.0%	40.0 Ft	14 Ft	6 Ft	2.1%	18.0 Ft	2.1%	10 Ft	
711+32	Lt	Field	A	10.0%	40.5 Ft	14 Ft	6 Ft	2.1%	18.0 Ft	2.1%	10 Ft	
719+20	Rt	Field	C	-	47.0 Ft	47 Ft	6 Ft	1.8%	18.0 Ft	1.8%	-	Match existing grade at end of landing
719+30	Lt	Public	A	5.5%	107.0 Ft	24 Ft	6 Ft	3.0%	18.0 Ft	2.1%	20 Ft	
732+39	Rt	Public	A	5.5%	57.0 Ft	24 Ft	6 Ft	3.0%	18.0 Ft	2.1%	20 Ft	
732+41	Lt	Field	A	10.0%	45.0 Ft	14 Ft	6 Ft	2.1%	18.0 Ft	2.1%	10 Ft	
752+64	Rt	Private	A	7.0%	58.5 Ft	18 Ft	6 Ft	2.1%	18.0 Ft	2.1%	10 Ft	
752+70	Lt	Field	A	10.0%	46.0 Ft	14 Ft	6 Ft	2.1%	18.0 Ft	2.1%	10 Ft	
755+89	Rt	Field	A	10.0%	32.5 Ft	14 Ft	6 Ft	2.1%	18.0 Ft	2.1%	10 Ft	
147th Ave	Rt	Private	A	7.0%	80.5 Ft	18 Ft	6 Ft	2.1%	18.0 Ft	2.1%	10 Ft	
Co Rd 13	Lt	Public	C	-	91.0 Ft	91 Ft	6 Ft	2.1%	18.0 Ft	2.1%	-	Match existing grade at end of landing
798+13	Lt	Private	C	-	47.0 Ft	47 Ft	6 Ft	2.1%	18.0 Ft	2.1%	-	Match existing grade at end of landing
798+31	Rt	Field	A	10.0%	57.0 Ft	14 Ft	6 Ft	2.1%	18.0 Ft	2.1%	10 Ft	
808+10	Rt	Private	A	7.0%	40.0 Ft	18 Ft	6 Ft	2.1%	18.0 Ft	2.1%	10 Ft	
808+18	Lt	Field	A	10.0%	31.0 Ft	14 Ft	6 Ft	2.1%	18.0 Ft	2.1%	10 Ft	
810+20	Rt	Field	A	10.0%	39.5 Ft	14 Ft	6 Ft	2.1%	18.0 Ft	2.1%	10 Ft	
813+44	Lt	Private	A	7.0%	157.0 Ft	18 Ft	6 Ft	2.1%	18.0 Ft	2.1%	10 Ft	Construction Easement
146th Ave	Rt	Public	A	7.0%	69.0 Ft	24 Ft	6 Ft	2.1%	18.0 Ft	2.1%	40 Ft	
824+75	Lt	Field	C	-	69.0 Ft	69 Ft	6 Ft	2.1%	18.0 Ft	2.1%	-	Match existing grade at end of landing
837+25	Rt	Private	C	-	24.0 Ft	24 Ft	6 Ft	2.1%	18.0 Ft	2.1%	-	Match existing grade at end of landing
851+07	Lt	Field	A	10.0%	41.0 Ft	14 Ft	6 Ft	2.1%	18.0 Ft	2.1%	10 Ft	
856+73	Rt	Field	A	10.0%	35.0 Ft	14 Ft	6 Ft	2.1%	18.0 Ft	2.1%	10 Ft	
868+25	Rt	Private	C	-	28.0 Ft	28 Ft	6 Ft	2.1%	18.0 Ft	2.1%	-	Match existing grade at end of landing
868+30	Lt	Field	A	10.0%	47.0 Ft	14 Ft	6 Ft	2.1%	18.0 Ft	2.1%	10 Ft	
871+68	Rt	Private	C	-	38.0 Ft	38 Ft	6 Ft	2.1%	18.0 Ft	2.1%	-	Match existing grade at end of landing
145th Ave	Lt	Public	A	7.0%	183.5 Ft	24 Ft	6 Ft	3.0%	18.0 Ft	2.1%	30 Ft	
877+74	Rt	Field	A	10.0%	177.0 Ft	14 Ft	6 Ft	2.1%	18.0 Ft	2.1%	10 Ft	
895+82	Rt	Private	C	-	18.0 Ft	18 Ft	6 Ft	2.1%	18.0 Ft	2.1%	-	Match existing grade at end of landing
895+82	Lt	Private	C	-	17.0 Ft	17 Ft	6 Ft	2.1%	18.0 Ft	2.1%	-	Match existing grade at end of landing
904+00	Lt	Field	A	10.0%	82.5 Ft	14 Ft	6 Ft	2.1%	18.0 Ft	2.1%	10 Ft	
917+13	Rt	Field	A	10.0%	67.0 Ft	14 Ft	6 Ft	2.1%	18.0 Ft	2.1%	10 Ft	
917+13	Lt	Field	A	10.0%	46.0 Ft	14 Ft	6 Ft	2.1%	18.0 Ft	2.1%	10 Ft	
930+43	Rt	Field	C	-	43.0 Ft	43 Ft	6 Ft	2.1%	18.0 Ft	21.0%	-	Match existing grade at end of landing
930+43	Lt	Field	A	3.0%	63.5 Ft	18 Ft	6 Ft	2.1%	18.0 Ft	2.1%	10 Ft	
934+65	Rt	Field	C	-	36.0 Ft	36 Ft	6 Ft	2.1%	18.0 Ft	2.1%	-	Match existing grade at end of landing
934+65	Lt	Private	C	-	55.0 Ft	55 Ft	6 Ft	2.1%	18.0 Ft	2.1%	-	Match existing grade at end of landing
942+31	Rt	Field	A	10.0%	41.0 Ft	14 Ft	6 Ft	2.1%	18.0 Ft	2.1%	10 Ft	
942+31	Lt	Field	A	10.0%	186.0 Ft	14 Ft	6 Ft	2.1%	18.0 Ft	2.1%	10 Ft	
962+30	Lt	Field	A	10.0%	30.5 Ft	14 Ft	6 Ft	2.1%	18.0 Ft	2.1%	10 Ft	
962+37	Rt	Private	C	-	26.0 Ft	26 Ft	6 Ft	0.5%	18.0 Ft	2.1%	-	Match existing grade at end of landing

Notes:

1. See Approach Profile Data detail.

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XS = Widening Cross Slope from Centerline (Finish)
S = Shoulder Width (Edge of Travel Lane to WD)
LD = Landing Distance (Widening to VC or Tie-In)
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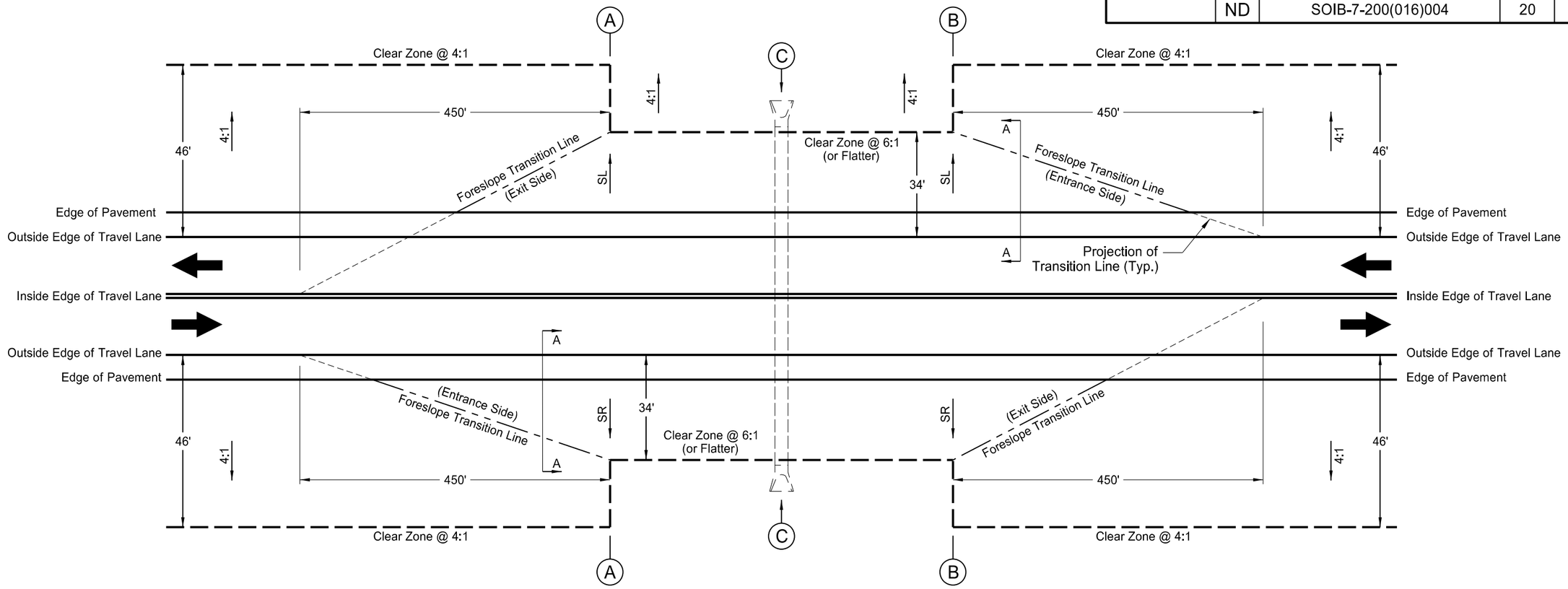
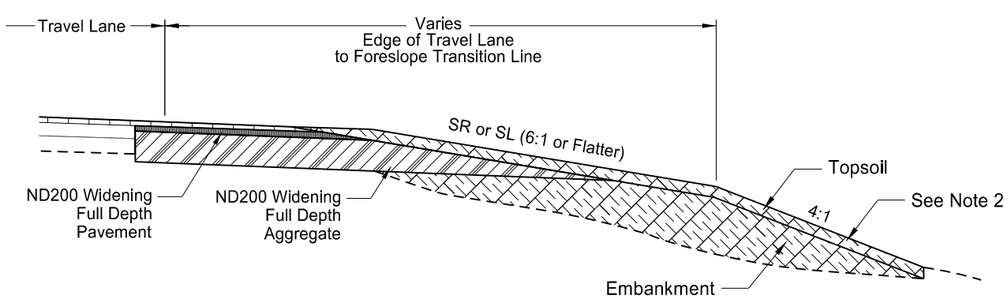
Approach Profile Table

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	20	10



Foreslope Transition Layout



Section A-A

Inslope Transition Areas

(A) From Station		(B) To Station	Slope Left (SL)	Slope Right (SR)	(C)
311+15	to	312+25	6:1	6:1	60" Culvert Extensions
419+96	to	421+06	6:1	N/A	72" Culvert Extension (Lt Only)
484+60	to	485+70	6:1	6:1	72" Culvert Extension
502+87	to	503+97	11:1	8:1	4'x6' Cattle Pass Extension
552+81	to	553+91	6:1	6:1	108" SPP Culvert Extension
573+09	to	574+20	6:1	6:1	4'x6' Cattle Pass Extension
696+40	to	697+74	6:1	6:1	Box Culvert Extension
930+59	to	931+69	9:1	9:1	4'x6' Cattle Pass Extension

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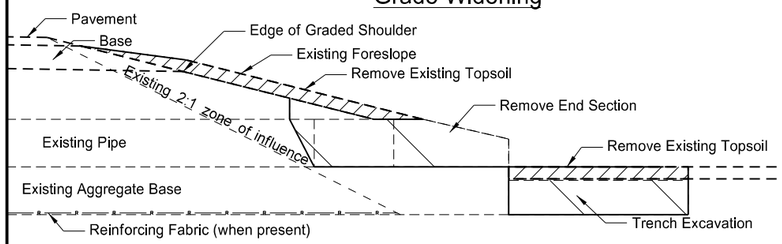
Inslope Transition

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	20	11

Grade Widening

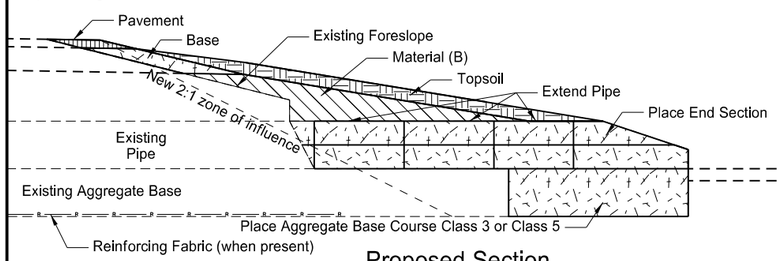


Removal Section

Cross Section View

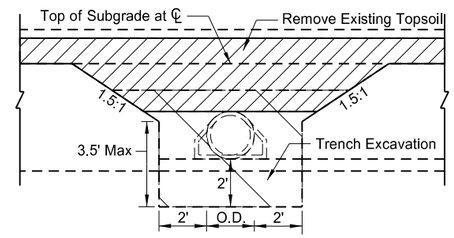
Pay Items
1) Pipe*
2) Remove & Relay Pipe - All Types & Sizes (when required)
3) Remove & Reset End Section or new End Section
4) Borrow Excavation (Compaction Control Type A) or Common Excavation-Type A
5) Topsoil
6) Seeding
7) Mulching

*Included in Pipe Pay Item
1) Pipe
2) Trench excavation
3) Aggregate Base Course Class 3 or Class 5



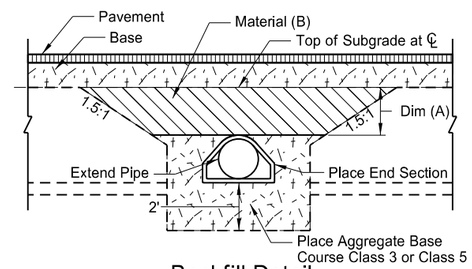
Proposed Section

Cross Section View



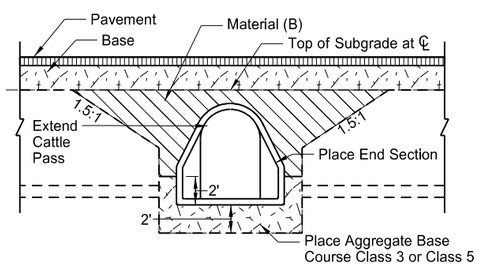
Removal Detail

Side View



Backfill Detail

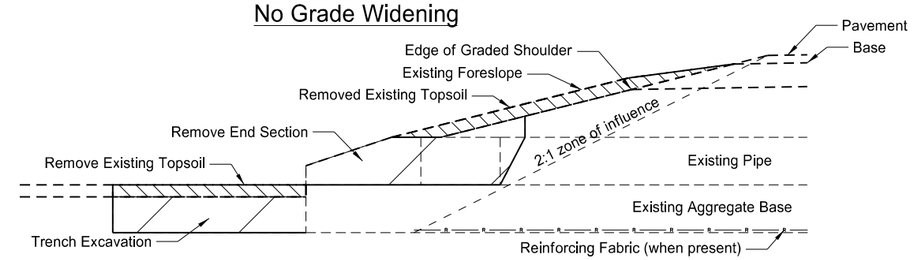
Side View (Topsoil not shown)



Cattle Pass Backfill Detail

Side View (Topsoil not shown)

No Grade Widening

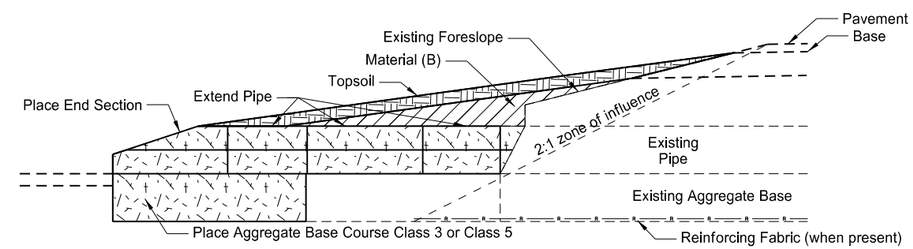


Removal Section

Cross Section View

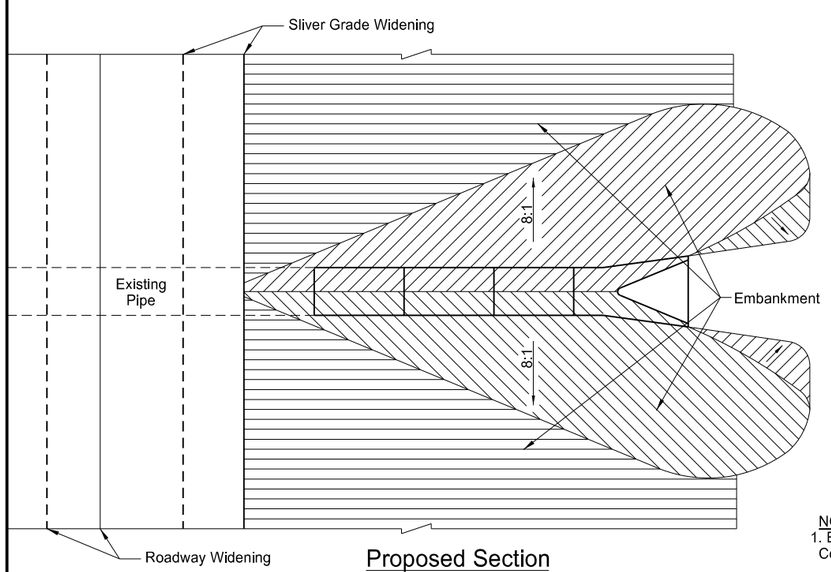
Pay Items
1) Pipe*
2) Remove & Reset End Section or Remove End Section and Place New End Section

*Included in Pipe Pay Item
1) Pipe
2) Trench excavation
3) Aggregate Base Course Class 3 or Class 5
4) Embankment (Compaction Control Type A)
5) Topsoil, Seeding, and Mulch



Proposed Section

Cross Section View

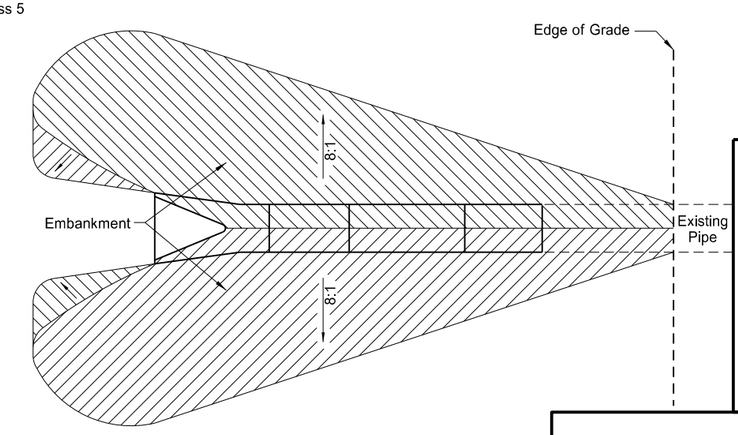


Proposed Section

Plan View

Pipe Materials	Dim (A)<=4 Feet Material (B)	Dim (A)>4 Feet Material (B)
Concrete	Embank or Aggr	Embank or Aggr
Metal	Embank or Aggr	Embank or Aggr

NOTES:
1. Embankment may be either Borrow Excavation (Compaction Control - Type A) or Common Excavation - Type A.
2. Aggregate may be either Class 3 or Class 5 Aggregate Base Course.



Proposed Section

Plan View

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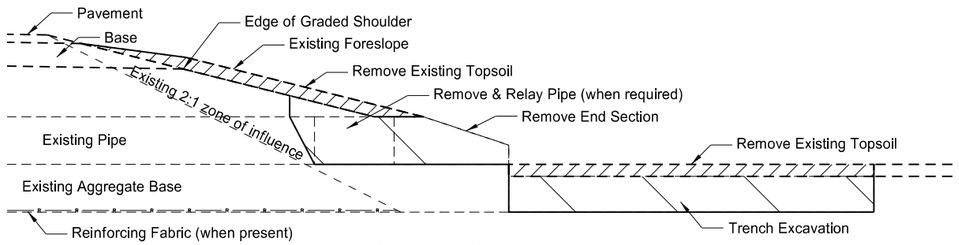
Mainline ℄ Pipe Extension

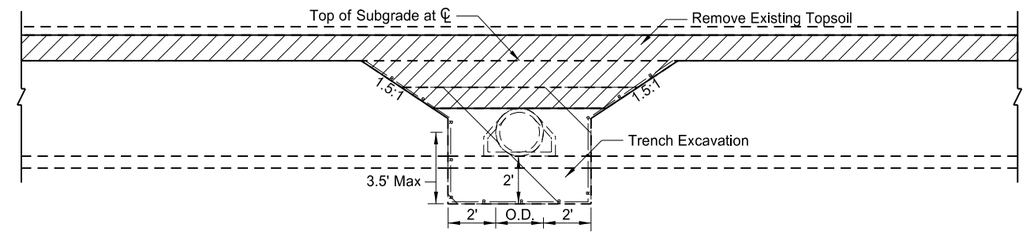
ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	20	12



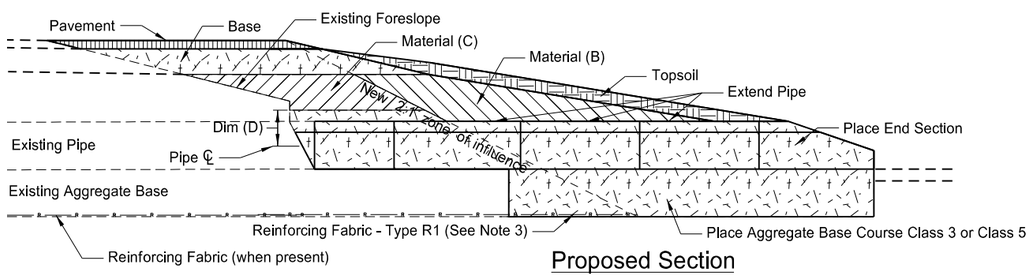
Removal Section

Cross Section View



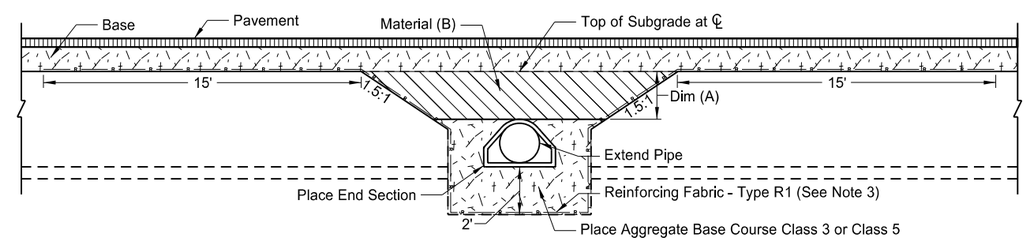
Removal Detail

Side View



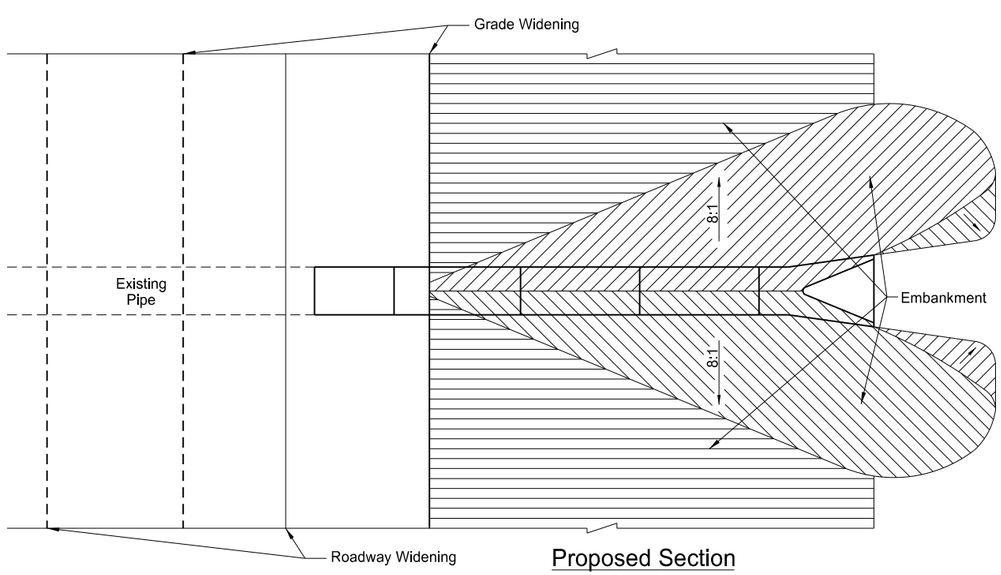
Proposed Section

Cross Section View



Backfill Detail

Side View (Topsoil not shown)



Proposed Section

Plan View

Pay Items
1) Pipe*
2) Remove & Relay Pipe - All Types & Sizes (when required)
3) Remove & Reset End Section or
   Remove End Section and Place New End Section
4) Reinforcement Fabric - Type R1
5) Borrow Excavation (Compaction Control Type A) or
   Common Excavation-Type A
6) Topsoil
7) Seeding
8) Mulching

*Included in Pipe Pay Item
1) Pipe
2) Trench excavation
3) Aggregate Base Course Class 3 or Class 5

Pipe Materials	Dim (A)<=4 Feet		Dim (A)>4 Feet		Backfill Dimension
	Material (B)	Material (C)	Material (B)	Material (C)	Dim (D)
Concrete	Embank or Aggr	Aggr	Embank or Aggr	Embank	0.5 O.D.
Metal	Embank or Aggr	Aggr	Embank or Aggr	Embank	0.5 O.D.+1 Foot

NOTES:
1. Embankment may be either Borrow Excavation (Compaction Control - Type A) or Common Excavation - Type A

2. Aggregate may be either Class 3 or Class 5 Aggregate Base Course.

3. When Reinforcing Fabric is provided in the plans at pipe extensions, expose the edge of the existing fabric and connect the new fabric. This may require the removal and resetting of additional sections of pipe. Reinforcing Fabric is not required outside the 2:1 zone of influence.

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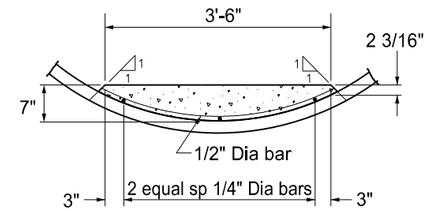
Mainline ℄ Pipe Extension Detail For Adding a Lane

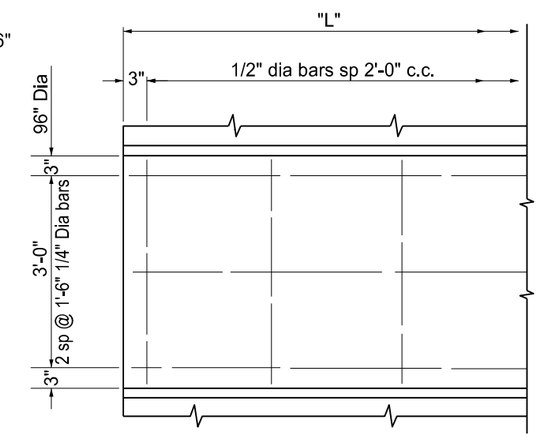
ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	20	13

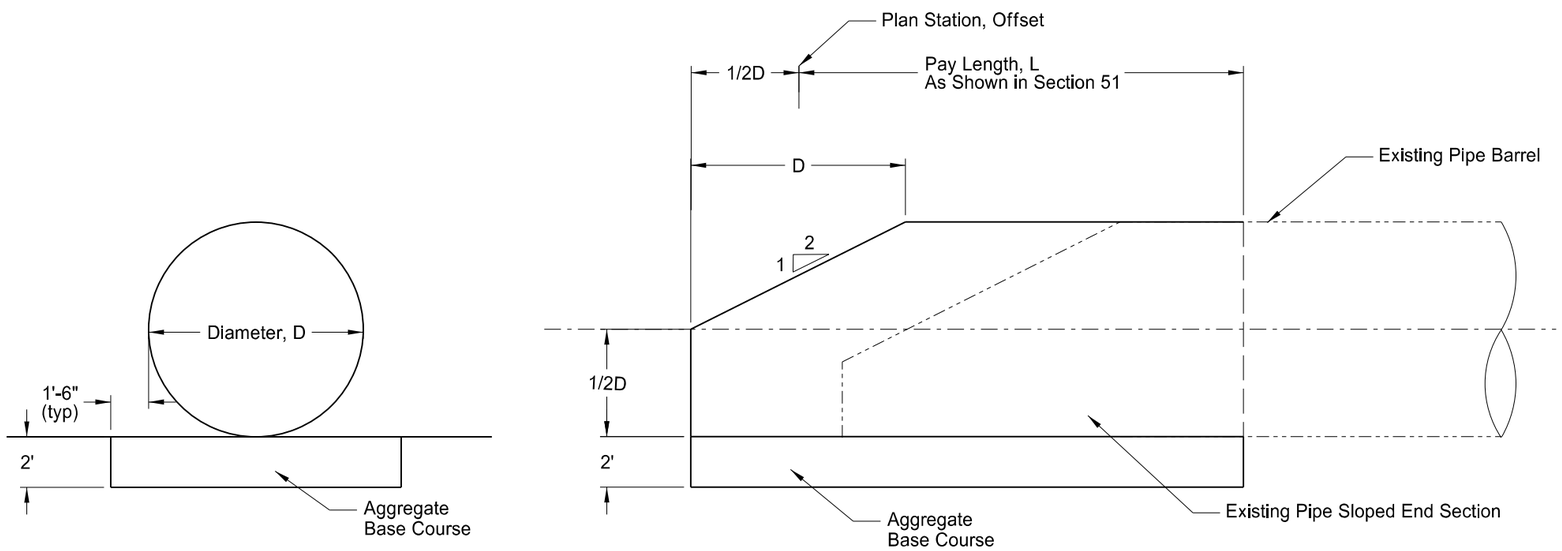
Structural Plate Pipe Extension Date								
Bridge No.	From Station	To Station	Type of Pipe	Pipe Diameter "D"	Galv Thick	Pay Length "L"		Aggregate Base Course (CY)
						LT	RT	
#200-009.644	514+08 - 52.61' Lt 514+07 - 59.97' Rt	514+08 - 82.61' Lt 514+07 - 81.97' Rt	SPP	11'-6"	0.168"	30'	22'	60
#200-010.568	553+36 - 46.63' Lt 553+36 - 52.37' Rt	553+36 - 72.63' Lt 553+36 - 76.37' Rt	SPP	8'-6"	0.138"	26'	24'	45
-	616+37 - 81.66' Lt 615+66 - 116.04' Rt	616+52 - 124.97' Lt 615+45 - 174.40' Rt	SPP	8'-0"	0.168"	46'	62'	100



Detail "A"
(96" Pipe Dia)

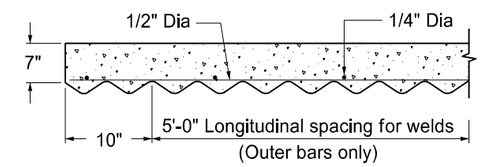


Part Plan
(96" Pipe Dia)



Pipe Section

Longitudinal Section



Part Section 0n ℄
(96" Pipe Dia)

Structural Plate Pipe Notes:

1. The contractor has the option of removing the sloped end section plates or extending the pipe with the plates in place. Regardless of the method used, the price bid for the pay length shown will be the full compensation for extending the pipe with sloped end sections.

2. All equipment, labor, & material, required shall be included in the price bid for the pipe pay items. Contractor shall field verify pipe dimensions shown prior to installation.

Concrete Floor Notes:

1. Concrete floor required for 8'-0" dia SPP only. Approx. Sta 616+45. (0.0721 CY/LF concrete, 2.290 LB/LF steel - approximate)

2. Bend bar in field to fit curve of pipe culvert. All field welding shall be considered incidental to the price bid per linear foot of floor.

3. Use 1'-8" lap to splice all longitudinal bars over 40 feet long.

4. All concrete shall be Class AE-3. All bar shall be Grade 40.

5. Outer longitudinal bars shall be welded to pipe corrugations at 5'-0" intervals with 1"x1/4" fillet welds.

6. All equipment, labor & material required shall be included in the price bid for the pipe pay items. Contractor shall field verify pipe dimensions shown prior to installation.

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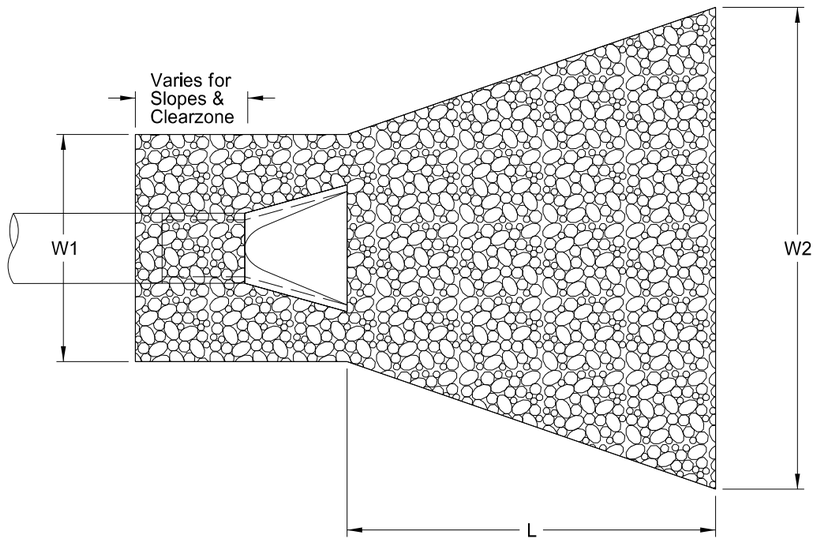
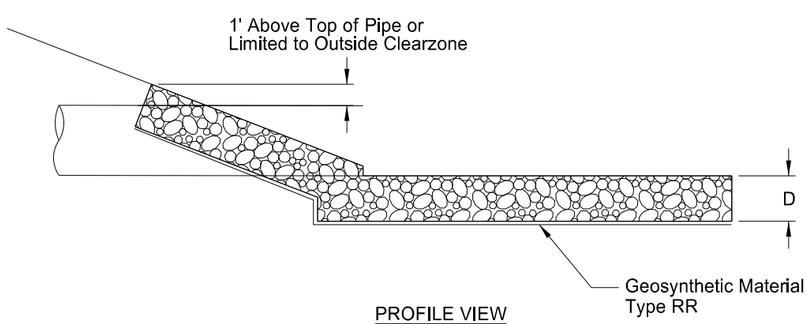
Structural Steel Plate Pipe
Beveled End Section

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	20	14



PLAN VIEW



PROFILE VIEW

Riprap Dimensions

Culvert Diameter (inches)	L (feet)	W1 (feet)	W2 (feet)	Riprap Depth, D (inches)
24	8	6.0	8.0	24
30	8	7.5	8.0	24
72 (Grade I)	20	12.0	20.0	24
72 (Grade II)	20	12.0	20.0	30
138	18	14.5	24.0	24

Riprap Locations and Quantities

Location (Sta.)	Alignment	Pipe Dia. (inches)	Geosynthetic Material Type RR (SY)		Riprap Grade I (CY)		Riprap Grade II (CY)	
			LT	RT	LT	RT	LT	RT
263+11	ND Hwy 200	24		12		8		
386+56	ND Hwy 200	72		50				42
403+86	ND Hwy 200	30		14		10		
434+43	ND Hwy 200	24		12		8		
514+08	ND Hwy 200	138		66		44		
632+92	ND Hwy 200	72		50		34		
877+65	ND Hwy 200	72	50		34			
Total			254		138		42	

Culvert Diameter (inches)	Geosynthetic Material Type RR (SY)	Riprap Grade I (CY)	Riprap Grade II (CY)
24	12	8	
30	14	10	
72 (Grade I)	50	34	
72 (Grade II)	50		42
138	66	44	

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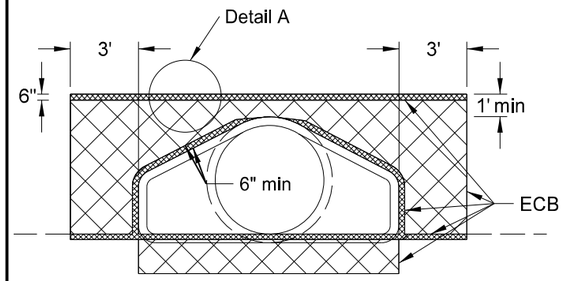
Detail

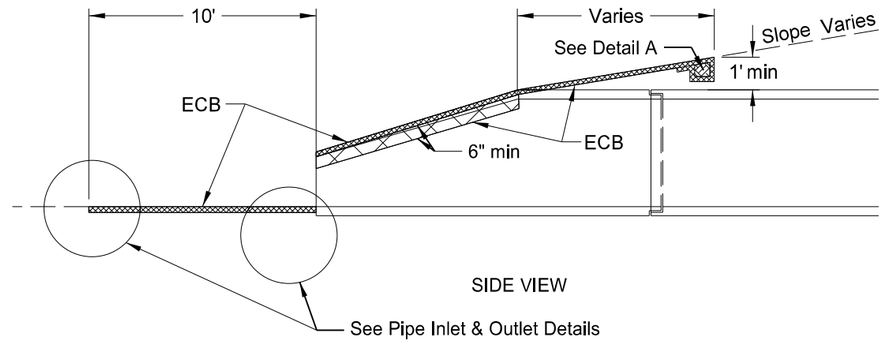
Riprap at Pipe Outlets

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

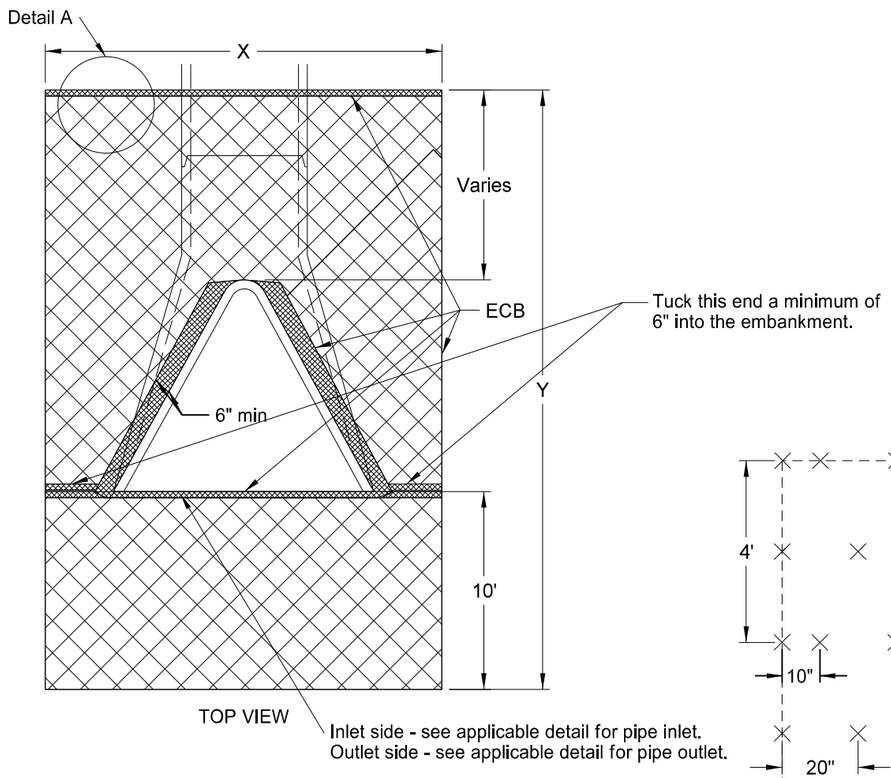
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	20	15



FRONT VIEW

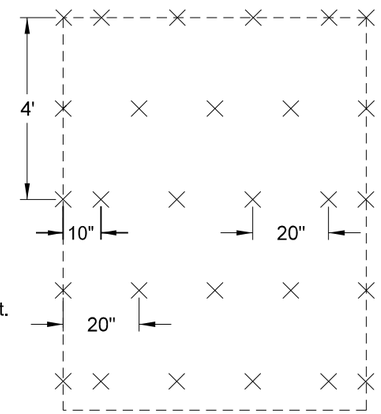


SIDE VIEW



TOP VIEW

NOTE: Tuck the ECB a minimum of 6" into the embankment (against the flared end section) around the opening of the flared end section.



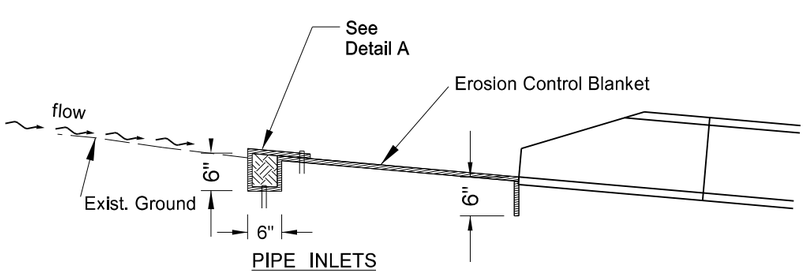
STAPLE PATTERN

CENTERLINE CULVERTS				
Dia	X	Y	Surface area to be protected	ECB
(Inch)	(Ft)	(Ft)	(SF)	(SY)
24	10.5	22.0	231.0	26
30	11.6	24.0	278.0	31
36	12.7	26.0	329.3	37
42	13.3	28.0	372.4	42
48	13.8	30.0	415.0	47
54	14.4	32.0	461.3	52
60	14.8	34.0	504.3	57
66	15.4	36.0	555.0	62
72	15.5	38.0	590.6	66
96	14.0	46.0	644.0	72
138	17.5	60.0	1050.0	117

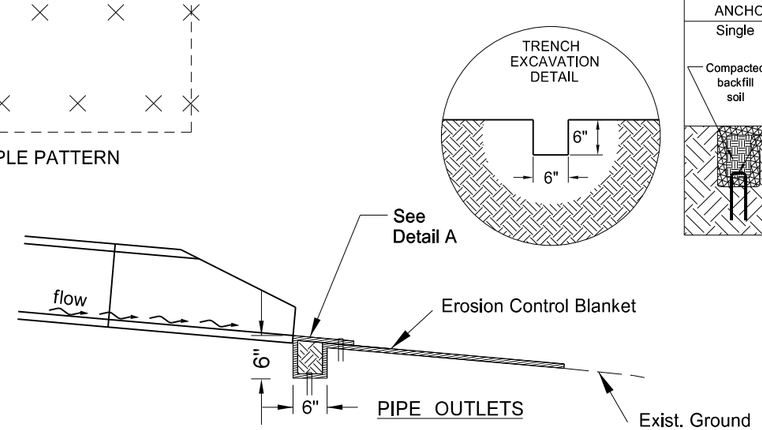
Note: Quantities based on 4:1 slope

APPROACH CULVERTS				
Dia	X	Y	Surface area to be protected	ECB
(Inch)	(Ft)	(Ft)	(SF)	(SY)
18	9.4	24.0	226.0	26
24	10.5	26.0	273.0	31
36	12.7	30.0	380.0	43

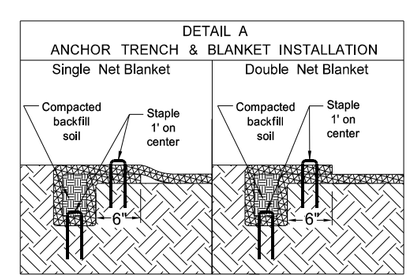
Note: Quantities based on 8:1 slope



PIPE INLETS



PIPE OUTLETS



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Erosion Control at Culvert End Sections

ND Hwy 200
Major Rehabilitation
RP 4.200 TO RP 18.285

Spec	Code	Bid Item	Qty	Unit
255	0103	ECB Type 3		
		Total	1531	SY

CENTERLINE CULVERTS ECB							
Location to be Protected	Culvert Type	Pipe Diam	Unit Quantity	Total Quantity			
				Type 1	Type 2	Type 3	Type 4
Station	Appr/CL	(Inch)	(SY)	(SY)	(SY)	(SY)	(SY)
227+97 RT	CL	36	37			37	
254+08 RT	CL	30	31			31	
254+19 RT	CL	30	31			31	
284+71 RT	CL	36	37			37	
292+11 RT	CL	24	26			26	
311+70 RT	CL	60	57			57	
323+71 RT	CL	24	26			26	
327+46 RT	CL	36	37			37	
327+56 RT	CL	36	37			37	
336+68 RT	CL	36	37			37	
350+19 RT	CL	48	47			47	
371+67 RT	CL	30	31			31	
381+36 RT	CL	30	31			31	
384+97 RT	CL	36	37			37	
395+48 RT	CL	24	26			26	
420+49 RT	CL	72	66			66	
426+92 RT	CL	30	31			31	
430+45 RT	CL	24	26			26	
452+09 RT	CL	60	57			57	
471+21 RT	CL	24	26			26	
485+14 RT	CL	72	66			66	
490+02 RT	CL	24	26			26	
493+25 RT	CL	24	26			26	
							Centerline Culverts Continued

CENTERLINE CULVERT ECB *(Continued)*							
Location to be Protected	Culvert Type	Pipe Diam	Unit Quantity	Total Quantity			
				Type 1	Type 2	Type 3	Type 4
Station	Appr/CL	(Inch)	(SY)	(SY)	(SY)	(SY)	(SY)
499+51 RT	CL	60	57			57	
527+02 RT	CL	24	26			26	
553+36 RT	CL	102	47			47	
558+11 RT	CL	24	26			26	
570+93 RT	CL	30	31			31	
584+28 RT	CL	30	31			31	
589+39 RT	CL	30	31			31	
596+07 RT	CL	24	26			26	
615+41 RT	CL	96	47			47	
649+44 RT	CL	30	31			31	
708+68 LT	CL	24	26			26	
708+75 LT	CL	24	26			26	
719+76 LT	CL	24	26			26	
733+06 LT	CL	24	26			26	
775+07 RT	CL	24	26			26	
815+28 LT	CL	72	66			66	
825+18 RT	CL	24	26			26	
893+04 RT	CL	24	26			26	
907+04 LT	CL	30	31			31	
931+12 LT	CL	48	47			47	
944+42 Lt	CL	36	37			37	
Total			1568			1568	

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Note: See Section 20, Erosion Control at Culvert End Sections

Erosion Control Blankets on Centerline Culverts

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

APPROACH CULVERT ECB							
Location to be Protected	Culvert Type	Pipe Diam	Unit Quantity	Total Quantity			
				Type 1	Type 2	Type 3	Type 4
Station	Appr/CL	(Inch)	(SY)	(SY)	(SY)	(SY)	(SY)
227+36 LT	Appr	24	31			31	
243+80 LT	Appr	24	31			31	
244+41 RT	Appr	24	31			31	
255+31 RT	Appr	18	26			26	
268+45 LT	Appr	18	26			26	
271+47 LT	Appr	18	26			26	
287+35 LT	Appr	24	31			31	
287+69 RT	Appr	24	31			31	
291+15 RT	Appr	24	31			31	
306+16 LT	Appr	24	31			31	
312+48 RT	Appr	24	31			31	
319+75 LT	Appr	18	26			26	
319+97 RT	Appr	18	26			26	
327+77 RT	Appr	18	26			26	
352+00 LT	Appr	24	31			31	
355+19 RT	Appr	18	26			26	
369+10 LT	Appr	18	26			26	
413+33 RT	Appr	18	26			26	
413+35 LT	Appr	18	26			26	
424+99 RT	Appr	18	26			26	
440+26 RT	Appr	18	26			26	
456+00 LT	Appr	18	26			26	
456+02 RT	Appr	18	26			26	
469+30 LT	Appr	18	26			26	
469+47 RT	Appr	18	26			26	
483+17 LT	Appr	36	43			43	
483+17 LT	Appr	36	43			43	
492+70 LT	Appr	18	26			26	
510+08 LT	Appr	18	26			26	
518+68 RT	Appr	18	26			26	

Approach Culverts Continued

APPROACH CULVERT ECB *(Continued)*							
Location to be Protected	Culvert Type	Pipe Diam	Unit Quantity	Total Quantity			
				Type 1	Type 2	Type 3	Type 4
Station	Appr/CL	(Inch)	(SY)	(SY)	(SY)	(SY)	(SY)
519+16 LT	Appr	18	26			26	
536+38 LT	Appr	18	26			26	
544+45 RT	Appr	18	26			26	
546+28 LT	Appr	18	26			26	
561+69 LT	Appr	18	26			26	
561+84 RT	Appr	18	26			26	
575+37 LT	Appr	18	26			26	
577+66 RT	Appr	18	26			26	
602+12 LT	Appr	18	26			26	
609+03 RT	Appr	18	26			26	
608+10 LT	Appr	18	26			26	
628+61 LT	Appr	18	26			26	
641+79 RT	Appr	18	26			26	
652+18 RT	Appr	18	26			26	
666+65 RT	Appr	18	26			26	
667+10 LT	Appr	18	26			26	
668+75 LT	Appr	18	26			26	
691+55 LT	Appr	18	26			26	
691+58 RT	Appr	18	26			26	
705+42 RT	Appr	18	26			26	
710+82 LT	Appr	18	26			26	
755+61 RT	Appr	18	26			26	
771+76 RT	Appr	18	26			26	
797+66 LT	Appr	18	26			26	
797+96 RT	Appr	18	26			26	
807+63 RT	Appr	18	26			26	
807+72 LT	Appr	18	26			26	

Approach Culverts Continued

APPROACH CULVERT ECB *(Continued)*							
Location to be Protected	Culvert Type	Pipe Diam	Unit Quantity	Total Quantity			
				Type 1	Type 2	Type 3	Type 4
Station	Appr/CL	(Inch)	(SY)	(SY)	(SY)	(SY)	(SY)
809+79 RT	Appr	18	26			26	
813+84 LT	Appr	18	26			26	
824+56 RT	Appr	18	26			26	
836+61 RT	Appr	24	31			31	
857+14 RT	Appr	18	26			26	
867+73 RT	Appr	18	26			26	
872+13 RT	Appr	18	26			26	
877+02 LT	Appr	36	43			43	
895+35 LT	Appr	24	31			31	
895+43 RT	Appr	18	26			26	
904+53 LT	Appr	18	26			26	
916+56 RT	Appr	18	26			26	
916+57 LT	Appr	18	26			26	
Total			1926			1926	

Spec	Code	Bid Item	Qty	Unit
255	0103	ECB Type 3		
		Total	1926	SY

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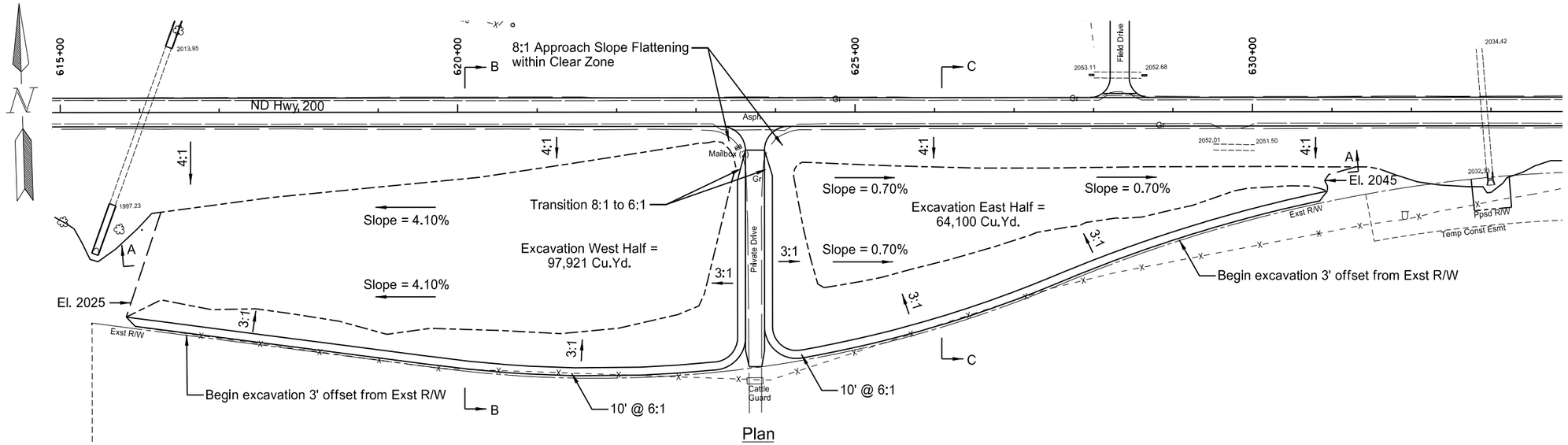
Note: See Section 20, Erosion Control at Culvert End Sections

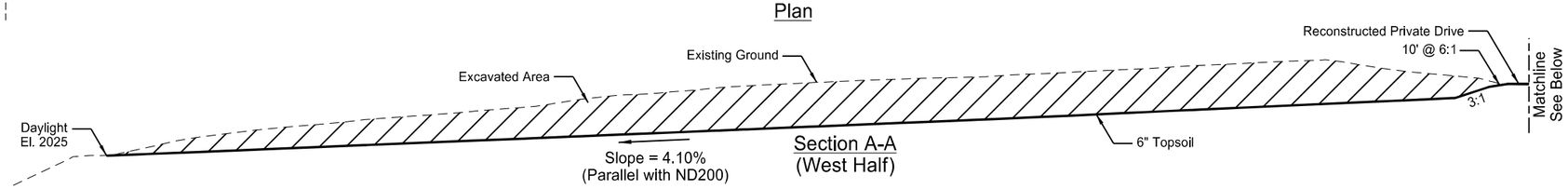
Erosion Control Blankets on Approach Culverts

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

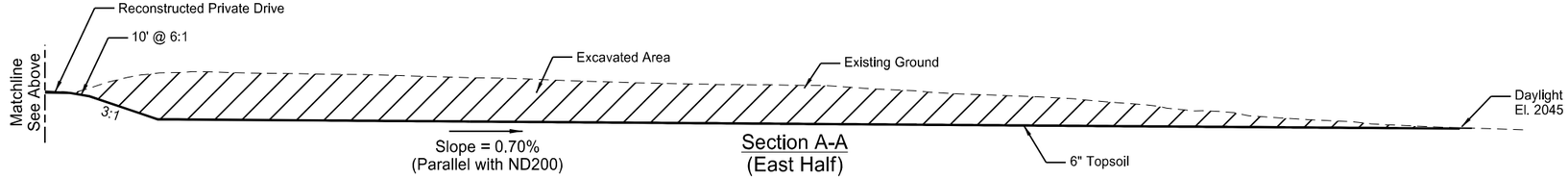
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	20	18



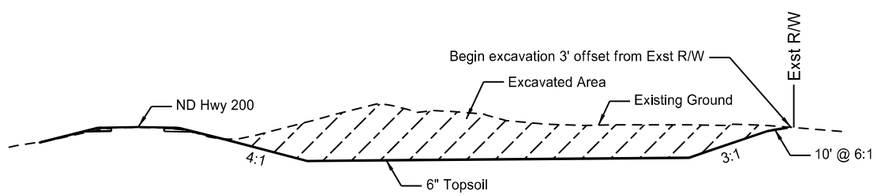
Plan



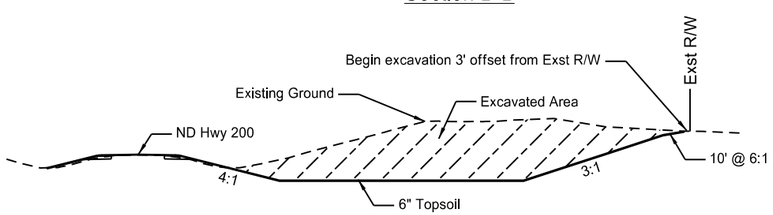
Section A-A (West Half)



Section A-A (East Half)



Section B-B



Section C-C

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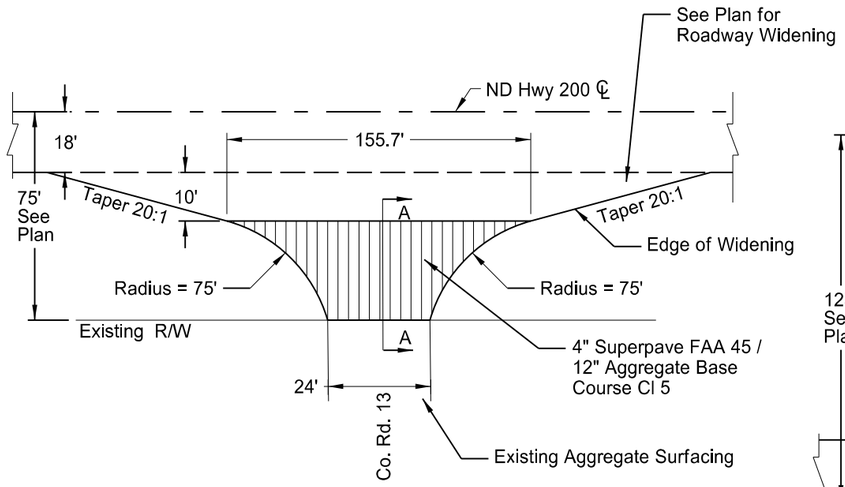
Common Excavation Site

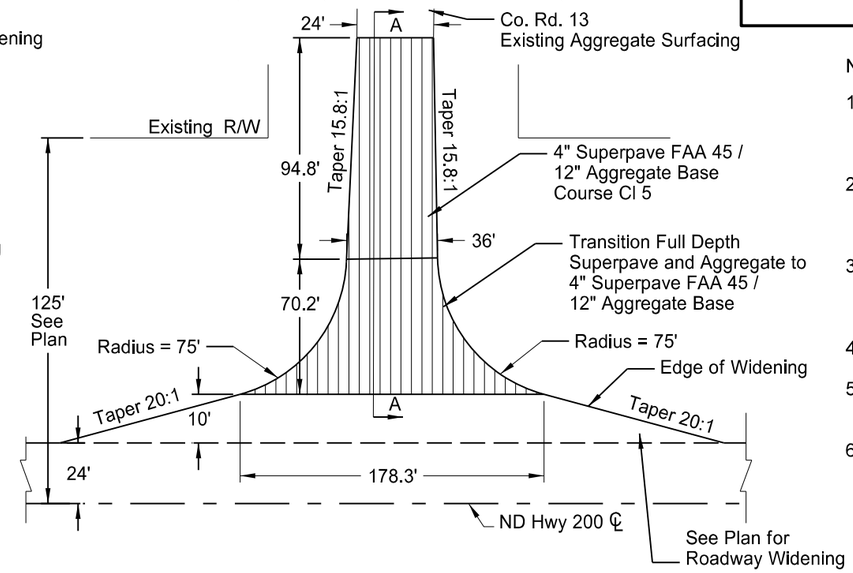
ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	20	19

Co. Rd. 13 (Sta. 732+39 Rt.)

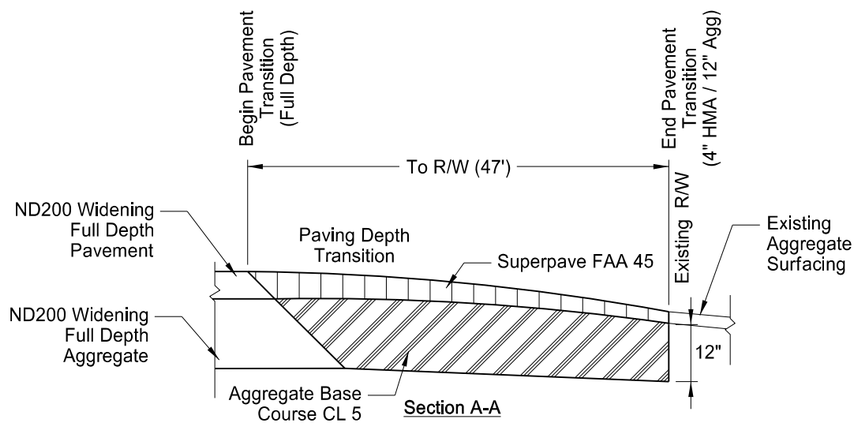


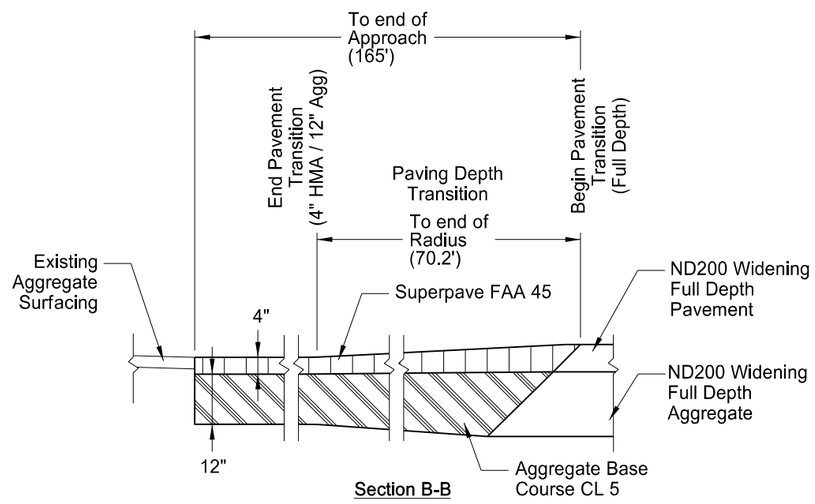
(147th Ave) Co. Rd. 13 (Sta. 772+05 Lt.)



Notes:

1. Actual HBP paving and Aggregate Base Course CL 5 locations may vary in the field, as approved by the Engineer.
2. Quantity totals shown on this sheet have been included in the bid items listing within Section 8 "Estimate of Quantities".
3. Paving and Aggregate quantities shown on this sheet are NOT included in those quantities shown on Section 90 sheets.
4. See Section 82 for additional layout information.
5. Taper new approach surfacing to match width of existing aggregate surfacing (road).
6. This detail applies to the following approaches only:
   Sta. 732+39 Rt (Co. Rd. 13)
   Sta. 772+05 Lt (147th Ave - Co. Rd. 13)





BASIS OF ESTIMATE				(1)	(2)	
SPEC	CODE	ITEM DESCRIPTION	UNIT	Sta. 732+39	Sta. 772+02	TOTALS
302	120	Aggregate Base Course Cl 5	TON	271	730.2	1001.2
401	50	Tack Coat	GAL	38	94	132
401	60	Prime Coat	GAL	90	234	324
401	160	Blotter Material CL 44	TON	2.7	7.0	9.7
430	6428	PG 64-28 Asphalt Cement	TON	5.8	14.4	20.2
430	45	Superpave FAA 45	TON	96.6	239.8	336.4

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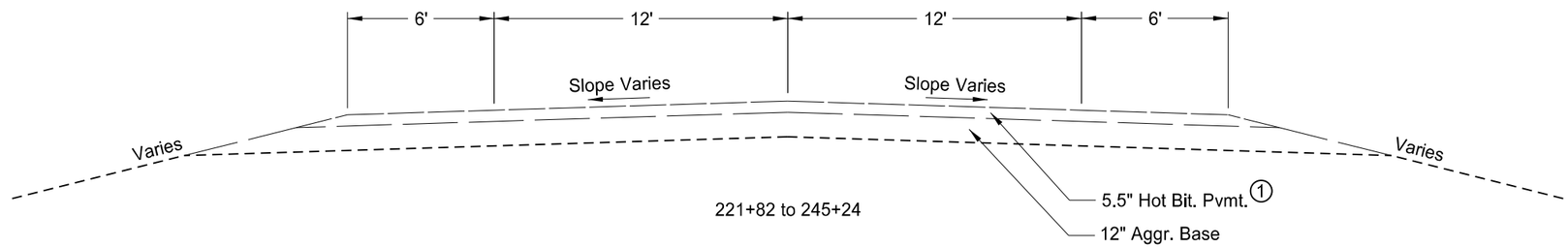
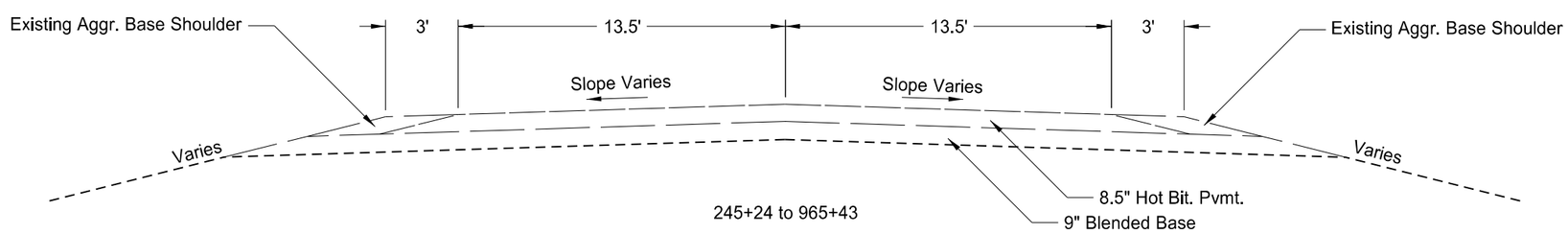
Co. Rd. 13 Approach Detail
Section Line, County Rd, Street

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	30	1



221+82 to 245+24



245+24 to 965+43

Notes:

1. During the 2015 construction year a 5" Superpave FAA 45 overlay was placed on top of the existing 5.5" hot bituminous pavement along a portion of the ND200 roadway. The design depth of the overlay was 5" at Station 221+82, transitioning to 0" at Station 224+32 (Not Shown).

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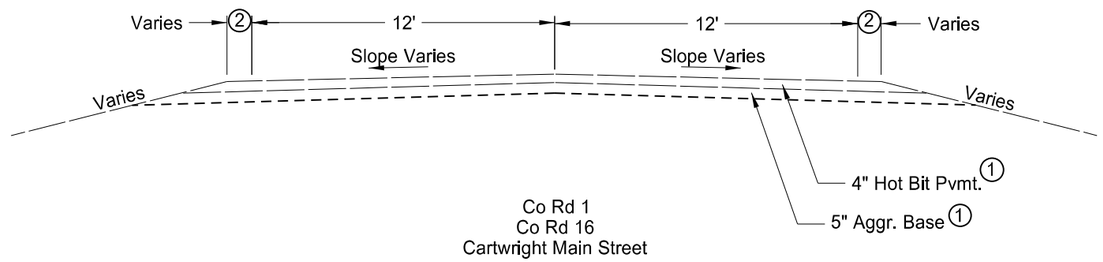
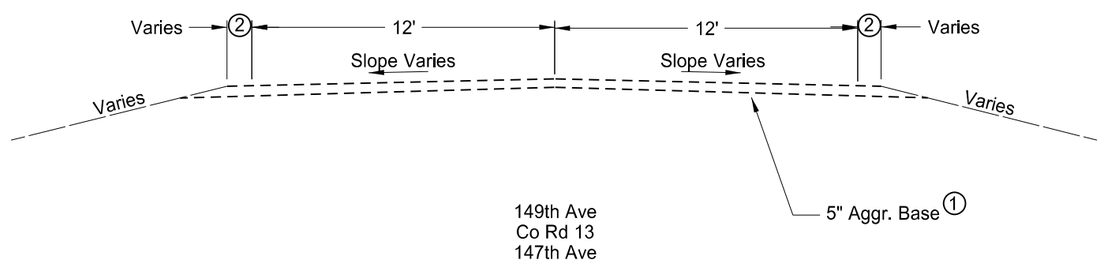
ND Hwy 200
Existing Typical Sections

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	30	2





Notes:

1. Thickness of existing surfacing materials of County Roads and Cartwright Main Street are based on current County design Standards. Actual thickness may vary.
2. Varies from 1 to 4 feet.

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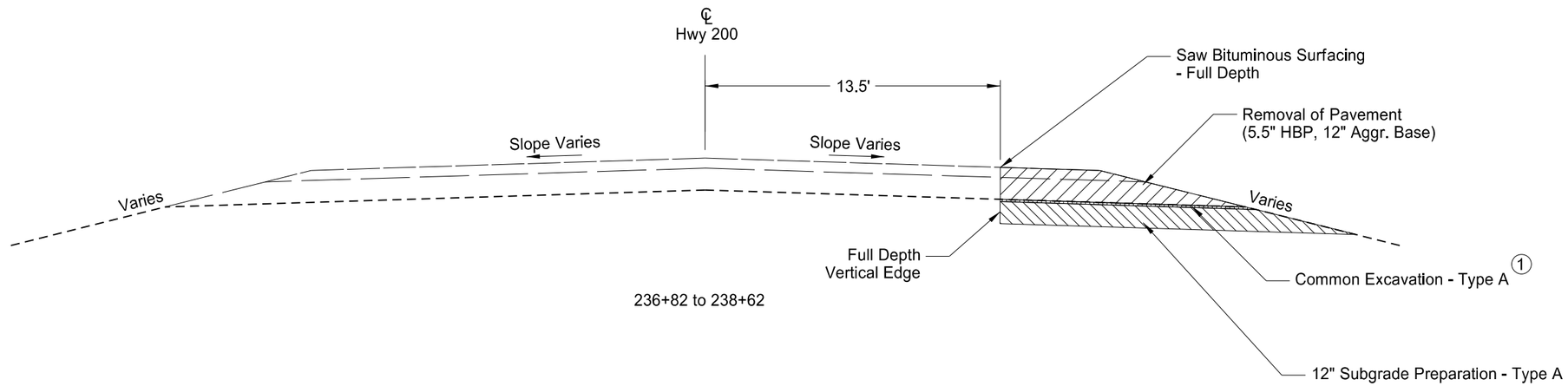
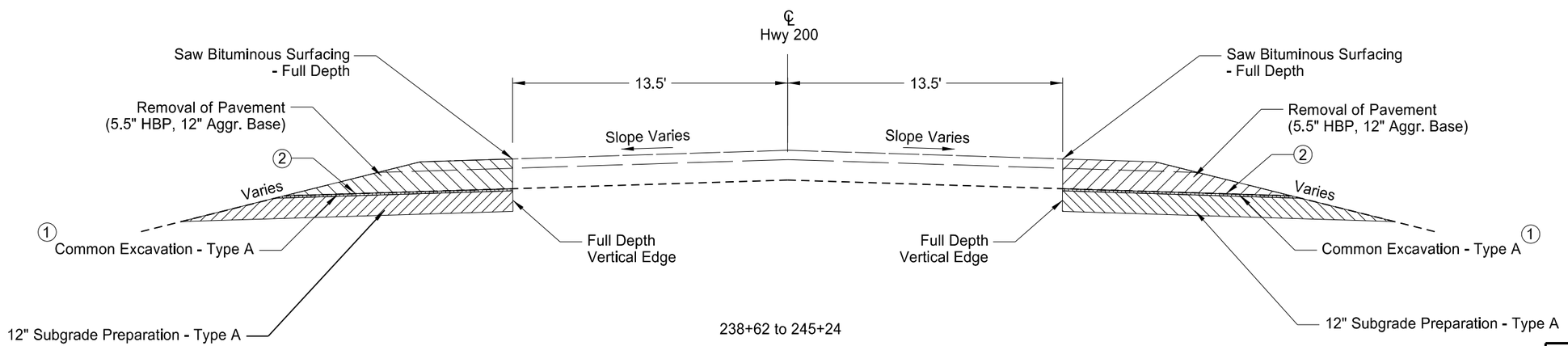
County Roads and Cartwright Main St.
Existing Typical Sections

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	30	3



236+82 to 238+62



238+62 to 245+24

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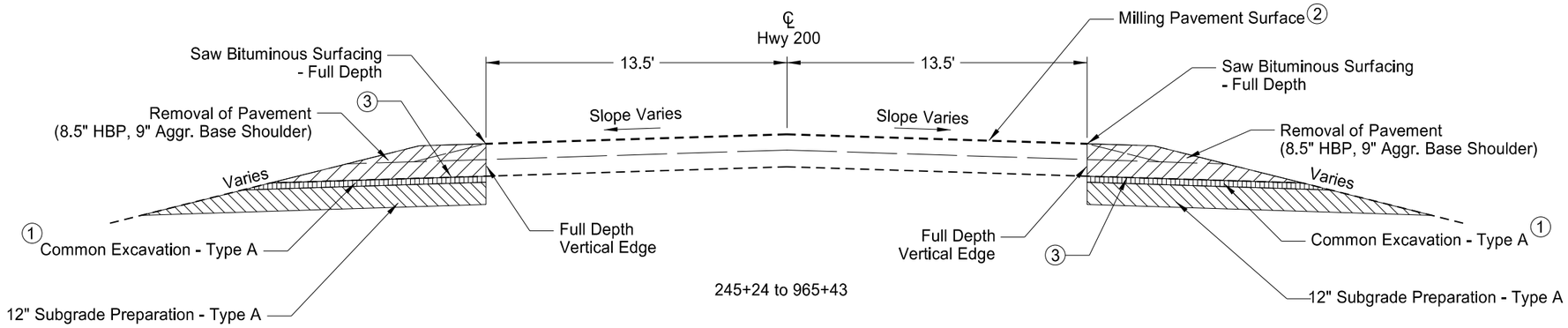
Notes:

1. Depth of excavation may vary to attain required depth to subgrade.
2. Slope of excavation to match design cross slope.

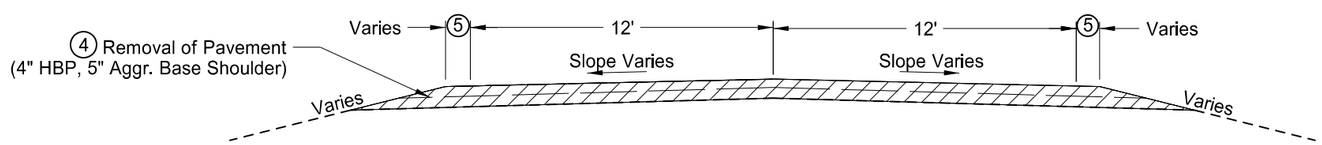
Removals Typical Sections

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	30	4



245+24 to 965+43



2+00 to 4+58 (County Road 1)
5+53 to 6+77 (County Road 16)
Cartwright Main Street

Notes:

1. Depth of excavation may vary to attain required depth to subgrade.
2. Refer to Section 11, Milling & Paving Depths for anticipated milling depths and locations.
3. Slope of excavation to match design cross slope.
4. Thickness of existing surfacing materials of County Roads and Cartwright Main Street are based on current County design Standards. Actual thickness may vary.
5. Varies from 1 to 4 feet.

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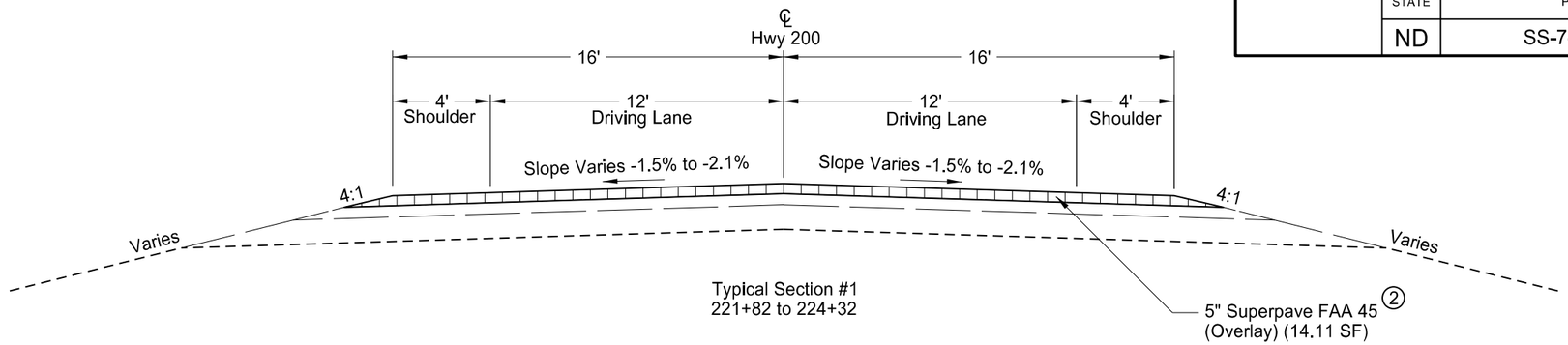
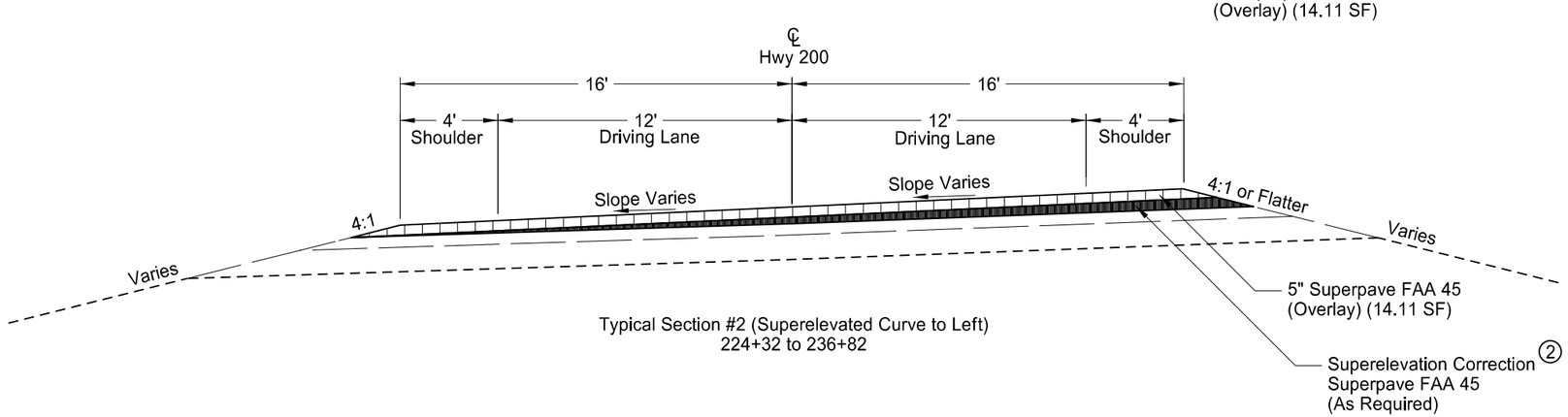
Removals Typical Sections

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

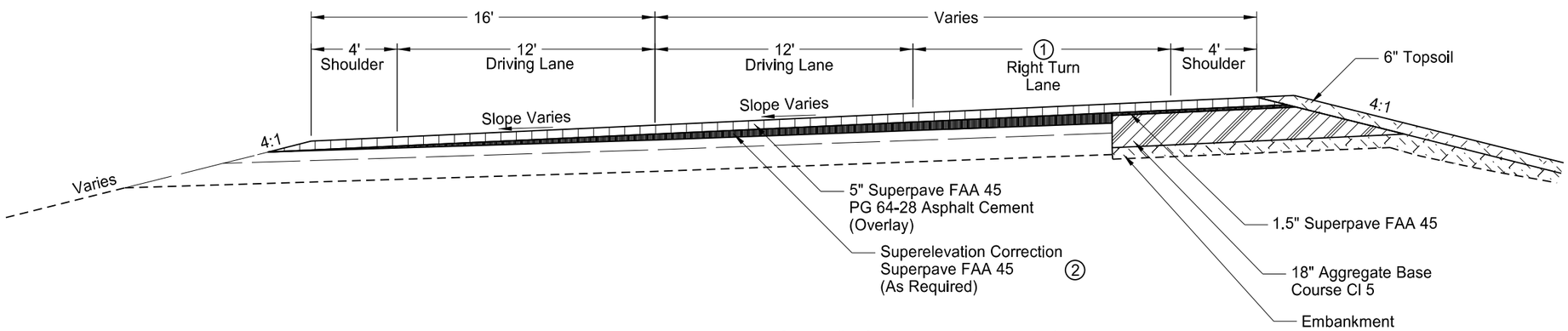
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SS-7-200(016)004	30	5



Typical Section #1
221+82 to 224+32



Typical Section #2 (Superelevated Curve to Left)
224+32 to 236+82



Typical Section #3 (Superelevated Curve to Left)
236+82 to 238+62

Notes:

① Transition 0' to 12' from Sta 236+86 to Sta 238+66

② Correct existing cross slopes prior to overlay or final pavement lift. Refer to Section 11, Milling and Paving Depths for anticipated cross slope correction areas and pavement depths.

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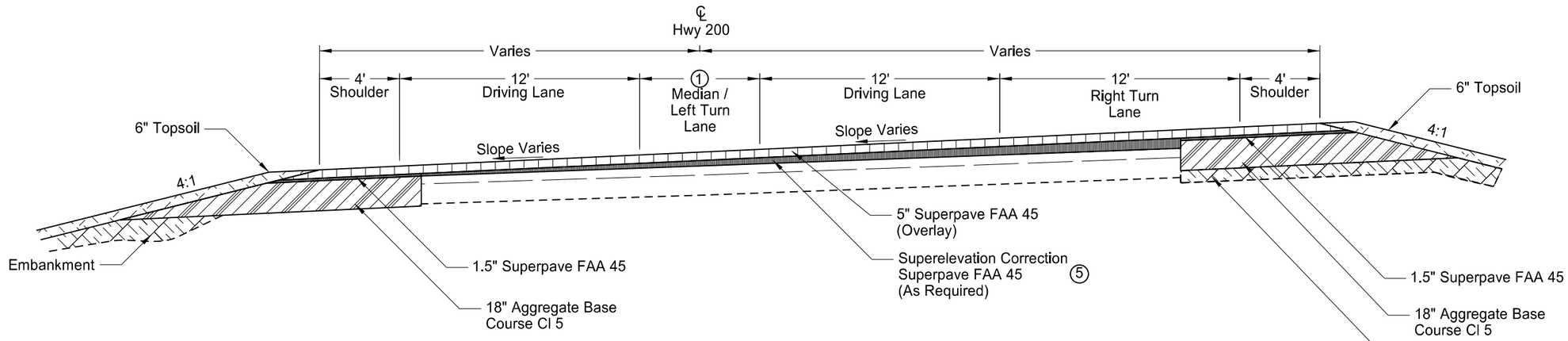
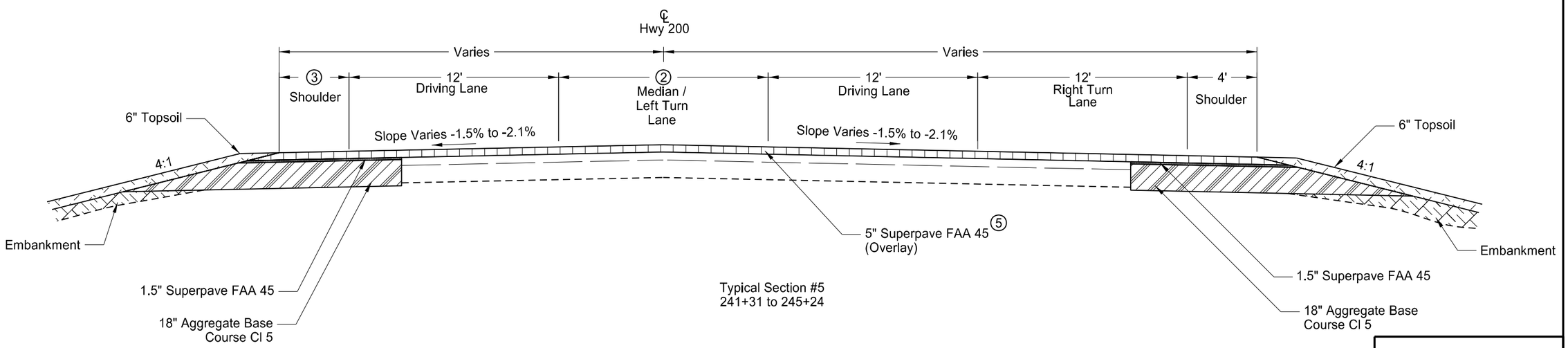
ND Hwy 200
Proposed Typical Sections

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	30	6



Typical Section #4 (Superelevated Curve to Left)
238+62 to 241+31



Typical Section #5
241+31 to 245+24

Notes:

① Transition 0' to 4.0' from Sta 240+02 to Sta 241+31

② Transition 4.0' to 12' from Sta 241+31 to Sta 243+92
12' from Sta 243+92 to Sta 245+24

③ Transition 4' to 6' from Sta 241+31 to Sta 243+92
6' from Sta 243+92 to Sta 245+24

④ Embankment as required due to superelevation correction.

⑤ Correct existing cross slopes prior to overlay or final pavement lift.
Refer to Section 11, Milling and Paving Depths for anticipated
cross slope correction areas and pavement depths.

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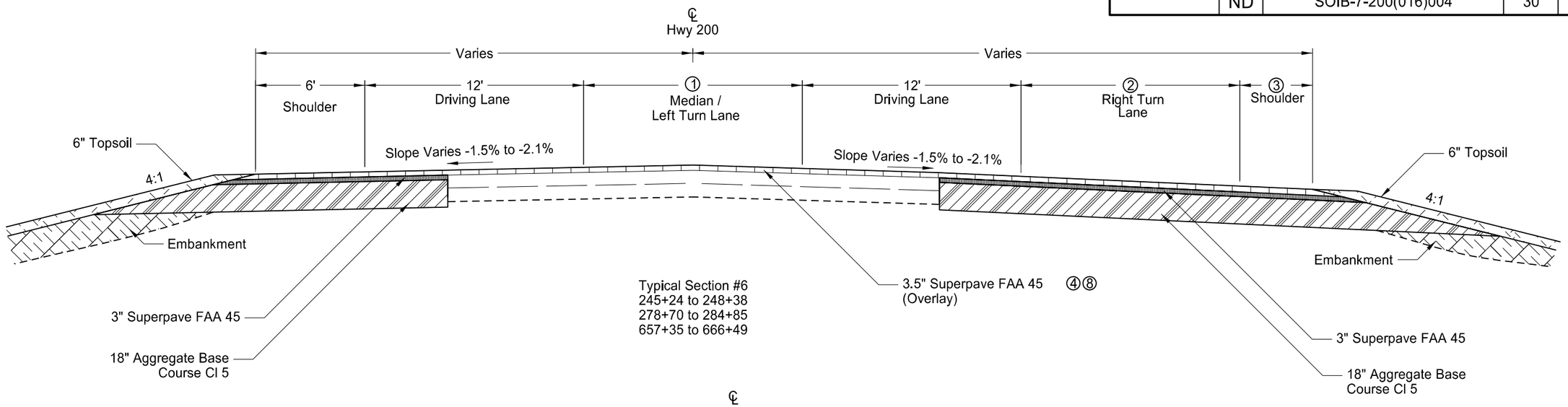
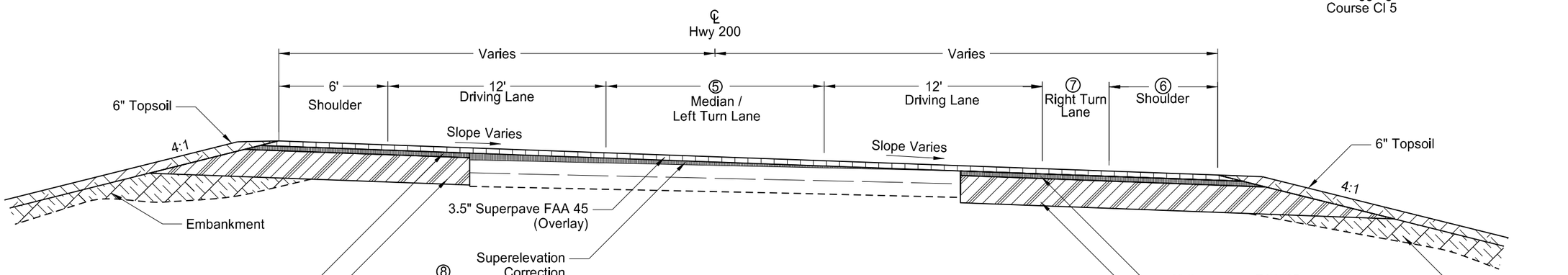
ND Hwy 200
Proposed Typical Sections

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	30	7



Typical Section #6
245+24 to 248+38
278+70 to 284+85
657+35 to 666+49



Typical Section #7 (Superelevated Curve to Right)
248+38 to 258+52

Notes:

① 12' unless noted otherwise
Transition 10.1' to 12' from Sta 278+70 to Sta 280+50
Transition 10.1' to 12' from Sta 657+35 to Sta 659+15

② 12' unless noted otherwise
Transition 12' to 0' from Sta 245+99 to Sta 248+38
Transition 0' to 12' from Sta 280+22 to Sta 282+02
Transition 0' to 12' from Sta 658+83 to Sta 660+63

③ 4' Unless noted otherwise
Transition 4' to 5.9' from Sta 247+99 to 248+38
Transition 6' to 4' from Sta 280+22 to Sta 280+52
Transition 6' to 4' from Sta 658+83 to Sta 659+13

④ Transition from 5" to 3.5" overlay from
Sta 245+24 to 245+99

⑤ 12' from Sta 248+38 to 252+34
Transition 12' to 10.1' from Sta 252+34 to Sta 254+14
Transition 10.1' to 0' from Sta 254+14 to Sta 258+04
0' from Sta 258+04 to Sta 258+52

⑥ Transition 5.9' to 6.0' from Sta 248+38 to Sta 248+39
6' from Sta 248+39 to 258+52

⑦ Transition 0.1' to 0' from Sta 248+38 to Sta 248+39
0' from Sta 248+39 to Sta 258+52

⑧ Correct existing cross slopes prior to overlay or final lift.
Refer to Section 11, Milling and Paving Depths for anticipated cross slope correction areas and pavement depths.

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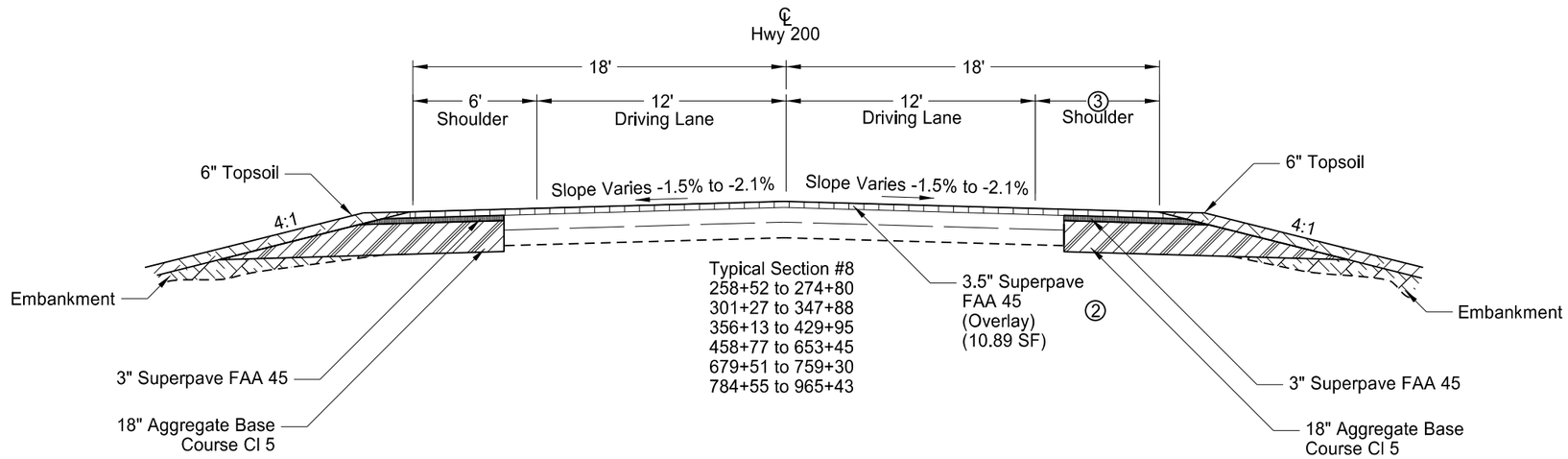
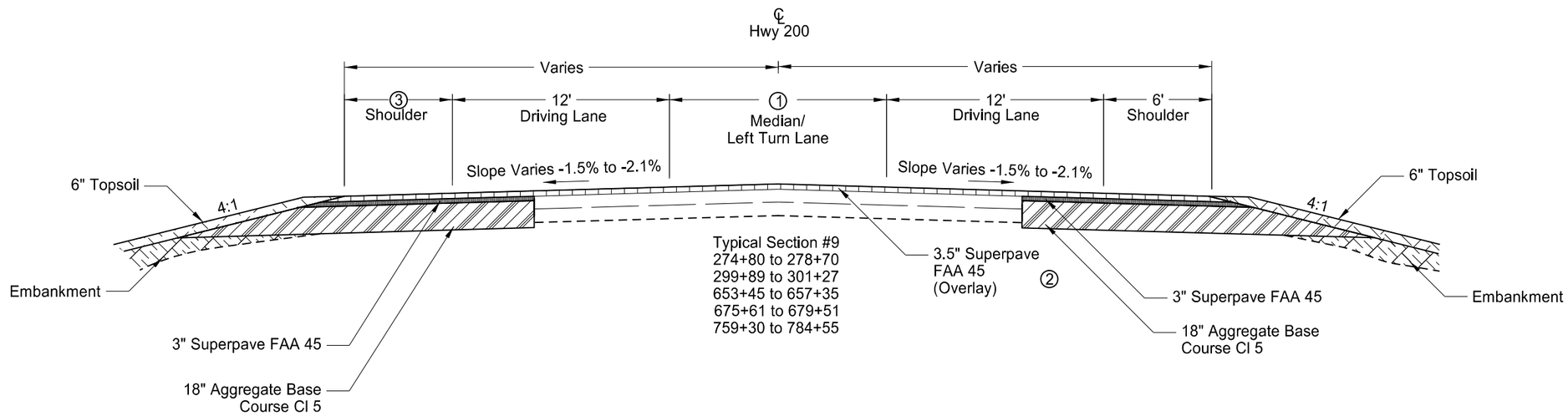
ND Hwy 200
Proposed Typical Sections

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	30	8





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Notes:

① Transition 0' to 10.1' from Sta 274+80 to 278+70
Transition 3.6' to 0' from Sta 299+89 to Sta 301+27
Transition 0' to 10.1' from Sta 653+45 to 657+35
Transition 10.1' to 0' from Sta 675+61 to 679+51
Transition 0' to 10.1' from Sta 759+30 to Sta 763+20
Transition 10.1' to 12' from Sta 763+20 to Sta 765+00
12' from Sta 765+00 to Sta 778+85
Transition 12' to 10.1' from Sta 778+85 to Sta 780+65
Transition 10.1' to 0' from Sta 780+65 to Sta 784+55

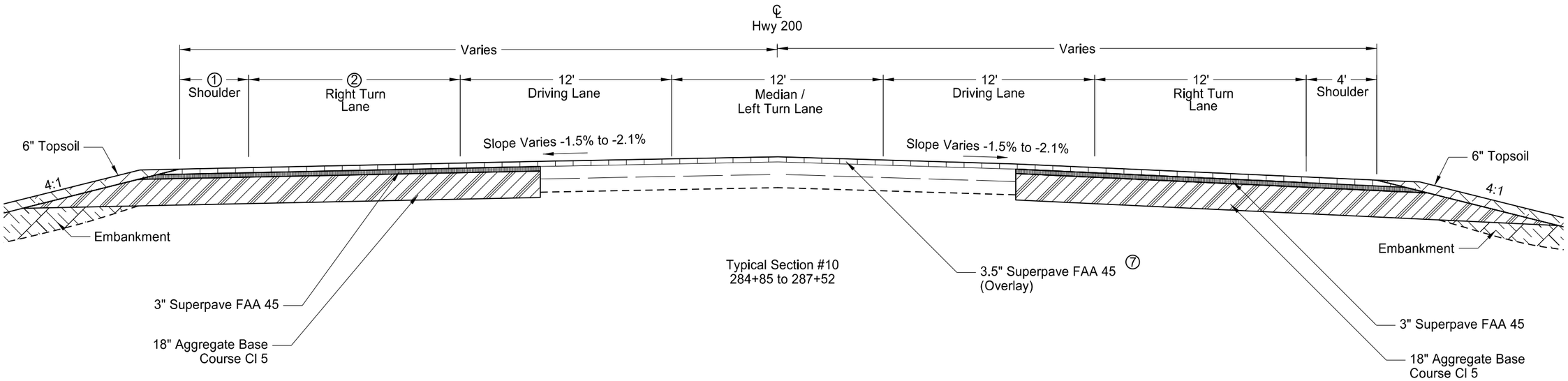
② Correct existing cross slopes prior to overlay or final lift.
Refer to Section 11, Milling and Paving Depths for anticipated cross slope correction areas and pavement depths.

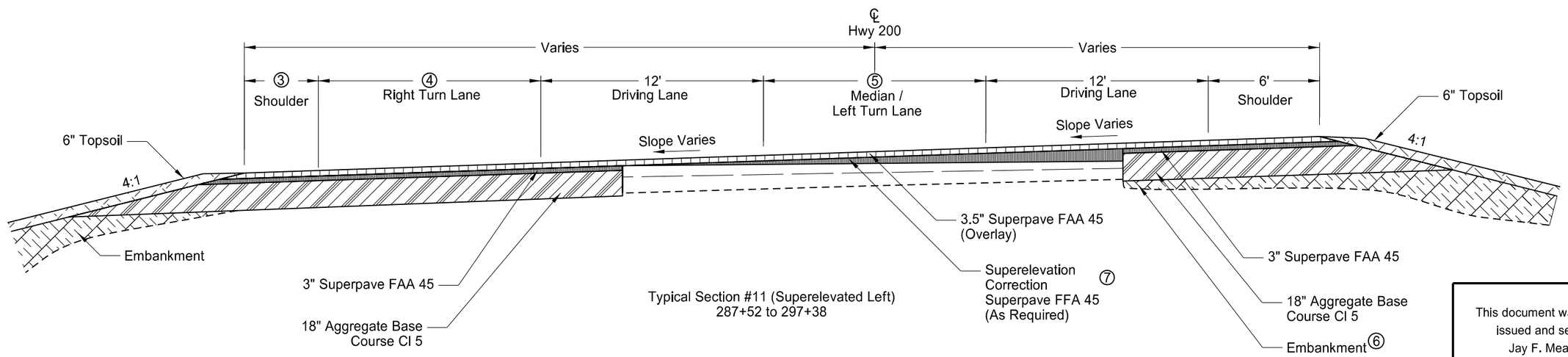
③ 6' unless noted otherwise.
Transition 6' to 16' from Sta 729+61 to Sta 731+61
16' from Sta 731+60 to Sta 733+17
Transition 16' to 6' from Sta 733+17 to Sta 735+17
Transition 6' to 16' from Sta 769+12 to Sta 771+12
16' from Sta 771+12 to Sta 772+90
Transition 16' to 6' from Sta 772+90 to Sta 774+90

ND Hwy 200
Proposed Typical Sections

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	30	9





Notes:

① 4' Unless noted otherwise
Transition 6' to 4' Sta 284+85 to Sta 285+25

② 12' Unless noted otherwise
Transition 0' to 12' Sta 284+85 to Sta 287+25

③ 4' Unless noted otherwise
Transition 4' to 6' from Sta 294+57 to Sta 294+95
6' from Sta 294+95 to Sta 297+38

④ 12' Unless noted otherwise
Transition 12' to 0' from Sta 294+57 to 296+39

⑤ 12' Unless noted otherwise
Transition 12' to 10.1' from Sta 295+57 to Sta 297+38

⑥ Embankment as required due to superelevation correction.

⑦ Correct existing cross slopes prior to overlay or final lift.
Refer to Section 11, Milling and Paving Depths for anticipated cross slope correction areas and pavement depths.

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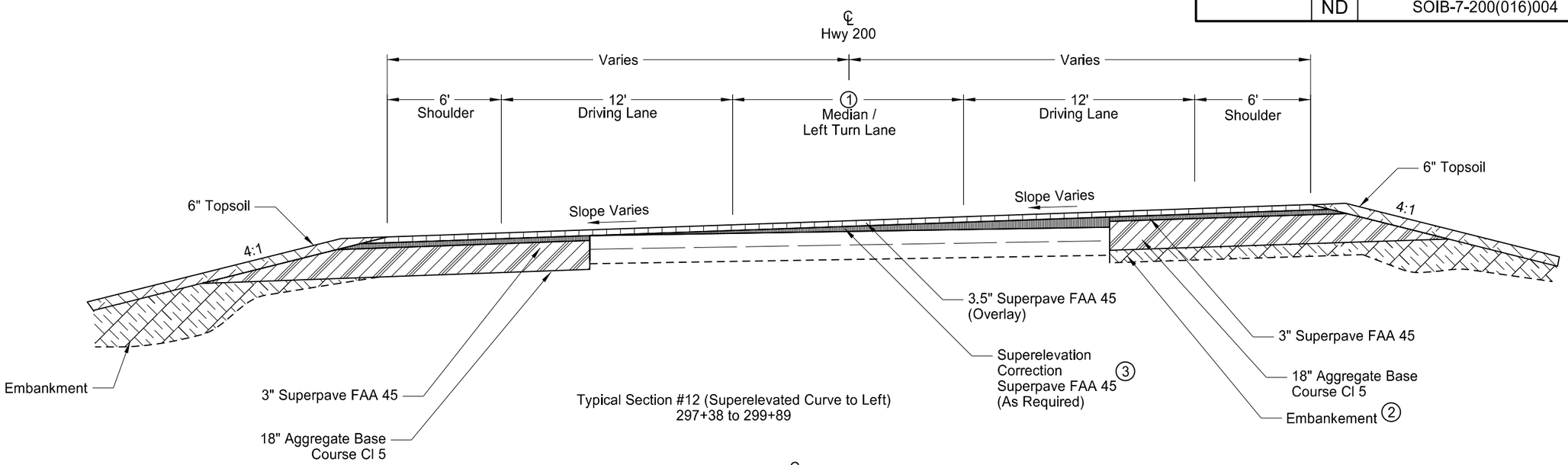
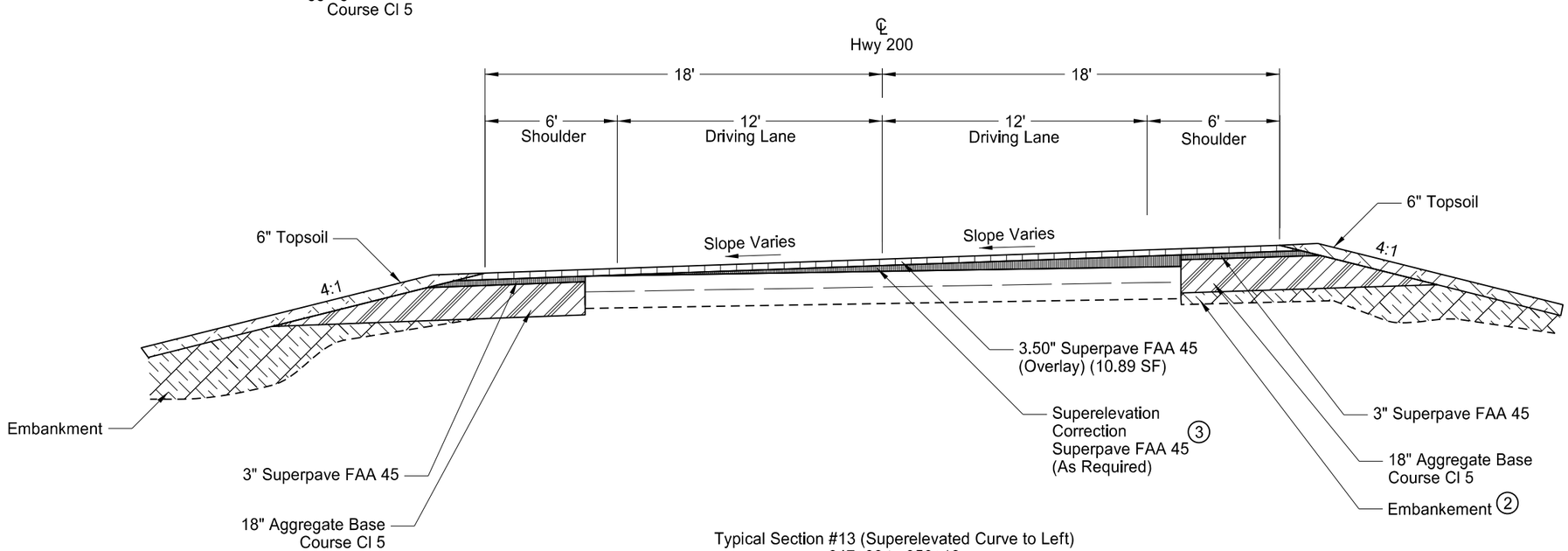
ND Hwy 200
Proposed Typical Sections

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	30	10



Typical Section #12 (Superelevated Curve to Left)
297+38 to 299+89



Typical Section #13 (Superelevated Curve to Left)
347+88 to 356+13

Notes:

1. Transition 10.1' to 3.6' from Sta 297+38 to 299+89
2. Embankment as required due to superelevation correction.
3. Correct existing cross slopes prior to overlay or final lift. Refer to Section 11, Milling and Paving Depths for anticipated cross slope correction areas and pavement depths.

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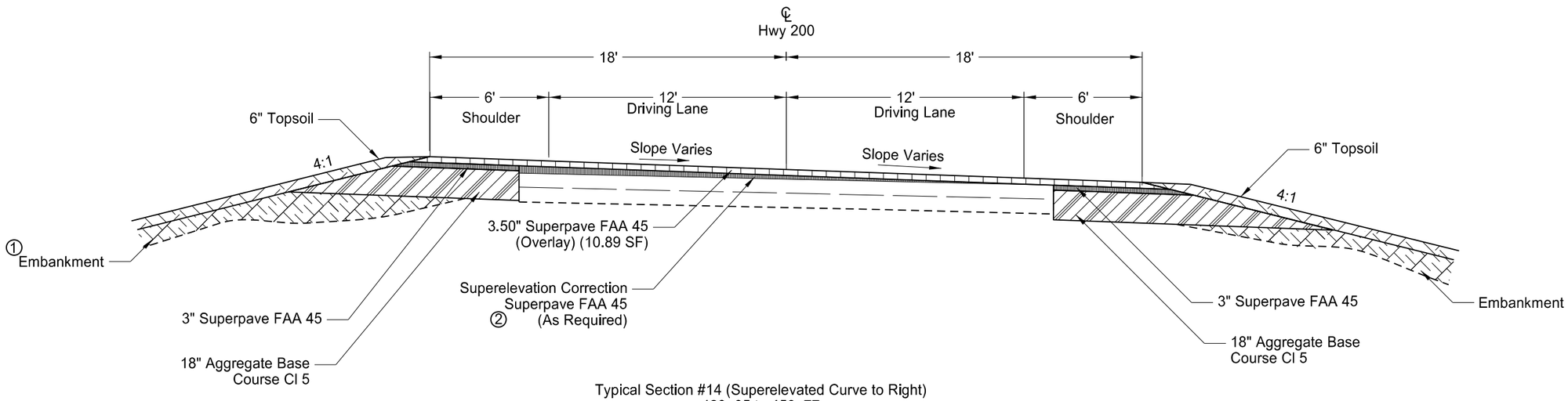
ND Hwy 200
Proposed Typical Sections

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	30	11



Typical Section #14 (Superelevated Curve to Right)
429+95 to 458+77

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Notes:

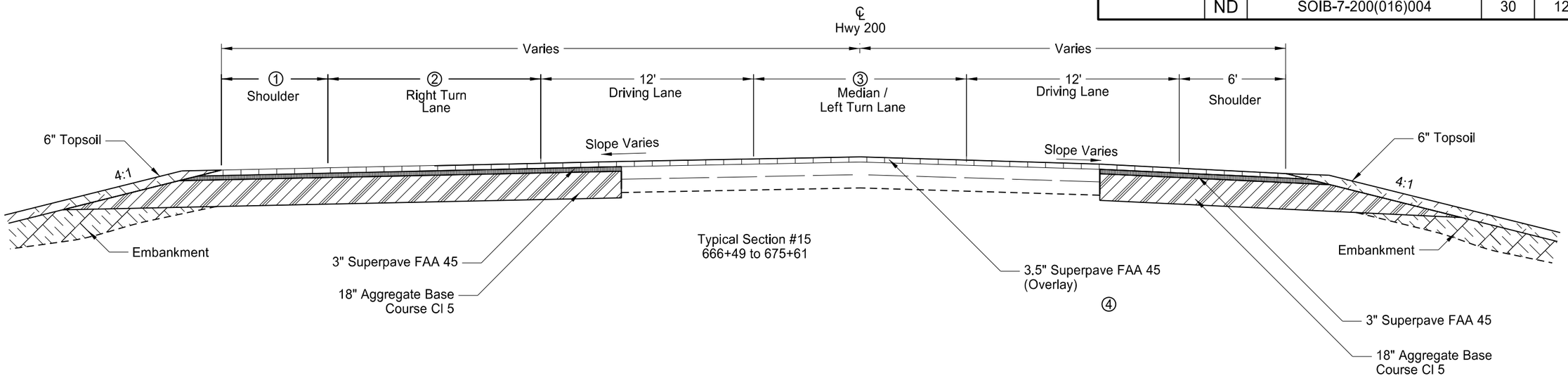
① Embankment as required due to superelevation correction.

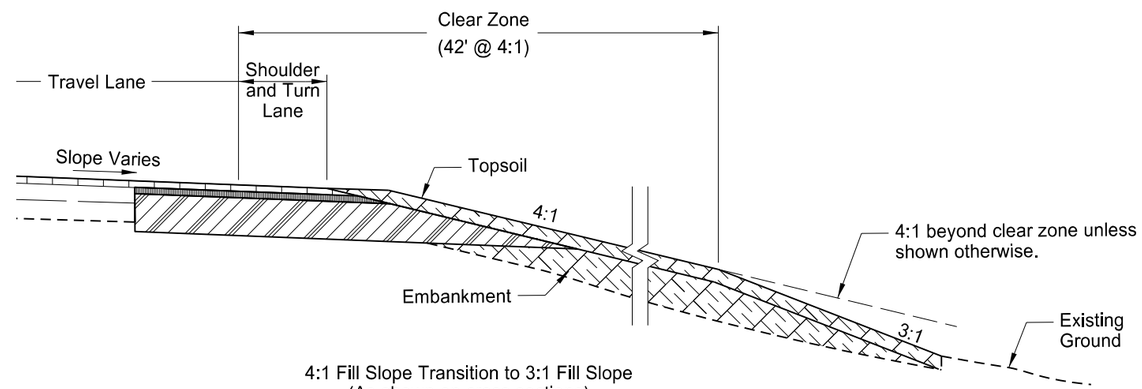
② Correct existing cross slopes prior to overlay or final lift. Refer to Section 11, Milling and Paving Depths for anticipated cross slope correction areas and pavement depths.

ND Hwy 200
Proposed Typical Sections

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	30	12





4:1 Fill Slope Transition to 3:1 Fill Slope
(As shown on cross sections)

Notes:

① 4' Unless noted otherwise
Transition 4' to 6' from Sta 673+85 to 674+15

② 12' Unless noted otherwise
Transition 12' to 0' from Sta 672+35 to Sta 674+15

③ 12' Unless noted otherwise
Transition 12' to 10.1' from Sta 673+81 to Sta 675+61

④ Correct existing cross slopes prior to overlay or final lift.
Refer to Section 11, Milling and Paving Depths for anticipated cross slope correction areas and pavement depths.

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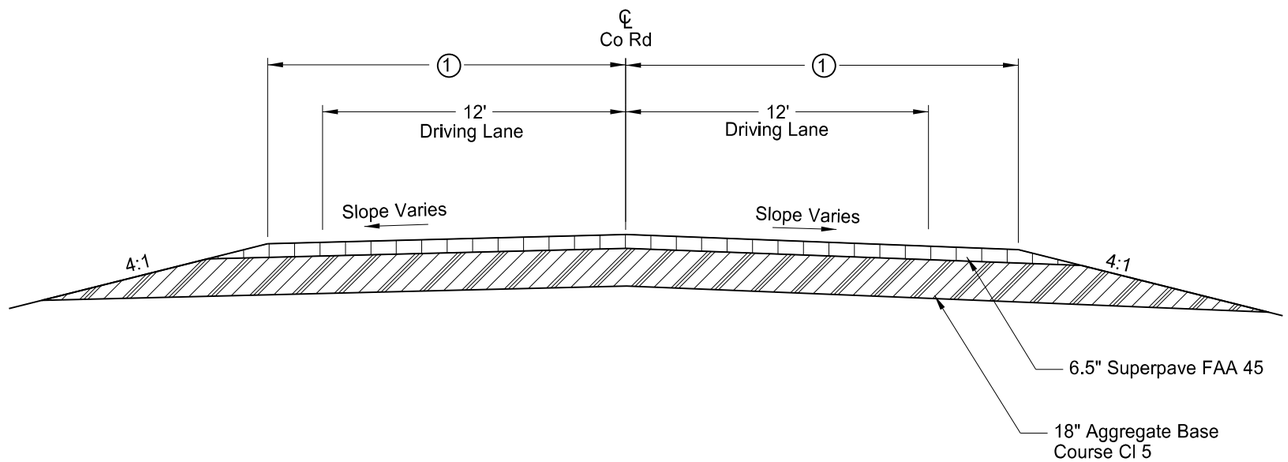
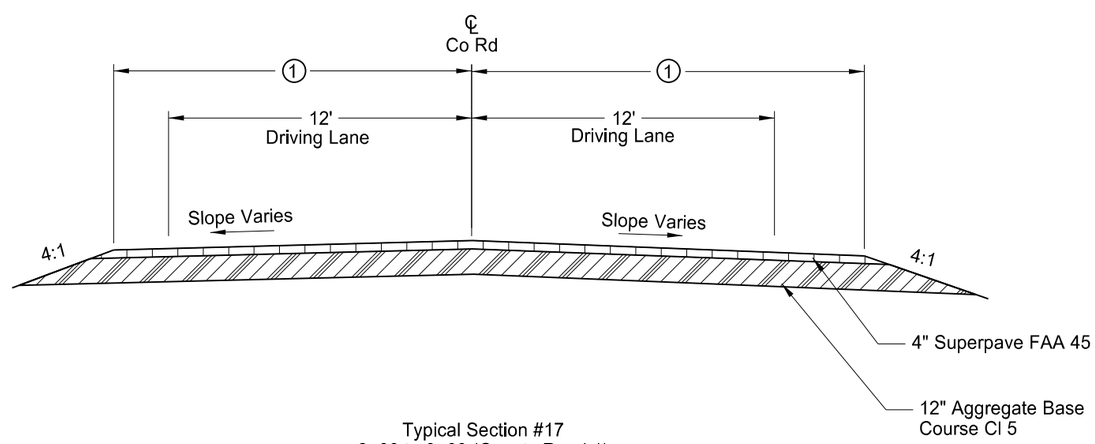
ND Hwy 200
Proposed Typical Sections

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	30	13



Typical Section #16
3+63 to 4+58 (County Road 1)
6+77 to 7+86 (County Road 16)



Typical Section #17
2+00 to 3+63 (County Road 1)
5+53 to 6+77 (County Road 16)
County Road 13

Notes:

1 Varies, See Section 82

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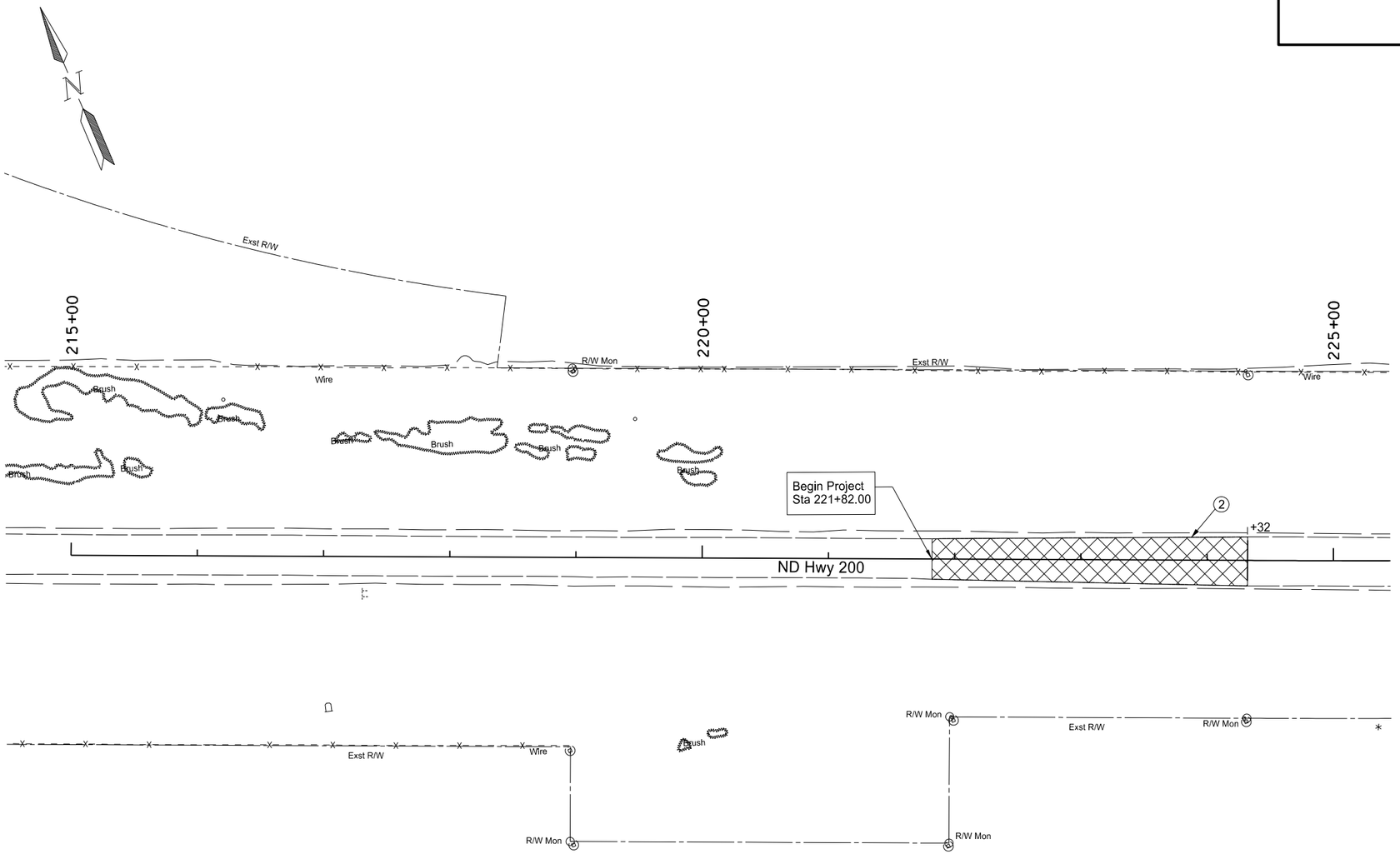
County Roads
Proposed Typical Sections

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	40	1

Spec	Code	Bit Item	Qty	Unit
411	0100	Milling Pavement Surface		
		Sta 221+82 to Sta 224+32	68.3	Ton



Legend

Saw Bituminous Surfacing - Full Depth

1 Removal of Pavement (Includes Asphalt Surfacing, Concrete Pavement, Aggregate)

2 Milling Pavement Surface See Section 20, Milling and Paving Transition #1

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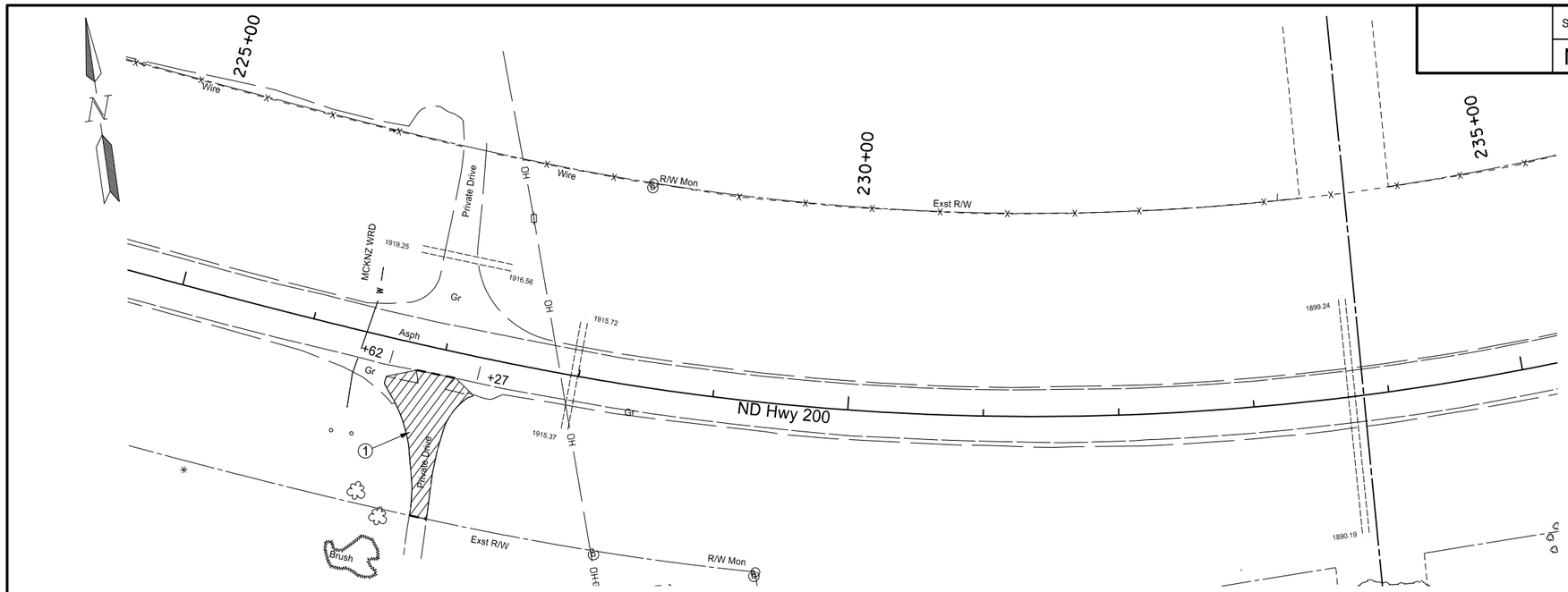
Removals

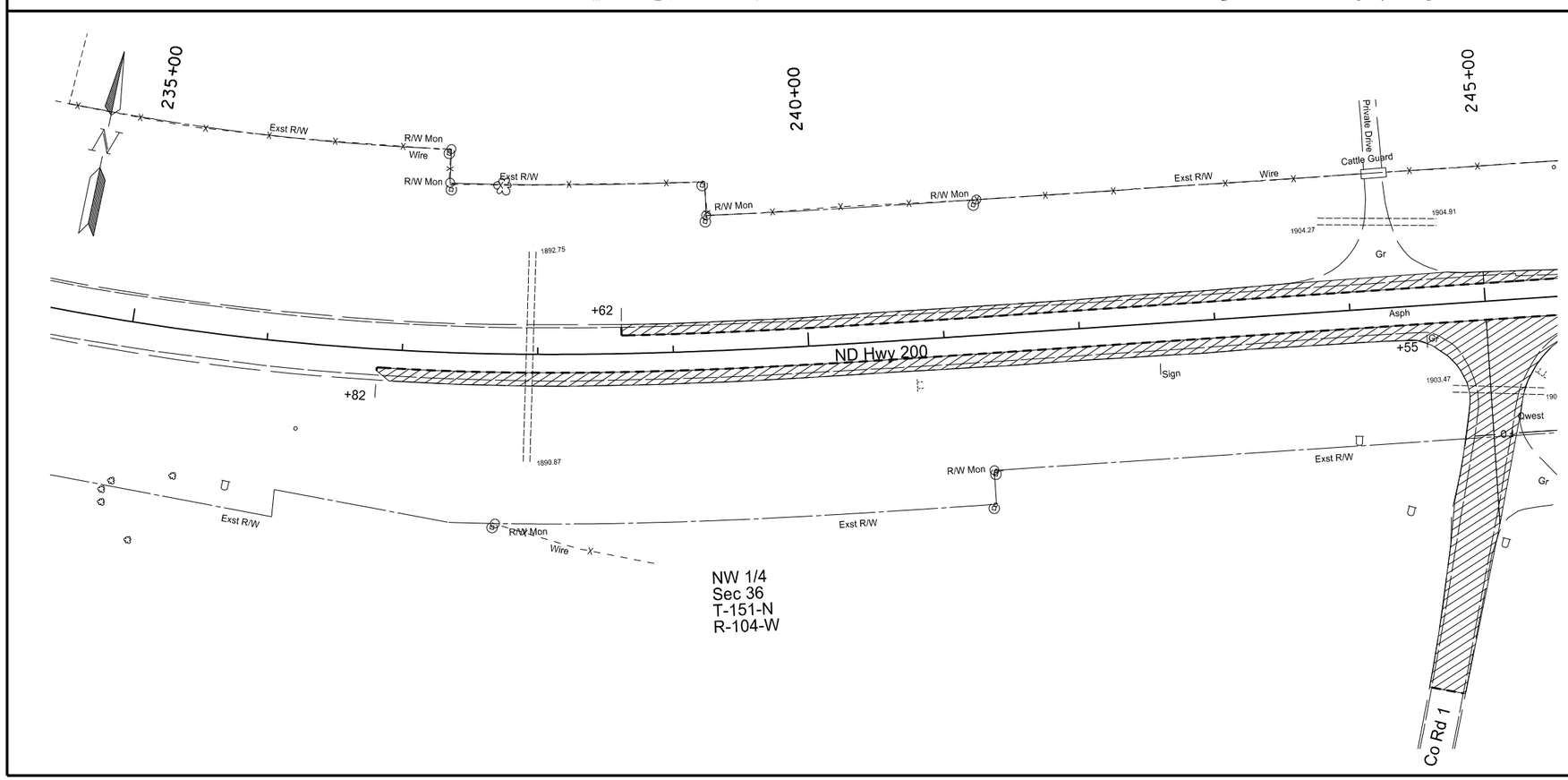
Sta 221+82 to Sta 225+00

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	40	2



Spec	Code	Bld Item	Qty	Unit
202	0136	Removal of Pavement		
		Sta 226+62 Rt to Sta 227+27 Rt	1.5	Ton
		Sta 236+82 Rt to Sta 245+00 Rt	702.7	Ton
		Sta 238+62 Lt to Sta 245+00 Lt	366.46	Ton
		Total	1070.6	Ton



NW 1/4
Sec 36
T-151-N
R-104-W

Legend

Saw Bituminous Surfacing - Full Depth

① Removal of Pavement (Includes Asphalt Surfacing, Concrete Pavement, Aggregate)

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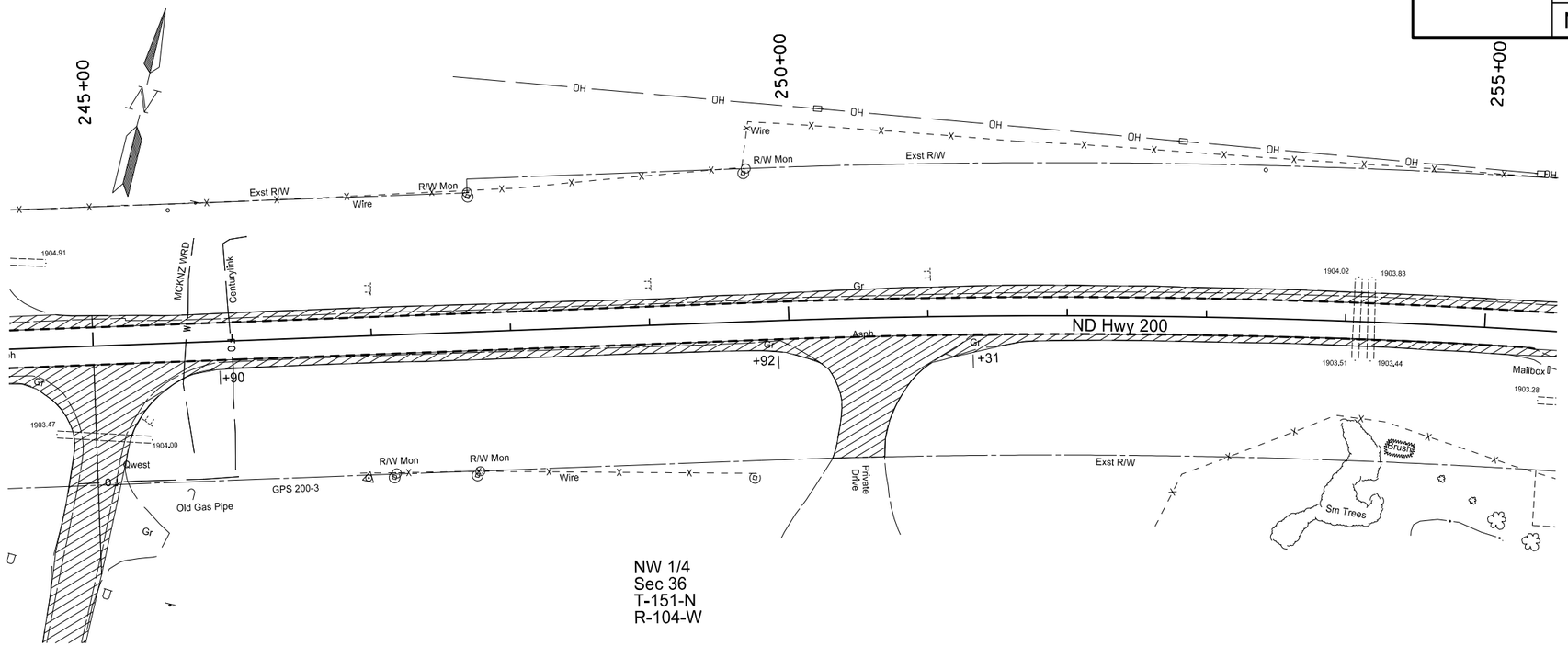
Removals

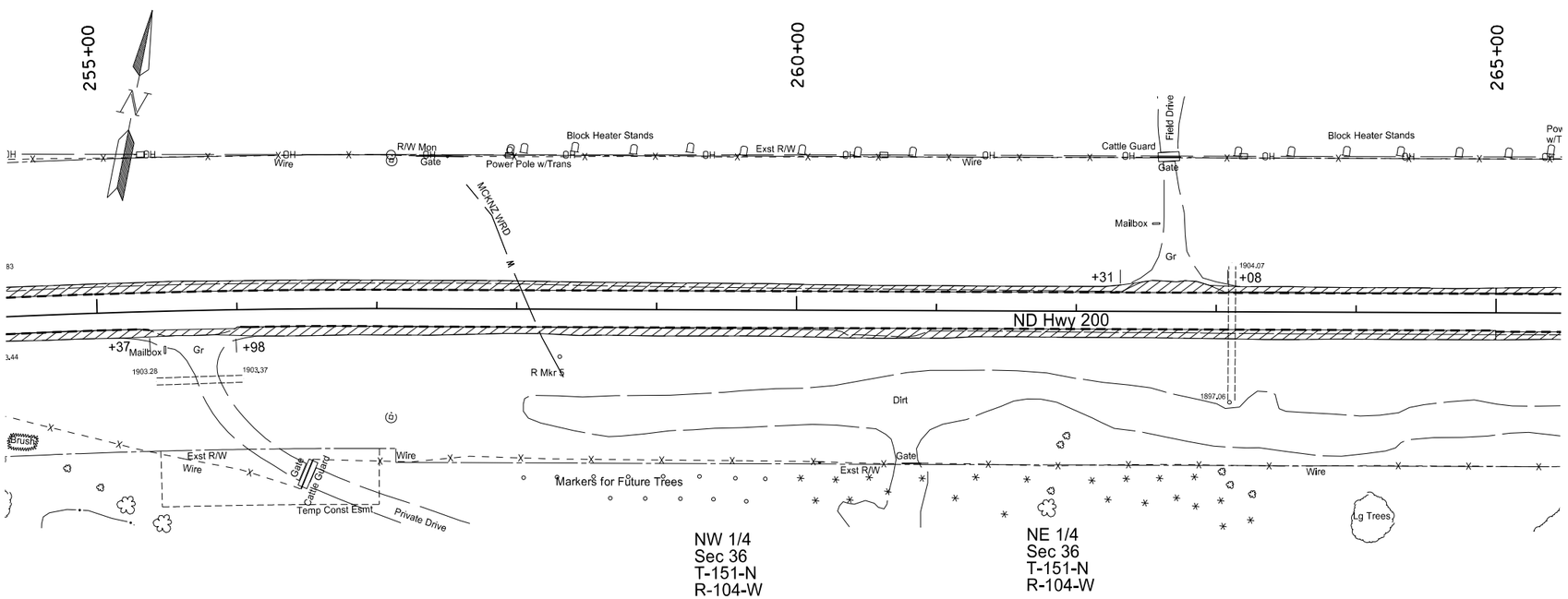
Sta 225+00 to Sta 245+00

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	40	3

Spec	Code	Bid Item	Qty	Unit
202	0136	Removal of Pavement		
		Sta 245+00 Lt to Sta 265+00 Lt	1795.9	Ton
		Sta 245+00 Rt to Sta 265+00 Rt	1332.0	Ton
		Total	3127.9	Ton





Legend

- - - - - - Saw Bituminous Surfacing - Full Depth

(1) Removal of Pavement (Includes Asphalt Surfacing, Concrete Pavement, Aggregate)

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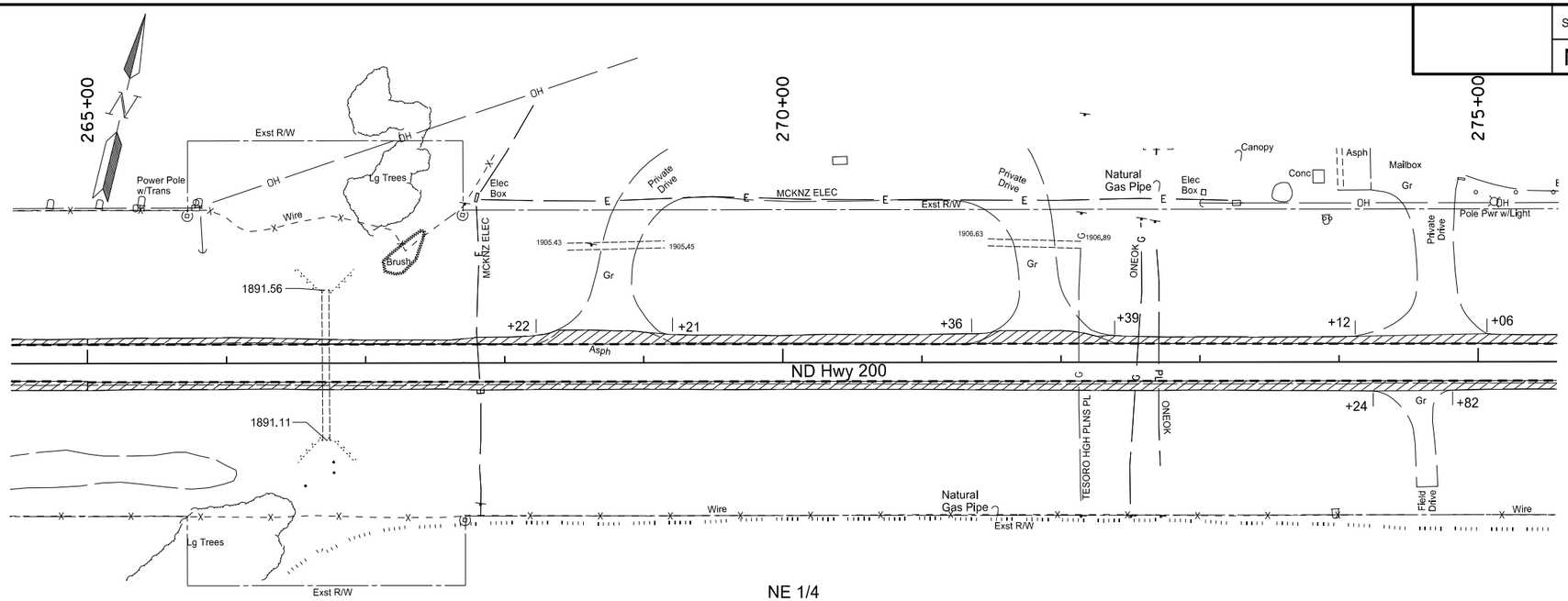
Removals

Sta 245+00 to Sta 265+00

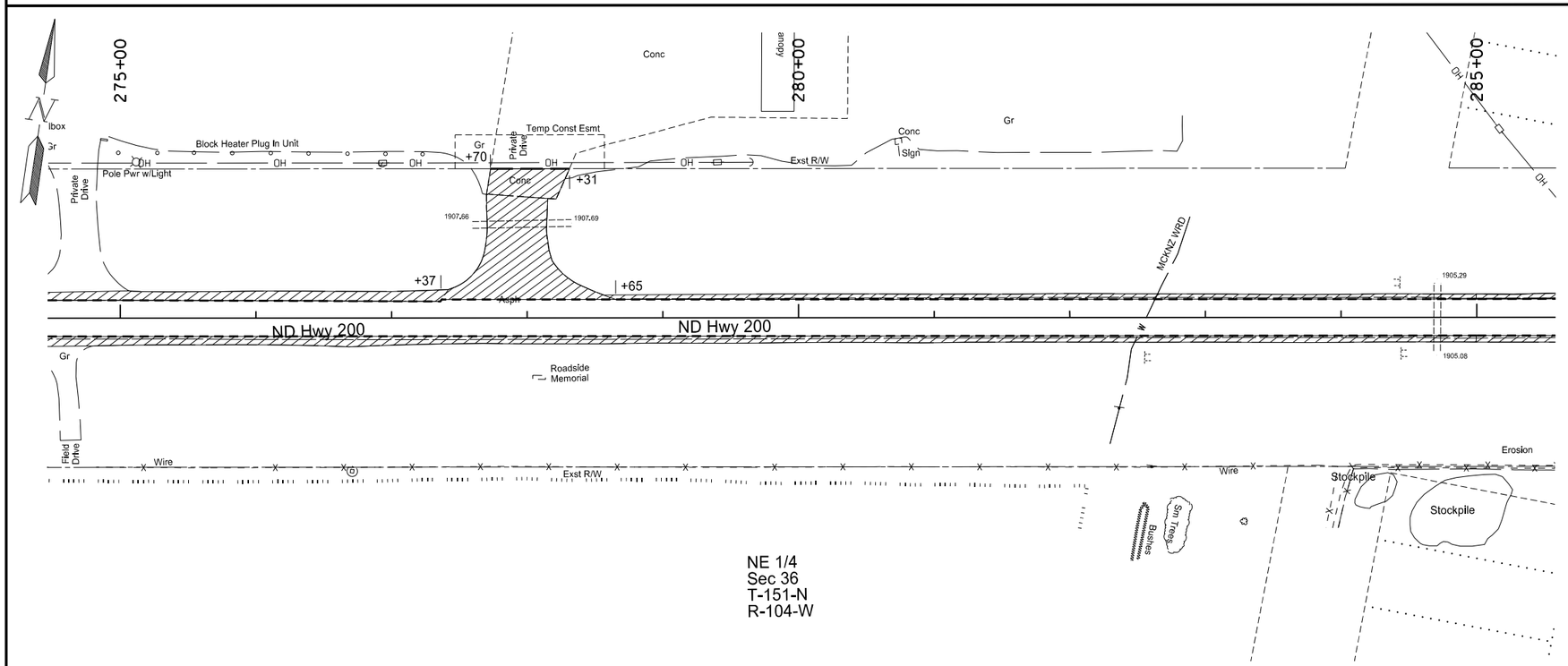
ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	40	4



NE 1/4
Sec 36
T-151-N
R-104-W

Spec	Code	Bid Item	Qty	Unit
202	0136	Removal of Pavement		
		Sta 265+00 Lt to Sta 285+00 Lt	940.0	Ton
		Sta 265+00 Rt to Sta 285+00 Rt	1607.7	Ton
		Total	2545.7	Ton



NE 1/4
Sec 36
T-151-N
R-104-W

Legend

- Saw Bituminous Surfacing - Full Depth
- Saw Concrete
- (1) Removal of Pavement (Includes Asphalt Surfacing, Concrete Pavement, Aggregate)

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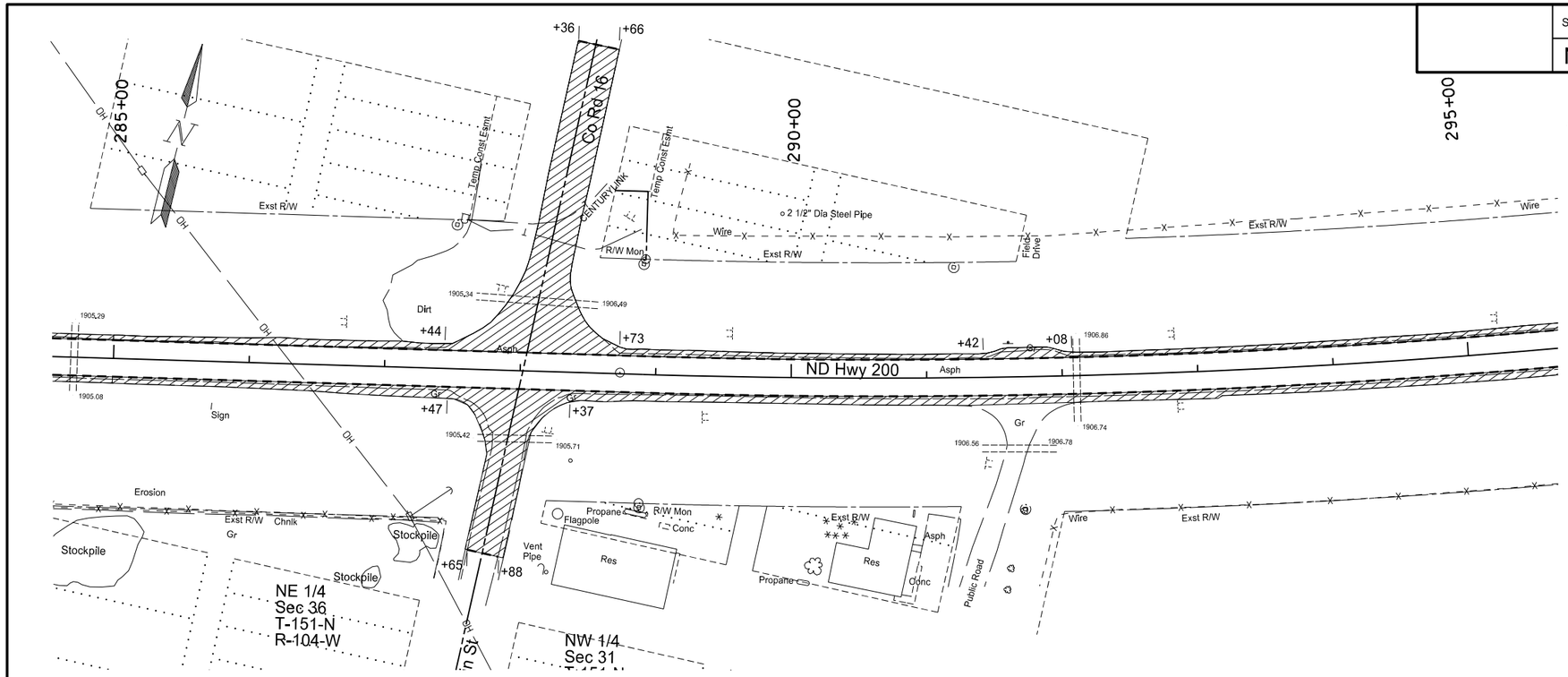
Removals

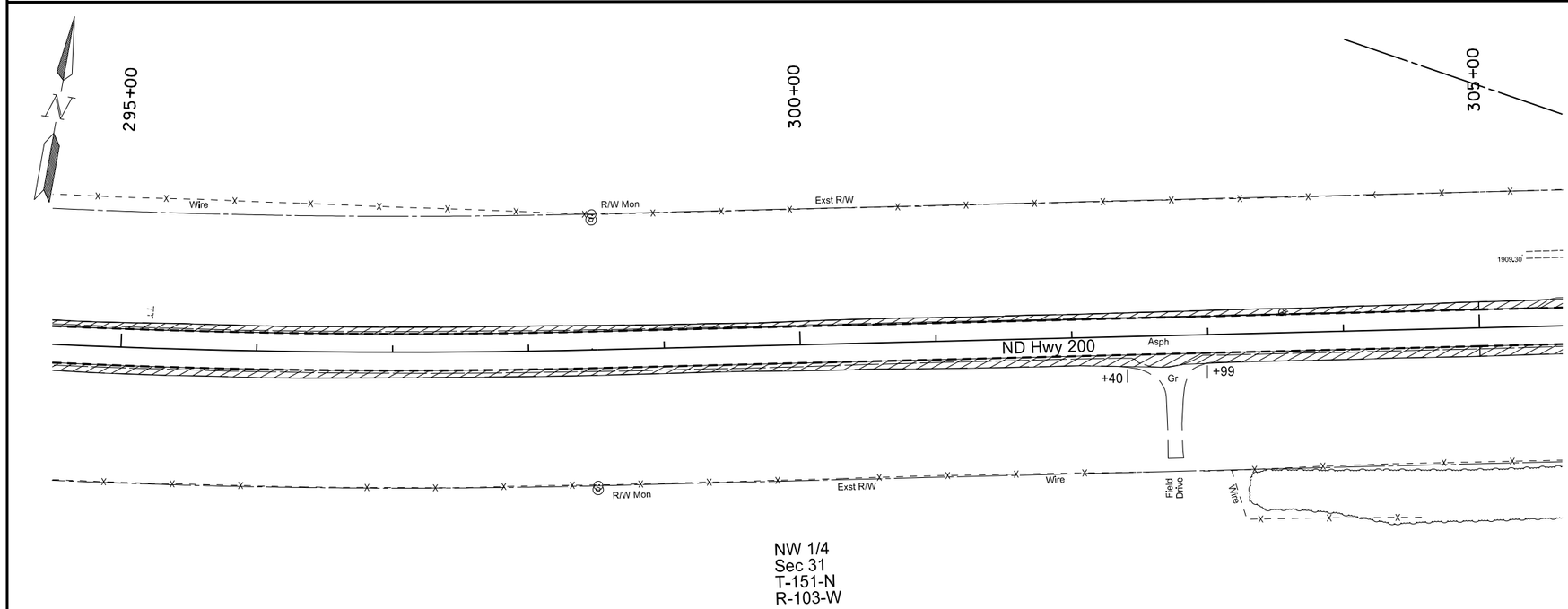
Sta 265+00 to Sta 285+00

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	40	5



Spec	Code	Bid Item	Qty	Unit
202	0136	Removal of Pavement		
		Sta 285+00 Lt to Sta 305+00 Lt	1624.6	Ton
		Sta 285+00 Rt to Sta 305+00 Rt	1694.4	Ton
		Total	3319.0	Ton



Legend

Saw Bituminous Surfacing - Full Depth

① Removal of Pavement (Includes Asphalt Surfacing, Concrete Pavement, Aggregate)

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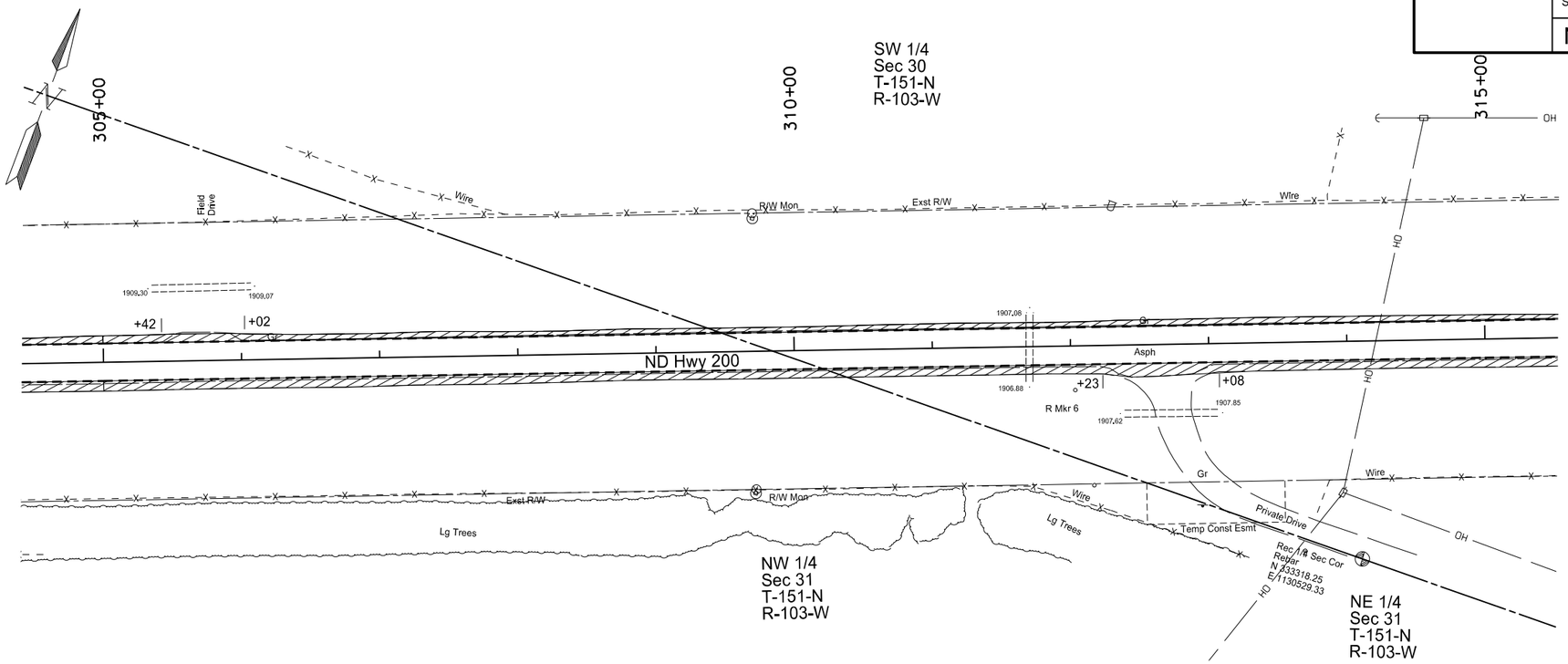
Removals

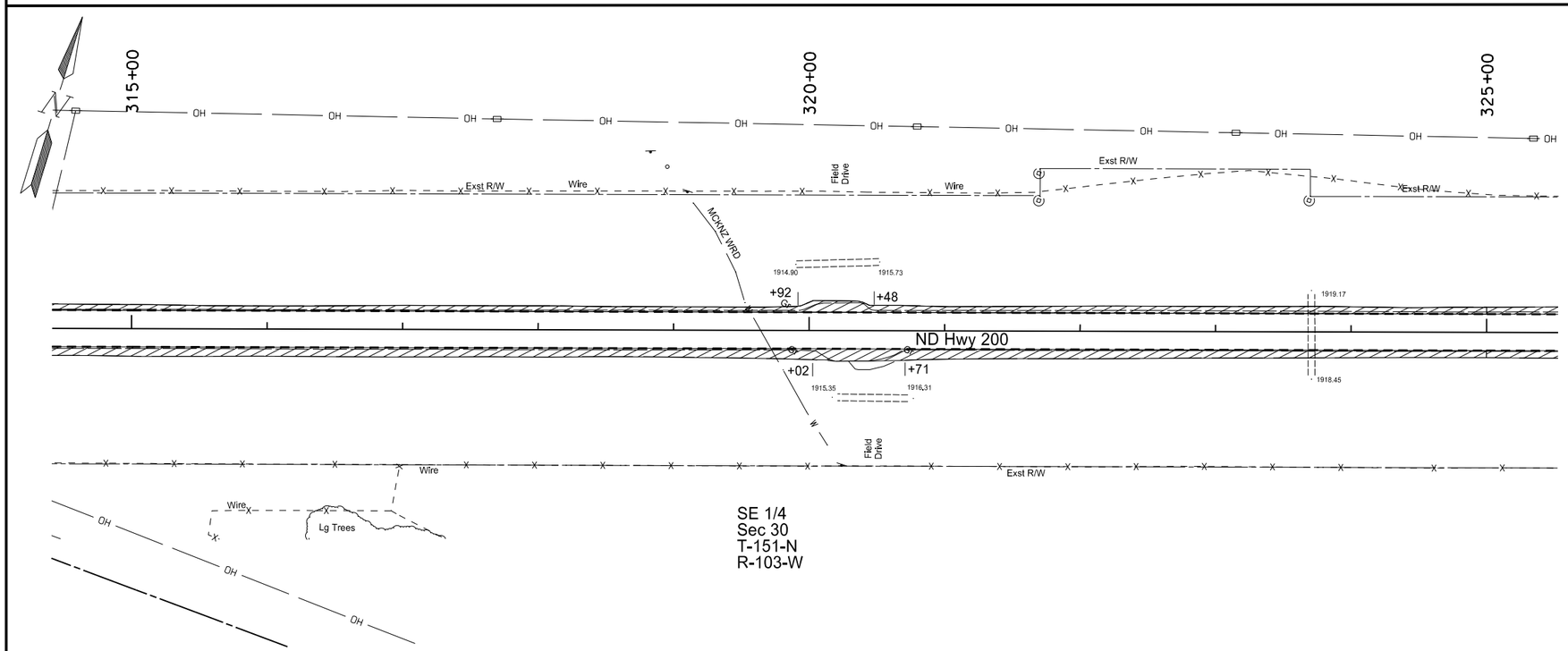
Sta 285+00 to Sta 305+00

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	40	6



Spec	Code	Bid Item	Qty	Unit
202	0136	Removal of Pavement		
		Sta 305+00 Lt to Sta 325+00 Lt	1108.3	Ton
		Sta 305+00 Rt to Sta 325+00 Rt	1274.1	Ton
		Total	2382.4	Ton



Legend

- - - - - - Saw Bituminous Surfacing - Full Depth

① Removal of Pavement (Includes Asphalt Surfacing, Concrete Pavement, Aggregate)

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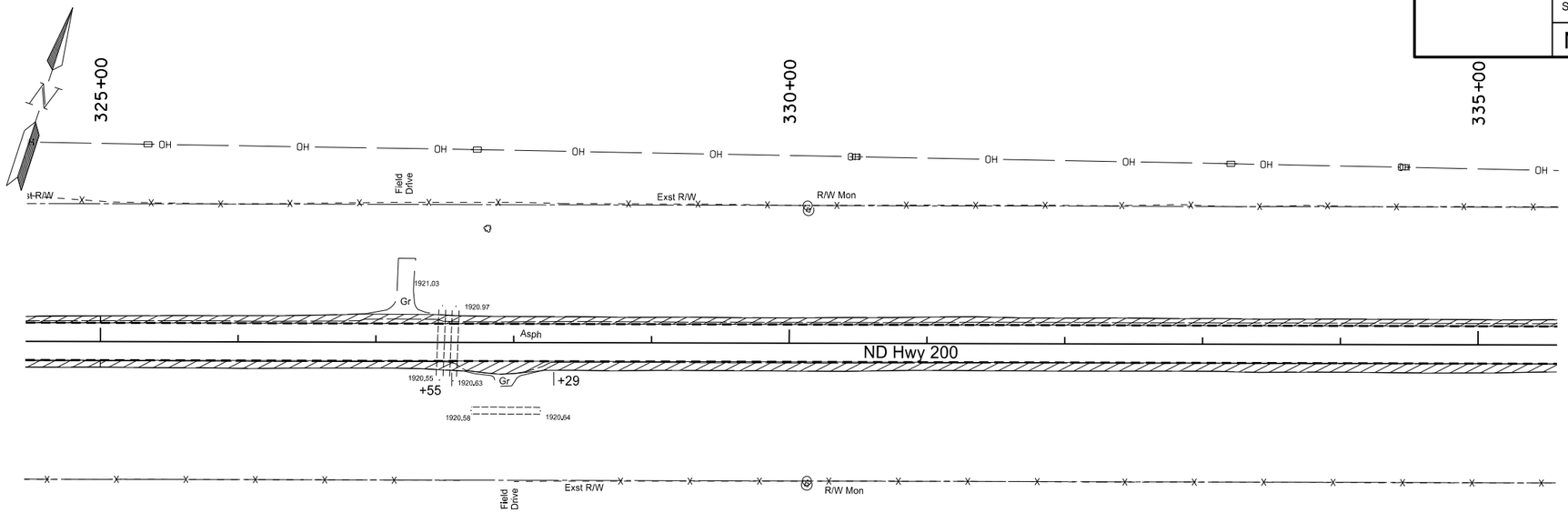
Removals

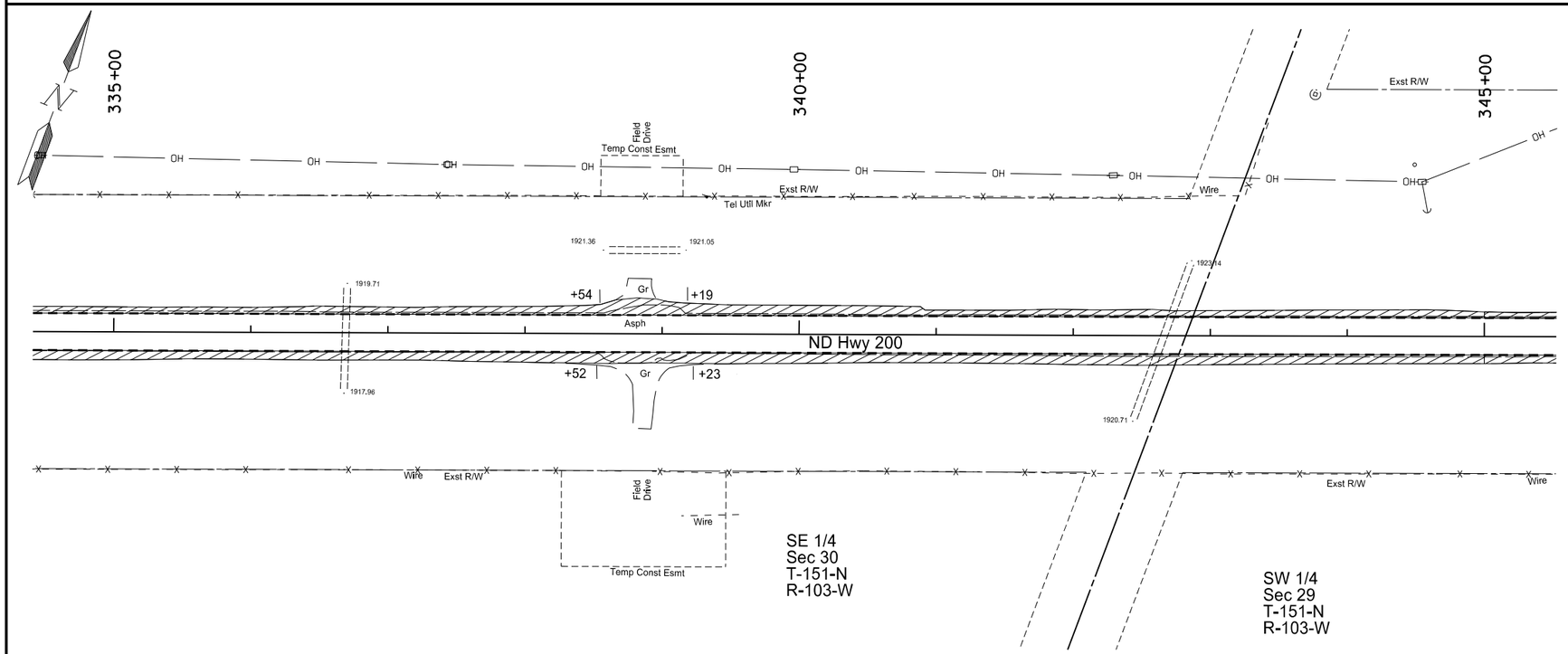
Sta 305+00 to Sta 325+00

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	40	7



Spec	Code	Bid Item	Qty	Unit
202	0136	Removal of Pavement		
		Sta 325+00 Lt to Sta 345+00 Lt	1390.2	Ton
		Sta 325+00 Rt to Sta 345+00 Rt	1143.4	Ton
		Total	2533.6	Ton



Legend

Saw Bituminous Surfacing - Full Depth

① Removal of Pavement (Includes Asphalt Surfacing, Concrete Pavement, Aggregate)

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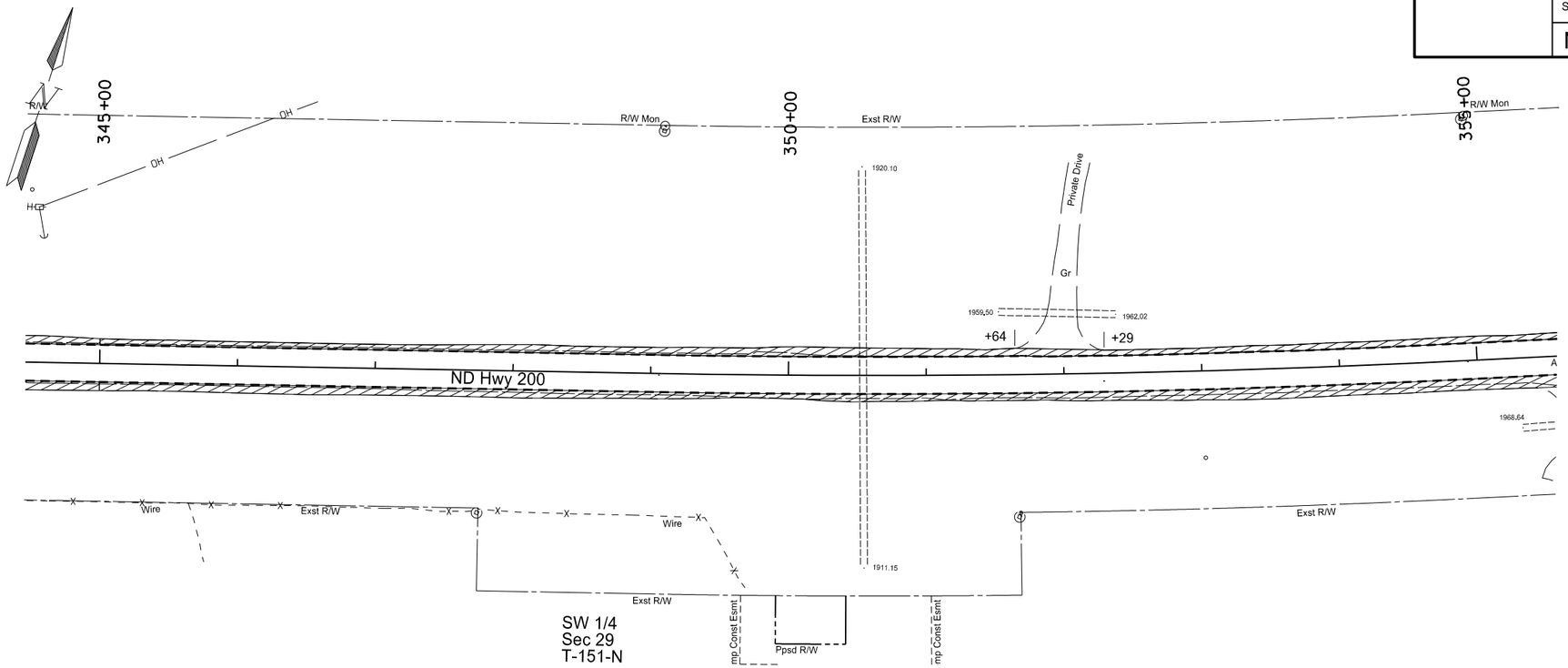
Removals

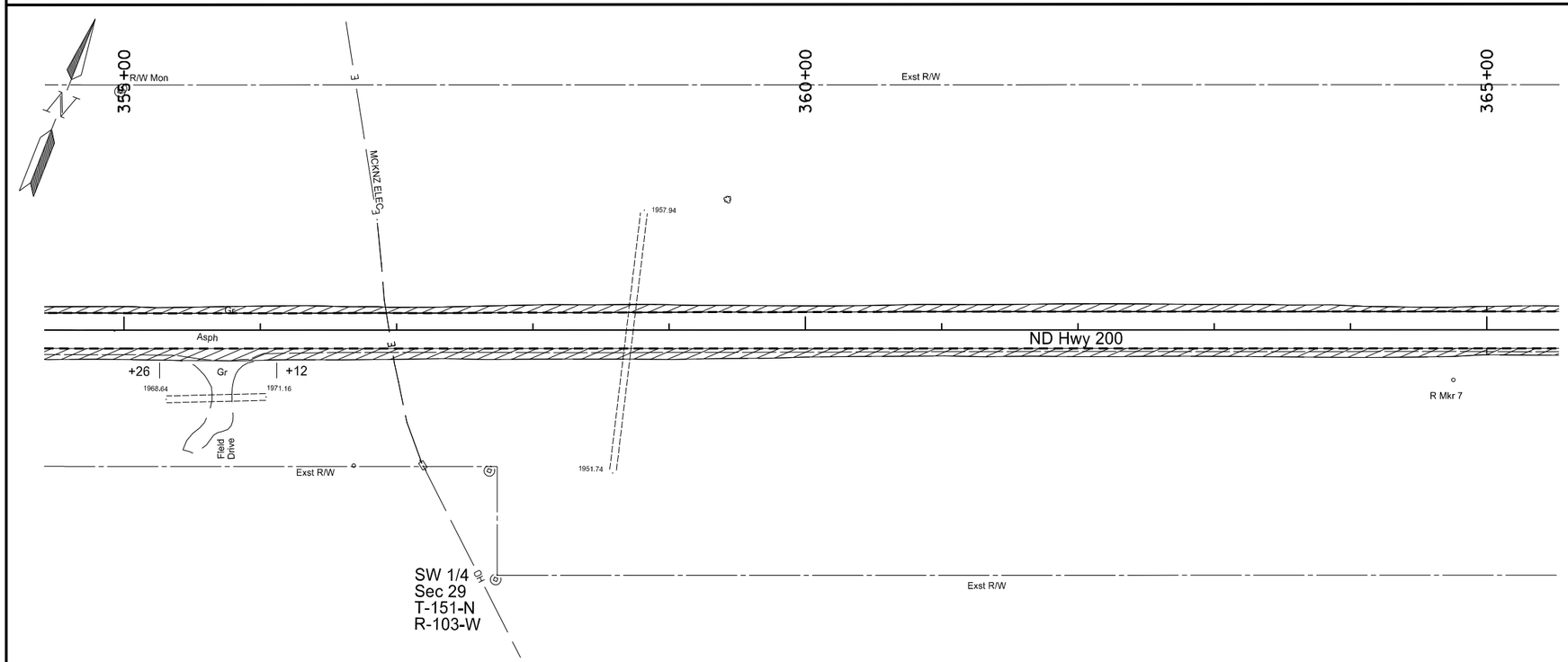
Sta 325+00 to Sta 345+00

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	40	8



Spec	Code	Bid Item	Qty	Unit
202	0136	Removal of Pavement		
		Sta 345+00 Lt to Sta 365+00 Lt	1157.8	Ton
		Sta 345+00 Rt to Sta 365+00 Rt	1750.3	Ton
		Total	2908.1	Ton



Legend

Saw Bituminous Surfacing - Full Depth

① Removal of Pavement (Includes Asphalt Surfacing, Concrete Pavement, Aggregate)

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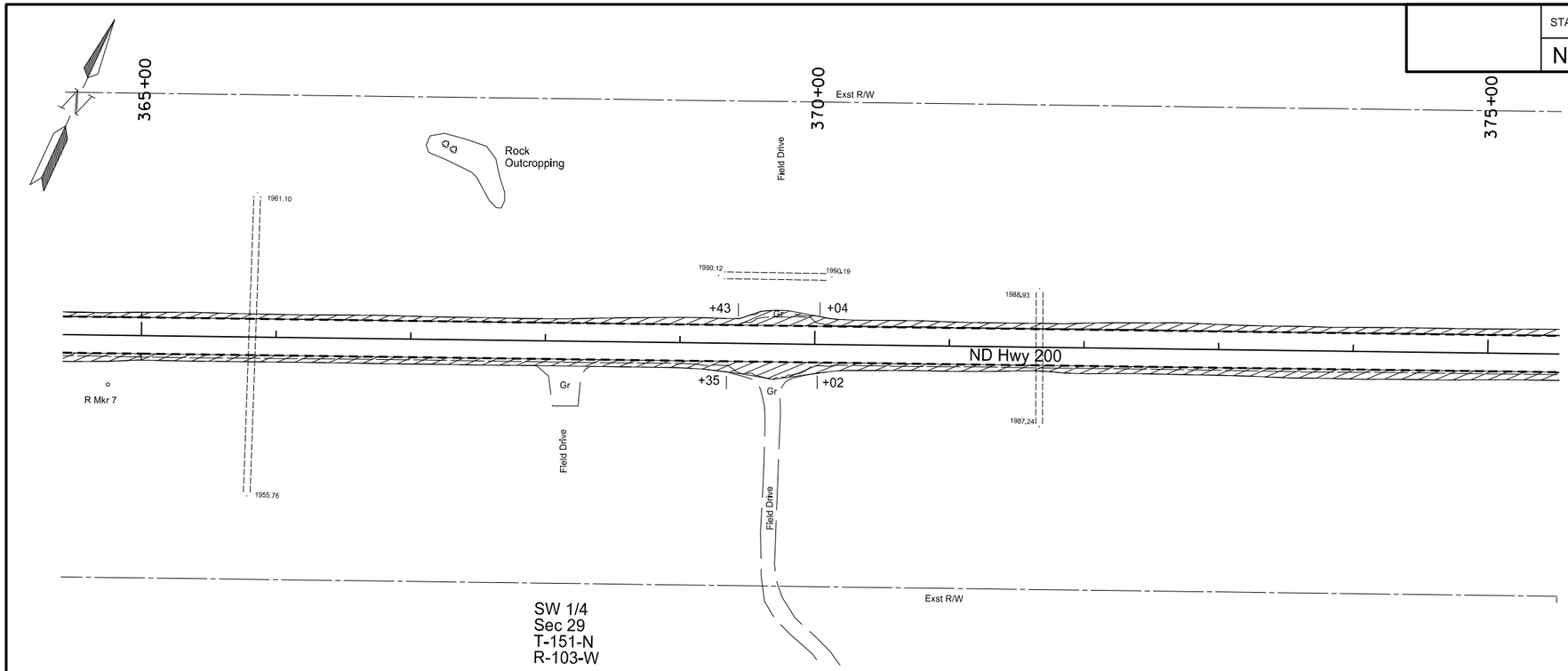
Removals

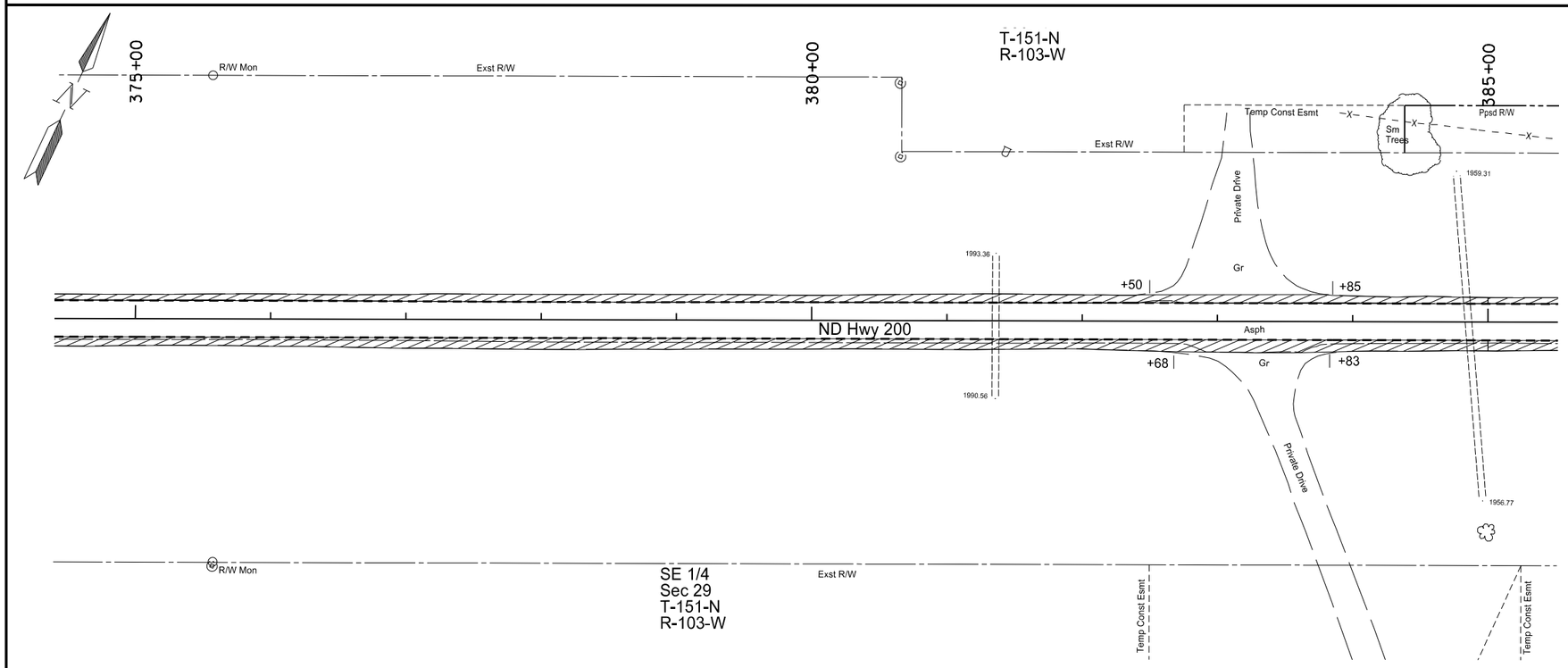
Sta 345+00 to Sta 365+00

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	40	9



Spec	Code	Bid Item	Qty	Unit
202	0136	Removal of Pavement		
		Sta 365+00 Lt to Sta 385+00 Lt	897.2	Ton
		Sta 365+00 Rt to Sta 385+00 Rt	1443.6	Ton
		Total	2340.8	Ton



Legend

Saw Bituminous Surfacing - Full Depth

① Removal of Pavement (Includes Asphalt Surfacing, Concrete Pavement, Aggregate)

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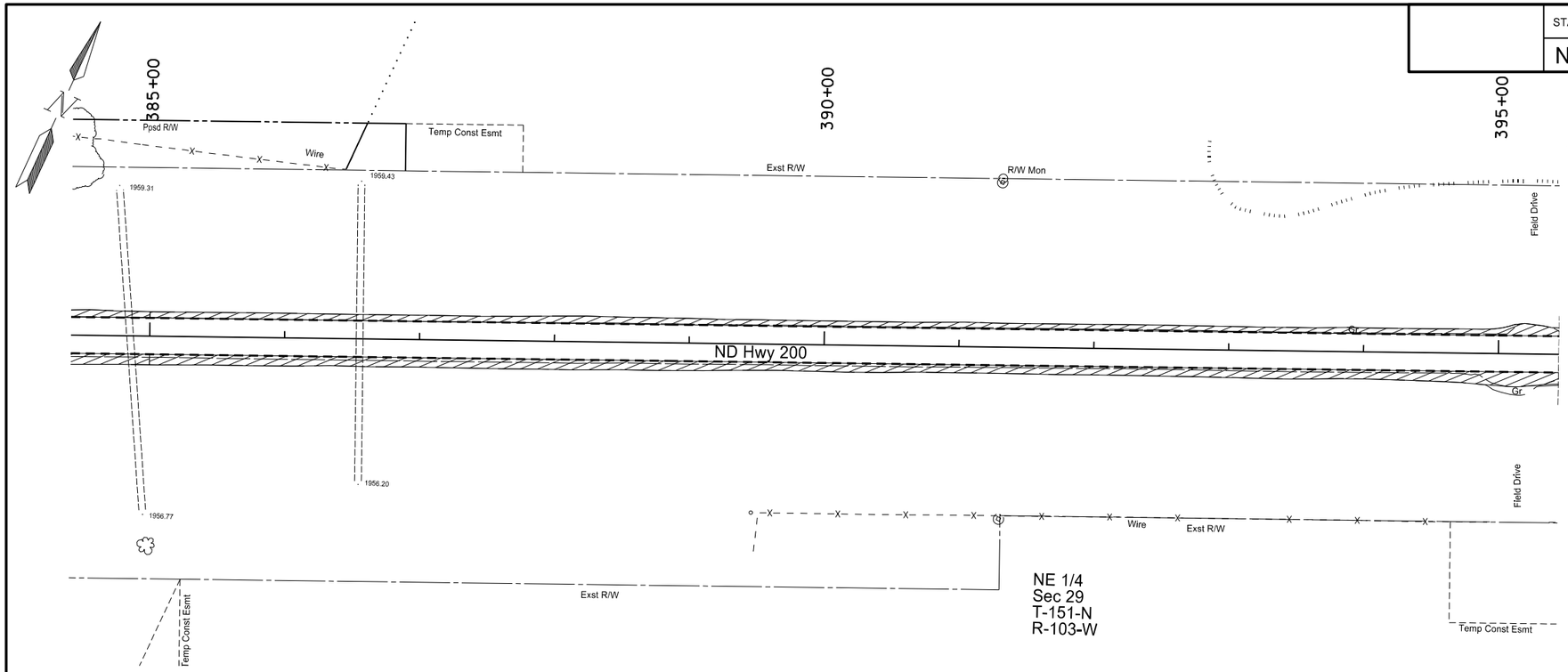
Removals

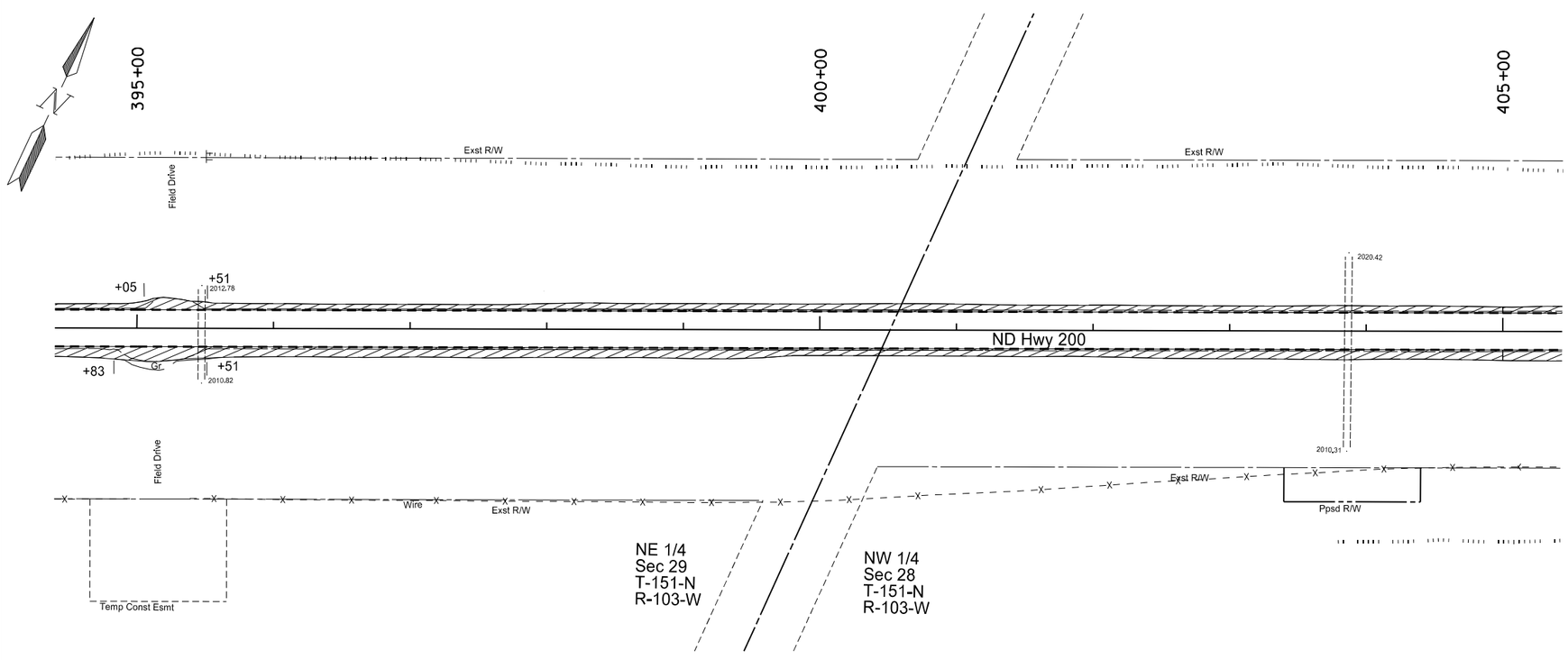
Sta 365+00 to Sta 385+00

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	40	10



Spec	Code	Bid Item		Qty	Unit
202	0136	Removal of Pavement			
		Sta 385+00 Lt to Sta 405+00 Lt		956.2	Ton
		Sta 385+00 Rt to Sta 405+00 Rt		1175.9	Ton
			Total	2132.1	Ton



Legend

- - - - - - Saw Bituminous Surfacing - Full Depth

① Removal of Pavement (Includes Asphalt Surfacing, Concrete Pavement, Aggregate)

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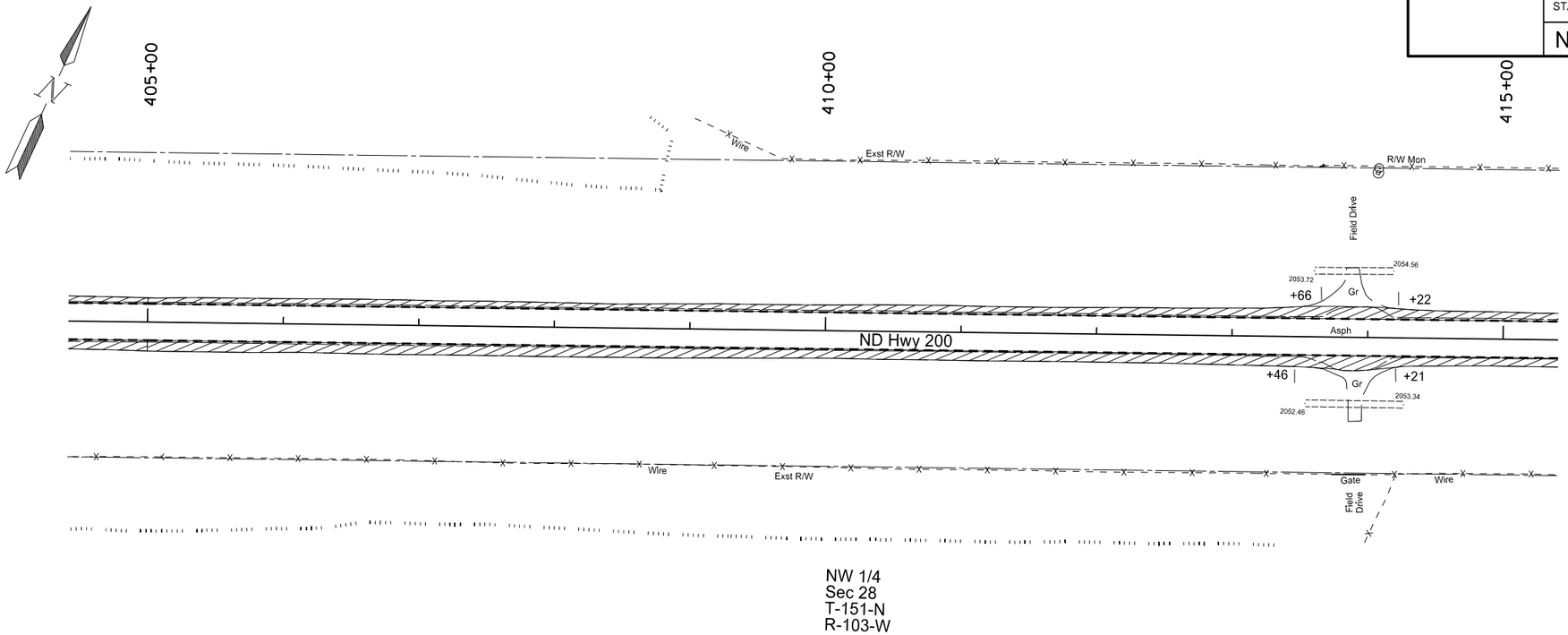
Removals

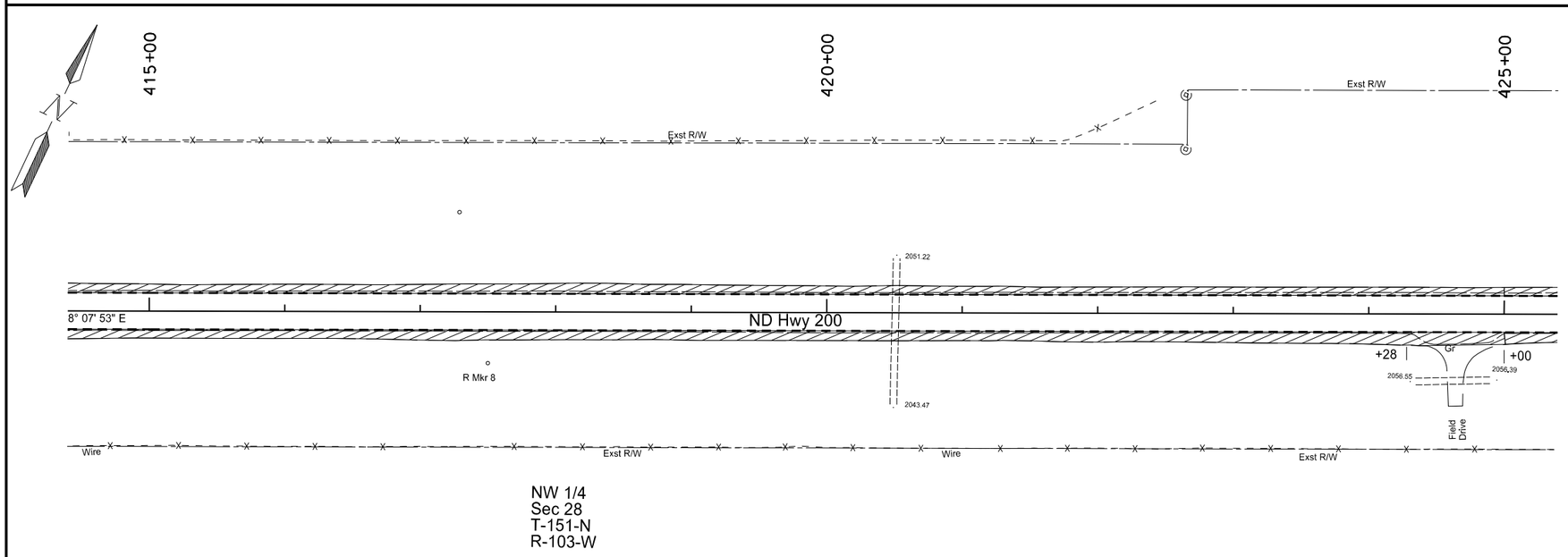
Sta 385+00 to Sta 405+00

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	40	11



Spec	Code	Bid Item		Qty	Unit
202	0136	Removal of Pavement			
		Sta 405+00 Lt to Sta 425+00 Lt		1410.7	Ton
		Sta 405+00 Rt to Sta 425+00 Rt		1172.9	Ton
			Total	2583.6	Ton



Legend

Saw Bituminous Surfacing - Full Depth

① Removal of Pavement (Includes Asphalt Surfacing, Concrete Pavement, Aggregate)

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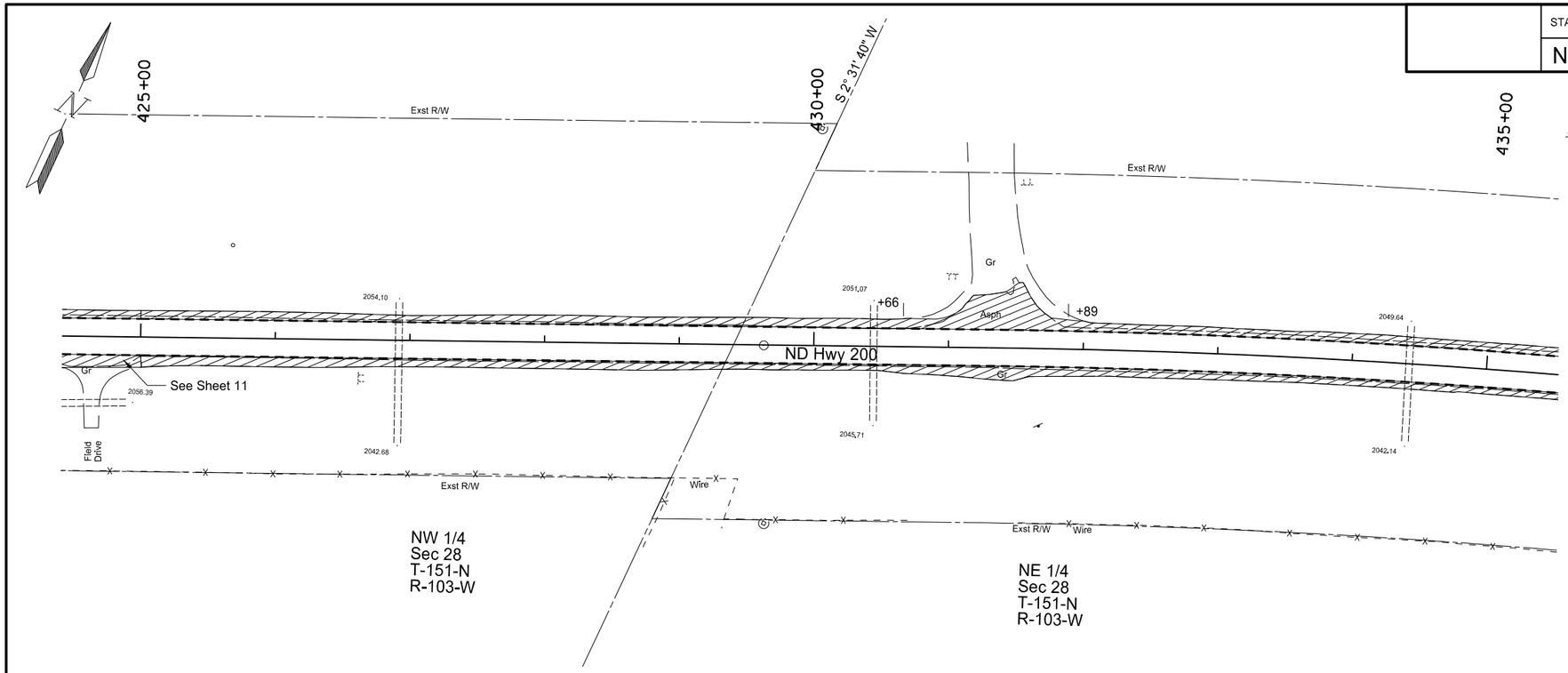
Removals

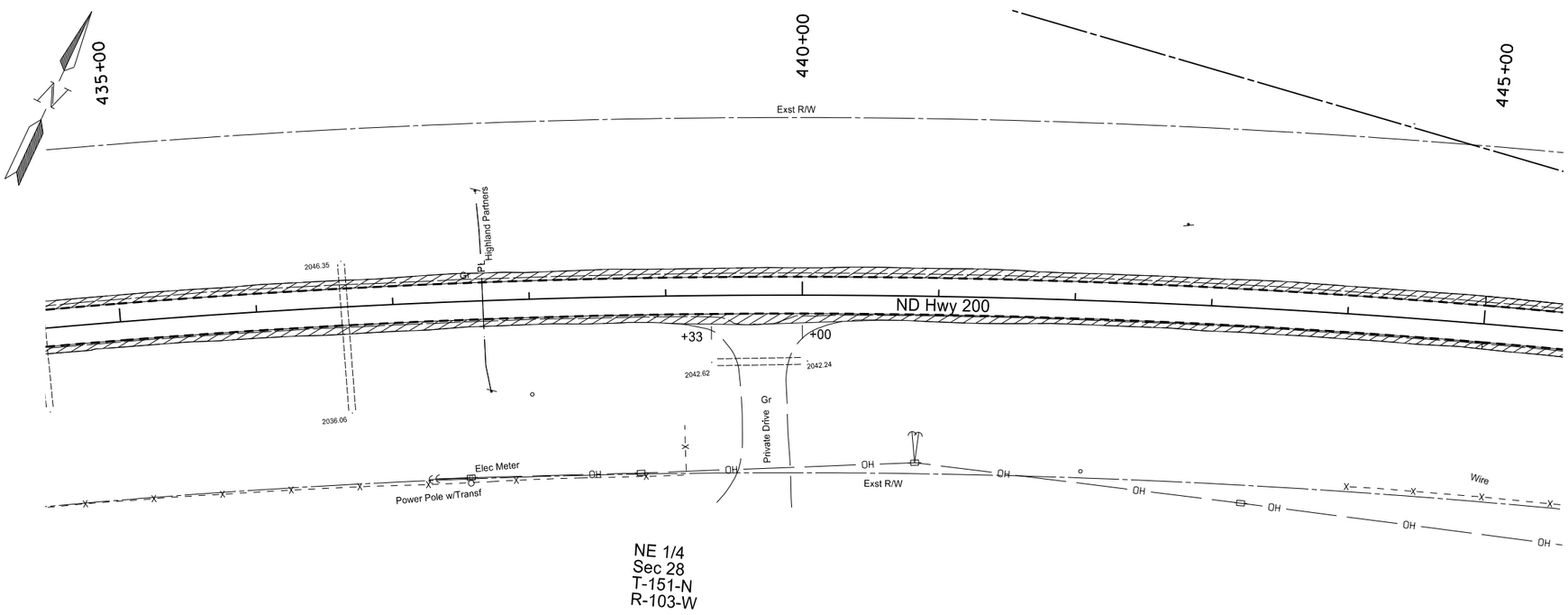
Sta 405+00 to Sta 425+00

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	40	12



Spec	Code	Bid Item		Qty	Unit
202	0136	Removal of Pavement			
		Sta 425+00 Lt to Sta 445+00 Lt		1600.3	Ton
		Sta 425+00 Rt to Sta 445+00 Rt		1203.9	Ton
			Total	2804.2	Ton



Legend

Saw Bituminous Surfacing - Full Depth

① Removal of Pavement (Includes Asphalt Surfacing, Concrete Pavement, Aggregate)

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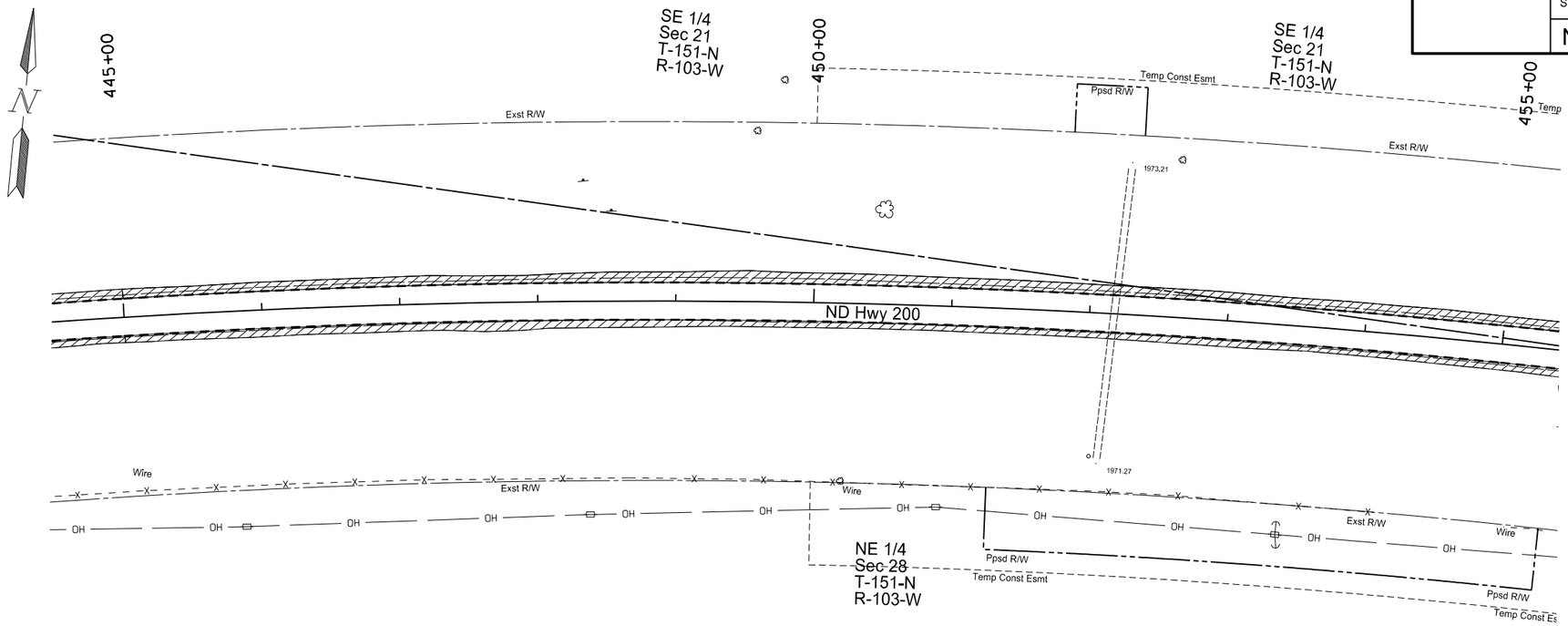
Removals

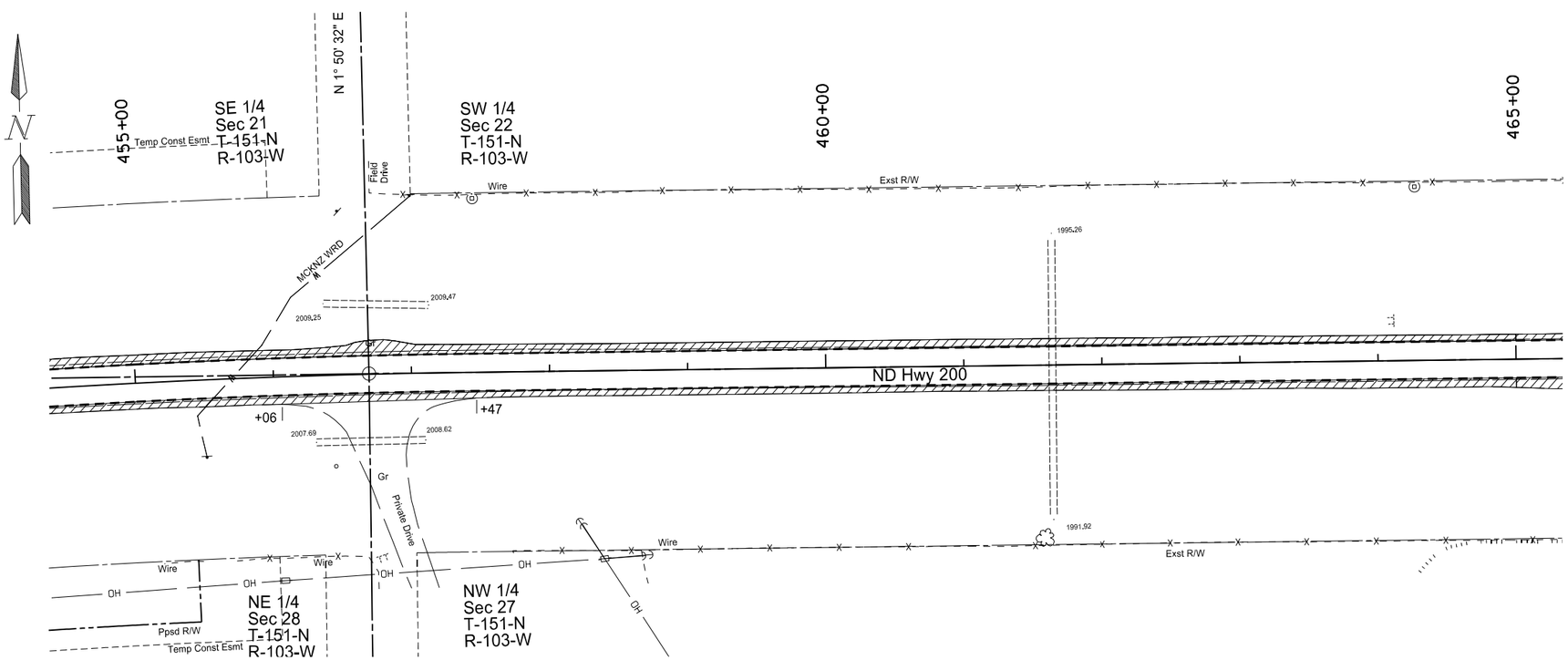
Sta 425+00 to Sta 445+00

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	40	13



Spec	Code	Bid Item	Qty	Unit
202	0136	Removal of Pavement		
		Sta 445+00 Lt to Sta 465+00 Lt	1645.0	Ton
		Sta 445+00 Rt to Sta 465+00 Rt	1258.3	Ton
		Total	2903.3	Ton



Legend

Saw Bituminous Surfacing - Full Depth

① Removal of Pavement (Includes Asphalt Surfacing, Concrete Pavement, Aggregate)

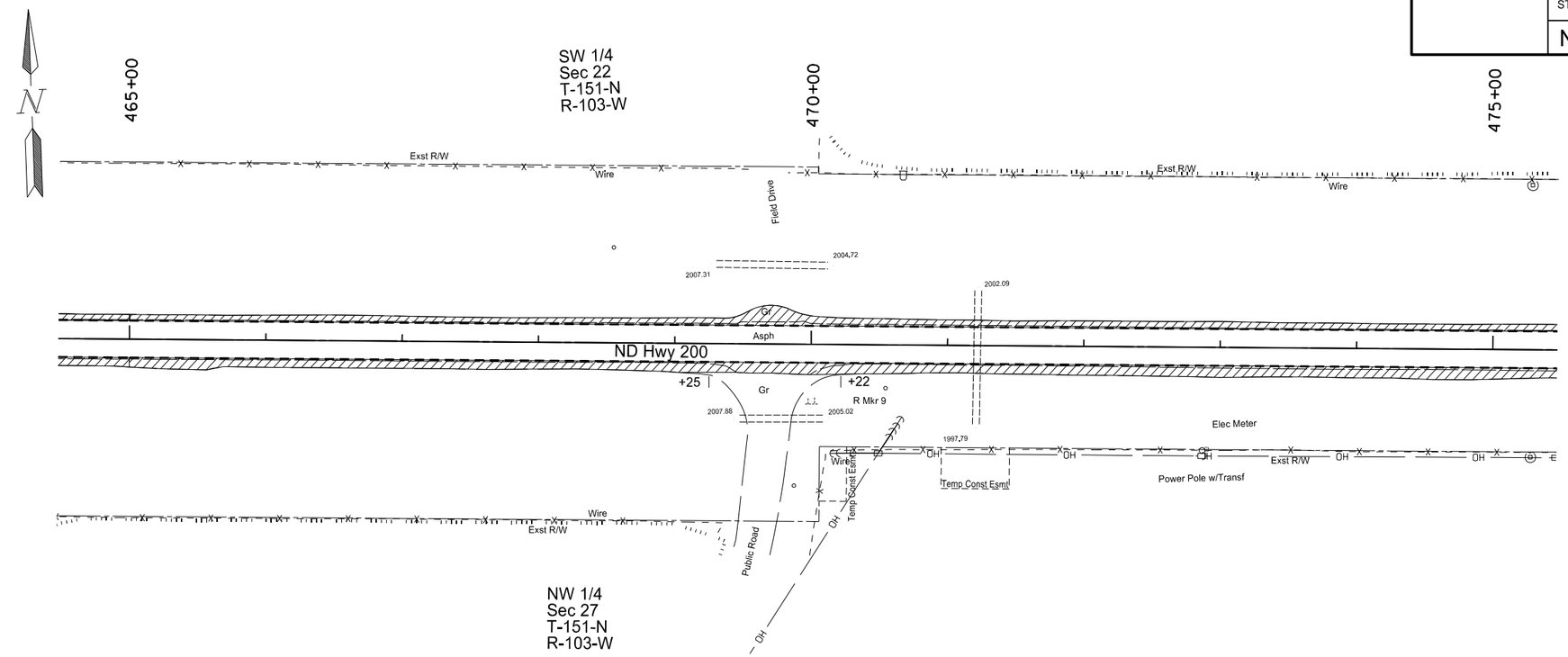
This document was originally issued and sealed by Kyle J. Comer Registration Number PE- 7537, on 03/11/16 and the original document is stored at the North Dakota Department of Transportation

Removals

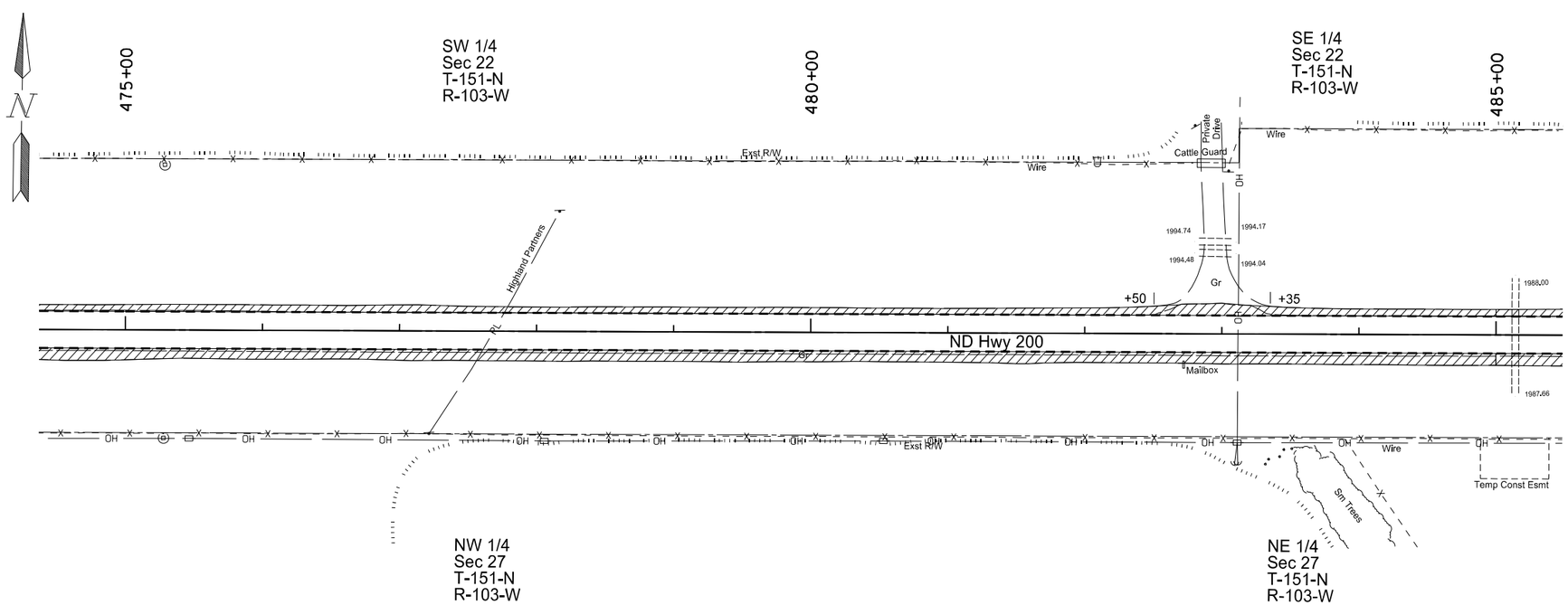
Sta 445+00 to Sta 465+00

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	40	14



Spec	Code	Bid Item	Qty	Unit
202	0136	Removal of Pavement		
		Sta 465+00 Lt to Sta 485+00 Lt	1085.4	Ton
		Sta 465+00 Rt to Sta 485+00 Rt	1421.4	Ton
		Total	2506.8	Ton



Legend

Saw Bituminous Surfacing - Full Depth

① Removal of Pavement (Includes Asphalt Surfacing, Concrete Pavement, Aggregate)

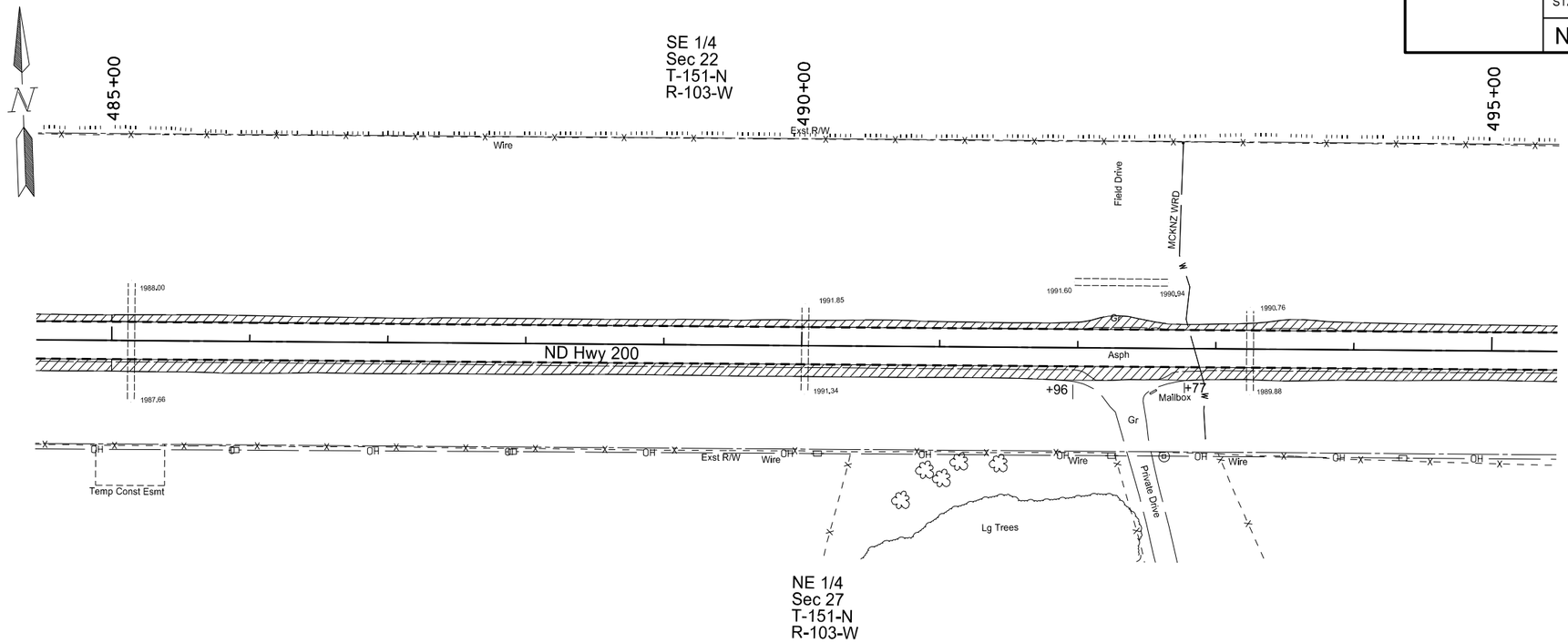
This document was originally issued and sealed by Jay F. Meacham, Registration Number PE- 7926, on 01/05/16 and the original document is stored at the North Dakota Department of Transportation

Removals

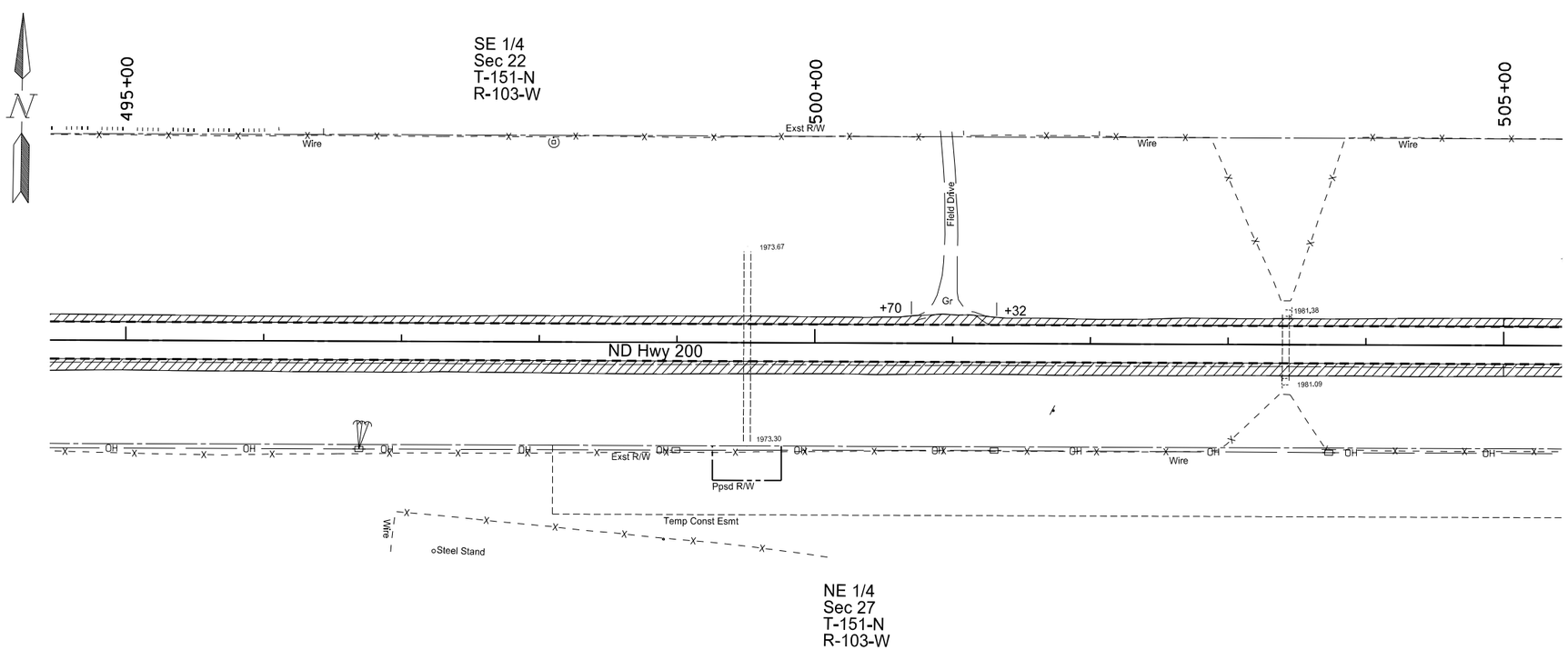
Sta 465+00 to Sta 485+00

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	40	15



Spec	Code	Bid Item	Qty	Unit
202	0136	Removal of Pavement		
		Sta 485+00 Lt to Sta 505+00 Lt	949.0	Ton
		Sta 485+00 Rt to Sta 505+00 Rt	1679.3	Ton
		Total	2628.3	Ton



Legend

Saw Bituminous Surfacing - Full Depth

① Removal of Pavement (Includes Asphalt Surfacing, Concrete Pavement, Aggregate)

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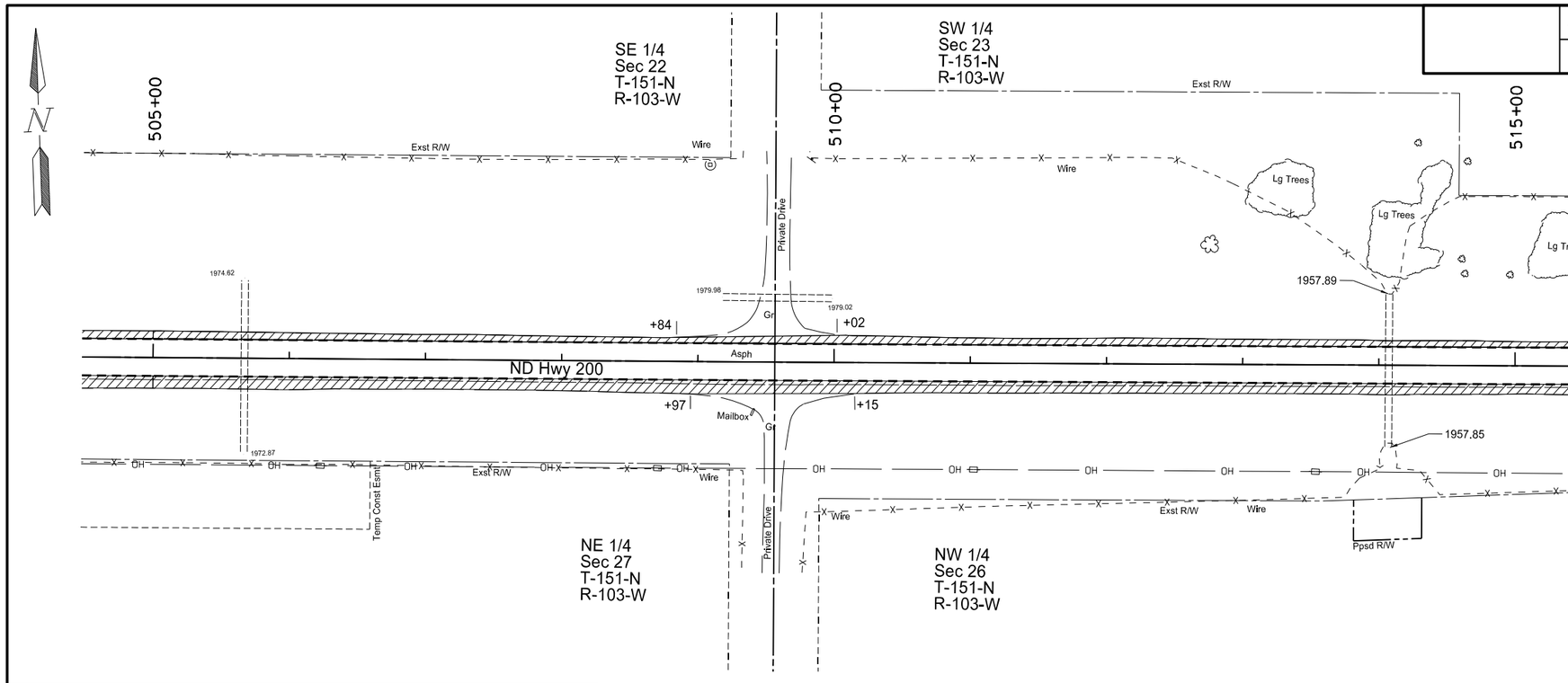
Removals

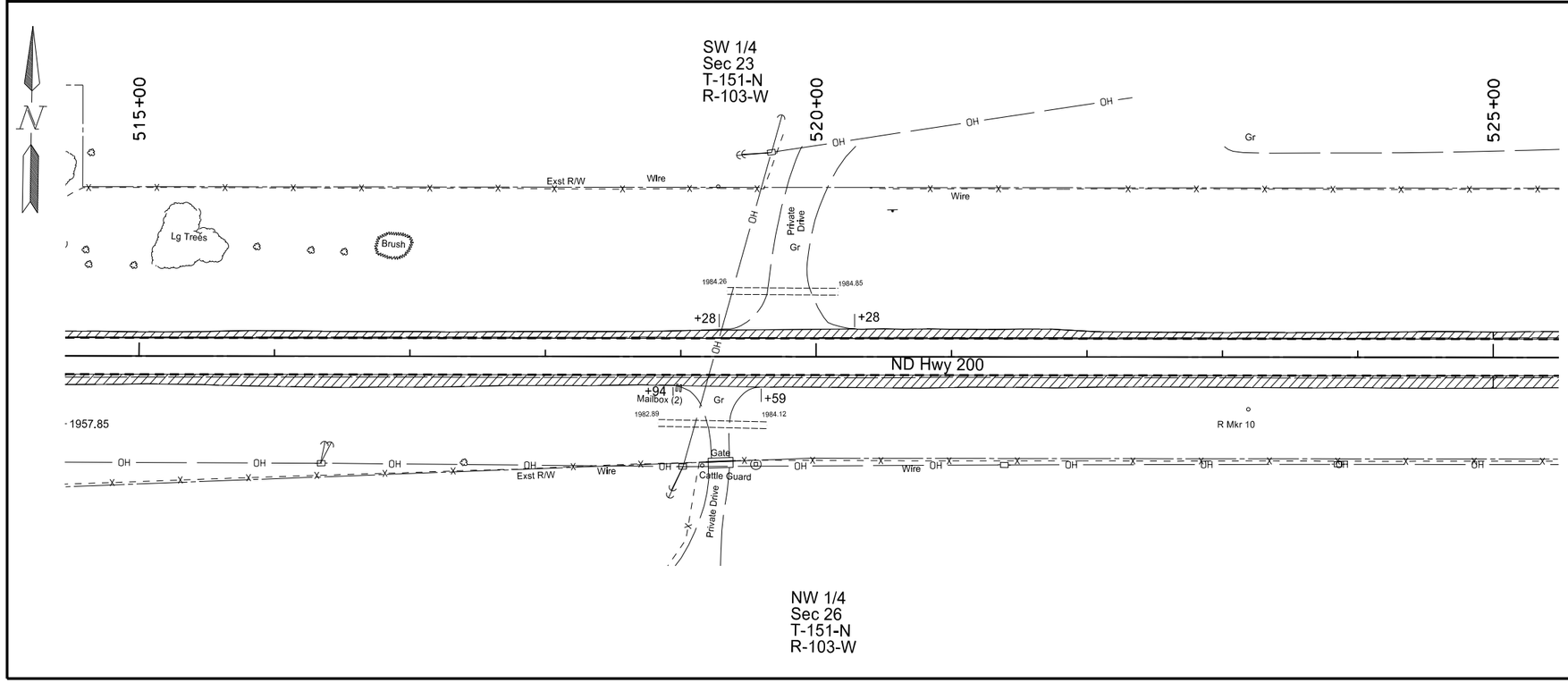
Sta 485+00 to Sta 505+00

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	40	16



Spec	Code	Bid Item	Qty	Unit
202	0136	Removal of Pavement		
		Sta 505+00 Lt to Sta 525+00 Lt	1064.2	Ton
		Sta 505+00 Rt to Sta 525+00 Rt	1665.9	Ton
		Total	2730.1	Ton



Legend

- - - - - - Saw Bituminous Surfacing - Full Depth

① Removal of Pavement (Includes Asphalt Surfacing, Concrete Pavement, Aggregate)

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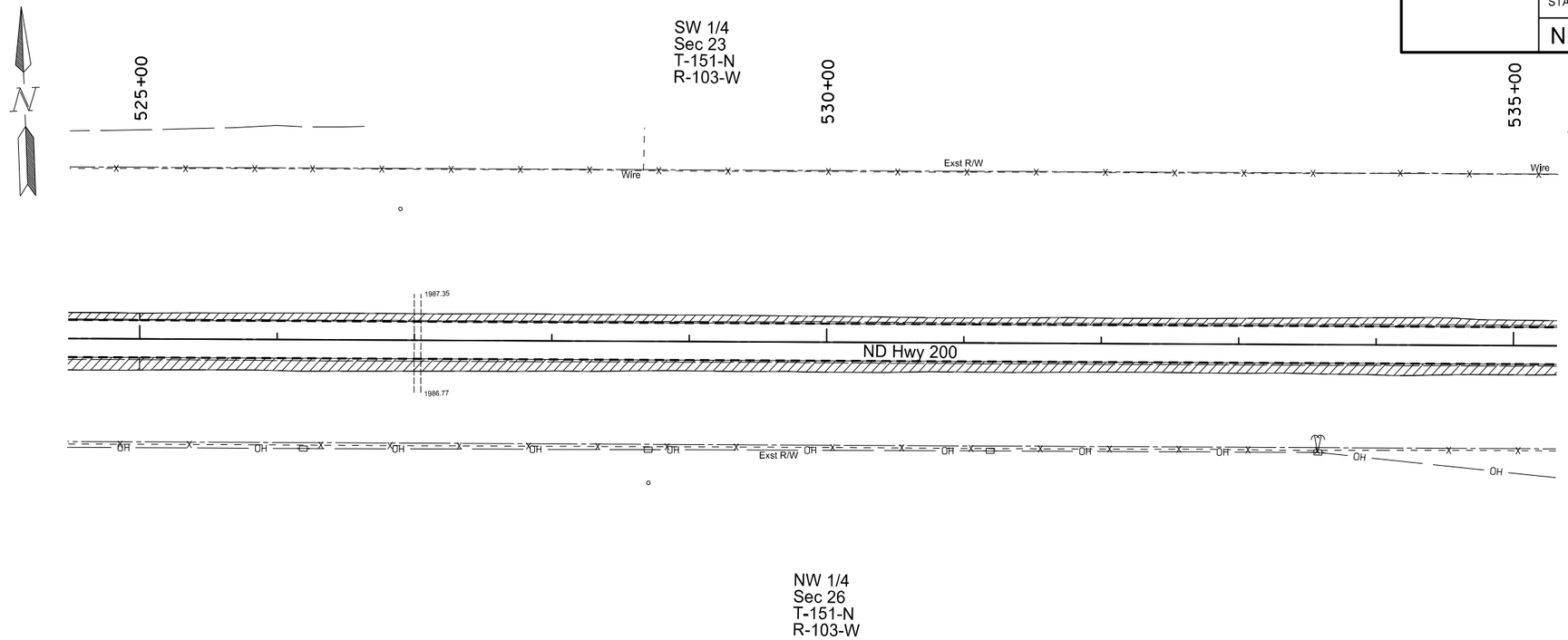
Removals

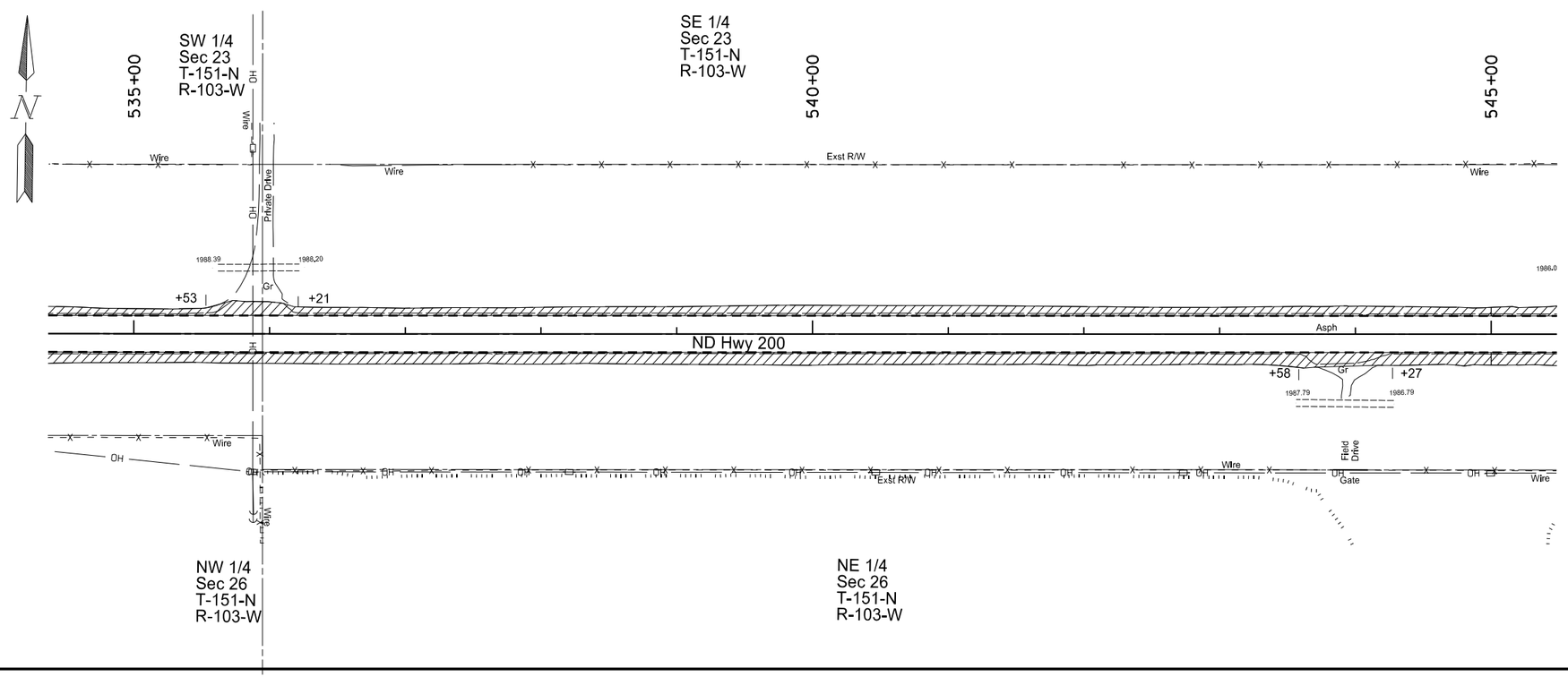
Sta 505+00 to Sta 525+00

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	40	17



Spec	Code	Bid Item		Qty	Unit
202	0136	Removal of Pavement			
		Sta 525+00 Lt to Sta 545+00 Lt		1351.1	Ton
		Sta 525+00 Rt to Sta 545+00 Rt		1321.5	Ton
			Total	2672.6	Ton



Legend

Saw Bituminous Surfacing - Full Depth

① Removal of Pavement (Includes Asphalt Surfacing, Concrete Pavement, Aggregate)

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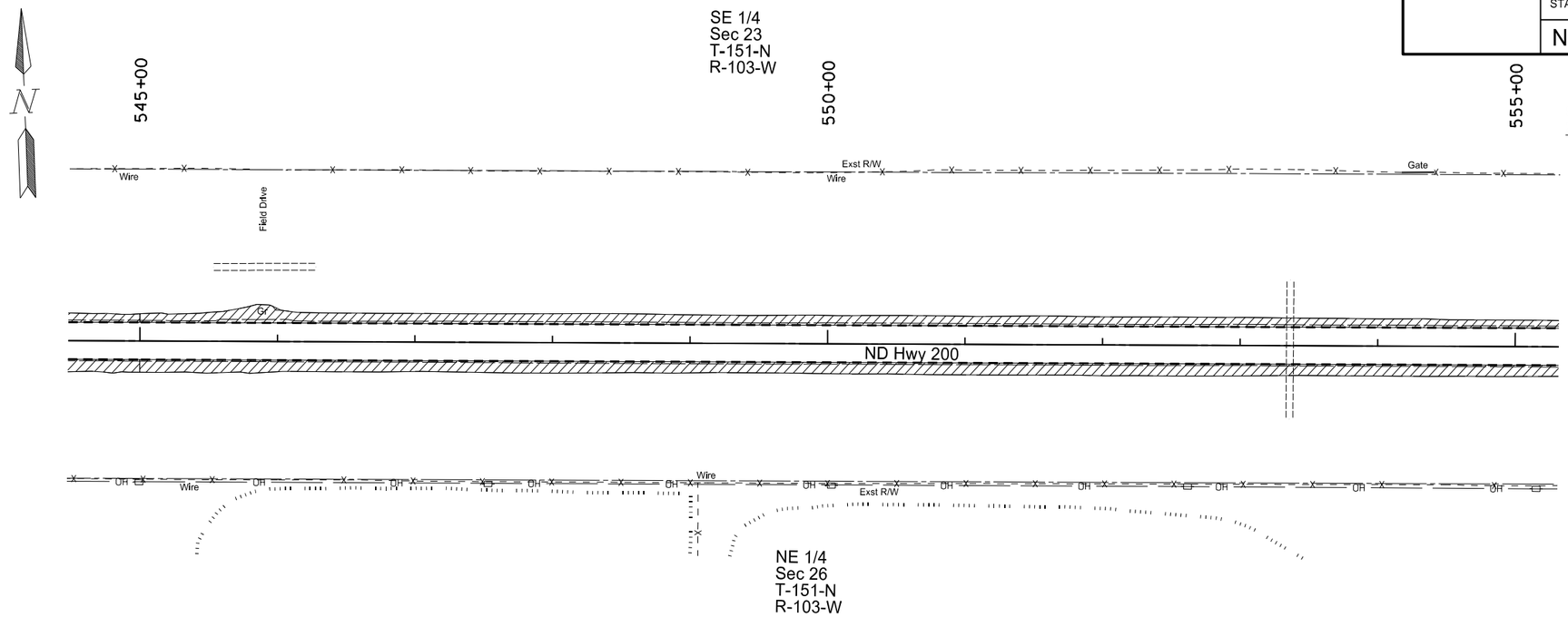
Removals

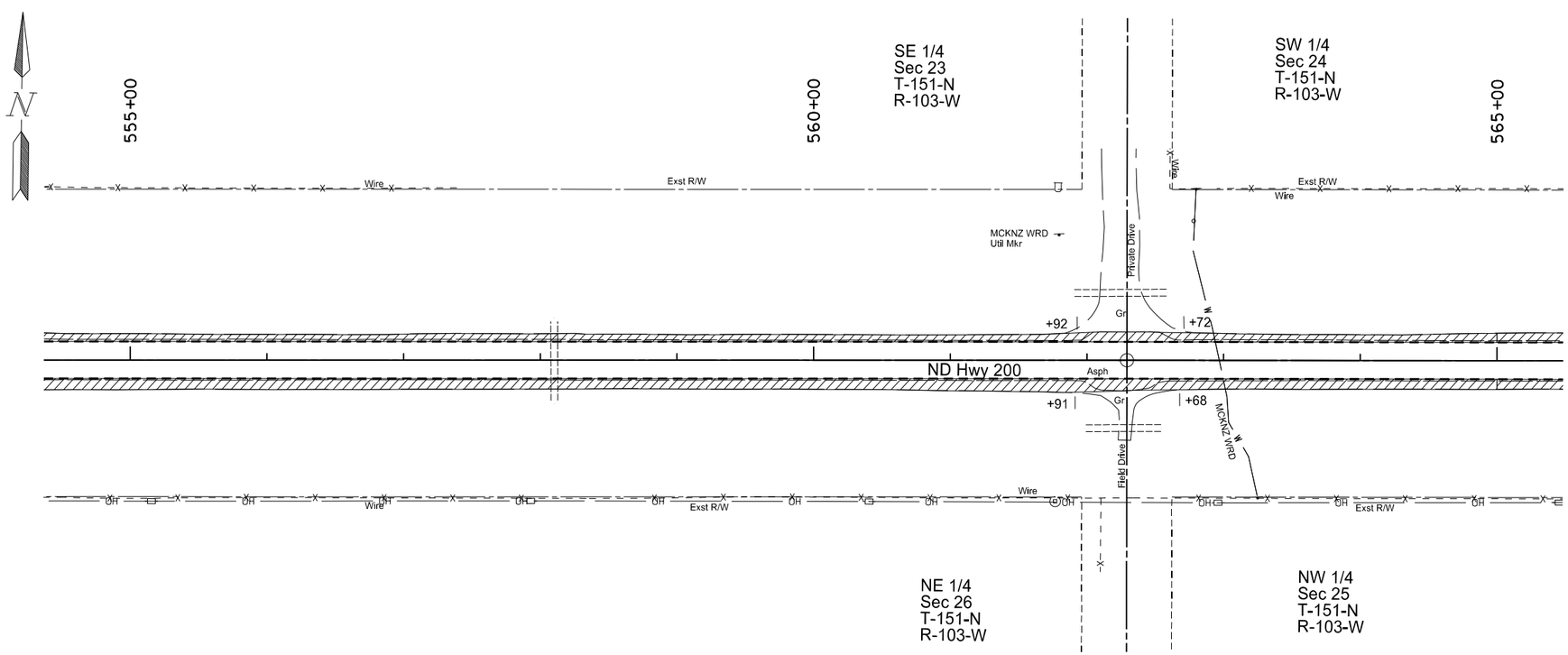
Sta 525+00 to Sta 545+00

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	40	18



Spec	Code	Bld Item	Qty	Unit
202	0136	Removal of Pavement		
		Sta 545+00 Lt to Sta 565+00 Lt	1380.8	Ton
		Sta 545+00 Rt to Sta 565+00 Rt	1303.0	Ton
		Total	2683.8	Ton



Legend

Saw Bituminous Surfacing - Full Depth

① Removal of Pavement (Includes Asphalt Surfacing, Concrete Pavement, Aggregate)

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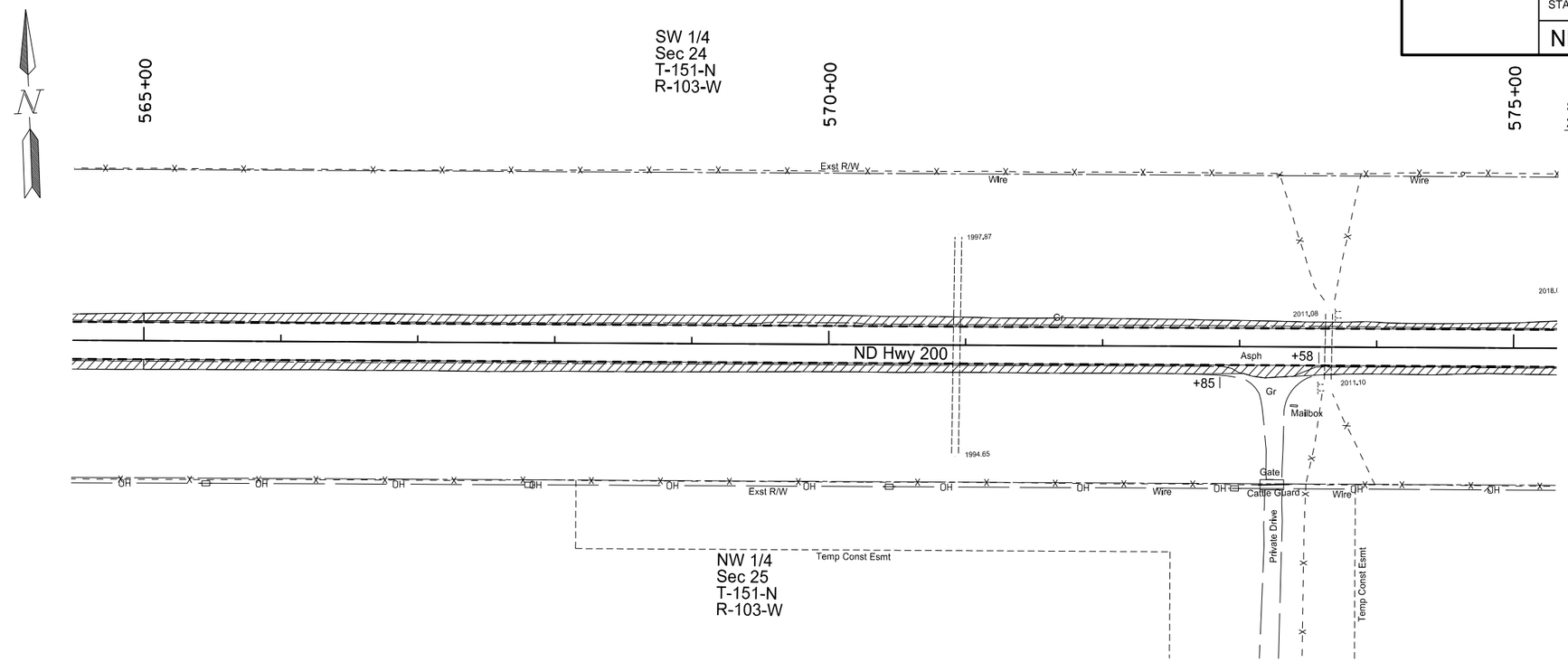
Removals

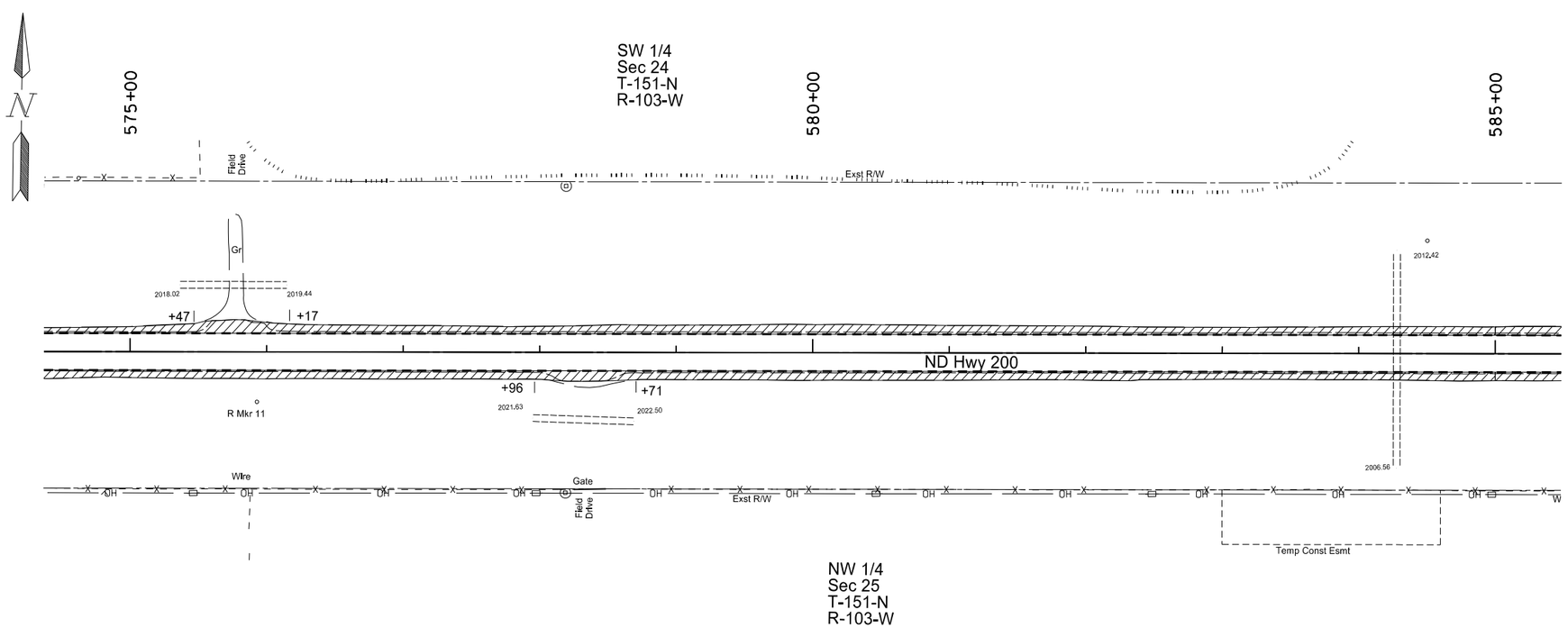
Sta 545+00 to Sta 565+00

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	40	19



Spec	Code	Bid Item	Qty	Unit
202	0136	Removal of Pavement		
		Sta 565+00 Lt to Sta 585+00 Lt	1364.9	Ton
		Sta 565+00 Rt to Sta 585+00 Rt	1241.4	Ton
		Total	2606.3	Ton



Legend

Saw Bituminous Surfacing - Full Depth

① Removal of Pavement (Includes Asphalt Surfacing, Concrete Pavement, Aggregate)

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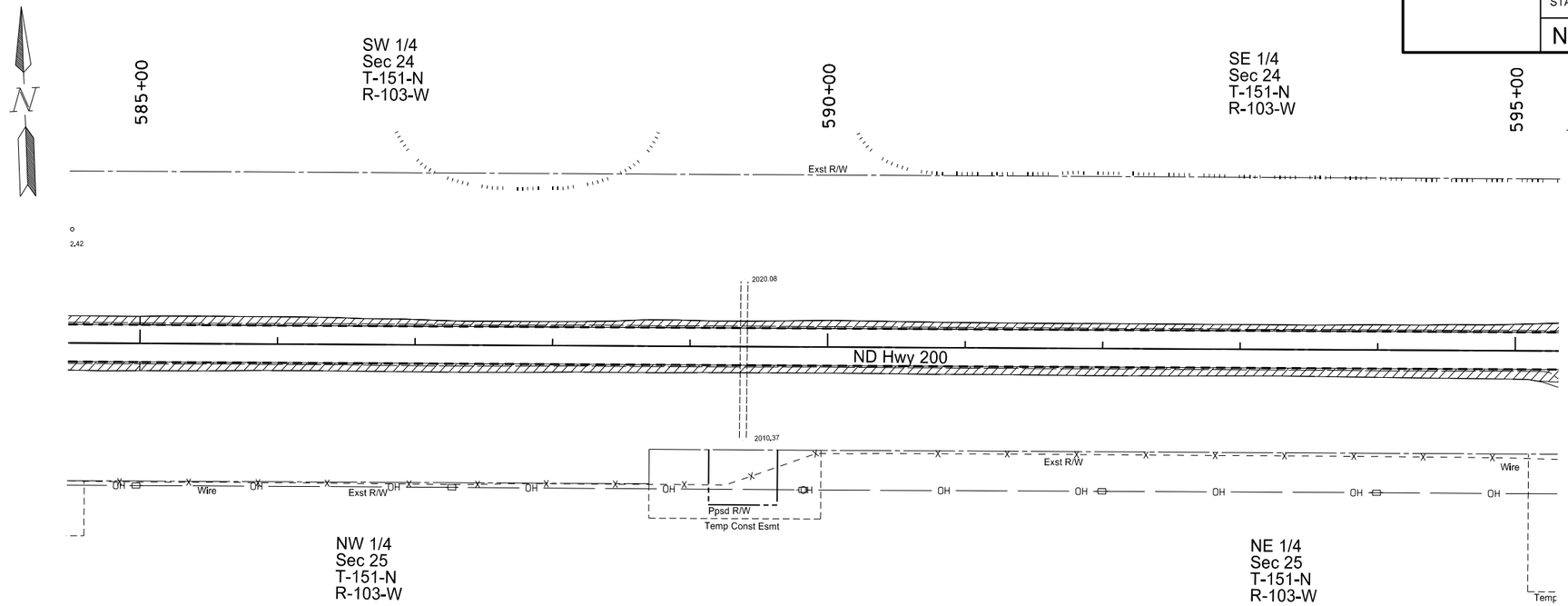
Removals

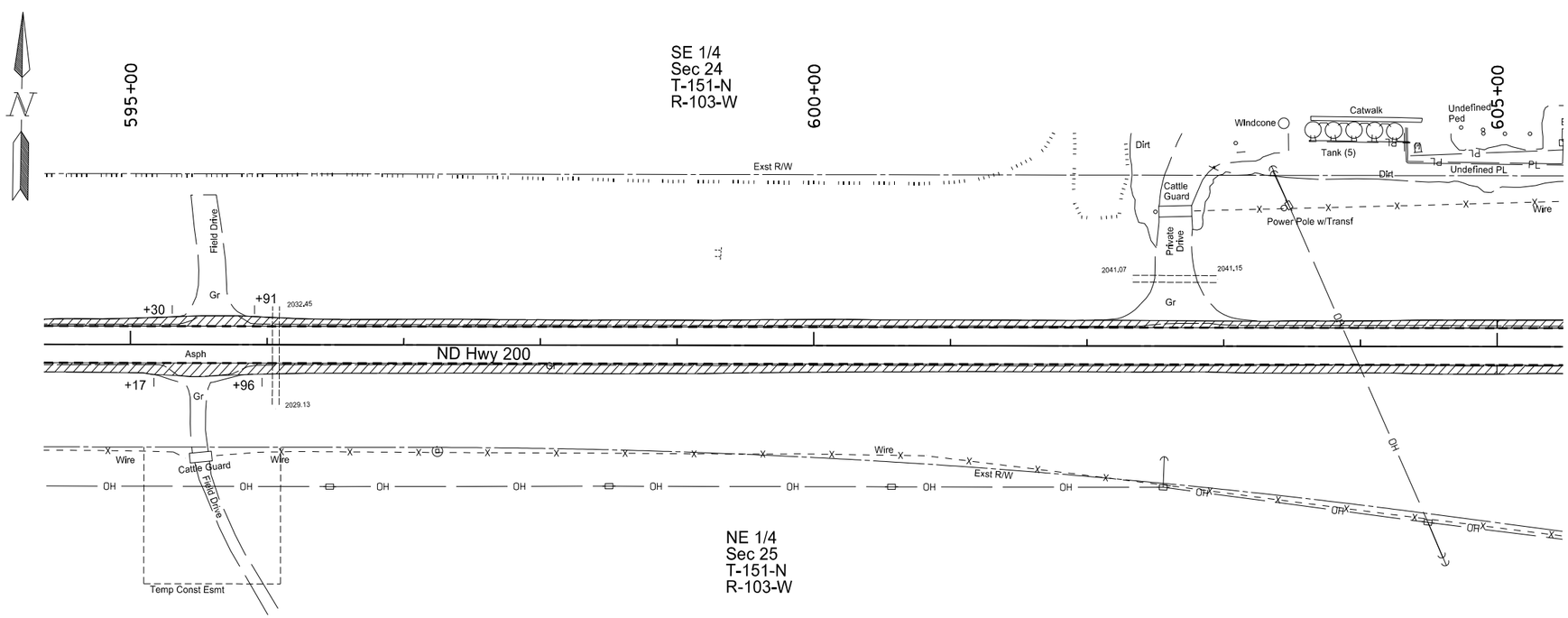
Sta 565+00 to Sta 585+00

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	40	20



Spec	Code	Bid Item	Qty	Unit
202	0136	Removal of Pavement		
		Sta 585+00 Lt to Sta 605+00 Lt	1332.9	Ton
		Sta 585+00 Rt to Sta 605+00 Rt	1280.1	Ton
		Total	2613.0	Ton



Legend

Saw Bituminous Surfacing - Full Depth

① Removal of Pavement (Includes Asphalt Surfacing, Concrete Pavement, Aggregate)

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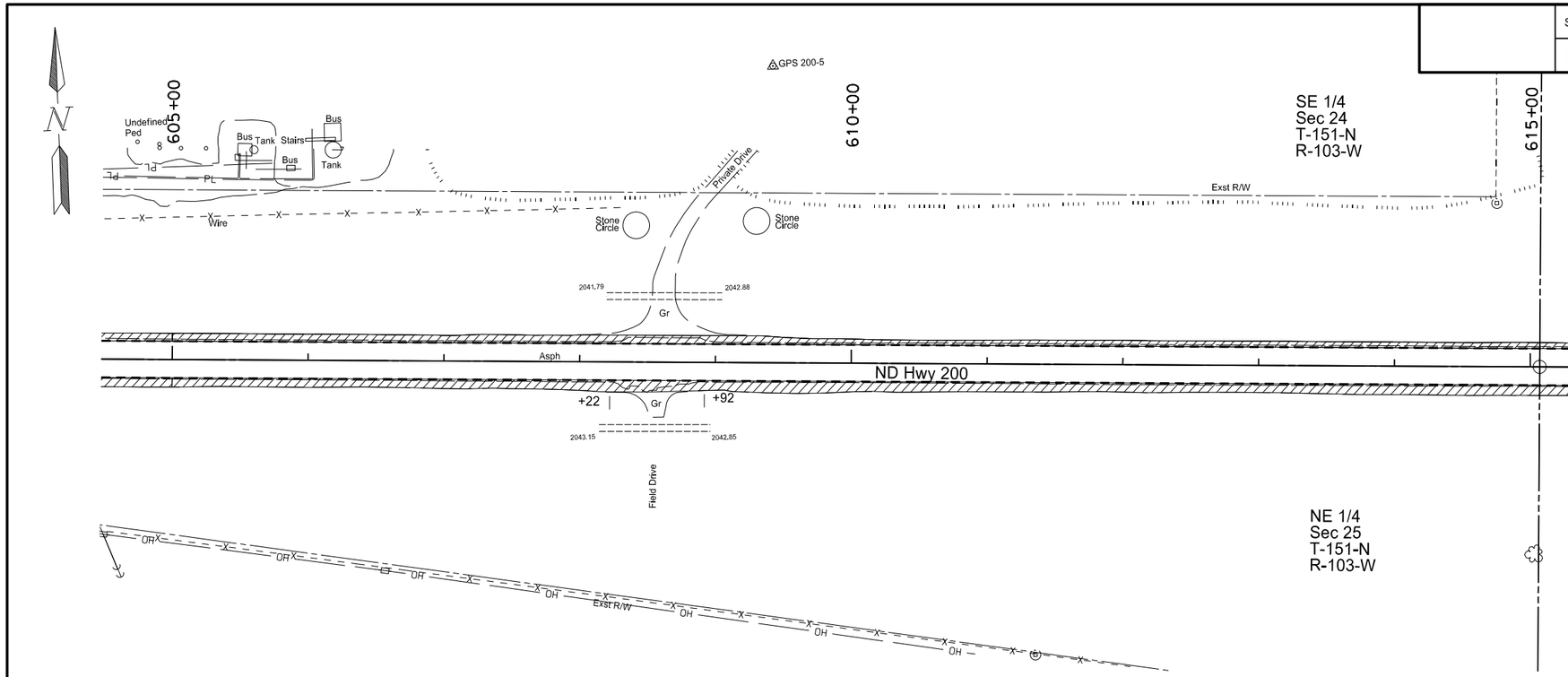
Removals

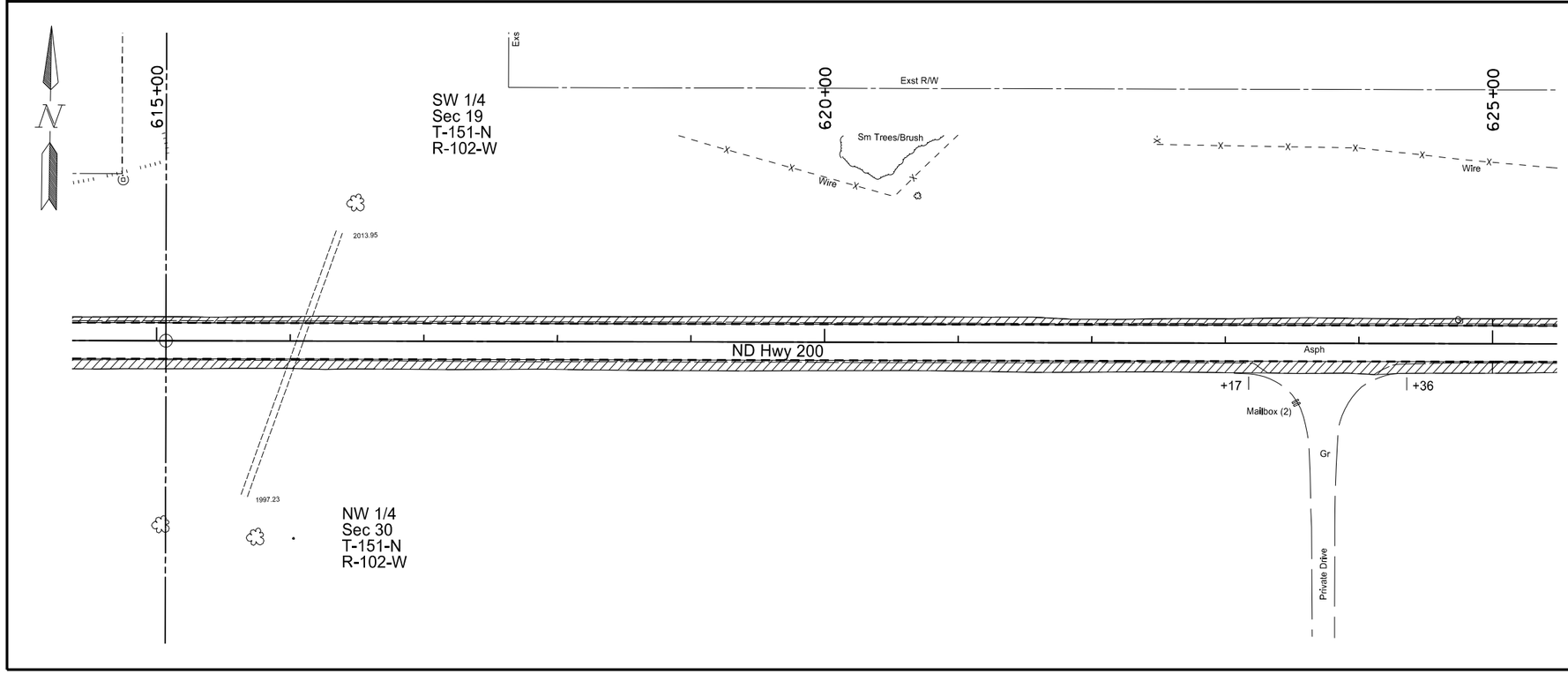
Sta 585+00 to Sta 605+00

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	40	21



Spec	Code	Bid Item	Qty	Unit
202	0136	Removal of Pavement		
		Sta 605+00 Lt to Sta 625+00 Lt	1395.5	Ton
		Sta 605+00 Rt to Sta 625+00 Rt	1209.6	Ton
		Total	2605.1	Ton



Legend

Saw Bituminous Surfacing - Full Depth

① Removal of Pavement (Includes Asphalt Surfacing, Concrete Pavement, Aggregate)

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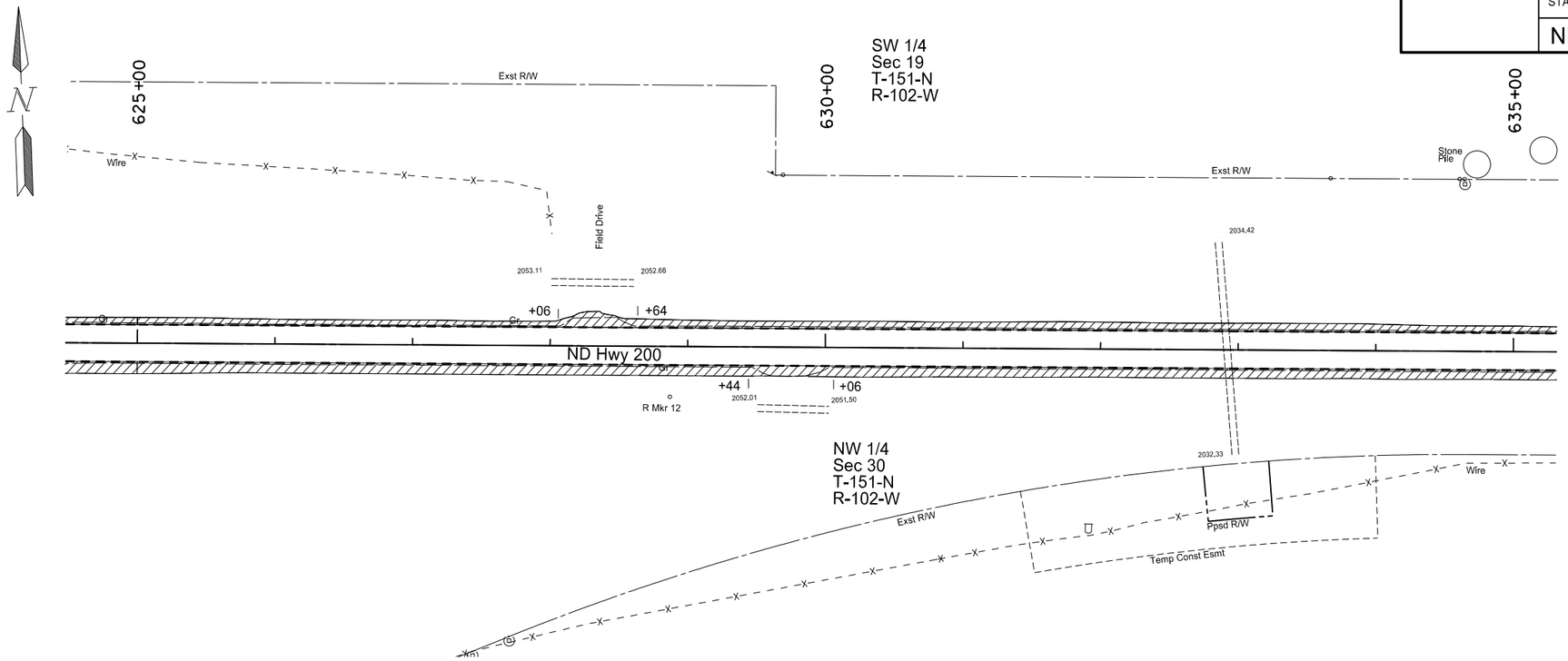
Removals

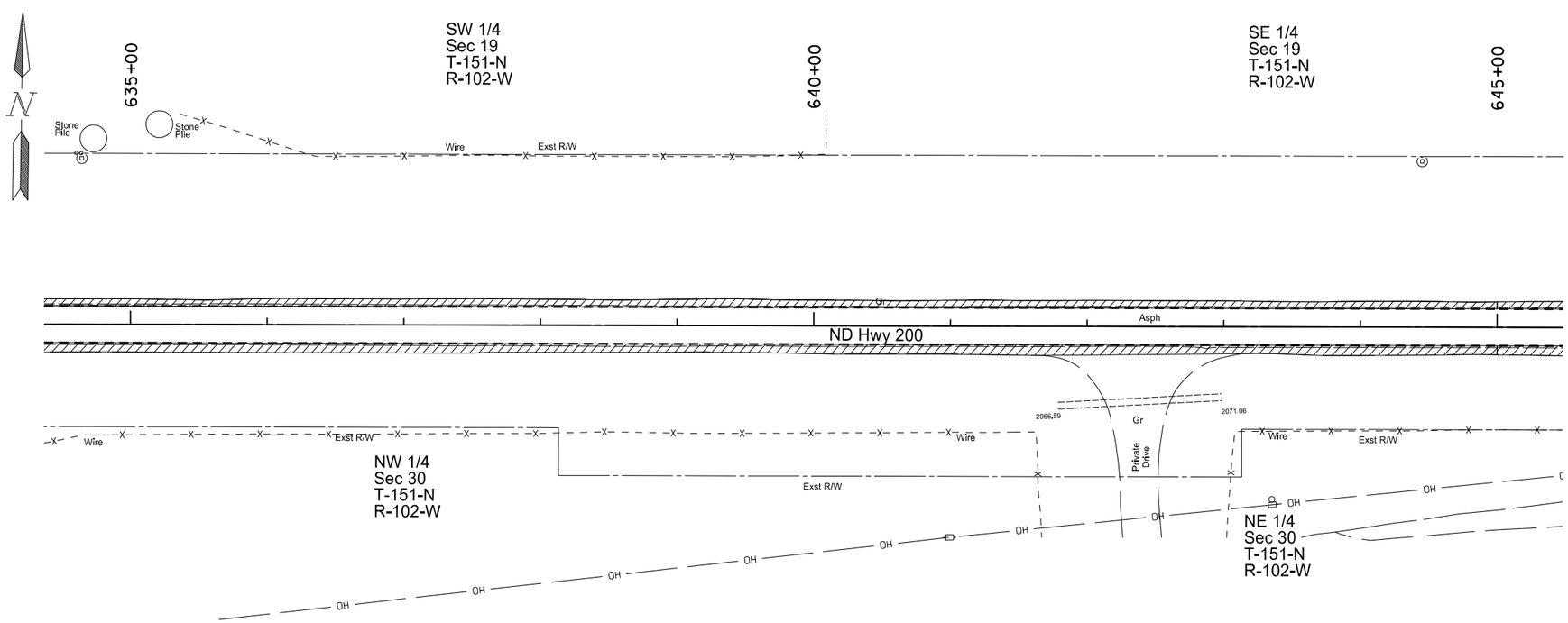
Sta 605+00 to Sta 625+00

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	40	22



Spec	Code	Bid Item	Qty	Unit
202	0136	Removal of Pavement		
		Sta 625+00 Lt to Sta 645+00 Lt	1275.8	Ton
		Sta 625+00 Rt to Sta 645+00 Rt	1344.3	Ton
		Total	2620.1	Ton



Legend

Saw Bituminous Surfacing - Full Depth

① Removal of Pavement (Includes Asphalt Surfacing, Concrete Pavement, Aggregate)

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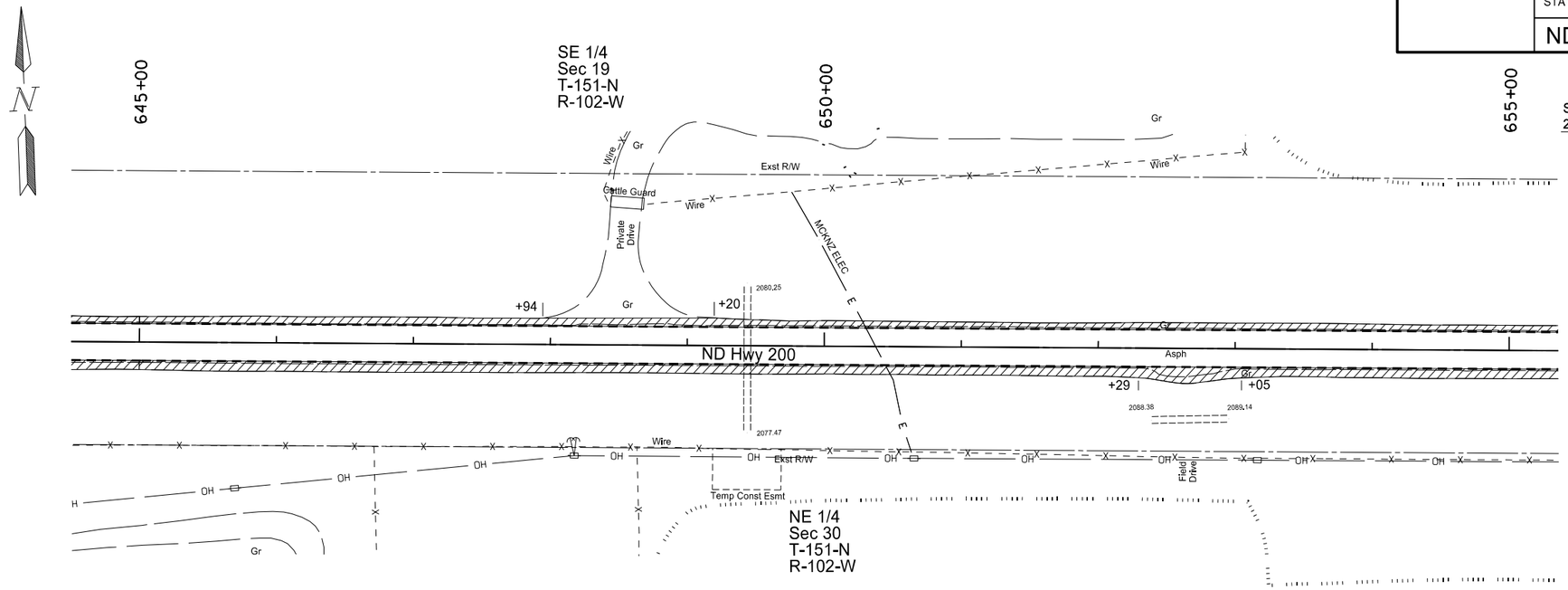
Removals

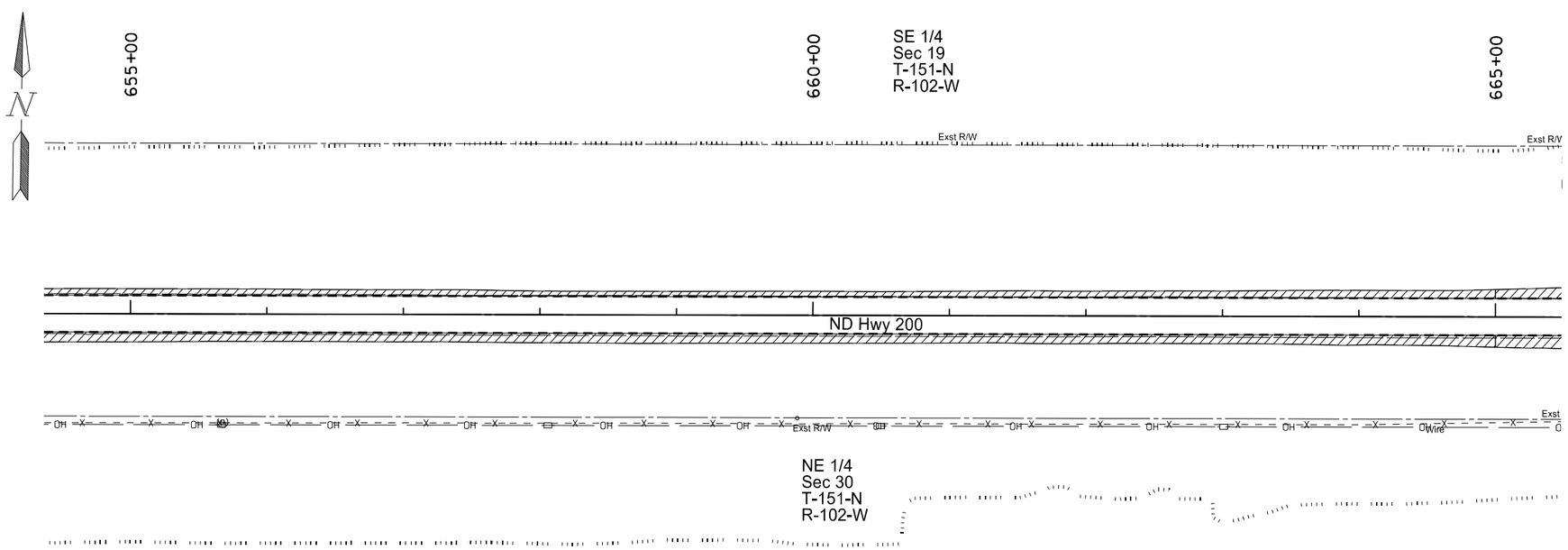
Sta 625+00 to Sta 645+00

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	40	23



Spec	Code	Bid Item	Qty	Unit
202	0136	Removal of Pavement		
		Sta 645+00 Lt to Sta 665+00 Lt	1204.8	Ton
		Sta 645+00 Rt to Sta 665+00 Rt	1381.1	Ton
		Total	2585.9	Ton



Legend

Saw Bituminous Surfacing - Full Depth

① Removal of Pavement (Includes Asphalt Surfacing, Concrete Pavement, Aggregate)

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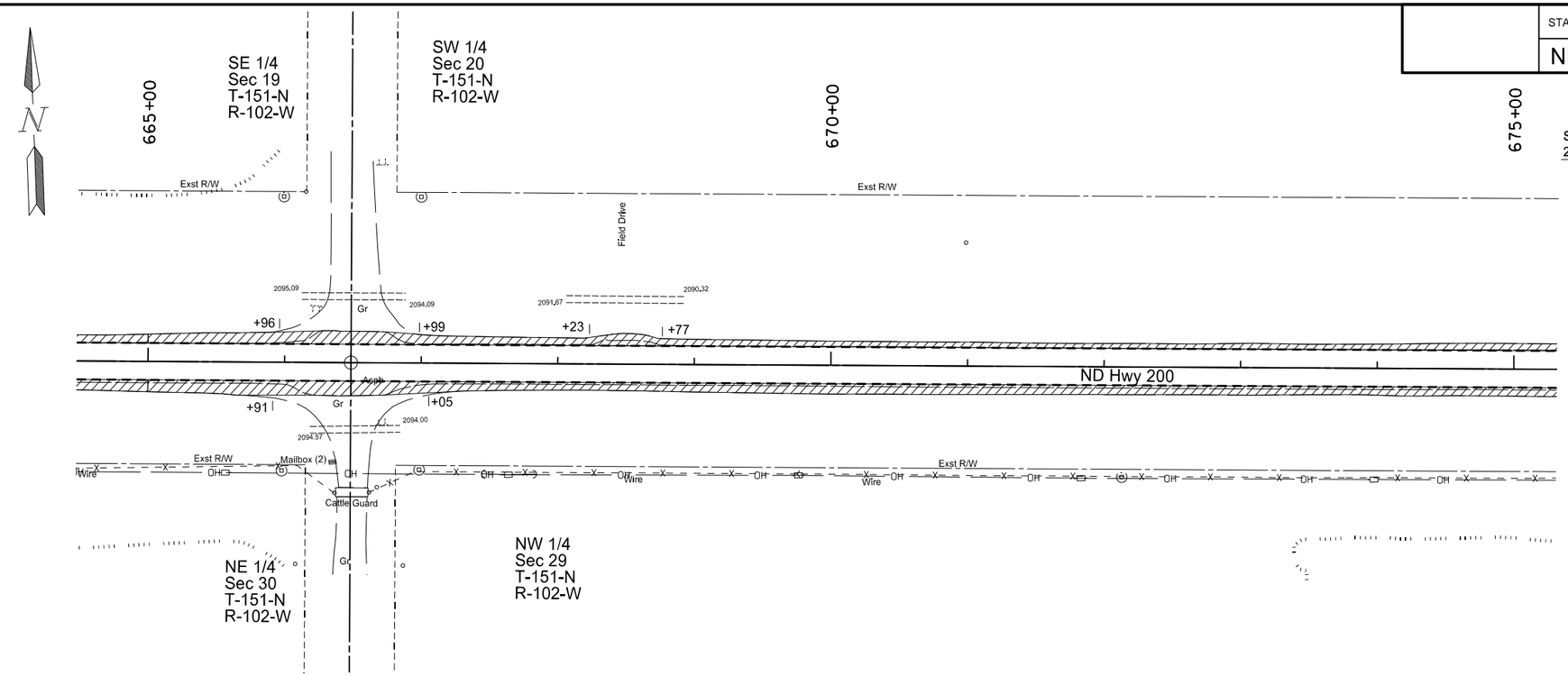
Removals

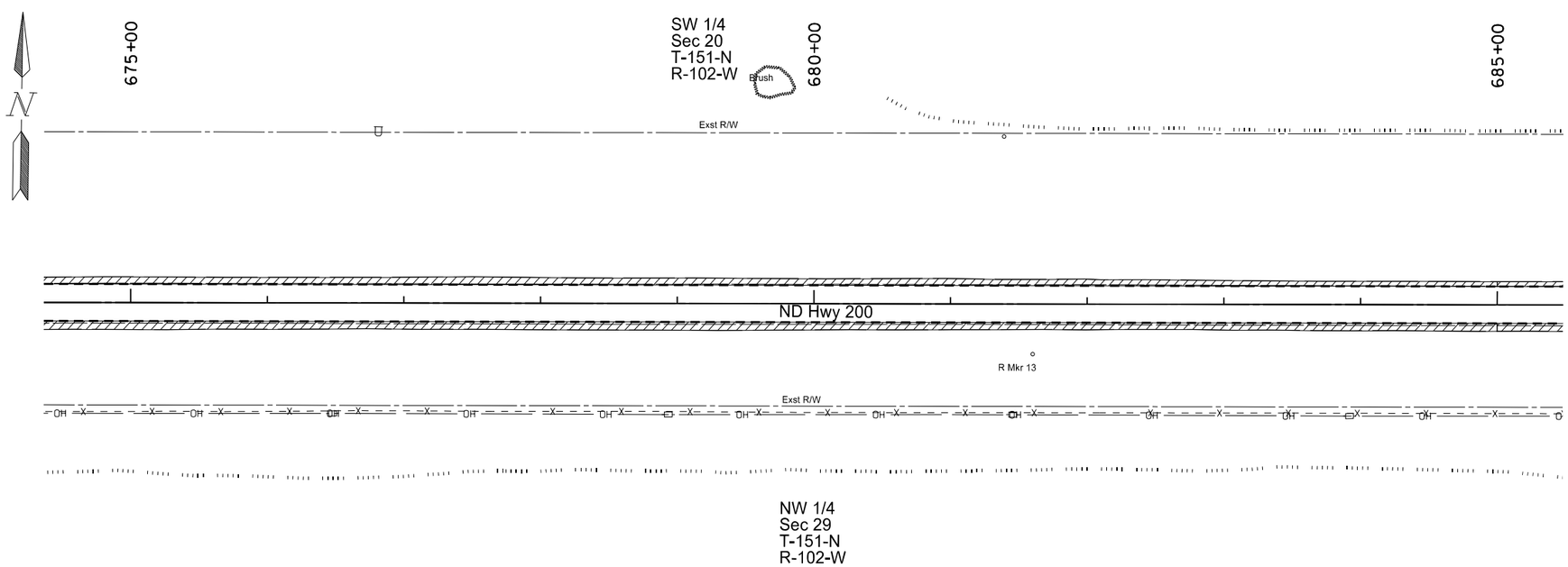
Sta 645+00 to Sta 665+00

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	40	24



Spec	Code	Bid Item	Qty	Unit
202	0136	Removal of Pavement		
		Sta 265+00 Lt to Sta 285+00 Lt	981.3	Ton
		Sta 265+00 Rt to Sta 285+00 Rt	1439.2	Ton
		Total	2420.5	Ton



Legend

Saw Bituminous Surfacing - Full Depth

① Removal of Pavement (Includes Asphalt Surfacing, Concrete Pavement, Aggregate)

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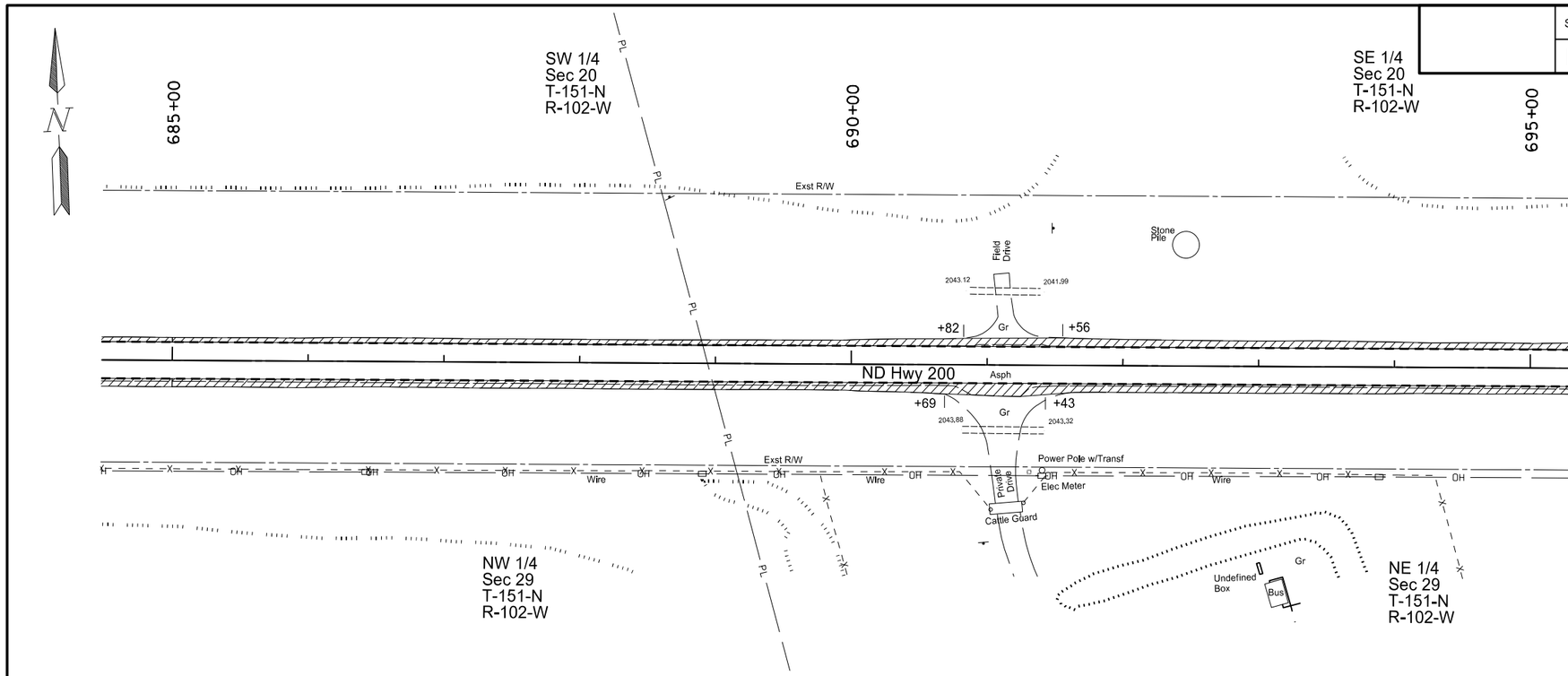
Removals

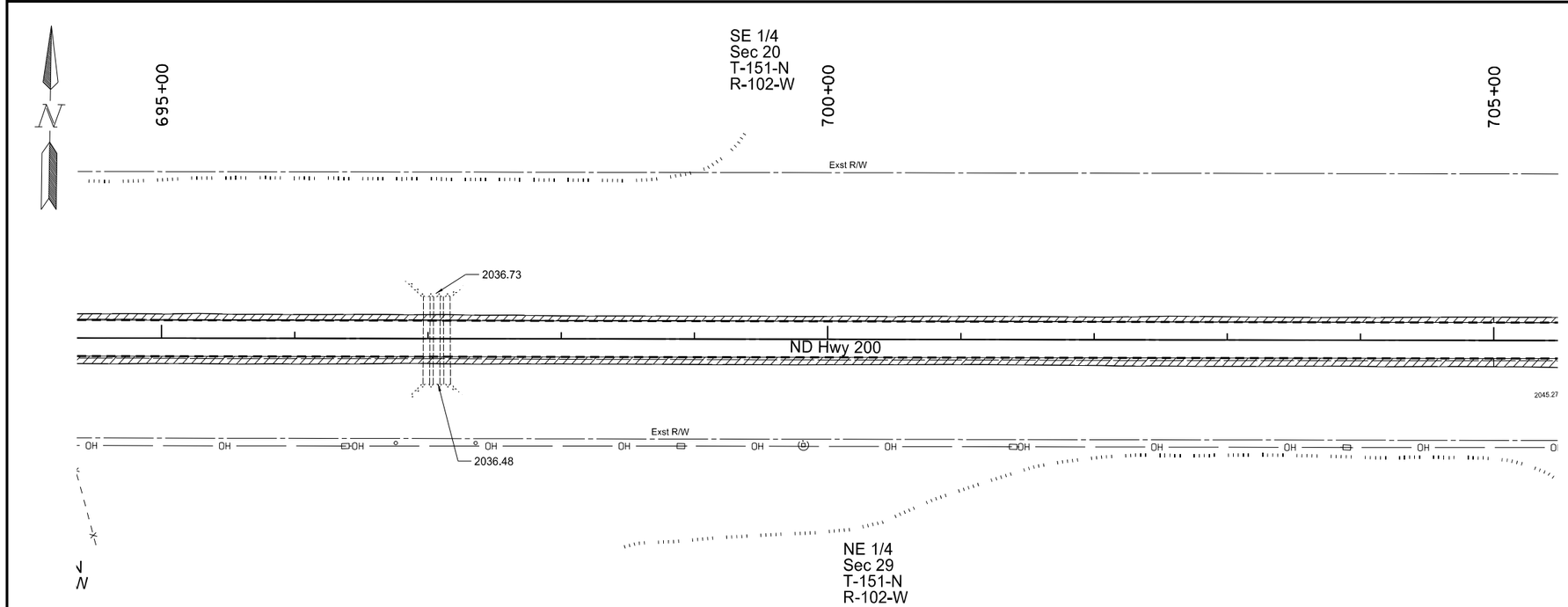
Sta 665+00 to Sta 685+00

ND Hwy 200
Major Rehabilitation
RP 4.250 to RP 18.684

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	40	25



Spec	Code	Bid Item	Qty	Unit
202	0136	Removal of Pavement		
		Sta 685+00 Lt to Sta 705+00 Lt	1007.8	Ton
		Sta 685+00 Rt to Sta 705+00 Rt	1517.9	Ton
		Total	2525.7	Ton



Legend

Saw Bituminous Surfacing - Full Depth

① Removal of Pavement (Includes Asphalt Surfacing, Concrete Pavement, Aggregate)

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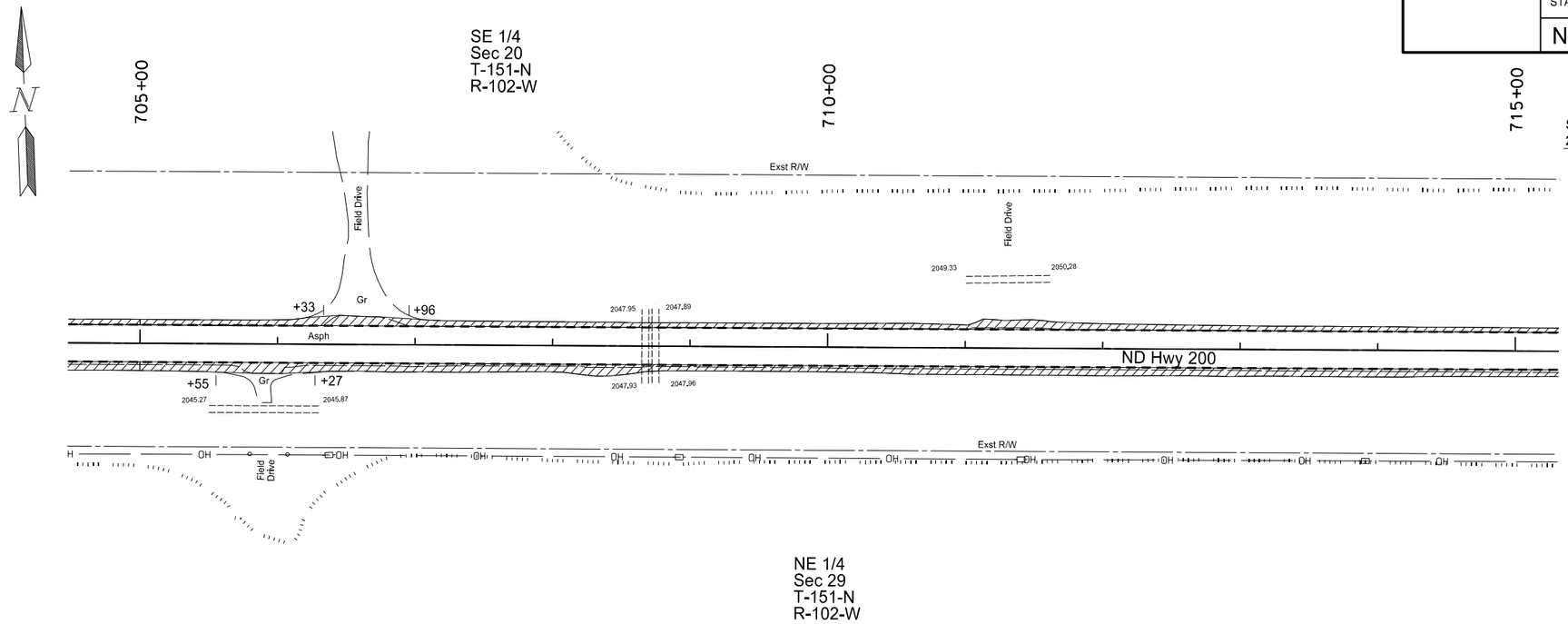
Removals

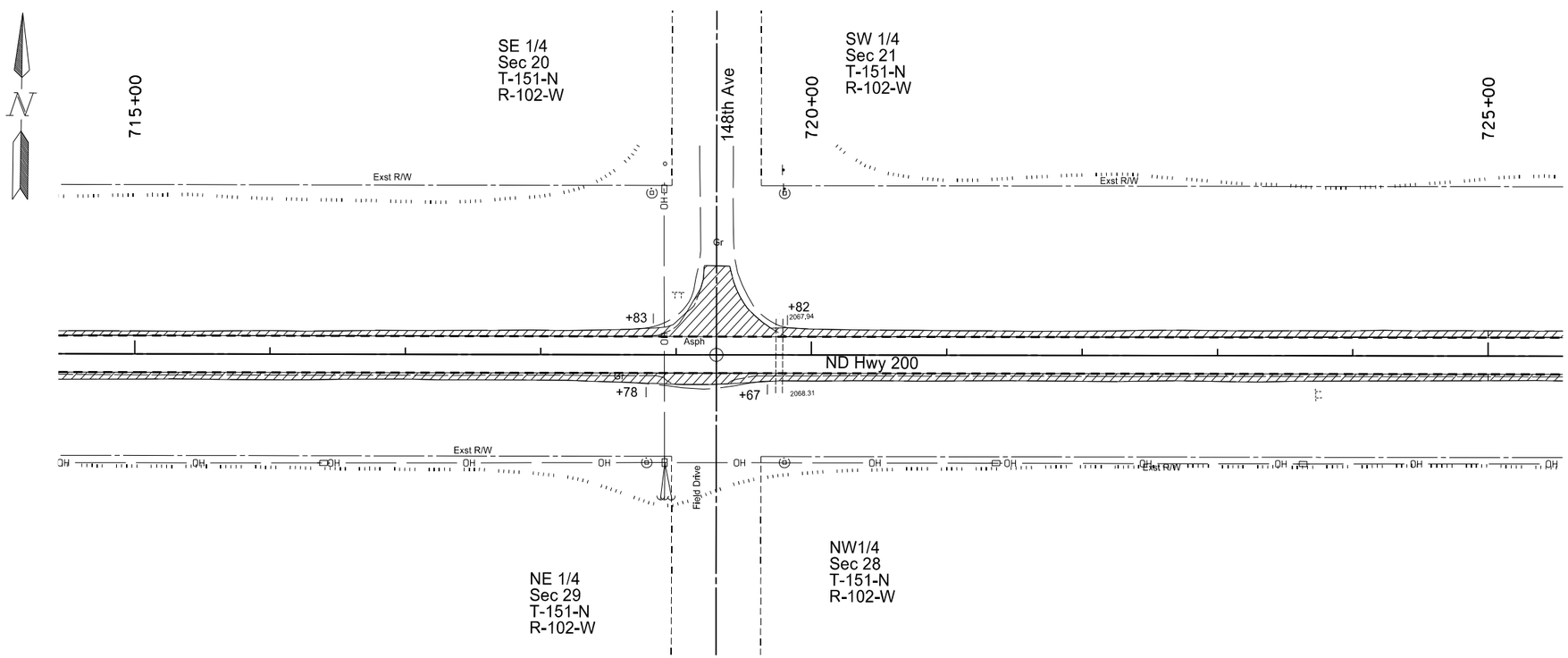
Sta 685+00 to Sta 705+00

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	40	26



Spec	Code	Bid Item		Qty	Unit
202	0136	Removal of Pavement			
		Sta 705+00 Lt to Sta 725+00 Lt		923.2	Ton
		Sta 705+00 Rt to Sta 725+00 Rt		1423.4	Ton
			Total	2345.6	Ton



Legend

Saw Bituminous Surfacing - Full Depth

① Removal of Pavement (Includes Asphalt Surfacing, Concrete Pavement, Aggregate)

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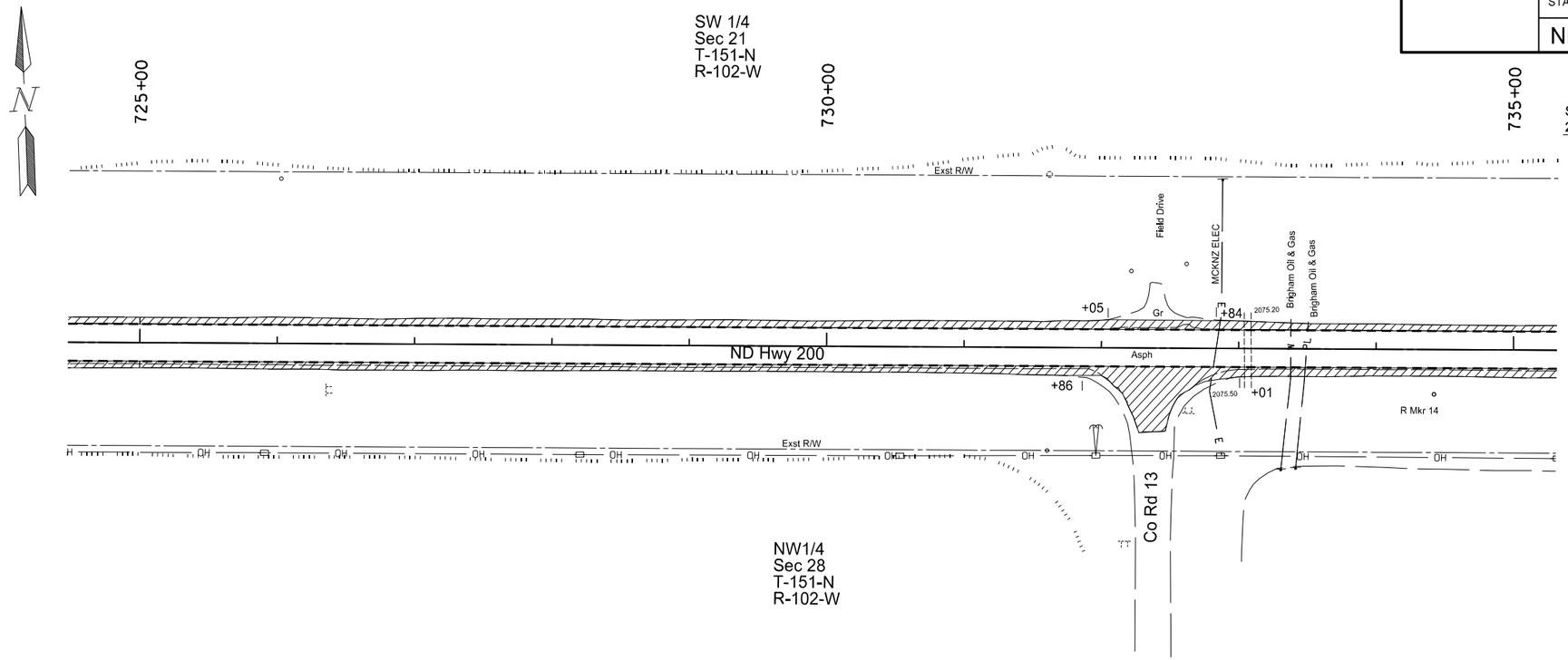
Removals

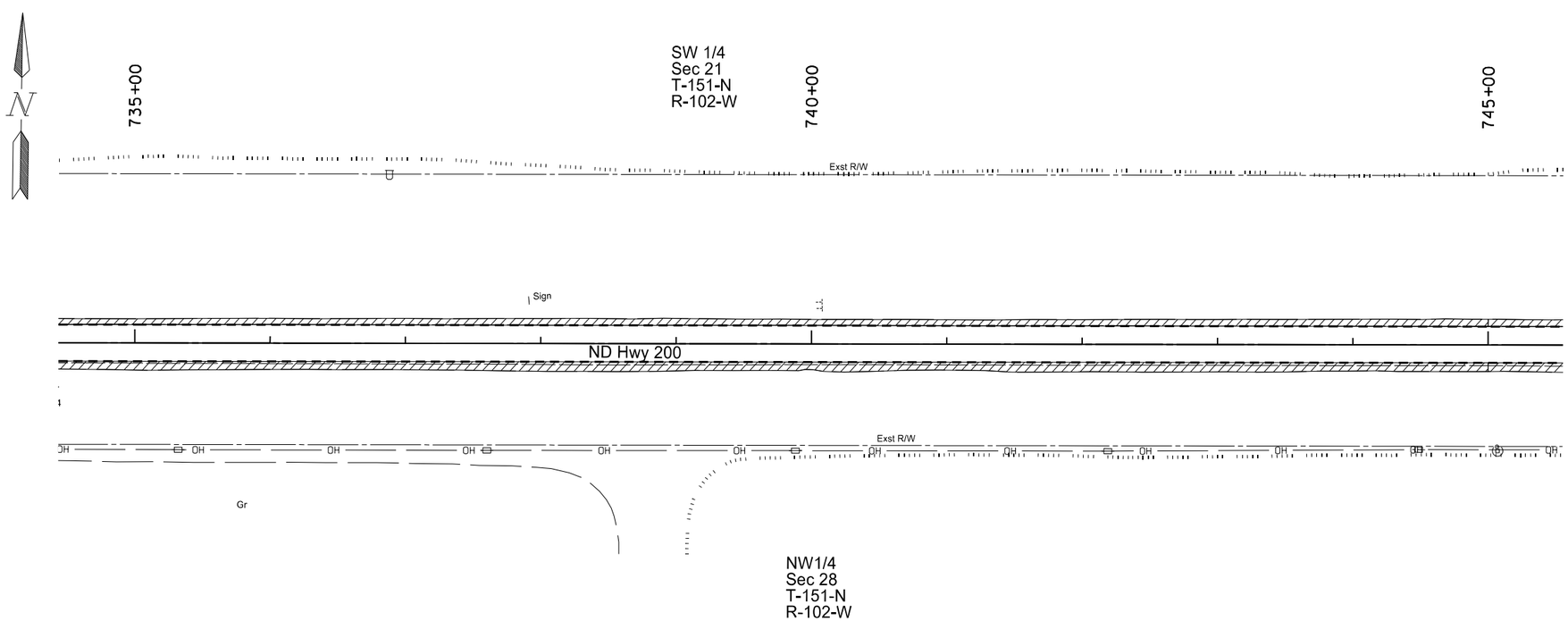
Sta 705+00 to Sta 725+00

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	40	27



Spec	Code	Bid Item	Qty	Unit
202	0136	Removal of Pavement		
		Sta 725+00 Lt to Sta 745+00 Lt	1011.0	Ton
		Sta 725+00 Rt to Sta 745+00 Rt	1495.6	Ton
		Total	2506.6	Ton



Legend

Saw Bituminous Surfacing - Full Depth

① Removal of Pavement (Includes Asphalt Surfacing, Concrete Pavement, Aggregate)

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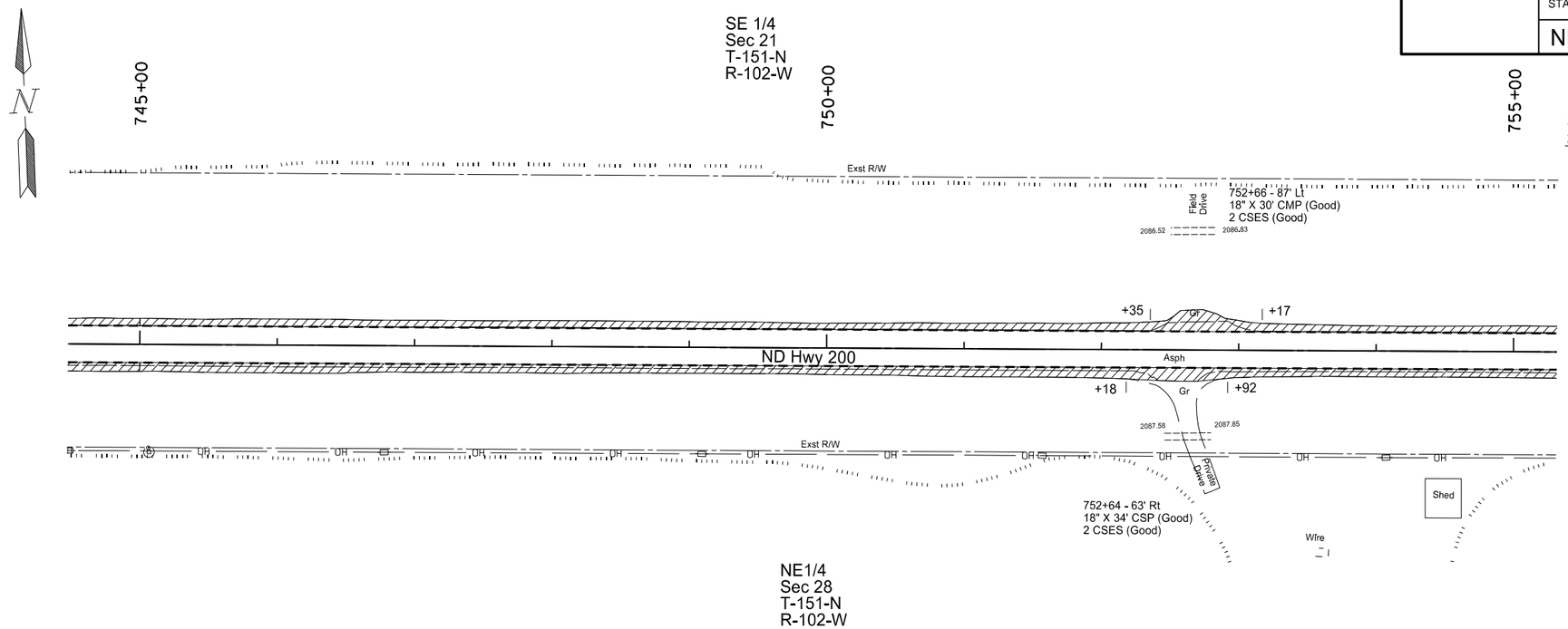
Removals

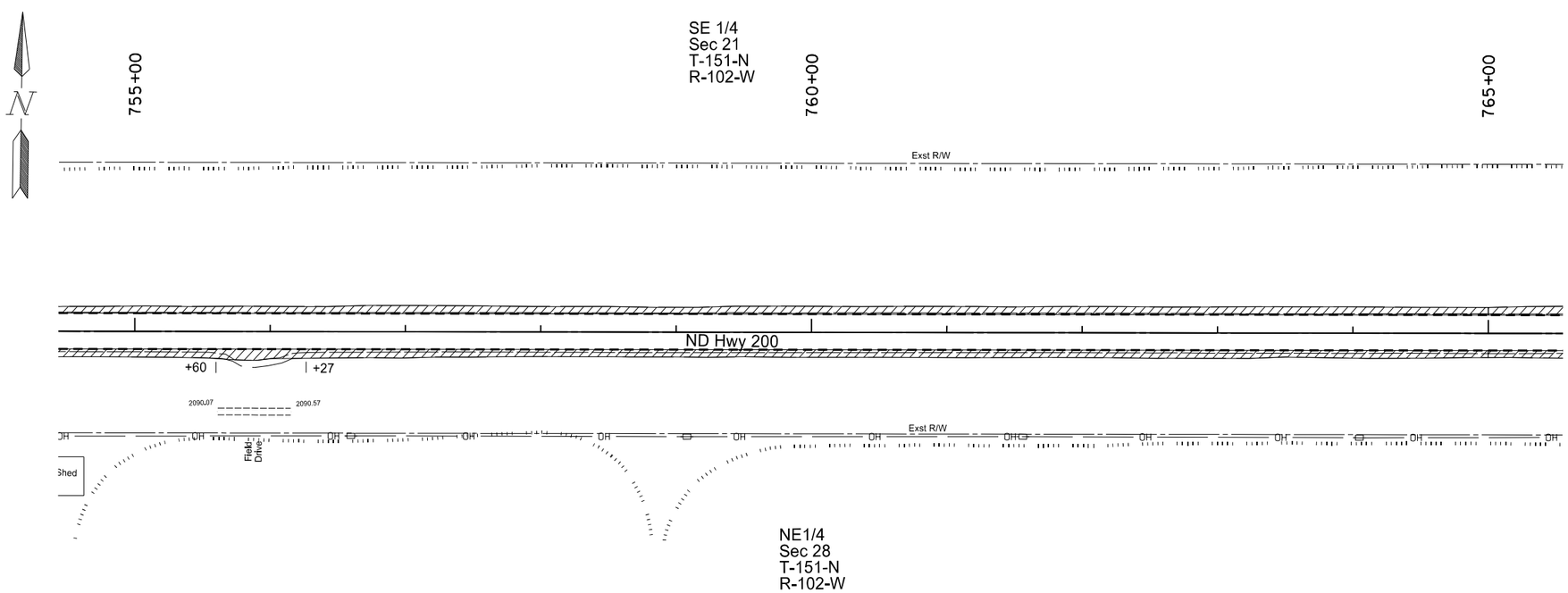
Sta 725+00 to Sta 745+00

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	40	28



Spec	Code	Bid Item	Qty	Unit
202	0136	Removal of Pavement		
		Sta 745+00 Lt to Sta 765+00 Lt	1082.4	Ton
		Sta 745+00 Rt to Sta 765+00 Rt	1560.1	Ton
		Total	2642.5	Ton



Legend

Saw Bituminous Surfacing - Full Depth

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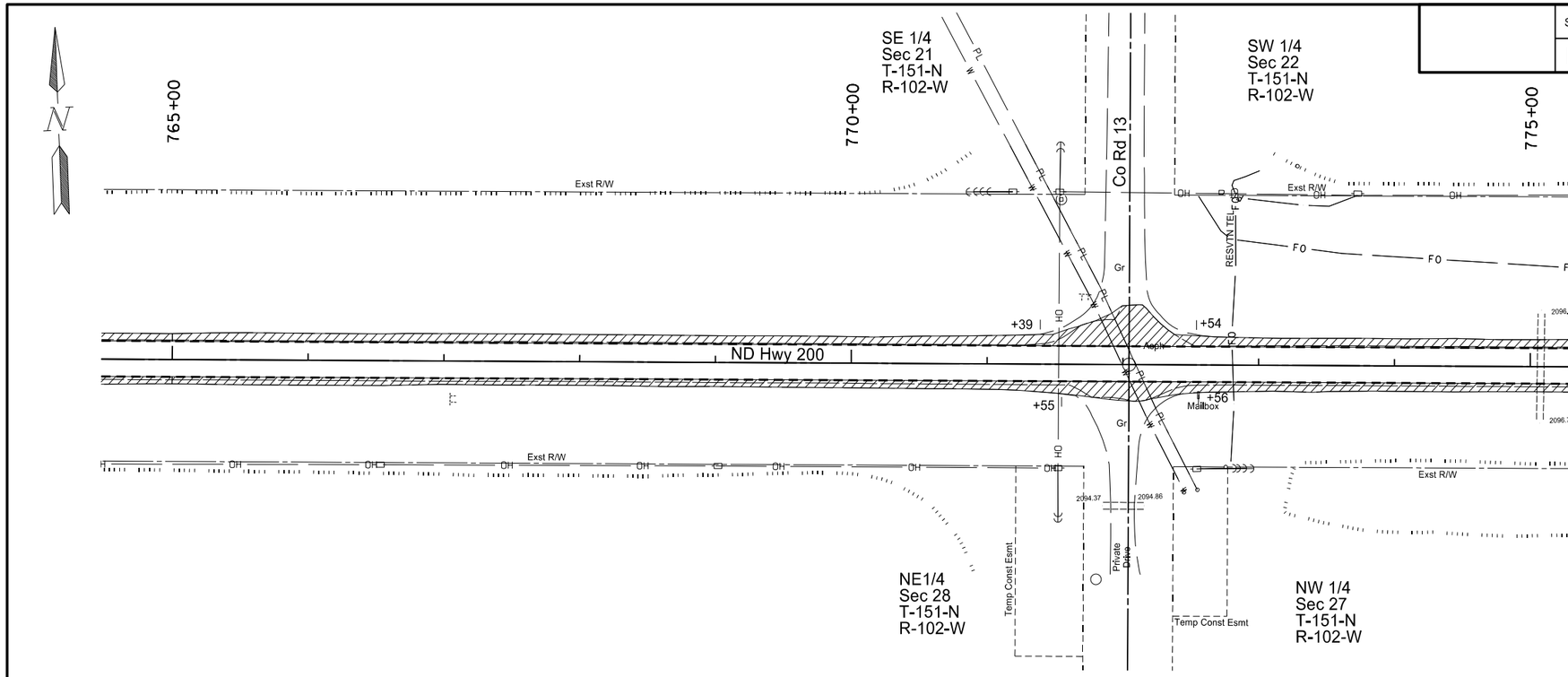
Removals

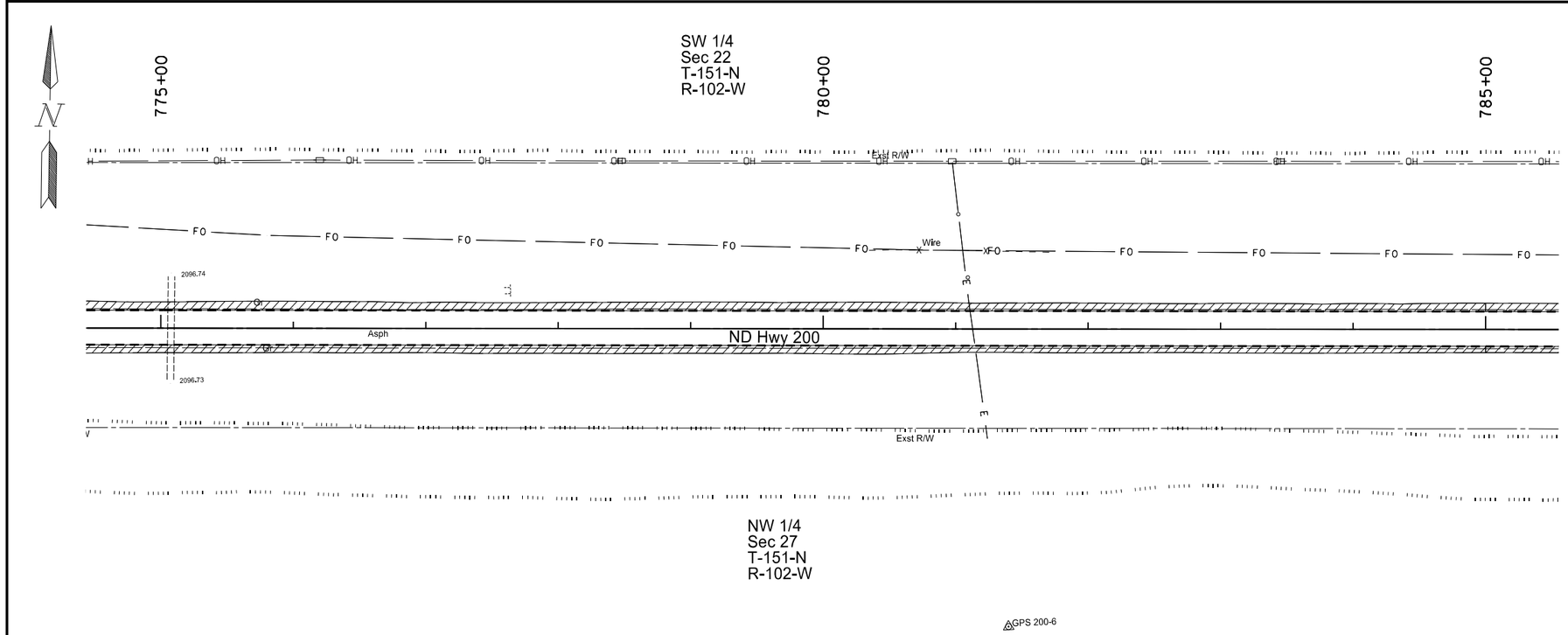
Sta 745+00 to Sta 765+00

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	40	29



Spec	Code	Bid Item	Qty	Unit
202	0136	Removal of Pavement		
		Sta 765+00 Lt to Sta 785+00 Lt	1199.4	Ton
		Sta 765+00 Rt to Sta 785+00 Rt	1550.6	Ton
		Total	2750.0	Ton



Legend

Saw Bituminous Surfacing - Full Depth

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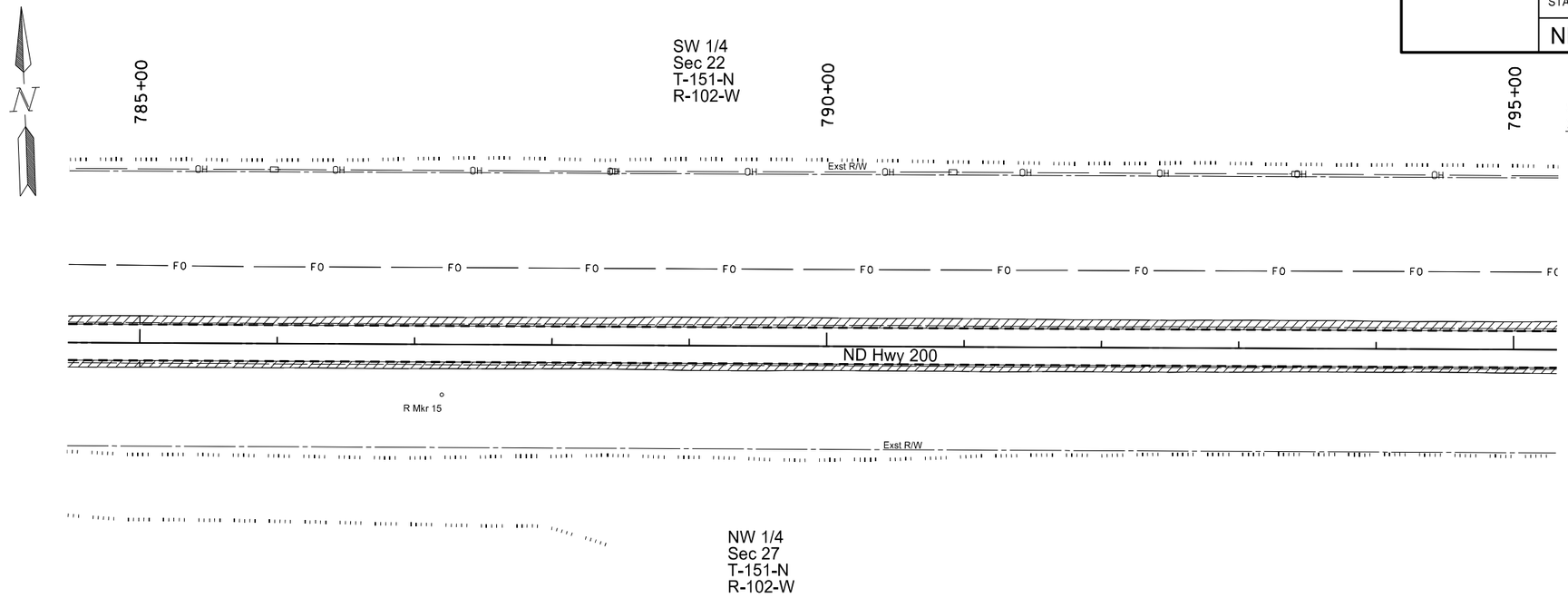
Removals

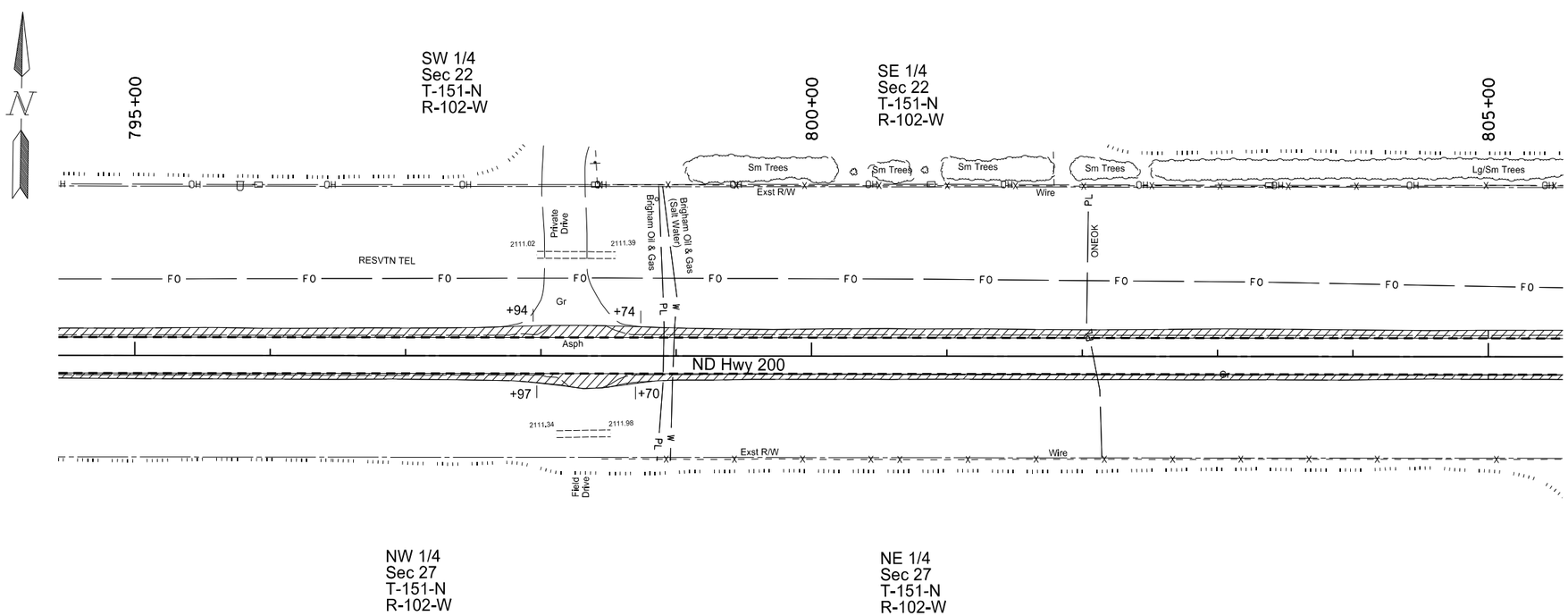
Sta 765+00 to Sta 785+00

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	40	30



Spec	Code	Bid Item	Qty	Unit
202	0136	Removal of Pavement		
		Sta 785+00 Lt to Sta 805+00 Lt	1470.8	Ton
		Sta 785+00 Rt to Sta 805+00 Rt	1256.2	Ton
		Total	2727.0	Ton



Legend

Saw Bituminous Surfacing - Full Depth

① Removal of Pavement (Includes Asphalt Surfacing, Concrete Pavement, Aggregate)

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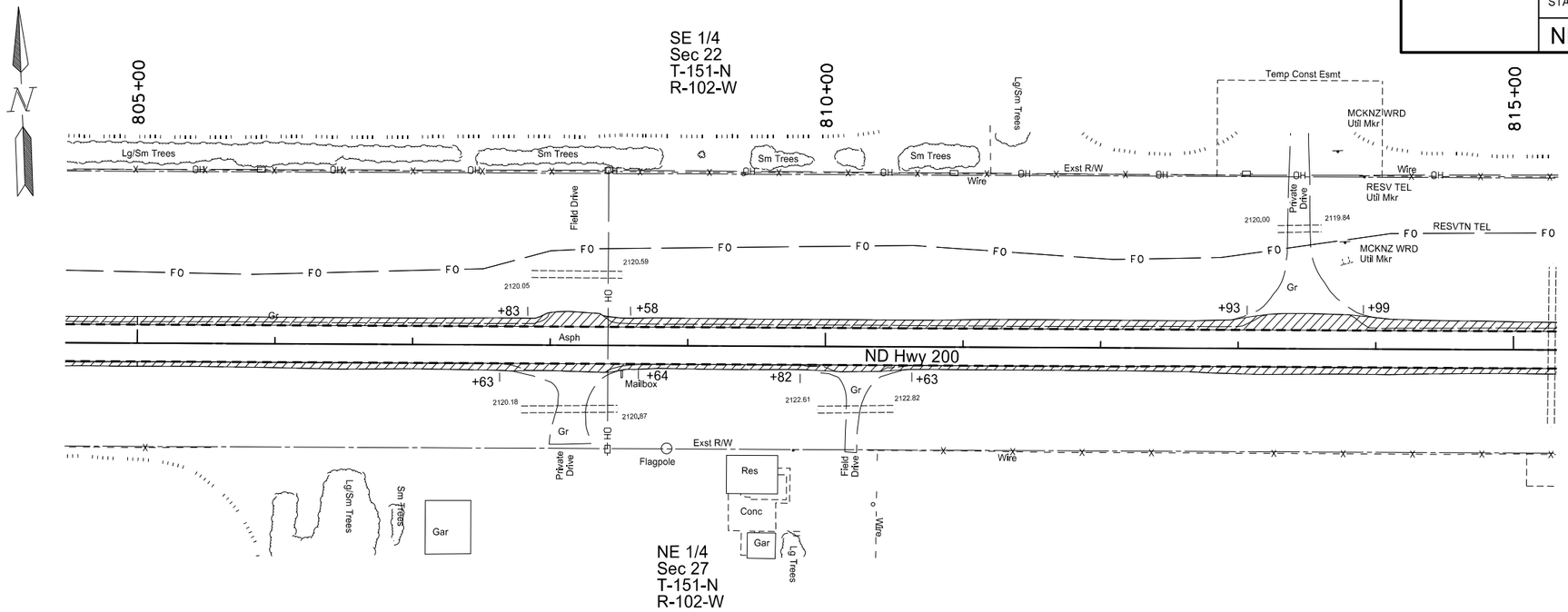
Removals

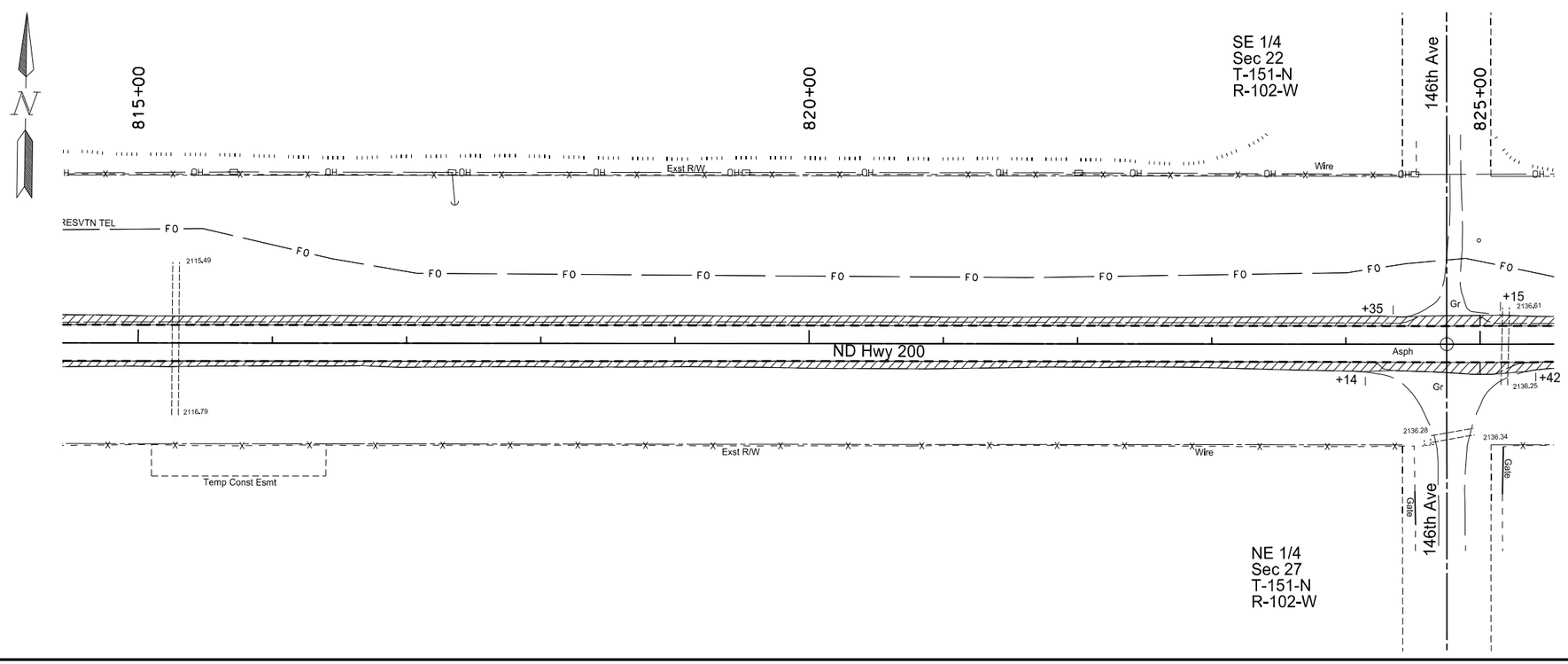
Sta 785+00 to Sta 805+00

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	40	31



Spec	Code	Bid Item	Qty	Unit
202	0136	Removal of Pavement		
		Sta 805+00 Lt to Sta 825+00 Lt	1475.5	Ton
		Sta 805+00 Rt to Sta 825+00 Rt	838.8	Ton
		Total	2314.3	Ton



Legend

Saw Bituminous Surfacing - Full Depth

① Removal of Pavement (Includes Asphalt Surfacing, Concrete Pavement, Aggregate)

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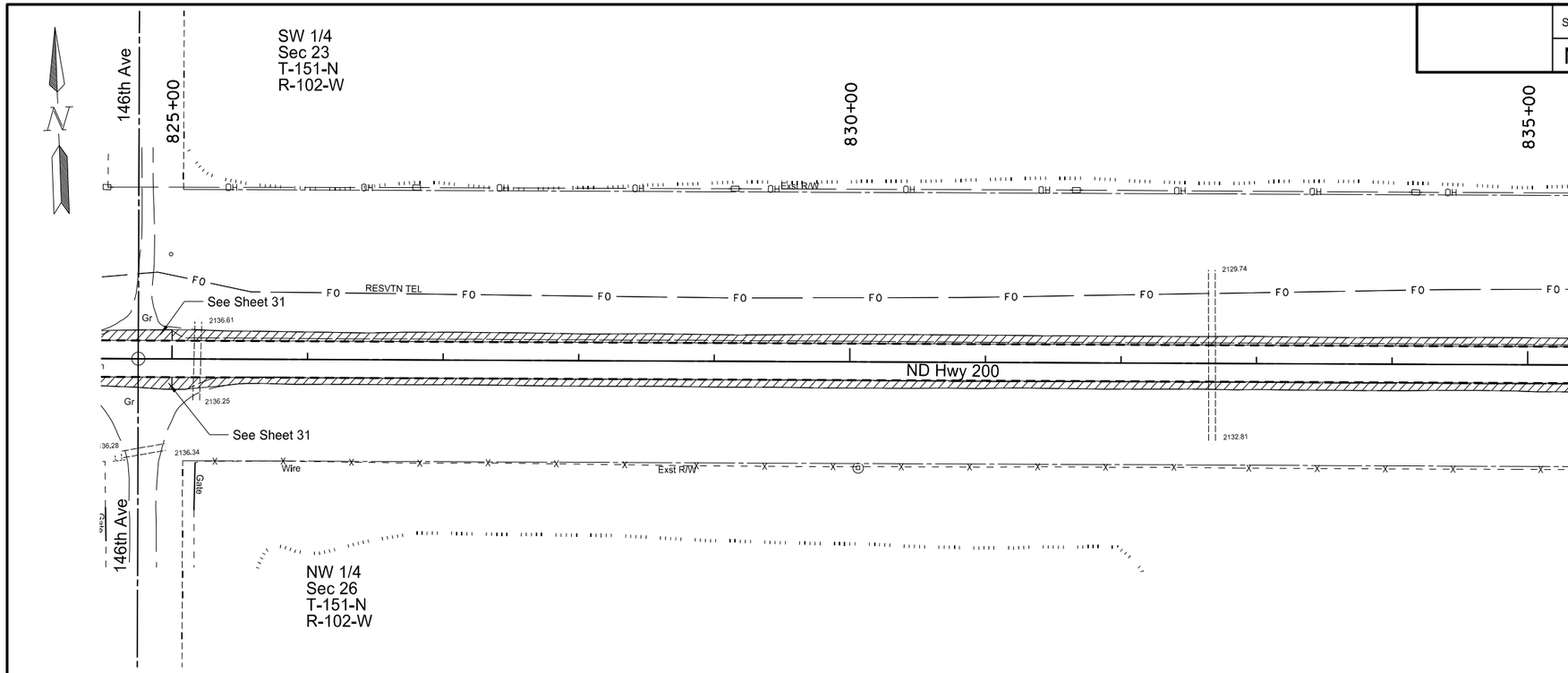
Removals

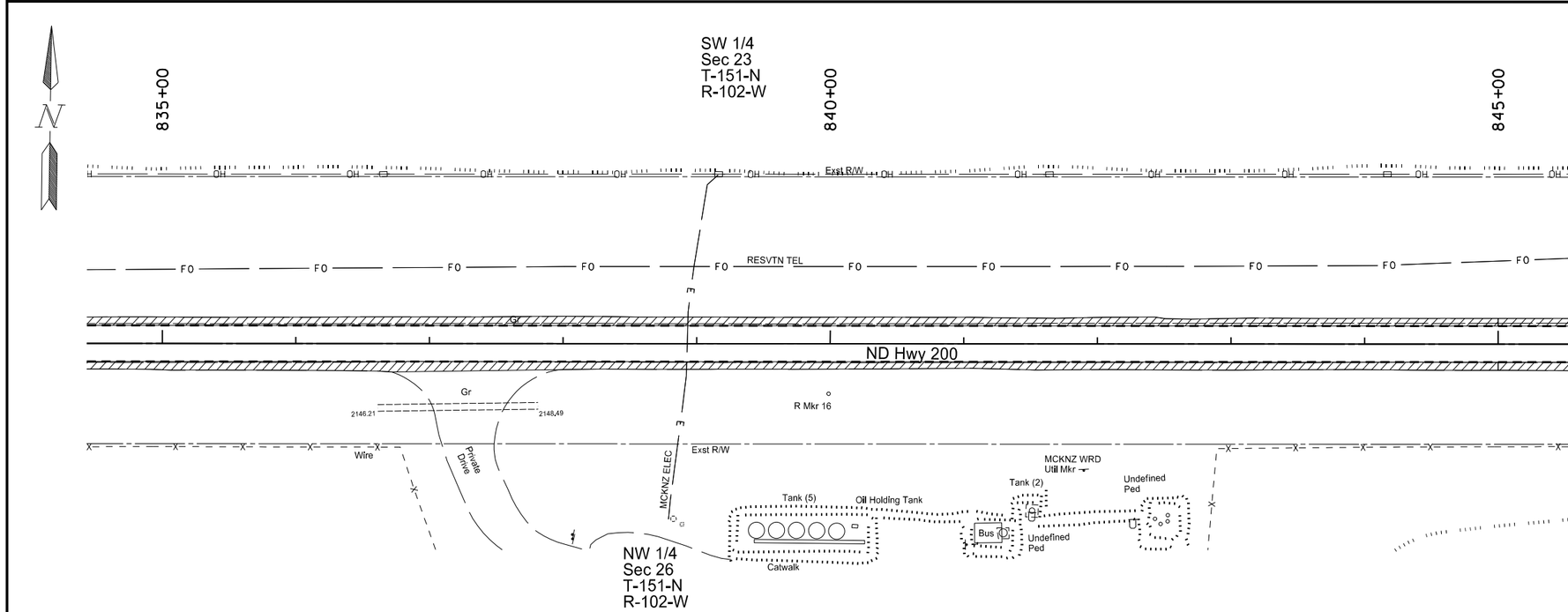
Sta 805+00 to Sta 825+00

ND Hwy 200
Major Rehabilitation
RP 4.250 to RP 18.285

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	40	32



Spec	Code	Bid Item	Qty	Unit
202	0136	Removal of Pavement		
		Sta 825+00 Lt to Sta 845+00 Lt	1364.6	Ton
		Sta 825+00 Rt to Sta 845+00 Rt	1161.4	Ton
		Total	2526.0	Ton



Legend

Saw Bituminous Surfacing - Full Depth

① Removal of Pavement (Includes Asphalt Surfacing, Concrete Pavement, Aggregate)

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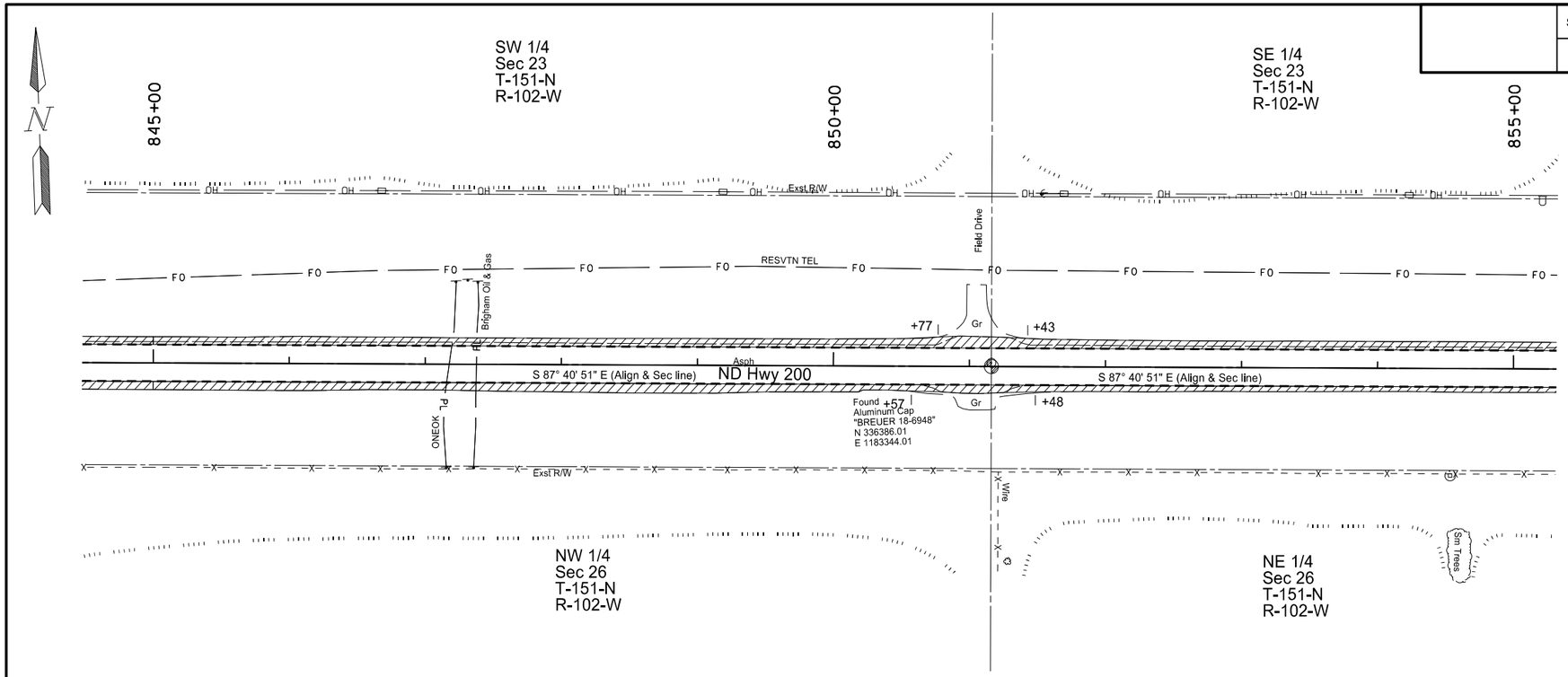
Removals

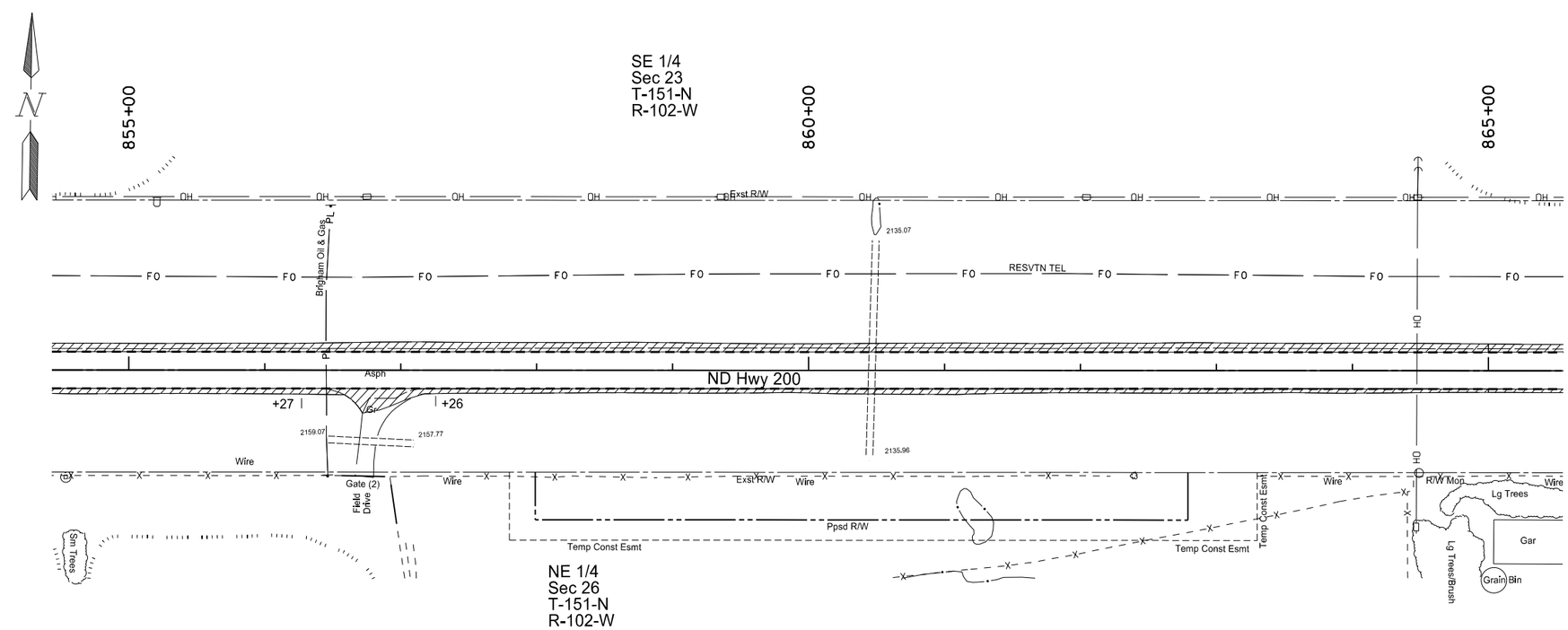
Sta 825+00 to Sta 845+00

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	40	33



Spec	Code	Bid Item	Qty	Unit
202	0136	Removal of Pavement		
		Sta 845+00 Lt to Sta 865+00 Lt	1500.6	Ton
		Sta 845+00 Rt to Sta 865+00 Rt	1059.9	Ton
		Total	2560.5	Ton



Legend

Saw Bituminous Surfacing - Full Depth

① Removal of Pavement (Includes Asphalt Surfacing, Concrete Pavement, Aggregate)

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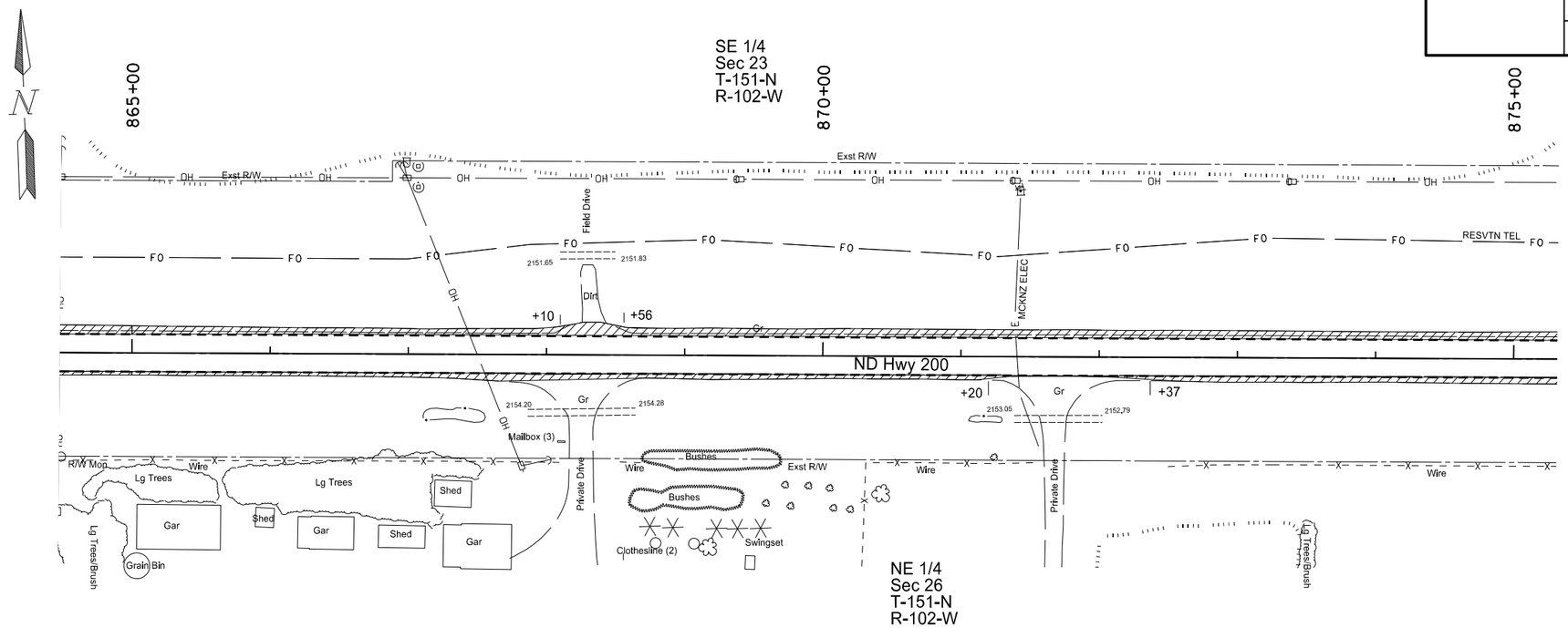
Removals

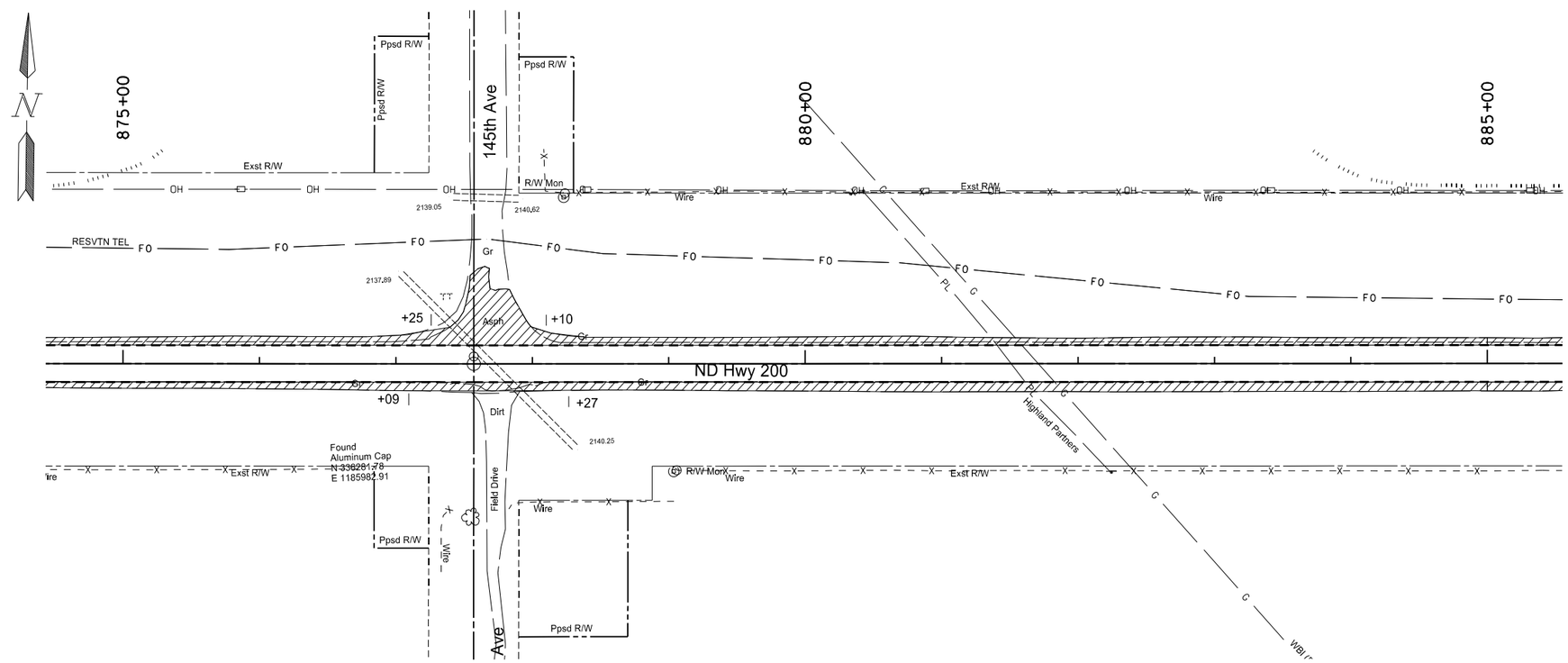
Sta 845+00 to Sta 865+00

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	40	34



Spec	Code	Bid Item	Qty	Unit
202	0136	Removal of Pavement		
		Sta 865+00 Lt to Sta 885+00 Lt	1283.6	Ton
		Sta 865+00 Rt to Sta 885+00 Rt	1067.6	Ton
		Total	2351.2	Ton



Legend

Saw Bituminous Surfacing - Full Depth

① Removal of Pavement (Includes Asphalt Surfacing, Concrete Pavement, Aggregate)

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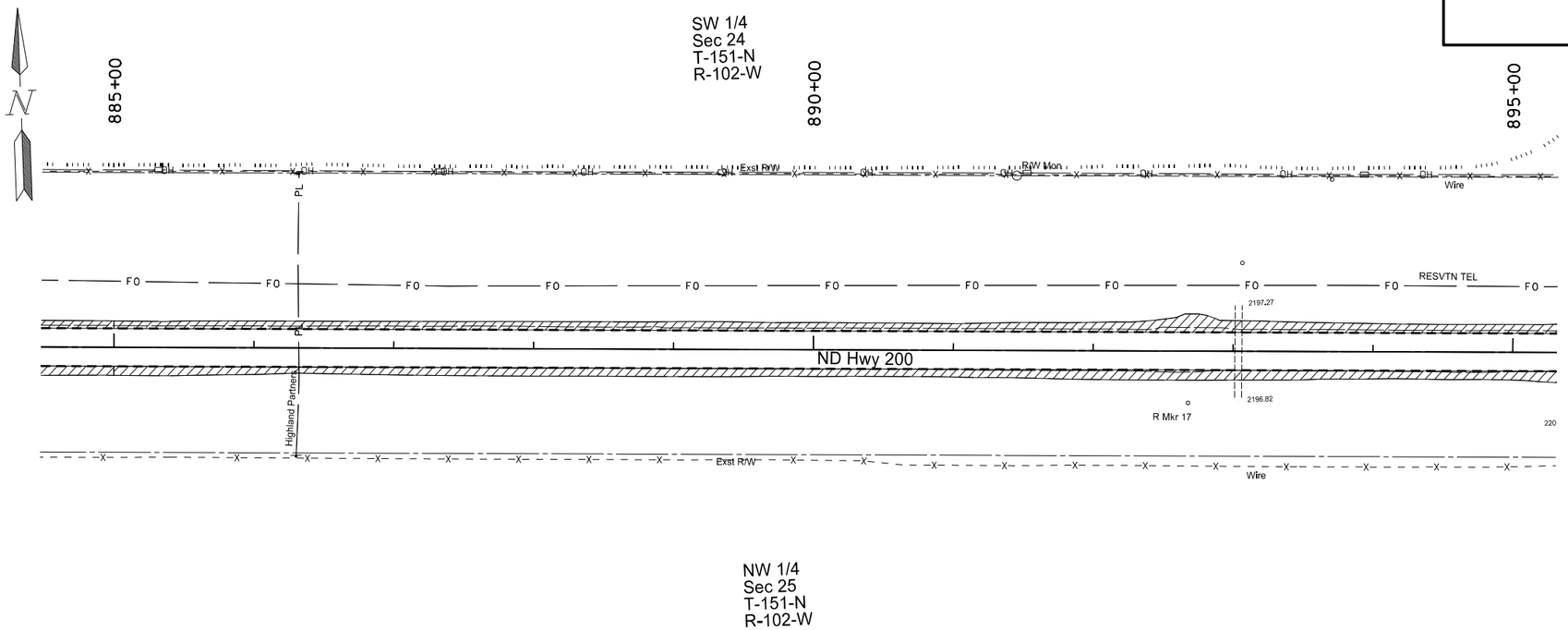
Removals

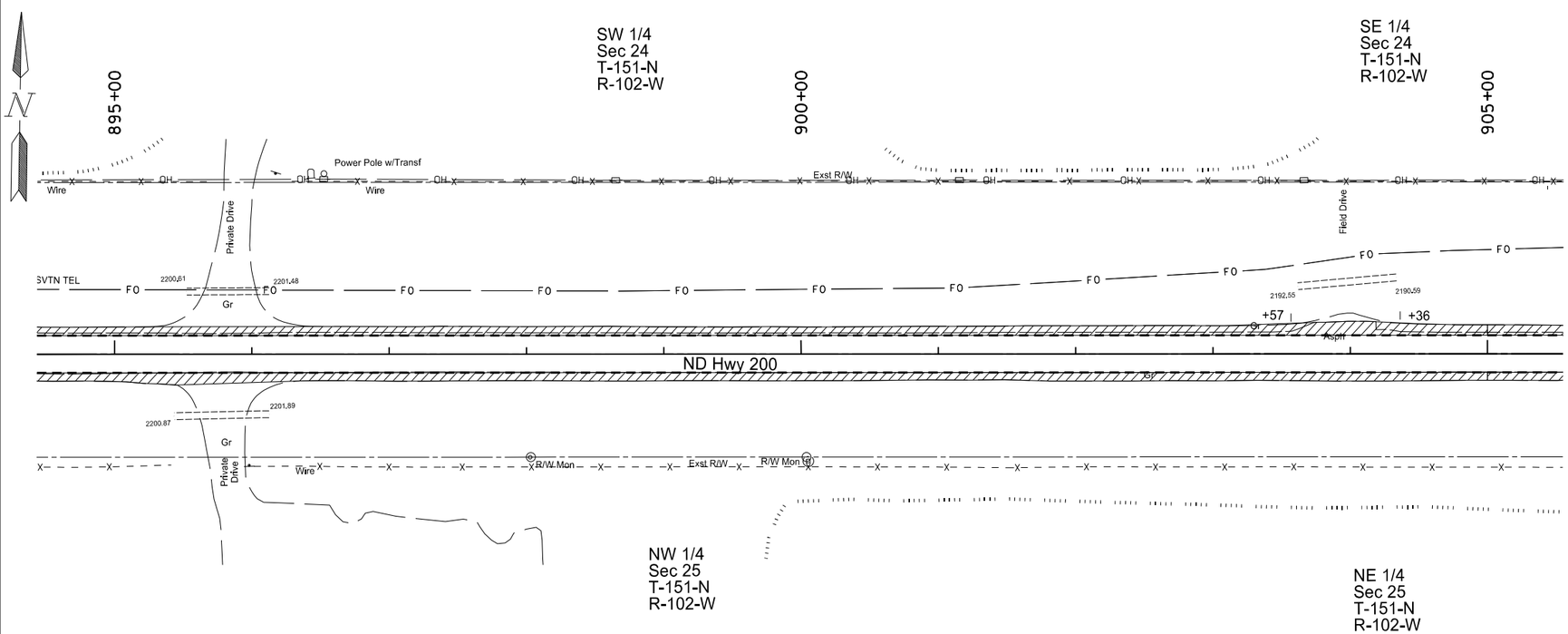
Sta 865+00 to Sta 885+00

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	40	35



Spec	Code	Bid Item	Qty	Unit
202	0136	Removal of Pavement		
		Sta 885+00 Lt to Sta 905+00 Lt	1352.0	Ton
		Sta 885+00 Rt to Sta 905+00 Rt	1354.6	Ton
		Total	2706.6	Ton



Legend

Saw Bituminous Surfacing - Full Depth

① Removal of Pavement (Includes Asphalt Surfacing, Concrete Pavement, Aggregate)

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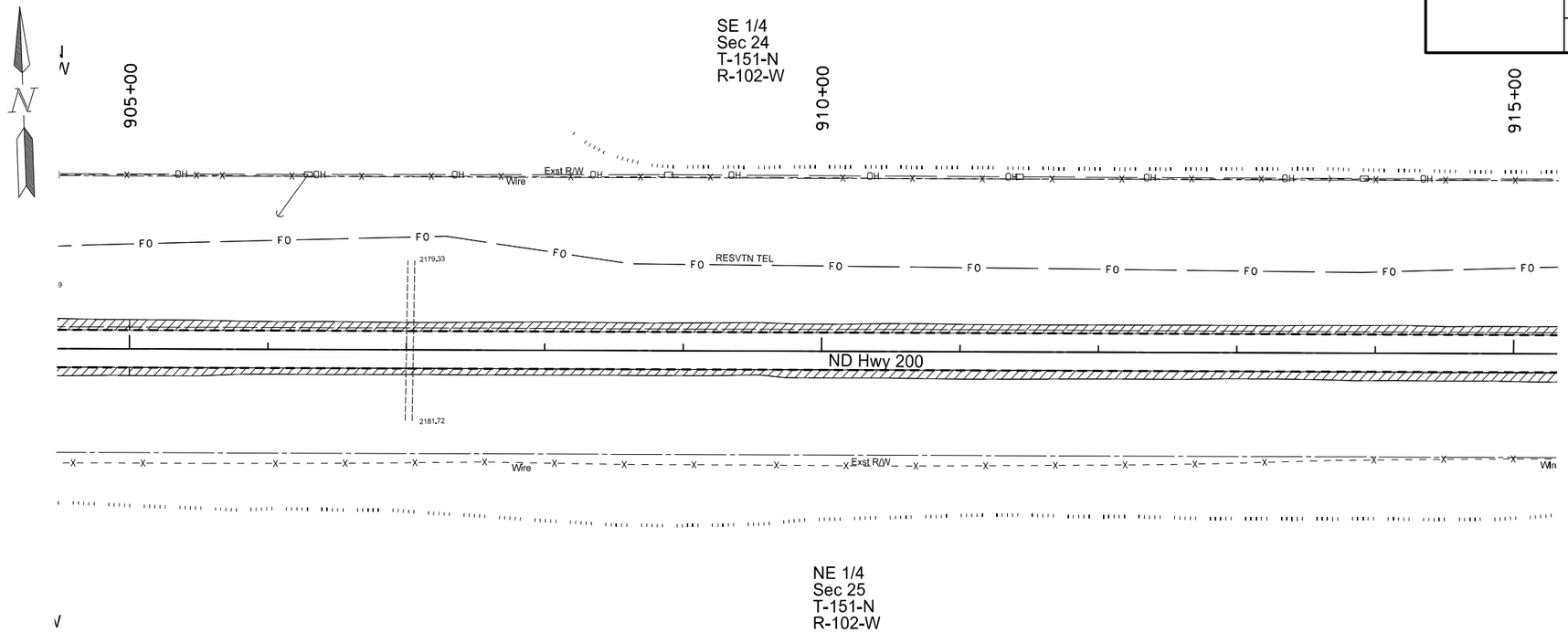
Removals

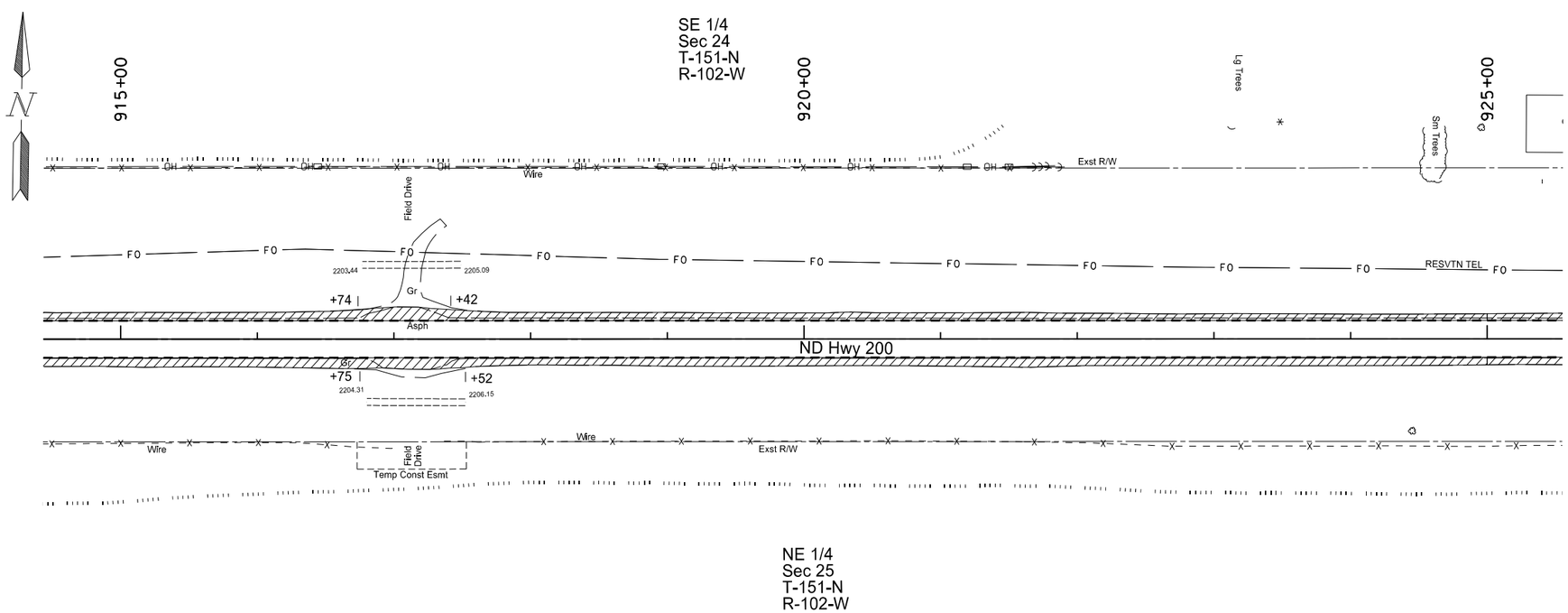
Sta 885+00 to Sta 905+00

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	40	36



Spec	Code	Bid Item	Qty	Unit
202	0136	Removal of Pavement		
		Sta 905+00 Lt to Sta 925+00 Lt	1398.3	Ton
		Sta 905+00 Rt to Sta 925+00 Rt	1154.3	Ton
		Total	2552.6	Ton



Legend

Saw Bituminous Surfacing - Full Depth

① Removal of Pavement (Includes Asphalt Surfacing, Concrete Pavement, Aggregate)

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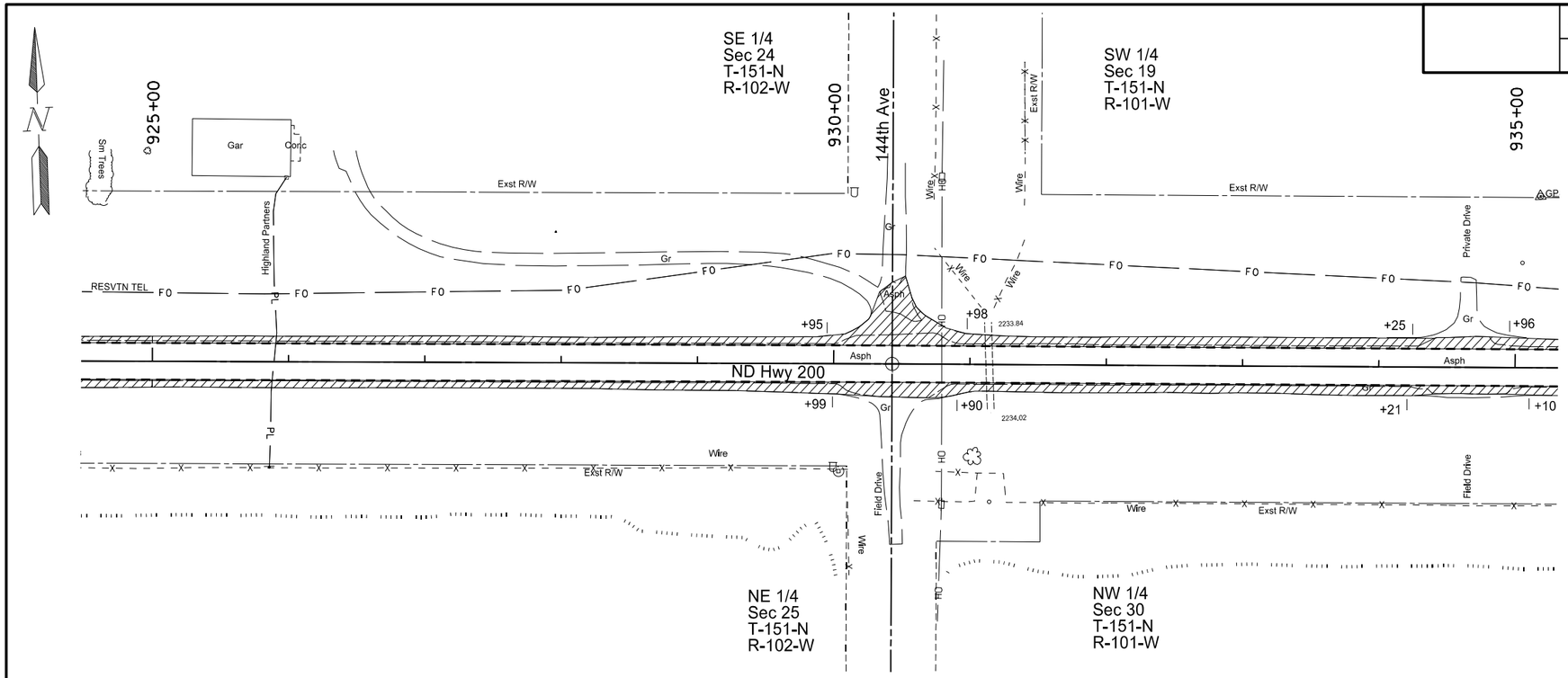
Removals

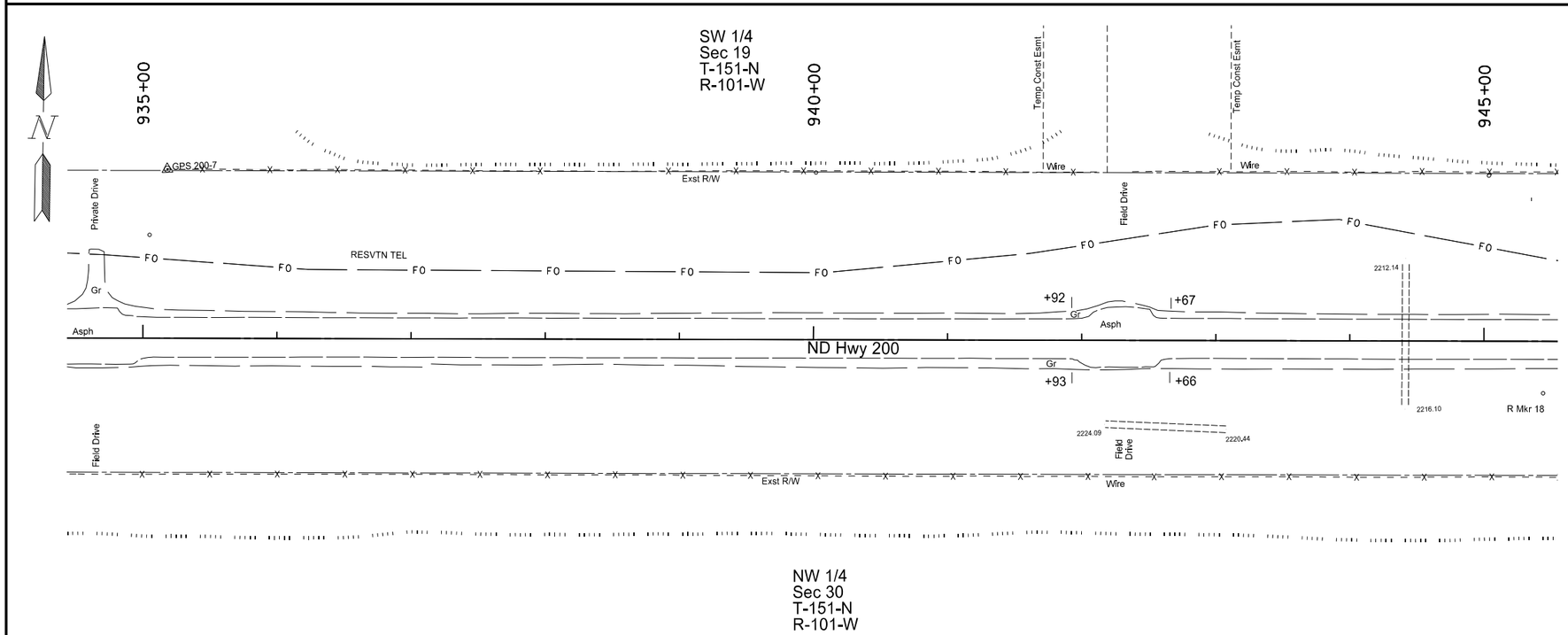
Sta 905+00 to Sta 925+00

ND Hwy 200
Major Rehabilation
RP 4.200 to RP 18.285

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	40	37



Spec	Code	Bid Item	Qty	Unit
202	0136	Removal of Pavement		
		Sta 925+00 Lt to Sta 945+00 Lt	994.6	Ton
		Sta 925+00 Rt to Sta 945+00 Rt	1350.9	Ton
		Total	2345.5	Ton



Legend

Saw Bituminous Surfacing - Full Depth

① Removal of Pavement (Includes Asphalt Surfacing, Concrete Pavement, Aggregate)

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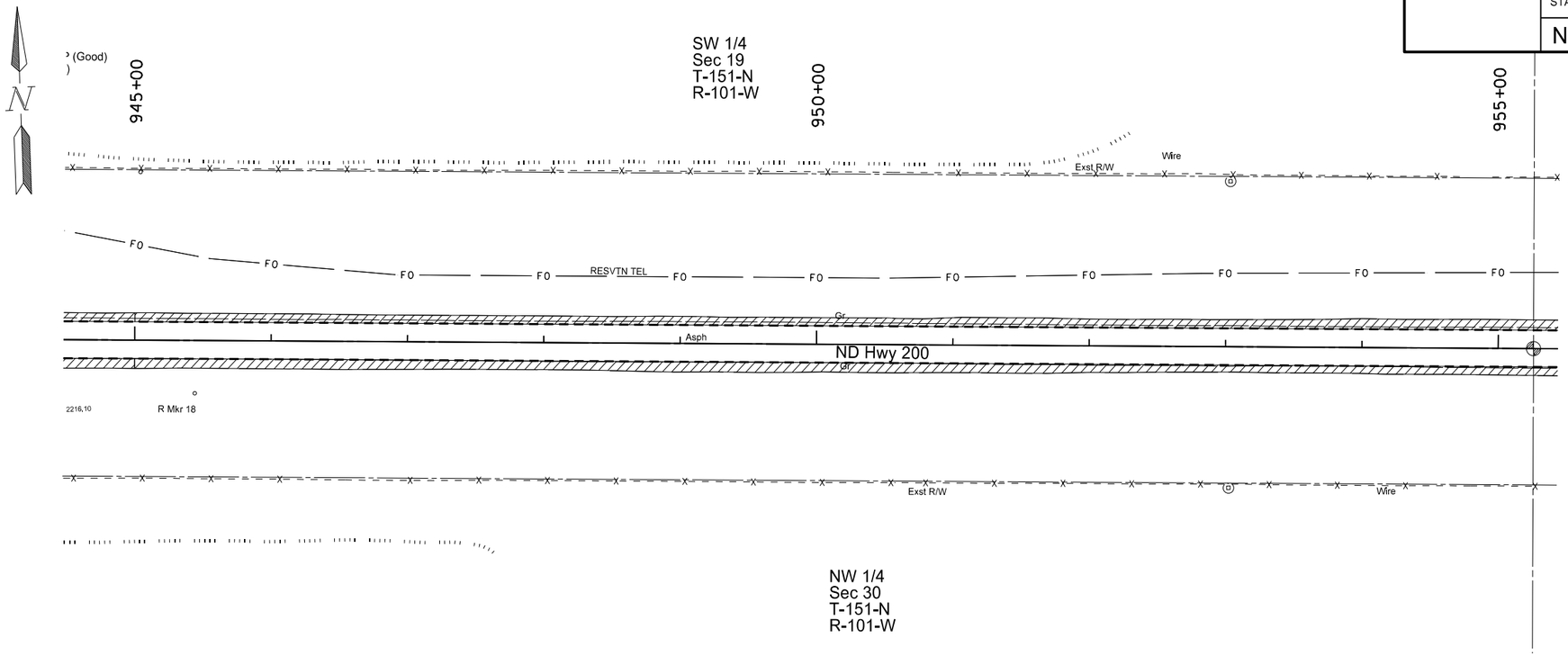
Removals

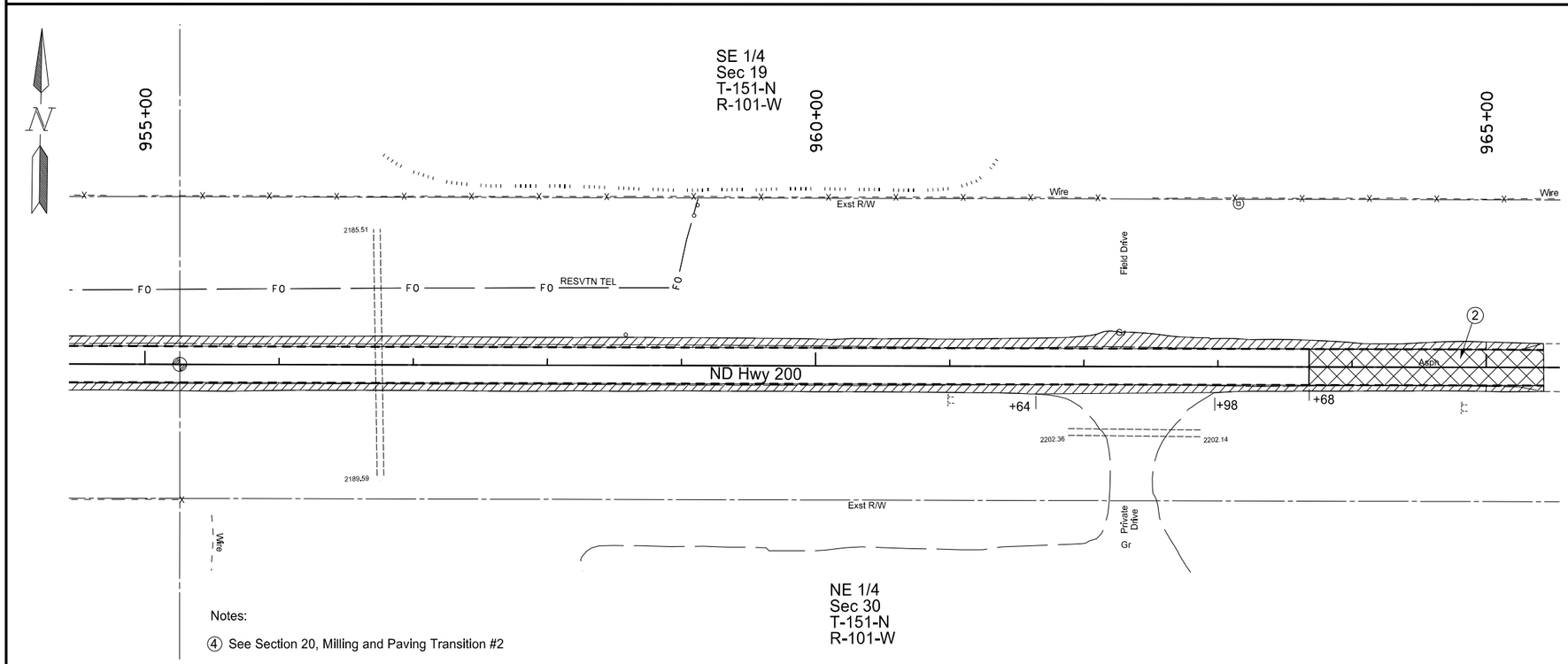
Sta 925+00 to Sta 945+00

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	40	38



Spec	Code	Bid Item	Qty	Unit
202	0136	Removal of Pavement		
		Sta 945+00 Lt to Sta 965+00 Lt	938.0	Ton
		Sta 945+00 Rt to Sta 965+00 Rt	998.9	Ton
		Total	1936.9	Ton
411	0100	Milling Pavement Surface		
		Sta 963+68 to Sta 965+00	63	Ton
		Total	63	Ton



Notes:

④ See Section 20, Milling and Paving Transition #2

Legend

- Saw Bituminous Surfacing - Full Depth
- ① Removal of Pavement (Includes Asphalt Surfacing, Concrete Pavement, Aggregate)
- ② Milling Pavement Surface See Section 20, Milling and Paving Transition #2

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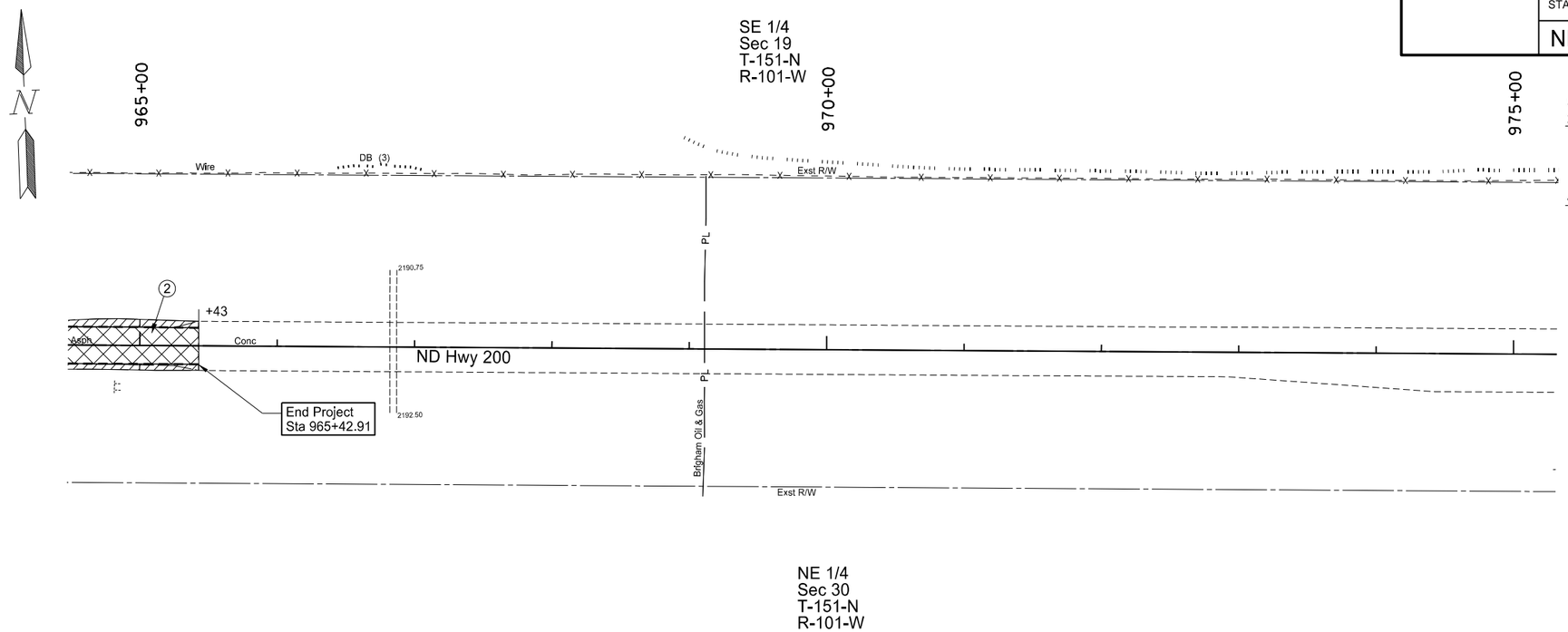
Removals

Sta 945+00 to Sta 965+00

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	40	39



Spec	Code	Bid Item	Qty	Unit
202	0136	Removal of Pavement		
		Sta 965+00 Lt to Sta 965+43 Lt	10.0	Ton
		Sta 965+00 Rt to Sta 965+43 Rt	10.1	Ton
		Total	20.1	Ton
411	0100	Milling Pavement Surface		
		Sta 965+00 to Sta 965+43	14.3	Ton
		Total	14.3	Ton

Legend

- - - - - - - Saw Bituminous Surfacing - Full Depth

① Removal of Pavement (Includes Asphalt Surfacing, Concrete Pavement, Aggregate)

② Milling Pavement Surface See Section 20, Milling and Paving Transition #2

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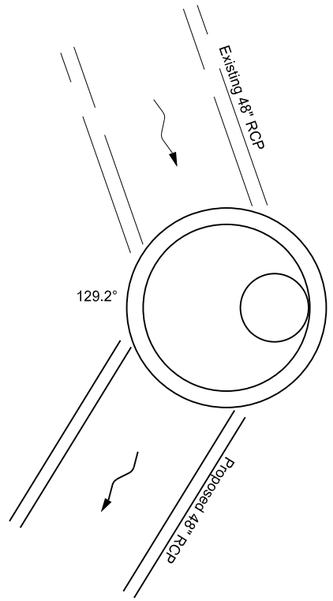
Removals

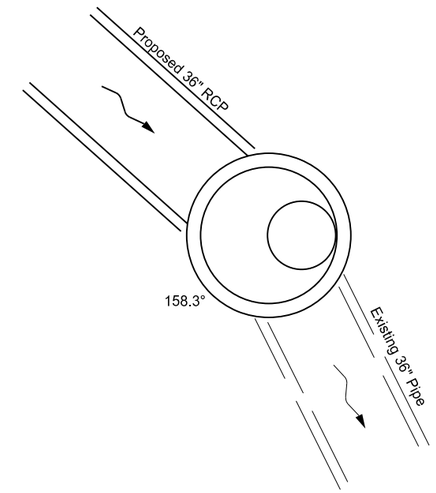
Sta 965+00 to Sta 965+43

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

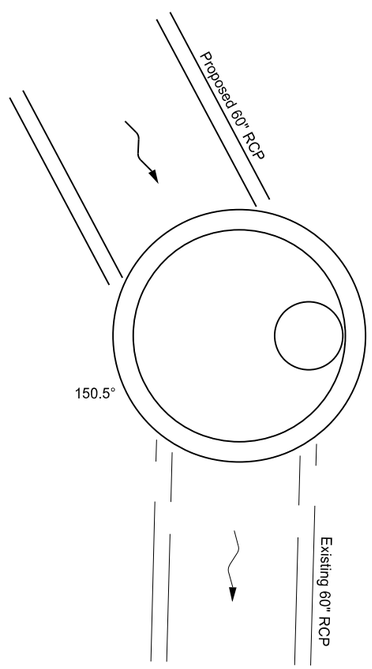
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	50	1



Manhole No.	1
Sta.	350+55 - 137.2 RT
Type.	96" Manhole
Rim Elev.	1927.08
Base Elev.	1910.73
Invert N (48") Elev.	1911.15
Invert S (48") Elev.	1911.15
Riser.	14.85



Manhole No.	2
Sta.	384+77 - 108.1 LT
Type.	66" Manhole
Rim Elev.	1973.53
Base Elev.	1958.98
Invert N (48") Elev.	1959.31
Invert S (48") Elev.	1959.31
Riser.	13.05



Manhole No.	3
Sta	452+25 - 106.3 LT
Type.	108" Manhole
Rim Elev.	1988.75
Base Elev.	1972.71
Invert N (48") Elev.	1973.21
Invert S (48") Elev.	1973.21
Riser.	14.04

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Hydraulic Data

ND Hwy 200
Major Rehabilitation
RP 4.200 TO RP 18.285

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	50	2

HYDRAULIC DATA FOR SOIB-7-200(016)004

Station		Station		Existing	Proposed Pipe Size	10-YEAR					100-YEAR	
						Drainage Area (Acres)	Design Discharge (cfs)	Design Headwater (Ft)	Design Velocity (FPS)	Design Stage (NAVD 88)	100-Year Discharge (cfs)	100-Year Stage (NAVD 88)
244+41	66 RT	245+74	62 RT	24" CSP	24"	1.36	2.0	0.84	3.40	1904.64	2.7	1904.79
255+31	50 RT	256+24	49 RT	18" CSP	24"	1.23	1.4	0.72	2.91	1904.14	1.9	1904.26
287+31	64 LT	288+89	64 LT	24" RCP	24"	27.61	13.8	3.30	6.20	1909.79	15.7	1910.56
287+69	66 RT	288+63	66 RT	24" RCP	24"	35.02	11.1	2.12	5.69	1908.32	16.6	1909.73
291+15	57 RT	291+93	70 RT	24" RCP	24"	33.84	11.0	1.91	5.67	1908.65	16.4	1909.26
312+48	65 RT	312+98	65 RT	24" RCP	24"	0.48	0.6	0.44	2.46	1908.47	0.9	1908.57
319+75	48 LT	320+62	51 LT	18" RCP	24"	1.49	1.1	0.55	2.89	1916.40	1.6	1916.51
319+97	49 RT	320+83	50 RT	24" RCP	24"	0.68	0.7	0.38	3.74	1917.20	1.0	1917.27
327+89	62 RT	328+15	62 RT	18" CSP	24"	1.30	1.2	0.62	2.95	1921.28	1.7	1921.40
351+52	67 LT	352+39	43 LT	18" CSP	24"	3.46	2.4	0.82	3.56	1963.02	3.2	1963.16
355+19	51 RT	356+12	49 RT	18" CSP	24"	0.33	0.4	0.28	2.34	1971.71	0.5	1971.77
369+10	50 LT	370+24	50 LT	18" RCP	24"	0.56	0.4	0.34	2.23	1990.85	0.6	1990.95
413+33	49 RT	414+33	49 RT	18" CSP	24"	1.06	1.3	0.60	3.01	2054.12	1.8	2054.23
413+35	49 LT	414+29	49 LT	18" CSP	24"	2.18	1.7	0.69	3.22	2055.48	2.3	2055.50
424+31	52 RT	424+99	53 RT	18" RCP	24"	0.15	0.2	0.27	1.94	2057.95	0.3	2058.00
439+23	49 RT	440+26	48 RT	18" RCP	24"	0.37	0.5	0.37	2.35	2043.07	0.6	2043.13
456+00	54 LT	457+41	48 LT	18" CSP	24"	0.85	0.7	0.48	2.55	2010.03	0.9	2010.09
456+02	48 RT	457+10	49 RT	18" CSP	24"	0.46	0.6	0.43	2.46	2009.05	0.7	2009.05
469+30	58 LT	470+12	58 LT	18" RCP	24"	1.17	1.2	0.50	3.91	2007.81	1.6	2007.89
469+47	67 RT	470+13	67 RT	18" RCP	24"	1.40	1.5	0.55	5.24	2009.05	2.0	2009.15
509+18	48 LT	510+08	47 LT	18" CSP	24"	1.01	1.0	0.52	2.83	1980.50	1.4	1980.60
518+68	49 RT	519+68	51 RT	18" CSP	24"	0.76	1.0	0.49	2.86	1984.67	1.4	1984.77
519+16	48 LT	520+30	48 LT	18" CSP	24"	4.64	2.5	0.85	3.60	1985.70	3.5	1985.87
535+56	49 LT	536+38	49 LT	18" RCP	24"	1.42	1.4	0.68	3.07	1989.09	1.9	1989.20
543+57	51 RT	544+45	52 RT	18" CSP	24"	2.87	1.7	0.75	3.43	1988.54	2.5	1988.71
575+37	56 LT	576+23	51 LT	18" CSP	24"	1.54	1.7	0.73	3.22	2020.23	2.2	2020.33
577+65	53 RT	578+87	51 RT	18" CSP	24"	0.61	0.7	0.43	2.55	2023.14	0.9	2023.20
602+11	49 LT	603+16	49 LT	18" CSP	24"	4.47	3.5	1.15	3.96	2042.35	4.8	2042.57
608+10	48 LT	609+13	49 LT	18" CSP	24"	2.22	1.6	0.66	3.17	2043.64	2.1	2043.74
608+07	49 RT	609+03	48 RT	18" CSP	24"	0.27	0.4	0.34	2.23	2043.52	0.5	2043.56
641+79	58 RT	642+99	52 RT	18" CSP	24"	1.49	1.6	0.58	4.49	2071.66	2.1	2071.75
652+18	53 RT	653+06	51 RT	18" CSP	24"	2.28	2.7	0.96	3.67	2092.24	4.6	2090.55
666+12	49 LT	667+10	50 LT	18" RCP	24"	0.73	1.0	0.52	0.71	2095.61	1.3	2095.69
666+23	64 RT	666+65	64 RT	18" RCP	24"	0.10	1.0	0.28	2.83	2095.06	0.3	2095.38
668+31	60 LT	668+75	60 LT	18" CSP	24"	1.30	1.9	0.65	3.64	2093.50	2.5	2093.59
690+78	48 RT	691+58	48 RT	18" CSP	24"	0.81	1.0	0.52	2.83	2044.44	1.3	2044.51
705+42	48 RT	706+34	47 RT	18" CSP	24"	1.88	1.2	0.57	2.95	2046.47	1.6	2046.56
710+82	49 LT	711+70	51 LT	18" CSP	24"	2.28	2.2	0.70	3.50	2051.10	3.0	2051.22
797+66	75 LT	798+55	74 LT	18" CSP	24"	4.14	3.5	1.02	3.46	2012.41	4.8	2012.60
807+72	52 LT	808+58	51 LT	18" CSP	24"	0.69	0.8	0.46	2.68	2121.10	1.1	2121.18
807+63	47 RT	808+49	46 RT	18" CSP	24"	0.57	0.8	0.46	2.68	2121.33	1.1	2121.41
809+79	46 RT	810+61	45 RT	18" CSP	24"	0.20	0.3	0.30	2.10	2123.16	0.4	2123.20
813+04	87 LT	813+84	88 LT	18" CSP	24"	0.57	0.6	0.43	2.46	2120.55	0.8	2120.59
867+73	42 RT	868+75	41 RT	18" CSP	24"	0.32	0.5	0.41	2.35	2154.65	0.6	2154.70
871+25	45 RT	872+11	45 RT	18" CSP	24"	1.11	1.4	0.65	3.07	2153.75	1.9	2153.87
903+63	49 LT	904+53	57 LT	18" CSP	24"	1.06	1.5	0.56	3.66	2193.33	2.0	2193.43
916+57	54 LT	917+51	54 LT	18" CSP	24"	3.31	3.5	0.89	4.60	2206.03	4.7	2206.18
916+60	46 RT	917+53	46 RT	18" CSP	24"	2.29	3.0	0.81	4.58	2206.96	4.0	2207.10

This document was originally issued and sealed by Kyle J. Comer Registration Number PE- 7537, on 03/11/16 and the original document is stored at the North Dakota Department of Transportation

Hydraulic Data

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	51	1

Centerline Culverts

Begin Station / Location	Begin Offset	End Station / Location	End Offset	Pipe Installation (Pay Item)			Allowable Material	Required Diameter	Steel Pipe Coatings	Steel Pipe Corrugations or Spiral Ribs	Steel Pipe Minimum Thickness	R1 Fabric (Pay Item)	End Sections		Applicable Backfill Detail
													Begin	End	
				In	Bid Item	LF		In	Type		In	SY	EA	EA	
254+08	26.46 RT	254+08	40.46 RT	30	Pipe Conc Reinf 30IN CL III	14	Reinforced Concrete Pipe - Class III (Barrel Length = 14LF)	30	---	---	---		---	TES	D-714-27M
254+09	30.48 LT	254+09	44.48 LT	30	Pipe Conc Reinf 30IN CL III	14	Reinforced Concrete Pipe - Class III (Barrel Length = 14LF)	30	---	---	---		---	TES	D-714-27M
254+18	30.52 LT	254+18	44.52 LT	30	Pipe Conc Reinf 30IN CL III	14	Reinforced Concrete Pipe - Class III (Barrel Length = 14LF)	30	---	---	---		---	TES	D-714-27M
254+19	26.46 RT	254+19	40.46 RT	30	Pipe Conc Reinf 30IN CL III	14	Reinforced Concrete Pipe - Class III (Barrel Length = 14LF)	30	---	---	---		---	TES	D-714-27M
263+11	63.44 RT	263+11	67.44 RT	24	Pipe Conc Reinf 24IN CL III	4	Reinforced Concrete Pipe - Class III (Barrel Length = 4LF)	24	---	---	---		---	FES	D-714-27M
263+12	32.56 LT	263+12	42.56 LT	24	Pipe Conc Reinf 24IN CL III	10	Reinforced Concrete Pipe - Class III (Barrel Length = 10LF)	24	---	---	---		---	TES	D-714-27
284+71	24.91 RT	284+71	48.91 RT	36	Pipe Conc Reinf 36IN CL III	24	Reinforced Concrete Pipe - Class III (Barrel Length = 24LF)	36	---	---	---		---	TES	D-714-27
284+71	25.08 LT	284+71	39.08 LT	36	Pipe Conc Reinf 36IN CL III	14	Reinforced Concrete Pipe - Class III (Barrel Length = 14LF)	36	---	---	---		---	TES	D-714-27
292+11	34.02 RT	292+10	60.02 RT	24	Pipe Conc Reinf 24IN CL III	26	Reinforced Concrete Pipe - Class III (Barrel Length = 26LF)	24	---	---	---		---	TES	D-714-27
292+11	27.98 LT	292+11	55.97 RT	24	Pipe Conc Reinf 24IN CL III	28	Reinforced Concrete Pipe - Class III (Barrel Length = 28LF)	24	---	---	---		---	TES	D-714-27
311+70	25.50 RT	311+70	43.50 RT	60	Pipe Conc Reinf 60IN CL III	18	Reinforced Concrete Pipe - Class III (Barrel Length = 18LF)	60	---	---	---		---	Remove & Relay	D-714-27
311+71	24.45 LT	311+71	42.45 LT	60	Pipe Conc Reinf 60IN CL III	18	Reinforced Concrete Pipe - Class III (Barrel Length = 18LF)	60	---	---	---		---	Remove & Relay	D-714-27
323+71	27.72 LT	323+71	33.72 LT	24	Pipe Conc Reinf 24IN CL III	6	Reinforced Concrete Pipe - Class III (Barrel Length = 6LF)	24	---	---	---		---	TES	D-714-27
323+71	32.28 RT	323+71	38.28 RT	24	Pipe Conc Reinf 24IN CL III	6	Reinforced Concrete Pipe - Class III (Barrel Length = 6LF)	24	---	---	---		---	TES	D-714-27
327+46	24.46 RT	327+46	36.45 RT	36	Pipe Conc Reinf 36IN CL III	12	Reinforced Concrete Pipe - Class III (Barrel Length = 12LF)	36	---	---	---		---	TES	D-714-27M
327+48	23.50 LT	327+49	55.47 LT	36	Pipe Conc Reinf 36IN CL III	32	Reinforced Concrete Pipe - Class III (Barrel Length = 32LF)	36	---	---	---		---	TES	D-714-27M
327+56	24.99 RT	327+56	38.99 RT	36	Pipe Conc Reinf 36IN CL III	14	Reinforced Concrete Pipe - Class III (Barrel Length = 14LF)	36	---	---	---		---	TES	D-714-27M
327+58	22.97 LT	327+58	52.95 LT	36	Pipe Conc Reinf 36IN CL III	30	Reinforced Concrete Pipe - Class III (Barrel Length = 30LF)	36	---	---	---		---	TES	D-714-27M
336+68	41.10 RT	336+68	49.10 RT	36	Pipe Conc Reinf 36IN CL III	8	Reinforced Concrete Pipe - Class III (Barrel Length = 8LF)	36	---	---	---		---	TES	D-714-27
336+70	32.87 LT	336+70	38.87 LT	36	Pipe Conc Reinf 36IN CL III	6	Reinforced Concrete Pipe - Class III (Barrel Length = 6LF)	36	---	---	---		---	TES	D-714-27
342+86	52.48 LT	342+88	58.12 LT	4 x 6	Cattle Pass Conc Intermed Section	6	Class AE-3 Concrete (Barrel Length = 6LF)	48 X 72	---	---	---		---	Remove & Relay	D-714-27
350+55	137.20 RT	350+19	167.81 RT	48	Pipe Conc Reinf 48IN CL III	48	Reinforced Concrete Pipe - Class III (Barrel Length = 48LF)	48	---	---	---		---	Remove & Relay	D-714-27
365+79	91.00 RT	365+80	115.00 RT	72	Pipe Conc Reinf 72IN CL III	24	Reinforced Concrete Pipe - Class III (Barrel Length = 48LF)	72	---	---	---		---	Remove & Relay	D-714-27
371+67	40.82 LT	371+67	50.82 LT	30	Pipe Conc Reinf 30IN CL III	10	Reinforced Concrete Pipe - Class III (Barrel Length = 10LF)	30	---	---	---		---	TES	D-714-27
371+67	57.07 RT	371+67	63.07 RT	30	Pipe Conc Reinf 30IN CL III	6	Reinforced Concrete Pipe - Class III (Barrel Length = 6LF)	30	---	---	---		---	FES	D-714-27
381+36	55.88 RT	381+36	63.88 RT	30	Pipe Conc Reinf 30IN CL III	8	Reinforced Concrete Pipe - Class III (Barrel Length = 8LF)	30	---	---	---		---	FES	D-714-27
384+77	108.11 LT	384+64	133.19 LT	36	Pipe Conc Reinf 36IN CL III	28	Reinforced Concrete Pipe - Class III (Barrel Length = 28LF)	36	---	---	---		---	Remove & Relay	D-714-27
384+96	129.09 RT	384+97	143.04 RT	36	Pipe Conc Reinf 36IN CL III	14	Reinforced Concrete Pipe - Class III (Barrel Length = 14LF)	36	---	---	---		---	Remove & Relay	D-714-27
386+56	105.60 RT	386+56	141.60 RT	72	Pipe Conc Reinf 72IN CL III	36	Reinforced Concrete Pipe - Class III (Barrel Length = 36LF)	72	---	---	---		---	Remove & Relay	D-714-27
386+56	114.40 LT	386+56	130.40 Lt	72	Pipe Conc Reinf 72IN CL III	16	Reinforced Concrete Pipe - Class III (Barrel Length = 16LF)	72	---	---	---		---	Remove & Relay	D-714-27
395+47	28.42 LT	395+47	54.42 LT	24	Pipe Conc Reinf 24IN CL III	26	Reinforced Concrete Pipe - Class III (Barrel Length = 26LF)	24	---	---	---		---	TES	D-714-27
395+47	37.58 RT	395+47	55.57 RT	24	Pipe Conc Reinf 24IN CL III	18	Reinforced Concrete Pipe - Class III (Barrel Length =18LF)	24	---	---	---		---	TES	D-714-27
403+86	85.19 RT	403+86	89.19 RT	30	Pipe Conc Reinf 30IN CL III	4	Reinforced Concrete Pipe - Class III (Barrel Length = 4LF)	30	---	---	---		---	Remove & Relay	D-714-27

Coatings: **Z** = Zinc
A = Aluminum
P = Polymeric (over Zinc or Aluminum)

Corrugations: **2** = 2-2/3"x1/2"
3 = 3"x1"
5 = 5"x1"

Spiral Ribs: **3/4** = 3/4"x3/4"@7-1/2"
1 = 3/4"x1"@11-1/2"

FES = Flared End Section
TES = Traversable End Section

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Pipe List

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	51	2

Centerline Culverts

Begin Station / Location	Begin Offset	End Station / Location	End Offset	Pipe Installation (Pay Item)			Allowable Material	Required Diameter	Steel Pipe Coatings	Steel Pipe Corrugations or Spiral Ribs	Steel Pipe Minimum Thickness	R1 Fabric (Pay Item)	End Sections		Applicable Backfill Detail
													Begin	End	
				In	Bid Item	LF		In	Type		In	SY	EA	EA	
403+87	54.47 LT	403+87	56.47 LT	30	Pipe Conc Reinf 30IN CL III	2	Reinforced Concrete Pipe - Class III (Barrel Length = 2LF)	30	---	---	---		---	Remove & Relay	D-714-27
420+49	67.71 RT	420+49	73.71 RT	72	Pipe Conc Reinf 72IN CL III	6	Reinforced Concrete Pipe - Class III (Barrel Length = 6LF)	72	---	---	---		---	Remove & Relay	D-714-27
420+52	40.27 LT	420+52	52.27 LT	72	Pipe Conc Reinf 72IN CL III	12	Reinforced Concrete Pipe - Class III (Barrel Length = 12LF)	72	---	---	---		---	Remove & Relay	D-714-27
426+92	28.32 LT	426+92	32.00 LT	30	Pipe Conc Reinf 30IN CL III	4	Reinforced Concrete Pipe - Class III (Barrel Length = 4LF)	30	---	---	---		---	TES	D-714-27
430+44	30.51 LT	430+44	38.51 LT	24	Pipe Conc Reinf 24IN CL III	8	Reinforced Concrete Pipe - Class III (Barrel Length = 8LF)	24	---	---	---		---	TES	D-714-27
430+45	55.34 RT	430+45	61.34 RT	24	Pipe Conc Reinf 24IN CL III	6	Reinforced Concrete Pipe - Class III (Barrel Length = 6LF)	24	---	---	---		---	Remove & Relay	D-714-27
434+42	28.00 LT	434+42	36.00 LT	24	Pipe Conc Reinf 24IN CL III	8	Reinforced Concrete Pipe - Class III (Barrel Length = 8LF)	24	---	---	---		---	TES	D-714-27
434+43	57.72 RT	434+43	65.70 RT	24	Pipe Conc Reinf 24IN CL III	8	Reinforced Concrete Pipe - Class III (Barrel Length = 8LF)	24	---	---	---		---	Remove & Relay	D-714-27
436+64	31.53 LT	436+64	35.53 LT	30	Pipe Conc Reinf 30IN CL III	4	Reinforced Concrete Pipe - Class III (Barrel Length =4LF)	30	---	---	---		---	TES	D-714-27
452+11	105.23 RT	452+09	137.16 RT	60	Pipe Conc Reinf 60IN CL III	32	Reinforced Concrete Pipe - Class III (Barrel Length = 32LF)	60	---	---	---		---	Remove & Relay	D-714-27
452+25	106.29 LT	452+11	136.94 LT	60	Pipe Conc Reinf 60IN CL III	34	Reinforced Concrete Pipe - Class III (Barrel Length = 34LF)	60	---	---	---		---	Remove & Relay	D-714-27
471+21	57.76 RT	471+21	63.76 RT	24	Pipe Conc Reinf 24IN CL III	6	Reinforced Concrete Pipe - Class III (Barrel Length = 6LF)	24	---	---	---		---	Remove & Relay	D-714-27
471+22	40.24 LT	471+22	46.24 LT	24	Pipe Conc Reinf 24IN CL III	6	Reinforced Concrete Pipe - Class III (Barrel Length = 6LF)	24	---	---	---		---	TES	D-714-27
485+14	41.44 LT	485+14	53.44 LT	72	Pipe Conc Reinf 72IN CL III	12	Reinforced Concrete Pipe - Class III (Barrel Length = 12LF)	72	---	---	---		---	Remove & Relay	D-714-27
485+14	42.56 RT	485+14	54.56 RT	72	Pipe Conc Reinf 72IN CL III	12	Reinforced Concrete Pipe - Class III (Barrel Length = 12LF)	72	---	---	---		---	Remove & Relay	D-714-27
490+02	32.51 RT	490+02	38.51 RT	24	Pipe Conc Reinf 24IN CL III	6	Reinforced Concrete Pipe - Class III (Barrel Length = 6LF)	24	---	---	---		---	TES	D-714-27
490+03	27.49 LT	490+03	33.49 LT	24	Pipe Conc Reinf 24IN CL III	6	Reinforced Concrete Pipe - Class III (Barrel Length = 6LF)	24	---	---	---		---	TES	D-714-27
493+25	27.00 LT	493+25	31.00 LT	24	Pipe Conc Reinf 24IN CL III	4	Reinforced Concrete Pipe - Class III (Barrel Length = 4LF)	24	---	---	---		---	TES	D-714-27
493+25	30.54 RT	493+25	38.54 RT	24	Pipe Conc Reinf 24IN CL III	8	Reinforced Concrete Pipe - Class III (Barrel Length = 8LF)	24	---	---	---		---	TES	D-714-27
499+51	66.13 LT	499+51	68.13 LT	60	Pipe Conc Reinf 60IN CL III	2	Reinforced Concrete Pipe - Class III (Barrel Length = 2LF)	60	---	---	---		---	Remove & Relay	D-714-27
503+42	21.70 LT	503+42	43.70 LT	4 x 6	Cattle Pass Conc Intermed Section	22	Class AE-3 Concrete (Barrel Length = 22LF)	48 X 72	---	---	---		---	Remove & Relay	D-714-27
503+42	26.30 RT	503+42	44.30 RT	4 x 6	Cattle Pass Conc Intermed Section	18	Class AE-3 Concrete (Barrel Length = 18LF)	48 X 72	---	---	---		---	Remove & Relay	D-714-27
505+67	57.28 LT	505+67	69.28 LT	30	Pipe Conc Reinf 30IN CL III	12	Reinforced Concrete Pipe - Class III (Barrel Length = 12LF)	30	---	---	---		---	Remove & Relay	D-714-27
514+07	59.97 RT	514+07	81.97 RT	138	Structural Steel Plate	22	Structural Steel Plate (Barrel Length = 22LF)	138	---	---	---		---	Bevel	D-714-27
514+08	52.61 LT	514+08	82.61 LT	138	Structural Steel Plate	30	Structural Steel Plate (Barrel Length = 30LF)	138	---	---	---		---	Bevel	D-714-27
527+02	33.70 LT	527+02	41.70 LT	24	Pipe Conc Reinf 24IN CL III	8	Reinforced Concrete Pipe - Class III (Barrel Length = 8F)	24	---	---	---		---	TES	D-714-27
527+02	38.30 RT	527+02	46.30 RT	24	Pipe Conc Reinf 24IN CL III	8	Reinforced Concrete Pipe - Class III (Barrel Length = 8LF)	24	---	---	---		---	TES	D-714-27
553+36	52.37 RT	553+36	76.37 RT	102	Structural Steel Plate	24	Structural Steel Plate (Barrel Length =24LF)	102	---	---	---		---	Bevel	D-714-27
553+36	46.63 LT	553+36	72.63 LT	102	Structural Steel Plate	26	Structural Steel Plate (Barrel Length = 26LF)	102	---	---	---		---	Bevel	D-714-27
558+10	28.26 LT	558+10	34.26 LT	24	Pipe Conc Reinf 24IN CL III	6	Reinforced Concrete Pipe - Class III (Barrel Length = 6LF)	24	---	---	---		---	TES	D-714-27
558+11	29.74 RT	558+11	37.74 RT	24	Pipe Conc Reinf 24IN CL III	8	Reinforced Concrete Pipe - Class III (Barrel Length = 8LF)	24	---	---	---		---	TES	D-714-27
570+93	79.02 RT	570+92	93.00 RT	30	Pipe Conc Reinf 30IN CL III	14	Reinforced Concrete Pipe - Class III (Barrel Length = 32LF)	30	---	---	---		---	Remove & Relay	D-714-27
570+94	78.97 LT	570+94	88.97 LT	30	Pipe Conc Reinf 30IN CL III	10	Reinforced Concrete Pipe - Class III (Barrel Length = 10LF)	30	---	---	---		---	Remove & Relay	D-714-27

Coatings: **Z** = Zinc
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Corrugations: **2** = 2-2/3"x1/2"
3 = 3"x1"
5 = 5"x1"

Spiral Ribs: **3/4** = 3/4"x3/4"@7-1/2"
1 = 3/4"x1"@11-1/2"

FES = Flared End Section
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Pipe List

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	51	3

Centerline Culverts

Begin Station / Location	Begin Offset	End Station / Location	End Offset	Pipe Installation (Pay Item)			Allowable Material	Required Diameter	Steel Pipe Coatings	Steel Pipe Corrugations or Spiral Ribs	Steel Pipe Minimum Thickness	R1 Fabric (Pay Item)	End Sections		Applicable Backfill Detail
													Begin	End	
				In	Bid Item	LF		In	Type		In	SY	EA	EA	
573+64	23.66 RT	573+64	47.66 RT	4 x 6	Cattle Pass Conc Intermed	24	Class AE-3 Concrete (Barrel Length =24LF)	48 x 72	---	---	---		---	FES	D-714-27
573+65	24.33 LT	573+66	46.32 LT	4 x 6	Cattle Pass Conc Intermed	22	Class AE-3 Concrete (Barrel Length = 22LF)	48 x 72	---	---	---		---	FES	D-714-27
584+28	82.12 RT	584+28	92.12 RT	30	Pipe Conc Reinf 30IN CL III	10	Reinforced Concrete Pipe - Class III (Barrel Length = 10LF)	30	---	---	---		---	FES	D-714-27
589+39	66.23 RT	589+39	86.23 RT	30	Pipe Conc Reinf 30IN CL III	20	Reinforced Concrete Pipe - Class III (Barrel Length = 20LF)	30						Remove & Relay	D-714-27
589+39	47.38 LT	589+39	53.38 LT	30	Pipe Conc Reinf 30IN CL III	6	Reinforced Concrete Pipe - Class III (Barrel Length = 6LF)	30	---	---	---		---	TES	D-714-27
596+07	27.94 LT	596+07	37.94 LT	24	Pipe Conc Reinf 24IN CL III	10	Reinforced Concrete Pipe - Class III (Barrel Length = 10LF)	24	---	---	---		---	TES	D-714-27
596+07	44.06 RT	596+07	52.06 RT	24	Pipe Conc Reinf 24IN CL III	8	Reinforced Concrete Pipe - Class III (Barrel Length =8LF)	24	---	---	---		---	TES	D-714-27
615+66	116.04 RT	615+45	174.40 RT	96	Structural Steel Plate	62	Structural Steel Plate (Barrel Length =62LF)	96	---	---	---		---	Bevel	D-714-27
616+37	81.66 LT	616+52	124.79 LT	96	Structural Steel Plate	46	Structural Steel Plate (Barrel Length = 46LF)	96	---	---	---		---	Bevel	D-714-27
632+98	76.11 RT	632+99	84.08 RT	72	Pipe Conc Reinf 72IN CL III	8	Reinforced Concrete Pipe - Class III (Barrel Length = 8LF)	72	---	---	---		---	Remove & Relay	D-714-27
649+44	46.00 LT	649+44	52.00 LT	30	Pipe Conc Reinf 30IN CL III	6	Reinforced Concrete Pipe - Class III (Barrel Length = 6LF)	30						TES	D-714-27
708+68	26.78 LT	708+68	34.78 LT	24	Pipe Conc Reinf 24IN CL III	8	Reinforced Concrete Pipe - Class III (Barrel Length =8LF)	24	---	---	---		---	TES	D-714-27
708+68	27.22 RT	708+68	35.22 RT	24	Pipe Conc Reinf 24IN CL III	8	Reinforced Concrete Pipe - Class III (Barrel Length =8LF)	24	---	---	---		---	TES	D-714-27
708+75	27.23 LT	708+75	35.23 LT	24	Pipe Conc Reinf 24IN CL III	8	Reinforced Concrete Pipe - Class III (Barrel Length =8LF)	24	---	---	---		---	TES	D-714-27M
708+75	26.77 RT	708+75	34.77 RT	24	Pipe Conc Reinf 24IN CL III	8	Reinforced Concrete Pipe - Class III (Barrel Length = 8LF)	24						TES	D-714-27M
719+76	28.34 RT	719+76	32.34 RT	24	Pipe Conc Reinf 24IN CL III	4	Reinforced Concrete Pipe - Class III (Barrel Length =4LF)	24	---	---	---		---	TES	D-714-27
719+76	27.66 LT	719+76	33.66 LT	24	Pipe Conc Reinf 24IN CL III	6	Reinforced Concrete Pipe - Class III (Barrel Length = 6LF)	24	---	---	---		---	TES	D-714-27
733+06	27.33 LT	733+06	37.33 LT	24	Pipe Conc Reinf 24IN CL III	10	Reinforced Concrete Pipe - Class III (Barrel Length = 10LF)	24	---	---	---		---	TES	D-714-27
733+07	28.67 RT	733+07	46.67 RT	24	Pipe Conc Reinf 24IN CL III	18	Reinforced Concrete Pipe - Class III (Barrel Length = 18LF)	24	---	---	---		---	TES	D-714-27
775+07	38.98 RT	775+07	48.98 RT	24	Pipe Conc Reinf 24IN CL III	10	Reinforced Concrete Pipe - Class III (Barrel Length = 10LF)	24	---	---	---		---	TES	D-714-27
775+08	39.02 LT	775+08	51.02 LT	24	Pipe Conc Reinf 24IN CL III	12	Reinforced Concrete Pipe - Class III (Barrel Length = 12LF)	24	---	---	---		---	TES	D-714-27
815+28	53.66 RT	815+27	59.66 RT	72	Pipe Conc Reinf 72IN CL III	6	Reinforced Concrete Pipe - Class III (Barrel Length = 6LF)	72	---	---	---		---	FES	D-714-27
825+18	30.50 RT	825+18	40.50 RT	24	Pipe Conc Reinf 24IN CL III	10	Reinforced Concrete Pipe - Class III (Barrel Length = 10LF)	24	---	---	---		---	TES	D-714-27
825+19	27.50 LT	825+20	37.50 LT	24	Pipe Conc Reinf 24IN CL III	10	Reinforced Concrete Pipe - Class III (Barrel Length = 10LF)	24	---	---	---		---	TES	D-714-27
860+45	62.27 RT	860+44	84.26 RT	60	Pipe Conc Reinf 60IN CL III	22	Reinforced Concrete Pipe - Class III (Barrel Length = 22LF)	60	---	---	---		---	Remove & Relay	D-714-27
877+04	65.94 LT	876+87	82.87 LT	72	Pipe Conc Reinf 72IN CL III	24	Reinforced Concrete Pipe - Class III (Barrel Length = 24LF)	72	---	---	---		---	Remove & Relay	D-714-27
878+31	61.05 RT	878+37	66.70 RT	72	Pipe Conc Reinf 72IN CL III	8	Reinforced Concrete Pipe - Class III (Barrel Length = 8LF)	72	---	---	---		---	Remove & Relay	D-714-27
893+04	32.83 LT	893+04	34.83 LT	24	Pipe Conc Reinf 24IN CL III	2	Reinforced Concrete Pipe - Class III (Barrel Length = 2LF)	24	---	---	---		---	TES	D-714-27
893+04	33.17 RT	893+04	39.17 RT	24	Pipe Conc Reinf 24IN CL III	6	Reinforced Concrete Pipe - Class III (Barrel Length = 6LF)	24	---	---	---		---	TES	D-714-27
907+02	51.35 RT	907+02	57.35 RT	30	Pipe Conc Reinf 30IN CL III	6	Reinforced Concrete Pipe - Class III (Barrel Length = 6LF)	30	---	---	---		---	FES	D-714-27
907+04	64.64 LT	907+04	70.64 LT	30	Pipe Conc Reinf 30IN CL III	6	Reinforced Concrete Pipe - Class III (Barrel Length = 6LF)	30	---	---	---		---	FES	D-714-27
931+13	31.12 LT	931+12	47.11 LT	4 x 6	Cattle Pass Conc Intermed	16	Class AE-3 Concrete (Barrel Length =16LF)	48X72	---	---	---		---	Remove & Relay	D-714-27
931+15	32.83 RT	931+16	48.83 RT	4 x 6	Cattle Pass Conc Intermed	16	Class AE-3 Concrete (Barrel Length =16LF)	48X72	---	---	---		---	Remove & Relay	D-714-27
944+42	47.69 RT	944+42	51.69 RT	36	Pipe Conc Reinf 36IN CL III	4	Reinforced Concrete Pipe - Class III (Barrel Length = 4LF)	36	---	---	---		---	TES	D-714-27
944+42	58.31 LT	944+42	68.31 LT	36	Pipe Conc Reinf 36IN CL III	10	Reinforced Concrete Pipe - Class III (Barrel Length = 10LF)	36	---	---	---		---	Remove & Relay	D-714-27

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Pipe List

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	51	4

APPROACH CULVERTS

Begin Station / Location	Begin Offset	End Station / Location	End Offset	Pipe Installation (Pay Item)			Allowable Material	Required Diameter	Steel Pipe Coatings	Steel Pipe Corrugations or Spiral Ribs	Steel Pipe Minimum Thickness	R1 Fabric (Pay Item)	End Sections		Applicable Backfill Detail
													Begin	End	
				In	Bid Item	LF		In	Type		In	SY	EA	EA	
244+41	65.95 RT	245+74	61.63 RT	24	Pipe Conduit 24IN - Approach	134	Spiral Rib Steel Reinforced Concrete Pipe - Class III Corrugated Steel Pipe	24	Z, A, P --- Z, A, P	3/4, 1 --- 2	0.064 --- 0.064		FES	FES	D-203-8
255+31	50.00 RT	256+24	49.00 RT	24	Pipe Conduit 24IN - Approach	94	Spiral Rib Steel Reinforced Concrete Pipe - Class III Corrugated Steel Pipe	24	Z, A, P --- Z, A, P	3/4, 1 --- 2	0.064 --- 0.064		TES	TES	D-203-8
287+31	64.00 LT	288+89	64.00 LT	24	Pipe Conduit 24IN - Approach	158	Spiral Rib Steel Reinforced Concrete Pipe - Class III Corrugated Steel Pipe	24	Z, A, P --- Z, A, P	3/4, 1 --- 2	0.064 --- 0.064		TES	TES	D-203-8
287+69	66.06 RT	288+63	66.06 RT	24	Pipe Conduit 24IN - Approach	94	Spiral Rib Steel Reinforced Concrete Pipe - Class III Corrugated Steel Pipe	24	Z, A, P --- Z, A, P	3/4, 1 --- 2	0.064 --- 0.064		TES	TES	D-203-8
291+15	57.27 RT	291+93	69.78 RT	24	Pipe Conduit 24IN - Approach	80	Spiral Rib Steel Reinforced Concrete Pipe - Class III Corrugated Steel Pipe	24	Z, A, P --- Z, A, P	3/4, 1 --- 2	0.064 --- 0.064		TES	FES	D-203-8
306+08	53.04 LT	306+16	53.08 LT	24	Pipe Conc Reinf 24IN CL III	8	Reinforced Concrete Pipe - Class III	24						TES	D-203-8
312+48	65.46 RT	312+98	65.46 RT	24	Pipe Conduit 24IN - Approach	50	Spiral Rib Steel Reinforced Concrete Pipe - Class III Corrugated Steel Pipe	24	Z, A, P --- Z, A, P	3/4, 1 --- 2	0.064 --- 0.064		FES	FES	D-203-8
319+75	48.00 LT	320+62	51.00 LT	24	Pipe Conduit 24IN - Approach	86	Spiral Rib Steel Reinforced Concrete Pipe - Class III Corrugated Steel Pipe	24	Z, A, P --- Z, A, P	3/4, 1 --- 2	0.064 --- 0.064		TES	TES	D-203-8
319+97	49.00 RT	320+83	50.00 RT	24	Pipe Conduit 24IN - Approach	86	Spiral Rib Steel Reinforced Concrete Pipe - Class III Corrugated Steel Pipe	24	Z, A, P --- Z, A, P	3/4, 1 --- 2	0.064 --- 0.064		TES	TES	D-203-8
327+78	62.00 RT	328+15	62.00 RT	24	Pipe Conduit 24IN - Approach	38	Spiral Rib Steel Reinforced Concrete Pipe - Class III Corrugated Steel Pipe	24	Z, A, P --- Z, A, P	3/4, 1 --- 2	0.064 --- 0.064		TES	TES	D-203-8
351+52	66.70 LT	352+39	43.00 LT	24	Pipe Conduit 24IN - Approach	90	Spiral Rib Steel Reinforced Concrete Pipe - Class III Corrugated Steel Pipe	24	Z, A, P --- Z, A, P	3/4, 1 --- 2	0.064 --- 0.064		TES	TES	D-203-8
355+19	51.00 RT	356+12	49.00 RT	24	Pipe Conduit 24IN - Approach	94	Spiral Rib Steel Reinforced Concrete Pipe - Class III Corrugated Steel Pipe	24	Z, A, P --- Z, A, P	3/4, 1 --- 2	0.064 --- 0.064		TES	TES	D-203-8
369+10	50.00 LT	370+24	50.00 LT	24	Pipe Conduit 24IN - Approach	114	Spiral Rib Steel Reinforced Concrete Pipe - Class III Corrugated Steel Pipe	24	Z, A, P --- Z, A, P	3/4, 1 --- 2	0.064 --- 0.064		TES	TES	D-203-8
413+33	49.00 RT	414+33	49.00 RT	24	Pipe Conduit 24IN - Approach	100	Spiral Rib Steel Reinforced Concrete Pipe - Class III Corrugated Steel Pipe	24	Z, A, P --- Z, A, P	3/4, 1 --- 2	0.064 --- 0.064		TES	TES	D-203-8
413+35	49.00 LT	414+29	49.00 LT	24	Pipe Conduit 24IN - Approach	94	Spiral Rib Steel Reinforced Concrete Pipe - Class III Corrugated Steel Pipe	24	Z, A, P --- Z, A, P	3/4, 1 --- 2	0.064 --- 0.064		TES	TES	D-203-8

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Pipe List

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	51	5

APPROACH CULVERTS

Begin Station / Location	Begin Offset	End Station / Location	End Offset	Pipe Installation (Pay Item)			Allowable Material	Required Diameter	Steel Pipe Coatings	Steel Pipe Corrugations or Spiral Ribs	Steel Pipe Minimum Thickness	R1 Fabric (Pay Item)	End Sections		Applicable Backfill Detail
													Begin	End	
				In	Bid Item	LF		In	Type		In	SY	EA	EA	
424+31	51.90 RT	424+99	52.55 RT	24	Pipe Conduit 24IN - Approach	68	Spiral Rib Steel Reinforced Concrete Pipe - Class III Corrugated Steel Pipe	24	Z, A, P --- Z, A, P	3/4, 1 --- 2	0.064 --- 0.064		TES	TES	D-203-8
439+23	49.00 RT	440+26	48.00 RT	24	Pipe Conduit 24IN - Approach	102	Spiral Rib Steel Reinforced Concrete Pipe - Class III Corrugated Steel Pipe	24	Z, A, P --- Z, A, P	3/4, 1 --- 2	0.064 --- 0.064		TES	TES	D-203-8
456+00	54.00 LT	457+41	48.00 LT	24	Pipe Conduit 24IN - Approach	142	Spiral Rib Steel Reinforced Concrete Pipe - Class III Corrugated Steel Pipe	24	Z, A, P --- Z, A, P	3/4, 1 --- 2	0.064 --- 0.064		TES	TES	D-203-8
456+02	48.00 RT	457+10	49.00 RT	24	Pipe Conduit 24IN - Approach	107	Spiral Rib Steel Reinforced Concrete Pipe - Class III Corrugated Steel Pipe	24	Z, A, P --- Z, A, P	3/4, 1 --- 2	0.064 --- 0.064		TES	TES	D-203-8
469+30	58.00 LT	470+12	58.00 LT	24	Pipe Conduit 24IN - Approach	82	Spiral Rib Steel Reinforced Concrete Pipe - Class III Corrugated Steel Pipe	24	Z, A, P --- Z, A, P	3/4, 1 --- 2	0.064 --- 0.064		TES	TES	D-203-8
469+47	66.80 RT	470+13	66.80 RT	24	Pipe Conduit 24IN - Approach	66	Spiral Rib Steel Reinforced Concrete Pipe - Class III Corrugated Steel Pipe	24	Z, A, P --- Z, A, P	3/4, 1 --- 2	0.064 --- 0.064		FES	FES	D-203-8
482+83	67.36 LT	482+71	67.53 LT	36	Pipe Conc Reinf 36IN CL III	12	Reinforced Concrete Pipe - Class III	36						FES	D-203-8
482+83	59.07 LT	482+71	59.25 LT	36	Pipe Conc Reinf 36IN CL III	12	Reinforced Concrete Pipe - Class III	36						TES	D-203-8
483+07	67.00 LT	483+17	66.90 LT	36	Pipe Conc Reinf 36IN CL III	10	Reinforced Concrete Pipe - Class III	36						FES	D-203-8
483+07	58.72 LT	483+17	58.58 LT	36	Pipe Conc Reinf 36IN CL III	10	Reinforced Concrete Pipe - Class III	36						TES	D-203-8
491+98	47.54 LT	491+88	47.54 LT	24	Pipe Corr Steel .064IN 24IN	10	Corrugated Steel Pipe	24	Z, A, P	2	0.064			TES	D-203-8
492+66	47.50 LT	492+70	47.49 LT	24	Pipe Corr Steel .064IN 24IN	4	Corrugated Steel Pipe	24	Z, A, P	2	0.064			TES	D-203-8
509+18	48.00 LT	510+08	47.00 LT	24	Pipe Conduit 24IN - Approach	90	Spiral Rib Steel Reinforced Concrete Pipe - Class III Corrugated Steel Pipe	24	Z, A, P --- Z, A, P	3/4, 1 --- 2	0.064 --- 0.064		TES	TES	D-203-8
518+68	49.00 RT	519+68	51.00 RT	24	Pipe Conduit 24IN - Approach	100	Spiral Rib Steel Reinforced Concrete Pipe - Class III Corrugated Steel Pipe	24	Z, A, P --- Z, A, P	3/4, 1 --- 2	0.064 --- 0.064		TES	TES	D-203-8
519+16	48.00 LT	520+30	48.00 LT	24	Pipe Conduit 24IN - Approach	114	Spiral Rib Steel Reinforced Concrete Pipe - Class III Corrugated Steel Pipe	24	Z, A, P --- Z, A, P	3/4, 1 --- 2	0.064 --- 0.064		TES	TES	D-203-8

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Pipe List

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	51	6

APPROACH CULVERTS

Begin Station / Location	Begin Offset	End Station / Location	End Offset	Pipe Installation (Pay Item)			Allowable Material	Required Diameter	Steel Pipe Coatings	Steel Pipe Corrugations or Spiral Ribs	Steel Pipe Minimum Thickness	R1 Fabric (Pay Item)	End Sections		Applicable Backfill Detail
													Begin	End	
				In	Bid Item	LF		In	Type		In	SY	EA	EA	
535+56	49.00 LT	536+38	49.00 LT	24	Pipe Conduit 24IN - Approach	82	Spiral Rib Steel Reinforced Concrete Pipe - Class III Corrugated Steel Pipe	24	Z, A, P --- Z, A, P	3/4, 1 --- 2	0.064 --- 0.064		TES	TES	D-203-8
543+57	51.00 RT	544+45	52.00 RT	24	Pipe Conduit 24IN - Approach	88	Spiral Rib Steel Reinforced Concrete Pipe - Class III Corrugated Steel Pipe	24	Z, A, P --- Z, A, P	3/4, 1 --- 2	0.064 --- 0.064		TES	TES	D-203-8
561+91	49.00 LT	561+69	49.00 LT	24	Pipe Corr Steel .064IN 24IN	22	Corrugated Steel Pipe	24	Z, A, P	2	0.064			TES	D-203-8
561+98	49.84 RT	561+84	49.89 RT	24	Pipe Corr Steel .064IN 24IN	14	Corrugated Steel Pipe	24	Z, A, P	2	0.064			TES	D-203-8
562+54	49.66 RT	562+60	49.64 RT	24	Pipe Corr Steel .064IN 24IN	6	Corrugated Steel Pipe	24	Z, A, P	2	0.064			TES	D-203-8
575+37	55.68 LT	576+23	51.40 LT	24	Pipe Conduit 24IN - Approach	86	Spiral Rib Steel Reinforced Concrete Pipe - Class III Corrugated Steel Pipe	24	Z, A, P --- Z, A, P	3/4, 1 --- 2	0.064 --- 0.064		TES	TES	D-203-8
577+65	53.00 RT	578+87	51.00 RT	24	Pipe Conduit 24IN - Approach	122	Spiral Rib Steel Reinforced Concrete Pipe - Class III Corrugated Steel Pipe	24	Z, A, P --- Z, A, P	3/4, 1 --- 2	0.064 --- 0.064		TES	TES	D-203-8
602+11	49.00 LT	603+16	49.00 LT	24	Pipe Conduit 24IN - Approach	104	Spiral Rib Steel Reinforced Concrete Pipe - Class III Corrugated Steel Pipe	24	Z, A, P --- Z, A, P	3/4, 1 --- 2	0.064 --- 0.064		TES	TES	D-203-8
608+07	49.00 RT	609+03	48.00 RT	24	Pipe Conduit 24IN - Approach	96	Spiral Rib Steel Reinforced Concrete Pipe - Class III Corrugated Steel Pipe	24	Z, A, P --- Z, A, P	3/4, 1 --- 2	0.064 --- 0.064		TES	TES	D-203-8
608+10	48.00 LT	609+13	49.00 LT	24	Pipe Conduit 24IN - Approach	103	Spiral Rib Steel Reinforced Concrete Pipe - Class III Corrugated Steel Pipe	24	Z, A, P --- Z, A, P	3/4, 1 --- 2	0.064 --- 0.064		TES	TES	D-203-8
641+79	58.00 RT	642+99	52.00 RT	24	Pipe Conduit 24IN - Approach	120	Spiral Rib Steel Reinforced Concrete Pipe - Class III Corrugated Steel Pipe	24	Z, A, P --- Z, A, P	3/4, 1 --- 2	0.064 --- 0.064		TES	TES	D-203-8
652+18	53.00 RT	653+06	51.00 RT	24	Pipe Conduit 24IN - Approach	88	Spiral Rib Steel Reinforced Concrete Pipe - Class III Corrugated Steel Pipe	24	Z, A, P --- Z, A, P	3/4, 1 --- 2	0.064 --- 0.064		TES	TES	D-203-8
666+12	49.00 LT	667+10	50.00 LT	24	Pipe Conduit 24IN - Approach	102	Spiral Rib Steel Reinforced Concrete Pipe - Class III Corrugated Steel Pipe	24	Z, A, P --- Z, A, P	3/4, 1 --- 2	0.064 --- 0.064		TES	TES	D-203-8
666+23	64.00 RT	666+65	64.00 RT	24	Pipe Conduit 24IN - Approach	42	Spiral Rib Steel Reinforced Concrete Pipe - Class III Corrugated Steel Pipe	24	Z, A, P --- Z, A, P	3/4, 1 --- 2	0.064 --- 0.064		TES	TES	D-203-8
668+31	60.07 LT	668+75	60.00 LT	24	Pipe Conduit 24IN - Approach	44	Spiral Rib Steel Reinforced Concrete Pipe - Class III Corrugated Steel Pipe	24	Z, A, P --- Z, A, P	3/4, 1 --- 2	0.064 --- 0.064		TES	TES	D-203-8

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Pipe List

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

APPROACH CULVERTS

Begin Station / Location	Begin Offset	End Station / Location	End Offset	Pipe Installation (Pay Item)			Allowable Material	Required Diameter	Steel Pipe Coatings	Steel Pipe Corrugations or Spiral Ribs	Steel Pipe Minimum Thickness	R1 Fabric (Pay Item)	End Sections		Applicable Backfill Detail
													Begin	End	
				In	Bid Item	LF		In	Type		In	SY	EA	EA	
690+78	48.00 RT	691+58	48.00 RT	24	Pipe Conduit 24IN - Approach	80	Spiral Rib Steel Reinforced Concrete Pipe - Class III Corrugated Steel Pipe	24	Z, A, P --- Z, A, P	3/4, 1 --- 2	0.064 --- 0.064		TES	TES	D-203-8
690+87	54.53 LT	#REF!	54.62 LT	24	Pipe Conc Reinf 24IN CL III	8	Reinforced Concrete Pipe - Class III	24						TES	D-203-8
691+39	54.00 LT	691+55	53.84 LT	24	Pipe Conc Reinf 24IN CL III	16	Reinforced Concrete Pipe - Class III	24						TES	D-203-8
705+42	48.00 RT	706+34	47.00 RT	24	Pipe Conduit 24IN - Approach	92	Spiral Rib Steel Reinforced Concrete Pipe - Class III Corrugated Steel Pipe	24	Z, A, P --- Z, A, P	3/4, 1 --- 2	0.064 --- 0.064		TES	TES	D-203-8
710+82	49.00 LT	711+70	51.00 LT	24	Pipe Conduit 24IN - Approach	88	Spiral Rib Steel Reinforced Concrete Pipe - Class III Corrugated Steel Pipe	24	Z, A, P --- Z, A, P	3/4, 1 --- 2	0.064 --- 0.064		TES	TES	D-203-8
797+66	75.00 LT	798+55	74.00 LT	24	Pipe Conduit 24IN - Approach	89	Spiral Rib Steel Reinforced Concrete Pipe - Class III Corrugated Steel Pipe	24	Z, A, P --- Z, A, P	3/4, 1 --- 2	0.064 --- 0.064		TES	TES	D-203-8
798+12	57.83 RT	797+96	58.09 RT	18	Pipe Corr Steel .064IN 18IN	16	Corrugated Steel Pipe	18	Z, A, P	2	0.064			TES	D-203-8
798+52	57.19 RT	798+60	57.06 RT	18	Pipe Corr Steel .064IN 18IN	8	Corrugated Steel Pipe	18	Z, A, P	2	0.064			TES	D-203-8
807+63	47.00 RT	808+49	46.00 RT	24	Pipe Conduit 24IN - Approach	86	Spiral Rib Steel Reinforced Concrete Pipe - Class III Corrugated Steel Pipe	24	Z, A, P --- Z, A, P	3/4, 1 --- 2	0.064 --- 0.064		TES	TES	D-203-8
807+72	52.00 LT	808+58	51.00 LT	24	Pipe Conduit 24IN - Approach	86	Spiral Rib Steel Reinforced Concrete Pipe - Class III Corrugated Steel Pipe	24	Z, A, P --- Z, A, P	3/4, 1 --- 2	0.064 --- 0.064		TES	TES	D-203-8
809+79	46.00 RT	810+61	45.00 RT	24	Pipe Conduit 24IN - Approach	82	Spiral Rib Steel Reinforced Concrete Pipe - Class III Corrugated Steel Pipe	24	Z, A, P --- Z, A, P	3/4, 1 --- 2	0.064 --- 0.064		TES	TES	D-203-8
813+04	87.00 LT	813+84	88.00 LT	24	Pipe Conduit 24IN - Approach	80	Spiral Rib Steel Reinforced Concrete Pipe - Class III Corrugated Steel Pipe	24	Z, A, P --- Z, A, P	3/4, 1 --- 2	0.064 --- 0.064		TES	TES	D-203-8
824+64	70.61 RT	824+56	72.03 RT	18	Pipe Corr Steel .064IN 18IN	8	Corrugated Steel Pipe	18	Z, A, P	2	0.064			Remove & Relay	D-203-8

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Pipe List

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-7-200(016)004	51	8

APPROACH CULVERTS

Begin Station / Location	Begin Offset	End Station / Location	End Offset	Pipe Installation (Pay Item)			Allowable Material	Required Diameter	Steel Pipe Coatings	Steel Pipe Corrugations or Spiral Ribs	Steel Pipe Minimum Thickness	R1 Fabric (Pay Item)	End Sections		Applicable Backfill Detail
													Begin	End	
				In	Bid Item	LF		In	Type		In	SY	EA	EA	
824+95	65.02 RT	824+99	64.32 RT	18	Pipe Corr Steel .064IN 18IN	4	Corrugated Steel Pipe	18	Z, A, P	2	0.064			Remove & Relay	D-203-8
856+47	51.00 RT	856+41	50.42 RT	18	Pipe Corr Steel .064IN 18IN	6	Corrugated Steel Pipe	18	Z, A, P	2	0.064			TES	D-203-8
857+10	53.90 RT	857+14	54.08 RT	18	Pipe Corr Steel .064IN 18IN	4	Corrugated Steel Pipe	18	Z, A, P	2	0.064			TES	D-203-8
867+73	42.22 RT	868+75	40.61 RT	24	Pipe Conduit 24IN - Approach	102	Spiral Rib Steel Reinforced Concrete Pipe - Class III Corrugated Steel Pipe	24	Z, A, P --- Z, A, P	3/4, 1 --- 2	0.064 --- 0.064		TES	TES	D-203-8
871+25	45.31 RT	872+11	44.57 RT	24	Pipe Conduit 24IN - Approach	86	Spiral Rib Steel Reinforced Concrete Pipe - Class III Corrugated Steel Pipe	24	Z, A, P --- Z, A, P	3/4, 1 --- 2	0.064 --- 0.064		TES	TES	D-203-8
877+42	122.35 LT	877+10	123.26 LT	36	Pipe Conc Reinf 36IN CL III	32	Reinforced Concrete Pipe - Class III	36						Remove & Relay	D-203-8
877+90	120.98 LT	878+08	120.43 LT	36	Pipe Conc Reinf 36IN CL III	18	Reinforced Concrete Pipe - Class III	36						Remove & Relay	D-203-8
895+53	45.59 LT	895+35	46.52 LT	24	Pipe Corr Steel .064IN 24IN	18	Corrugated Steel Pipe	24	Z, A, P	2	0.064			TES	D-203-8
896+13	45.92 LT	896+15	46.00 LT	24	Pipe Corr Steel .064IN 24IN	2	Corrugated Steel Pipe	24	Z, A, P	2	0.064			TES	D-203-8
896+13	43.66 RT	896+21	43.50 RT	24	Pipe Corr Steel .064IN 24IN	8	Corrugated Steel Pipe	24	Z, A, P	2	0.064			TES	D-203-8
903+63	39.17 LT	904+53	57.44 LT	24	Pipe Conduit 24IN - Approach	90	Spiral Rib Steel Reinforced Concrete Pipe - Class III Corrugated Steel Pipe	24	Z, A, P --- Z, A, P	3/4, 1 --- 2	0.064 --- 0.064		TES	TES	D-203-8
916+60	45.65 RT	917+53	46.12 RT	24	Pipe Conduit 24IN - Approach	92	Spiral Rib Steel Reinforced Concrete Pipe - Class III Corrugated Steel Pipe	24	Z, A, P --- Z, A, P	3/4, 1 --- 2	0.064 --- 0.064		TES	TES	D-203-8
916+57	54.50 LT	917+51	54.50 LT	24	Pipe Conduit 24IN - Approach	94	Spiral Rib Steel Reinforced Concrete Pipe - Class III Corrugated Steel Pipe	24	Z, A, P --- Z, A, P	3/4, 1 --- 2	0.064 --- 0.064		TES	TES	D-203-8
942+18	62.49 RT	942+03	61.89 RT	24	Pipe Corr Steel .064IN 24IN	15	Corrugated Steel Pipe	24	Z, A, P	2	0.064			Remove & Relay	D-203-8

Coatings: **Z** = Zinc
A = Aluminum
P = Polymeric (over Zinc or Aluminum)

Corrugations: **2** = 2-2/3"x1/2"
3 = 3"x1"
5 = 5"x1"

Spiral Ribs **3/4** = 3/4"x3/4"@7-1/2"
1 = 3/4"x1"@11-1/2"

FES = Flared End Section
TES = Traversable End Section

This document was originally issued and sealed by Kyle J. Comer Registration Number PE- 7537, on 03/11/16 and the original document is stored at the North Dakota Department of Transportation

Pipe List

ND Hwy 200
Major Rehabilitation
RP 4.200 to RP 18.285